37. cover validation 07/02/14 – B581-SS6

38. cover validation 07/02/14 – B582-West-SS5

39. cover validation 07/02/14 – B582-West-SS5

40. cover validation 07/02/14 – B582-West-SS5

41. 07/02/14 – B581- Site generated recycled aggregate

42. 07/02/14 – B581-West-SUB1

43. 07/02/14 – B581-West-SUB2

44. cover validation 25/02/14 – B581-West-SS3

45. cover validation 25/02/14 – B581-West-SS4

46. cover validation 25/02/14 – B581-West-SS5

47. cover validation 25/02/14 – B581-West-SS5

48. cover validation 25/02/14 – B581-West-SS6

49. cover validation 25/02/14 – B581-West-SS7

50. cover validation 25/02/14 – B581-West-SS7

51. cover validation 13/03/14 – B581-SS7

52. cover validation 13/03/14 – B581-SS7

53. cover validation 13/03/14 – B581-SS8

54. cover validation 13/03/14 – B581-SS8

55. cover validation 13/03/14 – B581-West-SS8

56. cover validation 13/03/14 – B581-West-SS8

APPENDIX B.

Analytical Results

Jones Environmental Laboratory

Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

Tel: +44 (0) 1244 833780
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Smith Grant LLP
Station House
Station Road
Ruabon
Wrexham
LL14 6DL

Attention :	Tony Smith
Date :	5th December, 2013
Your reference :	R1742
Our reference :	Test Report 13/10844 Batch 1
Location :	
Date samples received :	21st November, 2013
Status :	Final report
Issue :	1

Eighteen samples were received for analysis on 21st November, 2013. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Compiled By:

Phil Sommerton BSc
Project Manager

Bob Millward BSc FRSC
Principal Chemist

Client Name: Smith Grant LLP
Reference: R1742
Location:
Contact: Tony Smith
JE Job No.: 13/10844

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

J E Sample No.	1-2	3-4	5-6	7-8	9-10	11-12					LOD	Units	Method No.
Sample ID	BOV P9	BOV P6	BOV P3-4	DOR B51-1	DOR B51-2	DOR B51-3							
Depth													
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J							
Sample Date	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013							
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil							
Batch Number	1	1	1	1	1	1							
Date of Receipt	21/11/2013	21/11/2013	21/11/2013	21/11/2013	21/11/2013	21/11/2013							
Arsenic #M	9.7	4.8	9.9	-	-	-					<0.5	mg/kg	TM30/PM15
Arsenic	-	-	-	25.1	23.4	18.7					<0.5	mg/kg	TM30/PM62
Barium #M	35	21	36	-	-	-					<1	mg/kg	TM30/PM15
Barium	-	-	-	300	575	261					<1	mg/kg	TM30/PM62
Beryllium	0.7	<0.5	0.6	-	-	-					<0.5	mg/kg	TM30/PM15
Beryllium	-	-	-	1.4	1.3	1.1					<0.5	mg/kg	TM30/PM62
Cadmium #M	<0.1	<0.1	0.1	-	-	-					<0.1	mg/kg	TM30/PM15
Cadmium	-	-	-	<0.1	1.6	0.2					<0.1	mg/kg	TM30/PM62
Chromium #M	12.7	11.1	12.4	-	-	-					<0.5	mg/kg	TM30/PM15
Chromium	-	-	-	33.2	32.3	24.1					<0.5	mg/kg	TM30/PM62
Cobalt #M	4.2	2.9	4.4	-	-	-					<0.5	mg/kg	TM30/PM15
Cobalt	-	-	-	11.7	11.9	8.9					<0.5	mg/kg	TM30/PM62
Copper #M	9	5	8	-	-	-					<1	mg/kg	TM30/PM15
Copper	-	-	-	14	21	12					<1	mg/kg	TM30/PM62
Lead #M	13	38	42	-	-	-					<5	mg/kg	TM30/PM15
Lead	-	-	-	114	106	80					<5	mg/kg	TM30/PM62
Mercury #M	0.3	0.2	0.2	-	-	-					<0.1	mg/kg	TM30/PM15
Mercury	-	-	-	<0.1	0.2	<0.1					<0.1	mg/kg	TM30/PM62
Molybdenum #M	1.2	0.5	0.8	-	-	-					<0.1	mg/kg	TM30/PM15
Molybdenum	-	-	-	1.4	1.5	1.5					<0.1	mg/kg	TM30/PM62
Nickel #M	12.0	7.1	11.2	-	-	-					<0.7	mg/kg	TM30/PM15
Nickel	-	-	-	25.9	24.6	18.8					<0.7	mg/kg	TM30/PM62
Selenium #M	<1	<1	<1	-	-	-					<1	mg/kg	TM30/PM15
Selenium	-	-	-	<1	<1	<1					<1	mg/kg	TM30/PM62
Vanadium	31	17	32	-	-	-					<1	mg/kg	TM30/PM15
Vanadium	-	-	-	79	70	57					<1	mg/kg	TM30/PM62
Water Soluble Boron #M	1.3	1.0	1.5	-	-	-					<0.1	mg/kg	TM74/PM32
Water Soluble Boron	-	-	-	2.4	1.7	1.3					<0.1	mg/kg	TM74/PM61
Zinc #M	27	13	30	-	-	-					<5	mg/kg	TM30/PM15
Zinc	-	-	-	93	1007	159					<5	mg/kg	TM30/PM62

Client Name: Smith Grant LLP
Reference: R1742
Location:
Contact: Tony Smith
JE Job No.: 13/10844

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

J E Sample No.	1-2	3-4	5-6	7-8	9-10	11-12					LOD	Units	Method No.
Sample ID	BOV P9	BOV P6	BOV P3-4	DOR B51-1	DOR B51-2	DOR B51-3							
Depth													
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J							
Sample Date	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013							
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil							
Batch Number	1	1	1	1	1	1							
Date of Receipt	21/11/2013	21/11/2013	21/11/2013	21/11/2013	21/11/2013	21/11/2013							
PAH MS				x20 dilution	x20 dilution	x20 dilution							
Naphthalene #M	<0.04	<0.04	<0.04	<0.80	<0.80	<0.80					<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03	<0.03	<0.60	<0.60	<0.60					<0.03	mg/kg	TM4/PM8
Acenaphthene #M	<0.05	<0.05	<0.05	<1.00	<1.00	<1.00					<0.05	mg/kg	TM4/PM8
Fluorene #M	<0.04	<0.04	<0.04	<0.80	<0.80	<0.80					<0.04	mg/kg	TM4/PM8
Phenanthrene #M	<0.03	<0.03	<0.03	6.67	1.05	1.05					<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	<0.04	1.65	<0.80	<0.80					<0.04	mg/kg	TM4/PM8
Fluoranthene #M	<0.03	<0.03	<0.03	7.76	1.22	1.62					<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	<0.03	<0.03	6.45	1.07	1.30					<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	<0.06	<0.06	3.72	<1.20	<1.20					<0.06	mg/kg	TM4/PM8
Chrysene #M	0.02	<0.02	<0.02	3.61	0.71	0.86					<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #M	<0.07	<0.07	<0.07	5.13	<1.40	<1.40					<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04	<0.04	2.45	<0.80	<0.80					<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #M	<0.04	<0.04	<0.04	2.31	<0.80	<0.80					<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04	<0.04	<0.80	<0.80	<0.80					<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	<0.04	<0.04	1.41	<0.80	<0.80					<0.04	mg/kg	TM4/PM8
PAH 16 Total	<0.6	<0.6	<0.6	41.2	<12.0	<12.0					<0.6	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05	<0.05	3.69	<1.00	<1.00					<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02	<0.02	1.44	<0.40	<0.40					<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	118	119	117	105	118	114					<0	%	TM4/PM8
TPH CWG													
Aliphatics													
>C5-C6 #M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1					<0.1	mg/kg	TM36/PM12
>C6-C8 #M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1					<0.1	mg/kg	TM36/PM12
>C8-C10	<0.1	<0.1	<0.1	<0.1	0.1	<0.1					<0.1	mg/kg	TM36/PM12
>C10-C12 #M	<0.2	<0.2	<0.2	<0.2	<0.2	10.4					<0.2	mg/kg	TM5/PM16
>C12-C16 #M	<4	<4	<4	<4	<4	9					<4	mg/kg	TM5/PM16
>C16-C21 #M	<7	<7	<7	<7	<7	9					<7	mg/kg	TM5/PM16
>C21-C35 #M	<7	<7	<7	<7	<7	45					<7	mg/kg	TM5/PM16
Total aliphatics C5-35	<19	<19	<19	<19	<19	73					<19	mg/kg	TM5/TM36/PM12/PM16
Aromatics													
>C5-EC7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1					<0.1	mg/kg	TM36/PM12
>EC7-EC8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1					<0.1	mg/kg	TM36/PM12
>EC8-EC10 #M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1					<0.1	mg/kg	TM36/PM12
>EC10-EC12 #M	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2					<0.2	mg/kg	TM5/PM16
>EC12-EC16 #M	<4	<4	<4	<4	<4	<4					<4	mg/kg	TM5/PM16
>EC16-EC21 #M	<7	<7	<7	22	<7	13					<7	mg/kg	TM5/PM16
>EC21-EC35 #M	<7	<7	<7	74	46	129					<7	mg/kg	TM5/PM16
Total aromatics C5-35	<19	<19	<19	96	46	142					<19	mg/kg	TM5/TM36/PM12/PM16
Total aliphatics and aromatics(C5-35)	<38	<38	<38	96	46	215					<38	mg/kg	TM5/TM36/PM12/PM16
MTBE #	<5	<5	<5	<5	<5	<5					<5	ug/kg	TM31/PM12
Benzene #	<5	<5	<5	<5	<5	<5					<5	ug/kg	TM31/PM12

Client Name: Smith Grant LLP
Reference: R1742
Location:
Contact: Tony Smith
JE Job No.: 13/10844

