

## **Appendix D**

### **Soil Mechanics Ground Investigation Information**

# D1 Logs

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# Borehole Log



Soil Mechanics

Drilled PH/IP Logged JB/SH Checked PM		Start 12/01/2011 End 24/02/2011	Equipment, Methods and Remarks Dando 3000 CAT scanned prior to excavation. Hand excavated inspection pit from GL to 1.20 m depth. Cable percussive boring from 1.20 m to 48.30 m depth. BH terminated early due to hard stratum and problems retrieving the cutting tool.		Depth from 0.00m 6.90m 25.90m 43.00m	to 6.90m 25.90m 43.00m 48.30m	Diameter 300mm 250mm 200mm 150mm	Casing Depth 1.20m 6.90m 26.00m 43.00m	Ground Level +26.33 mOD Coordinates E 529320.68 N 181833.71 Chainage	
Samples and Tests					Strata					
Depth	Type & No	Records	Date Casing	Time Water	Description			Depth, Level/ (Thickness)	Legend	Backfill/ Instruments
0.30	ES 1	4 samples taken			(MADE GROUND)			0.03 +26.30		
0.30	D 2				MACADAM			0.25 +26.08		
0.30-0.50	B 3				(MADE GROUND)	0.30-0.50 m Locally grey. Occasional pockets of ash (up to 10 mm)		(0.75)		
0.70-0.90	B 4				CONCRETE					
1.00	ES 5	4 samples taken			(MADE GROUND)			1.00 +25.33		
1.00	D 6				Soft greyish brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is angular to well rounded fine to coarse of brick, concrete, flint, rare clinker and marble fragments. Rare cobbles of brick.					
1.00-1.20	B 7									
1.20-1.62	SPT S	9 (1,1/2,1,2,4 for 45mm)	1.20	dry						
1.20	D 8									
1.20-1.70	B 9									
2.00	D 10	4 samples taken			(MADE GROUND)					
2.00	ES 11				Soft dark grey slightly sandy to sandy slightly gravelly to gravelly clayey SILT. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of brick, concrete, flint, rare clinker, oyster shells, pottery and clay pipe fragments.					
2.20-2.64	SPT S	0 (1,-) SW=20	1.20	dry		2.20-2.70 m Silty very sandy gravel.		(2.70)		
2.20	D 12									
2.20-2.70	B 13									
2.20-2.70	D 14									
3.00	D 15	4 samples taken				2.70-3.00 m Bone fragments (up to 100 x 60 mm). 3.00 m Partly decomposed wood fragment and occasional pockets of black organic matter (up to 30 x 45 mm)				
3.00	ES 16									
3.20-3.70	SPT S	N=10 (1,2/2,2,3,3) SW=50	3.20	dry						
3.20	D 17									
3.20-4.00	B 18									
4.00	D 19	4 samples taken	12/01/2011	1200 dry	Orangish brown slightly gravelly fine to medium SAND. Gravel is angular to subrounded fine to medium of flint.			3.70 +22.63		
4.00	ES 20		4.00	dry		3.20 m Rare rope fragments.		(0.50)		
4.20-4.65	SPT S	N=16 (1,1/2,4,5,5)			(RIVER TERRACE DEPOSITS)			4.20 +22.13		
4.20	D 21		13/01/2011	0800 dry	Medium dense orangish brown gravelly SAND. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of flint.	4.20 m Occasional pockets of clay (up to 200 mm). Slightly gravelly.				
4.20-4.70	B 22		4.00	dry	(RIVER TERRACE DEPOSITS)					
4.65	W 23	2 samples taken								
5.00	D 24	4 samples taken				5.20-5.70 m Locally clayey with low cobble content.		(1.60)		
5.00	ES 25		5.20	damp						
5.20-5.65	SPT S	N=19 (2,2/4,4,4,7)								
5.20-5.70	B 26									
5.80	D 27	4 samples taken						5.80 +20.53		
5.80-6.30	B 29				Firm brown slightly sandy slightly gravelly CLAY. Occasional partings of orangish brown silt. Rare gravel of flint.			(0.50)		
6.00	ES 28		13/01/2011	1800 dry	(BASAL RIVER TERRACE DEPOSITS / LONDON CLAY FORMATION)					
6.30-6.90	B 30		6.30	dry		6.30-6.90 m Occasional partings of fine sand and silt.		6.30 +20.03		
6.90-7.35	U 31	25 blows	21/01/2011	1800 dry	Very stiff fissured grey CLAY. Fissures are extremely to very closely spaced, randomly orientated, smooth and matt.					
7.40-7.85	SPT S	N=26 (2,3/5,6,7,8)	21/01/2011	1800 dry	(LONDON CLAY FORMATION)					
7.40	D 32		16/02/2011	0800 dry		7.40 m Rare shell fragments. Slightly sandy.				
7.40	D 33		6.90	dry						
7.90	D 34									
8.40-8.85	U 35	45 blows				8.40-8.85 m Slightly sandy and silty. 8.60-9.05 m Rare burrows infilled with blueish grey clay. Rare fine to medium sand size selenite crystals on fissure surfaces.		(4.10)		
8.90-9.35	SPT S	N=29 (2,3/4,11,7,7)	8.00	dry						
8.90	D 36									
8.90	D 37									
9.40	D 38									
9.90-10.35	U 39	50 blows	8.00	dry						
Depth	Type & No	Records	Date Casing	Time Water	Stratum continues to 10.40 m					
Groundwater Entries					Depth Related Remarks *			Chiselling		
No.	Struck (m)	Post strike behaviour	Depth sealed (m)		From	to (m)		Depths (m)	Time	Tools used
1	4.80	Rose to 4.65 m after 20 minutes.	-		1.20	50.00	SPT hammer ID SM04 (Er 67%); rod type B			
					5.20	5.70	Water added to assist boring.			
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.					Project Project UCL HS, London, W1T			Borehole		
Scale 1:50					Project No. D0050-10			BH1		
(c) ESGL www.esgl.co.uk 408.24 12/04/2011 12:02:17					Carried out for UCL Properties Ltd			Sheet 1 of 5		

# Borehole Log



Soil Mechanics

Drilled PH/IP Logged JB/SH Checked PM		Start 12/01/2011 End 24/02/2011	Equipment, Methods and Remarks Dando 3000 CAT scanned prior to excavation. Hand excavated inspection pit from GL to 1.20 m depth. Cable percussive boring from 1.20 m to 48.30 m depth. BH terminated early due to hard stratum and problems retrieving the cutting tool.			Depth from 0.00m 6.90m 25.90m 43.00m	to 6.90m 25.90m 43.00m 48.30m	Diameter 300mm 250mm 200mm 150mm	Casing Depth 1.20m 6.90m 26.00m 43.00m	Ground Level +26.33 mOD Coordinates E 529320.68 National Grid N 181833.71 Chainage				
Samples and Tests					Strata									
Depth	Type & No	Records	Date Casing	Time Water	Description (Continued from Sheet 1)	Depth, Level/ (Thickness)	Legend	Backfill/ Instruments						
10.40-10.85 10.40 10.40	SPT S D 40 D 41	N=27 (2,3/5,6,7,9)	8.00	dry	Very stiff fissured grey CLAY. Fissures are extremely to very closely spaced, randomly orientated, smooth and matt. (LONDON CLAY FORMATION)	10.40-10.95 m Rare fine to medium gravel size selenite crystals.	10.40 +15.93							
10.90	D 42													
11.40-11.85	U 43	50 blows	8.00	dry	Very stiff fissured grey CLAY. Fissures are randomly orientated, planar to undulating and matt. Rare burrows infilled with blueish grey clay. (LONDON CLAY FORMATION)	(1.70)								
11.90-12.30 11.90 11.90	SPT S D 44 D 45	52 (9,14 for 50mm/ 20,20,6,6 for 50mm)	8.00	dry	Weak grey CLAYSTONE recovered as grey subangular to subrounded fine to coarse gravel. (LONDON CLAY FORMATION)	12.10 +14.23 12.20 +14.13		2						
12.40	D 46													
12.90-13.35	U 47	45 blows	8.00	damp	Very stiff fissured grey CLAY. Fissures are extremely closely spaced, planar to undulating and matt. (LONDON CLAY FORMATION)	(3.20)								
13.40-13.85 13.40 13.40	SPT S D 48 D 49	N=28 (2,5/6,7,7,8)	8.00	damp	13.90 m Becoming slightly sandy.									
13.90	D 50													
14.40-14.85	U 51	50 blows	8.00	damp	14.40-14.85 m Slightly sandy and silty.									
14.90-15.35 14.90 14.90	SPT S D 52 D 53	N=37 (3,5/7,9,10,11)	8.00	dry	Very stiff grey slightly sandy silty CLAY. Sand is fine. (LONDON CLAY FORMATION)	15.40 +10.93								
15.40	D 54													
15.90-16.35	U 55	55 blows	8.00	dry										
16.40-16.85 16.40 16.40	SPT S D 56 D 57	N=33 (4,5/7,8,9,9)	8.00	dry										
16.90	D 58		16/02/2011 8.00	1800 dry										
17.40-17.85	U 59	65 blows	17/02/2011 8.00	0800 dry										
17.90-18.35 17.90 17.90	SPT S D 60 D 61	N=35 (5,6/7,8,9,11)	8.00	dry	17.90-18.35 m Rare burrows infilled with blueish grey clay.									
18.40	D 62													
18.90-19.35	U 63	65 blows	8.00	dry										
19.40-19.85 19.40 19.40	SPT S D 64 D 65	N=41 (5,8/9,10,10,12)	8.00	dry										
19.90	D 66													
Depth	Type & No	Records	Date Casing	Time Water	Stratum continues to 24.90 m									
Groundwater Entries					Depth Related Remarks *					Chiselling				
No.	Struck (m)	Post strike behaviour	Depth sealed (m)		From to (m)					Depths (m)		Time	Tools used	
2	12.10	very slow seepage	-							12.10 -12.20		15 mins	Chisel	
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.					Project Project UCL HS, London, W1T					Borehole				
Scale 1:50					Project No. D0050-10					BH1				
(c) ESGL www.esgl.co.uk 408.24 12/04/2011 12:02:19					Carried out for UCL Properties Ltd					Sheet 2 of 5				

# Borehole Log



Soil Mechanics

Drilled PH/IP Logged JB/SH Checked PM		Start 12/01/2011 End 24/02/2011	Equipment, Methods and Remarks Dando 3000 CAT scanned prior to excavation. Hand excavated inspection pit from GL to 1.20 m depth. Cable percussive boring from 1.20 m to 48.30 m depth. BH terminated early due to hard stratum and problems retrieving the cutting tool.		Depth from 0.00m 6.90m 25.90m 43.00m	to 6.90m 25.90m 43.00m 48.30m	Diameter 300mm 250mm 200mm 150mm	Casing Depth 1.20m 6.90m 26.00m 43.00m	Ground Level +26.33 mOD Coordinates E 529320.68 N 181833.71 Chainage		
Samples and Tests					Strata						
Depth	Type & No	Records	Date Casing	Time Water	Description (Continued from Sheet 2)	Depth, Level/ (Thickness)	Legend	Backfill/ Instruments			
20.40-20.85	U 67	65 blows	8.00	dry	Very stiff grey slightly sandy silty CLAY. Sand is fine. (LONDON CLAY FORMATION)	(9.50)	[Symbol]	[Symbol]			
20.90-21.35 20.90 20.90	SPT S D 68 D 69	N=42 (6,8/9,10,11,12)	8.00	dry		20.90 m 1 no. subrounded black gravel.					
21.40	D 70										
21.90-22.35	U 71	65 blows	8.00	dry							
22.40-22.85 22.40 22.40	SPT S D 72 D 73	N=40 (5,8/9,9,10,12)	8.00	dry							
22.90	D 74										
23.40-23.85	U 75	70 blows	8.00	dry							
23.90-24.35 23.90 23.90	SPT S D 76 D 77	N=39 (6,8/9,9,10,11)	8.00	dry	23.90-24.35 m 1 no. white shell fragment.						
24.40	D 78										
24.90-25.35	U 79	70 blows	8.00	dry	Stiff brown mottled blue CLAY. (LAMBETH GROUP)	24.90 +1.43					
25.40-25.85 25.40 25.40	SPT S D 80 D 81	N=50 (6,10/15,15,20,-)	8.00	dry		(1.10)					
26.00	D 82		17/02/2011 8.00	1800 dry							
26.40-26.85	U 83	100 blows 350 mm rec	21/02/2011 8.00	0800 dry	Stiff to very stiff multicoloured brown, red, yellow and blue CLAY. (LAMBETH GROUP)	26.00 +0.33					
26.80-27.21 26.80 26.80	SPT S D 84 D 85	50 (11,14 for 50mm/ 25,25 for 60mm)	26.00	dry		26.40-26.85 m Slightly sandy and silty 26.80-27.25 m Slightly sandy. Sand is fine.	(2.40)				
27.40	D 86										
27.90-28.35	U 87	100 blows	26.00	dry							
28.40-28.83 28.40 28.40	SPT S D 88 D 89	48 (8,14/16,18,14 for 50mm)	26.00	dry	Very stiff fissured multicoloured brown, red, blue and grey CLAY. Fissures are extremely closely spaced, randomly orientated and matt. Colours are red, brown, blue and grey. (LAMBETH GROUP)	28.40 -2.07					
28.90	D 90					28.85 m Slightly sandy and slightly silty.					
29.40-29.85	U 91	100 blows	26.00	dry		(2.40)					
29.90-30.31	SPT S	50 (6,11/12,13,17,8 for 35mm)	26.00	dry	29.90 m Fissures						
Depth	Type & No	Records	Date Casing	Time Water	Stratum continues to 30.80 m						
Groundwater Entries No. Struck Post strike behaviour					Depth sealed (m)				Depth Related Remarks * From to (m)		
									Chiselling Depths (m) Time Tools used		
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.					Project Project UCL HS, London, W1T				Borehole		
Scale 1:50					Project No. D0050-10				BH1		
(c) ESGL www.esgl.co.uk 408.24 12/04/2011 12:02:20					Carried out for UCL Properties Ltd				Sheet 3 of 5		

# Borehole Log



Soil Mechanics

<b>Drilled</b> PH/IP <b>Logged</b> JB/SH <b>Checked</b> PM	<b>Start</b> 12/01/2011 <b>End</b> 24/02/2011	<b>Equipment, Methods and Remarks</b> Dando 3000 CAT scanned prior to excavation. Hand excavated inspection pit from GL to 1.20 m depth. Cable percussive boring from 1.20 m to 48.30 m depth. BH terminated early due to hard stratum and problems retrieving the cutting tool.	<b>Depth from</b> 0.00m <b>to</b> 6.90m 6.90m 25.90m 25.90m 43.00m 43.00m 48.30m	<b>Diameter</b> 300mm 250mm 200mm 150mm	<b>Casing Depth</b> 1.20m 6.90m 26.00m 43.00m	<b>Ground Level</b> +26.33 mOD <b>Coordinates</b> E 529320.68 N 181833.71 <b>Chainage</b>
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Samples and Tests				Strata			Depth, Level/ (Thickness)	Legend	Backfill/ Instruments
Depth	Type & No	Records	Date Casing	Time Water	Description (Continued from Sheet 3)				
29.90	D 92				Very stiff fissured multicoloured brown, red, blue and grey CLAY. Fissures are extremely closely spaced, randomly orientated and matt. Colours are red, brown, blue and grey. (LAMBETH GROUP)				
29.90	D 93								
30.40	D 94								
30.90-31.35	U 95	60 blows	26.00	dry	Very stiff fissured grey CLAY. Fissures are extremely closely spaced, planar to undulating and polished. (LAMBETH GROUP)	30.80	-4.47	3	
31.40-31.85	SPT S	N=34 (4,6,6,7,10,11)	26.00	dry		(1.00)			
31.40	D 96								
31.40	D 97								
31.90	D 98				Very stiff fissured dark grey CLAY. Fissures are closely spaced, planar to undulating and polished. (LAMBETH GROUP)	31.80	-5.47		
32.40-32.85	U 99	70 blows	26.00	dry	31.80 m Pockets (10 x 15 mm) of black material - possible lignite. 31.90 m Gleying on fissure surfaces. 32.40-32.85 m Slightly sandy and slightly gravelly. 32.40 m Becoming very dark in colour.	(0.80)			
32.90-33.35	SPT S	N=44 (6,10/11,11,12)	26.00	dry	Very stiff fissured multicoloured orange, red, brown, blue and grey sandy CLAY. Fissures are extremely closely spaced, randomly orientated and matt. Sand is fine to medium. (LAMBETH GROUP)	32.60	-6.27		
32.90	D 100					(0.80)			
32.90	D 101								
33.40	D 102					33.40	-7.07		
33.90-34.35	U 103	100 blows 400 mm rec	26.00	damp	Very stiff fissured multicoloured orange, red, brown, blue and grey sandy CLAY. Fissures are extremely closely spaced, randomly orientated and matt. Sand is fine to medium. (LAMBETH GROUP)				
34.35-34.78	SPT S	50 (6,10/13,17,20 for 50mm)	26.00	damp		(2.10)			
34.35	D 104								
34.35	D 105								
34.90	D 106		21/02/2011	1800 damp					
			26.00						
35.40-35.85	U 107	100 blows 200 mm rec	26.00	damp					
35.40-35.85	SPT S	N=50 (25,-/50,-,-,-)	26.00	damp	Dense to very dense brownish grey clayey SAND. Sand is fine to medium. (LAMBETH GROUP)	35.50	-9.17	4	
35.65	D 108					(1.20)			
35.65	D 109								
36.40	D 110								
36.90-37.35	U 111	100 blows 200 mm rec	26.00	damp	Very dense brown mottled bluish grey very clayey SAND. Sand is fine. (LAMBETH GROUP)	36.70	-10.37		
37.15-37.54	SPT S	50 (15,10 for 35mm/ 26,24 for 50mm)	26.00	damp		(0.80)			
37.15	D 112				37.15 m Locally clayey.				
37.15	D 113								
37.90	D 114				Very stiff fissured multicoloured red, brown, blue and grey CLAY. Fissures are extremely closely spaced, randomly orientated and matt. (LAMBETH GROUP)	37.50	-11.17		
38.40-38.85	U 115	100 blows 250 mm rec	26.00	damp					
38.70-39.15	SPT S	50 (10,15/23,27 for 70mm)	26.00	damp	38.40-38.85 m Sandy and slightly silty. 38.70 m Locally dark grey to black.				
38.70	D 116								
38.70	D 117								
39.40	D 118				39.40 m Locally slightly sandy. Sand is fine. Locally green, blue, grey, purple and yellow.	(4.00)			
39.90-40.35	U 119	100 blows 400 mm rec	26.00	damp					
<b>Depth</b>	<b>Type &amp; No</b>	<b>Records</b>	<b>Date Casing</b>	<b>Time Water</b>	Stratum continues to 41.50 m				

<b>Groundwater Entries</b>	<b>Depth Related Remarks *</b>	<b>Chiselling</b>
No. Struck (m) Post strike behaviour	From to (m)	Depths (m) Time Tools used
3 30.80 very slow seepage		
4 35.50 very slow seepage		

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.	<b>Project</b> Project UCL HS, London, W1T <b>Project No.</b> D0050-10 <b>Carried out for</b> UCL Properties Ltd	<b>Borehole</b> <b>BH1</b> Sheet 4 of 5
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# Borehole Log



Soil Mechanics

Drilled PH/IP Logged JB/SH Checked PM		Start 12/01/2011 End 24/02/2011	Equipment, Methods and Remarks Dando 3000 CAT scanned prior to excavation. Hand excavated inspection pit from GL to 1.20 m depth. Cable percussive boring from 1.20 m to 48.30 m depth. BH terminated early due to hard stratum and problems retrieving the cutting tool.		Depth from 0.00m 6.90m 25.90m 43.00m	to 6.90m 25.90m 43.00m 48.30m	Diameter 300mm 250mm 200mm 150mm	Casing Depth 1.20m 6.90m 26.00m 43.00m	Ground Level +26.33 mOD Coordinates E 529320.68 National Grid N 181833.71 Chainage						
Samples and Tests					Strata										
Depth	Type & No	Records	Date Casing	Time Water	Description (Continued from Sheet 4)			Depth, Level/ (Thickness)	Legend	Backfill/ Instruments					
40.35-40.75 40.35 40.35	SPT S D 120 D 121	50 (8,12/17,25,8 for 25mm)	26.00	damp	Very stiff fissured multicoloured red, brown, blue and grey CLAY. Fissures are extremely closely spaced, randomly orientated and matt. (LAMBETH GROUP)			40.35 m Locally sandy and silty.							
40.90	D 122														
41.40-41.85	U 123	100 blows 400 mm rec	26.00	damp	Very stiff grey mottled blueish grey very sandy CLAY. Sand is fine. (LAMBETH GROUP)			41.50 -15.17							
41.85-42.28 41.85 41.85	SPT S D 124 D 125	50 (8,17/27,23 for 50mm)	22/02/2011 26.00	1800 dry				41.85 m Locally sandy and silty.							
42.40	D 126		23/02/2011 26.00	0800 damp				(1.40)							
42.90-43.05 42.90-43.35 43.10-43.49 43.10	D 127 U 127A SPT S D 128	100 blows 150 mm rec 50 (10,15 for 40mm/ 50 for 50mm)	26.00	dry	Very stiff fissured grey slightly sandy slightly gravelly slightly silty CLAY. Fissures are closely spaced, randomly orientated and matt. Rare pockets of fine sand on fissure surfaces. (LAMBETH GROUP)			42.90 -16.57 43.00 -16.67							
43.90	D 129							43.10 m Rare shell fragments.							
44.40-44.82 44.40	SPT S D 130	50 (25,- for 70mm/50 for 50mm)	23/02/2011 43.00	1800 dry	Very dense greenish grey very clayey SAND. Sand is fine. (THANET SAND FORMATION)			43.90 m Becoming light grey. Locally sandy clay.							
45.40	D 132		24/02/2011 43.00	0800 dry				(2.90)							
45.90-46.29 45.90 45.90-46.40	SPT C D 133 B 134	50 (25,-/42,8 for 10mm)	43.00	dry	45.40-45.50 m Slightly gravelly, slightly silty and slightly clayey.			45.90 -19.57							
47.40-47.81 47.40	SPT S D 135	50 (25,-/50 for 35mm)	43.00	dry	Very dense grey very sandy, silty, slightly clayey GRAVEL with low cobble content. Gravel is subangular to subrounded fine to coarse of flint. Sand is fine. (THANET SAND FORMATION)			(0.70)							
47.40-47.81 47.40	SPT S D 135	50 (25,-/50 for 35mm)	46.60	dry	Weak low density white CHALK recovered as silty gravel of chalk. (WHITE CHALK SUBGROUP)			46.60 -20.27							
48.30-48.72 48.30	SPT S D 136	50 (25,- for 70mm/50 for 50mm)	47.40	dry	Exploratory hole ends at 48.30 m			48.30 -21.97		SP					
48.30-48.72 48.30	SPT S D 136	50 (25,- for 70mm/50 for 50mm)	24/02/2011 47.40	1800 dry	48.30 m Becoming weak high density white chalk.										
Depth	Type & No	Records	Date Casing	Time Water	Groundwater Entries			Depth Related Remarks *							
					No.	Struck (m)	Post strike behaviour	Depth sealed (m)	From (m)	to (m)	Water added to assist boring.	Chiselling	Depths (m)	Time	Tools used
									44.50	46.00	Water added to assist boring.	44.00-44.40	60 mins	Chisel	
									48.00	48.30	Water added to assist boring.	45.90-46.50	60 mins	Chisel	
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.					Project Project No. Carried out for					Project UCL HS, London, W1T D0050-10 UCL Properties Ltd					
Scale 1:50 (c) ESGL www.esgl.co.uk 408.24 12/04/2011 12:02:23					Borehole BH1 Sheet 5 of 5										

