

TEST REPORT																									
DETERMINATION OF DISPERSIBILITY - P NHOLE METHOD - BS1377: Part 5: 1990: CLAUSE 6.2																									
Project No	A9031-19	Sample Details:	Hole No.	ATK-CP-07A																					
Project Name	HAVANT THICKET WATER STORAGE		Depth (m BGL)	6.00-6.45																					
			No.	21																					
			Type	UT																					
			ID																						
Soil Description : Red mottled grey slightly sandy CLAY. Natural Moisture Content (%) : Liquid Limit (%) : Plastic Limit (%) : The sample was passed over a 2.00mm sieve and no coarse material was removed. <u>Test Specimen Details</u> Moisture Content (%) : 12 Bulk Density (Mg/m3) : 2.200 Dry Density (Mg/m3) : 1.960 <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="padding: 5px;">Head of Water (mm)</th> <th style="padding: 5px;">Rate of Flow (mL/s)</th> <th style="padding: 5px;">Duration (s)</th> <th style="padding: 5px;">Discharge Apperance</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">50</td> <td style="padding: 5px;">0.41</td> <td style="padding: 5px;">20.5</td> <td style="padding: 5px;">Clear</td> </tr> <tr> <td style="padding: 5px;">180</td> <td style="padding: 5px;">1.15</td> <td style="padding: 5px;">10.87</td> <td style="padding: 5px;">Clear</td> </tr> <tr> <td style="padding: 5px;">380</td> <td style="padding: 5px;">2.04</td> <td style="padding: 5px;">10.03</td> <td style="padding: 5px;">Clear</td> </tr> <tr> <td style="padding: 5px;">1020</td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> </tr> </tbody> </table> The diameter of the pinhole showed no significant measurable change. The soil would be classified as ND3.						Head of Water (mm)	Rate of Flow (mL/s)	Duration (s)	Discharge Apperance	50	0.41	20.5	Clear	180	1.15	10.87	Clear	380	2.04	10.03	Clear	1020			
Head of Water (mm)	Rate of Flow (mL/s)	Duration (s)	Discharge Apperance																						
50	0.41	20.5	Clear																						
180	1.15	10.87	Clear																						
380	2.04	10.03	Clear																						
1020																									
SLR 5.6.2 Iss/Rev 2.0 19-Apr-2018				Approved	SR	Date	10-Feb																		
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TEST REPORT

DETERMINATION OF DISPERSIBILITY - P NHOLE METHOD - BS1377: Part 5: 1990: CLAUSE 6.2

Project No	A9031-19	Sample Details:	Hole No.	ATK-CP-07A
Project Name	HAVANT THICKET WATER STORAGE		Depth (m BGL)	8.00-8.45
			No.	28
			Type	UT
			ID	

Soil Description : Reddish grey slightly sandy CLAY.

Natural Moisture Content (%) :

Liquid Limit (%) :

Plastic Limit (%) :

The sample was passed over a 2.00mm sieve and no coarse material was removed.

Test Specimen Details

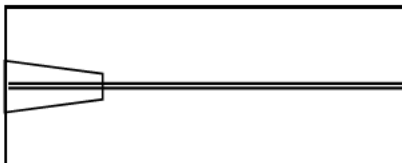
Moisture Content (%) : 18

Bulk Density (Mg/m3) : 2.070

Dry Density (Mg/m3) : 1.760

Head of Water (mm)	Rate of Flow (mL/s)	Duration (s)	Discharge Appearance
50	0.13	42.25	Clear
180	0.14	47.06	Clear
380	0.24	45.5	Clear
1020	0.6	33.21	Clear

The diameter of the pinhole showed no significant measurable change.



The soil would be classified as ND1.

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Project No	A9031-19	Sample Details:	Hole No.	ATK-CP-07A
Project Name	HAVANT THICKET WATER STORAGE		Depth (m BGL)	10.00-10.35
			No.	35
			Type	UT
			ID	

Soil Description : Red mottled grey slightly sandy CLAY.

Natural Moisture Content (%) :

Liquid Limit (%) :

Plastic Limit (%) :

The sample was passed over a 2.00mm sieve and no coarse material was removed.

Test Specimen Details

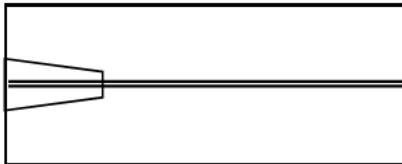
Moisture Content (%) : 19

Bulk Density (Mg/m3) : 2.130

Dry Density (Mg/m3) : 1.790

Head of Water (mm)	Rate of Flow (mL/s)	Duration (s)	Discharge Apperance
50	0.18	31.19	Clear
180	0.27	31.41	Clear
380	0.43	31.22	Clear
1020	1.26	17.85	Clear

The diameter of the pinhole showed no significant measurable change.



The soil would be classified as ND1.

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Project No	A9031-19	Sample Details:	Hole No.	ATK-CP-09
Project Name	HAVANT THICKET WATER STORAGE		Depth (m BGL)	4.2
			No.	16
			Type	UT
			ID	

Soil Description : Red mottled grey CLAY.

Natural Moisture Content (%) :

Liquid Limit (%) :

Plastic Limit (%) :

The sample was passed over a 2.00mm sieve and no coarse material was removed.

Test Specimen Details

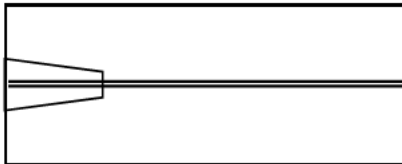
Moisture Content (%) : 18

Bulk Density (Mg/m3) : 2.050

Dry Density (Mg/m3) : 1.730

Head of Water (mm)	Rate of Flow (mL/s)	Duration (s)	Discharge Apperance
50	0.09	48.31	Clear
180	0.1	47.2	Clear
380	0.11	48.03	Clear
1020	0.53	34.28	Clear

The diameter of the pinhole showed no significant measurable change.



The soil would be classified as ND1.

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DETERMINATION OF DISPERSIBILITY - P NHOLE METHOD - BS1377: Part 5: 1990: CLAUSE 6.2

Project No	A9031-19	Sample Details:	Hole No.	ATK-CP-10
Project Name	HAVANT THICKET WATER STORAGE		Depth (m BGL)	7.00-7.45
			No.	26
			Type	UT
			ID	

Soil Description : Dark greyish brown slightly sandy slightly gravelly CLAY.

Natural Moisture Content (%) :

Liquid Limit (%) :

Plastic Limit (%) :

The sample was passed over a 2.00mm sieve and no coarse material was removed.

Test Specimen Details

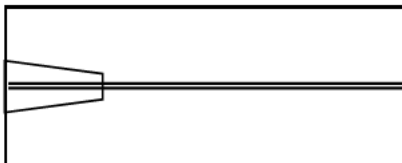
Moisture Content (%) : 20

Bulk Density (Mg/m3) : 2.100

Dry Density (Mg/m3) : 1.750

Head of Water (mm)	Rate of Flow (mL/s)	Duration (s)	Discharge Appearance
50	0.17	32.09	Clear
180	0.58	15.35	Clear
380	1.14	15.35	Clear
1020	2.68	8.03	Clear

The diameter of the pinhole showed no significant measurable change.



The soil would be classified as ND1.

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Project No	A9031-19	Sample Details:	Hole No.	ATK-CP-11
Project Name	HAVANT THICKET WATER STORAGE		Depth (m BGL)	4
			No.	19
			Type	UT
			ID	

Soil Description : Dark greyish brown slightly sandy CLAY.

Natural Moisture Content (%) :

Liquid Limit (%) :

Plastic Limit (%) :

The sample was passed over a 2.00mm sieve and no coarse material was removed.

Test Specimen Details

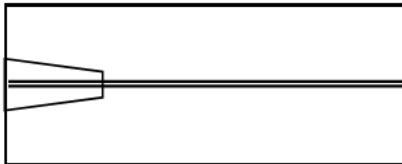
Moisture Content (%) : 24

Bulk Density (Mg/m3) : 1.950

Dry Density (Mg/m3) : 1.580

Head of Water (mm)	Rate of Flow (mL/s)	Duration (s)	Discharge Apperance
50	0.08	51.32	Clear
180	0.33	50.47	Clear
380	0.36	36.18	Clear
1020	0.78	21.84	Clear

The diameter of the pinhole showed no significant measurable change.



The soil would be classified as ND1.

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Project No	A9031-19	Sample Details:	Hole No.	ATK-CP-11
Project Name	HAVANT THICKET WATER STORAGE		Depth (m BGL)	6
			No.	27
			Type	UT
			ID	

Soil Description : Brown slightly sandy CLAY.

Natural Moisture Content (%) :

Liquid Limit (%) :

Plastic Limit (%) :

The sample was passed over a 2.00mm sieve and no coarse material was removed.

Test Specimen Details

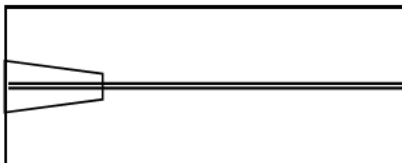
Moisture Content (%) : 22

Bulk Density (Mg/m3) : 1.950

Dry Density (Mg/m3) : 1.600

Head of Water (mm)	Rate of Flow (mL/s)	Duration (s)	Discharge Apperance
50	0.1	61.25	Clear
180	0.38	21.03	Clear
380	0.45	21.22	Clear
1020	0.71	21.18	Clear

The diameter of the pinhole showed no significant measurable change.



The soil would be classified as ND1.

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DETERMINATION OF DISPERSIBILITY - P NHOLE METHOD - BS1377: Part 5: 1990: CLAUSE 6.2

Project No	A9031-19	Sample Details:	Hole No.	ATK-CP-12
Project Name	HAVANT THICKET WATER STORAGE		Depth (m BGL)	6.00-6.50
			No.	24
			Type	B
			ID	

Soil Description : Red and light grey slightly sandy CLAY.

Natural Moisture Content (%) :

Liquid Limit (%) :

Plastic Limit (%) :

The sample was passed over a 2.00mm sieve and no coarse material was removed.

Test Specimen Details

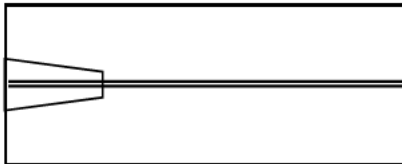
Moisture Content (%) : 15

Bulk Density (Mg/m3) : 2.170

Dry Density (Mg/m3) : 1.890

Head of Water (mm)	Rate of Flow (mL/s)	Duration (s)	Discharge Apperance
50	0.21	30.5	Clear
180	0.23	32.28	Clear
380	0.49	30.66	Clear
1020	1.59	11.97	Clear

The diameter of the pinhole showed no significant measurable change.



The soil would be classified as ND1.

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DETERMINATION OF DISPERSIBILITY - P HOLE METHOD - BS1377: Part 5: 1990: CLAUSE 6.2

Project No	A9031-19	Sample Details:	Hole No.	ATK-CP-14
Project Name	HAVANT THICKET WATER STORAGE		Depth (m BGL)	5.00-5.40
			No.	17
			Type	D
			ID	

Soil Description : Dark brown slightly sandy CLAY.

Natural Moisture Content (%) :

Liquid Limit (%) :

Plastic Limit (%) :

The sample was passed over a 2.00mm sieve and no coarse material was removed.

Test Specimen Details

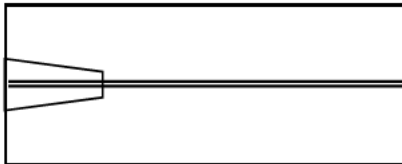
Moisture Content (%) : 20

Bulk Density (Mg/m3) : 2.080

Dry Density (Mg/m3) : 1.740

Head of Water (mm)	Rate of Flow (mL/s)	Duration (s)	Discharge Appearance
50	0.36	20.8	Clear
180	0.73	11.73	Clear
380	1.5	10.33	Clear
1020	3.92	4.34	Clear

The diameter of the pinhole showed no significant measurable change.



The soil would be classified as ND2.

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DETERMINATION OF DISPERSIBILITY - P NHOLE METHOD - BS1377: Part 5: 1990: CLAUSE 6.2

Project No	A9031-19	Sample Details:	Hole No.	ATK-CP-15
Project Name	HAVANT THICKET WATER STORAGE		Depth (m BGL)	7
			No.	29
			Type	UT
			ID	

Soil Description : Dark greyish brown slightly sandy CLAY.

Natural Moisture Content (%) :

Liquid Limit (%) :

Plastic Limit (%) :

The sample was passed over a 2.00mm sieve and no coarse material was removed.

Test Specimen Details

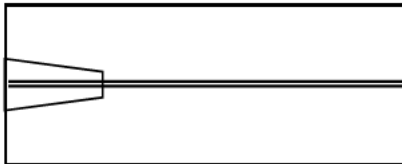
Moisture Content (%) : 24

Bulk Density (Mg/m3) : 1.930

Dry Density (Mg/m3) : 1.560

Head of Water (mm)	Rate of Flow (mL/s)	Duration (s)	Discharge Apperance
50	0.18	30.66	Clear
180	0.2	43.06	Clear
380	0.22	44.1	Clear
1020	0.86	25.68	Clear

The diameter of the pinhole showed no significant measurable change.



The soil would be classified as ND1.

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Project No	A9031-19	Sample Details:	Hole No.	ATK-TP-01
Project Name	HAVANT THICKET WATER STORAGE		Depth (m BGL)	3.00-3.10
			No.	14
			Type	B
			ID	

Soil Description : Brown slightly sandy CLAY.

Natural Moisture Content (%) :

Liquid Limit (%) :

Plastic Limit (%) :

The sample was passed over a 2.00mm sieve and no coarse material was removed.

Test Specimen Details

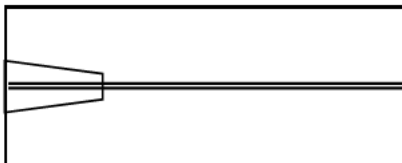
Moisture Content (%) : 23

Bulk Density (Mg/m3) : 1.980

Dry Density (Mg/m3) : 1.610

Head of Water (mm)	Rate of Flow (mL/s)	Duration (s)	Discharge Apperance
50	0.2	30.5	Clear
180	0.23	30.41	Clear
380	0.61	30.47	Clear
1020	3.12	7.22	Clear

The diameter of the pinhole showed no significant measurable change.



The soil would be classified as ND2.

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Project No	A9031-19	Sample Details:	Hole No.	ATK-TP-02
Project Name	HAVANT THICKET WATER STORAGE		Depth (m BGL)	2.20-2.40
			No.	8
			Type	B
			ID	

Soil Description : Light brown slightly sandy CLAY.

Natural Moisture Content (%) :

Liquid Limit (%) :

Plastic Limit (%) :

The sample was passed over a 2.00mm sieve and no coarse material was removed.

Test Specimen Details

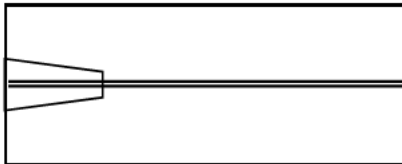
Moisture Content (%) : 24

Bulk Density (Mg/m3) : 2.030

Dry Density (Mg/m3) : 1.640

Head of Water (mm)	Rate of Flow (mL/s)	Duration (s)	Discharge Appearance
50	0.35	20.21	Clear
180	0.62	13.64	Clear
380	1	9.96	Clear
1020	1.87	10.14	Clear

The diameter of the pinhole showed no significant measurable change.



The soil would be classified as ND1.

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DETERMINATION OF DISPERSIBILITY - P NHOLE METHOD - BS1377: Part 5: 1990: CLAUSE 6.2

Project No	A9031-19	Sample Details:	Hole No.	ATK-TP-03
Project Name	HAVANT THICKET WATER STORAGE		Depth (m BGL)	1.6
			No.	8
			Type	D
			ID	

Soil Description : Brown sandy CLAY.

Natural Moisture Content (%) :

Liquid Limit (%) :

Plastic Limit (%) :

The sample was passed over a 2.00mm sieve and no coarse material was removed.

Test Specimen Details

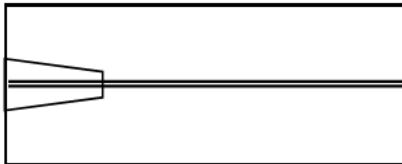
Moisture Content (%) : 25

Bulk Density (Mg/m3) : 2.010

Dry Density (Mg/m3) : 1.600

Head of Water (mm)	Rate of Flow (mL/s)	Duration (s)	Discharge Apperance
50	0.06	93.05	Clear
180	0.21	28.17	Clear
380	0.63	11.91	Clear
1020	2.16	5.33	Clear

The diameter of the pinhole showed no significant measurable change.



The soil would be classified as ND1.

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Project No	A9031-19	Sample Details:	Hole No.	ATK-TP-03
Project Name	HAVANT THICKET WATER STORAGE		Depth (m BGL)	3.10-3.20
			No.	12
			Type	D
			ID	

Soil Description : Brown slightly sandy CLAY.

Natural Moisture Content (%) :

Liquid Limit (%) :

Plastic Limit (%) :

The sample was passed over a 2.00mm sieve and no coarse material was removed.

Test Specimen Details

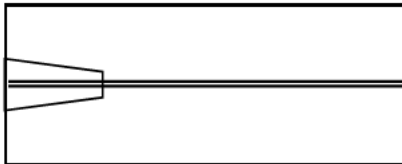
Moisture Content (%) : 20

Bulk Density (Mg/m3) : 2.080

Dry Density (Mg/m3) : 1.730

Head of Water (mm)	Rate of Flow (mL/s)	Duration (s)	Discharge Appearance
50	0.12	51.16	Clear
180	0.88	1084	Clear
380	2.22	9.67	Clear
1020			

The diameter of the pinhole showed no significant measurable change.



The soil would be classified as ND3.

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29-Jan

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DETERMINATION OF DISPERSIBILITY - P NHOLE METHOD - BS1377: Part 5: 1990: CLAUSE 6.2																									
Project No	A9031-19	Sample Details:	Hole No.	ATK-TP-05																					
Project Name	HAVANT THICKET WATER STORAGE		Depth (m BGL)	3.3																					
			No.	15																					
			Type	D																					
			ID																						
Soil Description : Brown slightly sandy CLAY. Natural Moisture Content (%) : Liquid Limit (%) : Plastic Limit (%) : The sample was passed over a 2.00mm sieve and no coarse material was removed. <u>Test Specimen Details</u> Moisture Content (%) : 21 Bulk Density (Mg/m3) : 2.050 Dry Density (Mg/m3) : 1.700 <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="padding: 5px;">Head of Water (mm)</th> <th style="padding: 5px;">Rate of Flow (mL/s)</th> <th style="padding: 5px;">Duration (s)</th> <th style="padding: 5px;">Discharge Apperance</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">50</td> <td style="padding: 5px;">0.47</td> <td style="padding: 5px;">13.95</td> <td style="padding: 5px;">Clear</td> </tr> <tr> <td style="padding: 5px;">180</td> <td style="padding: 5px;">0.5</td> <td style="padding: 5px;">17.15</td> <td style="padding: 5px;">Clear</td> </tr> <tr> <td style="padding: 5px;">380</td> <td style="padding: 5px;">1.22</td> <td style="padding: 5px;">13.89</td> <td style="padding: 5px;">Clear</td> </tr> <tr> <td style="padding: 5px;">1020</td> <td style="padding: 5px;">3.6</td> <td style="padding: 5px;">6.25</td> <td style="padding: 5px;">Clear</td> </tr> </tbody> </table> The diameter of the pinhole showed no significant measurable change. The soil would be classified as ND2.						Head of Water (mm)	Rate of Flow (mL/s)	Duration (s)	Discharge Apperance	50	0.47	13.95	Clear	180	0.5	17.15	Clear	380	1.22	13.89	Clear	1020	3.6	6.25	Clear
Head of Water (mm)	Rate of Flow (mL/s)	Duration (s)	Discharge Apperance																						
50	0.47	13.95	Clear																						
180	0.5	17.15	Clear																						
380	1.22	13.89	Clear																						
1020	3.6	6.25	Clear																						
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TEST REPORT

DETERMINATION OF DISPERSIBILITY - P NHOLE METHOD - BS1377: Part 5: 1990: CLAUSE 6.2

Project No	A9031-19	Sample Details:	Hole No.	ATK-TP-06
Project Name	HAVANT THICKET WATER STORAGE		Depth (m BGL)	0.9
			No.	7
			Type	D
			ID	

Soil Description : Light brown slightly sandy CLAY.

Natural Moisture Content (%) :

Liquid Limit (%) :

Plastic Limit (%) :

The sample was passed over a 2.00mm sieve and no coarse material was removed.

Test Specimen Details

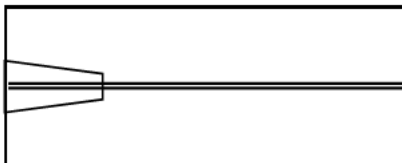
Moisture Content (%) : 22

Bulk Density (Mg/m3) : 2.020

Dry Density (Mg/m3) : 1.660

Head of Water (mm)	Rate of Flow (mL/s)	Duration (s)	Discharge Appearance
50	0.29	20.44	Clear
180	0.34	20.5	Clear
380	0.96	20.35	Clear
1020	1.63	10.41	Clear

The diameter of the pinhole showed no significant measurable change.



The soil would be classified as ND1.

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DETERMINATION OF DISPERSIBILITY - P NHOLE METHOD - BS1377: Part 5: 1990: CLAUSE 6.2

Project No	A9031-19	Sample Details:	Hole No.	ATK-TP-06
Project Name	HAVANT THICKET WATER STORAGE		Depth (m BGL)	3.00
			No.	12
			Type	D
			ID	

Soil Description : Light brown slightly sandy CLAY.

Natural Moisture Content (%) :

Liquid Limit (%) :

Plastic Limit (%) :

The sample was passed over a 2.00mm sieve and no coarse material was removed.

Test Specimen Details

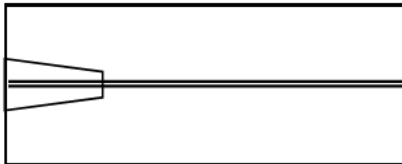
Moisture Content (%) : 21

Bulk Density (Mg/m3) : 2.060

Dry Density (Mg/m3) : 1.700

Head of Water (mm)	Rate of Flow (mL/s)	Duration (s)	Discharge Appearance
50	0.14	45.53	Clear
180	0.19	45.36	Clear
380	0.38	46.57	Clear
1020	1.98	8.85	Clear

The diameter of the pinhole showed no significant measurable change.