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

J E Sample No.	1-2	3-4	5-6	7-8	9-10	11-12						
Sample ID	BOV P9	BOV P6	BOV P3-4	DOR B51-1	DOR B51-2	DOR B51-3						
Depth												
COC No / misc												
Containers	V J	V J	V J	V J	V J	V J						
Sample Date	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1						
Date of Receipt	21/11/2013	21/11/2013	21/11/2013	21/11/2013	21/11/2013	21/11/2013						
Toluene #	<5	<5	<5	21	<5	<5					<5	ug/kg	TM31/PM12
Ethylbenzene #	<5	<5	<5	12	<5	<5					<5	ug/kg	TM31/PM12
m/p-Xylene #	<5	<5	<5	26	<5	<5					<5	ug/kg	TM31/PM12
o-Xylene #	<5	<5	<5	20	<5	<5					<5	ug/kg	TM31/PM12
PCBs (Total vs Aroclor 1254)	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
Natural Moisture Content	20.3	14.0	-	-	-	-					<0.1	%	PM4/PM0
Hexavalent Chromium	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3					<0.3	mg/kg	TM38/PM20
Chromium III	12.7	11.1	12.4	33.2	32.3	24.1					<0.5	mg/kg	NONE/NONE
Free Cyanide	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	mg/kg	TM89/PM45
Complex Cyanide	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	mg/kg	TM89/PM45
Organic Matter	0.5	<0.2	0.5	NDP	NDP	NDP					<0.2	%	TM21/PM24
pH #M	9.04	10.92	10.46	8.43	8.15	7.83					<0.01	pH units	TM73/PM11
Sample Type	Clayey Sand	Clayey Sand	Clayey Sand	Sand	Clay	Sand						None	PM13/PM0
Sample Colour	Light Brown	Light Brown	Light Brown	Medium Brown	Medium Brown	Medium Brown						None	PM13/PM0
Other Items	stones	stones	stones	clay	sand, stones	clay, stones						None	PM13/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: Smith Grant LLP
Reference: R1742
Location:
Contact: Tony Smith
JE Job No.: 13/10844

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
$H=H_2SO_4$, Z=ZnAc, N=NaOH, $HN=HN0_3$

Please see attached notes for all abbreviations and acronyms

J E Sample No.	13	14-15	16-17	18	19-20	21-22	23-24	25	26-27	28-29	LOD	Units	Method No.
Sample ID	UG16W	UG13W	UG6W	UG7W	UG1W	UG23WW	UG22WW	UG5W	UG2W	UG14W			
Depth													
COC No / misc													
Containers	V	V	V	V	V	V	V	V	V	V			
Sample Date	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013			
Sample Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	21/11/2013	21/11/2013	21/11/2013	21/11/2013	21/11/2013	21/11/2013	21/11/2013	21/11/2013	21/11/2013	21/11/2013			
TPH CWG													
Aliphatics													
>C5-C6 #	11931	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/l	TM36/PM12
>C6-C8 #	5991	<5	<5	<5	43	<5	<5	<5	43	<5	<5	ug/l	TM36/PM12
>C8-C10 #	2560	<5	28	<5	<5	<5	<5	<5	359	<5	<5	ug/l	TM36/PM12
Total aliphatics >C5-C10 #	20482	<10	28	<10	43	<10	<10	<10	402	<10	<10	ug/l	TM36/PM12
Aromatics													
>C5-EC7 #	22939	<5	<5	<5	10	<5	<5	<5	69	<5	<5	ug/l	TM36/PM12
>EC7-EC8 #	46548	<5	<5	<5	7	<5	<5	<5	186	<5	<5	ug/l	TM36/PM12
>EC8-EC10 #	20306	<5	26	<5	344	<5	<5	<5	604	<5	<5	ug/l	TM36/PM12
Total aromatics >C5-C10 #	89793	<10	26	<10	361	<10	<10	<10	859	<10	<10	ug/l	TM36/PM12
Total aliphatics and aromatics >C5-C10 #	110275	<10	54	<10	404	<10	<10	<10	1261	<10	<10	ug/l	TM36/PM12
MTBE #	2783	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/l	TM36/PM12
Benzene #	22939	<5	<5	<5	10	<5	<5	<5	69	<5	<5	ug/l	TM36/PM12
Toluene #	46548	<5	<5	<5	7	<5	<5	<5	186	<5	<5	ug/l	TM36/PM12
Ethylbenzene #	3780	<5	<5	<5	51	<5	<5	<5	88	<5	<5	ug/l	TM36/PM12
m/p-Xylene #	11356	<5	5	<5	170	<5	<5	<5	297	<5	<5	ug/l	TM36/PM12
o-Xylene #	5171	<5	20	<5	123	<5	<5	<5	219	<5	<5	ug/l	TM36/PM12

Client Name: Smith Grant LLP
Reference: R1742
Location:
Contact: Tony Smith
JE Job No.: 13/10844

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
$H=H_2SO_4$, Z=ZnAc, N=NaOH, $HN=HN0_3$

Please see attached notes for all abbreviations and acronyms

J E Sample No.	30-31										LOD	Units	Method No.
Sample ID	UG15W												
Depth													
COC No / misc													
Containers	V												
Sample Date	20/11/2013												
Sample Type	Ground Water												
Batch Number	1												
Date of Receipt	21/11/2013												
TPH CWG													
Aliphatics													
>C5-C6 #	<5										<5	ug/l	TM36/PM12
>C6-C8 #	<5										<5	ug/l	TM36/PM12
>C8-C10 #	20										<5	ug/l	TM36/PM12
Total aliphatics >C5-C10 #	20										<10	ug/l	TM36/PM12
Aromatics													
>C5-EC7 #	<5										<5	ug/l	TM36/PM12
>EC7-EC8 #	<5										<5	ug/l	TM36/PM12
>EC8-EC10 #	6										<5	ug/l	TM36/PM12
Total aromatics >C5-C10 #	<10										<10	ug/l	TM36/PM12
Total aliphatics and aromatics >C5-C10 #	20										<10	ug/l	TM36/PM12
MTBE #	<5										<5	ug/l	TM36/PM12
Benzene #	<5										<5	ug/l	TM36/PM12
Toluene #	<5										<5	ug/l	TM36/PM12
Ethylbenzene #	<5										<5	ug/l	TM36/PM12
m/p-Xylene #	<5										<5	ug/l	TM36/PM12
o-Xylene #	6										<5	ug/l	TM36/PM12

Client Name: Smith Grant LLP
Reference: R1742
Location:
Contact: Tony Smith
JE Job No.: 13/10844

Report : Product

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
H=H_2SO_4, Z=ZnAc, N=NaOH, HN=$HN0_3$

J E Sample No.	32												
Sample ID	UG20P												
Depth											Please see attached notes for all abbreviations and acronyms		
COC No / misc													
Containers	V												
Sample Date	20/11/2013												
Sample Type	Product												
Batch Number	1										LOD	Units	Method No.
Date of Receipt	21/11/2013												
Whole Oil Trace	See Attached											None	TM1/PM0
Carbon Range	5-13											None	TM1/PM0
Boiling Point Range	36-235										<50	Degrees C	TM1/PM0
Interpretation	Gasoline											None	TM1/PM0
Pristane/Phytane Ratio	N/A											None	TM1/PM0
nC17/Pristane Ratio	N/A											None	TM1/PM0
Age (± 2years) (Christensen & Larsen 1993)	N/A											Years	TM1/PM0

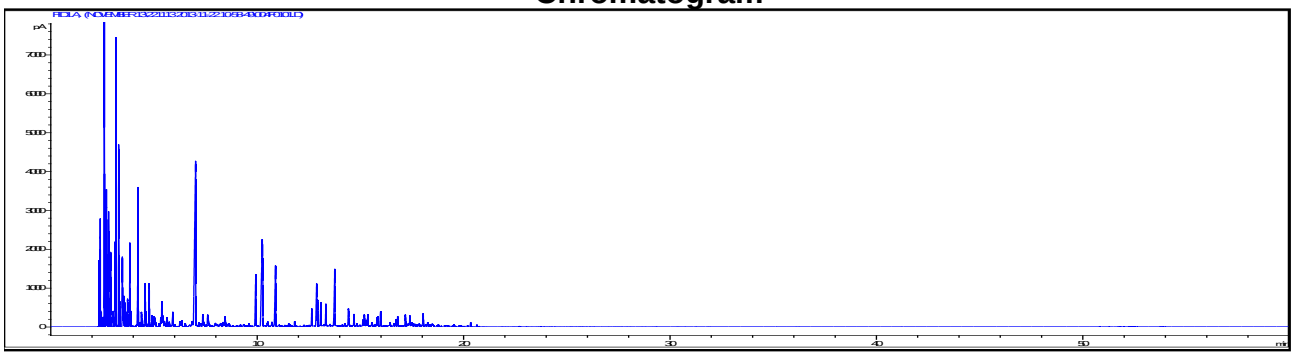
Jones Environmental Forensics Ltd

Whole Oil Analysis by GC-FID

No.4225

Job Number:	13/10844-32		
Client ID:	UG20P		
Description:	Amber Oil		
Carbon Range:	nC5	to	nC13
Boiling Point Range:	36°C	to	235°C
Pristane/Phytane Ratio:	N/A		
nC17/Pristane Ratio:	N/A		
Age(+/-2 years)	N/A		
Fingerprint:	Gasoline		

Chromatogram



Analyst: M.A. Cully BSc MRSC **Date:** 22/11/2013

All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Smith Grant LLP
Reference: R1742
Location:
Contact: Tony Smith
JE Job No.: 13/10844

VOC Report : **Product**

J E Sample No.	32												
Sample ID	UG20P												
Depth											Please see attached notes for all abbreviations and acronyms		
COC No / misc													
Containers	V												
Sample Date	20/11/2013												
Sample Type	Product												
Batch Number	1										LOD	Units	Method No.
Date of Receipt	21/11/2013												
VOC MS													
Methyl Tertiary Butyl Ether	<0.01										<0.01	%	TM15/PM10
Benzene	3.99										<0.01	%	TM15/PM10
Toluene	6.68										<0.01	%	TM15/PM10
Ethylbenzene	2.12										<0.01	%	TM15/PM10
p/m-Xylene	4.37										<0.01	%	TM15/PM10
o-Xylene	2.03										<0.01	%	TM15/PM10

Client Name: Smith Grant LLP
Reference: R1742
Location:
Contact: Tony Smith

Note:

Analysis was carried out in accordance with our documented in-house methods PM042 and TM065 and HSG 248 by Stereo and Polarised Light Microscopy using Dispersion Staining Techniques and is covered by our UKAS accreditation. Samples are retained for not less than 6 months from the date of analysis unless specifically requested.

Opinions lie outside the scope of our UKAS accreditation.

Where the sample is not taken by a Jones Environmental Laboratory consultant, Jones Environmental Laboratory cannot be responsible for inaccurate or unrepresentative sampling.

If asbestos fibres are reported at trace levels there will not be enough fibres to quantify and will be less than 0.001%.