# Borehole Log



Soil Mechanics

Drilled IP Logged JB Checked PM		Start 14/01/2011 End 18/01/2011		Equipment, Methods and Remarks D100 CAT scanned prior to excavation. Hand excavated inspection pit from GL to 1.20 m depth. Cable percussive boring from 1.20 m to 11.95 m depth. Hole terminated at 11.95 m due to noise and vibrations.			Depth from 0.00m to 11.95m Diameter 150mm Casing Depth 6.00m		Ground Level +24.78 mOD Coordinates E 529284.07 National Grid N 181868.75		Chainage		
Samples and Tests				Strata				Depth, Level/ (Thickness)		Legend		Backfill/ Instruments	
Depth	Type & No	Records	Date Casing	Time Water	Description								
0.30	ES 1	4 Samples Taken			(MADE GROUND) CONCRETE PAVING SLAB			0.05	+24.73				
0.30	B 2				0.30 m Locally with low cobble content.			0.25	+24.53				
0.50	D 3				(MADE GROUND) CONCRETE			(0.75)					
1.00	ES 4	4 Samples Taken			(MADE GROUND) Grey slightly clayey fine to coarse SAND and GRAVEL. Gravel is angular to subrounded fine to coarse of brick, concrete, flint and rare tile fragments. Occasional pockets of grey sandy clay (up to 30 mm)			1.00	+23.78				
1.00-1.20	D 5				1.00 m Rare unidentifiable white rock (up to 60 mm)								
1.20-1.65	B 6	N=15 (1,1/2,2,3,8)		dry	1.00 m Clayey very sandy gravel.								
1.20	D 7				1.20 m Becoming dark grey mottled light grey and red brown.			(1.10)					
1.70	D 8				(MADE GROUND) Dark grey very gravelly, sandy, slightly clayey SILT with low cobble content. Gravel is angular to subangular fine to coarse of brick, concrete, flint and rare tile fragments. Sand is fine to coarse.			2.10	+22.68				
2.00	ES 9	4 Samples Taken	2.10	dry	2.00 m Pockets of orangish brown sand.								
2.20-2.65	SPT C B 10	N=14 (1,2/2,3,4,5)	2.20	damp	2.20-2.70 m Locally light grey, sandy gravelly clay.								
2.20-2.70								(1.10)					
2.70	D 11				Soft orangish brown slightly sandy slightly gravelly to gravelly CLAY. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of flint.								
3.00	ES 12	4 Samples Taken			(RIVER TERRACE DEPOSITS)			3.20	+21.58				
3.20-3.65	SPT C B 13	N=21 (2,2/3,5,6,7)	3.20	damp	3.20-3.70 m Slightly clayey with low cobble content.								
3.20-3.70													
3.70	D 14				Medium dense orangish brown sandy GRAVEL. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of flint. Occasional pockets of clay (up to 75 mm).								
4.00	ES 15	4 Samples Taken			(RIVER TERRACE DEPOSITS)								
4.20-4.65	SPT C B 16	N=23 (2,3/5,5,6,7)	4.20	3.50	4.20-4.70 m Slightly clayey and very sandy with low cobble content.								
4.20-4.70								(2.70)					
4.70	D 17												
5.00	ES 18	4 Samples Taken											
5.20-5.64	SPT C B 19	50 (7,10/12,19,19, - for 60mm)	5.20	4.80	5.20-5.70 m Slightly clayey and very sandy.								
5.20-5.70													
6.00	ES 20	4 Samples Taken						5.90	+18.88				
6.00	D 21		6.00	damp	Firm brown slightly gravelly CLAY with occasional partings of orangish brown silt. Gravel is subangular to subrounded fine to medium of flint.			6.10	+18.68				SP
6.50-6.95	U 22	60 blows	6.00	dry	(LONDON CLAY FORMATION)								
7.00-7.45	SPT S D 23	N=23 (2,4/5,6,6,6)	6.00	dry	Stiff grey CLAY. (LONDON CLAY FORMATION)								
7.00-7.45	D 24				7.00 m Rare partings of sand and silt. Rare extremely closely spaced fissuring.			(1.90)					
7.50	D 25				7.50 m Rare to occasional shell fragments (up to 5 mm)								
8.00-8.45	U 26	75 blows	6.00	dry	Very stiff fissured grey CLAY. Fissures are extremely to very closely spaced, randomly orientated, smooth and matt. Occasional partings of fine sand and silt.			8.00	+16.78				
8.50-8.95	SPT S D 27	N=25 (3,4/6,6,6,7)	6.00	dry	(LONDON CLAY FORMATION)								
8.50-8.95	D 28				8.50-8.95 m Slightly sandy and silty.								
9.00	D 29							(2.10)					
9.50-9.95	U 30	50 blows	6.00	dry	9.00 m Rare burrows infilled with light grey clay.								
Depth	Type & No	Records	Date Casing	Time Water	Stratum continues to 10.10 m								
Groundwater Entries					Depth Related Remarks *					Chiselling Depths (m) Time Tools used			
No.	Struck (m)	Post strike behaviour	Depth sealed (m)		From	to (m)							
1	4.00	Rose to 3.50 m after 20 minutes. Slow infill	5.00		2.30	4.00	Water added to assist boring						
2	5.30	Rose to 4.80 m after 20 minutes. Slow infill	5.90		5.00	5.90	Water added to assist boring						
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.					Project Project UCL HS, London, W1T					Borehole			
Scale 1:50					Project No. D0050-10					BH3			
(c) ESGL www.esgl.co.uk 408.24 12/04/2011 12:02:29					Carried out for UCL Properties Ltd					Sheet 1 of 2			



# Borehole Log



Soil Mechanics

<b>Drilled</b> IP <b>Logged</b> JB <b>Checked</b> PM	<b>Start</b> 14/01/2011 <b>End</b> 18/01/2011	<b>Equipment, Methods and Remarks</b> D100 CAT scanned prior to excavation. Hand excavated inspection pit from GL to 1.20 m depth. Cable percussive boring from 1.20 m to 11.95 m depth. Hole terminated at 11.95 m due to noise and vibrations.	<b>Depth from</b> 0.00m <b>to</b> 11.95m <b>Diameter</b> 150mm <b>Casing Depth</b> 6.00m	<b>Ground Level</b> +24.78 mOD <b>Coordinates</b> E 529284.07 <b>National Grid</b> N 181868.75 <b>Chainage</b>
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Samples and Tests				Strata			Depth, Level/ (Thickness)	Legend	Backfill/ Instruments
Depth	Type & No	Records	Date Casing	Time Water	Description (Continued from Sheet 1)				
10.00-10.39 10.00 10.00-10.45 10.50	SPT S D 31 D 32 D 33	50 (5,10/25,25,-,- for 10mm)	6.00	damp	Very stiff fissured grey CLAY. Fissures are extremely to very closely spaced, randomly orientated, smooth and matt. Occasional partings of fine sand and silt. (LONDON CLAY FORMATION)	10.00 m Gravelly (mudstone).	10.10 +14.68 10.15 +14.63		
11.00-11.45	U 34	50 blows	6.00	damp	MUDSTONE recovered as light grey angular to subangular fine to coarse gravel. (LONDON CLAY FORMATION)		(1.80)		
11.50 11.50 11.50-11.95	D 35 D 36 SPT S	N=30 (4,6/6,7,8,9)	6.00	damp	Very stiff fissured grey CLAY. Fissures are extremely closely spaced, randomly orientated, smooth and matt. (LONDON CLAY FORMATION)	11.50 m Occasional partings of fine sand and silt. Occasional burrows infilled with light grey clay. Rare dark grey mottling on some fissure surfaces.	11.95 +12.83		
EXPLORATORY HOLE ENDS AT 11.95 m									

<b>Groundwater Entries</b> No. Struck Post strike behaviour 2 10.10 Very slow seepage	Depth sealed (m) -	Depth Related Remarks * From to (m)	Chiselling Depths (m) Time Tools used 10.10 -10.15 30 mins Chisel
---	-----------------------	--	---

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.	Project Project UCL HS, London, W1T Project No. D0050-10 Carried out for UCL Properties Ltd	Borehole <b>BH3</b> Sheet 2 of 2
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## D2 Chemical Data

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# TEST REPORT

## SOIL SAMPLE ANALYSIS



Report No. EFS/110800 (Ver. 1)

Soil Mechanics  
Glossop House  
Hogwood Lane  
Finchampstead  
Wokingham  
Berkshire  
RG40 4QW

**Site: Project UCL HS**

The 7 samples described in this report were logged for analysis by Scientifics on 04-Feb-2011. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 21-Feb-2011

Tests where the accreditation is set to N or No, and any individual data items marked with a \* are not UKAS accredited  
Any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by Scientifics.

The following tables are contained in this report:

- Table 1 Main Analysis Results (Pages 2 to 3)
- Table of SVOC Results (Pages 4 to 10)
- Table of TPH (Si) banding (std) (Page 11)
- GC-FID Chromatograms (Pages 12 to 25)
- Table of VOC (HSA) Results (Pages 26 to 32)
- Table of Asbestos ID & Quantification Analysis Results (Pages 33 to 34)
- Table of Asbestos Screening Results (Page 35)
- Table of Additional Report Notes (Page 36)
- Table of Method Descriptions (Page 37)
- Table of Report Notes (Page 38)

On behalf of  
Scientifics :  
Andrew Timms

Operations Manager


Date of Issue: 21-Feb-2011


Tests marked 'A' have been subcontracted to another laboratory.

Scientifics accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

Laboratory ID Number	CU/	Method Reporting Limits :															
		Units :															
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	pH Units	mg/kg	mg/kg	mg/kg	mg/kg
		ICPACIDS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	PHSOIL	SFAPI	SFAPI	Sub02a	TPHUSSI
Method Reporting Limits :																	
UKAS Accredited :																	
		20	0.3	0.1	0.5	0.5	0.5	0.10	0.5	0.5	3.0		0.5	0.5		10.0	1
		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Client Sample Description	SO4-- (acid sol)	Arsenic (MS)	Cadmium (MS)	Chromium (MS)	Copper (MS)	Lead (MS)	Mercury (MS)	Nickel (MS)	Selenium (MS)	Zinc (MS)	pH units (AR)	Cyanide(Total) (AR)	Phenol Index (AR)	Asbestos Screen	TPH by GCFD (AR/SI)	VOC HSA-MS	
1103767	BH3 ES 1 0.30	1970	9.2	0.11	14.3	57.8	544	2.02	14.2	<0.5	53.1	8.7	<0.5	<0.5	NAIIS	Req	Req
1103768	BH3 ES 4 1.00	2630	16.5	0.16	15.4	119.9	645.4	1.57	18.8	0.6	82.6	8.6	<0.5	<0.5	NAIIS	Req	Req
1103769	BH3 ES 9 2.00	2550	7.2	<0.1	12.9	19.4	74.9	0.29	12.6	<0.5	26.4	8.7	<0.5	<0.5	NAIIS	Req	Req
1103770	BH3 ES 12 3.00	167	3.8	<0.1	11.3	6.9	7.4	<0.1	11.2	<0.5	14.9	9.2	<0.5	<0.5	NAIIS	Req	Req
1103771	BH3 ES 15 4.00	791	5.3	<0.1	12.2	10.9	25.2	<0.1	12.3	<0.5	24.4	8.6	<0.5	<0.5	NAIIS	Req	Req
1103772	BH3 ES 18 5.00	117	4.9	<0.1	10.4	5.8	4.8	<0.1	12.5	<0.5	14.8	9.4	<0.5	<0.5	NAIIS	Req	Req
1103773	BH3 ES 20 6.00	144	12.5	<0.1	42.8	24.7	16.6	<0.1	35.5	0.8	73.6	8.1	<0.5	<0.5	NAIIS	Req	Req

 <p>Bretby Business Park, Ashby Road</p> <p>Burton-on-Trent, Staffordshire, DE15 0YZ</p> <p>Tel +44 (0) 1283 554400</p> <p>Fax +44 (0) 1283 554422</p>	<b>Client Name</b>	<b>Soil Mechanics</b>			<b>Soils Sample Analysis</b>						<b>Project UCL HS</b>			
	<b>Contact</b>	Mr P Mercer			<b>Date Printed</b>	21-Feb-11								
					<b>Report Number</b>	EFS/110800								
					<b>Table Number</b>	1								

Laboratory ID Number CL/	Client Sample Description	Units :	mg/kg	%	mg/kg													
		Method Codes :	SFAS	Sub20	SVOCMSUS													
		Method Reporting Limits :	0.5	0.001	0.2-10.0													
		UKAS Accredited :	no	no	no													
		Sulphide as S (AR)	Asbestos ID & Quan	SVOC (AR)														
1103767	BH3 ES 1 0.30	<0.5	<0.001	Req														
1103768	BH3 ES 4 1.00	17.8	<0.001	Req														
1103769	BH3 ES 9 2.00	2.7	<0.001	Req														
1103770	BH3 ES 12 3.00	<0.5	<0.001	Req														
1103771	BH3 ES 15 4.00	<0.5	<0.001	Req														
1103772	BH3 ES 18 5.00	<0.5	<0.001	Req														
1103773	BH3 ES 20 6.00	<0.5	<0.001	Req														
 scientifics Bretby Business Park, Ashby Road  Burton-on-Trent, Staffordshire, DE15 0YZ  Tel +44 (0) 1283 554400  Fax +44 (0) 1283 554422	Client Name	Soil Mechanics							Soils Sample Analysis									
	Contact	Mr P Mercer							<div style="text-align: center;"> <p><b>Project UCL HS</b></p> </div>									
	Date Printed	21-Feb-11																
	Report Number	EFS/110800																
	Table Number	1																

# Semi-Volatile Organic Compounds

UKAS accredited?: No

**Customer and Site Details:** Soil Mechanics: Project UCL HS  
**Sample Details:** BH3 ES 1.0.30  
**LIMS ID Number:** CL1103767  
**Job Number:** S11\_0800

**Date Booked in:** 04-Feb-11  
**Date Extracted:** 17-Feb-11  
**Date Analysed:** 18-Feb-11

**Matrix:** Soil  
**Ext Method:** Ultrasonic  
**Operator:** SO/DMB  
**Directory/Quant File:** 17SVOC.MS16\ 0217\_CCC4.D  
**QC Batch Number:** 305  
**Multiplier:** 0.2  
**Dilution Factor:** 1  
**GPC (Y/N):** N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0 *	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8 *	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Compounds marked with a \* are reported not UKAS.  
 Concentrations are reported on a wet weight basis.

"M" denotes that % fit has been manually interpreted

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	90
Naphthalene-d8	91
Acenaphthene-d10	96
Phenanthrene-d10	99
Chrysene-d12	92
Perylene-d12	89

Surrogates	% Rec
2-Fluorophenol	94
Phenol-d5	94
Nitrobenzene-d5	92
2-Fluorobiphenyl	86
2,4,6-Tribromophenol	78
Terphenyl-d14	94

# Semi-Volatile Organic Compounds

UKAS accredited?: No

**Customer and Site Details:** Soil Mechanics: Project UCL HS  
**Sample Details:** BH3 ES 4.1.00  
**LIMS ID Number:** CL1103768  
**Job Number:** S11\_0800

**Date Booked in:** 04-Feb-11  
**Date Extracted:** 17-Feb-11  
**Date Analysed:** 18-Feb-11

**Matrix:** Soil  
**Ext Method:** Ultrasonic  
**Operator:** SO/DMB  
**Directory/Quant File:** 17SVOC.MS16\ 0217\_CCC4.D  
**QC Batch Number:** 305  
**Multiplier:** 0.2  
**Dilution Factor:** 1  
**GPC (Y/N):** N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0*	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8*	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4*	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Compounds marked with a \* are reported not UKAS.  
 Concentrations are reported on a wet weight basis.

"M" denotes that % fit has been manually interpreted

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5*	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6*	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	95
Naphthalene-d8	96
Acenaphthene-d10	101
Phenanthrene-d10	103
Chrysene-d12	91
Perylene-d12	88

Surrogates	% Rec
2-Fluorophenol	99
Phenol-d5	94
Nitrobenzene-d5	90
2-Fluorobiphenyl	85
2,4,6-Tribromophenol	86
Terphenyl-d14	93

# Semi-Volatile Organic Compounds

UKAS accredited?: No

**Customer and Site Details:** Soil Mechanics: Project UCL HS  
**Sample Details:** BH3 ES 9.2.00  
**LIMS ID Number:** CL1103769  
**Job Number:** S11\_0800

**Date Booked in:** 04-Feb-11  
**Date Extracted:** 17-Feb-11  
**Date Analysed:** 18-Feb-11

**Matrix:** Soil  
**Ext Method:** Ultrasonic  
**Operator:** SO/DMB  
**Directory/Quant File:** 17SVOC.MS16\ 0217\_CCC4.D  
**QC Batch Number:** 305  
**Multiplier:** 0.2  
**Dilution Factor:** 1  
**GPC (Y/N):** N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0*	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8*	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4*	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Compounds marked with a \* are reported not UKAS.  
 Concentrations are reported on a wet weight basis.

"M" denotes that % fit has been manually interpreted

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5*	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6*	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	88
Naphthalene-d8	88
Acenaphthene-d10	92
Phenanthrene-d10	95
Chrysene-d12	86
Perylene-d12	84

Surrogates	% Rec
2-Fluorophenol	101
Phenol-d5	94
Nitrobenzene-d5	93
2-Fluorobiphenyl	88
2,4,6-Tribromophenol	88
Terphenyl-d14	95



# Semi-Volatile Organic Compounds

UKAS accredited?: No

**Customer and Site Details:** Soil Mechanics: Project UCL HS  
**Sample Details:** BH3 ES 12 3.00  
**LIMS ID Number:** CL1103770  
**Job Number:** S11\_0800

**Date Booked in:** 04-Feb-11  
**Date Extracted:** 17-Feb-11  
**Date Analysed:** 18-Feb-11

**Matrix:** Soil  
**Ext Method:** Ultrasonic  
**Operator:** SO/DMB  
**Directory/Quant File:** 17SVOC.MS16\ 0217\_CCC4.D  
**QC Batch Number:** 305  
**Multiplier:** 0.2  
**Dilution Factor:** 1  
**GPC (Y/N):** N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0 *	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8 *	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Compounds marked with a \* are reported not UKAS.  
 Concentrations are reported on a wet weight basis.

"M" denotes that % fit has been manually interpreted

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	95
Naphthalene-d8	96
Acenaphthene-d10	100
Phenanthrene-d10	104
Chrysene-d12	98
Perylene-d12	94

Surrogates	% Rec
2-Fluorophenol	95
Phenol-d5	90
Nitrobenzene-d5	87
2-Fluorobiphenyl	85
2,4,6-Tribromophenol	78
Terphenyl-d14	91

# Semi-Volatile Organic Compounds

UKAS accredited?: No

**Customer and Site Details:** Soil Mechanics: Project UCL HS  
**Sample Details:** BH3 ES 15 4.00  
**LIMS ID Number:** CL1103771  
**Job Number:** S11\_0800

**Date Booked in:** 04-Feb-11  
**Date Extracted:** 17-Feb-11  
**Date Analysed:** 18-Feb-11

**Matrix:** Soil  
**Ext Method:** Ultrasonic  
**Operator:** SO/DMB  
**Directory/Quant File:** 17SVOC.MS16\ 0217\_CCC4.D  
**QC Batch Number:** 305  
**Multiplier:** 0.2  
**Dilution Factor:** 1  
**GPC (Y/N):** N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0 *	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8 *	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Compounds marked with a \* are reported not UKAS.  
 Concentrations are reported on a wet weight basis.

"M" denotes that % fit has been manually interpreted

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	94
Naphthalene-d8	95
Acenaphthene-d10	99
Phenanthrene-d10	101
Chrysene-d12	94
Perylene-d12	90

Surrogates	% Rec
2-Fluorophenol	99
Phenol-d5	93
Nitrobenzene-d5	89
2-Fluorobiphenyl	87
2,4,6-Tribromophenol	80
Terphenyl-d14	95

# Semi-Volatile Organic Compounds

UKAS accredited?: No

**Customer and Site Details:** Soil Mechanics: Project UCL HS  
**Sample Details:** BH3 ES 18 5.00  
**LIMS ID Number:** CL1103772  
**Job Number:** S11\_0800

**Date Booked in:** 04-Feb-11  
**Date Extracted:** 17-Feb-11  
**Date Analysed:** 18-Feb-11

**Matrix:** Soil  
**Ext Method:** Ultrasonic  
**Operator:** SO/DMB  
**Directory/Quant File:** 17SVOC.MS16\ 0217\_CCC4.D  
**QC Batch Number:** 305  
**Multiplier:** 0.2  
**Dilution Factor:** 1  
**GPC (Y/N):** N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0 *	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8 *	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Compounds marked with a \* are reported not UKAS.  
 Concentrations are reported on a wet weight basis.

"M" denotes that % fit has been manually interpreted

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	104
Naphthalene-d8	104
Acenaphthene-d10	108
Phenanthrene-d10	111
Chrysene-d12	106
Perylene-d12	102

Surrogates	% Rec
2-Fluorophenol	94
Phenol-d5	94
Nitrobenzene-d5	87
2-Fluorobiphenyl	84
2,4,6-Tribromophenol	74
Terphenyl-d14	91

# Semi-Volatile Organic Compounds

UKAS accredited?: No

**Customer and Site Details:** Soil Mechanics: Project UCL HS  
**Sample Details:** BH3 ES 20 6.00  
**LIMS ID Number:** CL1103773  
**Job Number:** S11\_0800

**Date Booked in:** 04-Feb-11  
**Date Extracted:** 17-Feb-11  
**Date Analysed:** 18-Feb-11

**Matrix:** Soil  
**Ext Method:** Ultrasonic  
**Operator:** SO/DMB  
**Directory/Quant File:** 17SVOC.MS16\ 0217\_CCC4.D  
**QC Batch Number:** 305  
**Multiplier:** 0.2  
**Dilution Factor:** 1  
**GPC (Y/N):** N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0*	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8*	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4*	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Compounds marked with a \* are reported not UKAS.  
 Concentrations are reported on a wet weight basis.