The soil would be classified as ND1.

SLR
5.6.2
Iss/Rev 2.0
19-Apr-2018



Approved

SR

Date

10-Feb

TEST REPORT

DETERMINATION OF DISPERSIBILITY - P NHOLE METHOD - BS1377: Part 5: 1990: CLAUSE 6.2

Project No	A9031-19	Sample Details:	Hole No.	ATK-TPM-03
Project Name	HAVANT THICKET WATER STORAGE		Depth (m BGL)	1.60-1.70
			No.	6
			Type	B
			ID	

Soil Description : Light brown slightly sandy CLAY.

Natural Moisture Content (%) :

Liquid Limit (%) :

Plastic Limit (%) :

The sample was passed over a 2.00mm sieve and no coarse material was removed.

Test Specimen Details

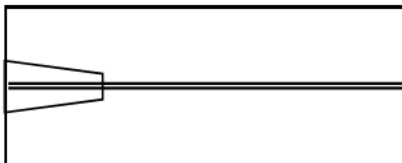
Moisture Content (%) : 21

Bulk Density (Mg/m³) : 1.980

Dry Density (Mg/m³) : 1.640

Head of Water (mm)	Rate of Flow (mL/s)	Duration (s)	Discharge Appearance
50	0.45	14.31	Clear
180	0.88	10.21	Clear
380	1.4	8.23	Clear
1020	2.74	6.21	Clear

The diameter of the pinhole showed no significant measurable change.



The soil would be classified as ND1.

SLR
5.6.2
Iss/Rev 2.0
19-Apr-2018



Approved

SR

Date

10-Feb

TEST REPORT

DETERMINATION OF DISPERSIBILITY - P NHOLE METHOD - BS1377: Part 5: 1990: CLAUSE 6.2

Project No	A9031-19	Sample Details:	Hole No.	ATK-TPM-03
Project Name	HAVANT THICKET WATER STORAGE		Depth (m BGL)	3.60-3.70
			No.	12
			Type	B
			ID	

Soil Description : Brown slightly sandy CLAY.

Natural Moisture Content (%) :

Liquid Limit (%) :

Plastic Limit (%) :

The sample was passed over a 2.00mm sieve and no coarse material was removed.

Test Specimen Details

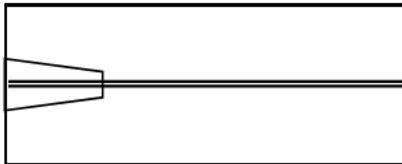
Moisture Content (%) : 22

Bulk Density (Mg/m3) : 1.920

Dry Density (Mg/m3) : 1.570

Head of Water (mm)	Rate of Flow (mL/s)	Duration (s)	Discharge Apperance
50	0.34	20.56	Clear
180	0.47	20.41	Clear
380	0.51	20.43	Clear
1020	0.8	20.62	Clear

The diameter of the pinhole showed no significant measurable change.



The soil would be classified as ND1.

SLR
5.6.2
Iss/Rev 2.0
19-Apr-2018



Approved

SR

Date

10-Feb

TEST REPORT

DETERMINATION OF DISPERSIBILITY - P NHOLE METHOD - BS1377: Part 5: 1990: CLAUSE 6.2

Project No	A9031-19	Sample Details:	Hole No.	ATK-TPM-05
Project Name	HAVANT THICKET WATER STORAGE		Depth (m BGL)	2.2
			No.	101
			Type	D
			ID	

Soil Description : Light brown slightly sandy CLAY.

Natural Moisture Content (%) :

Liquid Limit (%) :

Plastic Limit (%) :

The sample was passed over a 2.00mm sieve and no coarse material was removed.

Test Specimen Details

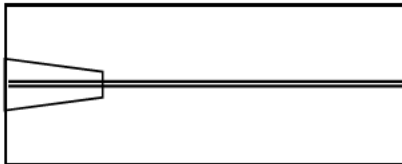
Moisture Content (%) : 24

Bulk Density (Mg/m3) : 2.030

Dry Density (Mg/m3) : 1.640

Head of Water (mm)	Rate of Flow (mL/s)	Duration (s)	Discharge Appearance
50	0.39	16.87	Clear
180	1.14	11.31	Clear
380	1.8	10.56	Clear
1020			

The diameter of the pinhole showed no significant measurable change.



The soil would be classified as ND3.

SLR
5.6.2
Iss/Rev 2.0
19-Apr-2018



Approved

SR

Date

10-Feb

TEST REPORT

DETERMINATION OF DISPERSIBILITY - P NHOLE METHOD - BS1377: Part 5: 1990: CLAUSE 6.2

Project No	A9031-19	Sample Details:	Hole No.	ATK-TPM-05
Project Name	HAVANT THICKET WATER STORAGE		Depth (m BGL)	3.3
			No.	15
			Type	B
			ID	

Soil Description : Brown slightly sandy CLAY.

Natural Moisture Content (%) :

Liquid Limit (%) :

Plastic Limit (%) :

The sample was passed over a 2.00mm sieve and no coarse material was removed.

Test Specimen Details

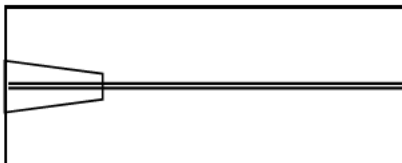
Moisture Content (%) : 22

Bulk Density (Mg/m3) : 2.020

Dry Density (Mg/m3) : 1.660

Head of Water (mm)	Rate of Flow (mL/s)	Duration (s)	Discharge Appearance
50	0.205	31.66	Clear
180	0.27	27.57	Clear
380	1.08	10.67	Clear
1020	3.32	4.67	Clear

The diameter of the pinhole showed no significant measurable change.



The soil would be classified as ND2.

SLR
5.6.2
Iss/Rev 2.0
19-Apr-2018



Approved

SR

Date

10-Feb

TEST REPORT																									
DETERMINATION OF DISPERSIBILITY - P HOLE METHOD - BS1377: Part 5: 1990: CLAUSE 6.2																									
Project No	A9031-19	Sample Details:	Hole No.	ATK-TPM-05																					
Project Name	HAVANT THICKET WATER STORAGE		Depth (m BGL)	4.40-4.50																					
			No.	17																					
			Type	B																					
			ID																						
Soil Description : Dark brown slightly sandy CLAY. Natural Moisture Content (%) : Liquid Limit (%) : Plastic Limit (%) : The sample was passed over a 2.00mm sieve and no coarse material was removed. <u>Test Specimen Details</u> Moisture Content (%) : 22 Bulk Density (Mg/m3) : 2.030 Dry Density (Mg/m3) : 1.660 <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="padding: 5px;">Head of Water (mm)</th> <th style="padding: 5px;">Rate of Flow (mL/s)</th> <th style="padding: 5px;">Duration (s)</th> <th style="padding: 5px;">Discharge Apperance</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">50</td> <td style="padding: 5px;">0.08</td> <td style="padding: 5px;">65.24</td> <td style="padding: 5px;">Clear</td> </tr> <tr> <td style="padding: 5px;">180</td> <td style="padding: 5px;">0.09</td> <td style="padding: 5px;">61.86</td> <td style="padding: 5px;">Clear</td> </tr> <tr> <td style="padding: 5px;">380</td> <td style="padding: 5px;">0.34</td> <td style="padding: 5px;">16.18</td> <td style="padding: 5px;">Clear</td> </tr> <tr> <td style="padding: 5px;">1020</td> <td style="padding: 5px;">1.18</td> <td style="padding: 5px;">10.61</td> <td style="padding: 5px;">Clear</td> </tr> </tbody> </table> The diameter of the pinhole showed no significant measurable change. The soil would be classified as ND1.						Head of Water (mm)	Rate of Flow (mL/s)	Duration (s)	Discharge Apperance	50	0.08	65.24	Clear	180	0.09	61.86	Clear	380	0.34	16.18	Clear	1020	1.18	10.61	Clear
Head of Water (mm)	Rate of Flow (mL/s)	Duration (s)	Discharge Apperance																						
50	0.08	65.24	Clear																						
180	0.09	61.86	Clear																						
380	0.34	16.18	Clear																						
1020	1.18	10.61	Clear																						
SLR 5.6.2 Iss/Rev 2.0 19-Apr-2018				Approved	SR	Date	10-Feb																		
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TEST REPORT



1252

Report No. EFS/205161 (Ver. 1)

SOCOTEC UK Doncaster
Askern Road
Carcroft
Doncaster
South Yorkshire
DN6 8DG

Site: A9031-19 Havant Thicket Winter Storage

The 3 samples described in this report were registered for analysis by SOCOTEC UK Limited on 04-Feb-2020. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 07-Feb-2020

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

The following tables are contained in this report:

Table 1 Main Analysis Results (Page 2)
Analytical and Deviating Sample Overview (Page 3)
Table of Method Descriptions (Page 4)
Table of Report Notes (Page 5)
Table of Sample Descriptions (Appendix A Page 1 of 1)

On behalf of
SOCOTEC UK Lim
Becky Batham

Operations Manager
Energy & Waste Services

Date of Issue: 07-Feb-2020

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

Where samples have been flagged as deviant on the Analytical and Deviating Sample Overview, for any reason, the data may not be representative of the sample at the point of sampling and the validity of the data may be affected.

SOCOTEC UK Limited accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

Customer SOCOTEC UK Doncaster
 Site A9031-19 Havant Thicket Winter Storage
 Report No S205161

Consignment No S90954
 Date Logged 04-Feb-2020
 In-House Report Due 12-Feb-2020

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

ID Number	Description	MethodID	Client	Dep. Out	DO NO3 if pH<5.5	DO Mg if SO4(W)>3000	DO NO3 if pH<5.5	SO4-- (acid sol)	ICPACIDS	ICPBRE	ICPWSS	KONECL	KoneNO3	TSBRE1	WSLM50
		Sampled	REPORT A												
CL/2084619	BH02 1.80	13/12/19													
CL/2084620	BH02 3.40	13/12/19													
CL/2084621	BH02 4.60	13/12/19													

Note: We will endeavour to prioritise samples to complete analysis within holding time; however any delay could result in samples becoming deviant whilst being processed in the laboratory.

If sampling dates are missing or matrices unclassified then results will not be ISO 17025 accredited. Please contact us as soon as possible to provide missing information in order to reinstate accreditation.

Deviating Sample Key

- A The sample was received in an inappropriate container for this analysis
- B The sample was received without the correct preservation for this analysis
- C Headspace present in the sample container
- D The sampling date was not supplied so holding time may be compromised - applicable to all analysis
- E Sample processing did not commence within the appropriate holding time
- F Sample processing did not commence within the appropriate handling time

Requested Analysis Key

- Analysis Required
- Analysis dependant upon trigger result - Note: due date may be affected if triggered
- No analysis scheduled
- ^ Analysis Subcontracted - Note: due date may vary

Where individual results are flagged see report notes for status.

Method Descriptions

Matrix	MethodID	Analysis Basis	Method Description
Soil	ICPACIDS	Oven Dried @ < 35°C	Determination of Total Sulphate in soil samples by Hydrochloric Acid extraction followed by ICPOES detection
Soil	ICPWSS	Oven Dried @ < 35°C	Determination of Water Soluble Sulphate in soil samples by water extraction followed by ICPOES detection
Soil	TSBRE1	Oven Dried @ < 35°C	Determination of Total Carbon and/or Total Sulphur in solid samples by high temperature combustion/infrared detection
Soil	WSLM50	Oven Dried @ < 35°C	Determination of pH of 2.5:1 deionised water to soil extracts using pH probe.

Report Notes

Generic Notes

Soil/Solid Analysis

Unless stated otherwise,

- Results expressed as mg/kg have been calculated on the basis indicated in the Method Description table.
All results on MCERTS reports are reported on a 105°C dry weight basis with the exception of pH and conductivity.
- 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

Nil: Where "Nil" has been entered against Total Alkalinity or Total Acidity this indicates that a measurement was not required due to the inherent pH of the sample.

Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm³@ 15°C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile

TR Denotes Tremolite

CR Denotes Crocidolite

AC Denotes Actinolite

AM Denotes Amosite

AN Denotes Anthophyllite

NAIIS No Asbestos Identified in Sample

NADIS No Asbestos Detected In Sample

Symbol Reference

^ Sub-contracted analysis.

\$\$ 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

N.F No Flow

NS Information Not Supplied

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

§ accreditation has been removed for this result as it is a non-accredited matrix

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.

Sample Descriptions

Client	SOCOTEC UK Doncaster
Site	A9031-19 Havant Thicket Winter Storage
Report Number	S20_5161

Note: major constituent in upper case

TEST REPORT



1252

Report No. EFS/205162 (Ver. 1)

SOCOTEC UK Doncaster
Askern Road
Carcroft
Doncaster
South Yorkshire
DN6 8DG

Site: A9031-19 Havant Thicket Winter Storage

The 1 sample described in this report were registered for analysis by SOCOTEC UK Limited on 04-Feb-2020. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 07-Feb-2020

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

The following tables are contained in this report:

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On behalf of
SOCOTEC UK Lim
Becky Batham

Operations Manager
Energy & Waste Services

Date of Issue: 07-Feb-2020

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

Where samples have been flagged as deviant on the Analytical and Deviating Sample Overview, for any reason, the data may not be representative of the sample at the point of sampling and the validity of the data may be affected.

SOCOTEC UK Limited accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

Customer SOCOTEC UK Doncaster
 Site A9031-19 Havant Thicket Winter Storage
 Report No S205162

Consignment No S91103
 Date Logged 04-Feb-2020
 In-House Report Due 12-Feb-2020

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

WSLMS0	pH (BS1377)					
TSBRE1	Total Sulphur.					
KoneNO3	Nitrate (BRE 2:1): mg/l					
KONECL	Chloride:(2:1)					
ICPWSS	SO4-- (H2O sol) mg/l				✓	E
ICPBRE	Magnesium (BRE)					
ICPACIDS	SO4-- (acid sol)				✓	
Dep.Opt	DO NO3 if pH<5.5					
	DO Mg if SO4(W)>3000					
	DO Cl if pH<5.5					
CustServ	REPORT A					
MethodID	Sampled				15/11/19	
ID Number	Description					
		CL/2084622	ATK-CP-02 1.70			

Note: We will endeavour to prioritise samples to complete analysis within holding time; however any delay could result in samples becoming deviant whilst being processed in the laboratory.

If sampling dates are missing or matrices unclassified then results will not be ISO 17025 accredited. Please contact us as soon as possible to provide missing information in order to reinstate accreditation.

Deviating Sample Key

- A The sample was received in an inappropriate container for this analysis
- B The sample was received without the correct preservation for this analysis
- C Headspace present in the sample container
- D The sampling date was not supplied so holding time may be compromised - applicable to all analysis
- E Sample processing did not commence within the appropriate holding time
- F Sample processing did not commence within the appropriate handling time

Requested Analysis Key

- Analysis Required
- Analysis dependant upon trigger result - Note: due date may be affected if triggered
- No analysis scheduled
- ^ Analysis Subcontracted - Note: due date may vary

Where individual results are flagged see report notes for status.

Method Descriptions

Matrix	MethodID	Analysis Basis	Method Description
Soil	ICPACIDS	Oven Dried @ < 35°C	Determination of Total Sulphate in soil samples by Hydrochloric Acid extraction followed by ICPOES detection
Soil	ICPWSS	Oven Dried @ < 35°C	Determination of Water Soluble Sulphate in soil samples by water extraction followed by ICPOES detection
Soil	TSBRE1	Oven Dried @ < 35°C	Determination of Total Carbon and/or Total Sulphur in solid samples by high temperature combustion/infrared detection
Soil	WSLM50	Oven Dried @ < 35°C	Determination of pH of 2.5:1 deionised water to soil extracts using pH probe.

Report Notes

Generic Notes

Soil/Solid Analysis

Unless stated otherwise,

- Results expressed as mg/kg have been calculated on the basis indicated in the Method Description table.
All results on MCERTS reports are reported on a 105°C dry weight basis with the exception of pH and conductivity.
- 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

Nil: Where "Nil" has been entered against Total Alkalinity or Total Acidity this indicates that a measurement was not required due to the inherent pH of the sample.

Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm³@ 15°C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile

TR Denotes Tremolite

CR Denotes Crocidolite

AC Denotes Actinolite

AM Denotes Amosite

AN Denotes Anthophyllite

NAIIS No Asbestos Identified in Sample

NADIS No Asbestos Detected In Sample

Symbol Reference

^ Sub-contracted analysis.

\$\$ 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

N.F No Flow

NS Information Not Supplied

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

§ accreditation has been removed for this result as it is a non-accredited matrix

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Sample Descriptions

Client	SOCOTEC UK Doncaster
Site	A9031-19 Havant Thicket Winter Storage
Report Number	S20_5162

Note: major constituent in upper case

TEST REPORT



Report No. EFS/205163 (Ver. 1)

SOCOTEC UK Doncaster
Askern Road
Carcroft
Doncaster
South Yorkshire
DN6 8DG

Site: A9031-19 Havant Thicket Water Storage

The 1 sample described in this report were registered for analysis by SOCOTEC UK Limited on 04-Feb-2020. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 07-Feb-2020

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On behalf of
SOCOTEC UK Lim 
Becky Batham Operations Manager
Energy & Waste Services

Date of Issue: 07-Feb-2020

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Where samples have been flagged as deviant on the Analytical and Deviating Sample Overview, for any reason, the data may not be representative of the sample at the point of sampling and the validity of the data may be affected.

SOCOTEC UK Limited accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

Customer SOCOTEC UK Doncaster
 Site A9031-19 Havant Thicket Water Storage
 Report No S205163

Consignment No S91103
 Date Logged 04-Feb-2020
 In-House Report Due 12-Feb-2020

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

WSLMS0	pH (BS1377)			
TSBRE1	Total Sulphur.			
KoneNO3	Nitrate (BRE 2:1): mg/l			
KONECL	Chloride:(2:1)			
ICPWSS	SO4-- (H2O sol) mg/l	✓	W	
ICPBRE	Magnesium (BRE)			
ICPACIDS	SO4-- (acid sol)	✓		
Dep.Opt	DO NO3 if pH<5.5			
	DO Mg if SO4(W)>3000			
	DO Cl if pH<5.5			
CustServ	REPORT A			
MethodID	Sampled			
ID Number	Description			
CL/2084623	ATK-CP-01 2.50	13/12/19		

Note: We will endeavour to prioritise samples to complete analysis within holding time; however any delay could result in samples becoming deviant whilst being processed in the laboratory.

If sampling dates are missing or matrices unclassified then results will not be ISO 17025 accredited. Please contact us as soon as possible to provide missing information in order to reinstate accreditation.

Deviating Sample Key

- A The sample was received in an inappropriate container for this analysis
- B The sample was received without the correct preservation for this analysis
- C Headspace present in the sample container
- D The sampling date was not supplied so holding time may be compromised - applicable to all analysis
- E Sample processing did not commence within the appropriate holding time
- F Sample processing did not commence within the appropriate handling time

Requested Analysis Key

- Analysis Required
- Analysis dependant upon trigger result - Note: due date may be affected if triggered
- No analysis scheduled
- ^ Analysis Subcontracted - Note: due date may vary

Where individual results are flagged see report notes for status.

Method Descriptions

Matrix	MethodID	Analysis Basis	Method Description
Soil	ICPACIDS	Oven Dried @ < 35°C	Determination of Total Sulphate in soil samples by Hydrochloric Acid extraction followed by ICPOES detection
Soil	ICPWSS	Oven Dried @ < 35°C	Determination of Water Soluble Sulphate in soil samples by water extraction followed by ICPOES detection
Soil	TSBRE1	Oven Dried @ < 35°C	Determination of Total Carbon and/or Total Sulphur in solid samples by high temperature combustion/infrared detection
Soil	WSLM50	Oven Dried @ < 35°C	Determination of pH of 2.5:1 deionised water to soil extracts using pH probe.

Report Notes

Generic Notes

Soil/Solid Analysis

Unless stated otherwise,

- Results expressed as mg/kg have been calculated on the basis indicated in the Method Description table.
All results on MCERTS reports are reported on a 105°C dry weight basis with the exception of pH and conductivity.
- 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

Nil: Where "Nil" has been entered against Total Alkalinity or Total Acidity this indicates that a measurement was not required due to the inherent pH of the sample.

Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm³@ 15°C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile

TR Denotes Tremolite

CR Denotes Crocidolite

AC Denotes Actinolite

AM Denotes Amosite

AN Denotes Anthophyllite

NAIIS No Asbestos Identified in Sample

NADIS No Asbestos Detected In Sample

Symbol Reference

^ Sub-contracted analysis.

\$\$ 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

N.F No Flow

NS Information Not Supplied

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

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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.

Sample Descriptions

Client	SOCOTEC UK Doncaster
Site	A9031-19 Havant Thicket Water Storage
Report Number	S20_5163

Note: major constituent in upper case

TEST REPORT



1252

Report No. EFS/205164 (Ver. 1)

SOCOTEC UK Doncaster
Askern Road
Carcroft
Doncaster
South Yorkshire
DN6 8DG

Site: A9031-19 Havant Thicket Winter Storage

The 3 samples described in this report were registered for analysis by SOCOTEC UK Limited on 04-Feb-2020. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 07-Feb-2020

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

The following tables are contained in this report:

Table 1 Main Analysis Results (Page 2)
Analytical and Deviating Sample Overview (Page 3)
Table of Method Descriptions (Page 4)
Table of Report Notes (Page 5)
Table of Sample Descriptions (Appendix A Page 1 of 1)

On behalf of
SOCOTEC UK Lim
Becky Batham

Operations Manager
Energy & Waste Services

Date of Issue: 07-Feb-2020

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

Where samples have been flagged as deviant on the Analytical and Deviating Sample Overview, for any reason, the data may not be representative of the sample at the point of sampling and the validity of the data may be affected.