Signed on behalf of Jones Environmental Laboratory:

Gemma Newsome
Asbestos Team Leader

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	Date Of Analysis	Description		Asbestos Results	Asbestos Level	Comments
13/10844	1	DOR B51-1		8	02/12/13	Soil-Silt/Clay/Brick/Stone//Fibre Bundle		Amosite, Chrysotile	Quantifiable	
13/10844	1	DOR B51-2		10	02/12/13	Soil-Silt/Clay/Brick/Stone/MMMF//Trace Fibres		Amosite	Trace	
13/10844	1	DOR B51-3		12	02/12/13	Soil-Silt/Clay/Brick/Stone//Fibre Bundle, Soil-Silt/Clay/Brick/Stone//Trace Fibres		Amosite, Chrysotile	Quantifiable	

Client Name: Smith Grant LLP **Matrix : Solid**
Reference: R1742
Location:
Contact: Tony Smith

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	NDP Reason
13/10844	1	DOR B51-1		7-8	Asbestos detected in sample
13/10844	1	DOR B51-2		9-10	Asbestos detected in sample
13/10844	1	DOR B51-3		11-12	Asbestos detected in sample

Client Name: Smith Grant LLP
Reference: R1742
Location:
Contact: Tony Smith

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	Analysis	Reason
No deviating sample report results for job 13/10844						

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating.
Only analyses which are accredited are recorded as deviating if set criteria are not met.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

JE Job No.: 13/10844

SOILS

Please note we are only MCERTS accredited for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. If we are instructed to keep samples, a storage charge of £1 (1.5 Euros) per sample per month will be applied until we are asked to dispose of them.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

WATERS

Please note we are not a Drinking Water Inspectorate (DWI) Approved Laboratory . It is important that detection limits are carefully considered when requesting water analysis.

UKAS accreditation applies to surface water and groundwater and one other matrix which is analysis specific, any other liquids are outside our scope of accreditation

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

DEVIATING SAMPLES

Samples must be received in a condition appropriate to the requested analyses. All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. If this is not the case you will be informed and any test results that may be compromised highlighted on your deviating samples report.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

NOTE

Data is only accredited when all the requirements of our Quality System have been met. In certain circumstances where the requirements have not been met, the laboratory may issue the data in an interim report but will remove the accreditation, in this instance results should be considered indicative only. Where possible samples will be re-extracted and a final report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

ABBREVIATIONS and ACRONYMS USED

#	UKAS accredited.
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance.
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
++	Result outside calibration range, results should be considered as indicative only and are not accredited.
*	Analysis subcontracted to a Jones Environmental approved laboratory.
CO	Suspected carry over
OC	Outside Calibration Range
NFD	No Fibres Detected

JE Job No: 13/10844

Test Method No.	Description	Prep Method No. (if appropriate)	Description	UKAS	MCERTS (soils only)	Analysis done on As Received (AR) or Air Dried (AD)	Reported on dry weight basis
TM1	In house method based on USEPA 8015B. Determination of carbon banding in oil and product samples by GC-FID. ISO 17025 accredited. Accreditation is matrix specific.	PM0	No preparation is required.			AR	
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465 and BS1377.	PM0	No preparation is required.				
TM4	16 PAH by GC-MS, modified USEPA 8270	PM8	In-house method based on USEPA 3510. ISO 17025 accredited extraction method for organic extraction from solid samples using an end over end agitator.			AR	Yes
TM4	16 PAH by GC-MS, modified USEPA 8270	PM8	In-house method based on USEPA 3510. ISO 17025 accredited extraction method for organic extraction from solid samples using an end over end agitator.	Yes		AR	Yes
TM4	16 PAH by GC-MS, modified USEPA 8270	PM8	In-house method based on USEPA 3510. ISO 17025 accredited extraction method for organic extraction from solid samples using an end over end agitator.	Yes	Yes	AR	Yes
TM5	In-House method based on USEPA 8015B. Determination of Extractable Petroleum Hydrocarbons (EPH) in the carbon chain length range of C8-40 by GC-FID. Accredited to ISO 17025 on soil and water samples and MCERTS (carbon banding only) on soils. All accreditation is matrix specific.	PM16	Aliphatic/Aromatic fractionation	Yes	Yes	AR	Yes
TM5/TM36	TPH CWG by GC-FID	PM12/PM16	CWG GC-FID			AR	Yes
PM13	Soil Typing for MCERTS	PM0	No preparation is required.			AR	
TM15	In-House method based on USEPA 8260. Determination of Volatile Organic compounds (VOCs) by Headspace GC-MS. Accredited to ISO 17025 for soils and waters and MCERTS for Soils. All accreditation is matrix specific. Quantification by Internal Standard method.	PM10	In-house method based on USEPA 5021. Preparation of solid and liquid samples for headspace analysis. Samples are spiked with surrogates to facilitate quantification. ISO 17025 accredited extraction method. All accreditation is matrix specific			AR	
TM16	In-House method based on USEPA 8270. Determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS. Accredited to ISO 17025 for waters. All accreditation is matrix specific. Quantification by Internal Standard method.	PM8	In-house method based on USEPA 3510. ISO 17025 accredited extraction method for organic extraction from solid samples using an end over end agitator.			AR	Yes

JE Job No: 13/10844

Test Method No.	Description	Prep Method No. (if appropriate)	Description	UKAS	MCERTS (soils only)	Analysis done on As Received (AR) or Air Dried (AD)	Reported on dry weight basis
TM21	TOC and TC by Combustion	PM24	Eltra preparation			AD	Yes
TM30	Trace Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry) using Thermo iCAP 6000 series instrument. Accredited to ISO 17025 for soils and waters and MCERTS accredited for Soils. All accreditation is matrix specific.	PM15	In-house method based on USEPA 3010A. Acid digestion of water samples and analsyis by ICP-OES as per method TM030S. ISO 17025 and MCERTS accredited extraction method. All accreditation is matrix specific			AD	Yes
TM30	Trace Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry) using Thermo iCAP 6000 series instrument. Accredited to ISO 17025 for soils and waters and MCERTS accredited for Soils. All accreditation is matrix specific.	PM15	In-house method based on USEPA 3010A. Acid digestion of water samples and analsyis by ICP-OES as per method TM030S. ISO 17025 and MCERTS accredited extraction method. All accreditation is matrix specific	Yes	Yes	AD	Yes
TM30	Trace Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry) using Thermo iCAP 6000 series instrument. Accredited to ISO 17025 for soils and waters and MCERTS accredited for Soils. All accreditation is matrix specific.	PM62	Aqua Regia extraction (Soils) (as received sample)			AR	Yes
TM31	In-house method based on USEPA 8015B. Determination of Methyltertbutylether, Benzene, Toluene, Ethylbenzene and Xylene by headspace GC-FID. Accredited to ISO 17025 for soils and waters and MCERTS accredited for soils. Accreditation is matrix specific.	PM12	In-house method based on USEPA 5021. Preparation of solid and liquid samples for headspace analysis. Samples are spiked with surrogates to facilitate quantification. ISO 17025 accredited extraction method. All accreditation is matrix specific			AR	Yes
TM31	In-house method based on USEPA 8015B. Determination of Methyltertbutylether, Benzene, Toluene, Ethylbenzene and Xylene by headspace GC-FID. Accredited to ISO 17025 for soils and waters and MCERTS accredited for soils. Accreditation is matrix specific.	PM12	In-house method based on USEPA 5021. Preparation of solid and liquid samples for headspace analysis. Samples are spiked with surrogates to facilitate quantification. ISO 17025 accredited extraction method. All accreditation is matrix specific	Yes		AR	Yes
TM36	In-House method based on USEPA 8015B. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C5-12 by headspace GC-FID. Accredited to ISO 17025 on soil and water samples and MCERTS accredited (carbon banding only) on soils. All accreditation is matrix specific.	PM12	In-house method based on USEPA 5021. Preparation of solid and liquid samples for headspace analysis. Samples are spiked with surrogates to facilitate quantification. ISO 17025 accredited extraction method. All accreditation is matrix specific	Yes			
TM36	In-House method based on USEPA 8015B. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C5-12 by headspace GC-FID. Accredited to ISO 17025 on soil and water samples and MCERTS accredited (carbon banding only) on soils. All accreditation is matrix specific.	PM12	In-house method based on USEPA 5021. Preparation of solid and liquid samples for headspace analysis. Samples are spiked with surrogates to facilitate quantification. ISO 17025 accredited extraction method. All accreditation is matrix specific			AR	Yes
TM36	In-House method based on USEPA 8015B. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C5-12 by headspace GC-FID. Accredited to ISO 17025 on soil and water samples and MCERTS accredited (carbon banding only) on soils. All accreditation is matrix specific.	PM12	In-house method based on USEPA 5021. Preparation of solid and liquid samples for headspace analysis. Samples are spiked with surrogates to facilitate quantification. ISO 17025 accredited extraction method. All accreditation is matrix specific	Yes	Yes	AR	Yes
TM38	Ionic analysis using the Thermo Aquakem Photometric Automatic Analyser. Accredited to ISO17025 and MCERTS for most analytes. All accreditation is matrix specific.	PM20	in-house method based on USEPA 1311 (TCLP). Solid samples are extracted with two parts de-ionised water to one part solid material for analysis of the extract for various parameters.			AR	Yes

JE Job No: 13/10844

Test Method No.	Description	Prep Method No. (if appropriate)	Description	UKAS	MCERTS (soils only)	Analysis done on As Received (AR) or Air Dried (AD)	Reported on dry weight basis
TM65	Asbestos Bulk Identification	PM42	Screening of soils for fibres			AR	
TM65	Asbestos Bulk Identification	PM42	Screening of soils for fibres	Yes		AR	
TM73	pH in by Metrohm	PM11	1:2.5 soil/water extraction	Yes	Yes	AR	No
TM74	Water Soluble Boron by ICP-OES	PM32	Preparation of soils for WSB	Yes	Yes	AD	Yes
TM74	Water Soluble Boron by ICP-OES	PM61	Preparation of soils for WSB (as received sample)			AR	Yes
TM89	In-house method based on USEPA method OIA-1667. Determination of cyanide by Flow Injection Analyser. ISO17025 accredited method for soils and waters and MCERTS on soils. Accreditation is matrix specific.	PM45	Cyanide & Thiocyanate prep for soils			AR	Yes
NONE	No Method Code	NONE	No Method Code				Yes

Jones Environmental Laboratory

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Smith Grant LLP
Station House
Station Road
Ruabon
Wrexham
LL14 6DL

Attention :	Gareth Carroll
Date :	8th January, 2014
Your reference :	R1742
Our reference :	Test Report 13/11985 Batch 1
Location :	Upper Heyford
Date samples received :	19th December, 2013
Status :	Final report
Issue :	1