"M" denotes that % fit has been manually interpreted

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5*	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6*	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	97
Naphthalene-d8	98
Acenaphthene-d10	100
Phenanthrene-d10	103
Chrysene-d12	97
Perylene-d12	90

Surrogates	% Rec
2-Fluorophenol	94
Phenol-d5	93
Nitrobenzene-d5	85
2-Fluorobiphenyl	82
2,4,6-Tribromophenol	74
Terphenyl-d14	90

## ALIPHATIC / AROMATIC FRACTION BY GC/FID

**Customer and Site Details:** Soil Mechanics : Project UCL HS  
**Job Number:** S11\_0800  
**QC Batch Number:** 110307  
**Directory:** D:\TES\DATA\Y2011\FEB2011\0218TPH\_GC3\042F5401.D  
**Method:** Ultra Sonic

**Separation:** Silica gel  
**Eluents:** Hexane, DCM

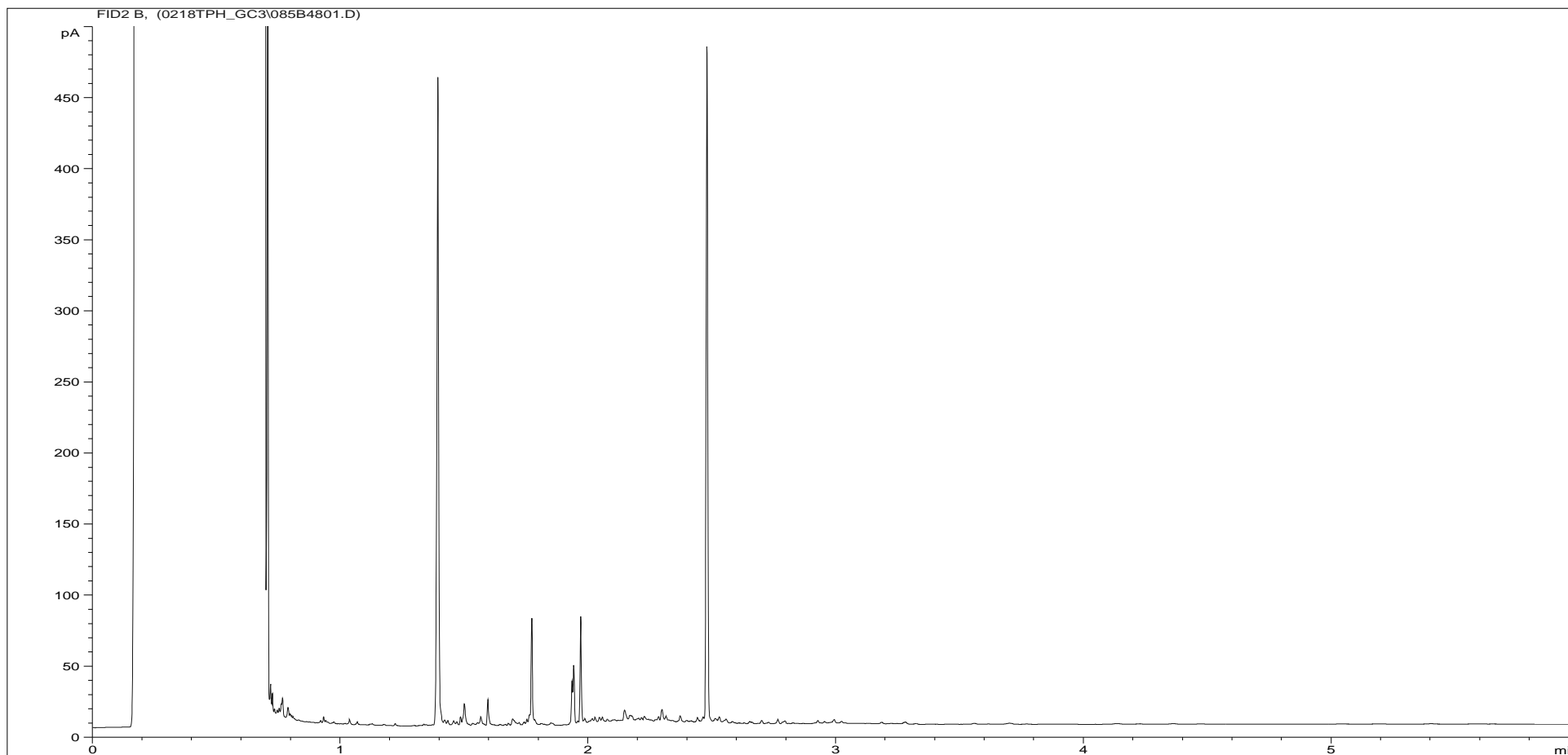
**Matrix:** Soil  
**Date Booked in:** 04-Feb-11  
**Date Extracted:** 17-Feb-11  
**Date Analysed:** 18-Feb-11

**Concentration, (mg/kg) - as wet weight**

\* This sample data is not UKAS accredited.

Sample ID	Client ID	>C8 - C10		>C10 - C12		>C12 - C16		>C16 - C21		>C21 - C35		>C8 - C40	
		Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics
CL1103767	BH3 ES 1 0.30	<4	<4	<4	<4	8.27	<4	25.9	<4	33.1	<8.76	71.3	<20
CL1103768	BH3 ES 4 1.00	<4.1	<4	<4.1	<4	<4.1	<4	<4.1	9.4	11.5	31.6	<20.5	45.8
CL1103769	BH3 ES 9 2.00	<4	<4	<4	<4	4.57	<4	10.4	<4	16	9.9	33.1	<20
CL1103770	BH3 ES 12 3.00	<4.3	<4	<4.3	<4	4.85	<4	15.5	<4	30.1	<8.76	52.5	<20
CL1103771	BH3 ES 15 4.00	<4.1	<4	<4.1	<4	7.2	<4	11	<4	<8.98	<8.76	25.9	<20
CL1103772	BH3 ES 18 5.00	<4.3	<4	<4.3	<4	<4.3	<4	<4.3	<4	<9.4	<8.76	<21.5	<20
CL1103773	BH3 ES 20 6.00	<4.41	<4	<4.41	<4	<4.41	<4	<4.41	<4	<9.7	<8.76	<22	<20

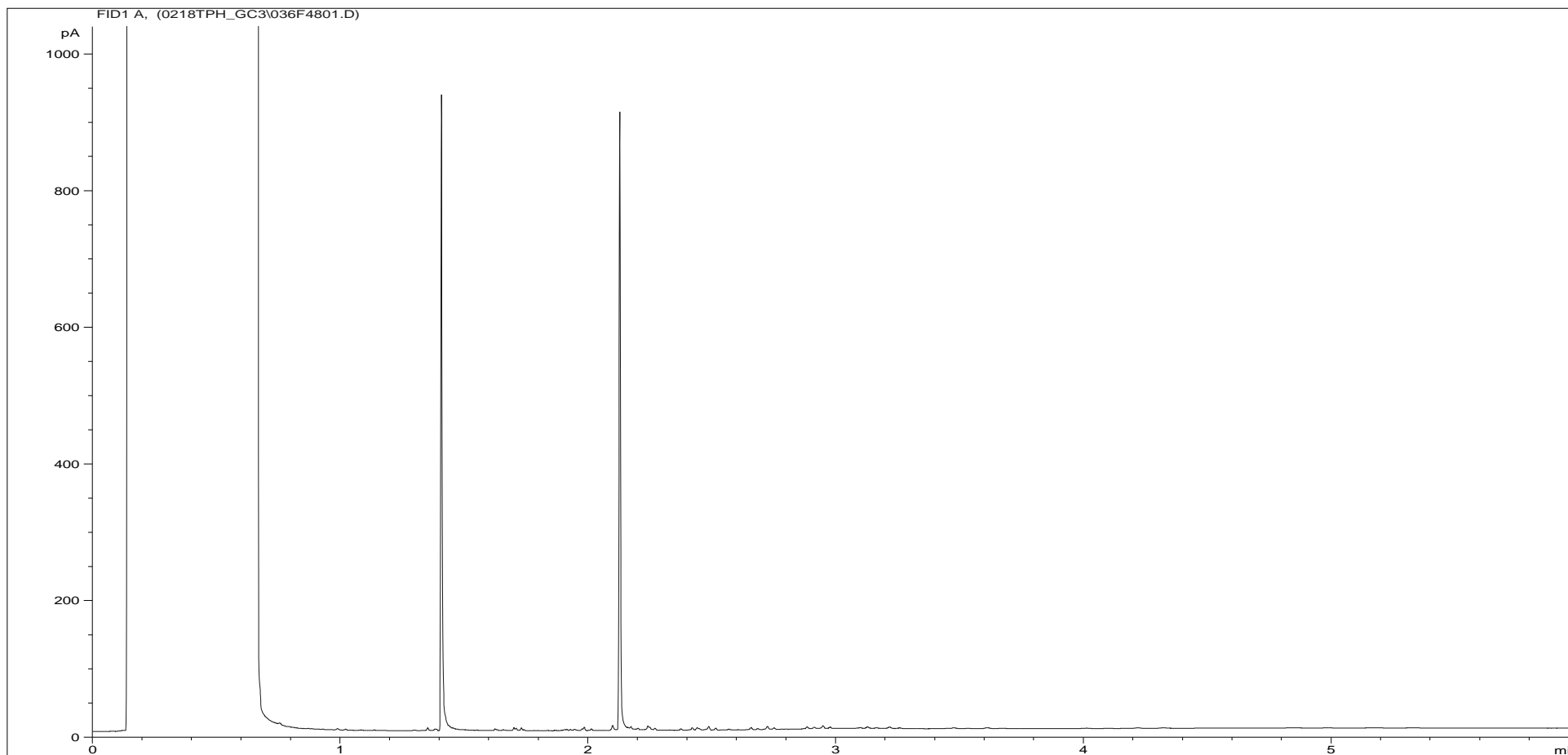
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



<b>Sample ID:</b>	CL1103767ALI	<b>Job Number:</b>	S11_0800
<b>Multiplier:</b>	15.58	<b>Client:</b>	Soil Mechanics
<b>Dilution:</b>	1	<b>Site:</b>	Project UCL HS
<b>Acquisition Method:</b>	5UL_RUNF.M	<b>Client Sample Ref:</b>	BH3 ES 1 0.30
<b>Acquisition Date/Time:</b>	18-Feb-11		
<b>Datafile:</b>	D:\TES\DATA\Y2011\FEB2011\0218TPH_GC3\085B4801.D		

Where individual results are flagged see report notes for status.

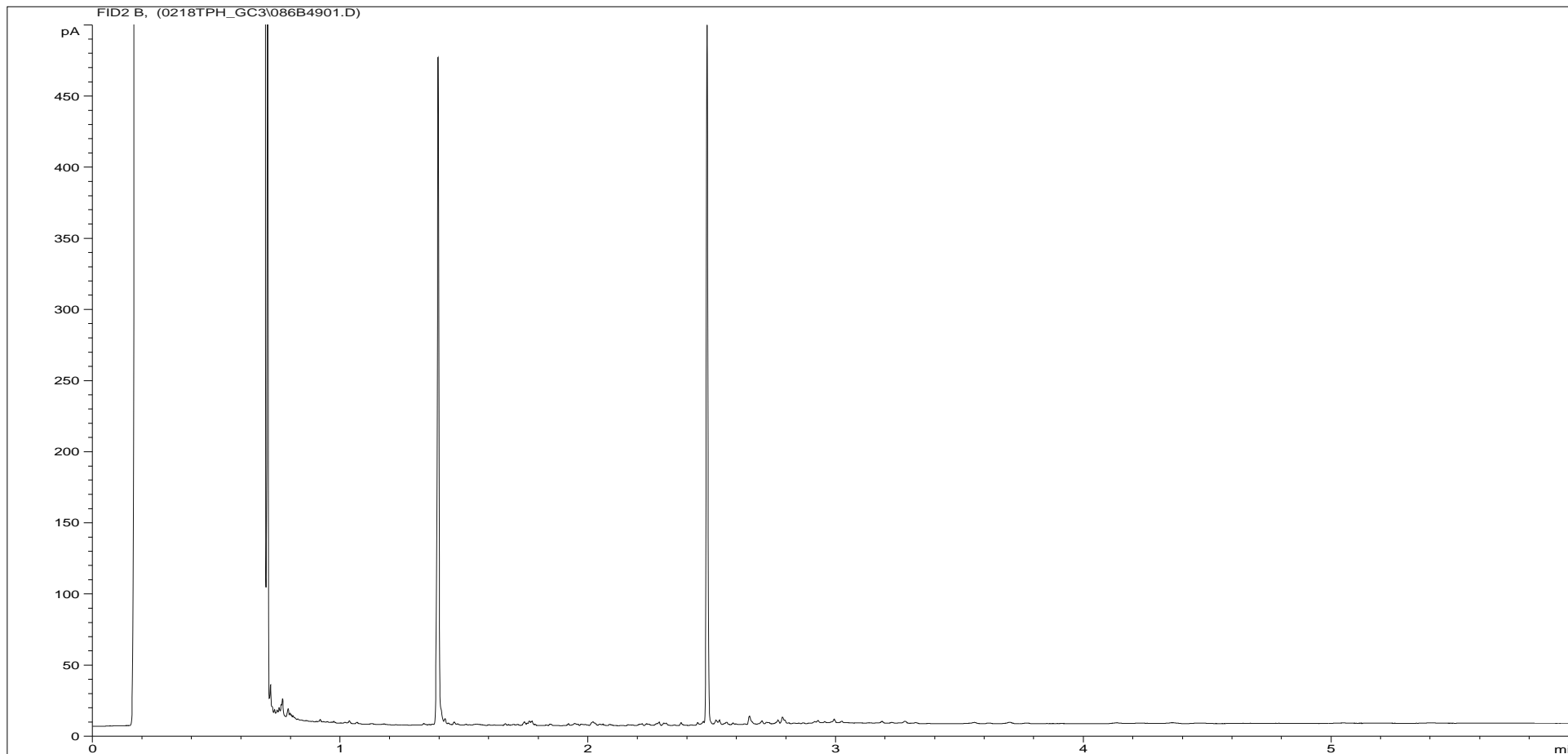
**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



<b>Sample ID:</b>	CL1103767ARO	<b>Job Number:</b>	S11_0800
<b>Multiplier:</b>	11.4	<b>Client:</b>	Soil Mechanics
<b>Dilution:</b>	1	<b>Site:</b>	Project UCL HS
<b>Acquisition Method:</b>	5UL_RUNF.M	<b>Client Sample Ref:</b>	BH3 ES 1 0.30
<b>Acquisition Date/Time:</b>	18-Feb-11		
<b>Datafile:</b>	D:\TES\DATA\Y2011\FEB2011\0218TPH_GC3\036F4801.D		

Where individual results are flagged see report notes for status.

Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.

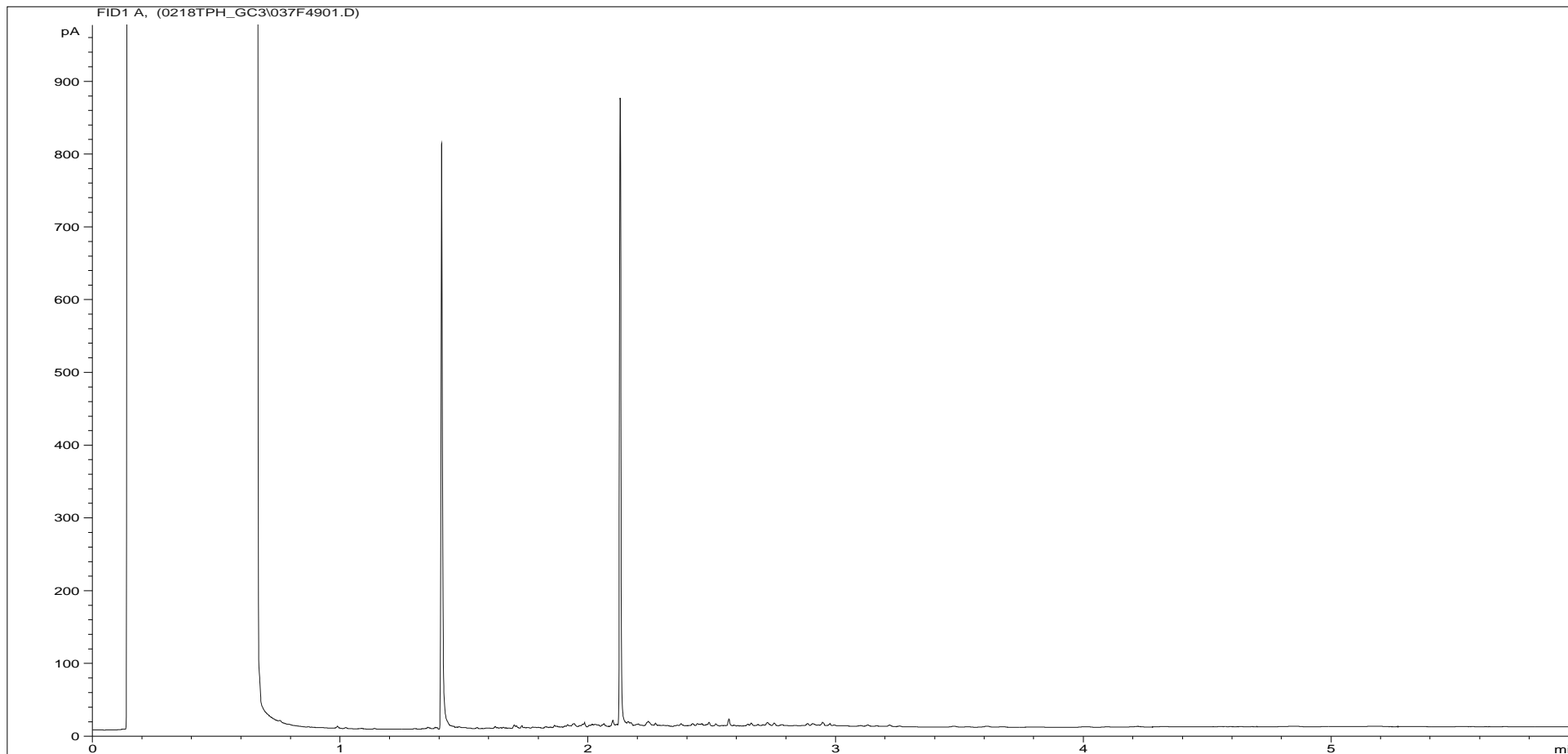


<b>Sample ID:</b>	CL1103768ALI	<b>Job Number:</b>	S11_0800
<b>Multiplier:</b>	16.4	<b>Client:</b>	Soil Mechanics
<b>Dilution:</b>	1	<b>Site:</b>	Project UCL HS
<b>Acquisition Method:</b>	5UL_RUNF.M	<b>Client Sample Ref:</b>	BH3 ES 4 1.00
<b>Acquisition Date/Time:</b>	18-Feb-11		
<b>Datafile:</b>	D:\TES\DATA\Y2011\FEB2011\0218TPH_GC3\086B4901.D		

Where individual results are flagged see report notes for status.



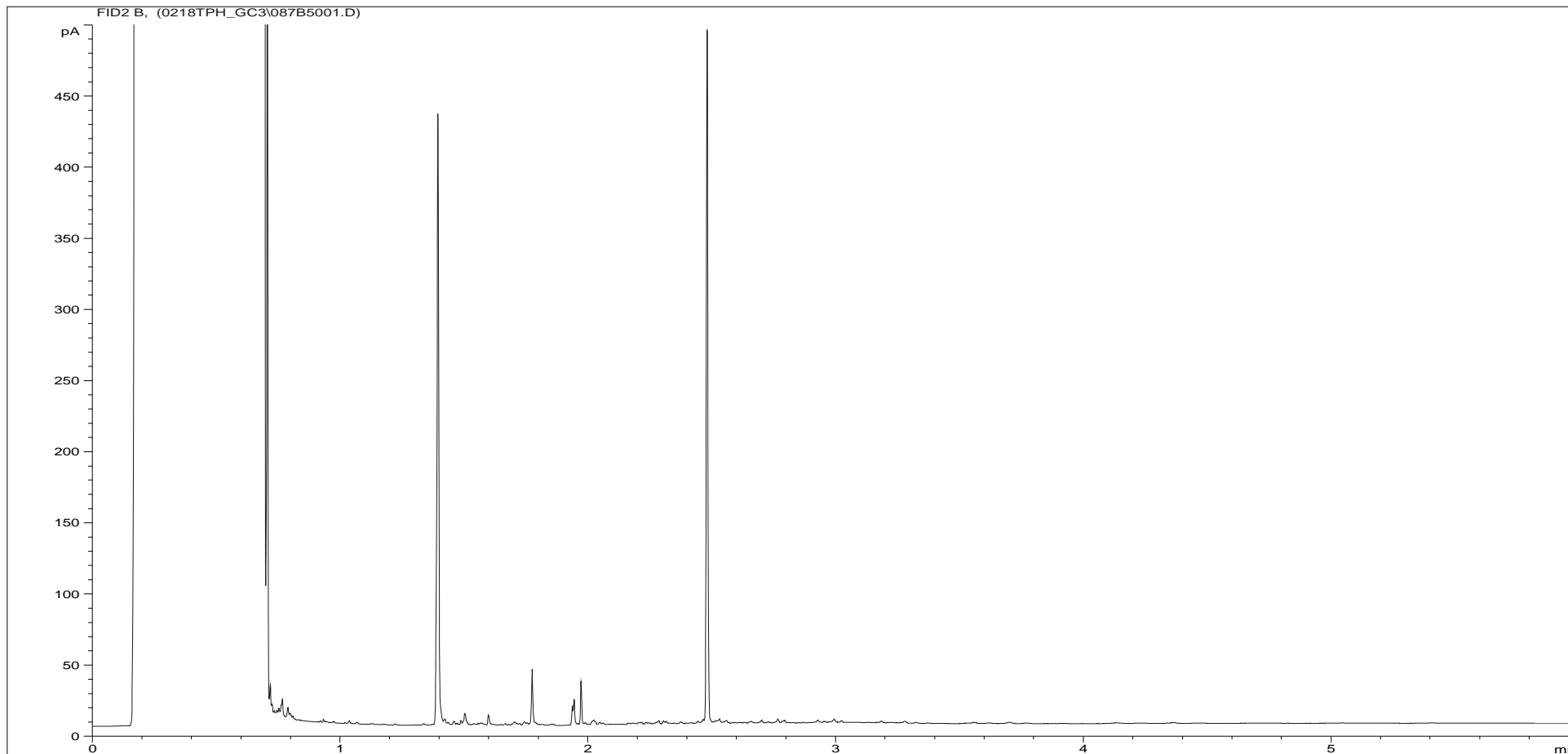
**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



<b>Sample ID:</b>	CL1103768ARO	<b>Job Number:</b>	S11_0800
<b>Multiplier:</b>	12.4	<b>Client:</b>	Soil Mechanics
<b>Dilution:</b>	1	<b>Site:</b>	Project UCL HS
<b>Acquisition Method:</b>	5UL_RUNF.M	<b>Client Sample Ref:</b>	BH3 ES 4 1.00
<b>Acquisition Date/Time:</b>	18-Feb-11		
<b>Datafile:</b>	D:\TES\DATA\Y2011\FEB2011\0218TPH_GC3\037F4901.D		

Where individual results are flagged see report notes for status.