SOCOTEC UK Limited accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

Customer SOCOTEC UK Doncaster
 Site A9031-19 Havant Thicket Winter Storage
 Report No S205164

Consignment No S91266
 Date Logged 04-Feb-2020
 In-House Report Due 12-Feb-2020

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

ID Number	Description	MethodID	Client	Dep. Out	DO NO3 if pH<5.5	DO Mg if SO4(W)>3000	DO NO3 if pH<5.5	ICPACIDS	ICPBRE	ICPWSS	KONECL	KoneNO3	TSBRE1	WSLM50
		Sampled	REPORT A					SO4-- (acid sol)	Magnesium (BRE)	SO4-- (H2O sol) mg/l	Chloride:(2:1)	Nitrate (BRE 2:1): mg/l	Total Sulphur.	pH (BS1377)
								✓		✓				
CL/2084624	ATK-CP-07A 1.20-1.65	27/11/19								E				
CL/2084625	ATK-CP-07A 3.50-4.00	27/11/19								E				
CL/2084626	ATK-CP-07A 6.40	27/11/19								E				

Note: We will endeavour to prioritise samples to complete analysis within holding time; however any delay could result in samples becoming deviant whilst being processed in the laboratory.

If sampling dates are missing or matrices unclassified then results will not be ISO 17025 accredited. Please contact us as soon as possible to provide missing information in order to reinstate accreditation.

Deviating Sample Key

- A The sample was received in an inappropriate container for this analysis
- B The sample was received without the correct preservation for this analysis
- C Headspace present in the sample container
- D The sampling date was not supplied so holding time may be compromised - applicable to all analysis
- E Sample processing did not commence within the appropriate holding time
- F Sample processing did not commence within the appropriate handling time

Requested Analysis Key

- Analysis Required
- Analysis dependant upon trigger result - Note: due date may be affected if triggered
- No analysis scheduled
- ^ Analysis Subcontracted - Note: due date may vary

Where individual results are flagged see report notes for status.

Method Descriptions

Matrix	MethodID	Analysis Basis	Method Description
Soil	ICPACIDS	Oven Dried @ < 35°C	Determination of Total Sulphate in soil samples by Hydrochloric Acid extraction followed by ICPOES detection
Soil	ICPWSS	Oven Dried @ < 35°C	Determination of Water Soluble Sulphate in soil samples by water extraction followed by ICPOES detection
Soil	TSBRE1	Oven Dried @ < 35°C	Determination of Total Carbon and/or Total Sulphur in solid samples by high temperature combustion/infrared detection
Soil	WSLM50	Oven Dried @ < 35°C	Determination of pH of 2.5:1 deionised water to soil extracts using pH probe.

Report Notes

Generic Notes

Soil/Solid Analysis

Unless stated otherwise,

- Results expressed as mg/kg have been calculated on the basis indicated in the Method Description table.
All results on MCERTS reports are reported on a 105°C dry weight basis with the exception of pH and conductivity.
- 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

Nil: Where "Nil" has been entered against Total Alkalinity or Total Acidity this indicates that a measurement was not required due to the inherent pH of the sample.

Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm³@ 15°C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile

TR Denotes Tremolite

CR Denotes Crocidolite

AC Denotes Actinolite

AM Denotes Amosite

AN Denotes Anthophyllite

NAIIS No Asbestos Identified in Sample

NADIS No Asbestos Detected In Sample

Symbol Reference

^ Sub-contracted analysis.

\$\$ 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

N.F No Flow

NS Information Not Supplied

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

§ accreditation has been removed for this result as it is a non-accredited matrix

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.

Sample Descriptions

Client	SOCOTEC UK Doncaster
Site	A9031-19 Havant Thicket Winter Storage
Report Number	S20_5164

Note: major constituent in upper case

TEST REPORT



1252

Report No. EFS/205165 (Ver. 1)

SOCOTEC UK Doncaster
Askern Road
Carcroft
Doncaster
South Yorkshire
DN6 8DG

Site: A9031-19 Havant Thicket Winter Storage

The 1 sample described in this report were registered for analysis by SOCOTEC UK Limited on 04-Feb-2020. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 07-Feb-2020

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

The following tables are contained in this report:

Table 1 Main Analysis Results (Page 2)
Analytical and Deviating Sample Overview (Page 3)
Table of Method Descriptions (Page 4)
Table of Report Notes (Page 5)
Table of Sample Descriptions (Appendix A Page 1 of 1)

On behalf of
SOCOTEC UK Lim
Becky Batham

Operations Manager
Energy & Waste Services

Date of Issue: 07-Feb-2020

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

Where samples have been flagged as deviant on the Analytical and Deviating Sample Overview, for any reason, the data may not be representative of the sample at the point of sampling and the validity of the data may be affected.

SOCOTEC UK Limited accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

[illegible]

Bretby Business Park, Ashby Road
Burton-on-Trent, Staffordshire, DE15 0YZ
Tel +44 (0) 1283 554400
Fax +44 (0) 1283 554422

Client Name

SOCOTEC UK Doncaster

Contact

Neil Cooke

A9031-19 Havant Thicket Winter Storage

Sample Analysis

Date Printed

07-Feb-2020

Report Number

EFS/205165

Table Number

1

Customer SOCOTEC UK Doncaster
 Site A9031-19 Havant Thicket Winter Storage
 Report No S205165

Consignment No S91266
 Date Logged 04-Feb-2020
 In-House Report Due 12-Feb-2020

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

WSLMS0	pH (BS1377)						
TSBRE1	Total Sulphur.						
KoneNO3	Nitrate (BRE 2:1): mg/l						
KONECL	Chloride:(2:1)						
ICPWSS	SO4-- (H2O sol) mg/l				✓	E	
ICPBRE	Magnesium (BRE)						
ICPACIDS	SO4-- (acid sol)				✓		
Dep.Opt	DO NO3 if pH<5.5						
	DO Mg if SO4(W)>3000						
	DO Cl if pH<5.5						
CustServ	REPORT A						
MethodID	Sampled				27/11/19		
Description				ATK-CP-07A 9.50			
ID Number				CL/2084627			

Note: We will endeavour to prioritise samples to complete analysis within holding time; however any delay could result in samples becoming deviant whilst being processed in the laboratory.

If sampling dates are missing or matrices unclassified then results will not be ISO 17025 accredited. Please contact us as soon as possible to provide missing information in order to reinstate accreditation.

Deviating Sample Key

- A The sample was received in an inappropriate container for this analysis
- B The sample was received without the correct preservation for this analysis
- C Headspace present in the sample container
- D The sampling date was not supplied so holding time may be compromised - applicable to all analysis
- E Sample processing did not commence within the appropriate holding time
- F Sample processing did not commence within the appropriate handling time

Requested Analysis Key

- Analysis Required
- Analysis dependant upon trigger result - Note: due date may be affected if triggered
- No analysis scheduled
- ^ Analysis Subcontracted - Note: due date may vary

Where individual results are flagged see report notes for status.

Method Descriptions

Matrix	MethodID	Analysis Basis	Method Description
Soil	ICPACIDS	Oven Dried @ < 35°C	Determination of Total Sulphate in soil samples by Hydrochloric Acid extraction followed by ICPOES detection
Soil	ICPWSS	Oven Dried @ < 35°C	Determination of Water Soluble Sulphate in soil samples by water extraction followed by ICPOES detection
Soil	TSBRE1	Oven Dried @ < 35°C	Determination of Total Carbon and/or Total Sulphur in solid samples by high temperature combustion/infrared detection
Soil	WSLM50	Oven Dried @ < 35°C	Determination of pH of 2.5:1 deionised water to soil extracts using pH probe.

Report Notes

Generic Notes

Soil/Solid Analysis

Unless stated otherwise,

- Results expressed as mg/kg have been calculated on the basis indicated in the Method Description table.
All results on MCERTS reports are reported on a 105°C dry weight basis with the exception of pH and conductivity.
- 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

Nil: Where "Nil" has been entered against Total Alkalinity or Total Acidity this indicates that a measurement was not required due to the inherent pH of the sample.

Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm³@ 15°C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile

TR Denotes Tremolite

CR Denotes Crocidolite

AC Denotes Actinolite

AM Denotes Amosite

AN Denotes Anthophyllite

NAIIS No Asbestos Identified in Sample

NADIS No Asbestos Detected In Sample

Symbol Reference

^ Sub-contracted analysis.

\$\$ 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

N.F No Flow

NS Information Not Supplied

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

§ accreditation has been removed for this result as it is a non-accredited matrix

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.

Sample Descriptions

Client	SOCOTEC UK Doncaster
Site	A9031-19 Havant Thicket Winter Storage
Report Number	S20_5165

Note: major constituent in upper case

TEST REPORT



1252

Report No. EFS/205166 (Ver. 1)

SOCOTEC UK Doncaster
Askern Road
Carcroft
Doncaster
South Yorkshire
DN6 8DG

Site: A9031-19 Havant Thicket Winter Storage

The 1 sample described in this report were registered for analysis by SOCOTEC UK Limited on 04-Feb-2020. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 07-Feb-2020

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

The following tables are contained in this report:

Table 1 Main Analysis Results (Page 2)
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Table of Report Notes (Page 5)
Table of Sample Descriptions (Appendix A Page 1 of 1)

On behalf of
SOCOTEC UK Lim
Becky Batham

Operations Manager
Energy & Waste Services

Date of Issue: 07-Feb-2020

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

Where samples have been flagged as deviant on the Analytical and Deviating Sample Overview, for any reason, the data may not be representative of the sample at the point of sampling and the validity of the data may be affected.

SOCOTEC UK Limited accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

Customer SOCOTEC UK Doncaster
 Site A9031-19 Havant Thicket Winter Storage
 Report No S205166

Consignment No S91103
 Date Logged 04-Feb-2020
 In-House Report Due 12-Feb-2020

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

WSLMS0	pH (BS1377)						
TSBRE1	Total Sulphur.						
KoneNO3	Nitrate (BRE 2:1): mg/l						
KONECL	Chloride:(2:1)						
ICPWSS	SO4-- (H2O sol) mg/l				✓	W	
ICPBRE	Magnesium (BRE)						
ICPACIDS	SO4-- (acid sol)				✓		
Dep Opt	DO NO3 if pH<5.5						
	DO Mg if SO4(W)>3000						
	DO Cl if pH<5.5						
CustServ	REPORT A						
MethodID	Sampled				10/12/19		
Description					ATK-TP-06 2.00		
ID Number					CL/2084628		

Note: We will endeavour to prioritise samples to complete analysis within holding time; however any delay could result in samples becoming deviant whilst being processed in the laboratory.

If sampling dates are missing or matrices unclassified then results will not be ISO 17025 accredited. Please contact us as soon as possible to provide missing information in order to reinstate accreditation.

Deviating Sample Key

- A The sample was received in an inappropriate container for this analysis
- B The sample was received without the correct preservation for this analysis
- C Headspace present in the sample container
- D The sampling date was not supplied so holding time may be compromised - applicable to all analysis
- E Sample processing did not commence within the appropriate holding time
- F Sample processing did not commence within the appropriate handling time

Requested Analysis Key

- Analysis Required
- Analysis dependant upon trigger result - Note: due date may be affected if triggered
- No analysis scheduled
- ^ Analysis Subcontracted - Note: due date may vary

Where individual results are flagged see report notes for status.

Method Descriptions

Matrix	MethodID	Analysis Basis	Method Description
Soil	ICPACIDS	Oven Dried @ < 35°C	Determination of Total Sulphate in soil samples by Hydrochloric Acid extraction followed by ICPOES detection
Soil	ICPWSS	Oven Dried @ < 35°C	Determination of Water Soluble Sulphate in soil samples by water extraction followed by ICPOES detection
Soil	TSBRE1	Oven Dried @ < 35°C	Determination of Total Carbon and/or Total Sulphur in solid samples by high temperature combustion/infrared detection
Soil	WSLM50	Oven Dried @ < 35°C	Determination of pH of 2.5:1 deionised water to soil extracts using pH probe.

Report Notes

Generic Notes

Soil/Solid Analysis

Unless stated otherwise,

- Results expressed as mg/kg have been calculated on the basis indicated in the Method Description table.
All results on MCERTS reports are reported on a 105°C dry weight basis with the exception of pH and conductivity.
- 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

Nil: Where "Nil" has been entered against Total Alkalinity or Total Acidity this indicates that a measurement was not required due to the inherent pH of the sample.

Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm³@ 15°C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile

TR Denotes Tremolite

CR Denotes Crocidolite

AC Denotes Actinolite

AM Denotes Amosite

AN Denotes Anthophyllite

NAIIS No Asbestos Identified in Sample

NADIS No Asbestos Detected In Sample

Symbol Reference

^ Sub-contracted analysis.

\$\$ 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

N.F No Flow

NS Information Not Supplied

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

§ accreditation has been removed for this result as it is a non-accredited matrix

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.

Sample Descriptions

Client	SOCOTEC UK Doncaster
Site	A9031-19 Havant Thicket Winter Storage
Report Number	S20_5166

Note: major constituent in upper case

TEST REPORT



1252

Report No. EFS/205167 (Ver. 1)

SOCOTEC UK Doncaster
Askern Road
Carcroft
Doncaster
South Yorkshire
DN6 8DG

Site: A9031-19 Havant Thicket Winter Storage

The 2 samples described in this report were registered for analysis by SOCOTEC UK Limited on 04-Feb-2020. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 07-Feb-2020

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

The following tables are contained in this report:

Table 1 Main Analysis Results (Page 2)
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Table of Report Notes (Page 5)
Table of Sample Descriptions (Appendix A Page 1 of 1)

On behalf of
SOCOTEC UK Lim
Becky Batham

Operations Manager
Energy & Waste Services

Date of Issue: 07-Feb-2020

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

Where samples have been flagged as deviant on the Analytical and Deviating Sample Overview, for any reason, the data may not be representative of the sample at the point of sampling and the validity of the data may be affected.

SOCOTEC UK Limited accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

Customer SOCOTEC UK Doncaster
 Site A9031-19 Havant Thicket Winter Storage
 Report No S205167

Consignment No S91220
 Date Logged 04-Feb-2020
 In-House Report Due 12-Feb-2020

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

WSLM50	pH (BS1377)			
TSBRE1	Total Sulphur.			
KoneNO3	Nitrate (BRE 2:1): mg/l			
KONECL	Chloride:(2:1)			
ICPWSS	SO4-- (H2O sol) mg/l	✓	F	F
ICPBRE	Magnesium (BRE)		F	F
ICPACIDS	SO4-- (acid sol)	✓	F	
Dep.Opt	DO NO3 if pH<5.5			
	DO Mg if SO4(W)>3000			
	DO Cl if pH<5.5			
CustServ	REPORT A			
MethodID	Sampled			
ID Number	Description			
CL/2084629	ATK RC-02 1.50	13/11/19		
CL/2084630	ATK-RC-02 3.00	13/11/19		

Note: We will endeavour to prioritise samples to complete analysis within holding time; however any delay could result in samples becoming deviant whilst being processed in the laboratory.

If sampling dates are missing or matrices unclassified then results will not be ISO 17025 accredited. Please contact us as soon as possible to provide missing information in order to reinstate accreditation.

Deviating Sample Key

- A The sample was received in an inappropriate container for this analysis
- B The sample was received without the correct preservation for this analysis
- C Headspace present in the sample container
- D The sampling date was not supplied so holding time may be compromised - applicable to all analysis
- E Sample processing did not commence within the appropriate holding time
- F Sample processing did not commence within the appropriate handling time

Requested Analysis Key

- Analysis Required
- Analysis dependant upon trigger result - Note: due date may be affected if triggered
- No analysis scheduled
- ^ Analysis Subcontracted - Note: due date may vary

Where individual results are flagged see report notes for status.

Method Descriptions

Matrix	MethodID	Analysis Basis	Method Description
Soil	ICPACIDS	Oven Dried @ < 35°C	Determination of Total Sulphate in soil samples by Hydrochloric Acid extraction followed by ICPOES detection
Soil	ICPWSS	Oven Dried @ < 35°C	Determination of Water Soluble Sulphate in soil samples by water extraction followed by ICPOES detection
Soil	TSBRE1	Oven Dried @ < 35°C	Determination of Total Carbon and/or Total Sulphur in solid samples by high temperature combustion/infrared detection
Soil	WSLM50	Oven Dried @ < 35°C	Determination of pH of 2.5:1 deionised water to soil extracts using pH probe.

Report Notes

Generic Notes

Soil/Solid Analysis

Unless stated otherwise,

- Results expressed as mg/kg have been calculated on the basis indicated in the Method Description table.
All results on MCERTS reports are reported on a 105°C dry weight basis with the exception of pH and conductivity.
- 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

Nil: Where "Nil" has been entered against Total Alkalinity or Total Acidity this indicates that a measurement was not required due to the inherent pH of the sample.

Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm³@ 15°C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile

TR Denotes Tremolite

CR Denotes Crocidolite

AC Denotes Actinolite

AM Denotes Amosite

AN Denotes Anthophyllite

NAIIS No Asbestos Identified in Sample

NADIS No Asbestos Detected In Sample

Symbol Reference

^ Sub-contracted analysis.

\$\$ 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

N.F No Flow

NS Information Not Supplied

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

§ accreditation has been removed for this result as it is a non-accredited matrix

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.

Sample Descriptions

Client	SOCOTEC UK Doncaster
Site	A9031-19 Havant Thicket Winter Storage
Report Number	S20_5167

Note: major constituent in upper case

APPENDIX F

GEOENVIRONMENTAL LABORATORY TEST RESULTS

Test Reports – Soil

EFS/20_3736, EFS/20_4276,
EFS/20_4466, EFS/20_4476,
EFS/20_4802, EFS/20_4803,
EFS/20_4804, EFS/20_4805,
EFS/20_4806, EFS/20_4807,
EFS/20_4808, EFS/20_4809,
EFS/20_4810, EFS/20_4811

Test Reports – Water

EXR/298004, EXR/299837,
20010330

Test Report – Topsoil Analysis

EFS_240820

TEST REPORT



Report No. EFS/203736 (Ver. 1)

SOCOTEC UK Doncaster
Askern Road
Carcroft
Doncaster
South Yorkshire
DN6 8DG

Site: A9031-19 Havant Thicket Water Storage Reservoir

The 2 samples described in this report were registered for analysis by SOCOTEC UK Limited on 22-Nov-2019. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 05-Dec-2019

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

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 6)
Analytical and Deviating Sample Overview (Pages 7 to 8)
Table of Additional Report Notes (Page 9)
Table of Method Descriptions (Page 10)
Table of Report Notes (Page 11)
Table of Sample Descriptions (Appendix A Page 1 of 1)

On behalf of
SOCOTEC UK Lim
Becky Batham

Operations Manager
Energy & Waste Services

Date of Issue: 05-Dec-2019

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

Where samples have been flagged as deviant on the Analytical and Deviating Sample Overview, for any reason, the data may not be representative of the sample at the point of sampling and the validity of the data may be affected. SOCOTEC UK Limited accepts no responsibility for any sampling not carried out by our personnel.

Customer SOCOTEC UK Doncaster

Site A9031-19 Havant Thicket Water Storage Reservoir

Report No S203736

Consignment No S89793

Date Logged 22-Nov-2019

In-House Report Due 03-Dec-2019

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

SFAS	Sulphide as S (AR)														
	Phenol Index.(AR)	✓													
	Cyanide(Total) (AR)	✓													
	Cyanide(Free) (AR)	✓													
	PHSOIL	pH units (AR)	✓												
PAHMSUS	PAH (16) by GCMS	✓													
KONECR	Chromium vi:														
ICPSOIL	Iron	✓													
	Zinc (MS)	✓													
	Vanadium (MS)														
	Selenium (MS)	✓													
	Nickel (MS)	✓													
	Mercury (MS)	✓													
	Manganese (MS)	✓													
	Lead (MS)	✓													
	Copper (MS)	✓													
	Chromium (MS)	✓													
	Cadmium (MS)	✓													
ICPMSS	Arsenic (MS)	✓													
ICPBOR	Boron (H2O Soluble)	✓													
ICPACIDS	SO4-- (acid sol)	✓													
GROHSA	GRO (AA-UK) HSA-GCFID	✓													
FOCS	S.O.M. % (Calc)														
CustServ	REPORT A														
AMMAR	Exchange-Ammonium AR	✓													
MethodID	Sampled														
ID Number	Description														
CL/1979269	ATK-TP-03 ES 1 0.20	14/11/19													
CL/1979270	ATK-TP-03 ES 14 3.40	14/11/19													

Note: We will endeavour to prioritise samples to complete analysis within holding time; however any delay could result in samples becoming deviant whilst being processed in the laboratory.

If sampling dates are missing or matrices unclassified then results will not be ISO 17025 accredited. Please contact us as soon as possible to provide missing information in order to reinstate accreditation.

Deviating Sample Key

- A The sample was received in an inappropriate container for this analysis
- B The sample was received without the correct preservation for this analysis
- C Headspace present in the sample container
- D The sampling date was not supplied so holding time may be compromised - applicable to all analysis
- E Sample processing did not commence within the appropriate holding time
- F Sample processing did not commence within the appropriate handling time

Requested Analysis Key

- Analysis Required
- Analysis dependant upon trigger result - **Note: due date may be affected if triggered**
- No analysis scheduled
- Analysis Subcontracted - **Note: due date may vary**

Where individual results are flagged see report notes for status.

Customer SOCOTEC UK Doncaster

Site A9031-19 Havant Thicket Water Storage Reservoir

Report No S203736

Consignment No S89793

Date Logged 22-Nov-2019

In-House Report Due 03-Dec-2019

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

ID Number	Description	MethodID	TPHUSI	WISUM9
		Sampled	TPH by GCFID (Si-UKCWG)>44	Total Organic Carbon
			✓	✓
CL/1979269	ATK-TP-03 ES 1 0.20	14/11/19		
CL/1979270	ATK-TP-03 ES 14 3.40	14/11/19		

Note: We will endeavour to prioritise samples to complete analysis within holding time; however any delay could result in samples becoming deviant whilst being processed in the laboratory.

If sampling dates are missing or matrices unclassified then results will not be ISO 17025 accredited. Please contact us as soon as possible to provide missing information in order to reinstate accreditation.