Seventeen samples were received for analysis on 19th December, 2013. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Compiled By:

Bruce Leslie
Project Co-ordinator

Bob Millward BSc FRSC
Principal Chemist

Client Name: Smith Grant LLP
Reference: R1742
Location: Upper Heyford
Contact: Gareth Carroll
JE Job No.: 13/11985

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

J E Sample No.	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	LOD	Units	Method No.
Sample ID	PG-TS1	PG-TS2	PG-SS1	PG-SS2	PG-SS3	582-SS1-WEST	582-SS2-WEST	582-SS3-WEST	582-TS1-WEST	582-TS2-WEST			
Depth			0.45	0.45	0.45	0.4	0.4	0.4					
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J	V J	V J	V J	V J			
Sample Date	18/12/2013	18/12/2013	18/12/2013	18/12/2013	18/12/2013	18/12/2013	18/12/2013	18/12/2013	18/12/2013	18/12/2013			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	19/12/2013	19/12/2013	19/12/2013	19/12/2013	19/12/2013	19/12/2013	19/12/2013	19/12/2013	19/12/2013	19/12/2013			
Arsenic #M	20.5	19.6	14.2	14.6	9.7	16.2	13.6	15.5	23.7	28.6	<0.5	mg/kg	TM30/PM15
Barium #M	71	65	63	38	31	31	33	58	74	67	<1	mg/kg	TM30/PM15
Beryllium	1.3	1.2	0.6	0.7	0.7	0.9	0.8	0.9	1.3	1.4	<0.5	mg/kg	TM30/PM15
Cadmium #M	0.2	0.2	0.1	<0.1	<0.1	0.1	0.1	0.2	0.3	0.2	<0.1	mg/kg	TM30/PM15
Chromium #M	30.2	28.7	15.6	28.2	14.0	19.1	18.1	23.7	36.9	55.3	<0.5	mg/kg	TM30/PM15
Cobalt #M	9.9	9.6	4.8	4.6	4.9	5.9	5.1	6.9	9.4	10.7	<0.5	mg/kg	TM30/PM15
Copper #M	14	14	8	8	8	10	9	13	21	18	<1	mg/kg	TM30/PM15
Lead #M	27	25	14	13	15	17	15	21	46	38	<5	mg/kg	TM30/PM15
Mercury #M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM30/PM15
Molybdenum #M	1.5	1.3	0.7	1.7	0.8	0.8	0.9	0.9	1.6	2.5	<0.1	mg/kg	TM30/PM15
Nickel #M	21.7	21.7	11.4	12.3	11.5	14.2	12.8	15.1	22.0	22.7	<0.7	mg/kg	TM30/PM15
Selenium #M	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	mg/kg	TM30/PM15
Vanadium	59	58	35	36	31	53	44	48	72	68	<1	mg/kg	TM30/PM15
Water Soluble Boron #M	2.1	2.5	0.7	0.5	1.3	1.2	1.4	1.8	2.3	1.9	<0.1	mg/kg	TM74/PM32
Zinc #M	64	66	34	29	29	33	33	49	154	112	<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #M	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.04	<0.03	<0.03	mg/kg	TM4/PM8
Acenaphthene #M	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM4/PM8
Fluorene #M	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Phenanthrene #M	0.07	0.08	<0.03	0.06	<0.03	<0.03	<0.03	0.04	0.91	0.08	<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.10	<0.04	<0.04	mg/kg	TM4/PM8
Fluoranthene #M	0.18	0.17	0.07	0.27	0.03	<0.03	<0.03	0.18	1.81	0.27	<0.03	mg/kg	TM4/PM8
Pyrene #	0.16	0.14	0.06	0.25	0.03	<0.03	<0.03	0.17	1.31	0.23	<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	0.09	0.12	<0.06	0.16	<0.06	<0.06	<0.06	0.13	0.52	0.14	<0.06	mg/kg	TM4/PM8
Chrysene #M	0.10	0.09	0.05	0.18	0.02	0.02	<0.02	0.16	0.91	0.17	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #M	0.16	0.16	0.08	0.29	<0.07	<0.07	<0.07	0.21	1.36	0.24	<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	0.12	0.10	0.06	0.22	<0.04	<0.04	<0.04	0.15	0.76	0.17	<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #M	0.08	0.07	<0.04	0.13	<0.04	<0.04	<0.04	0.09	0.56	0.10	<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.09	<0.04	<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	0.08	0.07	<0.04	0.13	<0.04	<0.04	<0.04	0.09	0.51	0.10	<0.04	mg/kg	TM4/PM8
PAH 16 Total	1.0	1.0	<0.6	1.7	<0.6	<0.6	<0.6	1.2	8.9	1.5	<0.6	mg/kg	TM4/PM8
Benzo(b)fluoranthene	0.12	0.12	0.06	0.21	<0.05	<0.05	<0.05	0.15	0.98	0.17	<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	0.04	0.04	0.02	0.08	<0.02	<0.02	<0.02	0.06	0.38	0.07	<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	99	109	83	96	96	99	101	99	97	96	<0	%	TM4/PM8

Client Name: Smith Grant LLP
Reference: R1742
Location: Upper Heyford
Contact: Gareth Carroll
JE Job No.: 13/11985

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

J E Sample No.	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	LOD	Units	Method No.
Sample ID	PG-TS1	PG-TS2	PG-SS1	PG-SS2	PG-SS3	582-SS1-WEST	582-SS2-WEST	582-SS3-WEST	582-TS1-WEST	582-TS2-WEST			
Depth			0.45	0.45	0.45	0.4	0.4	0.4					
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J	V J	V J	V J	V J			
Sample Date	18/12/2013	18/12/2013	18/12/2013	18/12/2013	18/12/2013	18/12/2013	18/12/2013	18/12/2013	18/12/2013	18/12/2013			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	19/12/2013	19/12/2013	19/12/2013	19/12/2013	19/12/2013	19/12/2013	19/12/2013	19/12/2013	19/12/2013	19/12/2013			
TPH CWG													
Aliphatics													
>C5-C6 #M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C6-C8 #M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C8-C10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C10-C12 #M	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM16
>C12-C16 #M	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM16
>C16-C21 #M	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM16
>C21-C35 #M	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM16
Total aliphatics C5-35	<19	<19	<19	<19	<19	<19	<19	<19	<19	<19	<19	mg/kg	TM5/TM36/PM12/PM16
Aromatics													
>C5-EC7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC7-EC8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC8-EC10 #M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC10-EC12	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM16
>EC12-EC16	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM16
>EC16-EC21	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM16
>EC21-EC35	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM16
Total aromatics C5-35	<19	<19	<19	<19	<19	<19	<19	<19	<19	<19	<19	mg/kg	TM5/TM36/PM12/PM16
Total aliphatics and aromatics(C5-35)	<38	<38	<38	<38	<38	<38	<38	<38	<38	<38	<38	mg/kg	TM5/TM36/PM12/PM16
MTBE #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM31/PM12
Benzene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM31/PM12
Toluene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM31/PM12
Ethylbenzene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM31/PM12
m/p-Xylene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM31/PM12
o-Xylene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM31/PM12
PCBs (Total vs Aroclor 1254)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
Natural Moisture Content	24.4	26.9	11.4	8.9	11.6	17.4	13.4	15.2	29.7	25.6	<0.1	%	PM4/PM0
Hexavalent Chromium	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	mg/kg	TM38/PM20
Free Cyanide	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	mg/kg	TM89/PM45
Complex Cyanide	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	mg/kg	TM89/PM45
Organic Matter	3.6	3.4	0.7	<0.2	0.7	1.2	1.0	1.2	3.6	2.8	<0.2	%	TM21/PM24
Electrical Conductivity @25C (5:1 ext)	171	132	126	105	114	120	126	159	186	150	<100	uS/cm	TM76/PM58
pH #M	7.89	7.92	8.64	8.87	8.71	8.41	8.10	8.57	8.06	7.98	<0.01	pH units	TM73/PM11
Sample Type	Clay	Clay	Clay	Clayey Sand	Clay	Clay	Clay	Clay	Clay	Clay		None	PM13/PM0
Sample Colour	Medium Brown	Medium Brown	Light Brown	Light Brown	Light Brown	Light Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown		None	PM13/PM0
Other Items	stones	stones	stones	stones	stones	stones	stones	stones	stones and roots	stones and roots		None	PM13/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: Smith Grant LLP
Reference: R1742
Location: Upper Heyford
Contact: Gareth Carroll
JE Job No.: 13/11985

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

J E Sample No.	21-22	23-24	25-26	27-28	29-30	35-36					LOD	Units	Method No.
Sample ID	582-SS4-WEST	BOVIS-SP1(TS)-1	581-SS1-WEST	581-SS2-WEST	581-TS1-WEST	PG-TS3							
Depth	0.4												
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J							
Sample Date	18/12/2013	18/12/2013	18/12/2013	18/12/2013	18/12/2013	18/12/2013							
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil							
Batch Number	1	1	1	1	1	1							
Date of Receipt	19/12/2013	19/12/2013	19/12/2013	19/12/2013	19/12/2013	19/12/2013							
Arsenic #M	14.8	20.6	21.7	16.1	18.4	21.3					<0.5	mg/kg	TM30/PM15
Barium #M	38	67	43	38	57	70					<1	mg/kg	TM30/PM15
Beryllium	0.8	1.3	1.2	0.9	0.9	1.2					<0.5	mg/kg	TM30/PM15
Cadmium #M	0.1	0.5	0.2	0.2	0.2	0.2					<0.1	mg/kg	TM30/PM15
Chromium #M	19.9	49.9	24.2	18.6	24.2	33.1					<0.5	mg/kg	TM30/PM15
Cobalt #M	5.8	9.5	7.3	5.7	7.2	9.9					<0.5	mg/kg	TM30/PM15
Copper #M	10	18	11	25	14	13					<1	mg/kg	TM30/PM15
Lead #M	17	91	15	19	40	20					<5	mg/kg	TM30/PM15
Mercury #M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1					<0.1	mg/kg	TM30/PM15
Molybdenum #M	0.8	2.1	1.7	1.8	1.2	1.6					<0.1	mg/kg	TM30/PM15
Nickel #M	13.6	25.0	18.7	15.9	18.0	22.3					<0.7	mg/kg	TM30/PM15
Selenium #M	<1	1	<1	<1	<1	1					<1	mg/kg	TM30/PM15
Vanadium	50	60	65	47	50	60					<1	mg/kg	TM30/PM15
Water Soluble Boron #M	5.5	2.7	1.6	1.6	1.6	1.9					<0.1	mg/kg	TM74/PM32
Zinc #M	33	75	43	206	76	59					<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #M	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04					<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03					<0.03	mg/kg	TM4/PM8
Acenaphthene #M	0.64	<0.05	<0.05	<0.05	<0.05	<0.05					<0.05	mg/kg	TM4/PM8
Fluorene #M	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04					<0.04	mg/kg	TM4/PM8
Phenanthrene #M	0.38	0.07	0.05	<0.03	0.12	0.05					<0.03	mg/kg	TM4/PM8
Anthracene #	0.08	<0.04	<0.04	<0.04	<0.04	<0.04					<0.04	mg/kg	TM4/PM8
Fluoranthene #M	1.26	0.17	0.19	0.08	0.36	0.17					<0.03	mg/kg	TM4/PM8
Pyrene #	1.29	0.14	0.18	0.07	0.28	0.14					<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	1.17	0.11	0.14	<0.06	0.17	0.12					<0.06	mg/kg	TM4/PM8
Chrysene #M	1.71	0.10	0.15	0.05	0.24	0.10					<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #M	4.24	0.15	0.19	<0.07	0.31	0.16					<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	3.77	0.10	0.13	0.05	0.17	0.12					<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #M	3.68	0.07	0.08	<0.04	0.12	0.06					<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	0.80	<0.04	<0.04	<0.04	<0.04	<0.04					<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	3.43	0.07	0.08	<0.04	0.12	0.06					<0.04	mg/kg	TM4/PM8
PAH 16 Total	22.5	1.0	1.2	<0.6	1.9	1.0					<0.6	mg/kg	TM4/PM8
Benzo(b)fluoranthene	3.05	0.11	0.14	<0.05	0.22	0.12					<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	1.19	0.04	0.05	<0.02	0.09	0.04					<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	100	98	101	97	102	102					<0	%	TM4/PM8