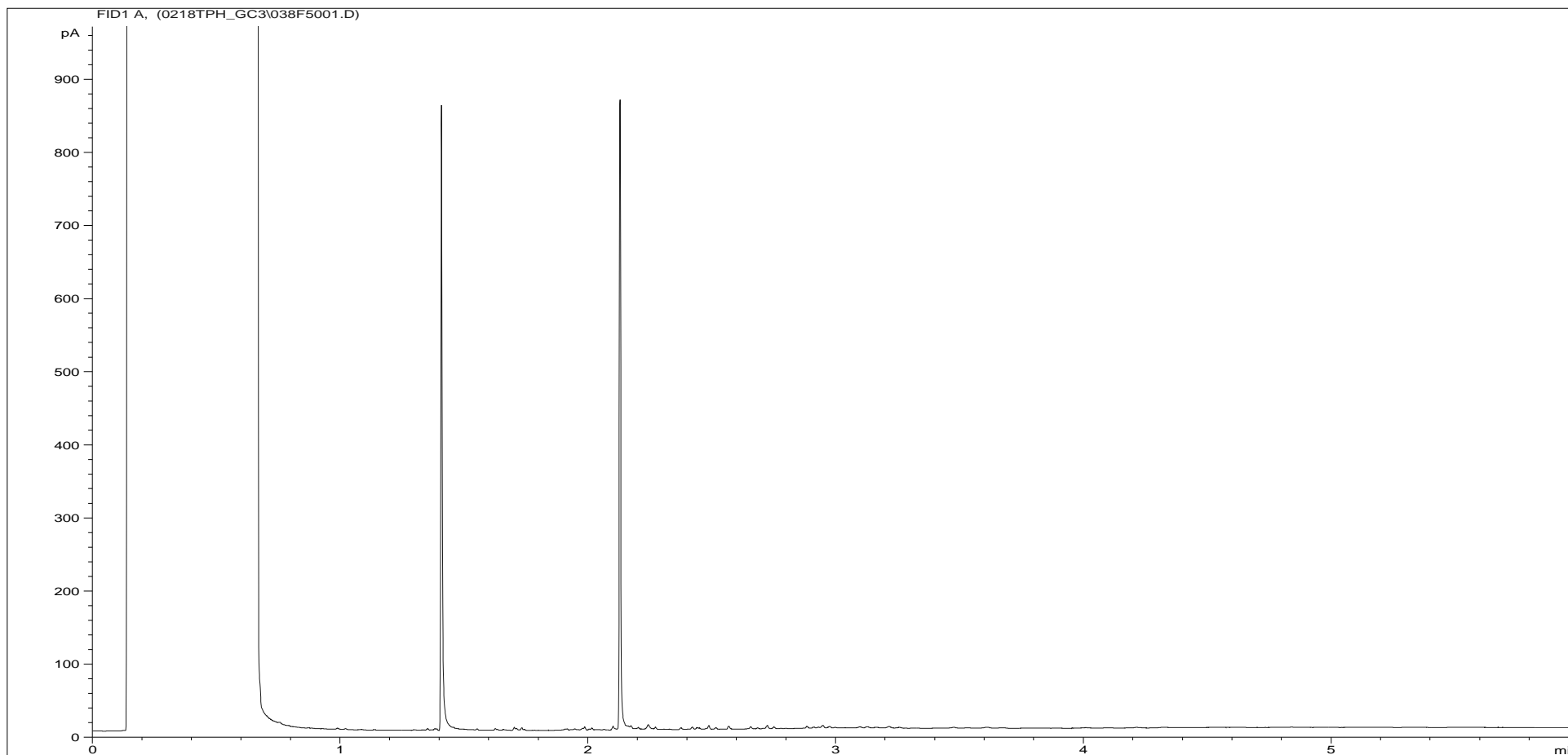
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



<b>Sample ID:</b>	CL1103769ALI	<b>Job Number:</b>	S11_0800
<b>Multiplier:</b>	14.76	<b>Client:</b>	Soil Mechanics
<b>Dilution:</b>	1	<b>Site:</b>	Project UCL HS
<b>Acquisition Method:</b>	5UL_RUNF.M	<b>Client Sample Ref:</b>	BH3 ES 9 2.00
<b>Acquisition Date/Time:</b>	18-Feb-11		
<b>Datafile:</b>	D:\TES\DATA\Y2011\FEB2011\0218TPH_GC3\087B5001.D		

Where individual results are flagged see report notes for status.

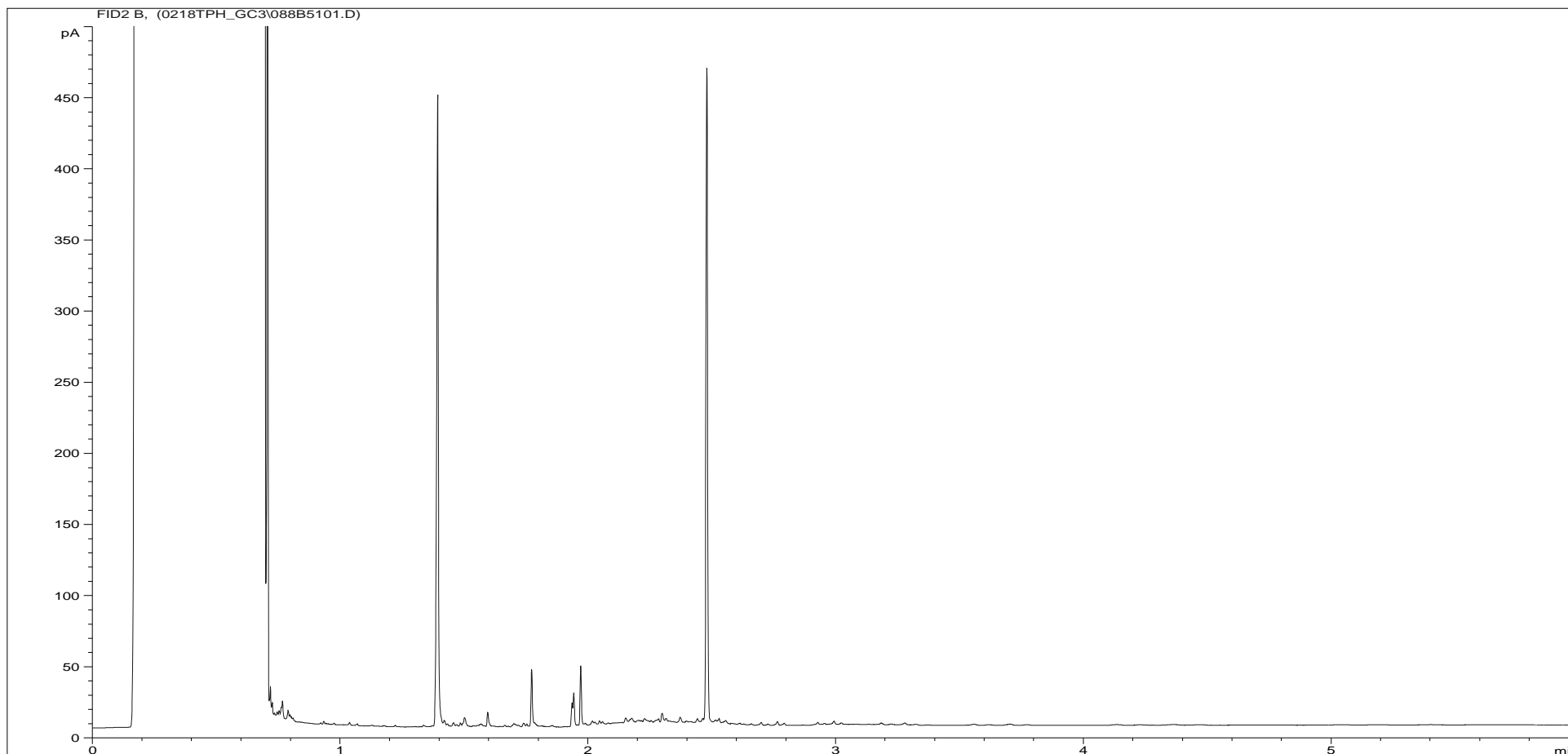
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



<b>Sample ID:</b>	CL1103769ARO	<b>Job Number:</b>	S11_0800
<b>Multiplier:</b>	11.16	<b>Client:</b>	Soil Mechanics
<b>Dilution:</b>	1	<b>Site:</b>	Project UCL HS
<b>Acquisition Method:</b>	5UL_RUNF.M	<b>Client Sample Ref:</b>	BH3 ES 9 2.00
<b>Acquisition Date/Time:</b>	18-Feb-11		
<b>Datafile:</b>	D:\TES\DATA\Y2011\FEB2011\0218TPH_GC3\038F5001.D		

Where individual results are flagged see report notes for status.

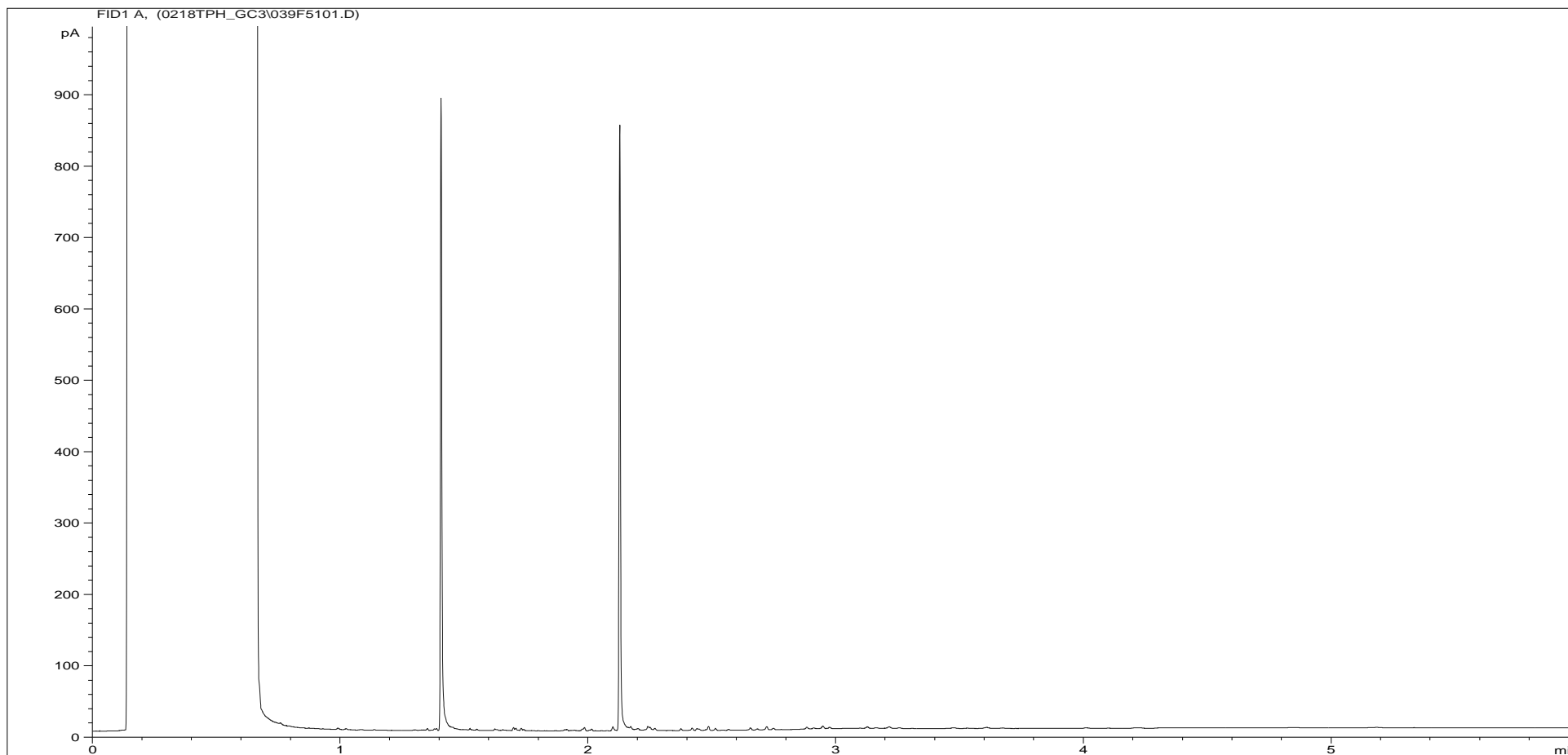
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



<b>Sample ID:</b>	CL1103770ALI	<b>Job Number:</b>	S11_0800
<b>Multiplier:</b>	17.22	<b>Client:</b>	Soil Mechanics
<b>Dilution:</b>	1	<b>Site:</b>	Project UCL HS
<b>Acquisition Method:</b>	5UL_RUNF.M	<b>Client Sample Ref:</b>	BH3 ES 12 3.00
<b>Acquisition Date/Time:</b>	18-Feb-11		
<b>Datafile:</b>	D:\TES\DATA\Y2011\FEB2011\0218TPH_GC3\088B5101.D		

Where individual results are flagged see report notes for status.

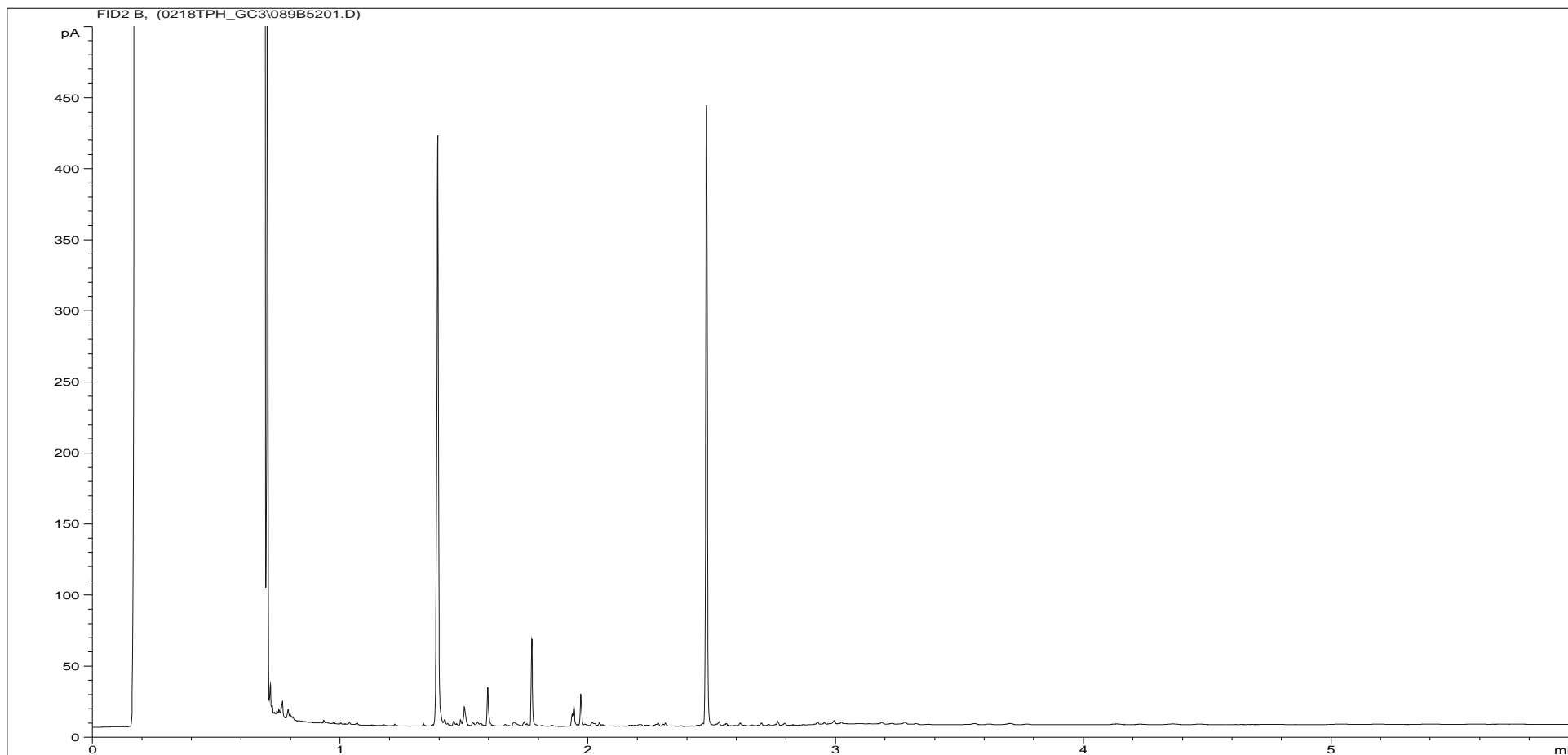
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



<b>Sample ID:</b>	CL1103770ARO	<b>Job Number:</b>	S11_0800
<b>Multiplier:</b>	12.6	<b>Client:</b>	Soil Mechanics
<b>Dilution:</b>	1	<b>Site:</b>	Project UCL HS
<b>Acquisition Method:</b>	5UL_RUNF.M	<b>Client Sample Ref:</b>	BH3 ES 12 3.00
<b>Acquisition Date/Time:</b>	18-Feb-11		
<b>Datafile:</b>	D:\TES\DATA\Y2011\FEB2011\0218TPH_GC3\039F5101.D		

Where individual results are flagged see report notes for status.

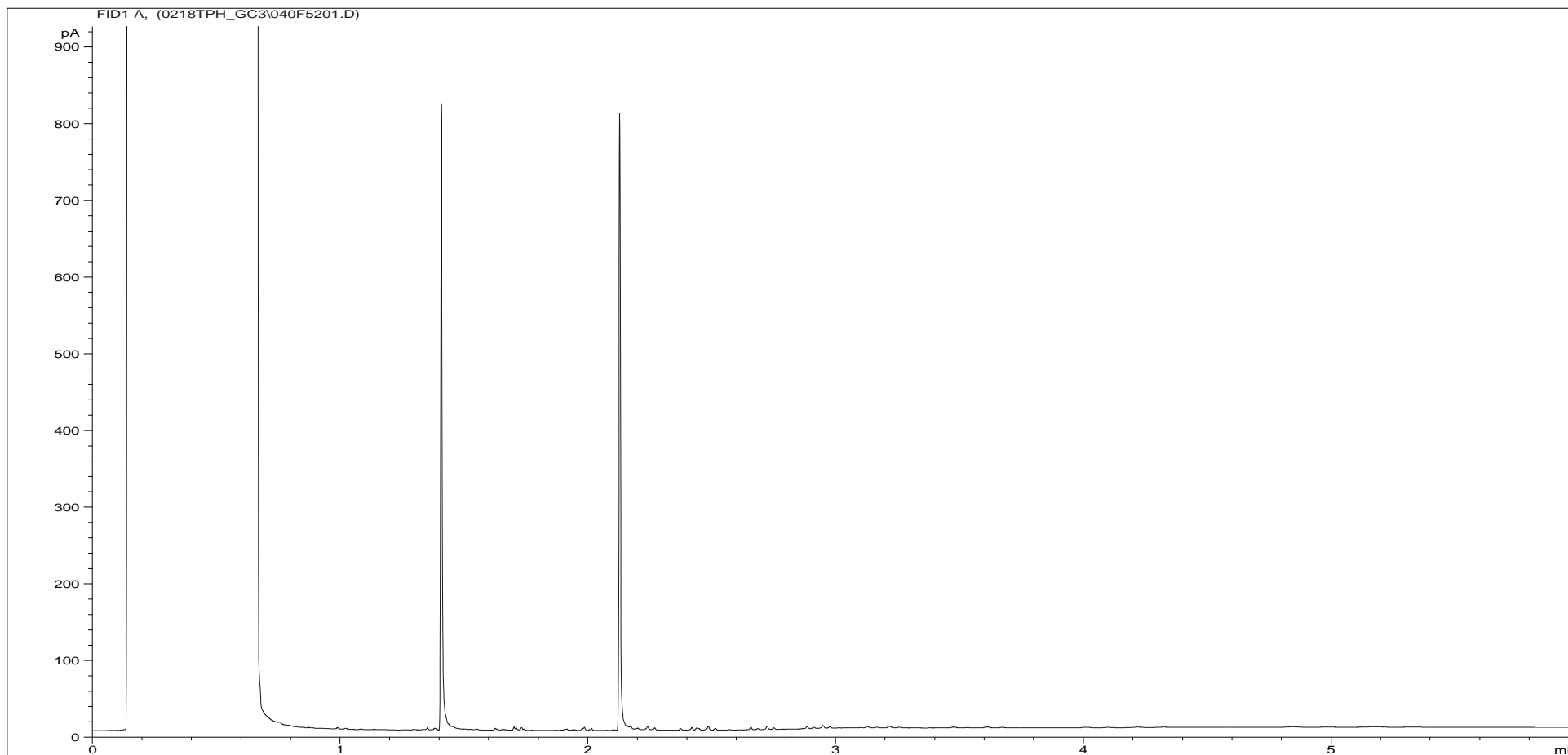
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



<b>Sample ID:</b>	CL1103771ALI	<b>Job Number:</b>	S11_0800
<b>Multiplier:</b>	16.4	<b>Client:</b>	Soil Mechanics
<b>Dilution:</b>	1	<b>Site:</b>	Project UCL HS
<b>Acquisition Method:</b>	5UL_RUNF.M	<b>Client Sample Ref:</b>	BH3 ES 15 4.00
<b>Acquisition Date/Time:</b>	18-Feb-11		
<b>Datafile:</b>	D:\TES\DATA\Y2011\FEB2011\0218TPH_GC3\089B5201.D		

Where individual results are flagged see report notes for status.