Deviating Sample Key

- A The sample was received in an inappropriate container for this analysis
- B The sample was received without the correct preservation for this analysis
- C Headspace present in the sample container
- D The sampling date was not supplied so holding time may be compromised - applicable to all analysis
- E Sample processing did not commence within the appropriate holding time
- F Sample processing did not commence within the appropriate handling time

Requested Analysis Key

- Analysis Required
- Analysis dependant upon trigger result - **Note: due date may be affected if triggered**
- No analysis scheduled
- ^ Analysis Subcontracted - **Note: due date may vary**

Where individual results are flagged see report notes for status.

Report Number : EFS/203736

Additional Report Notes

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
GROHSA	CL1979269 CL1979270	The Secondary process control data associated with this Test has not wholly met the requirements of the Laboratory Quality Management System QMS with one or more target analytes falling outside acceptable limits. However the remaining data gives the Laboratory confidence that the test has performed satisfactorily (including the Primary Process Control) and that the validity of the data may not have been significantly affected. However in line with our QMS policy we have removed accreditation , where applicable, from the affected analytes (C6-C7, C6-C8 Ali) . These circumstances should be taken into consideration when utilising the data.

Where individual results are flagged see report notes for status.

Method Descriptions

Matrix	MethodID	Analysis Basis	Method Description
Soil	AMMAR	As Received	Determination of Exchangeable Ammonium in Soil using potassium chloride extraction, discrete colorimetric detection
Soil	BTEXHSA	As Received	Determination of Benzene, Toluene, Ethyl benzene and Xylenes (BTEX) by Headspace GCFID
Soil	FOCS	Oven Dried @ < 35°C	Calculation of Soil Organic Matter content from Organic Carbon content of soil samples
Soil	GROHSA	As Received	Determination of Total Gasoline Range Organics Hydrocarbons (GRO) by Headspace GCFID
Soil	ICPACIDS	Oven Dried @ < 35°C	Determination of Total Sulphate in soil samples by Hydrochloric Acid extraction followed by ICPOES detection
Soil	ICPBOR	Oven Dried @ < 35°C	Determination of Boron in soil samples by hot water extraction followed by ICPOES detection
Soil	ICPMSS	Oven Dried @ < 35°C	Determination of Metals in Marine Sediments and Soil samples by aqua regia digestion followed by ICPMS detection
Soil	ICPSOIL	Oven Dried @ < 35°C	Determination of Metals in soil samples by aqua regia digestion followed by ICPOES detection
Soil	KONECR	Oven Dried @ < 35°C	Determination of Chromium vi in soil samples by water extraction followed by colorimetric detection
Soil	PAHMSUS	As Received	Determination of Polycyclic Aromatic Hydrocarbons (PAH) by hexane/acetone extraction followed by GCMS detection
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	TPHUSSI	As Received	Determination of hexane/acetone extractable Hydrocarbons in soil with GCFID detection including quantitation of Aromatic and Aliphatic fractions.
Soil	WSLM59	Oven Dried @ < 35°C	Determination of Organic Carbon in soil using sulphurous Acid digestion followed by high temperature combustion and IR detection

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 the basis indicated in the Method Description table.
All results on MCERTS reports are reported on a 105°C dry weight basis with the exception of pH and conductivity.
- 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

Nil: Where "Nil" has been entered against Total Alkalinity or Total Acidity this indicates that a measurement was not required due to the inherent pH of the sample.

Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm³ @ 15°C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile

TR Denotes Tremolite

CR Denotes Crocidolite

AC Denotes Actinolite

AM Denotes Amosite

AN Denotes Anthophyllite

NAIS No Asbestos Identified in Sample

NADIS No Asbestos Detected In Sample

Symbol Reference

^ Sub-contracted analysis.

\$\$ 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

N.F No Flow

NS Information Not Supplied

Req Analysis requested, see attached sheets for results

p 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

§ accreditation has been removed for this result as it is a non-accredited matrix

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.

Sample Descriptions

Client	SOCOTEC UK Doncaster
Site	A9031-19 Havant Thicket Water Storage Reservoir
Report Number	S20_3736

Note: major constituent in upper case

TEST REPORT



1252

Report No. EFS/204276 (Ver. 2)

SOCOTEC UK Doncaster
Askern Road
Carcroft
Doncaster
South Yorkshire
DN6 8DG

Site: A9031-19 Havant Thicket Water Storage

The 2 samples described in this report were registered for analysis by SOCOTEC UK Limited on 13-Dec-2019. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 15-Jan-2020

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

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 6)
Analytical and Deviating Sample Overview (Pages 7 to 8)
Table of Method Descriptions (Page 9)
Table of Report Notes (Page 10)
Table of Sample Descriptions (Appendix A Page 1 of 1)

On behalf of
SOCOTEC UK Lim
Becky Batham

Operations Manager
Energy & Waste Services

Date of Issue: 15-Jan-2020

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

Where samples have been flagged as deviant on the Analytical and Deviating Sample Overview, for any reason, the data may not be representative of the sample at the point of sampling and the validity of the data may be affected.

SOCOTEC UK Limited accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

CustomerSOCOTEC UK Doncaster
SiteA9031-19 Havant Thicket Water Storage
Report NoS204276

Consignment No S90462
Date Logged 13-Dec-2019
In-House Report Due 23-Dec-2019

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

ID Number	Description	MethodID	Sampled	AMMAR	Exchange.Ammonium AR	CustServ	FOCS	GROHSA	ICPACIDS	ICPBOIR	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS
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Note: We will endeavour to prioritise samples to complete analysis within holding time; however any delay could result in samples becoming deviant whilst being processed in the laboratory.

If sampling dates are missing or matrices unclassified then results will not be ISO 17025 accredited. Please contact us as soon as possible to provide missing information in order to reinstate accreditation.

Deviating Sample Key

AThe sample was received in an inappropriate container for this analysis
BThe sample was received without the correct preservation for this analysis
CHeadspace present in the sample container
DThe sampling date was not supplied so holding time may be compromised - applicable to all analysis
ESample processing did not commence within the appropriate holding time
FSample processing did not commence within the appropriate handling time

Requested Analysis Key

Analysis Required

Analysis dependant upon trigger result - Note: due date may be affected if triggered

No analysis scheduled

^Analysis Subcontracted - Note: due date may vary

Customer SOCOTEC UK Doncaster
Site A9031-19 Havant Thicket Water Storage
Report No S204276

Consignment No S90462
Date Logged 13-Dec-2019
In-House Report Due 23-Dec-2019

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

ID Number	Description	MethodID	TMSS	TPHUSI	WSL.M59
		Sampled	Tot.Moisture @ 105C	TPH by GC/FID (Si-UKCWG)>44	Total Organic Carbon
			✓	✓	✓
CL/1981190	ATK-CP06 2.50	04/12/19			
CL/1981191	ATK-CP06 4.00	04/12/19			

Note: We will endeavour to prioritise samples to complete analysis within holding time; however any delay could result in samples becoming deviant whilst being processed in the laboratory.

If sampling dates are missing or matrices unclassified then results will not be ISO 17025 accredited. Please contact us as soon as possible to provide missing information in order to reinstate accreditation.

Deviating Sample Key	
A	The sample was received in an inappropriate container for this analysis
B	The sample was received without the correct preservation for this analysis
C	Headspace present in the sample container
D	The sampling date was not supplied so holding time may be compromised - applicable to all analysis
E	Sample processing did not commence within the appropriate holding time
F	Sample processing did not commence within the appropriate handling time
Requested Analysis Key	
	Analysis Required
	Analysis dependant upon trigger result - Note: due date may be affected if triggered
	No analysis scheduled
^	Analysis Subcontracted - Note: due date may vary

Method Descriptions

Matrix	MethodID	Analysis Basis	Method Description
Soil	AMMAR	As Received	Determination of Exchangeable Ammonium in Soil using potassium chloride extraction, discrete colorimetric detection
Soil	BTEXHSA	As Received	Determination of Benzene, Toluene, Ethyl benzene and Xylenes (BTEX) by Headspace GCFID
Soil	FOCS	Oven Dried @ < 35°C	Calculation of Soil Organic Matter content from Organic Carbon content of soil samples
Soil	GROHSA	As Received	Determination of Total Gasoline Range Organics Hydrocarbons (GRO) by Headspace GCFID
Soil	ICPACIDS	Oven Dried @ < 35°C	Determination of Total Sulphate in soil samples by Hydrochloric Acid extraction followed by ICPOES detection
Soil	ICPBOR	Oven Dried @ < 35°C	Determination of Boron in soil samples by hot water extraction followed by ICPOES detection
Soil	ICPMSS	Oven Dried @ < 35°C	Determination of Metals in Marine Sediments and Soil samples by aqua regia digestion followed by ICPMS detection
Soil	ICPSOIL	Oven Dried @ < 35°C	Determination of Metals in soil samples by aqua regia digestion followed by ICPOES detection
Soil	KONECR	Oven Dried @ < 35°C	Determination of Chromium vi in soil samples by water extraction followed by colorimetric detection
Soil	PAHMSUS	As Received	Determination of Polycyclic Aromatic Hydrocarbons (PAH) by hexane/acetone extraction followed by GCMS detection
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	TMSS	As Received	Determination of the Total Moisture content at 105°C by loss on oven drying gravimetric analysis (% based upon wet weight)
Soil	TPHUSSI	As Received	Determination of hexane/acetone extractable Hydrocarbons in soil with GCFID detection including quantitation of Aromatic and Aliphatic fractions.
Soil	WSLM59	Oven Dried @ < 35°C	Determination of Organic Carbon in soil using sulphurous Acid digestion followed by high temperature combustion and IR detection

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 the basis indicated in the Method Description table.
All results on MCERTS reports are reported on a 105°C dry weight basis with the exception of pH and conductivity.
- 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

Nil: Where "Nil" has been entered against Total Alkalinity or Total Acidity this indicates that a measurement was not required due to the inherent pH of the sample.

Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm³@ 15°C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile

TR Denotes Tremolite

CR Denotes Crocidolite

AC Denotes Actinolite

AM Denotes Amosite

AN Denotes Anthophyllite

NAIIS No Asbestos Identified in Sample

NADIS No Asbestos Detected In Sample

Symbol Reference

^ Sub-contracted analysis.

\$\$ 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

N.F No Flow

NS Information Not Supplied

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

§ accreditation has been removed for this result as it is a non-accredited matrix

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.

Sample Descriptions

Client	SOCOTEC UK Doncaster
Site	A9031-19 Havant Thicket Water Storage
Report Number	S20_4276

Note: major constituent in upper case

TEST REPORT



1252

Report No. EFS/204466 (Ver. 1)

SOCOTEC UK Doncaster
Askern Road
Carcroft
Doncaster
South Yorkshire
DN6 8DG

Site: A9031-19 Havant Thicket Water Storage

The 1 sample described in this report were registered for analysis by SOCOTEC UK Limited on 20-Dec-2019. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 16-Jan-2020

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

The following tables are contained in this report:

Table 1 Main Analysis Results (Page 2)
Subcontracted Analysis Reports (Pages 3 to 4)
The accreditation status of subcontracted analysis is displayed on the appended subcontracted analysis reports.
Analytical and Deviating Sample Overview (Page 5)
Table of Method Descriptions (Page 6)
Table of Report Notes (Page 7)
Table of Sample Descriptions (Appendix A Page 1 of 1)

On behalf of
SOCOTEC UK Lim
Becky Batham

Operations Manager
Energy & Waste Services

Date of Issue: 16-Jan-2020

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

Where samples have been flagged as deviant on the Analytical and Deviating Sample Overview, for any reason, the data may not be representative of the sample at the point of sampling and the validity of the data may be affected.

SOCOTEC UK Limited accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.



CONTRACT NO: S10328-6
DATE OF ISSUE: 15.01.20

RESULTS: (cont.)

Table 1: Qualitative Results

SOCOTEC Job I.D: S204466

IOM sample number	Client sample number	ACM type detected	PLM result
S69759	S1981989 ATK-TP-06 0.10	-	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 out with the scope of our UKAS accreditation.

AUTHORISED BY:

D Third
Scientific Technician

CERTIFICATE OF ANALYSIS

ANALYSIS REQUESTED BY: SOCOTEC UK Ltd
Environmental Chemistry
PO Box 100
Burton upon Trent
Staffordshire
DE15 0XD

CONTRACT NO: S10328-6

DATE OF ISSUE: 15.01.20

DATE SAMPLE RECEIVED: 03.01.20

DATE SAMPLE ANALYSED: 14.01.20

DESCRIPTION: One soil/loose aggregate sample.

ANALYSIS REQUESTED: Qualitative analysis of a sample for determination of presence/type of asbestos.

METHODS:

Our method involves initial examination of the samples followed by detailed analysis of a representative sub-sample. The sub-sample is analysed qualitatively for asbestos by polarised light and dispersion staining as described by the Health and Safety Executive in HSG 248.

RESULTS:

Initial Screening

No asbestos was detected in the soil sample by stereo-binocular and polarised light microscopy.

A summary of the results is given in Table 1.



Sample Analysis

SOCOTEC UK Ltd Environmental Chemistry
Analytical and Deviating Sample Overview

S204466

Customer SOCOTEC UK Doncaster
Site A9031-19 Havant Thicket Water Storage
Report No S204466

Consignment No S90465
Date Logged 20-Dec-2019
In-House Report Due 08-Jan-2020

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

ID Number	Description	MethodID	CustServ	Sub020
		Sampled	REPORT A	Asbestos ID (Stage 1)
				✓
CL/1981989	ATK-TP-06 0.10	D	D	D

Note: We will endeavour to prioritise samples to complete analysis within holding time; however any delay could result in samples becoming deviant whilst being processed in the laboratory.

If sampling dates are missing or matrices unclassified then results will not be ISO 17025 accredited. Please contact us as soon as possible to provide missing information in order to reinstate accreditation.

Deviating Sample Key	
A	The sample was received in an inappropriate container for this analysis
B	The sample was received without the correct preservation for this analysis
C	Headspace present in the sample container
D	The sampling date was not supplied so holding time may be compromised - applicable to all analysis
E	Sample processing did not commence within the appropriate holding time
F	Sample processing did not commence within the appropriate handling time
Requested Analysis Key	
	Analysis Required
	Analysis dependant upon trigger result - Note: due date may be affected if triggered
	No analysis scheduled
^	Analysis Subcontracted - Note: due date may vary

Method Descriptions

Matrix	MethodID	Analysis Basis	Method Description
Soil	SubCon*	*	Contact Laboratory for details of the methodology used by the sub-contractor.

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 the basis indicated in the Method Description table.
All results on MCERTS reports are reported on a 105°C dry weight basis with the exception of pH and conductivity.
- 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

Nil: Where "Nil" has been entered against Total Alkalinity or Total Acidity this indicates that a measurement was not required due to the inherent pH of the sample.

Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm³@ 15°C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile

TR Denotes Tremolite

CR Denotes Crocidolite

AC Denotes Actinolite

AM Denotes Amosite

AN Denotes Anthophyllite

NAIIS No Asbestos Identified in Sample

NADIS No Asbestos Detected In Sample

Symbol Reference

^ Sub-contracted analysis.

\$\$ 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

N.F No Flow

NS Information Not Supplied

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

§ accreditation has been removed for this result as it is a non-accredited matrix

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.

Sample Descriptions

Client	SOCOTEC UK Doncaster
Site	A9031-19 Havant Thicket Water Storage
Report Number	S20_4466

Note: major constituent in upper case

TEST REPORT



Report No. EFS/204476 (Ver. 1)

SOCOTEC UK Doncaster
Askern Road
Carcroft
Doncaster
South Yorkshire
DN6 8DG

Site: A9031-19 Havant Thicket Winter Storage

The 1 sample described in this report were registered for analysis by SOCOTEC UK Limited on 20-Dec-2019. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 10-Jan-2020

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

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 6)
Analytical and Deviating Sample Overview (Pages 7 to 8)
Table of Method Descriptions (Page 9)
Table of Report Notes (Page 10)
Table of Sample Descriptions (Appendix A Page 1 of 1)

On behalf of
SOCOTEC UK Lim
Becky Batham

Operations Manager
Energy & Waste Services

Date of Issue: 10-Jan-2020

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

Where samples have been flagged as deviant on the Analytical and Deviating Sample Overview, for any reason, the data may not be representative of the sample at the point of sampling and the validity of the data may be affected.

SOCOTEC UK Limited accepts no responsibility for any sampling not carried out by our personnel.

Consignment No S90675
Date Logged 20-Dec-2019
In-House Report Due 08-Jan-2020

SFAS	Sulphide as S (AR)		
	Phenol Index.(AR)	✓	
	Cyanide(Total) (AR)	✓	
SFAPI	Cyanide(Free) (AR)	✓	
PHSOIL	pH units (AR)	✓	
PAHSUS	PAH (16) by GCMS	✓	
KONECR	Chromium vi:		
ICPSOIL	Iron	✓	
	Zinc (MS)	✓	
	Vanadium (MS)		
	Selenium (MS)	✓	
	Nickel (MS)	✓	
	Mercury (MS)	✓	
	Manganese (MS)	✓	
	Lead (MS)	✓	
	Copper (MS)	✓	
	Chromium (MS)	✓	
	Cadmium (MS)	✓	
ICPMSS	Arsenic (MS)	✓	
ICPBOR	Boron (H2O Soluble)	✓	
ICPACIDS	SO4-- (acid sol)	✓	
GROHSA	GRO (AA-UK) HSA-GCFID	✓	
FOCS	S.O.M. % (Calc)		
QASTSERV	REPORT A		
AMMAR	Exchange-Ammonium AR	✓	
MethodID	Sampled		
	Description		
ID Number			

	Analysis Required
	Analysis dependant upon trigger result - Note: due date may be affected if triggered
	No analysis scheduled
A	Analysis Subcontracted - Note: due date may vary

Customer SOCOTEC UK Doncaster
 Site A9031-19 Havant Thicket Winter Storage
 Report No S204476

Consignment No S90675
 Date Logged 20-Dec-2019
 In-House Report Due 08-Jan-2020

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

ID Number	Description	MethodID	TPHUSI	WSLMS9
		Sampled	TPH by GC/FID (Si-UKCWG)>44	Total Organic Carbon
			✓	✓
CL/1982004	ATK-CP16 3.50	17/12/19		

Note: We will endeavour to prioritise samples to complete analysis within holding time; however any delay could result in samples becoming deviant whilst being processed in the laboratory.

If sampling dates are missing or matrices unclassified then results will not be ISO 17025 accredited. Please contact us as soon as possible to provide missing information in order to reinstate accreditation.

Deviating Sample Key

- A The sample was received in an inappropriate container for this analysis
- B The sample was received without the correct preservation for this analysis
- C Headspace present in the sample container
- D The sampling date was not supplied so holding time may be compromised - applicable to all analysis
- E Sample processing did not commence within the appropriate holding time
- F Sample processing did not commence within the appropriate handling time

Requested Analysis Key

- Analysis Required
- Analysis dependant upon trigger result - Note: due date may be affected if triggered
- No analysis scheduled
- ^ Analysis Subcontracted - Note: due date may vary

Method Descriptions

Matrix	MethodID	Analysis Basis	Method Description
Soil	AMMAR	As Received	Determination of Exchangeable Ammonium in Soil using potassium chloride extraction, discrete colorimetric detection
Soil	BTEXHSA	As Received	Determination of Benzene, Toluene, Ethyl benzene and Xylenes (BTEX) by Headspace GCFID
Soil	FOCS	Oven Dried @ < 35°C	Calculation of Soil Organic Matter content from Organic Carbon content of soil samples
Soil	GROHSA	As Received	Determination of Total Gasoline Range Organics Hydrocarbons (GRO) by Headspace GCFID
Soil	ICPACIDS	Oven Dried @ < 35°C	Determination of Total Sulphate in soil samples by Hydrochloric Acid extraction followed by ICPOES detection
Soil	ICPBOR	Oven Dried @ < 35°C	Determination of Boron in soil samples by hot water extraction followed by ICPOES detection
Soil	ICPMSS	Oven Dried @ < 35°C	Determination of Metals in Marine Sediments and Soil samples by aqua regia digestion followed by ICPMS detection
Soil	ICPSOIL	Oven Dried @ < 35°C	Determination of Metals in soil samples by aqua regia digestion followed by ICPOES detection
Soil	KONECR	Oven Dried @ < 35°C	Determination of Chromium vi in soil samples by water extraction followed by colorimetric detection
Soil	PAHMSUS	As Received	Determination of Polycyclic Aromatic Hydrocarbons (PAH) by hexane/acetone extraction followed by GCMS detection
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	TPHUSSI	As Received	Determination of hexane/acetone extractable Hydrocarbons in soil with GCFID detection including quantitation of Aromatic and Aliphatic fractions.
Soil	WSLM59	Oven Dried @ < 35°C	Determination of Organic Carbon in soil using sulphurous Acid digestion followed by high temperature combustion and IR detection

Report Notes

Generic Notes

Soil/Solid Analysis

Unless stated otherwise,

- Results expressed as mg/kg have been calculated on the basis indicated in the Method Description table.
All results on MCERTS reports are reported on a 105°C dry weight basis with the exception of pH and conductivity.
- 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

Nil: Where "Nil" has been entered against Total Alkalinity or Total Acidity this indicates that a measurement was not required due to the inherent pH of the sample.

Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm³@ 15°C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile

TR Denotes Tremolite

CR Denotes Crocidolite

AC Denotes Actinolite

AM Denotes Amosite

AN Denotes Anthophyllite

NAIIS No Asbestos Identified in Sample

NADIS No Asbestos Detected In Sample

Symbol Reference

^ Sub-contracted analysis.

\$\$ 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

N.F No Flow

NS Information Not Supplied

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

§ accreditation has been removed for this result as it is a non-accredited matrix

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.

Sample Descriptions

Client : SOCOTEC UK Doncaster
Site : A9031-19 Havant Thicket Winter Storage
Report Number : S20_4476

Note: major constituent in upper case

TEST REPORT



1252

Report No. EFS/204802 (Ver. 1)

SOCOTEC UK Doncaster
Askern Road
Carcroft
Doncaster
South Yorkshire
DN6 8DG

Site: A9031-19 Havant Thicket Winter Storage

The 2 samples described in this report were registered for analysis by SOCOTEC UK Limited on 16-Jan-2020. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 27-Jan-2020

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

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 6)
Analytical and Deviating Sample Overview (Pages 7 to 8)
Table of Method Descriptions (Page 9)
Table of Report Notes (Page 10)
Table of Sample Descriptions (Appendix A Page 1 of 1)

On behalf of
SOCOTEC UK Lim
Becky Batham

Operations Manager
Energy & Waste Services

Date of Issue: 27-Jan-2020

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

Where samples have been flagged as deviant on the Analytical and Deviating Sample Overview, for any reason, the data may not be representative of the sample at the point of sampling and the validity of the data may be affected.