Please see attached notes for all abbreviations and acronyms

Client Name: Smith Grant LLP
Reference: R1742
Location: Upper Heyford
Contact: Gareth Carroll
JE Job No.: 13/11985

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

J E Sample No.	21-22	23-24	25-26	27-28	29-30	35-36					LOD	Units	Method No.
Sample ID	582-SS4-WEST	BOVIS-SP1(TS)-1	581-SS1-WEST	581-SS2-WEST	581-TS1-WEST	PG-TS3							
Depth	0.4												
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J							
Sample Date	18/12/2013	18/12/2013	18/12/2013	18/12/2013	18/12/2013	18/12/2013							
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil							
Batch Number	1	1	1	1	1	1							
Date of Receipt	19/12/2013	19/12/2013	19/12/2013	19/12/2013	19/12/2013	19/12/2013							
TPH CWG													
Aliphatics													
>C5-C6 #M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1					<0.1	mg/kg	TM36/PM12
>C6-C8 #M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1					<0.1	mg/kg	TM36/PM12
>C8-C10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1					<0.1	mg/kg	TM36/PM12
>C10-C12 #M	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2					<0.2	mg/kg	TM5/PM16
>C12-C16 #M	<4	<4	<4	<4	<4	<4					<4	mg/kg	TM5/PM16
>C16-C21 #M	<7	<7	<7	<7	<7	<7					<7	mg/kg	TM5/PM16
>C21-C35 #M	<7	<7	<7	<7	<7	<7					<7	mg/kg	TM5/PM16
Total aliphatics C5-35	<19	<19	<19	<19	<19	<19					<19	mg/kg	TM5/TM36/PM12/PM16
Aromatics													
>C5-EC7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1					<0.1	mg/kg	TM36/PM12
>EC7-EC8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1					<0.1	mg/kg	TM36/PM12
>EC8-EC10 #M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1					<0.1	mg/kg	TM36/PM12
>EC10-EC12	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2					<0.2	mg/kg	TM5/PM16
>EC12-EC16	<4	<4	<4	<4	<4	<4					<4	mg/kg	TM5/PM16
>EC16-EC21	<7	<7	<7	<7	<7	<7					<7	mg/kg	TM5/PM16
>EC21-EC35	<7	<7	<7	<7	<7	<7					<7	mg/kg	TM5/PM16
Total aromatics C5-35	<19	<19	<19	<19	<19	<19					<19	mg/kg	TM5/TM36/PM12/PM16
Total aliphatics and aromatics(C5-35)	<38	<38	<38	<38	<38	<38					<38	mg/kg	TM5/TM36/PM12/PM16
MTBE #	<5	<5	<5	<5	<5	<5					<5	ug/kg	TM31/PM12
Benzene #	<5	<5	<5	<5	<5	<5					<5	ug/kg	TM31/PM12
Toluene #	<5	<5	<5	<5	<5	<5					<5	ug/kg	TM31/PM12
Ethylbenzene #	<5	<5	<5	<5	<5	<5					<5	ug/kg	TM31/PM12
m/p-Xylene #	<5	<5	<5	<5	<5	<5					<5	ug/kg	TM31/PM12
o-Xylene #	<5	<5	<5	<5	<5	<5					<5	ug/kg	TM31/PM12
PCBs (Total vs Aroclor 1254)	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
Natural Moisture Content	16.0	28.2	17.6	17.5	20.6	23.2					<0.1	%	PM4/PM0
Hexavalent Chromium	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3					<0.3	mg/kg	TM38/PM20
Free Cyanide	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	mg/kg	TM89/PM45
Complex Cyanide	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	mg/kg	TM89/PM45
Organic Matter	1.2	5.3	0.9	1.0	1.9	2.1					<0.2	%	TM21/PM24
Electrical Conductivity @25C (5:1 ext)	119	185	119	120	148	158					<100	uS/cm	TM76/PM58
pH #M	8.29	7.93	8.45	8.48	8.10	8.04					<0.01	pH units	TM73/PM11
Sample Type	Clay	Loam	Clay	Clay	Loam	Clay						None	PM13/PM0
Sample Colour	Medium Brown	Medium Brown	Light Brown	Medium Brown	Medium Brown	Medium Brown						None	PM13/PM0
Other Items	stones	roots	none	stones	stones	stones						None	PM13/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: Smith Grant LLP
Reference: R1742
Location: Upper Heyford
Contact: Gareth Carroll
JE Job No.: 13/11985

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
H=H_2SO_4, Z=ZnAc, N=NaOH, HN=$HN0_3$

Please see attached notes for all abbreviations and acronyms

J E Sample No.	31-34												
Sample ID	HOSPITAL 2												
Depth													
COC No / misc													
Containers	V P G												
Sample Date	18/12/2013												
Sample Type	Liquid												
Batch Number	1												
Date of Receipt	19/12/2013												
												LOD	Units	Method No.
Dissolved Arsenic	5.5											<2.5	ug/l	TM30/PM14
Dissolved Boron	739											<12	ug/l	TM30/PM14
Dissolved Cadmium	0.9											<0.5	ug/l	TM30/PM14
Total Dissolved Chromium	3.6											<1.5	ug/l	TM30/PM14
Dissolved Copper	25											<7	ug/l	TM30/PM14
Dissolved Lead	5											<5	ug/l	TM30/PM14
Dissolved Mercury	<1											<1	ug/l	TM30/PM14
Dissolved Nickel	17											<2	ug/l	TM30/PM14
Dissolved Selenium	<3											<3	ug/l	TM30/PM14
Dissolved Zinc	1528											<3	ug/l	TM30/PM14
PAH MS														
Naphthalene	<0.014											<0.014	ug/l	TM4/PM30
Acenaphthylene	<0.013											<0.013	ug/l	TM4/PM30
Acenaphthene	<0.013											<0.013	ug/l	TM4/PM30
Fluorene	<0.014											<0.014	ug/l	TM4/PM30
Phenanthrene	<0.011											<0.011	ug/l	TM4/PM30
Anthracene	<0.013											<0.013	ug/l	TM4/PM30
Fluoranthene	<0.012											<0.012	ug/l	TM4/PM30
Pyrene	<0.013											<0.013	ug/l	TM4/PM30
Benzo(a)anthracene	<0.015											<0.015	ug/l	TM4/PM30
Chrysene	<0.011											<0.011	ug/l	TM4/PM30
Benzo(bk)fluoranthene	<0.018											<0.018	ug/l	TM4/PM30
Benzo(a)pyrene	<0.016											<0.016	ug/l	TM4/PM30
Indeno(123cd)pyrene	<0.011											<0.011	ug/l	TM4/PM30
Dibenzo(ah)anthracene	<0.01											<0.01	ug/l	TM4/PM30
Benzo(ghi)perylene	<0.011											<0.011	ug/l	TM4/PM30
PAH 16 Total	<0.195											<0.195	ug/l	TM4/PM30
Benzo(b)fluoranthene	<0.01											<0.01	ug/l	TM4/PM30
Benzo(k)fluoranthene	<0.01											<0.01	ug/l	TM4/PM30
PAH Surrogate % Recovery	84											<0	%	TM4/PM30
TPH CWG														
Aliphatics														
>C5-C6	<5											<5	ug/l	TM36/PM12
>C6-C8	<5											<5	ug/l	TM36/PM12
>C8-C10	<5											<5	ug/l	TM36/PM12
>C10-C12	<5											<5	ug/l	TM5/PM30
>C12-C16	<10											<10	ug/l	TM5/PM30
>C16-C21	<10											<10	ug/l	TM5/PM30
>C21-C35	<10											<10	ug/l	TM5/PM30
Total aliphatics C5-35	<10											<10	ug/l	TM5/TM36/PM30

Client Name: Smith Grant LLP
Reference: R1742
Location: Upper Heyford
Contact: Gareth Carroll
JE Job No.: 13/11985

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
H=H_2SO_4, Z=ZnAc, N=NaOH, HN=$HN0_3$

J E Sample No.	31-34												
Sample ID	HOSPITAL 2												
Depth													
COC No / misc													
Containers	V P G												
Sample Date	18/12/2013												
Sample Type	Liquid												
Batch Number	1												
Date of Receipt	19/12/2013												

Please see attached notes for all abbreviations and acronyms

		LOD	Units	Method No.
TPH CWG				
Aromatics				
>C5-EC7	<5	<5	ug/l	TM36/PM12
>EC7-EC8	<5	<5	ug/l	TM36/PM12
>EC8-EC10	<5	<5	ug/l	TM36/PM12
>EC10-EC12	<5	<5	ug/l	TM5/PM30
>EC12-EC16	<10	<10	ug/l	TM5/PM30
>EC16-EC21	<10	<10	ug/l	TM5/PM30
>EC21-EC35	<10	<10	ug/l	TM5/PM30
Total aromatics C5-35	<10	<10	ug/l	TM5/PM30
Total aliphatics and aromatics(C5-35)	<10	<10	ug/l	TM5/TM36/PM30
MTBE	<5	<5	ug/l	TM36/PM12
Benzene	<5	<5	ug/l	TM36/PM12
Toluene	<5	<5	ug/l	TM36/PM12
Ethylbenzene	<5	<5	ug/l	TM36/PM12
m/p-Xylene	<5	<5	ug/l	TM36/PM12
o-Xylene	<5	<5	ug/l	TM36/PM12
pH	8.05	<0.01	pH units	TM73/PM0

Client Name: Smith Grant LLP
Reference: R1742
Location: Upper Heyford
Contact: Gareth Carroll

Note:

Analysis was carried out in accordance with our documented in-house methods PM042 and TM065 and HSG 248 by Stereo and Polarised Light Microscopy using Dispersion Staining Techniques and is covered by our UKAS accreditation. Samples are retained for not less than 6 months from the date of analysis unless specifically requested.