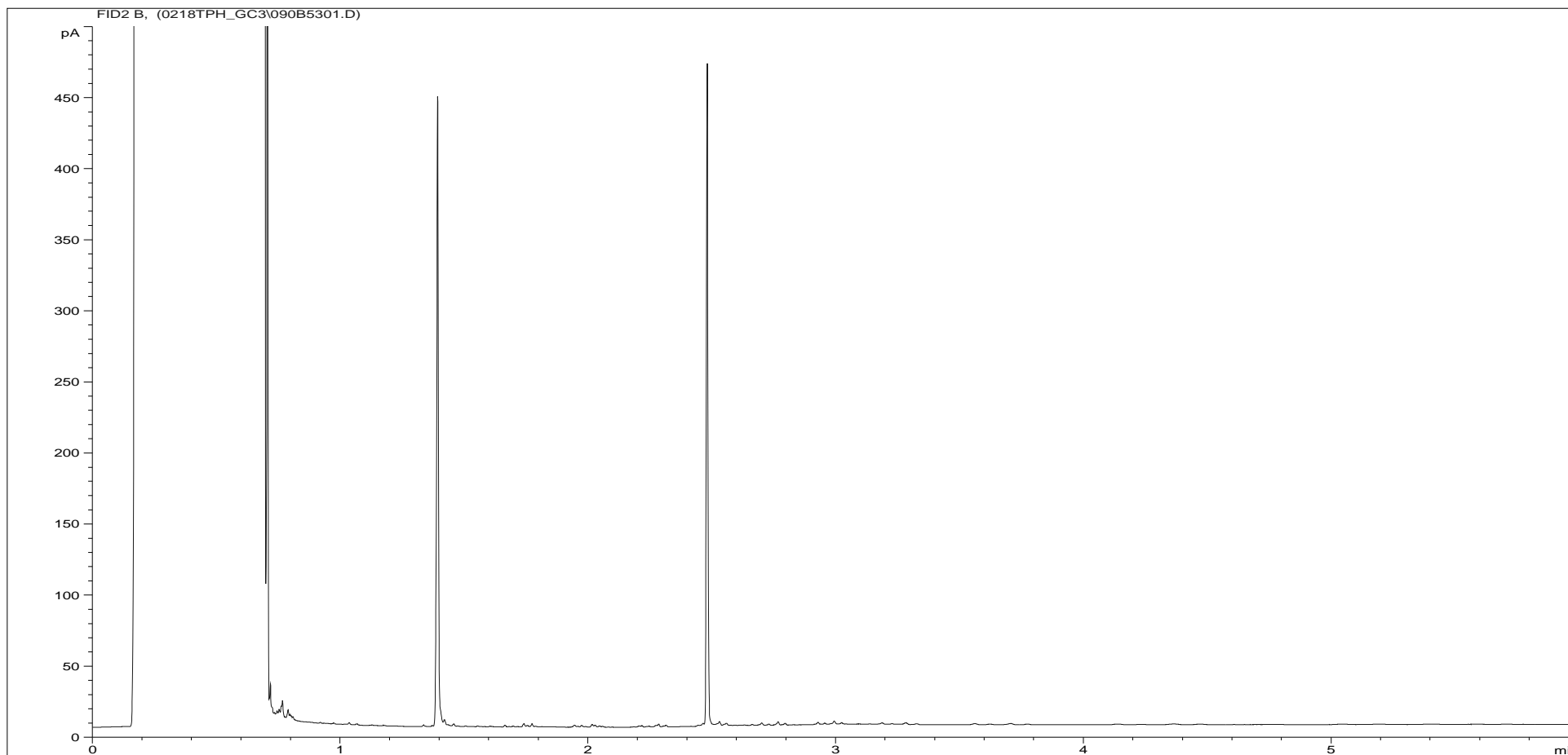
**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



<b>Sample ID:</b>	CL1103771ARO	<b>Job Number:</b>	S11_0800
<b>Multiplier:</b>	12.4	<b>Client:</b>	Soil Mechanics
<b>Dilution:</b>	1	<b>Site:</b>	Project UCL HS
<b>Acquisition Method:</b>	5UL_RUNF.M	<b>Client Sample Ref:</b>	BH3 ES 15 4.00
<b>Acquisition Date/Time:</b>	18-Feb-11		
<b>Datafile:</b>	D:\TES\DATA\Y2011\FEB2011\0218TPH_GC3\040F5201.D		

Where individual results are flagged see report notes for status.

Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.

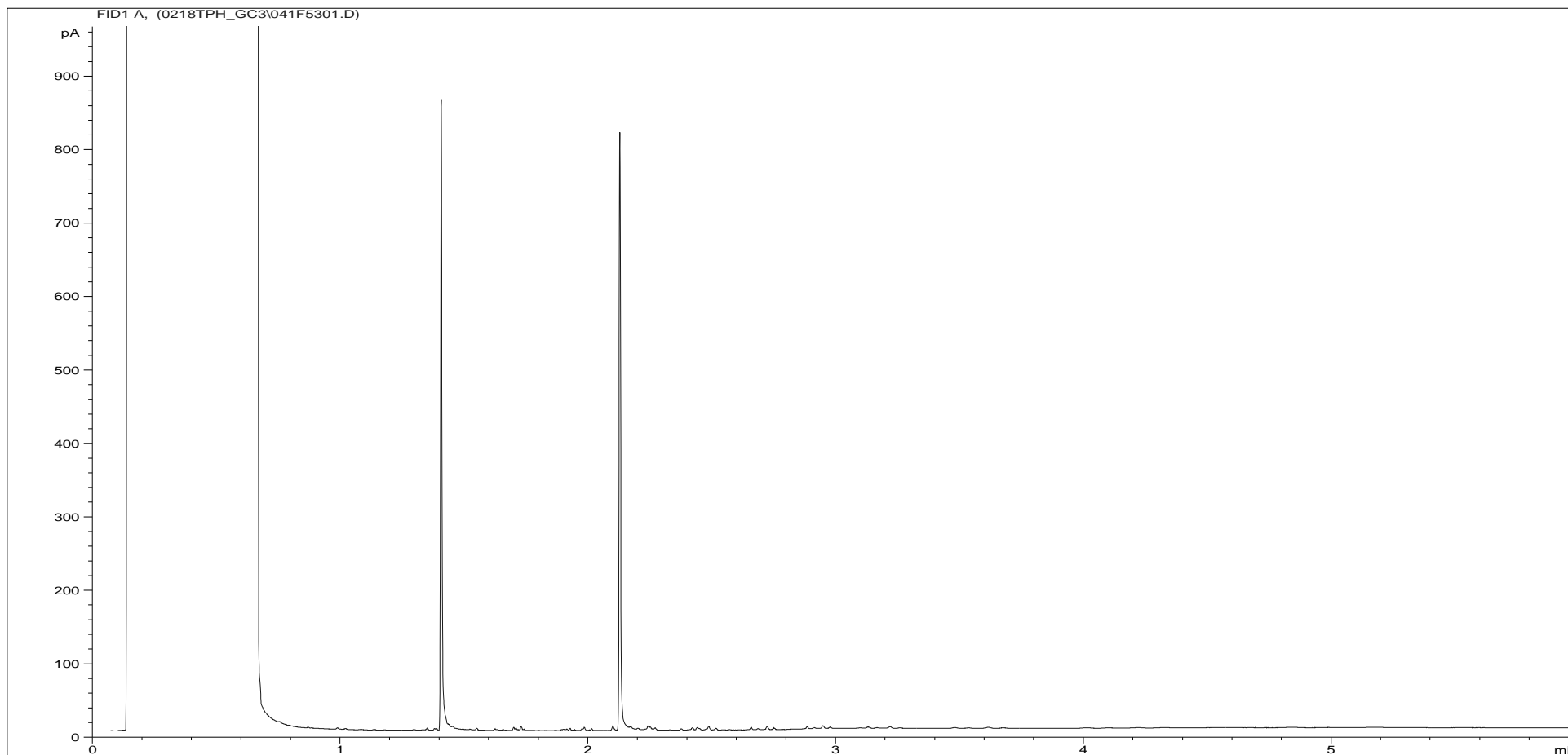


<b>Sample ID:</b>	CL1103772ALI	<b>Job Number:</b>	S11_0800
<b>Multiplier:</b>	17.22	<b>Client:</b>	Soil Mechanics
<b>Dilution:</b>	1	<b>Site:</b>	Project UCL HS
<b>Acquisition Method:</b>	5UL_RUNF.M	<b>Client Sample Ref:</b>	BH3 ES 18 5.00
<b>Acquisition Date/Time:</b>	18-Feb-11		
<b>Datafile:</b>	D:\TES\DATA\Y2011\FEB2011\0218TPH_GC3\090B5301.D		

Where individual results are flagged see report notes for status.



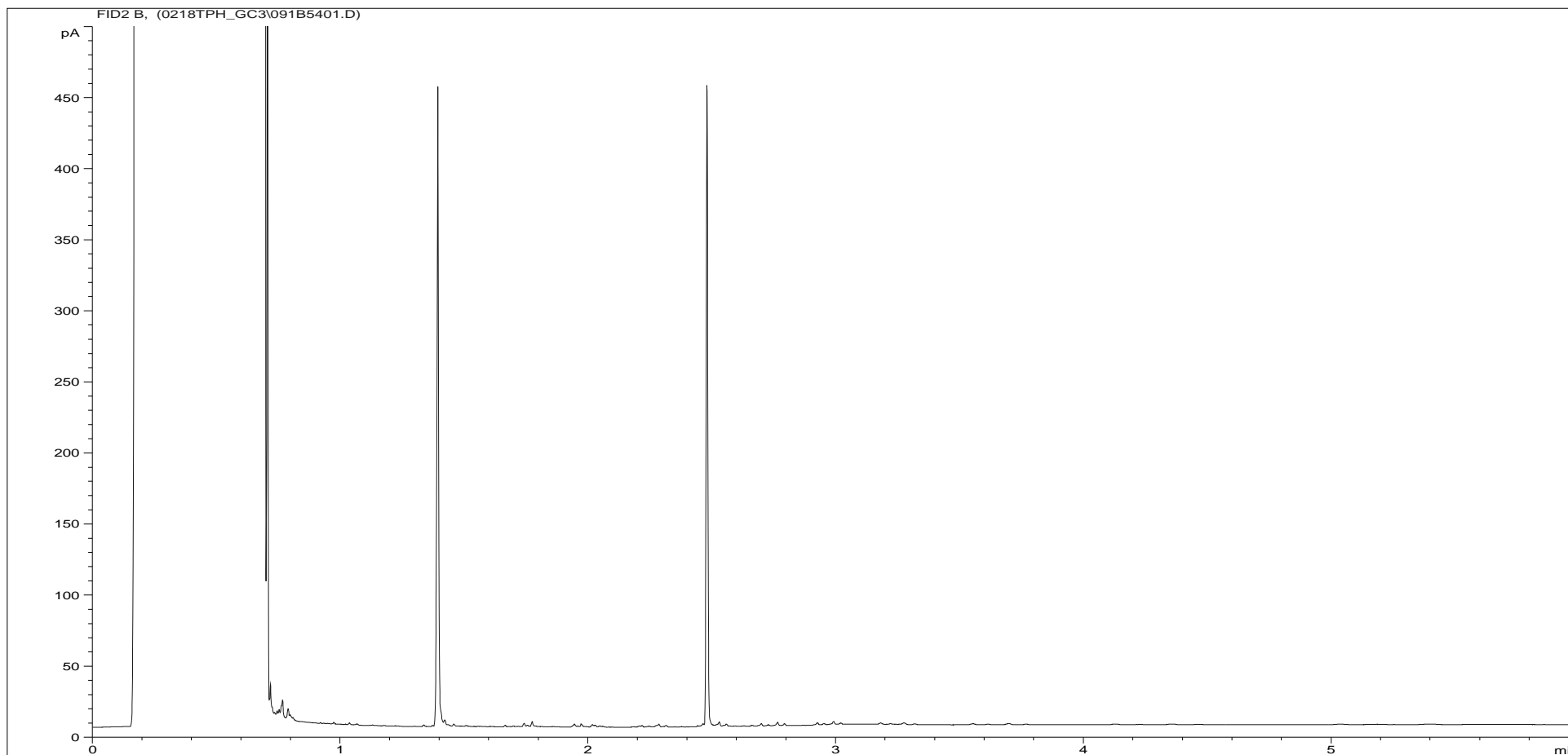
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



<b>Sample ID:</b>	CL1103772ARO	<b>Job Number:</b>	S11_0800
<b>Multiplier:</b>	13.02	<b>Client:</b>	Soil Mechanics
<b>Dilution:</b>	1	<b>Site:</b>	Project UCL HS
<b>Acquisition Method:</b>	5UL_RUNF.M	<b>Client Sample Ref:</b>	BH3 ES 18 5.00
<b>Acquisition Date/Time:</b>	18-Feb-11		
<b>Datafile:</b>	D:\TES\DATA\Y2011\FEB2011\0218TPH_GC3\041F5301.D		

Where individual results are flagged see report notes for status.

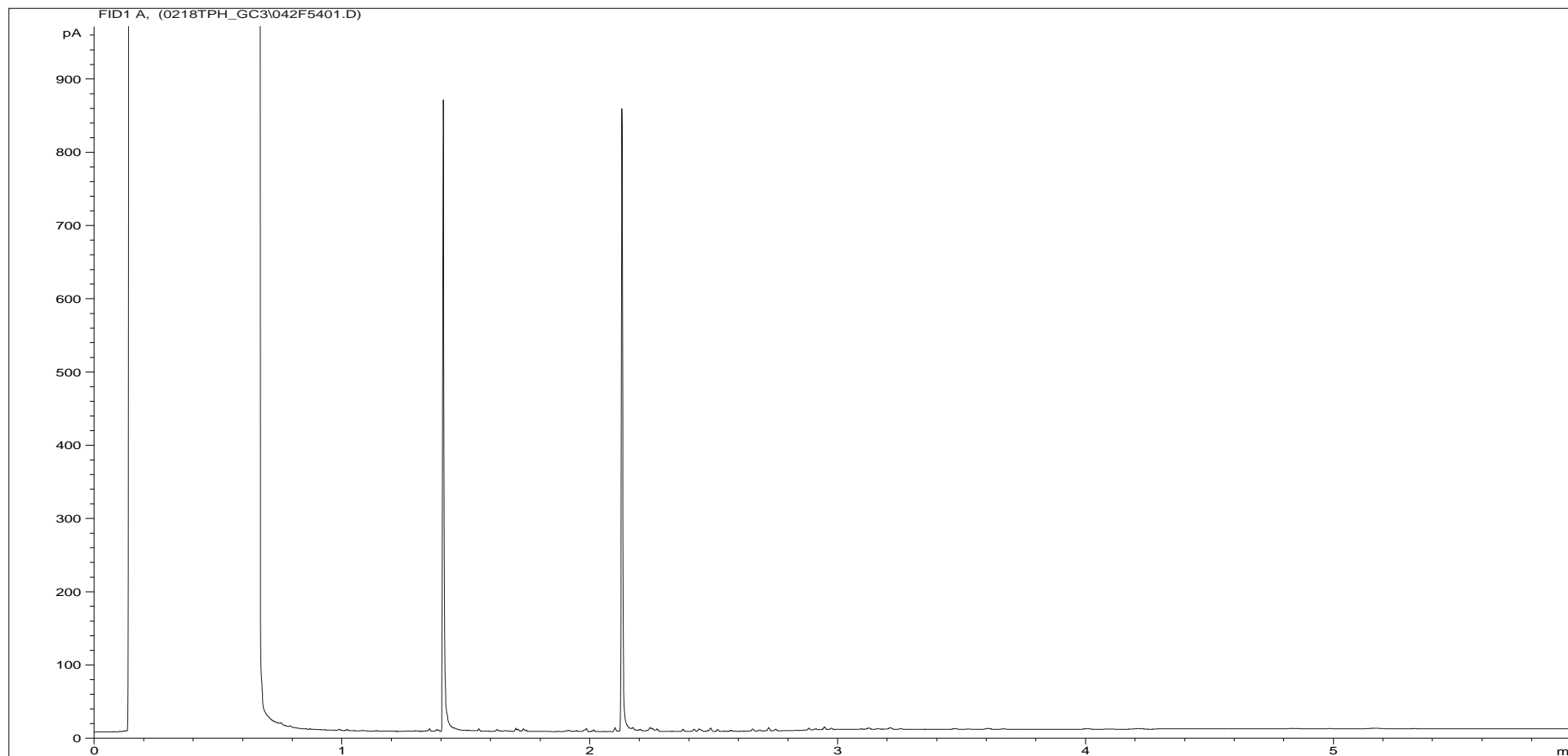
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



<b>Sample ID:</b>	CL1103773ALI	<b>Job Number:</b>	S11_0800
<b>Multiplier:</b>	17.64	<b>Client:</b>	Soil Mechanics
<b>Dilution:</b>	1	<b>Site:</b>	Project UCL HS
<b>Acquisition Method:</b>	5UL_RUNF.M	<b>Client Sample Ref:</b>	BH3 ES 20 6.00
<b>Acquisition Date/Time:</b>	18-Feb-11		
<b>Datafile:</b>	D:\TES\DATA\Y2011\FEB2011\0218TPH_GC3\091B5401.D		

Where individual results are flagged see report notes for status.

**Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.**



<b>Sample ID:</b>	CL1103773ARO	<b>Job Number:</b>	S11_0800
<b>Multiplier:</b>	13.02	<b>Client:</b>	Soil Mechanics
<b>Dilution:</b>	1	<b>Site:</b>	Project UCL HS
<b>Acquisition Method:</b>	5UL_RUNF.M	<b>Client Sample Ref:</b>	BH3 ES 20 6.00
<b>Acquisition Date/Time:</b>	18-Feb-11		
<b>Datafile:</b>	D:\TES\DATA\Y2011\FEB2011\0218TPH_GC3\042F5401.D		

Where individual results are flagged see report notes for status.

# Volatile Organic Compounds by HSA-GCMS

UKAS accredited?: Yes

**Customer and Site Details:** Soil Mechanics: Project UCL HS  
**Sample Details:** BH3 ES 1 0.30  
**LIMS ID Number:** CL1103767  
**Job Number:** S11\_0800

**Directory/Quant file:** 217VOC\_MS19\ Initial Calibration  
**Date Booked in:** 04-Feb-11  
**Date Analysed:** 17-Feb-11  
**Operator:** TP

**Matrix:** Soil  
**Method:** Headspace  
**Multiplier:** 1  
**Position:** 11

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8 **	-	< 1	-
Chloromethane	74-87-3 *	-	< 3	-
Vinyl Chloride	75-01-4	-	< 1	-
Bromomethane	74-83-9	-	< 1	-
Chloroethane	75-00-3	-	< 2	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-48*	-	< 1	-
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	-	< 1	-
MTBE	1634-04-4	-	< 1	-
2,2-Dichloropropane	594-20-7	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	-	< 2	-
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	-	< 1	-
1,1,1-Trichloroethane	71-55-6	-	< 1	-
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	4.34	2	M
1,2-Dichloroethane	107-06-2	-	< 1	-
Trichloroethene	79-01-6	4.61	1	M
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4*	-	< 1	-
cis 1,3-Dichloropropene	10061-01-5	-	< 1	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6	-	< 1	-
1,1,2-Trichloroethane	79-00-5*	-	< 1	-
Tetrachloroethene	127-18-4	-	< 3	-
1,3-Dichloropropane	142-28-9	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	5.62	3	M
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	5.66	6	M

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
o-Xylene	95-47-6	5.80	3	M
Styrene	100-42-5	-	< 1	-
Bromoform	75-25-2	-	< 1	-
iso-Propylbenzene	98-82-8	-	< 1	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 1	-
Propylbenzene	103-65-1	-	< 1	-
Bromobenzene	108-86-1	-	< 1	-
1,2,3-Trichloropropane	96-18-4	-	< 1	-
2-Chlorotoluene	95-49-8	-	< 1	-
1,3,5-Trimethylbenzene	108-67-8	-	< 1	-
4-Chlorotoluene	106-43-4	-	< 1	-
tert-Butylbenzene	98-06-6	-	< 1	-
1,2,4-Trimethylbenzene	95-63-6	-	< 1	-
sec-Butylbenzene	135-98-8	-	< 1	-
p-Isopropyltoluene	99-87-6	-	< 1	-
1,3-Dichlorobenzene	541-73-1	-	< 1	-
1,4-Dichlorobenzene	106-46-7	-	< 1	-
n-Butylbenzene	104-51-8 *	-	< 1	-
1,2-Dichlorobenzene	95-50-1	-	< 1	-
1,2-Dibromo-3-chloropropane	96-12-8	-	< 1	-
1,2,4-Trichlorobenzene	120-82-1 **	7.17	4	M
Hexachlorobutadiene	87-68-3 **	-	< 2	-
Naphthalene	91-20-3 **	7.29	6	M
1,2,3-Trichlorobenzene	87-61-6 **	7.42	4	M

Compounds marked \* are not MCERTS accredited  
 Compounds marked \*\* are not UKAS or Mcerts accredited  
 "M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	4.15	95	Dibromofluoromethane	103
1,4-Difluorobenzene	4.49	92	Toluene-d8	98
Chlorobenzene-d5	5.60	80		
Bromofluorobenzene	5.99	68		
1,4-Dichlorobenzene-d4	6.40	54		
Naphthalene-D8	7.28	21		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

# Volatile Organic Compounds by HSA-GCMS

UKAS accredited?: Yes

**Customer and Site Details:** Soil Mechanics: Project UCL HS  
**Sample Details:** BH3 ES 4 1.00  
**LIMS ID Number:** CL1103768  
**Job Number:** S11\_0800

**Directory/Quant file:** 217VOC\_MS19\ Initial Calibration  
**Date Booked in:** 04-Feb-11  
**Date Analysed:** 17-Feb-11  
**Operator:** TP

**Matrix:** Soil  
**Method:** Headspace  
**Multiplier:** 1  
**Position:** 12

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8 **	-	< 1	-
Chloromethane	74-87-3 *	-	< 3	-
Vinyl Chloride	75-01-4	-	< 1	-
Bromomethane	74-83-9	-	< 1	-
Chloroethane	75-00-3	-	< 2	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-48*	-	< 1	-
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	-	< 1	-
MTBE	1634-04-4	-	< 1	-
2,2-Dichloropropane	594-20-7	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	-	< 2	-
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	4.09	1	M
1,1,1-Trichloroethane	71-55-6	-	< 1	-
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	-	< 1	-
1,2-Dichloroethane	107-06-2	-	< 1	-
Trichloroethene	79-01-6	4.61	3	M
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4*	-	< 1	-
cis 1,3-Dichloropropene	10061-01-5	-	< 1	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6	-	< 1	-
1,1,2-Trichloroethane	79-00-5*	-	< 1	-
Tetrachloroethene	127-18-4	-	< 3	-
1,3-Dichloropropane	142-28-9	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	5.62	3	M
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	5.66	6	M

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
o-Xylene	95-47-6	5.80	3	M
Styrene	100-42-5	-	< 1	-
Bromoform	75-25-2	-	< 1	-
iso-Propylbenzene	98-82-8	-	< 1	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 1	-
Propylbenzene	103-65-1	-	< 1	-
Bromobenzene	108-86-1	-	< 1	-
1,2,3-Trichloropropane	96-18-4	-	< 1	-
2-Chlorotoluene	95-49-8	-	< 1	-
1,3,5-Trimethylbenzene	108-67-8	-	< 1	-
4-Chlorotoluene	106-43-4	-	< 1	-
tert-Butylbenzene	98-06-6	-	< 1	-
1,2,4-Trimethylbenzene	95-63-6	6.24	1	M
sec-Butylbenzene	135-98-8	-	< 1	-
p-Isopropyltoluene	99-87-6	-	< 1	-
1,3-Dichlorobenzene	541-73-1	6.38	1	M
1,4-Dichlorobenzene	106-46-7	6.41	1	M
n-Butylbenzene	104-51-8 *	-	< 1	-
1,2-Dichlorobenzene	95-50-1	6.55	1	M
1,2-Dibromo-3-chloropropane	96-12-8	-	< 1	-
1,2,4-Trichlorobenzene	120-82-1 **	7.17	6	M
Hexachlorobutadiene	87-68-3 **	-	< 2	-
Naphthalene	91-20-3 **	7.30	6	M
1,2,3-Trichlorobenzene	87-61-6 **	7.42	5	M