SOCOTEC UK Limited accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

CERTIFICATE OF ANALYSIS

ANALYSIS REQUESTED BY: SOCOTEC UK Ltd
Environmental Chemistry
PO Box 100
Burton upon Trent
Staffordshire
DE15 0XD

CONTRACT NO: S10328-1

DATE OF ISSUE: 15.01.20

DATE SAMPLE RECEIVED: 03.01.20

DATE SAMPLE ANALYSED: 14.01.20

DESCRIPTION: One soil/loose aggregate sample.

ANALYSIS REQUESTED: Qualitative analysis of a sample for determination of presence/type of asbestos.

METHODS:

Our method involves initial examination of the sample followed by detailed analysis of a representative sub-sample. The sub-sample is analysed qualitatively for asbestos by polarised light and dispersion staining as described by the Health and Safety Executive in HSG 248.

RESULTS:

Initial Screening

No asbestos was detected in the soil sample by stereo-binocular and polarised light microscopy.

A summary of the results is given in Table 1.





CONTRACT NO: S10328-1
DATE OF ISSUE: 15.01.20

RESULTS: (cont.)

Table 1: Qualitative Results

SOCOTEC Job I.D: S203737

IOM sample number	Client sample number	ACM type detected	PLM result
S69754	S1979271 ATH-TP-02 0.30	-	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 out with the scope of our UKAS accreditation.

AUTHORISED BY:

D Third
Scientific Technician

CustomerSOCOTEC UK Doncaster
SiteA9031-19 Havant Thicket Winter Storage
Report NoS204802

Consignment No S91036
Date Logged 16-Jan-2020
In-House Report Due 27-Jan-2020

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

ID Number	Description	MethodID	AMMAR	CUS SERV	FOCS	GROHSA	ICPACIDS	ICPBOIR	ICPMSS	Zinc (MS)	Iron	Chromium vi:	PAH (16) by GCMS	pH units (AR)	Cyanide(Free) (AR)	Cyanide(Total) (AR)	Phenol Index.(AR)	Sulphide as S (AR)
		Sampled	Exchange.Ammonium AR	REPORT A	S.O.M. % (Calc)	GRO (AA-UK) HSA-GCFID	SO4-- (acid sol)	Boron (H2O Soluble)	Arsenic (MS)									
			✓			✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	
CL/2083384	ATK-TP-02 0.30	15/01/20																
CL/2083385	ATK-TP-02 1.00	15/01/20																

Note: We will endeavour to prioritise samples to complete analysis within holding time; however any delay could result in samples becoming deviant whilst being processed in the laboratory.

If sampling dates are missing or matrices unclassified then results will not be ISO 17025 accredited. Please contact us as soon as possible to provide missing information in order to reinstate accreditation.

Deviating Sample Key

AThe sample was received in an inappropriate container for this analysis
BThe sample was received without the correct preservation for this analysis
CHeadspace present in the sample container
DThe sampling date was not supplied so holding time may be compromised - applicable to all analysis
ESample processing did not commence within the appropriate holding time
FSample processing did not commence within the appropriate handling time

Requested Analysis Key

Analysis Required

Analysis dependant upon trigger result - Note: due date may be affected if triggered

No analysis scheduled

^Analysis Subcontracted - Note: due date may vary

Customer SOCOTEC UK Doncaster
Site A9031-19 Havant Thicket Winter Storage
Report No S204802

Consignment No S91036
Date Logged 16-Jan-2020
In-House Report Due 27-Jan-2020

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

ID Number	Description	MethodID	TMSS	TPHUSI	WSL.M59
		Sampled	Tot.Moisture @ 105C	TPH by GC/FID (Si-UKCWG)>44	Total Organic Carbon
			✓	✓	✓
CL/2083384	ATK-TP-02 0.30	15/01/20			
CL/2083385	ATK-TP-02 1.00	15/01/20			

Note: We will endeavour to prioritise samples to complete analysis within holding time; however any delay could result in samples becoming deviant whilst being processed in the laboratory.

If sampling dates are missing or matrices unclassified then results will not be ISO 17025 accredited. Please contact us as soon as possible to provide missing information in order to reinstate accreditation.

Deviating Sample Key	
A	The sample was received in an inappropriate container for this analysis
B	The sample was received without the correct preservation for this analysis
C	Headspace present in the sample container
D	The sampling date was not supplied so holding time may be compromised - applicable to all analysis
E	Sample processing did not commence within the appropriate holding time
F	Sample processing did not commence within the appropriate handling time
Requested Analysis Key	
	Analysis Required
	Analysis dependant upon trigger result - Note: due date may be affected if triggered
	No analysis scheduled
^	Analysis Subcontracted - Note: due date may vary

Method Descriptions

Matrix	MethodID	Analysis Basis	Method Description
Soil	AMMAR	As Received	Determination of Exchangeable Ammonium in Soil using potassium chloride extraction, discrete colorimetric detection
Soil	BTEXHSA	As Received	Determination of Benzene, Toluene, Ethyl benzene and Xylenes (BTEX) by Headspace GCFID
Soil	FOCS	Oven Dried @ < 35°C	Calculation of Soil Organic Matter content from Organic Carbon content of soil samples
Soil	GROHSA	As Received	Determination of Total Gasoline Range Organics Hydrocarbons (GRO) by Headspace GCFID
Soil	ICPACIDS	Oven Dried @ < 35°C	Determination of Total Sulphate in soil samples by Hydrochloric Acid extraction followed by ICPOES detection
Soil	ICPBOR	Oven Dried @ < 35°C	Determination of Boron in soil samples by hot water extraction followed by ICPOES detection
Soil	ICPMSS	Oven Dried @ < 35°C	Determination of Metals in Marine Sediments and Soil samples by aqua regia digestion followed by ICPMS detection
Soil	ICPSOIL	Oven Dried @ < 35°C	Determination of Metals in soil samples by aqua regia digestion followed by ICPOES detection
Soil	KONECR	Oven Dried @ < 35°C	Determination of Chromium vi in soil samples by water extraction followed by colorimetric detection
Soil	PAHMSUS	As Received	Determination of Polycyclic Aromatic Hydrocarbons (PAH) by hexane/acetone extraction followed by GCMS detection
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	TMSS	As Received	Determination of the Total Moisture content at 105°C by loss on oven drying gravimetric analysis (% based upon wet weight)
Soil	TPHUSSI	As Received	Determination of hexane/acetone extractable Hydrocarbons in soil with GCFID detection including quantitation of Aromatic and Aliphatic fractions.
Soil	WSLM59	Oven Dried @ < 35°C	Determination of Organic Carbon in soil using sulphurous Acid digestion followed by high temperature combustion and IR detection

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 the basis indicated in the Method Description table.
All results on MCERTS reports are reported on a 105°C dry weight basis with the exception of pH and conductivity.
- 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

Nil: Where "Nil" has been entered against Total Alkalinity or Total Acidity this indicates that a measurement was not required due to the inherent pH of the sample.

Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm³@ 15°C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile

TR Denotes Tremolite

CR Denotes Crocidolite

AC Denotes Actinolite

AM Denotes Amosite

AN Denotes Anthophyllite

NAIIS No Asbestos Identified in Sample

NADIS No Asbestos Detected In Sample

Symbol Reference

^ Sub-contracted analysis.

\$\$ 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

N.F No Flow

NS Information Not Supplied

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

§ accreditation has been removed for this result as it is a non-accredited matrix

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.

Sample Descriptions

Client	SOCOTEC UK Doncaster
Site	A9031-19 Havant Thicket Winter Storage
Report Number	S20_4802

Note: major constituent in upper case

TEST REPORT



1252

Report No. EFS/204803 (Ver. 1)

SOCOTEC UK Doncaster
Askern Road
Carcroft
Doncaster
South Yorkshire
DN6 8DG

Site: A9031-19 Havant Thicket Winter Storage

The 2 samples described in this report were registered for analysis by SOCOTEC UK Limited on 16-Jan-2020. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 27-Jan-2020

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

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 6)
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On behalf of
SOCOTEC UK Lim
Becky Batham

Operations Manager
Energy & Waste Services

Date of Issue: 27-Jan-2020

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

Where samples have been flagged as deviant on the Analytical and Deviating Sample Overview, for any reason, the data may not be representative of the sample at the point of sampling and the validity of the data may be affected.

SOCOTEC UK Limited accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

CustomerSOCOTEC UK Doncaster
SiteA9031-19 Havant Thicket Winter Storage
Report NoS204803

Consignment No S91036
Date Logged 16-Jan-2020
In-House Report Due 27-Jan-2020

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

SFAS		Sulphide as S (AR)		
		Phenol Index.(AR)	✓	
		Cyanide(Total) (AR)	✓	
	SFAP1	Cyanide(Free) (AR)	✓	
PHSOIL	pH units (AR)	✓		
PAMBSUS	PAH (16) by GCMS	✓		
KONECR	Chromium vi:			
ICPSOIL	Iron	✓		
	Zinc (MS)	✓		
	Vanadium (MS)			
	Selenium (MS)	✓		
	Nickel (MS)	✓		
	Mercury (MS)	✓		
	Manganese (MS)	✓		
	Lead (MS)	✓		
	Copper (MS)	✓		
	Chromium (MS)	✓		
	Cadmium (MS)	✓		
ICPMSS	Arsenic (MS)	✓		
ICPBOIR	Boron (H2O Soluble)	✓		
ICPACIDS	SO4-- (acid sol)	✓		
GROHSA	GRO (AA-UK) HSA-GCFID	✓		
FOCS	S.O.M. % (Calc)			
CUSIServ	REPORT A			
AMMAR	Exchange-Ammonium AR	✓		
MethodID	Sampled			
ID Number	Description			
CL/2083386	ATK-TP-01 0.20	15/01/20		
CL/2083387	ATK-TP-01 1.00	15/01/20		

Note: We will endeavour to prioritise samples to complete analysis within holding time; however any delay could result in samples becoming deviant whilst being processed in the laboratory.

If sampling dates are missing or matrices unclassified then results will not be ISO 17025 accredited. Please contact us as soon as possible to provide missing information in order to reinstate accreditation.

Deviating Sample Key

AThe sample was received in an inappropriate container for this analysis
BThe sample was received without the correct preservation for this analysis
CHeadspace present in the sample container
DThe sampling date was not supplied so holding time may be compromised - applicable to all analysis
ESample processing did not commence within the appropriate holding time
FSample processing did not commence within the appropriate handling time

Requested Analysis Key

Analysis Required

Analysis dependant upon trigger result - Note: due date may be affected if triggered

No analysis scheduled

^Analysis Subcontracted - Note: due date may vary

Customer SOCOTEC UK Doncaster
Site A9031-19 Havant Thicket Winter Storage
Report No S204803

Consignment No S91036
Date Logged 16-Jan-2020
In-House Report Due 27-Jan-2020

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

ID Number	Description	MethodID	TMSS	TPHUSI	WSLMS9
		Sampled	Tot.Moisture @ 105C	TPH by GC/FID (Si-UKCWG)>44	Total Organic Carbon
			✓	✓	✓
CL/2083386	ATK-TP-01 0.20	15/01/20			
CL/2083387	ATK-TP-01 1.00	15/01/20			

Note: We will endeavour to prioritise samples to complete analysis within holding time; however any delay could result in samples becoming deviant whilst being processed in the laboratory.

If sampling dates are missing or matrices unclassified then results will not be ISO 17025 accredited. Please contact us as soon as possible to provide missing information in order to reinstate accreditation.

Deviating Sample Key	
A	The sample was received in an inappropriate container for this analysis
B	The sample was received without the correct preservation for this analysis
C	Headspace present in the sample container
D	The sampling date was not supplied so holding time may be compromised - applicable to all analysis
E	Sample processing did not commence within the appropriate holding time
F	Sample processing did not commence within the appropriate handling time
Requested Analysis Key	
	Analysis Required
	Analysis dependant upon trigger result - Note: due date may be affected if triggered
	No analysis scheduled
^	Analysis Subcontracted - Note: due date may vary

Method Descriptions

Matrix	MethodID	Analysis Basis	Method Description
Soil	AMMAR	As Received	Determination of Exchangeable Ammonium in Soil using potassium chloride extraction, discrete colorimetric detection
Soil	BTEXHSA	As Received	Determination of Benzene, Toluene, Ethyl benzene and Xylenes (BTEX) by Headspace GCFID
Soil	FOCS	Oven Dried @ < 35°C	Calculation of Soil Organic Matter content from Organic Carbon content of soil samples
Soil	GROHSA	As Received	Determination of Total Gasoline Range Organics Hydrocarbons (GRO) by Headspace GCFID
Soil	ICPACIDS	Oven Dried @ < 35°C	Determination of Total Sulphate in soil samples by Hydrochloric Acid extraction followed by ICPOES detection
Soil	ICPBOR	Oven Dried @ < 35°C	Determination of Boron in soil samples by hot water extraction followed by ICPOES detection
Soil	ICPMSS	Oven Dried @ < 35°C	Determination of Metals in Marine Sediments and Soil samples by aqua regia digestion followed by ICPMS detection
Soil	ICPSOIL	Oven Dried @ < 35°C	Determination of Metals in soil samples by aqua regia digestion followed by ICPOES detection
Soil	KONECR	Oven Dried @ < 35°C	Determination of Chromium vi in soil samples by water extraction followed by colorimetric detection
Soil	PAHMSUS	As Received	Determination of Polycyclic Aromatic Hydrocarbons (PAH) by hexane/acetone extraction followed by GCMS detection
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	TMSS	As Received	Determination of the Total Moisture content at 105°C by loss on oven drying gravimetric analysis (% based upon wet weight)
Soil	TPHUSSI	As Received	Determination of hexane/acetone extractable Hydrocarbons in soil with GCFID detection including quantitation of Aromatic and Aliphatic fractions.
Soil	WSLM59	Oven Dried @ < 35°C	Determination of Organic Carbon in soil using sulphurous Acid digestion followed by high temperature combustion and IR detection

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 the basis indicated in the Method Description table.
All results on MCERTS reports are reported on a 105°C dry weight basis with the exception of pH and conductivity.
- 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

Nil: Where "Nil" has been entered against Total Alkalinity or Total Acidity this indicates that a measurement was not required due to the inherent pH of the sample.

Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm³@ 15°C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile

TR Denotes Tremolite

CR Denotes Crocidolite

AC Denotes Actinolite

AM Denotes Amosite

AN Denotes Anthophyllite

NAIIS No Asbestos Identified in Sample

NADIS No Asbestos Detected In Sample

Symbol Reference

^ Sub-contracted analysis.

\$\$ 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

N.F No Flow

NS Information Not Supplied

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

§ accreditation has been removed for this result as it is a non-accredited matrix

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.

Sample Descriptions

Client	SOCOTEC UK Doncaster
Site	A9031-19 Havant Thicket Winter Storage
Report Number	S20_4803

Note: major constituent in upper case

TEST REPORT



1252

Report No. EFS/204804 (Ver. 1)

SOCOTEC UK Doncaster
Askern Road
Carcroft
Doncaster
South Yorkshire
DN6 8DG

Site: A9031-19 Havant Thicket Winter Storage

The 2 samples described in this report were registered for analysis by SOCOTEC UK Limited on 16-Jan-2020. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 29-Jan-2020

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

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 6)
Subcontracted Analysis Reports (Pages 7 to 8)
The accreditation status of subcontracted analysis is displayed on the appended subcontracted analysis reports.
Analytical and Deviating Sample Overview (Pages 9 to 10)
Table of Method Descriptions (Page 11)
Table of Report Notes (Page 12)
Table of Sample Descriptions (Appendix A Page 1 of 1)

On behalf of
SOCOTEC UK Lim
Becky Batham

Operations Manager
Energy & Waste Services

Date of Issue: 29-Jan-2020

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

Where samples have been flagged as deviant on the Analytical and Deviating Sample Overview, for any reason, the data may not be representative of the sample at the point of sampling and the validity of the data may be affected.

SOCOTEC UK Limited accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.



CONTRACT NO: S10686-2
DATE OF ISSUE: 28.01.20

RESULTS: (cont.)

Table 1: Qualitative Results

SOCOTEC Job I.D: S204804

IOM sample number	Client sample number	ACM type detected	PLM result
S70053	S2083388 ATK-RC-03 0.20	-	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 out with the scope of our UKAS accreditation.

AUTHORISED BY:

D Third
Scientific Technician

CERTIFICATE OF ANALYSIS

ANALYSIS REQUESTED BY: SOCOTEC UK Ltd
Environmental Chemistry
PO Box 100
Burton upon Trent
Staffordshire
DE15 0XD

CONTRACT NO: S10686-2

DATE OF ISSUE: 28.01.20

DATE SAMPLE RECEIVED: 21.01.20

DATE SAMPLE ANALYSED: 28.01.20

DESCRIPTION: One soil/loose aggregate sample weighing approximately 1.2kg.

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

METHODS:

Qualitative - The sample was 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 the soil sample by stereo-binocular and polarised light microscopy.

A summary of the results is given in Table 1.



CustomerSOCOTEC UK Doncaster
SiteA9031-19 Havant Thicket Winter Storage
Report NoS204804

Consignment No S91037
Date Logged 16-Jan-2020
In-House Report Due 27-Jan-2020

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

SFAS		Sulphide as S (AR)		
		Phenol Index.(AR)	✓	
		Cyanide(Total) (AR)	✓	
	SFAP1	Cyanide(Free) (AR)	✓	
PHSOIL	pH units (AR)	✓		
PAMBSUS	PAH (16) by GCMS	✓		
KONECR	Chromium vi:			
ICPSOIL	Iron	✓		
	Zinc (MS)	✓		
	Vanadium (MS)			
	Selenium (MS)	✓		
	Nickel (MS)	✓		
	Mercury (MS)	✓		
	Manganese (MS)	✓		
	Lead (MS)	✓		
	Copper (MS)	✓		
	Chromium (MS)	✓		
	Cadmium (MS)	✓		
ICPMSS	Arsenic (MS)	✓		
ICPBOR	Boron (H2O Soluble)	✓		
ICPACIDS	SO4-- (acid sol)	✓		
GROHSA	GRO (AA-UK) HSA-GCFID	✓		
FOCS	S.O.M. % (Calc)			
CUSIServ	REPORT A			
AMMAR	Exchange-Ammonium AR	✓		
MethodID	Sampled			
ID Number	Description			
CL/2083388	ATK-RC-03 0.20	15/01/20		
CL/2083389	ATK-RC-03 0.50	15/01/20		

Note: We will endeavour to prioritise samples to complete analysis within holding time; however any delay could result in samples becoming deviant whilst being processed in the laboratory.

If sampling dates are missing or matrices unclassified then results will not be ISO 17025 accredited. Please contact us as soon as possible to provide missing information in order to reinstate accreditation.

Deviating Sample Key

AThe sample was received in an inappropriate container for this analysis
BThe sample was received without the correct preservation for this analysis
CHeadspace present in the sample container
DThe sampling date was not supplied so holding time may be compromised - applicable to all analysis
ESample processing did not commence within the appropriate holding time
FSample processing did not commence within the appropriate handling time

Requested Analysis Key

Analysis Required

Analysis dependant upon trigger result - Note: due date may be affected if triggered

No analysis scheduled

^Analysis Subcontracted - Note: due date may vary

Customer SOCOTEC UK Doncaster
Site A9031-19 Havant Thicket Winter Storage
Report No S204804

Consignment No S91037
Date Logged 16-Jan-2020
In-House Report Due 27-Jan-2020

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

ID Number	Description	MethodID	Sub020	TMSS	TPHUSI	WSLMS9
		Sampled	Asbestos ID and Quant (1 & 2)	Tot.Moisture @ 105C	TPH by GCFID (Si-UKCMG)>44	Total Organic Carbon
			✓	✓	✓	✓
CL/2083388	ATK-RC-03 0.20	15/01/20				
CL/2083389	ATK-RC-03 0.50	15/01/20				

Note: We will endeavour to prioritise samples to complete analysis within holding time; however any delay could result in samples becoming deviant whilst being processed in the laboratory.

If sampling dates are missing or matrices unclassified then results will not be ISO 17025 accredited. Please contact us as soon as possible to provide missing information in order to reinstate accreditation.

Deviating Sample Key	
A	The sample was received in an inappropriate container for this analysis
B	The sample was received without the correct preservation for this analysis
C	Headspace present in the sample container
D	The sampling date was not supplied so holding time may be compromised - applicable to all analysis
E	Sample processing did not commence within the appropriate holding time
F	Sample processing did not commence within the appropriate handling time
Requested Analysis Key	
	Analysis Required
	Analysis dependant upon trigger result - Note: due date may be affected if triggered
	No analysis scheduled
^	Analysis Subcontracted - Note: due date may vary

Where individual results are flagged see report notes for status.