Opinions lie outside the scope of our UKAS accreditation.

Where the sample is not taken by a Jones Environmental Laboratory consultant, Jones Environmental Laboratory cannot be responsible for inaccurate or unrepresentative sampling.

If asbestos fibres are reported at trace levels there will not be enough fibres to quantify and will be less than 0.001%.

Signed on behalf of Jones Environmental Laboratory:

Gemma Newsome
Asbestos Team Leader

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	Date Of Analysis	Description	Asbestos Containing Material	Asbestos Results	Asbestos Level	Comments
13/11985	1	PG-TS1		2	02/01/14	Soil/Stone	None	NAD	NAD	
13/11985	1	PG-TS2		4	02/01/14	Soil/Stone	None	NAD	NAD	
13/11985	1	PG-SS1	0.45	6	02/01/14	Soil/Stone	None	NAD	NAD	
13/11985	1	PG-SS2	0.45	8	02/01/14	Soil/Stone	None	NAD	NAD	
13/11985	1	PG-SS3	0.45	10	02/01/14	Soil/Stone	None	NAD	NAD	
13/11985	1	582-SS1-WEST	0.4	12	02/01/14	Soil/Stone	None	NAD	NAD	
13/11985	1	582-SS2-WEST	0.4	14	02/01/14	Soil/Stone	None	NAD	NAD	
13/11985	1	582-SS3-WEST	0.4	16	02/01/14	Soil/Stone	None	NAD	NAD	
13/11985	1	582-TS1-WEST		18	02/01/14	Soil/Stone	None	NAD	NAD	
13/11985	1	582-TS2-WEST		20	02/01/14	Soil/Stone	None	NAD	NAD	
13/11985	1	582-SS4-WEST	0.4	22	02/01/14	Soil/Stone	None	NAD	NAD	
13/11985	1	BOVIS-SP1(TS)-1		24	02/01/14	Soil/Stone	None	NAD	NAD	
13/11985	1	581-SS1-WEST		26	02/01/14	Soil/Stone	None	NAD	NAD	
13/11985	1	581-SS2-WEST		28	02/01/14	Soil/Stone	None	NAD	NAD	

Client Name: Smith Grant LLP
Reference: R1742
Location: Upper Heyford
Contact: Gareth Carroll

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	Date Of Analysis	Description	Asbestos Containing Material	Asbestos Results	Asbestos Level	Comments
13/11985	1	581-TS1-WEST		30	02/01/14	Soil/Stone	None	NAD	NAD	
13/11985	1	PG-TS3		36	02/01/14	Soil/Stone	None	NAD	NAD	

Client Name: Smith Grant LLP
Reference: R1742
Location: Upper Heyford
Contact: Gareth Carroll

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	Analysis	Reason
No deviating sample report results for job 13/11985						

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating.
Only analyses which are accredited are recorded as deviating if set criteria are not met.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

JE Job No.: 13/11985

SOILS

Please note we are only MCERTS accredited for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. If we are instructed to keep samples, a storage charge of £1 (1.5 Euros) per sample per month will be applied until we are asked to dispose of them.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

WATERS

Please note we are not a Drinking Water Inspectorate (DWI) Approved Laboratory . It is important that detection limits are carefully considered when requesting water analysis.

UKAS accreditation applies to surface water and groundwater and one other matrix which is analysis specific, any other liquids are outside our scope of accreditation

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

DEVIATING SAMPLES

Samples must be received in a condition appropriate to the requested analyses. All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. If this is not the case you will be informed and any test results that may be compromised highlighted on your deviating samples report.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

NOTE

Data is only accredited when all the requirements of our Quality System have been met. In certain circumstances where the requirements have not been met, the laboratory may issue the data in an interim report but will remove the accreditation, in this instance results should be considered indicative only. Where possible samples will be re-extracted and a final report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

ABBREVIATIONS and ACRONYMS USED

#	UKAS accredited.
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance.
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
++	Result outside calibration range, results should be considered as indicative only and are not accredited.
*	Analysis subcontracted to a Jones Environmental approved laboratory.
CO	Suspected carry over
OC	Outside Calibration Range
NFD	No Fibres Detected

JE Job No: 13/11985

Test Method No.	Description	Prep Method No. (if appropriate)	Description	UKAS	MCERTS (soils only)	Analysis done on As Received (AR) or Air Dried (AD)	Reported on dry weight basis
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465 and BS1377.	PM0	No preparation is required.				
TM4	16 PAH by GC-MS, modified USEPA 8270	PM30	In-house method based on USEPA 3510. Liquid samples are mixed with solvent and agitated with an automatic magnetic stirrer with a stir bar for 15 minutes to extract organic molecules. ISO 17025 accredited extraction method. All accreditation is matrix specific				
TM4	16 PAH by GC-MS, modified USEPA 8270	PM8	In-house method based on USEPA 3510. ISO 17025 accredited extraction method for organic extraction from solid samples using an end over end agitator.			AR	Yes
TM4	16 PAH by GC-MS, modified USEPA 8270	PM8	In-house method based on USEPA 3510. ISO 17025 accredited extraction method for organic extraction from solid samples using an end over end agitator.	Yes		AR	Yes
TM4	16 PAH by GC-MS, modified USEPA 8270	PM8	In-house method based on USEPA 3510. ISO 17025 accredited extraction method for organic extraction from solid samples using an end over end agitator.	Yes	Yes	AR	Yes
TM5	In-House method based on USEPA 8015B. Determination of Extractable Petroleum Hydrocarbons (EPH) in the carbon chain length range of C8-40 by GC-FID. Accredited to ISO 17025 on soil and water samples and MCERTS (carbon banding only) on soils. All accreditation is matrix specific.	PM16	Aliphatic/Aromatic fractionation			AR	Yes
TM5	In-House method based on USEPA 8015B. Determination of Extractable Petroleum Hydrocarbons (EPH) in the carbon chain length range of C8-40 by GC-FID. Accredited to ISO 17025 on soil and water samples and MCERTS (carbon banding only) on soils. All accreditation is matrix specific.	PM16	Aliphatic/Aromatic fractionation	Yes	Yes	AR	Yes
TM5	In-House method based on USEPA 8015B. Determination of Extractable Petroleum Hydrocarbons (EPH) in the carbon chain length range of C8-40 by GC-FID. Accredited to ISO 17025 on soil and water samples and MCERTS (carbon banding only) on soils. All accreditation is matrix specific.	PM30	In-house method based on USEPA 3510. Liquid samples are mixed with solvent and agitated with an automatic magnetic stirrer with a stir bar for 15 minutes to extract organic molecules. ISO 17025 accredited extraction method. All accreditation is matrix specific				
TM5/TM36	TPH CWG by GC-FID	PM12/PM16	CWG GC-FID			AR	Yes
TM5/TM36	TPH CWG by GC-FID	PM30	In-house method based on USEPA 3510. Liquid samples are mixed with solvent and agitated with an automatic magnetic stirrer with a stir bar for 15 minutes to extract organic molecules. ISO 17025 accredited extraction method. All accreditation is matrix specific				

JE Job No: 13/11985

Test Method No.	Description	Prep Method No. (if appropriate)	Description	UKAS	MCERTS (soils only)	Analysis done on As Received (AR) or Air Dried (AD)	Reported on dry weight basis
PM13	Soil Typing for MCERTS	PM0	No preparation is required.			AR	
TM16	In-House method based on USEPA 8270. Determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS. Accredited to ISO 17025 for waters. All accreditation is matrix specific. Quantification by Internal Standard method.	PM8	In-house method based on USEPA 3510. ISO 17025 accredited extraction method for organic extraction from solid samples using an end over end agitator.			AR	Yes
TM21	TOC and TC by Combustion	PM24	Eltra preparation			AD	Yes
TM30	Trace Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry) using Thermo iCAP 6000 series instrument. Accredited to ISO 17025 for soils and waters and MCERTS accredited for Soils. All accreditation is matrix specific.	PM14	In-house method based on USEPA 3005A. Acid digestion of water samples and analsyis by ICP-OES as per method TM030W.ISO 17025 accredited extraction method. All accreditation is matrix specific				
TM30	Trace Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry) using Thermo iCAP 6000 series instrument. Accredited to ISO 17025 for soils and waters and MCERTS accredited for Soils. All accreditation is matrix specific.	PM15	In-house method based on USEPA 3010A. Acid digestion of water samples and analsyis by ICP-OES as per method TM030S. ISO 17025 and MCERTS accredited extraction method. All accreditation is matrix specific			AD	Yes
TM30	Trace Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry) using Thermo iCAP 6000 series instrument. Accredited to ISO 17025 for soils and waters and MCERTS accredited for Soils. All accreditation is matrix specific.	PM15	In-house method based on USEPA 3010A. Acid digestion of water samples and analsyis by ICP-OES as per method TM030S. ISO 17025 and MCERTS accredited extraction method. All accreditation is matrix specific	Yes	Yes	AD	Yes
TM31	In-house method based on USEPA 8015B. Determination of Methyltertbutylether, Benzene, Toluene, Ethylbenzene and Xylene by headspace GC-FID. Accredited to ISO 17025 for soils and waters and MCERTS accredited for soils. Accreditation is matrix specific.	PM12	In-house method based on USEPA 5021. Preparation of solid and liquid samples for headspace analysis. Samples are spiked with surrogates to facilitate quantification. ISO 17025 accredited extraction method. All accreditation is matrix specific			AR	Yes
TM31	In-house method based on USEPA 8015B. Determination of Methyltertbutylether, Benzene, Toluene, Ethylbenzene and Xylene by headspace GC-FID. Accredited to ISO 17025 for soils and waters and MCERTS accredited for soils. Accreditation is matrix specific.	PM12	In-house method based on USEPA 5021. Preparation of solid and liquid samples for headspace analysis. Samples are spiked with surrogates to facilitate quantification. ISO 17025 accredited extraction method. All accreditation is matrix specific	Yes		AR	Yes
TM36	In-House method based on USEPA 8015B. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C5-12 by headspace GC-FID. Accredited to ISO 17025 on soil and water samples and MCERTS accredited (carbon banding only) on soils. All accreditation is matrix specific.	PM12	In-house method based on USEPA 5021. Preparation of solid and liquid samples for headspace analysis. Samples are spiked with surrogates to facilitate quantification. ISO 17025 accredited extraction method. All accreditation is matrix specific				
TM36	In-House method based on USEPA 8015B. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C5-12 by headspace GC-FID. Accredited to ISO 17025 on soil and water samples and MCERTS accredited (carbon banding only) on soils. All accreditation is matrix specific.	PM12	In-house method based on USEPA 5021. Preparation of solid and liquid samples for headspace analysis. Samples are spiked with surrogates to facilitate quantification. ISO 17025 accredited extraction method. All accreditation is matrix specific			AR	Yes