Compounds marked \* are not MCERTS accredited  
 Compounds marked \*\* are not UKAS or Mcerts accredited  
 "M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	4.15	80	Dibromofluoromethane	103
1,4-Difluorobenzene	4.49	71	Toluene-d8	95
Chlorobenzene-d5	5.60	53		
Bromofluorobenzene	5.99	39		
1,4-Dichlorobenzene-d4	6.40	28		
Naphthalene-D8	7.28	12		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

# Volatile Organic Compounds by HSA-GCMS

UKAS accredited?: Yes

**Customer and Site Details:** Soil Mechanics: Project UCL HS  
**Sample Details:** BH3 ES 9 2.00  
**LIMS ID Number:** CL1103769  
**Job Number:** S11\_0800

**Directory/Quant file:** 217VOC\_MS19\ Initial Calibration  
**Date Booked in:** 04-Feb-11  
**Date Analysed:** 17-Feb-11  
**Operator:** TP  
**Matrix:** Soil  
**Method:** Headspace  
**Multiplier:** 1  
**Position:** 14

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8 **	-	< 1	-
Chloromethane	74-87-3 *	-	< 3	-
Vinyl Chloride	75-01-4	-	< 1	-
Bromomethane	74-83-9	-	< 1	-
Chloroethane	75-00-3	-	< 2	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-48*	-	< 1	-
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	-	< 1	-
MTBE	1634-04-4	-	< 1	-
2,2-Dichloropropane	594-20-7	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	-	< 2	-
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	-	< 1	-
1,1,1-Trichloroethane	71-55-6	-	< 1	-
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	-	< 1	-
1,2-Dichloroethane	107-06-2	-	< 1	-
Trichloroethene	79-01-6	4.61	2	M
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4*	-	< 1	-
cis 1,3-Dichloropropene	10061-01-5	-	< 1	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6	-	< 1	-
1,1,2-Trichloroethane	79-00-5*	-	< 1	-
Tetrachloroethene	127-18-4	-	< 3	-
1,3-Dichloropropane	142-28-9	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	5.62	3	M
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	5.66	6	M

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
o-Xylene	95-47-6	5.81	3	M
Styrene	100-42-5	-	< 1	-
Bromoform	75-25-2	-	< 1	-
iso-Propylbenzene	98-82-8	-	< 1	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 1	-
Propylbenzene	103-65-1	-	< 1	-
Bromobenzene	108-86-1	-	< 1	-
1,2,3-Trichloropropane	96-18-4	-	< 1	-
2-Chlorotoluene	95-49-8	-	< 1	-
1,3,5-Trimethylbenzene	108-67-8	-	< 1	-
4-Chlorotoluene	106-43-4	-	< 1	-
tert-Butylbenzene	98-06-6	-	< 1	-
1,2,4-Trimethylbenzene	95-63-6	6.24	1	M
sec-Butylbenzene	135-98-8	-	< 1	-
p-Isopropyltoluene	99-87-6	-	< 1	-
1,3-Dichlorobenzene	541-73-1	6.38	1	M
1,4-Dichlorobenzene	106-46-7	6.41	2	M
n-Butylbenzene	104-51-8 *	-	< 1	-
1,2-Dichlorobenzene	95-50-1	6.55	1	M
1,2-Dibromo-3-chloropropane	96-12-8	-	< 1	-
1,2,4-Trichlorobenzene	120-82-1 **	7.16	10	M
Hexachlorobutadiene	87-68-3 **	-	< 2	-
Naphthalene	91-20-3 **	7.30	12	M
1,2,3-Trichlorobenzene	87-61-6 **	7.42	10	M

Compounds marked \* are not MCERTS accredited  
 Compounds marked \*\* are not UKAS or Mcerts accredited  
 "M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	4.15	90	Dibromofluoromethane	106
1,4-Difluorobenzene	4.49	88	Toluene-d8	95
Chlorobenzene-d5	5.60	72		
Bromofluorobenzene	5.99	55		
1,4-Dichlorobenzene-d4	6.40	41		
Naphthalene-D8	7.28	16		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

# Volatile Organic Compounds by HSA-GCMS

UKAS accredited?: Yes

**Customer and Site Details:** Soil Mechanics: Project UCL HS  
**Sample Details:** BH3 ES 12 3.00  
**LIMS ID Number:** CL1103770  
**Job Number:** S11\_0800

**Directory/Quant file:** 217VOC\_MS19\ Initial Calibration  
**Date Booked in:** 04-Feb-11  
**Date Analysed:** 17-Feb-11  
**Operator:** TP

**Matrix:** Soil  
**Method:** Headspace  
**Multiplier:** 1  
**Position:** 15

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8 **	-	< 1	-
Chloromethane	74-87-3 *	-	< 3	-
Vinyl Chloride	75-01-4	-	< 1	-
Bromomethane	74-83-9	-	< 1	-
Chloroethane	75-00-3	-	< 2	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-48*	-	< 1	-
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	-	< 1	-
MTBE	1634-04-4	-	< 1	-
2,2-Dichloropropane	594-20-7	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	-	< 2	-
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	-	< 1	-
1,1,1-Trichloroethane	71-55-6	-	< 1	-
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	-	< 1	-
1,2-Dichloroethane	107-06-2	-	< 1	-
Trichloroethene	79-01-6	-	< 1	-
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4*	-	< 1	-
cis 1,3-Dichloropropene	10061-01-5	-	< 1	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6	-	< 1	-
1,1,2-Trichloroethane	79-00-5*	-	< 1	-
Tetrachloroethene	127-18-4	-	< 3	-
1,3-Dichloropropane	142-28-9	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	-	< 2	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	-	< 4	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
o-Xylene	95-47-6	-	< 2	-
Styrene	100-42-5	-	< 1	-
Bromoform	75-25-2	-	< 1	-
iso-Propylbenzene	98-82-8	-	< 1	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 1	-
Propylbenzene	103-65-1	-	< 1	-
Bromobenzene	108-86-1	-	< 1	-
1,2,3-Trichloropropane	96-18-4	-	< 1	-
2-Chlorotoluene	95-49-8	-	< 1	-
1,3,5-Trimethylbenzene	108-67-8	-	< 1	-
4-Chlorotoluene	106-43-4	-	< 1	-
tert-Butylbenzene	98-06-6	-	< 1	-
1,2,4-Trimethylbenzene	95-63-6	-	< 1	-
sec-Butylbenzene	135-98-8	-	< 1	-
p-Isopropyltoluene	99-87-6	-	< 1	-
1,3-Dichlorobenzene	541-73-1	-	< 1	-
1,4-Dichlorobenzene	106-46-7	-	< 1	-
n-Butylbenzene	104-51-8 *	-	< 1	-
1,2-Dichlorobenzene	95-50-1	-	< 1	-
1,2-Dibromo-3-chloropropane	96-12-8	-	< 1	-
1,2,4-Trichlorobenzene	120-82-1 **	-	< 3	-
Hexachlorobutadiene	87-68-3 **	-	< 2	-
Naphthalene	91-20-3 **	-	< 5	-
1,2,3-Trichlorobenzene	87-61-6 **	-	< 3	-

Compounds marked \* are not MCERTS accredited  
 Compounds marked \*\* are not UKAS or Mcerts accredited  
 "M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	4.14	101	Dibromofluoromethane	104
1,4-Difluorobenzene	4.49	101	Toluene-d8	99
Chlorobenzene-d5	5.60	101		
Bromofluorobenzene	6.00	99		
1,4-Dichlorobenzene-d4	6.40	95		
Naphthalene-D8	7.28	97		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

# Volatile Organic Compounds by HSA-GCMS

UKAS accredited?: Yes

**Customer and Site Details:** Soil Mechanics: Project UCL HS  
**Sample Details:** BH3 ES 15 4.00  
**LIMS ID Number:** CL1103771  
**Job Number:** S11\_0800

**Directory/Quant file:** 217VOC\_MS19\ Initial Calibration  
**Date Booked in:** 04-Feb-11  
**Date Analysed:** 17-Feb-11  
**Operator:** TP

**Matrix:** Soil  
**Method:** Headspace  
**Multiplier:** 1  
**Position:** 16

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8 **	-	< 1	-
Chloromethane	74-87-3 *	-	< 3	-
Vinyl Chloride	75-01-4	-	< 1	-
Bromomethane	74-83-9	-	< 1	-
Chloroethane	75-00-3	-	< 2	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-48*	-	< 1	-
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	-	< 1	-
MTBE	1634-04-4	-	< 1	-
2,2-Dichloropropane	594-20-7	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	-	< 2	-
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	-	< 1	-
1,1,1-Trichloroethane	71-55-6	-	< 1	-
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	-	< 1	-
1,2-Dichloroethane	107-06-2	-	< 1	-
Trichloroethene	79-01-6	-	< 1	-
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4*	-	< 1	-
cis 1,3-Dichloropropene	10061-01-5	-	< 1	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6	-	< 1	-
1,1,2-Trichloroethane	79-00-5*	-	< 1	-
Tetrachloroethene	127-18-4	-	< 3	-
1,3-Dichloropropane	142-28-9	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	-	< 2	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	5.66	4	M

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
o-Xylene	95-47-6	5.80	2	M
Styrene	100-42-5	-	< 1	-
Bromoform	75-25-2	-	< 1	-
iso-Propylbenzene	98-82-8	-	< 1	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 1	-
Propylbenzene	103-65-1	-	< 1	-
Bromobenzene	108-86-1	-	< 1	-
1,2,3-Trichloropropane	96-18-4	-	< 1	-
2-Chlorotoluene	95-49-8	-	< 1	-
1,3,5-Trimethylbenzene	108-67-8	-	< 1	-
4-Chlorotoluene	106-43-4	-	< 1	-
tert-Butylbenzene	98-06-6	-	< 1	-
1,2,4-Trimethylbenzene	95-63-6	-	< 1	-
sec-Butylbenzene	135-98-8	-	< 1	-
p-Isopropyltoluene	99-87-6	-	< 1	-
1,3-Dichlorobenzene	541-73-1	-	< 1	-
1,4-Dichlorobenzene	106-46-7	-	< 1	-
n-Butylbenzene	104-51-8 *	-	< 1	-
1,2-Dichlorobenzene	95-50-1	-	< 1	-
1,2-Dibromo-3-chloropropane	96-12-8	-	< 1	-
1,2,4-Trichlorobenzene	120-82-1 **	-	< 3	-
Hexachlorobutadiene	87-68-3 **	-	< 2	-
Naphthalene	91-20-3 **	-	< 5	-
1,2,3-Trichlorobenzene	87-61-6 **	-	< 3	-

Compounds marked \* are not MCERTS accredited  
 Compounds marked \*\* are not UKAS or Mcerts accredited  
 "M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	4.15	99	Dibromofluoromethane	103
1,4-Difluorobenzene	4.49	98	Toluene-d8	98
Chlorobenzene-d5	5.60	91		
Bromofluorobenzene	5.99	81		
1,4-Dichlorobenzene-d4	6.40	68		
Naphthalene-D8	7.28	41		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.



# Volatile Organic Compounds by HSA-GCMS

UKAS accredited?: Yes

**Customer and Site Details:** Soil Mechanics: Project UCL HS  
**Sample Details:** BH3 ES 18 5.00  
**LIMS ID Number:** CL1103772  
**Job Number:** S11\_0800

**Directory/Quant file:** 217VOC\_MS19\ Initial Calibration  
**Date Booked in:** 04-Feb-11  
**Date Analysed:** 17-Feb-11  
**Operator:** TP

**Matrix:** Soil  
**Method:** Headspace  
**Multiplier:** 1  
**Position:** 17

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8 **	-	< 1	-
Chloromethane	74-87-3 *	-	< 3	-
Vinyl Chloride	75-01-4	-	< 1	-
Bromomethane	74-83-9	-	< 1	-
Chloroethane	75-00-3	-	< 2	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-48*	-	< 1	-
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	-	< 1	-
MTBE	1634-04-4	-	< 1	-
2,2-Dichloropropane	594-20-7	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	-	< 2	-
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	-	< 1	-
1,1,1-Trichloroethane	71-55-6	-	< 1	-
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	-	< 1	-
1,2-Dichloroethane	107-06-2	-	< 1	-
Trichloroethene	79-01-6	-	< 1	-
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4*	-	< 1	-
cis 1,3-Dichloropropene	10061-01-5	-	< 1	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6	-	< 1	-
1,1,2-Trichloroethane	79-00-5*	-	< 1	-
Tetrachloroethene	127-18-4	-	< 3	-
1,3-Dichloropropane	142-28-9	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	-	< 2	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	-	< 4	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
o-Xylene	95-47-6	-	< 2	-
Styrene	100-42-5	-	< 1	-
Bromoform	75-25-2	-	< 1	-
iso-Propylbenzene	98-82-8	-	< 1	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 1	-
Propylbenzene	103-65-1	-	< 1	-
Bromobenzene	108-86-1	-	< 1	-
1,2,3-Trichloropropane	96-18-4	-	< 1	-
2-Chlorotoluene	95-49-8	-	< 1	-
1,3,5-Trimethylbenzene	108-67-8	-	< 1	-
4-Chlorotoluene	106-43-4	-	< 1	-
tert-Butylbenzene	98-06-6	-	< 1	-
1,2,4-Trimethylbenzene	95-63-6	-	< 1	-
sec-Butylbenzene	135-98-8	-	< 1	-
p-Isopropyltoluene	99-87-6	-	< 1	-
1,3-Dichlorobenzene	541-73-1	-	< 1	-
1,4-Dichlorobenzene	106-46-7	-	< 1	-
n-Butylbenzene	104-51-8 *	-	< 1	-
1,2-Dichlorobenzene	95-50-1	-	< 1	-
1,2-Dibromo-3-chloropropane	96-12-8	-	< 1	-
1,2,4-Trichlorobenzene	120-82-1 **	-	< 3	-
Hexachlorobutadiene	87-68-3 **	-	< 2	-
Naphthalene	91-20-3 **	-	< 5	-
1,2,3-Trichlorobenzene	87-61-6 **	-	< 3	-

Compounds marked \* are not MCERTS accredited  
 Compounds marked \*\* are not UKAS or Mcerts accredited  
 "M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	4.15	100	Dibromofluoromethane	103
1,4-Difluorobenzene	4.49	99	Toluene-d8	100
Chlorobenzene-d5	5.60	100		
Bromofluorobenzene	5.99	97		
1,4-Dichlorobenzene-d4	6.40	95		
Naphthalene-D8	7.28	97		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

# Volatile Organic Compounds by HSA-GCMS

UKAS accredited?: Yes

**Customer and Site Details:** Soil Mechanics: Project UCL HS  
**Sample Details:** BH3 ES 20 6.00  
**LIMS ID Number:** CL1103773  
**Job Number:** S11\_0800

**Directory/Quant file:** 217VOC\_MS19\ Initial Calibration  
**Date Booked in:** 04-Feb-11  
**Date Analysed:** 17-Feb-11  
**Operator:** TP

**Matrix:** Soil  
**Method:** Headspace  
**Multiplier:** 1  
**Position:** 18

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8 **	-	< 1	-
Chloromethane	74-87-3 *	-	< 3	-
Vinyl Chloride	75-01-4	-	< 1	-
Bromomethane	74-83-9	-	< 1	-
Chloroethane	75-00-3	-	< 2	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-48*	-	< 1	-
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	-	< 1	-
MTBE	1634-04-4	-	< 1	-
2,2-Dichloropropane	594-20-7	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	-	< 2	-
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	-	< 1	-
1,1,1-Trichloroethane	71-55-6	-	< 1	-
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	-	< 1	-
1,2-Dichloroethane	107-06-2	-	< 1	-
Trichloroethene	79-01-6	-	< 1	-
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4*	-	< 1	-
cis 1,3-Dichloropropene	10061-01-5	-	< 1	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6	-	< 1	-
1,1,2-Trichloroethane	79-00-5*	-	< 1	-
Tetrachloroethene	127-18-4	-	< 3	-
1,3-Dichloropropane	142-28-9	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	-	< 2	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	-	< 4	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
o-Xylene	95-47-6	-	< 2	-
Styrene	100-42-5	-	< 1	-
Bromoform	75-25-2	-	< 1	-
iso-Propylbenzene	98-82-8	-	< 1	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 1	-
Propylbenzene	103-65-1	-	< 1	-
Bromobenzene	108-86-1	-	< 1	-
1,2,3-Trichloropropane	96-18-4	-	< 1	-
2-Chlorotoluene	95-49-8	-	< 1	-
1,3,5-Trimethylbenzene	108-67-8	-	< 1	-
4-Chlorotoluene	106-43-4	-	< 1	-
tert-Butylbenzene	98-06-6	-	< 1	-
1,2,4-Trimethylbenzene	95-63-6	-	< 1	-
sec-Butylbenzene	135-98-8	-	< 1	-
p-Isopropyltoluene	99-87-6	-	< 1	-
1,3-Dichlorobenzene	541-73-1	-	< 1	-
1,4-Dichlorobenzene	106-46-7	-	< 1	-
n-Butylbenzene	104-51-8 *	-	< 1	-
1,2-Dichlorobenzene	95-50-1	-	< 1	-
1,2-Dibromo-3-chloropropane	96-12-8	-	< 1	-
1,2,4-Trichlorobenzene	120-82-1 **	-	< 3	-
Hexachlorobutadiene	87-68-3 **	-	< 2	-
Naphthalene	91-20-3 **	-	< 5	-
1,2,3-Trichlorobenzene	87-61-6 **	-	< 3	-

Compounds marked \* are not MCERTS accredited  
 Compounds marked \*\* are not UKAS or Mcerts accredited  
 "M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	4.15	100	Dibromofluoromethane	106
1,4-Difluorobenzene	4.49	99	Toluene-d8	99
Chlorobenzene-d5	5.60	98		
Bromofluorobenzene	5.99	97		
1,4-Dichlorobenzene-d4	6.40	92		
Naphthalene-D8	7.28	83		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.



WORKING FOR A HEALTHY FUTURE

## CERTIFICATE OF ANALYSIS

**ANALYSIS REQUESTED BY:** Rebecca Clamp  
Scientifics  
PO Box 100  
Burton-on-Trent  
Staffordshire  
DE15 0XD

**CONTRACT NO:** 23738

**PROJECT NO:** 610

**DATE OF ISSUE:** 15.02.11

**DATE SAMPLES RECEIVED:** 11.02.11

**DATE SAMPLES ANALYSED:** 14.02.11

**SAMPLE DESCRIPTION:** Seven soil/loose aggregate samples each weighing approximately 0.7-1.8kg

**ANALYSIS REQUESTED:** Qualitative and quantitative analysis of soil/loose aggregate samples for mass determination of asbestos.

### METHODS:

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

**Quantitative** - The analysis was carried out using our documented in-house method 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 sample, detailed analysis of a representative sub-sample and quantification by hand picking/weighing and/or fibre counting/sizing as appropriate.

### RESULTS:

#### Initial Screening

No asbestos was detected in any of the seven soil samples by stereo-binocular and polarised light microscopy.

A summary of results is given in Table 1.

Page 1 of 2

## RESEARCH CONSULTING SERVICES

Multi-disciplinary specialists in Occupational and Environmental Health and Hygiene

IOM CONSULTING LIMITED, Research Avenue North, Riccarton, Edinburgh, EH14 4AP, United Kingdom  
Telephone: +44 (0)131 449 8000, Facsimile: +44 (0)131 449 8084, Email: [iom@iom-world.org](mailto:iom@iom-world.org)

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**CONTRACT NO:** 23738  
**PROJECT NO:** 610  
**DATE OF ISSUE:** 15.02.11

**RESULTS: (cont.)**

**Table 1: Qualitative Results**

IOM sample number	Client sample number	ACM type detected	PLM result
S8603	CL/1103767	-	No asbestos detected
S8604	CL/1103768	-	No asbestos detected
S8605	CL/1103769	-	No asbestos detected
S8606	CL/1103770	-	No asbestos detected
S8607	CL/1103771	-	No asbestos detected
S8608	CL/1103772	-	No asbestos detected
S8609	CL/1103773	-	No asbestos detected

Our detection limit for this method is 0.001%.

**COMMENTS:**

IOM Consulting cannot accept responsibility for samples that have been incorrectly collected or despatched by external clients.

Any opinions and interpretations expressed herein are outwith the scope of our UKAS accreditation.



**Authorised by:** .....

**S Clark**  
*Mineralogy Section Manager*

**ASBESTOS ANALYSIS RESULTS - SOIL ANALYSIS**

Client: Scientifics Environmental Chemistry Page 1 of 1

Address: Etwall House, Bretby Business Park, Ashby Road, Burton upon Trent Report No:ANO-0488-815

For the attention of : Soil Mechanics Report Date:16/02/11

Site Address: Project UCL HS Project Number:S110800

SAMPLE NUMBER	SAMPLE DATE	SAMPLE LOCATION	Sample Type	DEPTH (M)	TEST DATE	% asbestos by dry weight**	ASBESTOS FIBRE TYPES IDENTIFIED
CL/1103767	14/01/11	BH3 0.3			16/02/2011	Screen Only	No Asbestos Identified in Sample
CL/1103768	14/01/11	BH3 1.0			16/02/2011	Screen Only	No Asbestos Identified in Sample
CL/1103769	14/01/11	BH3 2.0			16/02/2011	Screen Only	No Asbestos Identified in Sample
CL/1103770	17/01/11	BH3 3.0			16/02/2011	Screen Only	No Asbestos Identified in Sample
CL/1103771	17/01/11	BH3 4.0			16/02/2011	Screen Only	No Asbestos Identified in Sample
CL/1103772	17/01/11	BH3 5.0			16/02/2011	Screen Only	No Asbestos Identified in Sample
CL/1103773	17/01/11	BH3 6.0			16/02/2011	Screen Only	No Asbestos Identified in Sample

\*Sampling carried out by client    \*\* Detection limit advised by client

The sample analysis for the above results was carried out using the procedures detailed in ESG Asbestos Limited in house method (SCI-ASB-020) based on HSE document MDHS 90 - Asbestos Contaminated Land - Draft 5 - November 1997 (withdrawn). Fibre identific

Key Authorised Signatory:  Name: Kate Lovatt  
NADIS = No Asbestos Detected in Sample Position: System Support & Quality Manager

ESG Asbestos Limited is a wholly owned subsidiary of Environmental Scientifics Group Limited (ESG), registered in England and Wales, registered company 04951688.

Where individual results are flagged see report notes for status.

# Additional Report Notes

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
VOCHSAS	CL/1103768	Low internals in sample and repeat of sample suggesting matrix effect as the probable cause.
VOCHSAS	CL/1103769	Low internals in sample and repeat of sample suggesting matrix effect as the probable cause.