Method Descriptions

Matrix	MethodID	Analysis Basis	Method Description
Soil	AMMAR	As Received	Determination of Exchangeable Ammonium in Soil using potassium chloride extraction, discrete colorimetric detection
Soil	BTEXHSA	As Received	Determination of Benzene, Toluene, Ethyl benzene and Xylenes (BTEX) by Headspace GCFID
Soil	FOCS	Oven Dried @ < 35°C	Calculation of Soil Organic Matter content from Organic Carbon content of soil samples
Soil	GROHSA	As Received	Determination of Total Gasoline Range Organics Hydrocarbons (GRO) by Headspace GCFID
Soil	ICPACIDS	Oven Dried @ < 35°C	Determination of Total Sulphate in soil samples by Hydrochloric Acid extraction followed by ICPOES detection
Soil	ICPBOR	Oven Dried @ < 35°C	Determination of Boron in soil samples by hot water extraction followed by ICPOES detection
Soil	ICPMSS	Oven Dried @ < 35°C	Determination of Metals in Marine Sediments and Soil samples by aqua regia digestion followed by ICPMS detection
Soil	ICPSOIL	Oven Dried @ < 35°C	Determination of Metals in soil samples by aqua regia digestion followed by ICPOES detection
Soil	KONECR	Oven Dried @ < 35°C	Determination of Chromium vi in soil samples by water extraction followed by colorimetric detection
Soil	PAHMSUS	As Received	Determination of Polycyclic Aromatic Hydrocarbons (PAH) by hexane/acetone extraction followed by GCMS detection
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	TMSS	As Received	Determination of the Total Moisture content at 105°C by loss on oven drying gravimetric analysis (% based upon wet weight)
Soil	TPHUSSI	As Received	Determination of hexane/acetone extractable Hydrocarbons in soil with GCFID detection including quantitation of Aromatic and Aliphatic fractions.
Soil	WSLM59	Oven Dried @ < 35°C	Determination of Organic Carbon in soil using sulphurous Acid digestion followed by high temperature combustion and IR detection

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 the basis indicated in the Method Description table.
All results on MCERTS reports are reported on a 105°C dry weight basis with the exception of pH and conductivity.
- 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

Nil: Where "Nil" has been entered against Total Alkalinity or Total Acidity this indicates that a measurement was not required due to the inherent pH of the sample.

Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm³@ 15°C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile

TR Denotes Tremolite

CR Denotes Crocidolite

AC Denotes Actinolite

AM Denotes Amosite

AN Denotes Anthophyllite

NAIIS No Asbestos Identified in Sample

NADIS No Asbestos Detected In Sample

Symbol Reference

^ Sub-contracted analysis.

\$\$ 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

N.F No Flow

NS Information Not Supplied

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

§ accreditation has been removed for this result as it is a non-accredited matrix

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.

Sample Descriptions

Client	SOCOTEC UK Doncaster
Site	A9031-19 Havant Thicket Winter Storage
Report Number	S20_4804

Note: major constituent in upper case

TEST REPORT



Report No. EFS/204805 (Ver. 1)

SOCOTEC UK Doncaster
Askern Road
Carcroft
Doncaster
South Yorkshire
DN6 8DG

Site: A9031-19 Havant Thicket Winter Storage

The 1 sample described in this report were registered for analysis by SOCOTEC UK Limited on 16-Jan-2020. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 27-Jan-2020

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

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 6)
Analytical and Deviating Sample Overview (Pages 7 to 8)
Table of Method Descriptions (Page 9)
Table of Report Notes (Page 10)
Table of Sample Descriptions (Appendix A Page 1 of 1)

On behalf of
SOCOTEC UK Lim
Becky Batham

A handwritten signature in black ink, appearing to read 'R. Batham'.

Operations Manager
Energy & Waste Services

Date of Issue: 27-Jan-2020

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

Where samples have been flagged as deviant on the Analytical and Deviating Sample Overview, for any reason, the data may not be representative of the sample at the point of sampling and the validity of the data may be affected.

SOCOTEC UK Limited accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

CustomerSOCOTEC UK Doncaster
SiteA9031-19 Havant Thicket Winter Storage
Report NoS204805

Consignment No S91037
Date Logged 16-Jan-2020
In-House Report Due 27-Jan-2020

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

SFAS	Sulphide as S (AR)								
	Phenol Index.(AR)	✓							
	Cyanide(Total) (AR)	✓							
	Cyanide(Free) (AR)	✓							
SFAPL	Cyanide(Free) (AR)	✓							
PHSOIL	pH units (AR)	✓							
PAMBUS	PAH (16) by GCMS	✓							
KONECR	Chromium vi:								
ICPSOIL	Iron	✓							
	Zinc (MS)	✓							
	Vanadium (MS)								
	Selenium (MS)	✓							
	Nickel (MS)	✓							
	Mercury (MS)	✓							
	Manganese (MS)	✓							
	Lead (MS)	✓							
	Copper (MS)	✓							
	Chromium (MS)	✓							
	Cadmium (MS)	✓							
ICPMSS	Arsenic (MS)	✓							
ICPBOR	Boron (H2O Soluble)	✓							
ICPACIDS	SO4-- (acid sol)	✓							
GROHSA	GRO (AA-UK) HSA-GCFID	✓							
FOCS	S.O.M. % (Calc)								
CustServ	REPORT A								
AMMAR	Exchange.Ammonium AR	✓							
MethodID	Sampled		15/01/20						
ID Number	Description								
		ATK-TP-06 0.10	CL/2083390						

Note: We will endeavour to prioritise samples to complete analysis within holding time; however any delay could result in samples becoming deviant whilst being processed in the laboratory.

If sampling dates are missing or matrices unclassified then results will not be ISO 17025 accredited. Please contact us as soon as possible to provide missing information in order to reinstate accreditation.

Deviating Sample Key

AThe sample was received in an inappropriate container for this analysis
BThe sample was received without the correct preservation for this analysis
CHeadspace present in the sample container
DThe sampling date was not supplied so holding time may be compromised - applicable to all analysis
ESample processing did not commence within the appropriate holding time
FSample processing did not commence within the appropriate handling time

Requested Analysis Key

Analysis Required

Analysis dependant upon trigger result - Note: due date may be affected if triggered

No analysis scheduled

^Analysis Subcontracted - Note: due date may vary

Customer SOCOTEC UK Doncaster
 Site A9031-19 Havant Thicket Winter Storage
 Report No S204805

Consignment No S91037
 Date Logged 16-Jan-2020
 In-House Report Due 27-Jan-2020

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

ID Number	Description	MethodID	TMSS	TPHUSI	WSLMSG
		Sampled	Tot.Moisture @ 105C	TPH by GC/FID (Si-UKCWG)>44	Total Organic Carbon
			✓	✓	✓
CL/2083390	ATK-TP-06 0.10	15/01/20			

Note: We will endeavour to prioritise samples to complete analysis within holding time; however any delay could result in samples becoming deviant whilst being processed in the laboratory.

If sampling dates are missing or matrices unclassified then results will not be ISO 17025 accredited. Please contact us as soon as possible to provide missing information in order to reinstate accreditation.

Deviating Sample Key

- A The sample was received in an inappropriate container for this analysis
- B The sample was received without the correct preservation for this analysis
- C Headspace present in the sample container
- D The sampling date was not supplied so holding time may be compromised - applicable to all analysis
- E Sample processing did not commence within the appropriate holding time
- F Sample processing did not commence within the appropriate handling time

Requested Analysis Key

- Analysis Required
- Analysis dependant upon trigger result - Note: due date may be affected if triggered
- No analysis scheduled
- ^ Analysis Subcontracted - Note: due date may vary

Where individual results are flagged see report notes for status.

Method Descriptions

Matrix	MethodID	Analysis Basis	Method Description
Soil	AMMAR	As Received	Determination of Exchangeable Ammonium in Soil using potassium chloride extraction, discrete colorimetric detection
Soil	BTEXHSA	As Received	Determination of Benzene, Toluene, Ethyl benzene and Xylenes (BTEX) by Headspace GCFID
Soil	FOCS	Oven Dried @ < 35°C	Calculation of Soil Organic Matter content from Organic Carbon content of soil samples
Soil	GROHSA	As Received	Determination of Total Gasoline Range Organics Hydrocarbons (GRO) by Headspace GCFID
Soil	ICPACIDS	Oven Dried @ < 35°C	Determination of Total Sulphate in soil samples by Hydrochloric Acid extraction followed by ICPOES detection
Soil	ICPBOR	Oven Dried @ < 35°C	Determination of Boron in soil samples by hot water extraction followed by ICPOES detection
Soil	ICPMSS	Oven Dried @ < 35°C	Determination of Metals in Marine Sediments and Soil samples by aqua regia digestion followed by ICPMS detection
Soil	ICPSOIL	Oven Dried @ < 35°C	Determination of Metals in soil samples by aqua regia digestion followed by ICPOES detection
Soil	KONECR	Oven Dried @ < 35°C	Determination of Chromium vi in soil samples by water extraction followed by colorimetric detection
Soil	PAHMSUS	As Received	Determination of Polycyclic Aromatic Hydrocarbons (PAH) by hexane/acetone extraction followed by GCMS detection
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	TMSS	As Received	Determination of the Total Moisture content at 105°C by loss on oven drying gravimetric analysis (% based upon wet weight)
Soil	TPHUSSI	As Received	Determination of hexane/acetone extractable Hydrocarbons in soil with GCFID detection including quantitation of Aromatic and Aliphatic fractions.
Soil	WSLM59	Oven Dried @ < 35°C	Determination of Organic Carbon in soil using sulphurous Acid digestion followed by high temperature combustion and IR detection

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 the basis indicated in the Method Description table.
All results on MCERTS reports are reported on a 105°C dry weight basis with the exception of pH and conductivity.
- 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

Nil: Where "Nil" has been entered against Total Alkalinity or Total Acidity this indicates that a measurement was not required due to the inherent pH of the sample.

Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm³@ 15°C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile

TR Denotes Tremolite

CR Denotes Crocidolite

AC Denotes Actinolite

AM Denotes Amosite

AN Denotes Anthophyllite

NAIIS No Asbestos Identified in Sample

NADIS No Asbestos Detected In Sample

Symbol Reference

^ Sub-contracted analysis.

\$\$ 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

N.F No Flow

NS Information Not Supplied

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

§ accreditation has been removed for this result as it is a non-accredited matrix

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.

Sample Descriptions

Client	SOCOTEC UK Doncaster
Site	A9031-19 Havant Thicket Winter Storage
Report Number	S20_4805

Note: major constituent in upper case

TEST REPORT



Report No. EFS/204806 (Ver. 1)

SOCOTEC UK Doncaster
Askern Road
Carcroft
Doncaster
South Yorkshire
DN6 8DG

Site: A9031-19 Havant Thicket Winter Storage

The 1 sample described in this report were registered for analysis by SOCOTEC UK Limited on 16-Jan-2020. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 30-Jan-2020

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

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 6)
Analytical and Deviating Sample Overview (Pages 7 to 8)
Table of Method Descriptions (Page 9)
Table of Report Notes (Page 10)
Table of Sample Descriptions (Appendix A Page 1 of 1)

On behalf of
SOCOTEC UK Lim
Becky Batham

Operations Manager
Energy & Waste Services

Date of Issue: 30-Jan-2020

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

Where samples have been flagged as deviant on the Analytical and Deviating Sample Overview, for any reason, the data may not be representative of the sample at the point of sampling and the validity of the data may be affected. SOCOTEC UK Limited accepts no responsibility for any sampling not carried out by our personnel.

CERTIFICATE OF ANALYSIS

ANALYSIS REQUESTED BY: SOCOTEC UK Ltd
Environmental Chemistry
PO Box 100
Burton upon Trent
Staffordshire
DE15 0XD

CONTRACT NO: S10328-4

DATE OF ISSUE: 15.01.20

DATE SAMPLE RECEIVED: 03.01.20

DATE SAMPLE ANALYSED: 14.01.20

DESCRIPTION: One soil/loose aggregate sample.

ANALYSIS REQUESTED: Qualitative analysis of a sample for determination of presence/type of asbestos.

METHODS:

Our method involves initial examination of the sample followed by detailed analysis of a representative sub-sample. The sub-sample is analysed qualitatively for asbestos by polarised light and dispersion staining as described by the Health and Safety Executive in HSG 248.

RESULTS:

Initial Screening

No asbestos was detected in the soil sample by stereo-binocular and polarised light microscopy.

A summary of the results is given in Table 1.





CONTRACT NO: S10328-4
DATE OF ISSUE: 15.01.20

RESULTS: (cont.)

Table 1: Qualitative Results

SOCOTEC Job I.D: S204272

IOM sample number	Client sample number	ACM type detected	PLM result
S69757	S1981183 ATK-TPM-02 0.20	-	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 out with the scope of our UKAS accreditation.

AUTHORISED BY:

D Third
Scientific Technician

Consignment No S91036
Date Logged 16-Jan-2020
In-House Report Due 27-Jan-2020

SFAS	Sulphide as S (AR)		
	Phenol Index.(AR)	✓	
	Cyanide(Total) (AR)	✓	
SFAP1	Cyanide(Free) (AR)	✓	
PHSOIL	pH units (AR)	✓	
PAHMSUS	PAH (16) by GCMS	✓	
KONECR	Chromium vi:		
ICPSOIL	Iron	✓	
	Zinc (MS)	✓	
	Vanadium (MS)		
	Selenium (MS)	✓	
	Nickel (MS)	✓	
	Mercury (MS)	✓	
	Manganese (MS)	✓	
	Lead (MS)	✓	
	Copper (MS)	✓	
	Chromium (MS)	✓	
	Cadmium (MS)	✓	
ICPMSS	Arsenic (MS)	✓	
ICPBOR	Boron (H20 Soluble)	✓	
ICPACIDS	SO4-- (acid sol)	✓	
GROHSA	GRO (AA-UK) HSA-GCFID	✓	
FOCS	S.O.M. % (Calc)		
CustServ	REPORT A		
AMMAR	Exchange-Ammonium AR	✓	
MethodID	Sampled		
	Description		
ID Number			
CL/2083391	ATK-TPM-02 0.20	15/01/20	

	Analysis Required
	Analysis dependant upon trigger result - Note: due date may be affected if triggered
	No analysis scheduled
^	Analysis Subcontracted - Note: due date may vary

Customer SOCOTEC UK Doncaster
 Site A9031-19 Havant Thicket Winter Storage
 Report No S204806

Consignment No S91036
 Date Logged 16-Jan-2020
 In-House Report Due 27-Jan-2020

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

ID Number	Description	MethodID	TMS	TPH/USI	WSLMS9
		Sampled	Tot.Moisture @ 105C	TPH by GCFID (Si-UKCWG)>44	Total Organic Carbon
			✓	✓	✓
CL/2083391	ATK-TPM-02 0.20	15/01/20			

Note: We will endeavour to prioritise samples to complete analysis within holding time; however any delay could result in samples becoming deviant whilst being processed in the laboratory.

If sampling dates are missing or matrices unclassified then results will not be ISO 17025 accredited. Please contact us as soon as possible to provide missing information in order to reinstate accreditation.

Deviating Sample Key

- A The sample was received in an inappropriate container for this analysis
- B The sample was received without the correct preservation for this analysis
- C Headspace present in the sample container
- D The sampling date was not supplied so holding time may be compromised - applicable to all analysis
- E Sample processing did not commence within the appropriate holding time
- F Sample processing did not commence within the appropriate handling time

Requested Analysis Key

- Analysis Required
- Analysis dependant upon trigger result - **Note: due date may be affected if triggered**
- No analysis scheduled
- ^ Analysis Subcontracted - **Note: due date may vary**

Method Descriptions

Matrix	MethodID	Analysis Basis	Method Description
Soil	AMMAR	As Received	Determination of Exchangeable Ammonium in Soil using potassium chloride extraction, discrete colorimetric detection
Soil	BTEXHSA	As Received	Determination of Benzene, Toluene, Ethyl benzene and Xylenes (BTEX) by Headspace GCFID
Soil	FOCS	Oven Dried @ < 35°C	Calculation of Soil Organic Matter content from Organic Carbon content of soil samples
Soil	GROHSA	As Received	Determination of Total Gasoline Range Organics Hydrocarbons (GRO) by Headspace GCFID
Soil	ICPACIDS	Oven Dried @ < 35°C	Determination of Total Sulphate in soil samples by Hydrochloric Acid extraction followed by ICPOES detection
Soil	ICPBOR	Oven Dried @ < 35°C	Determination of Boron in soil samples by hot water extraction followed by ICPOES detection
Soil	ICPMSS	Oven Dried @ < 35°C	Determination of Metals in Marine Sediments and Soil samples by aqua regia digestion followed by ICPMS detection
Soil	ICPSOIL	Oven Dried @ < 35°C	Determination of Metals in soil samples by aqua regia digestion followed by ICPOES detection
Soil	KONECR	Oven Dried @ < 35°C	Determination of Chromium vi in soil samples by water extraction followed by colorimetric detection
Soil	PAHMSUS	As Received	Determination of Polycyclic Aromatic Hydrocarbons (PAH) by hexane/acetone extraction followed by GCMS detection
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	TMSS	As Received	Determination of the Total Moisture content at 105°C by loss on oven drying gravimetric analysis (% based upon wet weight)
Soil	TPHUSSI	As Received	Determination of hexane/acetone extractable Hydrocarbons in soil with GCFID detection including quantitation of Aromatic and Aliphatic fractions.
Soil	WSLM59	Oven Dried @ < 35°C	Determination of Organic Carbon in soil using sulphurous Acid digestion followed by high temperature combustion and IR detection

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 the basis indicated in the Method Description table.
All results on MCERTS reports are reported on a 105°C dry weight basis with the exception of pH and conductivity.
- 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

Nil: Where "Nil" has been entered against Total Alkalinity or Total Acidity this indicates that a measurement was not required due to the inherent pH of the sample.

Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm³ @ 15°C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile

TR Denotes Tremolite

CR Denotes Crocidolite

AC Denotes Actinolite

AM Denotes Amosite

AN Denotes Anthophyllite

NAIS No Asbestos Identified in Sample

NADIS No Asbestos Detected In Sample

Symbol Reference

^ Sub-contracted analysis.

\$\$ 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

N.F No Flow

NS Information Not Supplied

Req Analysis requested, see attached sheets for results

p 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

§ accreditation has been removed for this result as it is a non-accredited matrix

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.

Sample Descriptions

Client	SOCOTEC UK Doncaster
Site	A9031-19 Havant Thicket Winter Storage
Report Number	S20_4806

Note: major constituent in upper case

TEST REPORT



Report No. EFS/204807 (Ver. 1)

SOCOTEC UK Doncaster
Askern Road
Carcroft
Doncaster
South Yorkshire
DN6 8DG

Site: A9031-19 Havant Thicket Winter Storage

The 1 sample described in this report were registered for analysis by SOCOTEC UK Limited on 16-Jan-2020. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 27-Jan-2020

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

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On behalf of
SOCOTEC UK Lim 
Becky Batham Operations Manager
Energy & Waste Services

Date of Issue: 27-Jan-2020

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

Where samples have been flagged as deviant on the Analytical and Deviating Sample Overview, for any reason, the data may not be representative of the sample at the point of sampling and the validity of the data may be affected.

SOCOTEC UK Limited accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

CustomerSOCOTEC UK Doncaster
SiteA9031-19 Havant Thicket Winter Storage
Report NoS204807

Consignment No S91037
Date Logged 16-Jan-2020
In-House Report Due 27-Jan-2020

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

SFAS	Sulphide as S (AR)								
	Phenol Index.(AR)	✓							
	Cyanide(Total) (AR)	✓							
	Cyanide(Free) (AR)	✓							
SFAP1	Cyanide(Free) (AR)	✓							
PHSOIL	pH units (AR)	✓							
PAMBUS	PAH (16) by GCMS	✓							
KONECR	Chromium vi:								
ICPSOIL	Iron	✓							
	Zinc (MS)	✓							
	Vanadium (MS)								
	Selenium (MS)	✓							
	Nickel (MS)	✓							
	Mercury (MS)	✓							
	Manganese (MS)	✓							
	Lead (MS)	✓							
	Copper (MS)	✓							
	Chromium (MS)	✓							
	Cadmium (MS)	✓							
ICPMSS	Arsenic (MS)	✓							
ICPBOR	Boron (H2O Soluble)	✓							
ICPACIDS	SO4-- (acid sol)	✓							
GROHSA	GRO (AA-UK) HSA-GCFID	✓							
FOCS	S.O.M. % (Calc)								
CustServ	REPORT A								
AMMAR	Exchange.Ammonium AR	✓							
MethodID	Sampled		15/01/20						
ID Number	Description								
		ATK-TP-08 0.10	CL/2083392						

Note: We will endeavour to prioritise samples to complete analysis within holding time; however any delay could result in samples becoming deviant whilst being processed in the laboratory.

If sampling dates are missing or matrices unclassified then results will not be ISO 17025 accredited. Please contact us as soon as possible to provide missing information in order to reinstate accreditation.

Deviating Sample Key

AThe sample was received in an inappropriate container for this analysis
BThe sample was received without the correct preservation for this analysis
CHeadspace present in the sample container
DThe sampling date was not supplied so holding time may be compromised - applicable to all analysis
ESample processing did not commence within the appropriate holding time
FSample processing did not commence within the appropriate handling time

Requested Analysis Key

Analysis Required

Analysis dependant upon trigger result - Note: due date may be affected if triggered

No analysis scheduled

^Analysis Subcontracted - Note: due date may vary

Customer SOCOTEC UK Doncaster
 Site A9031-19 Havant Thicket Winter Storage
 Report No S204807

Consignment No S91037
 Date Logged 16-Jan-2020
 In-House Report Due 27-Jan-2020

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

ID Number	Description	MethodID	TMSS	TPHUSI	WGLMS9
		Sampled	Tot.Moisture @ 105C	TPH by GC/FID (Si-UKCWG)>44	Total Organic Carbon
			✓	✓	✓
CL/2083392	ATK-TP-08 0.10	15/01/20			

Note: We will endeavour to prioritise samples to complete analysis within holding time; however any delay could result in samples becoming deviant whilst being processed in the laboratory.

If sampling dates are missing or matrices unclassified then results will not be ISO 17025 accredited. Please contact us as soon as possible to provide missing information in order to reinstate accreditation.

Deviating Sample Key

- A The sample was received in an inappropriate container for this analysis
- B The sample was received without the correct preservation for this analysis
- C Headspace present in the sample container
- D The sampling date was not supplied so holding time may be compromised - applicable to all analysis
- E Sample processing did not commence within the appropriate holding time
- F Sample processing did not commence within the appropriate handling time

Requested Analysis Key

- Analysis Required
- Analysis dependant upon trigger result - **Note: due date may be affected if triggered**
- No analysis scheduled
- ^ Analysis Subcontracted - **Note: due date may vary**

Where individual results are flagged see report notes for status.