JE Job No: 13/11985

Test Method No.	Description	Prep Method No. (if appropriate)	Description	UKAS	MCERTS (soils only)	Analysis done on As Received (AR) or Air Dried (AD)	Reported on dry weight basis
TM36	In-House method based on USEPA 8015B. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C5-12 by headspace GC-FID. Accredited to ISO 17025 on soil and water samples and MCERTS accredited (carbon banding only) on soils. All accreditation is matrix specific.	PM12	In-house method based on USEPA 5021. Preparation of solid and liquid samples for headspace analysis. Samples are spiked with surrogates to facilitate quantification. ISO 17025 accredited extraction method. All accreditation is matrix specific	Yes	Yes	AR	Yes
TM38	Ionic analysis using the Thermo Aquakem Photometric Automatic Analyser. Accredited to ISO17025 and MCERTS for most analytes. All accreditation is matrix specific.	PM20	in-house method based on USEPA 1311 (TCLP). Solid samples are extracted with two parts de-ionised water to one part solid material for analysis of the extract for various parameters.			AR	Yes
TM65	Asbestos Bulk Identification	PM42	Screening of soils for fibres			AR	
TM65	Asbestos Bulk Identification	PM42	Screening of soils for fibres	Yes		AR	
TM73	pH in by Metrohm	PM0	No preparation is required.				
TM73	pH in by Metrohm	PM11	1:2.5 soil/water extraction	Yes	Yes	AR	No
TM74	Water Soluble Boron by ICP-OES	PM32	Preparation of soils for WSB	Yes	Yes	AD	Yes
TM76	Electrical Conductivity by Metrohm	PM58	Preparation of sample for Electrical Conductivity			AD	Yes
TM89	In-house method based on USEPA method OIA-1667. Determination of cyanide by Flow Injection Analyser. ISO17025 accredited method for soils and waters and MCERTS on soils. Accreditation is matrix specific.	PM45	Cyanide & Thiocyanate prep for soils			AR	Yes

Jones Environmental Laboratory

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Smith Grant LLP
Station House
Station Road
Ruabon
Wrexham
LL14 6DL

Attention :	Gareth Carroll
Date :	14th February, 2014
Your reference :	R1742
Our reference :	Test Report 14/2706 Batch 1 Schedule A
Location :	Upper Heyford
Date samples received :	7th February, 2014
Status :	Final report
Issue :	1

Fifteen samples were received for analysis on 7th February, 2014. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Compiled By:

Bruce Leslie
Project Co-ordinator

Bob Millward BSc FRSC
Principal Chemist

Client Name: Smith Grant LLP
Reference: R1742
Location: Upper Heyford
Contact: Gareth Carroll
JE Job No.: 14/2706

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

J E Sample No.	16-17	18-19										
Sample ID	BOV-581-WEST-SUB 1	BOV-581-WEST-SUB 2										
Depth												
COC No / misc												
Containers	V J	V J										
Sample Date	07/02/2014	07/02/2014										
Sample Type	Soil	Soil										
Batch Number	1	1										
Date of Receipt	07/02/2014	07/02/2014										
											LOD	Units	Method No.
Antimony	<1	1									<1	mg/kg	TM30/PM15
Arsenic #M	17.3	10.5									<0.5	mg/kg	TM30/PM15
Barium #M	108	35									<1	mg/kg	TM30/PM15
Beryllium	0.8	0.6									<0.5	mg/kg	TM30/PM15
Cadmium #M	0.2	<0.1									<0.1	mg/kg	TM30/PM15
Chromium #M	17.7	23.6									<0.5	mg/kg	TM30/PM15
Cobalt #M	8.7	4.1									<0.5	mg/kg	TM30/PM15
Copper #M	11	4									<1	mg/kg	TM30/PM15
Lead #M	12	14									<5	mg/kg	TM30/PM15
Mercury #M	<0.1	<0.1									<0.1	mg/kg	TM30/PM15
Molybdenum #M	1.0	1.8									<0.1	mg/kg	TM30/PM15
Nickel #M	22.6	8.6									<0.7	mg/kg	TM30/PM15
Selenium #M	<1	<1									<1	mg/kg	TM30/PM15
Vanadium	34	31									<1	mg/kg	TM30/PM15
Water Soluble Boron #M	1.0	1.6									<0.1	mg/kg	TM74/PM32
Zinc #M	52	29									<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #M	<0.04	0.07									<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03									<0.03	mg/kg	TM4/PM8
Acenaphthene #M	<0.05	<0.05									<0.05	mg/kg	TM4/PM8
Fluorene #M	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Phenanthrene #M	0.03	0.17									<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Fluoranthene #M	0.07	0.08									<0.03	mg/kg	TM4/PM8
Pyrene #	0.06	0.07									<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	<0.06									<0.06	mg/kg	TM4/PM8
Chrysene #M	0.05	0.05									<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #M	<0.07	<0.07									<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #M	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
PAH 16 Total	<0.6	<0.6									<0.6	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05									<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02									<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	110	111									<0	%	TM4/PM8

Client Name: Smith Grant LLP
Reference: R1742
Location: Upper Heyford
Contact: Gareth Carroll
JE Job No.: 14/2706

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

J E Sample No.	16-17	18-19									LOD	Units	Method No.
Sample ID	BOV-581-WEST-SUB 1	BOV-581-WEST-SUB 2											
Depth													
COC No / misc													
Containers	V J	V J											
Sample Date	07/02/2014	07/02/2014											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	07/02/2014	07/02/2014											
TPH CWG													
Aliphatics													
>C5-C6 #M	<0.1	<0.1									<0.1	mg/kg	TM36/PM12
>C6-C8 #M	<0.1	<0.1									<0.1	mg/kg	TM36/PM12
>C8-C10	<0.1	<0.1									<0.1	mg/kg	TM36/PM12
>C10-C12 #M	<0.2	2.7									<0.2	mg/kg	TM5/PM16
>C12-C16 #M	<4	44									<4	mg/kg	TM5/PM16
>C16-C21 #M	<7	65									<7	mg/kg	TM5/PM16
>C21-C35 #M	<7	17									<7	mg/kg	TM5/PM16
Total aliphatics C5-35	<19	129									<19	mg/kg	TM5/TM36/PM12/PM16
Aromatics													
>C5-EC7	<0.1	<0.1									<0.1	mg/kg	TM36/PM12
>EC7-EC8	<0.1	<0.1									<0.1	mg/kg	TM36/PM12
>EC8-EC10 #M	<0.1	<0.1									<0.1	mg/kg	TM36/PM12
>EC10-EC12	<0.2	<0.2									<0.2	mg/kg	TM5/PM16
>EC12-EC16	<4	10									<4	mg/kg	TM5/PM16
>EC16-EC21	<7	14									<7	mg/kg	TM5/PM16
>EC21-EC35	<7	<7									<7	mg/kg	TM5/PM16
Total aromatics C5-35	<19	24									<19	mg/kg	TM5/TM36/PM12/PM16
Total aliphatics and aromatics(C5-35)	<38	153									<38	mg/kg	TM5/TM36/PM12/PM16
MTBE #	<5	<5									<5	ug/kg	TM31/PM12
Benzene #	<5	<5									<5	ug/kg	TM31/PM12
Toluene #	<5	<5									<5	ug/kg	TM31/PM12
Ethylbenzene #	<5	<5									<5	ug/kg	TM31/PM12
m/p-Xylene #	<5	31									<5	ug/kg	TM31/PM12
o-Xylene #	<5	25									<5	ug/kg	TM31/PM12
PCBs (Total vs Aroclor 1254)	<10	<10									<10	ug/kg	TM16/PM8
Natural Moisture Content	15.4	19.0									<0.1	%	PM4/PM0
Hexavalent Chromium	<0.3	<0.3									<0.3	mg/kg	TM38/PM20
Free Cyanide	<0.5	<0.5									<0.5	mg/kg	TM89/PM45
Complex Cyanide	<0.5	<0.5									<0.5	mg/kg	TM89/PM45
Organic Matter	0.5	0.7									<0.2	%	TM21/PM24
Electrical Conductivity @25C (5:1 ext)	337	297									<100	uS/cm	TM76/PM58
pH #M	9.19	10.76									<0.01	pH units	TM73/PM11
Sample Type	Clay	Clay										None	PM13/PM0
Sample Colour	Light Brown	Light Brown										None	PM13/PM0
Other Items	stones	stones and sand										None	PM13/PM0

Client Name: Smith Grant LLP
Reference: R1742
Location: Upper Heyford
Contact: Gareth Carroll

Note:

Analysis was carried out in accordance with our documented in-house methods PM042 and TM065 and HSG 248 by Stereo and Polarised Light Microscopy using Dispersion Staining Techniques and is covered by our UKAS accreditation. Samples are retained for not less than 6 months from the date of analysis unless specifically requested.

Opinions lie outside the scope of our UKAS accreditation.

Where the sample is not taken by a Jones Environmental Laboratory consultant, Jones Environmental Laboratory cannot be responsible for inaccurate or unrepresentative sampling.

If asbestos fibres are reported at trace levels there will not be enough fibres to quantify and will be less than 0.001%.