# Method Descriptions

Matrix	MethodID	Analysis Basis	Method Description
Soil	ICPACIDS	Air Dried	Determination of Total Sulphate in soil samples by Hydrochloric Acid extraction followed by ICPOES detection
Soil	ICPMSS	Air Dried	Determination of Metals in soil samples by aqua regia digestion followed by ICPMS
Soil	PHSOIL	As Received	Determination of pH of 2.5:1 deionised water to soil extracts using pH probe.
Soil	SFAPI	As Received	Segmented flow analysis with colorimetric detection
Soil	SFAS	As Received	Segmented flow analysis with colorimetric detection
Soil	Subcon*	*	Contact Laboratory for details of the methodology used by the sub-contractor.
Soil	SVOCMSUS	As Received	Determination of Semi Volatile Organic Compounds in soil samples by hexane / acetone extraction followed by GCMS detection
Soil	TPHUSSI	As Received	Determination of hexane/acetone extractable Hydrocarbons in soil with GCFID detection including quantitation of Aromatic and Aliphatic fractions.
Soil	VOCHSAS	As Received	Determination of Volatile Organic Compounds (VOC) by Headspace GCMS

Where individual results are flagged see report notes for status.

# Report Notes

## Generic Notes

### Soil/Solid Analysis

Unless stated otherwise,

- Results expressed as mg/kg have been calculated on an air dried basis
- Sulphate analysis not conducted in accordance with BS1377
- Water Soluble Sulphate is on a 2:1 water:soil extract

### Waters Analysis

Unless stated otherwise results are expressed as mg/l

### Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm<sup>3</sup>@ 15°C

### Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

### Asbestos Analysis

**CH** Denotes Chrysotile

**CR** Denotes Crocidolite

**AM** Denotes Amosite

**NAIS** No Asbestos Identified in Sample

## Symbol Reference

^ Sub-contracted analysis. Note: The accreditation status is that assigned by the subcontract laboratory.

\$\$ Unable to analyse due to the nature of the sample

¶ Samples submitted for this analyte were not preserved on site in accordance with laboratory protocols.

This may have resulted in deterioration of the sample(s) during transit to the laboratory.

Consequently the reported data may not represent the concentration of the target analyte present in the sample at the time of sampling

¥ Results for guidance only due to possible interference

& Blank corrected result

I.S Insufficient sample to complete requested analysis

I.S(g) Insufficient sample to re-analyse, results for guidance only

Intf Unable to analyse due to interferences

N.D Not determined

N.Det Not detected

Req Analysis requested, see attached sheets for results

▮ Raised detection limit due to nature of the sample

\* All accreditation has been removed by the laboratory for this result

‡ MCERTS accreditation has been removed for this result

**Note:** The Laboratory may only claim that data is accredited when all of the requirements of our Quality System have been met. Where these requirements have not been met the laboratory may elect to include the data in its final report and remove the accreditation from individual data items if it believes that the validity of the data has not been affected. If further details are required of the circumstances which have led to the removal of accreditation then please do not hesitate to contact the laboratory.

**END OF REPORT**

Where individual results are flagged see report notes for status.



# TEST REPORT

## WATER SAMPLE ANALYSIS



Report No. EXR/117239 (Ver. 1)

Soil Mechanics  
Glossop House  
Hogwood Lane  
Finchampstead  
Wokingham  
RG40 4QW

**Site: Project UCL HS**

The 1 sample described in this report were logged for analysis by Scientifics on 14-Mar-2011. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 25-Mar-2011

Tests where the accreditation is set to N or No, and any individual data items marked with a \* are not UKAS accredited  
Any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by Scientifics.

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 3)  
Table of SVOC Results (Page 4)  
Table of TPH (Si) banding (0.01) (Page 5)  
GC-FID Chromatograms (Pages 6 to 7)  
Table of VOC (HSA) Results (Page 8)  
Table of Method Descriptions (Page 9)  
Table of Report Notes (Page 10)

On behalf of  
Scientifics :  
Andrew Timms


Operations Manager


Date of Issue: 25-Mar-2011

Tests marked 'A' have been subcontracted to another laboratory.

Scientifics accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

Laboratory ID Number	EX/	Client Sample Description	Sample Date	Units :													mg/l	mg/l			
				Method Codes :	mg/l	ug/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l			mg/l	mg/l	
				Method Reporting Limits :	WLSM3	Calc_HD	VOCHSAW	ICPWATVAR	ICPWATVAR	ICPWATVAR	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW			ICPMSW	ICPMSW	ICPMSW
				UKAS Accredited :	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes			yes	yes	yes
				pH units	Total Hardness as CaCO3	Volatile Organic Compounds	Total Sulphur as SO4 (Dissolved) a	Calcium as Ca (Dissolved) a	Magnesium as Mg (Dissolved) a	Nickel as Ni (Dissolved)	Chromium as Cr (Total)	Chromium as Cr (Dissolved)	Cadmium as Cd (Dissolved)	Copper as Cu (Dissolved)	Lead as Pb (Dissolved)	Zinc as Zn (Dissolved)	Arsenic as As (Dissolved)	Mercury as Hg (Dissolved)	Selenium as Se (Dissolved)		
1109506		BH3 ESW	09-Mar-11	7.0	402	Req	110	151	6	0.004	0.005	0.005	<0.0001	0.002	<0.001	<0.002	<0.001	<0.0001	0.002		
 scientifics Bretby Business Park, Ashby Road Burton-on-Trent, Staffordshire, DE15 0YZ Tel +44 (0) 1283 554400 Fax +44 (0) 1283 554422				Client Name		Soil Mechanics						Water Sample Analysis									
				Contact		Mr P Mercer															
				Project UCL HS												Date Printed	25-Mar-11				
																Report Number	EXR/117239				
												Table Number	1								

			Units :	mg/l	mg/l	mg/l	mg/l	mg/l										
			Method Codes :	KONENS	SFAPI	SFAS	TPHFID-Si	SVOCSW										
			Method Reporting Limits :	0.01	0.02	0.05	0.01	0.002										
			UKAS Accredited :	yes	yes	yes	yes	yes										
Laboratory ID Number	Client Sample Description	Sample Date	Ammoniacal Nitrogen as N	Cyanide (Total) as CN	Sulphide as S	TPH GC (AA)	Semi Volatile Organic Compounds											
1109506	BH3 ESW	09-Mar-11	0.06	<0.02	<0.05	Req	Req											
 scientifics Bretby Business Park, Ashby Road  Burton-on-Trent, Staffordshire, DE15 0YZ  Tel +44 (0) 1283 554400  Fax +44 (0) 1283 554422			<b>Client Name</b> Soil Mechanics	<b>Contact</b> Mr P Mercer					<b>Water Sample Analysis</b>									
<h3>Project UCL HS</h3>							<b>Date Printed</b>			25-Mar-11								
							<b>Report Number</b>			EXR/117239								
							<b>Table Number</b>			1								

# Semi-Volatile Organic Compounds

UKAS accredited?: No

**Customer and Site Details:** Soil Mechanics: Project UCL HS  
**Sample Details:** BH3 ESW  
**LIMS ID Number:** EX1109506  
**Job Number:** W11\_7239

**Date Booked in:** 14-Mar-11  
**Date Extracted:** 18-Mar-11  
**Date Analysed:** 19-Mar-11

**Matrix:** Water  
**Ext Method:** Sep. Funnel  
**Operator:** DMB  
**Directory/Quant File:** 18SVOC.MS16\ 0318\_CCC1.D  
**QC Batch Number:** 571  
**Multiplier:** 0.005  
**Dilution Factor:** 2.5  
**GPC (Y/N):** N

Target Compounds	CAS #	R.T. (min)	Concentration mg/l	% Fit
Phenol	108-95-2	-	< 0.020	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.005	-
2-Chlorophenol	95-57-8	-	< 0.020	-
1,3-Dichlorobenzene	541-73-1	-	< 0.005	-
1,4-Dichlorobenzene	106-46-7	-	< 0.005	-
Benzyl alcohol	100-51-6	-	< 0.005	-
1,2-Dichlorobenzene	95-50-1	-	< 0.005	-
2-Methylphenol	95-48-7	-	< 0.005	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.005	-
Hexachloroethane	67-72-1	-	< 0.005	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.005	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 0.020	-
Nitrobenzene	98-95-3	-	< 0.005	-
Isophorone	78-59-1	-	< 0.005	-
2-Nitrophenol	88-75-5	-	< 0.020	-
2,4-Dimethylphenol	105-67-9	-	< 0.020	-
Benzoic Acid	65-85-0 *	-	< 0.100	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.005	-
2,4-Dichlorophenol	120-83-2	-	< 0.020	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.005	-
Naphthalene	91-20-3	-	< 0.002	-
4-Chlorophenol	106-48-9	-	< 0.020	-
4-Chloroaniline	106-47-8 *	-	< 0.005	-
Hexachlorobutadiene	87-68-3	-	< 0.005	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.005	-
2-Methylnaphthalene	91-57-6	-	< 0.002	-
1-Methylnaphthalene	90-12-0	-	< 0.002	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.005	-
2,4,6-Trichlorophenol	88-06-2	-	< 0.020	-
2,4,5-Trichlorophenol	95-95-4	-	< 0.020	-
2-Chloronaphthalene	91-58-7	-	< 0.002	-
Biphenyl	92-52-4	-	< 0.002	-
Diphenyl ether	101-84-8	-	< 0.002	-
2-Nitroaniline	88-74-4	-	< 0.005	-
Acenaphthylene	208-96-8	-	< 0.002	-
Dimethylphthalate	131-11-3	-	< 0.005	-
2,6-Dinitrotoluene	606-20-2	-	< 0.005	-
Acenaphthene	83-32-9	-	< 0.002	-
3-Nitroaniline	99-09-2	-	< 0.005	-

Compounds marked with a \* are reported not UKAS.  
 Concentrations are reported on a wet weight basis.

"M" denotes that % fit has been manually interpreted

Target Compounds	CAS #	R.T.	Concentration mg/l	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 0.010	-
Dibenzofuran	132-64-9	-	< 0.005	-
4-Nitrophenol	100-02-7	-	< 0.050	-
2,4-Dinitrotoluene	121-14-2	-	< 0.005	-
Fluorene	86-73-7	-	< 0.002	-
Diethylphthalate	84-66-2	-	< 0.005	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.005	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 0.050	-
4-Nitroaniline	100-01-6	-	< 0.005	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.005	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.005	-
Hexachlorobenzene	118-74-1	-	< 0.005	-
Pentachlorophenol	87-86-5	-	< 0.050	-
Phenanthrene	85-01-8	-	< 0.002	-
Anthracene	120-12-7	-	< 0.002	-
Di-n-butylphthalate	84-74-2	-	< 0.005	-
Fluoranthene	206-44-0	-	< 0.002	-
Pyrene	129-00-0	-	< 0.002	-
Butylbenzylphthalate	85-68-7	-	< 0.005	-
Benzo[a]anthracene	56-55-3	-	< 0.002	-
Chrysene	218-01-9	-	< 0.002	-
3,3'-Dichlorobenzidine	91-94-1	-	< 0.020	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.005	-
Di-n-octylphthalate	117-84-0	-	< 0.002	-
Benzo[b]fluoranthene	205-99-2	-	< 0.002	-
Benzo[k]fluoranthene	207-08-9	-	< 0.002	-
Benzo[a]pyrene	50-32-8	-	< 0.002	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.002	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.002	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.002	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	84
Naphthalene-d8	86
Acenaphthene-d10	89
Phenanthrene-d10	90
Chrysene-d12	78
Perylene-d12	71

Surrogates	% Rec
2-Fluorophenol	44
Phenol-d5	32
Nitrobenzene-d5	80
2-Fluorobiphenyl	80
2,4,6-Tribromophenol	68
Terphenyl-d14	82

## ALIPHATIC / AROMATIC FRACTION BY GC/FID

**Customer and Site Details:** Soil Mechanics : Project UCL HS  
**Job Number:** W11\_7239  
**QC Batch Number:** 110239  
**Directory:** D:\TES\DATA\Y2011\0323TPH\_GC16\032311 2011-03-23 08-47-55\061B1401.D  
**Method:** Separating Funnel

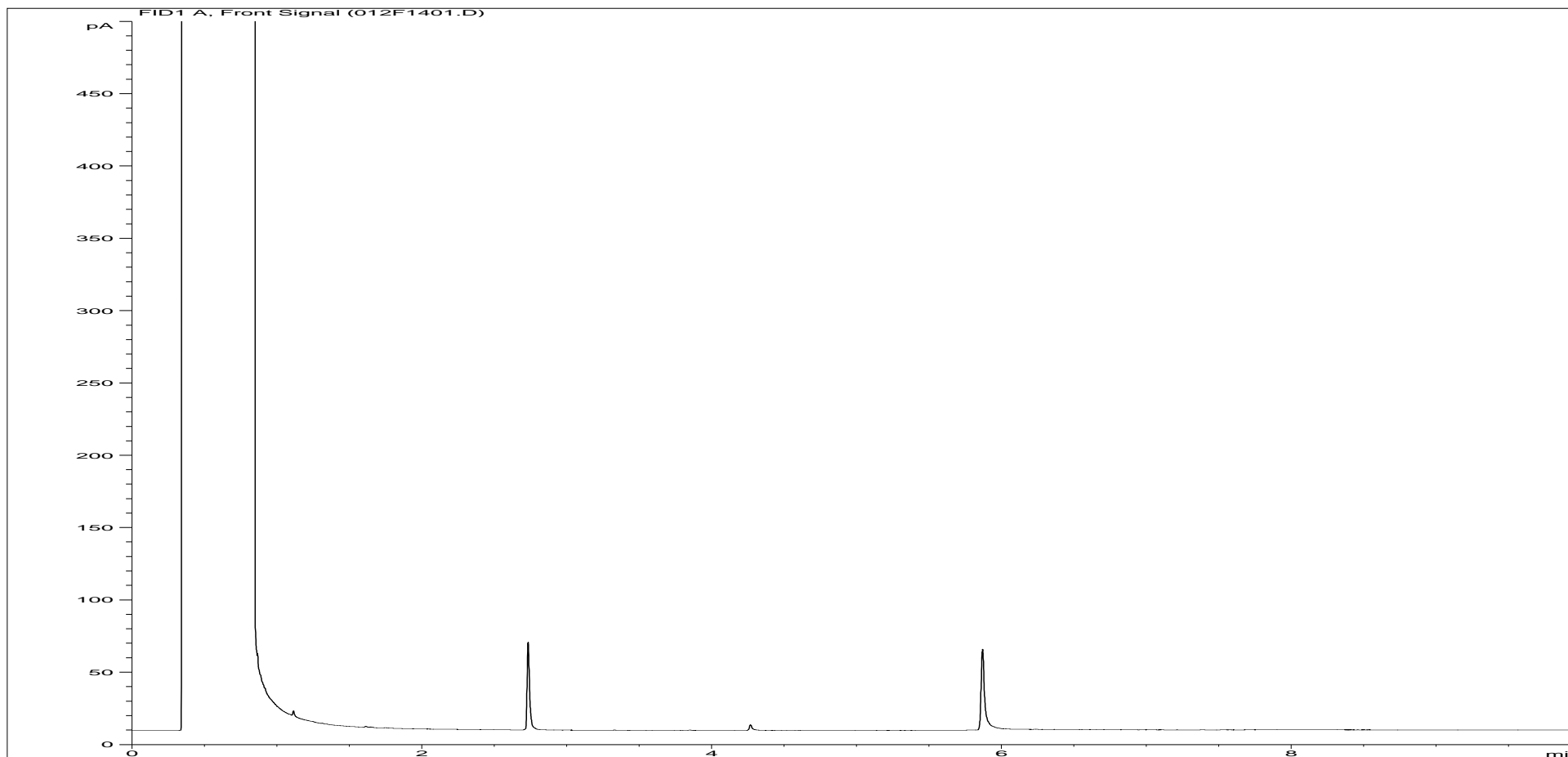
**Separation:** Silica gel  
**Eluents:** Hexane, DCM

**Matrix:** Water  
**Date Booked in:** 14-Mar-11  
**Date Extracted:** 22-Mar-11  
**Date Analysed:** 23-Mar-11, 12:33:03

		Concentration, (mg/l)											
		>C8 - C10		>C10 - C12		>C12 - C16		>C16 - C21		>C21 - C35		>C8 - C40	
Sample ID	Client ID	Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics
EX1109506	BH3 ESW	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

\* This sample data is not UKAS accredited.

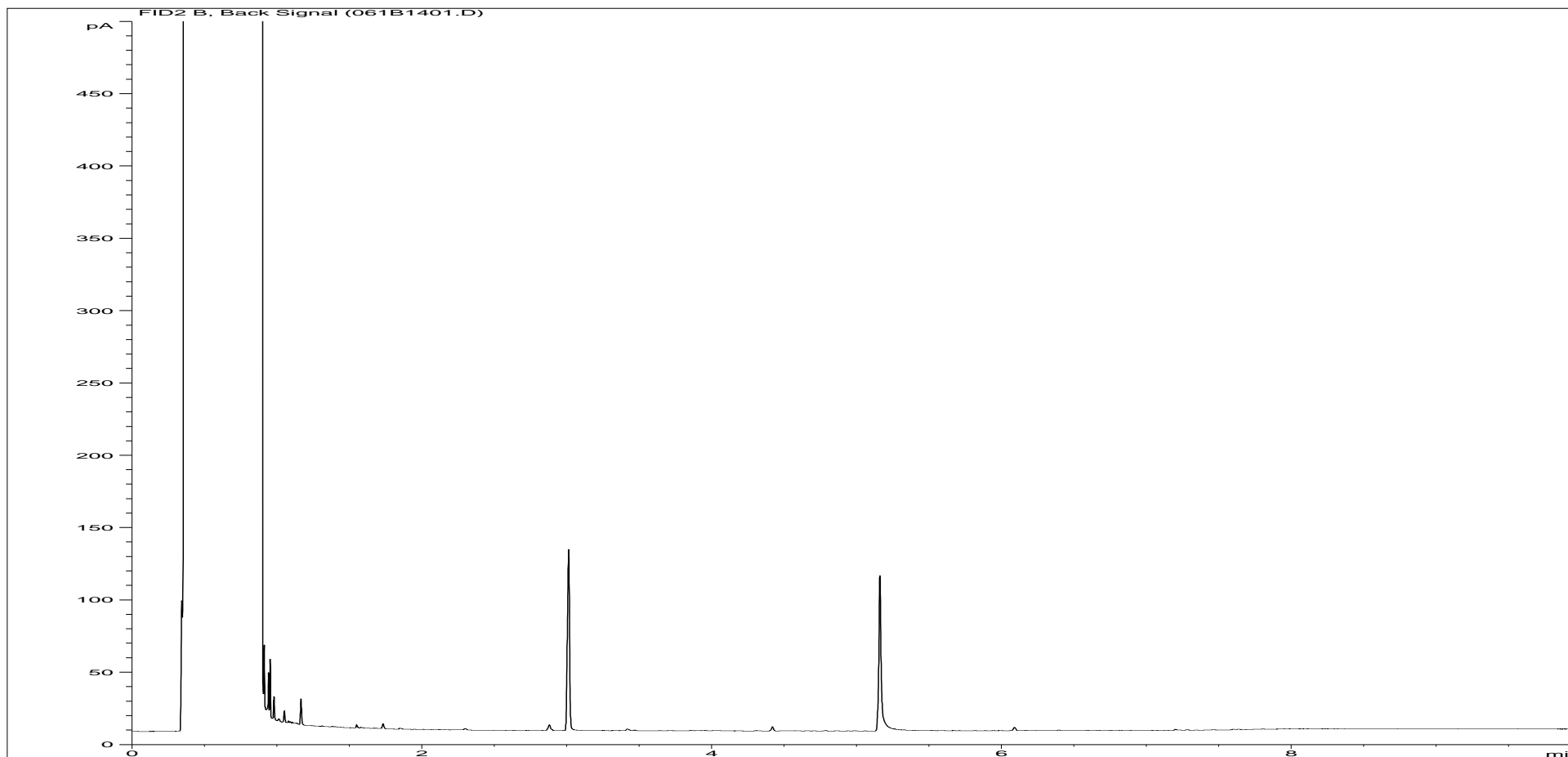
Petroleum Hydrocarbons (C8 to C40) by GC/FID Aliphatics Fraction.



<b>Sample ID:</b>	EX1109506ALI	<b>Job Number:</b>	W11_7239
<b>Multiplier:</b>	0.02	<b>Client:</b>	Soil Mechanics
<b>Dilution:</b>	1	<b>Site:</b>	Project UCL HS
<b>Acquisition Method:</b>	TPH_RUNF.M	<b>Client Sample Ref:</b>	BH3 ESW
<b>Acquisition Date/Time:</b>	23-Mar-11, 12:33:03		
<b>Datafile:</b>	D:\TES\DATA\Y2011\0323\TPH_GC16\032311 2011-03-23 08-47-55\012F1401.D		

Where individual results are flagged see report notes for status.

Petroleum Hydrocarbons (C8 to C40) by GC/FID Aromatics Fraction.



<b>Sample ID:</b>	EX1109506ARO	<b>Job Number:</b>	W11_7239
<b>Multiplier:</b>	0.015	<b>Client:</b>	Soil Mechanics
<b>Dilution:</b>	1	<b>Site:</b>	Project UCL HS
<b>Acquisition Method:</b>	TPH_RUNF.M	<b>Client Sample Ref:</b>	BH3 ESW
<b>Acquisition Date/Time:</b>	23-Mar-11, 12:33:03		
<b>Datafile:</b>	D:\TES\DATA\Y2011\0323TPH_GC16\032311 2011-03-23 08-47-55\061B1401.D		

Where individual results are flagged see report notes for status.