Method Descriptions

Matrix	MethodID	Analysis Basis	Method Description
Soil	AMMAR	As Received	Determination of Exchangeable Ammonium in Soil using potassium chloride extraction, discrete colorimetric detection
Soil	BTEXHSA	As Received	Determination of Benzene, Toluene, Ethyl benzene and Xylenes (BTEX) by Headspace GCFID
Soil	FOCS	Oven Dried @ < 35°C	Calculation of Soil Organic Matter content from Organic Carbon content of soil samples
Soil	GROHSA	As Received	Determination of Total Gasoline Range Organics Hydrocarbons (GRO) by Headspace GCFID
Soil	ICPACIDS	Oven Dried @ < 35°C	Determination of Total Sulphate in soil samples by Hydrochloric Acid extraction followed by ICPOES detection
Soil	ICPBOR	Oven Dried @ < 35°C	Determination of Boron in soil samples by hot water extraction followed by ICPOES detection
Soil	ICPMSS	Oven Dried @ < 35°C	Determination of Metals in Marine Sediments and Soil samples by aqua regia digestion followed by ICPMS detection
Soil	ICPSOIL	Oven Dried @ < 35°C	Determination of Metals in soil samples by aqua regia digestion followed by ICPOES detection
Soil	KONECR	Oven Dried @ < 35°C	Determination of Chromium vi in soil samples by water extraction followed by colorimetric detection
Soil	PAHMSUS	As Received	Determination of Polycyclic Aromatic Hydrocarbons (PAH) by hexane/acetone extraction followed by GCMS detection
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	TMSS	As Received	Determination of the Total Moisture content at 105°C by loss on oven drying gravimetric analysis (% based upon wet weight)
Soil	TPHUSSI	As Received	Determination of hexane/acetone extractable Hydrocarbons in soil with GCFID detection including quantitation of Aromatic and Aliphatic fractions.
Soil	WSLM59	Oven Dried @ < 35°C	Determination of Organic Carbon in soil using sulphurous Acid digestion followed by high temperature combustion and IR detection

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 the basis indicated in the Method Description table.
All results on MCERTS reports are reported on a 105°C dry weight basis with the exception of pH and conductivity.
- 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

Nil: Where "Nil" has been entered against Total Alkalinity or Total Acidity this indicates that a measurement was not required due to the inherent pH of the sample.

Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm³@ 15°C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile

TR Denotes Tremolite

CR Denotes Crocidolite

AC Denotes Actinolite

AM Denotes Amosite

AN Denotes Anthophyllite

NAIIS No Asbestos Identified in Sample

NADIS No Asbestos Detected In Sample

Symbol Reference

^ Sub-contracted analysis.

\$\$ 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

N.F No Flow

NS Information Not Supplied

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

§ accreditation has been removed for this result as it is a non-accredited matrix

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.

Sample Descriptions

Client	SOCOTEC UK Doncaster
Site	A9031-19 Havant Thicket Winter Storage
Report Number	S20_4807

Note: major constituent in upper case

TEST REPORT



1252

Report No. EFS/204808 (Ver. 1)

SOCOTEC UK Doncaster
Askern Road
Carcroft
Doncaster
South Yorkshire
DN6 8DG

Site: A9031-19 Havant Thicket Winter Storage

The 2 samples described in this report were registered for analysis by SOCOTEC UK Limited on 16-Jan-2020. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 27-Jan-2020

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

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 6)
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Table of Sample Descriptions (Appendix A Page 1 of 1)

On behalf of
SOCOTEC UK Lim
Becky Batham

Operations Manager
Energy & Waste Services

Date of Issue: 27-Jan-2020

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

Where samples have been flagged as deviant on the Analytical and Deviating Sample Overview, for any reason, the data may not be representative of the sample at the point of sampling and the validity of the data may be affected.

SOCOTEC UK Limited accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

CERTIFICATE OF ANALYSIS

ANALYSIS REQUESTED BY: SOCOTEC UK Ltd
Environmental Chemistry
PO Box 100
Burton upon Trent
Staffordshire
DE15 0XD

CONTRACT NO: S10328-3

DATE OF ISSUE: 15.01.20

DATE SAMPLE RECEIVED: 03.01.20

DATE SAMPLE ANALYSED: 14.01.20

DESCRIPTION: One soil/loose aggregate sample.

ANALYSIS REQUESTED: Qualitative analysis of a sample for determination of presence/type of asbestos.

METHODS:

Our method involves initial examination of the sample followed by detailed analysis of a representative sub-sample. The sub-sample is analysed qualitatively for asbestos by polarised light and dispersion staining as described by the Health and Safety Executive in HSG 248.

RESULTS:

Initial Screening

No asbestos was detected in the soil sample by stereo-binocular and polarised light microscopy.

A summary of the results is given in Table 1.





CONTRACT NO: S10328-3
DATE OF ISSUE: 15.01.20

RESULTS: (cont.)

Table 1: Qualitative Results

SOCOTEC Job I.D: S204057

IOM sample number	Client sample number	ACM type detected	PLM result
S69756	S1980288 ATK-TP04 0.10	-	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 out with the scope of our UKAS accreditation.

AUTHORISED BY:

D Third
Scientific Technician

Consignment No S91037
Date Logged 16-Jan-2020
In-House Report Due 27-Jan-2020

Sulphide as S (AR)					
SFAS					
SFAP1	Phenol Index.(AR)	✓			
	Cyanide(Total) (AR)	✓			
	Cyanide(Free) (AR)	✓			
	pH units (AR)	✓			
	PAH (16) by GCMS	✓			
	Chromium vi:				
	Iron	✓			
ICPSOIL	Zinc (MS)	✓			
	Vanadium (MS)				
	Selenium (MS)	✓			
	Nickel (MS)	✓			
	Mercury (MS)	✓			
	Manganese (MS)	✓			
	Lead (MS)	✓			
	Copper (MS)	✓			
ICPMSS	Chromium (MS)	✓			
	Cadmium (MS)	✓			
	Arsenic (MS)	✓			
ICPBOR	Boron (H20 Soluble)	✓			
ICPACIDS	SO4-- (acid sol)	✓			
GROHSA	GRO (AA-UK) HSA-GCFID	✓			
FOCS	S.O.M. % (Calc)				
ClstBerv	REPORT A				
AMMAR	Exchange-Ammonium AR	✓			
MethodID	Sampled	15/01/20			
		15/01/20			
Description	ID Number	ATK-TP-04 0.20			
		ATK-TP-04 1.00			
		CL/2083393			
		CL/2083394			

	Analysis Required
	Analysis dependant upon trigger result - Note: due date may be affected if triggered
	No analysis scheduled
^	Analysis Subcontracted - Note: due date may vary

EFS/204808 Ver. 1

Customer SOCOTEC UK Doncaster
Site A9031-19 Havant Thicket Winter Storage
Report No S204808

Consignment No S91037
Date Logged 16-Jan-2020
In-House Report Due 27-Jan-2020

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

ID Number	Description	MethodID	TMSS	TPHUSI	WGLMS9
		Sampled	Tot.Moisture @ 105C	TPH by GC/FID (Si-UKCWG)>44	Total Organic Carbon
			✓	✓	✓
CL/2083393	ATK-TP-04 0.20	15/01/20			
CL/2083394	ATK-TP-04 1.00	15/01/20			

Note: We will endeavour to prioritise samples to complete analysis within holding time; however any delay could result in samples becoming deviant whilst being processed in the laboratory.

If sampling dates are missing or matrices unclassified then results will not be ISO 17025 accredited. Please contact us as soon as possible to provide missing information in order to reinstate accreditation.

Deviating Sample Key	
A	The sample was received in an inappropriate container for this analysis
B	The sample was received without the correct preservation for this analysis
C	Headspace present in the sample container
D	The sampling date was not supplied so holding time may be compromised - applicable to all analysis
E	Sample processing did not commence within the appropriate holding time
F	Sample processing did not commence within the appropriate handling time
Requested Analysis Key	
	Analysis Required
	Analysis dependant upon trigger result - Note: due date may be affected if triggered
	No analysis scheduled
^	Analysis Subcontracted - Note: due date may vary

Method Descriptions

Matrix	MethodID	Analysis Basis	Method Description
Soil	AMMAR	As Received	Determination of Exchangeable Ammonium in Soil using potassium chloride extraction, discrete colorimetric detection
Soil	BTEXHSA	As Received	Determination of Benzene, Toluene, Ethyl benzene and Xylenes (BTEX) by Headspace GCFID
Soil	FOCS	Oven Dried @ < 35°C	Calculation of Soil Organic Matter content from Organic Carbon content of soil samples
Soil	GROHSA	As Received	Determination of Total Gasoline Range Organics Hydrocarbons (GRO) by Headspace GCFID
Soil	ICPACIDS	Oven Dried @ < 35°C	Determination of Total Sulphate in soil samples by Hydrochloric Acid extraction followed by ICPOES detection
Soil	ICPBOR	Oven Dried @ < 35°C	Determination of Boron in soil samples by hot water extraction followed by ICPOES detection
Soil	ICPMSS	Oven Dried @ < 35°C	Determination of Metals in Marine Sediments and Soil samples by aqua regia digestion followed by ICPMS detection
Soil	ICPSOIL	Oven Dried @ < 35°C	Determination of Metals in soil samples by aqua regia digestion followed by ICPOES detection
Soil	KONECR	Oven Dried @ < 35°C	Determination of Chromium vi in soil samples by water extraction followed by colorimetric detection
Soil	PAHMSUS	As Received	Determination of Polycyclic Aromatic Hydrocarbons (PAH) by hexane/acetone extraction followed by GCMS detection
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	TMSS	As Received	Determination of the Total Moisture content at 105°C by loss on oven drying gravimetric analysis (% based upon wet weight)
Soil	TPHUSSI	As Received	Determination of hexane/acetone extractable Hydrocarbons in soil with GCFID detection including quantitation of Aromatic and Aliphatic fractions.
Soil	WSLM59	Oven Dried @ < 35°C	Determination of Organic Carbon in soil using sulphurous Acid digestion followed by high temperature combustion and IR detection

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 the basis indicated in the Method Description table.
All results on MCERTS reports are reported on a 105°C dry weight basis with the exception of pH and conductivity.
- 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

Nil: Where "Nil" has been entered against Total Alkalinity or Total Acidity this indicates that a measurement was not required due to the inherent pH of the sample.

Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm³@ 15°C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile

TR Denotes Tremolite

CR Denotes Crocidolite

AC Denotes Actinolite

AM Denotes Amosite

AN Denotes Anthophyllite

NAIIS No Asbestos Identified in Sample

NADIS No Asbestos Detected In Sample

Symbol Reference

^ Sub-contracted analysis.

\$\$ 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

N.F No Flow

NS Information Not Supplied

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

§ accreditation has been removed for this result as it is a non-accredited matrix

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.

Sample Descriptions

Client	SOCOTEC UK Doncaster
Site	A9031-19 Havant Thicket Winter Storage
Report Number	S20_4808

Note: major constituent in upper case

TEST REPORT



1252

Report No. EFS/204809 (Ver. 1)

SOCOTEC UK Doncaster
Askern Road
Carcroft
Doncaster
South Yorkshire
DN6 8DG

Site: A9031-19 Havant Thicket Winter Storage

The 2 samples described in this report were registered for analysis by SOCOTEC UK Limited on 16-Jan-2020. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 27-Jan-2020

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

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 6)
Analytical and Deviating Sample Overview (Pages 7 to 8)
Table of Method Descriptions (Page 9)
Table of Report Notes (Page 10)
Table of Sample Descriptions (Appendix A Page 1 of 1)

On behalf of
SOCOTEC UK Lim
Becky Batham

Operations Manager
Energy & Waste Services

Date of Issue: 27-Jan-2020

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

Where samples have been flagged as deviant on the Analytical and Deviating Sample Overview, for any reason, the data may not be representative of the sample at the point of sampling and the validity of the data may be affected.

SOCOTEC UK Limited accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

CustomerSOCOTEC UK Doncaster
SiteA9031-19 Havant Thicket Winter Storage
Report NoS204809

Consignment No S91037
Date Logged 16-Jan-2020
In-House Report Due 27-Jan-2020

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

ID Number	Description	MethodID	Sampled	AMMAR	FOCS	CustServ	GROHSA	ICPACIDS	ICPBOIR	ICPMSS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	ICPMS	IC
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Note: We will endeavour to prioritise samples to complete analysis within holding time; however any delay could result in samples becoming deviant whilst being processed in the laboratory.

If sampling dates are missing or matrices unclassified then results will not be ISO 17025 accredited. Please contact us as soon as possible to provide missing information in order to reinstate accreditation.

Deviating Sample Key

AThe sample was received in an inappropriate container for this analysis
BThe sample was received without the correct preservation for this analysis
CHeadspace present in the sample container
DThe sampling date was not supplied so holding time may be compromised - applicable to all analysis
ESample processing did not commence within the appropriate holding time
FSample processing did not commence within the appropriate handling time

Requested Analysis Key

Analysis Required

Analysis dependant upon trigger result - Note: due date may be affected if triggered

No analysis scheduled

^Analysis Subcontracted - Note: due date may vary

Customer SOCOTEC UK Doncaster
 Site A9031-19 Havant Thicket Winter Storage
 Report No S204809

Consignment No S91037
 Date Logged 16-Jan-2020
 In-House Report Due 27-Jan-2020

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

ID Number	Description	MethodID	TMSS	TPHUSI	WSLMS9
		Sampled	Tot.Moisture @ 105C	TPH by GC/FID (Si-UKCWG)>44	Total Organic Carbon
			✓	✓	✓
CL/2083395	ATK-TP-05 0.20	15/01/20			
CL/2083396	ATK-TP-05 1.00	15/01/20			

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- B The sample was received without the correct preservation for this analysis
- C Headspace present in the sample container
- D The sampling date was not supplied so holding time may be compromised - applicable to all analysis
- E Sample processing did not commence within the appropriate holding time
- F Sample processing did not commence within the appropriate handling time

Requested Analysis Key

- Analysis Required
- Analysis dependant upon trigger result - **Note: due date may be affected if triggered**
- No analysis scheduled
- ^ Analysis Subcontracted - **Note: due date may vary**

Where individual results are flagged see report notes for status.

Method Descriptions

Matrix	MethodID	Analysis Basis	Method Description
Soil	AMMAR	As Received	Determination of Exchangeable Ammonium in Soil using potassium chloride extraction, discrete colorimetric detection
Soil	BTEXHSA	As Received	Determination of Benzene, Toluene, Ethyl benzene and Xylenes (BTEX) by Headspace GCFID
Soil	FOCS	Oven Dried @ < 35°C	Calculation of Soil Organic Matter content from Organic Carbon content of soil samples
Soil	GROHSA	As Received	Determination of Total Gasoline Range Organics Hydrocarbons (GRO) by Headspace GCFID
Soil	ICPACIDS	Oven Dried @ < 35°C	Determination of Total Sulphate in soil samples by Hydrochloric Acid extraction followed by ICPOES detection
Soil	ICPBOR	Oven Dried @ < 35°C	Determination of Boron in soil samples by hot water extraction followed by ICPOES detection
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Soil	KONECR	Oven Dried @ < 35°C	Determination of Chromium vi in soil samples by water extraction followed by colorimetric detection
Soil	PAHMSUS	As Received	Determination of Polycyclic Aromatic Hydrocarbons (PAH) by hexane/acetone extraction followed by GCMS detection
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
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Report Notes

Generic Notes

Soil/Solid Analysis

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- Results expressed as mg/kg have been calculated on the basis indicated in the Method Description table.
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- 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

Nil: Where "Nil" has been entered against Total Alkalinity or Total Acidity this indicates that a measurement was not required due to the inherent pH of the sample.

Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm³@ 15°C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile

TR Denotes Tremolite

CR Denotes Crocidolite

AC Denotes Actinolite

AM Denotes Amosite

AN Denotes Anthophyllite

NAIIS No Asbestos Identified in Sample

NADIS No Asbestos Detected In Sample

Symbol Reference

^ Sub-contracted analysis.

\$\$ 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

N.F No Flow

NS Information Not Supplied

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

§ accreditation has been removed for this result as it is a non-accredited matrix

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Sample Descriptions

Client	SOCOTEC UK Doncaster
Site	A9031-19 Havant Thicket Winter Storage
Report Number	S20_4809

Note: major constituent in upper case

TEST REPORT



1252

Report No. EFS/204810 (Ver. 1)

SOCOTEC UK Doncaster
Askern Road
Carcroft
Doncaster
South Yorkshire
DN6 8DG

Site: A9031-19 Havant Thicket Winter Storage

The 1 sample described in this report were registered for analysis by SOCOTEC UK Limited on 16-Jan-2020. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 27-Jan-2020

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

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 6)
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On behalf of
SOCOTEC UK Lim
Becky Batham

Operations Manager
Energy & Waste Services

Date of Issue: 27-Jan-2020

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

Where samples have been flagged as deviant on the Analytical and Deviating Sample Overview, for any reason, the data may not be representative of the sample at the point of sampling and the validity of the data may be affected.

SOCOTEC UK Limited accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

CERTIFICATE OF ANALYSIS

ANALYSIS REQUESTED BY: SOCOTEC UK Ltd
Environmental Chemistry
PO Box 100
Burton upon Trent
Staffordshire
DE15 0XD

CONTRACT NO: S10328-2

DATE OF ISSUE: 15.01.20

DATE SAMPLE RECEIVED: 03.01.20

DATE SAMPLE ANALYSED: 14.01.20

DESCRIPTION: One soil/loose aggregate sample.

ANALYSIS REQUESTED: Qualitative analysis of a sample for determination of presence/type of asbestos.

METHODS:

Our method involves initial examination of the sample followed by detailed analysis of a representative sub-sample. The sub-sample is analysed qualitatively for asbestos by polarised light and dispersion staining as described by the Health and Safety Executive in HSG 248.

RESULTS:

Initial Screening

No asbestos was detected in the soil sample by stereo-binocular and polarised light microscopy.

A summary of the results is given in Table 1.





CONTRACT NO: S10328-2
DATE OF ISSUE: 15.01.20

RESULTS: (cont.)

Table 1: Qualitative Results

SOCOTEC Job I.D: S204056

IOM sample number	Client sample number	ACM type detected	PLM result
S69755	S1980287 ATK-TP07 0.20	-	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 out with the scope of our UKAS accreditation.

AUTHORISED BY:
D Third
Scientific Technician

CustomerSOCOTEC UK Doncaster
SiteA9031-19 Havant Thicket Winter Storage
Report NoS204810

Consignment No S91037
Date Logged 16-Jan-2020
In-House Report Due 27-Jan-2020

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

SFAS	Sulphide as S (AR)								
	Phenol Index.(AR)	✓							
	Cyanide(Total) (AR)	✓							
	Cyanide(Free) (AR)	✓							
SFAP1	Cyanide(Free) (AR)	✓							
PHSOIL	pH units (AR)	✓							
PAMBUS	PAH (16) by GCMS	✓							
KONECR	Chromium vi:								
ICPSOIL	Iron	✓							
	Zinc (MS)	✓							
	Vanadium (MS)								
	Selenium (MS)	✓							
	Nickel (MS)	✓							
	Mercury (MS)	✓							
	Manganese (MS)	✓							
	Lead (MS)	✓							
	Copper (MS)	✓							
	Chromium (MS)	✓							
	Cadmium (MS)	✓							
ICPMSS	Arsenic (MS)	✓							
ICPBOR	Boron (H2O Soluble)	✓							
ICPACIDS	SO4-- (acid sol)	✓							
GROHSA	GRO (AA-UK) HSA-GCFID	✓							
FOCS	S.O.M. % (Calc)								
CustServ	REPORT A								
AMMAR	Exchange.Ammonium AR	✓							
MethodID	Sampled		15/01/20						
	Description		ATK-TP-07 0.20						
	ID Number		CL/2083397						

Note: We will endeavour to prioritise samples to complete analysis within holding time; however any delay could result in samples becoming deviant whilst being processed in the laboratory.

If sampling dates are missing or matrices unclassified then results will not be ISO 17025 accredited. Please contact us as soon as possible to provide missing information in order to reinstate accreditation.

Deviating Sample Key

AThe sample was received in an inappropriate container for this analysis
BThe sample was received without the correct preservation for this analysis
CHeadspace present in the sample container
DThe sampling date was not supplied so holding time may be compromised - applicable to all analysis
ESample processing did not commence within the appropriate holding time
FSample processing did not commence within the appropriate handling time

Requested Analysis Key

Analysis Required
Analysis dependant upon trigger result - Note: due date may be affected if triggered
No analysis scheduled

^

Analysis Subcontracted - Note: due date may vary

Sample Analysis

SOCOTEC UK Ltd Environmental Chemistry
Analytical and Deviating Sample Overview

S204810

Customer SOCOTEC UK Doncaster
Site A9031-19 Havant Thicket Winter Storage
Report No S204810

Consignment No S91037
Date Logged 16-Jan-2020
In-House Report Due 27-Jan-2020

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

ID Number	Description	MethodID	TMSS	TPHUSI	WSLMS9
		Sampled	Tot.Moisture @ 105C	TPH by GC/FID (Si-UKCWG)>44	Total Organic Carbon
			✓	✓	✓
CL/2083397	ATK-TP-07 0.20	15/01/20			

Note: We will endeavour to prioritise samples to complete analysis within holding time; however any delay could result in samples becoming deviant whilst being processed in the laboratory.

If sampling dates are missing or matrices unclassified then results will not be ISO 17025 accredited. Please contact us as soon as possible to provide missing information in order to reinstate accreditation.