# Volatile Organic Compounds by HSA-GCMS

UKAS accredited?: Yes

**Customer and Site Details:** Soil Mechanics: Project UCL HS  
**Sample Details:** BH3 ESW  
**LIMS ID Number:** EX1109506  
**Job Number:** W11\_7239

**Directory/Quant file:** 322VOC.MS11\ Initial Calibration  
**Date Booked in:** 14-Mar-11  
**Date Analysed:** 22-Mar-11  
**Operator:** AK  
**Matrix:** Water  
**Method:** Headspace  
**Multiplier:** 1  
**Position:** 2

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Dichlorodifluoromethane	75-71-8 *	-	< 1	-
Chloromethane	74-87-3	-	< 1	-
Vinyl Chloride	75-01-4	-	< 1	-
Bromomethane	74-83-9 *	-	< 5	-
Chloroethane	75-00-3	-	< 5	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-4	-	< 1	-
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	-	< 1	-
2,2-Dichloropropane	594-20-7 *	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	-	< 1	-
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 1	-
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	-	< 1	-
1,2-Dichloroethane	107-06-2	-	< 1	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4	-	< 1	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 1	-
Toluene	108-88-3	-	< 1	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 1	-
1,1,2-Trichloroethane	79-00-5	-	< 1	-
Tetrachloroethene	127-18-4	-	< 5	-
1,3-Dichloropropane	142-28-9	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	-	< 1	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	-	< 1	-
o-Xylene	95-47-6	-	< 1	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Styrene	100-42-5	-	< 1	-
Bromoform	75-25-2	-	< 1	-
iso-Propylbenzene	98-82-8	-	< 1	-
1,1,2,2-Tetrachloroethane	79-34-5 *	-	< 1	-
Propylbenzene	103-65-1	-	< 1	-
Bromobenzene	108-86-1	-	< 1	-
1,2,3-Trichloropropane	96-18-4	-	< 1	-
2-Chlorotoluene	95-49-8	-	< 1	-
1,3,5-Trimethylbenzene	108-67-8	-	< 1	-
4-Chlorotoluene	106-43-4	-	< 1	-
tert-Butylbenzene	98-06-6	-	< 1	-
1,2,4-Trimethylbenzene	95-63-6	-	< 1	-
sec-Butylbenzene	135-98-8	-	< 1	-
p-Isopropyltoluene	99-87-6	-	< 1	-
1,3-Dichlorobenzene	541-73-1	-	< 1	-
1,4-Dichlorobenzene	106-46-7	-	< 1	-
n-Butylbenzene	104-51-8	-	< 1	-
1,2-Dichlorobenzene	95-50-1	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 5	-
1,2,4-Trichlorobenzene	120-82-1	-	< 5	-
Hexachlorobutadiene	87-68-3	-	< 5	-
Naphthalene	91-20-3	-	< 5	-
1,2,3-Trichlorobenzene	87-61-6	-	< 5	-

Compounds marked \* are not UKAS accredited  
 "M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	3.65	81	Dibromofluoromethane	114
1,4-Difluorobenzene	4.00	85	Toluene-d8	91
Chlorobenzene-d5	5.12	85	Bromofluorobenzene	88
1,4-Dichlorobenzene-d4	5.91	73		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.



# Method Descriptions

Matrix	MethodID	Analysis Basis	Method Description
Water	Calc_HD	As Received	Calculation based on Dissolved metals analysis by ICPOES
Water	ICPMSW	As Received	Direct quantitative determination of Metals in water samples using ICPMS
Water	ICPWATVAR	As Received	Direct determination of Metals and Sulphate in water samples using ICPOES
Water	KONENS	As Received	Direct analysis using discrete colorimetric analysis
Water	SFAPI	As Received	Determination of Total Phenols by segmented flow analysis with colorimetric detection
Water	SFAS	As Received	Determination of Sulphide by segmented flow analysis with colorimetric detection
Water	SVOCSW	As Received	Determination of Semi Volatile Organic Compounds (SVOC) by DCM extraction followed by GCMS detection
Water	TPHFID-Si	As Received	Determination of speciated pentane extractable hydrocarbons in water by GCFID
Water	VOCHSAW	As Received	Determination of Volatile Organics Compounds or Gasoline Range Hydrocarbons (GRO) by Headspace GCMS
Water	WSLM3	As Received	Determination of the pH of water samples by pH probe

Where individual results are flagged see report notes for status.

# Report Notes

## Generic Notes

### Soil/Solid Analysis

Unless stated otherwise,

- Results expressed as mg/kg have been calculated on an air dried basis
- Sulphate analysis not conducted in accordance with BS1377
- Water Soluble Sulphate is on a 2:1 water:soil extract

### Waters Analysis

Unless stated otherwise results are expressed as mg/l

### Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm<sup>3</sup>@ 15°C

### Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

### Asbestos Analysis

**CH** Denotes Chrysotile

**CR** Denotes Crocidolite

**AM** Denotes Amosite

**NAIS** No Asbestos Identified in Sample

## Symbol Reference

^ Sub-contracted analysis. Note: The accreditation status is that assigned by the subcontract laboratory.

\$\$ Unable to analyse due to the nature of the sample

¶ Samples submitted for this analyte were not preserved on site in accordance with laboratory protocols.

This may have resulted in deterioration of the sample(s) during transit to the laboratory.

Consequently the reported data may not represent the concentration of the target analyte present in the sample at the time of sampling

¥ Results for guidance only due to possible interference

& Blank corrected result

I.S Insufficient sample to complete requested analysis

I.S(g) Insufficient sample to re-analyse, results for guidance only

Intf Unable to analyse due to interferences

N.D Not determined

N.Det Not detected

Req Analysis requested, see attached sheets for results

▮ Raised detection limit due to nature of the sample

\* All accreditation has been removed by the laboratory for this result

‡ MCERTS accreditation has been removed for this result

**Note:** The Laboratory may only claim that data is accredited when all of the requirements of our Quality System have been met. Where these requirements have not been met the laboratory may elect to include the data in its final report and remove the accreditation from individual data items if it believes that the validity of the data has not been affected. If further details are required of the circumstances which have led to the removal of accreditation then please do not hesitate to contact the laboratory.

**END OF REPORT**

Where individual results are flagged see report notes for status.

## D3 Gas Monitoring

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# Gas Monitoring



Soil Mechanics

Hole No	Date	Reading Depth, mBGL	Air Temperature, oC	Barometric Pressure, mbar	Gas Differential Pressure, Pa	Gas Flow Rate, l/hr	Detection Limit	<0.1	<1	<1	<0.1	<0.1	<0.1	<0.1
							Unit	%vol	ppm	ppm	%LEL	%vol	%vol	%vol
Gas	Carbon dioxide	Carbon monoxide	Hydrogen sulphide	Methane	Methane	Nitrogen	Oxygen							
BH1	9 Mar 2011	5.80	10	1010	0.0	<0.1		0.4	<1	<1	<0.1	<0.1	N/D	19.8
BH1	9 Mar 2011	5.80	10	1010	0.0	<0.1		<0.1	<1	<1	<0.1	<0.1	N/D	15.3
BH1	9 Mar 2011	5.80	10	1010	0.0	<0.1		<0.1	<1	<1	<0.1	<0.1	N/D	14.9
BH1	9 Mar 2011	5.80	10	1010	0.0	<0.1		<0.1	<1	<1	<0.1	<0.1	N/D	14.9
BH1	9 Mar 2011	5.80	10	1010	0.0	<0.1		<0.1	<1	<1	<0.1	<0.1	85.3	14.6
BH1	9 Mar 2011	5.80	10	1010	0.0	<0.1		<0.1	<1	<1	<0.1	<0.1	85.3	14.6
BH1	9 Mar 2011	5.80	10	1010	0.0	<0.1		<0.1	<1	<1	<0.1	<0.1	85.3	14.6
BH1	9 Mar 2011	5.80	10	1010	0.0	<0.1		<0.1	<1	<1	<0.1	<0.1	85.3	14.6
BH3	9 Mar 2011	5.90	10	1010	0.0	<0.1		1.3	<1	<1	<0.1	<0.1	78.3	19.9
BH3	9 Mar 2011	5.90	10	1010	0.0	<0.1		1.7	<1	<1	<0.1	<0.1	78.4	19.7
BH3	9 Mar 2011	5.90	10	1010	0.0	<0.1		2.6	<1	<1	<0.1	<0.1	78.6	18.8
BH3	9 Mar 2011	5.90	10	1010	0.0	<0.1		3.2	<1	<1	<0.1	<0.1	79.0	17.9
BH3	9 Mar 2011	5.90	10	1010	0.0	<0.1		3.3	<1	<1	<0.1	<0.1	79.0	17.6
BH3	9 Mar 2011	5.90	10	1010	0.0	<0.1		3.2	<1	<1	<0.1	<0.1	79.0	17.6
BH3	9 Mar 2011	5.90	10	1010	0.0	<0.1		3.1	<1	<1	<0.1	<0.1	79.0	17.8
BH3	9 Mar 2011	5.90	10	1010	0.0	<0.1		2.9	<1	<1	<0.1	<0.1	78.8	18.2
BH3	9 Mar 2011	5.90	10	1010	0.0	<0.1		2.6	<1	<1	<0.1	<0.1	78.5	18.6
BH3	9 Mar 2011	5.90	10	1010	0.0	<0.1		1.4	<1	<1	<0.1	<0.1	78.4	20.1

Notes: ND - not detected

Project Project UCL HS, London, W1T  
 Project No. D0050-10  
 Carried out for UCL Properties Ltd


Table  
**B3**

## **Appendix E**

### **Albury Ground Investigation**

# E1 Logs

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<b>ALBURY S. I. Ltd</b> Petworth Road Witley Surrey GU8 5LH 		<b>Trialpit</b> 1		
<b>Contract</b> Charlotte Street, London W1	<b>Report No</b> 14/10260/CVS			
<b>Client</b> UCL	<b>Date</b> 8/9/2014			
<b>Site Address</b> UCL, Charlotte Street, St Pancras, London W1T 4QB	Ground Level mOD			
Type of Excavator Manual/HA	Water level after completion, m none			
Water Strikes, m 1 2.70 2	Pit Dimensions, m Length 0.90 Breadth 0.40	Ease of Excavation, m Very easy Moderate GL-2.60 Difficult 2.60-2.80 Very hard		
<b>Remarks</b>				
Sample Type	Depth, m	Shear Strength kPa	Scale 40mm: 1m Depth Legend	Description
D	0.25		0.20	Made ground (paving slab over concrete)
D	0.50			Made ground (dark brown silty sand with extensive brick and concrete fragments and occasional metal and roots)
D	1.00		0.95	Made ground (brown silty/clayey sand with gravel and brick fragments)
D	1.50			
D	2.00			
D	2.50			
D	2.70		2.60	Brown silty sandy gravel
			2.80	

Sample Code: U – Intact 100 to 50mm Ø B - Large Disturbed D - Small Disturbed W - Water



**Contract** Charlotte Street, London W1

**Report No** 14/10260/CVS

**Client** UCL

**Date** 8/9/2014

**Site Address** Charlotte Street, St Pancras, London W1T 4QB

**Ground Level**  
mOD

**Type of Excavator** Manual

**Water level after completion, m** none

**Water Strikes, m**

1 none

2

**Pit Dimensions, m**

Length 0.40

Breadth 0.40

**Ease of Excavation, m**

Very easy

Moderate GL-0.80

Difficult

Very hard 0.80+

**Remarks**

Sample Type	Depth, m	Shear Strength kPa	Scale 40mm: 1m Depth	Legend	Description
D	0.25		0.25		Made ground (paving slab over concrete)
D	0.50				Made ground (dark brown silty sand with brick and gravel fragments)
					Made ground (dark brown peaty silty sand with brick particles)
			0.80		Obstruction





**Contract** Charlotte Street, London W1

**Report No** 14/10260/CVS

**Client** UCL

**Date** 8/9/2014

**Site Address** Charlotte Street, St Pancras, London W1T 4QB

**Ground Level** mOD

**Type of Excavator** Manual

**Water level after completion, m** none


**Water Strikes, m**  
1 none  
2

**Pit Dimensions, m**  
Length 0.40  
Breadth 0.40

**Ease of Excavation, m**  
Very easy  
Moderate GL-0.80  
Difficult  
Very hard 0.80+

**Remarks**

Sample Type	Depth, m	Shear Strength kPa	Scale 40mm: 1m Depth Legend	Description
D	0.25			Made ground (paving slab over sand)
D	0.50			Made ground (dark brown silty sand with brick and gravel fragments and roots)
				Obstruction

<b>ALBURY S. I. Ltd</b> Petworth Road Witley Surrey GU8 5LH 		<b>Trialpit</b> 4		
<b>Contract</b> Charlotte Street, London W1	<b>Report No</b> 14/10260/CVS			
<b>Client</b> UCL	<b>Date</b> 8/9/2014			
<b>Site Address</b> Charlotte Street, St Pancras, London W1T 4QB	Ground Level mOD			
Type of Excavator Window Sampler	Water level after completion, m	none		
Water Strikes, m 1 none 2	Pit Dimensions, m Length 0.40 Breadth 0.40	Ease of Excavation, m Very easy Moderate GL-1.80 Difficult Very hard 1.80+		
<b>Remarks</b>				
Sample Type	Depth, m	Shear Strength kPa	Scale 40mm: 1m Depth Legend	Description
D	0.25		0.20	Made ground (paving slab over concrete)
D	0.50		0.40	Made ground (dark brown silty sand with brick and gravel fragments)
				Made ground (dark brown peaty silty sand with brick particles)
D	1.00		0.90	Made ground (brown silty sand with brick and gravel fragments)
D	1.50		1.40	Made ground (brown silty sand with occasional brick particles)
			1.80	Obstruction

## E2 Chemical Data

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# Scientific Analysis Laboratories Ltd

## Certificate of Analysis

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Springwood Industrial  
Estate  
Braintree  
Essex  
CM7 2RT  
Tel : 01376 560120  
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Wales (No 2514788) whose address is at  
Hadfield House, Hadfield Street, Manchester M16 9FE

**Report Number:** 421953-1

**Date of Report:** 24-Sep-2014

**Customer:** Albury S.I. Ltd  
Miltons Yard  
Petworth Road  
Witley  
Godalming  
Surrey  
GU8 5LH

**Customer Contact:** Mr Nick McKeon

**Customer Job Reference:** 14/10260/KJC  
**Customer Purchase Order:** 10827  
**Customer Site Reference:** Charlotte St, W1  
**Date Job Received at SAL:** 12-Sep-2014  
**Date Analysis Started:** 15-Sep-2014  
**Date Analysis Completed:** 24-Sep-2014

The results reported relate to samples received in the laboratory  
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation  
This report should not be reproduced except in full without the written approval of the laboratory  
Tests covered by this certificate were conducted in accordance with SAL SOPs  
All results have been reviewed in accordance with QP22



Report checked  
and authorised by :  
Miss Claire Brown  
Customer Service Manager

Issued by :  
Miss Claire Brown  
Customer Service Manager

SAL Reference: 421953						
Project Site: Charlotte St, W1						
Customer Reference: 14/10260/KJC						
Soil			Analysed as Soil			
Albury SI Suite 1						
SAL Reference		421953 001		421953 002		
Customer Sample Reference		BH1 @ 0.5m		BH4 @ 0.5m		
Date Sampled		11-SEP-2014		11-SEP-2014		
Type		Fill		Fill		
Determinand	Method	Test Sample	LOD	Units		
Arsenic	T257	A40	2.0	mg/kg	14	26
Beryllium	T245	A40	0.5	mg/kg	0.6	1.0
Boron (water-soluble)	T82	A40	1	mg/kg	<1	<1
Cadmium	T257	A40	0.1	mg/kg	0.2	0.3
Chromium	T257	A40	0.5	mg/kg	15	11
Copper	T257	A40	2	mg/kg	110	250
Lead	T257	A40	2	mg/kg	940	2100
Mercury	T245	A40	1.0	mg/kg	3.6	12
Nickel	T257	A40	0.5	mg/kg	17	23
Selenium	T257	A40	3	mg/kg	<3	<3
Vanadium	T257	A40	0.1	mg/kg	32	47
Zinc	T257	A40	2	mg/kg	250	150
Asbestos ID	T27	A40			Asbestos not detected	Asbestos not detected
Chromium (trivalent)	T85	A40	2	mg/kg	15	11
Chromium VI	T82	A40	1	mg/kg	<1	<1
pH	T7	A40			9.4	7.6
(Water Soluble) SO4 expressed as SO4	T242	A40	0.01	g/l	1.4	1.4
SO4(Total)	T102	A40	0.02	%	0.82	1.4
Sulphide	T4	A40	10	mg/kg	<10	<10
Sulphur (total)	T6	A40	0.01	%	0.31	0.52
Total Organic Carbon	T21	A40	0.1	%	3.3	8.4
Cyanide(Total)	T4	AR	1	mg/kg	<1	<1
Phenols(Mono)	T221	AR	0.5	mg/kg	(63) <1.0	(63) <1.0
Moisture @ 105 C	T162	AR	0.1	%	15	23
Retained on 2mm	T2	AR	0.1	%	(32) <0.1	(32) <0.1

SAL Reference: 421953						
Project Site: Charlotte St, W1						
Customer Reference: 14/10260/KJC						
Soil			Analysed as Soil			
Total and Speciated USEPA16 PAH (SE) (MCERTS)						
SAL Reference		421953 001		421953 002		
Customer Sample Reference		BH1 @ 0.5m		BH4 @ 0.5m		
Date Sampled		11-SEP-2014		11-SEP-2014		
Type		Fill		Fill		
Determinand	Method	Test Sample	LOD	Units		
Naphthalene	T16	AR	0.1	mg/kg	<0.1	0.2
Acenaphthylene	T16	AR	0.1	mg/kg	<0.1	<0.1
Acenaphthene	T16	AR	0.1	mg/kg	<0.1	<0.1
Fluorene	T16	AR	0.1	mg/kg	<0.1	<0.1
Phenanthrene	T16	AR	0.1	mg/kg	0.3	0.6
Anthracene	T16	AR	0.1	mg/kg	<0.1	<0.1
Fluoranthene	T16	AR	0.1	mg/kg	0.7	<0.1
Pyrene	T16	AR	0.1	mg/kg	0.7	0.1
Benzo(a)Anthracene	T16	AR	0.1	mg/kg	0.4	0.1
Chrysene	T16	AR	0.1	mg/kg	0.5	0.2
Benzo(b/k)Fluoranthene	T16	AR	0.1	mg/kg	0.8	0.2
Benzo(a)Pyrene	T16	AR	0.1	mg/kg	0.4	<0.1
Indeno(123-cd)Pyrene	T16	AR	0.1	mg/kg	0.2	<0.1
Dibenzo(ah)Anthracene	T16	AR	0.1	mg/kg	<0.1	<0.1
Benzo(ghi)Perylene	T16	AR	0.1	mg/kg	0.2	<0.1
PAH(total)	T16	AR	0.1	mg/kg	4.3	1.5

<b>SAL Reference:</b> 421953 <b>Project Site:</b> Charlotte St, W1 <b>Customer Reference:</b> 14/10260/KJC						
<b>Soil</b> <b>Miscellaneous</b>		Analysed as Soil				
<b>SAL Reference</b>			<b>421953 001</b>	<b>421953 002</b>		
<b>Customer Sample Reference</b>			<b>BH1 @ 0.5m</b>	<b>BH4 @ 0.5m</b>		
<b>Date Sampled</b>			<b>11-SEP-2014</b>	<b>11-SEP-2014</b>		
<b>Type</b>			<b>Fill</b>	<b>Fill</b>		
Determinand	Method	Test Sample	LOD	Units		
TPH (C10-C12)	T219	AR	2	mg/kg	<2	<2
TPH (C12-C16)	T219	AR	2	mg/kg	<2	<2
TPH (C16-C21)	T219	AR	2	mg/kg	<2	<2
TPH (C21-C35)	T219	AR	2	mg/kg	<b>85</b>	<b>28</b>
TPH (C35-C40)	T219	AR	2	mg/kg	<b>150</b>	<b>19</b>
TPH (C10-C40)	T219	AR	10	mg/kg	<b>240</b>	<b>47</b>

## Index to symbols used in 421953-1

Value	Description
AR	As Received
A40	Assisted dried < 40C
32	Whole sample was crushed
63	LOD was raised because an alternative analytical procedure was used
W	Analysis was performed at another SAL laboratory
S	Analysis was subcontracted
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited

## Notes

Sub contracted analysis performed by SAL Manchester & REC Asbestos Limited
Retained on 2mm is removed before analysis
Reported results on as received samples are corrected to a 105 degree centigrade dry weight basis except TPH Banded

## Method Index

Value	Description
T245	ICP/OES(Aqua Regia Extraction)
T27	PLM
T7	Probe
T4	Colorimetry
T85	Calc
T242	2:1 Extraction/ICP/OES (TRL 447 T1)
T16	GC/MS
T162	Grav (1 Dec) (105 C)
T21	OX/IR
T2	Grav
T6	ICP/OES
T82	ICP/OES (Sim)
T102	ICP/OES (HCl extract)
T219	GC/FID (SE)
T221	Colorimetry (CE)
T257	ICP/OES (SIM) (Aqua Regia Extraction)

## Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
TPH (C10-C12)	T219	AR	2	mg/kg	U	001-002
TPH (C12-C16)	T219	AR	2	mg/kg	U	001-002
TPH (C16-C21)	T219	AR	2	mg/kg	U	001-002
TPH (C21-C35)	T219	AR	2	mg/kg	U	001-002
TPH (C35-C40)	T219	AR	2	mg/kg	N	001-002
TPH (C10-C40)	T219	AR	10	mg/kg	U	001-002

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Arsenic	T257	A40	2.0	mg/kg	U	001-002
Beryllium	T245	A40	0.5	mg/kg	U	001-002
Boron (water-soluble)	T82	A40	1	mg/kg	N	001-002
Cadmium	T257	A40	0.1	mg/kg	U	001-002
Chromium	T257	A40	0.5	mg/kg	U	001-002
Copper	T257	A40	2	mg/kg	U	001-002
Lead	T257	A40	2	mg/kg	U	001-002
Mercury	T245	A40	1.0	mg/kg	U	001-002
Nickel	T257	A40	0.5	mg/kg	U	001-002
Selenium	T257	A40	3	mg/kg	U	001-002
Vanadium	T257	A40	0.1	mg/kg	U	001-002
Zinc	T257	A40	2	mg/kg	U	001-002
Asbestos ID	T27	A40			SU	001-002
Chromium (trivalent)	T85	A40	2	mg/kg	N	001-002
Chromium VI	T82	A40	1	mg/kg	N	001-002
pH	T7	A40			U	001-002
(Water Soluble) SO4 expressed as SO4	T242	A40	0.01	g/l	U	001-002
SO4(Total)	T102	A40	0.02	%	U	001-002
Sulphide	T4	A40	10	mg/kg	N	001-002
Sulphur (total)	T6	A40	0.01	%	U	001-002
Total Organic Carbon	T21	A40	0.1	%	WN	001-002
Cyanide(Total)	T4	AR	1	mg/kg	U	001-002
Phenols(Mono)	T221	AR	0.5	mg/kg	U	001-002
Moisture @ 105 C	T162	AR	0.1	%	N	001-002
Retained on 2mm	T2	AR	0.1	%	N	001-002
Naphthalene	T16	AR	0.1	mg/kg	U	001-002
Acenaphthylene	T16	AR	0.1	mg/kg	U	001-002
Acenaphthene	T16	AR	0.1	mg/kg	U	001-002
Fluorene	T16	AR	0.1	mg/kg	U	001-002
Phenanthrene	T16	AR	0.1	mg/kg	U	001-002
Anthracene	T16	AR	0.1	mg/kg	U	001-002
Fluoranthene	T16	AR	0.1	mg/kg	N	001-002
Pyrene	T16	AR	0.1	mg/kg	N	001-002
Benzo(a)Anthracene	T16	AR	0.1	mg/kg	U	001-002
Chrysene	T16	AR	0.1	mg/kg	U	001-002
Benzo(b/k)Fluoranthene	T16	AR	0.1	mg/kg	U	001-002
Benzo(a)Pyrene	T16	AR	0.1	mg/kg	U	001-002
Indeno(123-cd)Pyrene	T16	AR	0.1	mg/kg	U	001-002
Dibenzo(ah)Anthracene	T16	AR	0.1	mg/kg	U	001-002
Benzo(ghi)Perylene	T16	AR	0.1	mg/kg	U	001-002
PAH(total)	T16	AR	0.1	mg/kg	U	001-002