Deviating Sample Key	
A	The sample was received in an inappropriate container for this analysis
B	The sample was received without the correct preservation for this analysis
C	Headspace present in the sample container
D	The sampling date was not supplied so holding time may be compromised - applicable to all analysis
E	Sample processing did not commence within the appropriate holding time
F	Sample processing did not commence within the appropriate handling time
Requested Analysis Key	
	Analysis Required
	Analysis dependant upon trigger result - Note: due date may be affected if triggered
	No analysis scheduled
^	Analysis Subcontracted - Note: due date may vary

Method Descriptions

Matrix	MethodID	Analysis Basis	Method Description
Soil	AMMAR	As Received	Determination of Exchangeable Ammonium in Soil using potassium chloride extraction, discrete colorimetric detection
Soil	BTEXHSA	As Received	Determination of Benzene, Toluene, Ethyl benzene and Xylenes (BTEX) by Headspace GCFID
Soil	FOCS	Oven Dried @ < 35°C	Calculation of Soil Organic Matter content from Organic Carbon content of soil samples
Soil	GROHSA	As Received	Determination of Total Gasoline Range Organics Hydrocarbons (GRO) by Headspace GCFID
Soil	ICPACIDS	Oven Dried @ < 35°C	Determination of Total Sulphate in soil samples by Hydrochloric Acid extraction followed by ICPOES detection
Soil	ICPBOR	Oven Dried @ < 35°C	Determination of Boron in soil samples by hot water extraction followed by ICPOES detection
Soil	ICPMSS	Oven Dried @ < 35°C	Determination of Metals in Marine Sediments and Soil samples by aqua regia digestion followed by ICPMS detection
Soil	ICPSOIL	Oven Dried @ < 35°C	Determination of Metals in soil samples by aqua regia digestion followed by ICPOES detection
Soil	KONECR	Oven Dried @ < 35°C	Determination of Chromium vi in soil samples by water extraction followed by colorimetric detection
Soil	PAHMSUS	As Received	Determination of Polycyclic Aromatic Hydrocarbons (PAH) by hexane/acetone extraction followed by GCMS detection
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	TMSS	As Received	Determination of the Total Moisture content at 105°C by loss on oven drying gravimetric analysis (% based upon wet weight)
Soil	TPHUSSI	As Received	Determination of hexane/acetone extractable Hydrocarbons in soil with GCFID detection including quantitation of Aromatic and Aliphatic fractions.
Soil	WSLM59	Oven Dried @ < 35°C	Determination of Organic Carbon in soil using sulphurous Acid digestion followed by high temperature combustion and IR detection

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 the basis indicated in the Method Description table.
All results on MCERTS reports are reported on a 105°C dry weight basis with the exception of pH and conductivity.
- 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

Nil: Where "Nil" has been entered against Total Alkalinity or Total Acidity this indicates that a measurement was not required due to the inherent pH of the sample.

Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm³@ 15°C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile

TR Denotes Tremolite

CR Denotes Crocidolite

AC Denotes Actinolite

AM Denotes Amosite

AN Denotes Anthophyllite

NAIIS No Asbestos Identified in Sample

NADIS No Asbestos Detected In Sample

Symbol Reference

^ Sub-contracted analysis.

\$\$ 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

N.F No Flow

NS Information Not Supplied

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

§ accreditation has been removed for this result as it is a non-accredited matrix

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.

Sample Descriptions

Client	SOCOTEC UK Doncaster
Site	A9031-19 Havant Thicket Winter Storage
Report Number	S20_4810

Note: major constituent in upper case

TEST REPORT



Report No. EFS/204811 (Ver. 1)

SOCOTEC UK Doncaster
Askern Road
Carcroft
Doncaster
South Yorkshire
DN6 8DG

Site: A9031-19 Havant Thicket Winter Storage

The 1 sample described in this report were registered for analysis by SOCOTEC UK Limited on 16-Jan-2020. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 29-Jan-2020

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

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 6)
Analytical and Deviating Sample Overview (Pages 7 to 8)
Table of Method Descriptions (Page 9)
Table of Report Notes (Page 10)
Table of Sample Descriptions (Appendix A Page 1 of 1)

On behalf of
SOCOTEC UK Lim
Becky Batham

A handwritten signature in black ink, appearing to read 'R. Batham'.

Operations Manager
Energy & Waste Services

Date of Issue: 29-Jan-2020

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

Where samples have been flagged as deviant on the Analytical and Deviating Sample Overview, for any reason, the data may not be representative of the sample at the point of sampling and the validity of the data may be affected.

SOCOTEC UK Limited accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

CustomerSOCOTEC UK Doncaster
SiteA9031-19 Havant Thicket Winter Storage
Report NoS204811

Consignment No S91036
Date Logged 16-Jan-2020
In-House Report Due 27-Jan-2020

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

SFAS	Sulphide as S (AR)								
	Phenol Index.(AR)	✓							
	Cyanide(Total) (AR)	✓							
	Cyanide(Free) (AR)	✓							
SFAP1		✓							
PHSOIL	pH units (AR)	✓							
PAMBUS	PAH (16) by GCMS	✓							
KONECR	Chromium vi:								
ICPSOIL	Iron	✓							
	Zinc (MS)	✓							
	Vanadium (MS)								
	Selenium (MS)	✓							
	Nickel (MS)	✓							
	Mercury (MS)	✓							
	Manganese (MS)	✓							
	Lead (MS)	✓							
	Copper (MS)	✓							
	Chromium (MS)	✓							
	Cadmium (MS)	✓							
ICPMSS	Arsenic (MS)	✓							
ICPBOR	Boron (H2O Soluble)	✓							
ICPACIDS	SO4-- (acid sol)	✓							
GROHSA	GRO (AA-UK) HSA-GCFID	✓							
FOCS	S.O.M. % (Calc)								
CustServ	REPORT A								
AMMAR	Exchange.Ammonium AR	✓							
MethodID	Sampled		15/01/20						
		Description							
ID Number		ATK-TPM-04 0.20							
		CL/2083398							

Note: We will endeavour to prioritise samples to complete analysis within holding time; however any delay could result in samples becoming deviant whilst being processed in the laboratory.

If sampling dates are missing or matrices unclassified then results will not be ISO 17025 accredited. Please contact us as soon as possible to provide missing information in order to reinstate accreditation.

Deviating Sample Key

AThe sample was received in an inappropriate container for this analysis
BThe sample was received without the correct preservation for this analysis
CHeadspace present in the sample container
DThe sampling date was not supplied so holding time may be compromised - applicable to all analysis
ESample processing did not commence within the appropriate holding time
FSample processing did not commence within the appropriate handling time

Requested Analysis Key

Analysis Required
Analysis dependant upon trigger result - Note: due date may be affected if triggered
No analysis scheduled

^

Analysis Subcontracted - Note: due date may vary

Customer SOCOTEC UK Doncaster
 Site A9031-19 Havant Thicket Winter Storage
 Report No S204811

Consignment No S91036
 Date Logged 16-Jan-2020
 In-House Report Due 27-Jan-2020

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

ID Number	Description	MethodID	TMSS	TPHUSI	WSL.M59
		Sampled	Tot.Moisture @ 105C	TPH by GC/FID (Si-UKCWG)>44	Total Organic Carbon
			✓	✓	✓
CL/2083398	ATK-TPM-04 0.20	15/01/20			

Note: We will endeavour to prioritise samples to complete analysis within holding time; however any delay could result in samples becoming deviant whilst being processed in the laboratory.

If sampling dates are missing or matrices unclassified then results will not be ISO 17025 accredited. Please contact us as soon as possible to provide missing information in order to reinstate accreditation.

Deviating Sample Key

- A The sample was received in an inappropriate container for this analysis
- B The sample was received without the correct preservation for this analysis
- C Headspace present in the sample container
- D The sampling date was not supplied so holding time may be compromised - applicable to all analysis
- E Sample processing did not commence within the appropriate holding time
- F Sample processing did not commence within the appropriate handling time

Requested Analysis Key

- Analysis Required
- Analysis dependant upon trigger result - **Note: due date may be affected if triggered**
- No analysis scheduled
- ^ Analysis Subcontracted - **Note: due date may vary**

Where individual results are flagged see report notes for status.

Method Descriptions

Matrix	MethodID	Analysis Basis	Method Description
Soil	AMMAR	As Received	Determination of Exchangeable Ammonium in Soil using potassium chloride extraction, discrete colorimetric detection
Soil	BTEXHSA	As Received	Determination of Benzene, Toluene, Ethyl benzene and Xylenes (BTEX) by Headspace GCFID
Soil	FOCS	Oven Dried @ < 35°C	Calculation of Soil Organic Matter content from Organic Carbon content of soil samples
Soil	GROHSA	As Received	Determination of Total Gasoline Range Organics Hydrocarbons (GRO) by Headspace GCFID
Soil	ICPACIDS	Oven Dried @ < 35°C	Determination of Total Sulphate in soil samples by Hydrochloric Acid extraction followed by ICPOES detection
Soil	ICPBOR	Oven Dried @ < 35°C	Determination of Boron in soil samples by hot water extraction followed by ICPOES detection
Soil	ICPMSS	Oven Dried @ < 35°C	Determination of Metals in Marine Sediments and Soil samples by aqua regia digestion followed by ICPMS detection
Soil	ICPSOIL	Oven Dried @ < 35°C	Determination of Metals in soil samples by aqua regia digestion followed by ICPOES detection
Soil	KONECR	Oven Dried @ < 35°C	Determination of Chromium vi in soil samples by water extraction followed by colorimetric detection
Soil	PAHMSUS	As Received	Determination of Polycyclic Aromatic Hydrocarbons (PAH) by hexane/acetone extraction followed by GCMS detection
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	TMSS	As Received	Determination of the Total Moisture content at 105°C by loss on oven drying gravimetric analysis (% based upon wet weight)
Soil	TPHUSSI	As Received	Determination of hexane/acetone extractable Hydrocarbons in soil with GCFID detection including quantitation of Aromatic and Aliphatic fractions.
Soil	WSLM59	Oven Dried @ < 35°C	Determination of Organic Carbon in soil using sulphurous Acid digestion followed by high temperature combustion and IR detection

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 the basis indicated in the Method Description table.
All results on MCERTS reports are reported on a 105°C dry weight basis with the exception of pH and conductivity.
- 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

Nil: Where "Nil" has been entered against Total Alkalinity or Total Acidity this indicates that a measurement was not required due to the inherent pH of the sample.

Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm³@ 15°C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile

TR Denotes Tremolite

CR Denotes Crocidolite

AC Denotes Actinolite

AM Denotes Amosite

AN Denotes Anthophyllite

NAIIS No Asbestos Identified in Sample

NADIS No Asbestos Detected In Sample

Symbol Reference

^ Sub-contracted analysis.

\$\$ 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

N.F No Flow

NS Information Not Supplied

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

§ accreditation has been removed for this result as it is a non-accredited matrix

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.

Sample Descriptions

Client	SOCOTEC UK Doncaster
Site	A9031-19 Havant Thicket Winter Storage
Report Number	S20_4811

Note: major constituent in upper case

TEST REPORT

Report No. EXR/298004 (Ver. 1)

SOCOTEC UK Doncaster
Askern Road
Carcroft
Doncaster
South Yorkshire
DN6 8DG

Site: A9031-19 Havant Thicket Water Storage

The 4 samples described in this report were registered for analysis by SOCOTEC UK Limited on 15-Jan-2020. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 27-Jan-2020

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 7)
Analytical and Deviating Sample Overview (Pages 8 to 9)
Table of Additional Report Notes (Page 10)
Table of Method Descriptions (Page 11)
Table of Report Notes (Page 12)
Table of Sample Descriptions (Appendix A Page 1 of 1)

On behalf of
SOCOTEC UK Lim
Becky Batham



Operations Manager
Energy & Waste Services

Date of Issue: 27-Jan-2020

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

Where samples have been flagged as deviant on the Analytical and Deviating Sample Overview, for any reason, the data may not be representative of the sample at the point of sampling and the validity of the data may be affected.

SOCOTEC UK Limited accepts no responsibility for any sampling not carried out by our personnel.

Sample Analysis

SOCOTEC UK Ltd Environmental Chemistry Analytical and Deviating Sample Overview

W298004

Customer **SOCOTEC UK Doncaster**
Site **A9031-19 Havant Thicket Water Storage**
Report No **W298004**

Consignment No W166576
Date Logged 15-Jan-2020
In-House Report Due 24-Jan-2020

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

[illegible]

Note: We will endeavour to prioritise samples to complete analysis within holding time; however any delay could result in samples becoming deviant whilst being processed in the laboratory.

If sampling dates are missing or matrices unclassified then results will not be ISO 17025 accredited. Please contact us as soon as possible to provide missing information in order to reinstate accreditation.

Deviating Sample Key

- | | |
|---|--|
| A | The sample was received in an inappropriate container for this analysis |
| B | The sample was received without the correct preservation for this analysis |
| C | Headspace present in the sample container |
| D | The sampling date was not supplied so holding time may be compromised - applicable to all analysis |
| E | Sample processing did not commence within the appropriate holding time |
| F | Sample processing did not commence within the appropriate handling time |

Requested Analysis Key

- | | |
|---|---|
| | Analysis Required |
| | Analysis dependant upon trigger result - Note: due date may be affected if triggered |
| | No analysis scheduled |
| ^ | Analysis Subcontracted - Note: due date may vary |

The integrity of data for samples/analysis that have been categorised as Deviating may be compromised. Data may not be representative of the sample at the time of sampling.
Where individual results are flagged see report notes for status.

Sample Analysis

SOCOTEC UK Ltd Environmental Chemistry
Analytical and Deviating Sample Overview

W298004

Customer SOCOTEC UK Doncaster
Site A9031-19 Havant Thicket Water Storage
Report No W298004

Consignment No W166576
Date Logged 15-Jan-2020
In-House Report Due 24-Jan-2020

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

ID Number	Description	MethodID		KONENS	PAMMSV	PHENR/CN	SEAPI	SFAS	TPHBD SI	WISLM13	WISLM3	pH units
		Matrix Type	Sampled									
				ICPMS VAR								
				Phosphorus as P (Dissolved) VAR								
				Boron as B (Dissolved) VAR								
				Chloride as Cl (Kone)								
				Ammoniacal Nitrogen (Kone)								
				Nitrate as N (Kone calc)								
				Chromium VI. as Cr (Kone)								
				PAH GC-MS (16)								
				Cyanide (Free) as CN SFA								
				Cyanide (Total) as CN SFA								
				Sulphide as S SFA								
				TPH by GC (CWG UKEA Banding >44)								
				Total Organic Carbon								
				Temperature C°								
				pH units								
EX/2033023	ATK-CP-12 1.00	Unclassified	14/01/20									
EX/2033024	ATK-CP-05 6.00	Unclassified	14/01/20									
EX/2033025	ATK-CP-01 3.00	Unclassified	14/01/20									
EX/2033026	ATK-CP-06 1.00	Unclassified	14/01/20									

Note: We will endeavour to prioritise samples to complete analysis within holding time; however any delay could result in samples becoming deviant whilst being processed in the laboratory.

If sampling dates are missing or matrices unclassified then results will not be ISO 17025 accredited. Please contact us as soon as possible to provide missing information in order to reinstate accreditation.

Deviating Sample Key	
A	The sample was received in an inappropriate container for this analysis
B	The sample was received without the correct preservation for this analysis
C	Headspace present in the sample container
D	The sampling date was not supplied so holding time may be compromised - applicable to all analysis
E	Sample processing did not commence within the appropriate holding time
F	Sample processing did not commence within the appropriate handling time
Requested Analysis Key	
	Analysis Required
	Analysis dependant upon trigger result - Note: due date may be affected if triggered
	No analysis scheduled
^	Analysis Subcontracted - Note: due date may vary

The integrity of data for samples/analysis that have been categorised as Deviating may be compromised. Data may not be representative of the sample at the time of sampling.
Where individual results are flagged see report notes for status.

Report Number : W/EXR/298004

Additional Report Notes

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
GROHSA	2033023-3026	The Secondary process control data associated with this Test has not wholly met the requirements of the Laboratory Quality Management System QMS with one or more target analytes falling outside acceptable limits. However the remaining data gives the Laboratory confidence that the test has performed satisfactorily (including the Primary Process Control) and that the validity of the data may not have been significantly affected. However in line with our QMS policy we have removed accreditation , where applicable, from the affected analytes (C8-C10) . These circumstances should be taken into consideration when utilising the data.
PAHMSW	EX2033025	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted to improve the signal to noise ratio but in doing so, the detection limit for this test has been elevated.

Method Descriptions

Matrix	MethodID	Analysis Basis	Method Description
Water	BTEXHSA	As Received	Benzene, Toluene, Ethylbenzene, & Xylenes by headspace extraction GCFID quantitation
Water	FNH3CALC	As Received	Calculation of Free Ammonia from Ammonium
Water	GROHSA	As Received	Determination of Total Gasoline Range Organics Hydrocarbons (GRO) by Headspace FID
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	PAHMSW	As Received	Determination of PolyAromatic Hydrocarbons in water by pentane extraction GCMS quantitation
Water	PHEHPLCVL	As Received	Determination of Phenols by HPLC
Water	SFAPI	As Received	Segmented flow analysis with colorimetric detection
Water	SFAS	As Received	Determination of Sulphide by segmented flow analysis with colorimetric detection
Water	TPHFID-Si	As Received	Determination of speciated pentane extractable hydrocarbons in water by GCFID
Water	WSLM13	As Received	Instrumental analysis using acid/persulphate digestion and non-dispersive IR detection
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 the basis indicated in the Method Description table.
All results on MCERTS reports are reported on a 105°C dry weight basis with the exception of pH and conductivity.
- 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

Nil: Where "Nil" has been entered against Total Alkalinity or Total Acidity this indicates that a measurement was not required due to the inherent pH of the sample.

Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm³@ 15°C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile

TR Denotes Tremolite

CR Denotes Crocidolite

AC Denotes Actinolite

AM Denotes Amosite

AN Denotes Anthophyllite

NAIIS No Asbestos Identified in Sample

NADIS No Asbestos Detected In Sample

Symbol Reference

^ Sub-contracted analysis.

\$\$ 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

N.F No Flow

NS Information Not Supplied

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

§ accreditation has been removed for this result as it is a non-accredited matrix

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.

Sample Descriptions

Client	SOCOTEC UK Doncaster
Site	A9031-19 Havant Thicket Water Storage
Report Number	W29_8004

TEST REPORT

Report No. EXR/299837 (Ver. 1)

SOCOTEC UK Doncaster
Askern Road
Carcroft
Doncaster
South Yorkshire
DN6 8DG

Site: A9031-19 Havant Thicket Winter Storage

The 4 samples described in this report were registered for analysis by SOCOTEC UK Limited on 14-Feb-2020. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 24-Feb-2020

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 7)
Analytical and Deviating Sample Overview (Pages 8 to 9)
Table of Additional Report Notes (Page 10)
Table of Method Descriptions (Page 11)
Table of Report Notes (Page 12)
Table of Sample Descriptions (Appendix A Page 1 of 1)

On behalf of
SOCOTEC UK Lim
Becky Batham



Operations Manager
Energy & Waste Services

Date of Issue: 24-Feb-2020

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

Where samples have been flagged as deviant on the Analytical and Deviating Sample Overview, for any reason, the data may not be representative of the sample at the point of sampling and the validity of the data may be affected.

SOCOTEC UK Limited accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

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Client Name

SOCOTEC UK Doncaster

Contact

Neil Cooke

A9031-19 Havant Thicket Winter Storage

Sample Analysis

Date Printed

24-Feb-2020

Report Number

EXR/299837

Table Number

1

Sample Analysis

SOCOTEC UK Ltd Environmental Chemistry
Analytical and Deviating Sample Overview

W299837

Customer SOCOTEC UK Doncaster
Site A9031-19 Havant Thicket Winter Storage
Report No W299837

Consignment No W168168
Date Logged 14-Feb-2020
In-House Report Due 24-Feb-2020

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

ID Number	Description	MethodID		CALCINH4	CLUSTSERV	FINISALC	GROHSA	ICPMNW													ICPVA VAR
		Matrix Type	Sampled	Ammoniacal Nitrogen as NH4 Calc	Report A	Ammonia (Free) as N calc	GRO-HSA GCFID (AA-UK)	Nickel as Ni MS (Dissolved)	Chromium as Cr MS (Dissolved)	Cadmium as Cd MS (Dissolved)	Copper as Cu MS (Dissolved)	Lead as Pb MS (Dissolved)	Zinc as Zn MS (Dissolved)	Arsenic as As MS (Dissolved)	Mercury as Hg MS (Dissolved)	Selenium as Se MS (Dissolved)	Vanadium as V MS (Dissolved)	Antimony as Sb MS (Dissolved)	Total Sulphur as SO4 (Diss) VAR	Iron as Fe (Dissolved) VAR	Aluminium as Al (Dissolved) VAR
				✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
EX/2040809	ATK-CP-01	Unclassified	12/02/20																		
EX/2040810	ATK-CP-05	Unclassified	12/02/20																		
EX/2040811	ATK-CP-06	Unclassified	12/02/20																		
EX/2040812	ATK-CP-12	Unclassified	12/02/20																		

Note: We will endeavour to prioritise samples to complete analysis within holding time; however any delay could result in samples becoming deviant whilst being processed in the laboratory.

If sampling dates are missing or matrices unclassified then results will not be ISO 17025 accredited. Please contact us as soon as possible to provide missing information in order to reinstate accreditation.

Deviating Sample Key	
A	The sample was received in an inappropriate container for this analysis
B	The sample was received without the correct preservation for this analysis
C	Headspace present in the sample container
D	The sampling date was not supplied so holding time may be compromised - applicable to all analysis
E	Sample processing did not commence within the appropriate holding time
F	Sample processing did not commence within the appropriate handling time
Requested Analysis Key	
	Analysis Required
	Analysis dependant upon trigger result - Note: due date may be affected if triggered
	No analysis scheduled
^	Analysis Subcontracted - Note: due date may vary

The integrity of data for samples/analysis that have been categorised as Deviating may be compromised. Data may not be representative of the sample at the time of sampling.
Where individual results are flagged see report notes for status.

Sample Analysis

SOCOTEC UK Ltd Environmental Chemistry
Analytical and Deviating Sample Overview

W299837

Customer SOCOTEC UK Doncaster
Site A9031-19 Havant Thicket Winter Storage
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ID Number	Description	MethodID		KONENS	PAMMSV	PHENR/CN	SEAPI	SFAS	TPH by GC (CWG UKEA Banding >44)	WISLM13	WISLM3	pH units
		Matrix Type	Sampled									
EX/2040809	ATK-CP-01	Unclassified	12/02/20									
EX/2040810	ATK-CP-05	Unclassified	12/02/20									
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Report Number : W/EXR/299837

Additional Report Notes

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
TPHFID-Si	EX2040809 TO EX2040812	The Primary process control data associated with this Test has not wholly met the requirements of the Laboratory Quality Management System QMS with one or more target analytes falling outside acceptable limits. However the remaining data gives the Laboratory confidence that the test has performed satisfactorily and that the validity of the data may not have been significantly affected. However in line with our QMS policy we have removed accreditation, where applicable, from the affected analytes (C16-C21) on the aliphatic fraction and (C21-C35) on the aromatic fraction. These circumstances should be taken into consideration when utilising the data.