Signed on behalf of Jones Environmental Laboratory:

Gemma Newsome
Asbestos Team Leader

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	Date Of Analysis	Description	Asbestos Containing Material	Asbestos Results	Asbestos Level	Comments
14/2706	1	BOV-CRUSH 1-S4		20	11/02/14	Soil/Stone	None	NAD	NAD	
14/2706	1	BOV-581-WEST-SUB 1		17	12/02/14	Soil-Clay/Brick/Stone	None	NAD	NAD	
14/2706	1	BOV-581-WEST-SUB 2		19	12/02/14	Soil-Clay/Brick/Stone	None	NAD	NAD	

Client Name: Smith Grant LLP
Reference: R1742
Location: Upper Heyford
Contact: Gareth Carroll

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	Analysis	Reason
No deviating sample report results for job 14/2706						

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating.
Only analyses which are accredited are recorded as deviating if set criteria are not met.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

JE Job No.: 14/2706

SOILS

Please note we are only MCERTS accredited for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. If we are instructed to keep samples, a storage charge of £1 (1.5 Euros) per sample per month will be applied until we are asked to dispose of them.

If you have not already done so, please send us a purchase order if this is required by your company.

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Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

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As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

DEVIATING SAMPLES

Samples must be received in a condition appropriate to the requested analyses. All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. If this is not the case you will be informed and any test results that may be compromised highlighted on your deviating samples report.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

NOTE

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SS	Calibrated against a single substance.
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
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CO	Suspected carry over
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JE Job No: 14/2706

Test Method No.	Description	Prep Method No. (if appropriate)	Description	UKAS	MCERTS (soils only)	Analysis done on As Received (AR) or Air Dried (AD)	Reported on dry weight basis
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465 and BS1377.	PM0	No preparation is required.				
TM4	16 PAH by GC-MS, modified USEPA 8270	PM8	In-house method based on USEPA 3510. ISO 17025 accredited extraction method for organic extraction from solid samples using an end over end agitator.			AR	Yes
TM4	16 PAH by GC-MS, modified USEPA 8270	PM8	In-house method based on USEPA 3510. ISO 17025 accredited extraction method for organic extraction from solid samples using an end over end agitator.	Yes		AR	Yes
TM4	16 PAH by GC-MS, modified USEPA 8270	PM8	In-house method based on USEPA 3510. ISO 17025 accredited extraction method for organic extraction from solid samples using an end over end agitator.	Yes	Yes	AR	Yes
TM5	In-House method based on USEPA 8015B. Determination of Extractable Petroleum Hydrocarbons (EPH) in the carbon chain length range of C8-40 by GC-FID. Accredited to ISO 17025 on soil and water samples and MCERTS (carbon banding only) on soils. All accreditation is matrix specific.	PM16	Aliphatic/Aromatic fractionation			AR	Yes
TM5	In-House method based on USEPA 8015B. Determination of Extractable Petroleum Hydrocarbons (EPH) in the carbon chain length range of C8-40 by GC-FID. Accredited to ISO 17025 on soil and water samples and MCERTS (carbon banding only) on soils. All accreditation is matrix specific.	PM16	Aliphatic/Aromatic fractionation	Yes	Yes	AR	Yes
TM5/TM36	TPH CWG by GC-FID	PM12/PM16	CWG GC-FID			AR	Yes
PM13	Soil Typing for MCERTS	PM0	No preparation is required.			AR	
TM16	In-House method based on USEPA 8270. Determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS. Accredited to ISO 17025 for waters. All accreditation is matrix specific. Quantification by Internal Standard method.	PM8	In-house method based on USEPA 3510. ISO 17025 accredited extraction method for organic extraction from solid samples using an end over end agitator.			AR	Yes
TM21	TOC and TC by Combustion	PM24	Eltra preparation			AD	Yes

JE Job No: 14/2706

Test Method No.	Description	Prep Method No. (if appropriate)	Description	UKAS	MCERTS (soils only)	Analysis done on As Received (AR) or Air Dried (AD)	Reported on dry weight basis
TM30	Trace Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry) using Thermo iCAP 6000 series instrument. Accredited to ISO 17025 for soils and waters and MCERTS accredited for Soils. All accreditation is matrix specific.	PM15	In-house method based on USEPA 3010A. Acid digestion of dried and crushed solid samples using Aqua Regia reflux.			AD	Yes
TM30	Trace Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry) using Thermo iCAP 6000 series instrument. Accredited to ISO 17025 for soils and waters and MCERTS accredited for Soils. All accreditation is matrix specific.	PM15	In-house method based on USEPA 3010A. Acid digestion of dried and crushed solid samples using Aqua Regia reflux.	Yes	Yes	AD	Yes
TM31	In-house method based on USEPA 8015B. Determination of Methyltertbutylether, Benzene, Toluene, Ethylbenzene and Xylene by headspace GC-FID. Accredited to ISO 17025 for soils and waters and MCERTS accredited for soils. Accreditation is matrix specific.	PM12	In-house method based on USEPA 5021. Preparation of solid and liquid samples for headspace analysis. Samples are spiked with surrogates to facilitate quantification. ISO 17025 accredited extraction method. All accreditation is matrix specific			AR	Yes
TM31	In-house method based on USEPA 8015B. Determination of Methyltertbutylether, Benzene, Toluene, Ethylbenzene and Xylene by headspace GC-FID. Accredited to ISO 17025 for soils and waters and MCERTS accredited for soils. Accreditation is matrix specific.	PM12	In-house method based on USEPA 5021. Preparation of solid and liquid samples for headspace analysis. Samples are spiked with surrogates to facilitate quantification. ISO 17025 accredited extraction method. All accreditation is matrix specific	Yes		AR	Yes
TM36	In-House method based on USEPA 8015B. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C5-12 by headspace GC-FID. Accredited to ISO 17025 on soil and water samples and MCERTS accredited (carbon banding only) on soils. All accreditation is matrix specific.	PM12	In-house method based on USEPA 5021. Preparation of solid and liquid samples for headspace analysis. Samples are spiked with surrogates to facilitate quantification. ISO 17025 accredited extraction method. All accreditation is matrix specific			AR	Yes
TM36	In-House method based on USEPA 8015B. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C5-12 by headspace GC-FID. Accredited to ISO 17025 on soil and water samples and MCERTS accredited (carbon banding only) on soils. All accreditation is matrix specific.	PM12	In-house method based on USEPA 5021. Preparation of solid and liquid samples for headspace analysis. Samples are spiked with surrogates to facilitate quantification. ISO 17025 accredited extraction method. All accreditation is matrix specific	Yes	Yes	AR	Yes
TM38	Ionic analysis using the Thermo Aquakem Photometric Automatic Analyser. Accredited to ISO17025 and MCERTS for most analytes. All accreditation is matrix specific.	PM20	in-house method based on USEPA 1311 (TCLP). Solid samples are extracted with two parts de-ionised water to one part solid material for analysis of the extract for various parameters.			AR	Yes
TM65	Asbestos Bulk Identification	PM42	Screening of soils for fibres			AR	
TM65	Asbestos Bulk Identification	PM42	Screening of soils for fibres	Yes		AR	
TM73	pH in by Metrohm	PM11	1:2.5 soil/water extraction	Yes	Yes	AR	No

JE Job No: 14/2706

Test Method No.	Description	Prep Method No. (if appropriate)	Description	UKAS	MCERTS (soils only)	Analysis done on As Received (AR) or Air Dried (AD)	Reported on dry weight basis
TM74	Water Soluble Boron by ICP-OES	PM32	Preparation of soils for WSB	Yes	Yes	AD	Yes
TM76	Electrical Conductivity by Metrohm	PM58	Preparation of sample for Electrical Conductivity			AD	Yes
TM89	In-house method based on USEPA method OIA-1667. Determination of cyanide by Flow Injection Analyser. ISO17025 accredited method for soils and waters and MCERTS on soils. Accreditation is matrix specific.	PM45	Cyanide & Thiocyanate prep for soils			AR	Yes

Jones Environmental Laboratory

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Smith Grant LLP
Station House
Station Road
Ruabon
Wrexham
LL14 6DL

Attention :	Gareth Carroll
Date :	20th February, 2014
Your reference :	R1742
Our reference :	Test Report 14/2706 Batch 1 Schedule B
Location :	Upper Heyford
Date samples received :	7th February, 2014
Status :	Final report
Issue :	1

Fifteen samples were received for analysis on 7th February, 2014. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Compiled By:

Bruce Leslie
Project Co-ordinator

Bob Millward BSc FRSC
Principal Chemist

Client Name: Smith Grant LLP
Reference: R1742
Location: Upper Heyford
Contact: Gareth Carroll
JE Job No.: 14/2706

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

J E Sample No.	1-2	3-5	6-7	8-9	10-11	12-13	14-15				LOD	Units	Method No.
Sample ID	BOV-581-SS1	BOV-581-SS2	BOV-581-SS3	BOV-581-SS4	BOV-581-SS5	BOV-581-SS6	BOV-582-WEST-SS5						
Depth	0.4	0.4	0.45	0.45	0.45	0.4	0.4						
COC No / misc													
Containers	V J	V J T	V J	V J	V J	V J	V J						
Sample Date	07/02/2014	07/02/2014	07/02/2014	07/02/2014	07/02/2014	07/02/2014	07/02/2014						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	07/02/2014	07/02/2014	07/02/2014	07/02/2014	07/02/2014	07/02/2014	07/02/2014						
Antimony	<1	<1	7	3	2	4	<1				<1	mg/kg	TM30/PM15
Arsenic #M	5.7	4.4	204.8	71.9	39.1	105.2	12.6				<0.5	mg/kg	TM30/PM15
Barium #M	26	10	17	40	31	49	36				<1	mg/kg	TM30/PM15
Beryllium	<0.5	<0.5	7.0	2.8	1.5	3.2	0.6				<0.5	mg/kg	TM30/PM15
Cadmium #M	<0.1	<0.1	1.2	0.5	0.3	0.9	0.2				<0.1	mg/kg	TM30/PM15
Chromium #M	4.3	3.5	231.7	90.8	49.3	111.5	24.1				<0.5	mg/kg	TM30/PM15
Cobalt #M	1.9	1.1	22.2	12.9	7.7	13.1	4.6				<0.5	mg/kg	TM30/PM15
Copper #M	<1	<1	<1	5	3	3	6				<1	mg/kg	TM30/PM15
Lead #M	<5	<5	9	9	7	9	12				<5	mg/kg	TM30/PM15
Mercury #M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1				<0.1	mg/kg	TM30/PM15
Molybdenum #M	1.1	0.5	<0.1	1.1	1.5	1.2	1.8				<0.1	mg/kg	TM30/PM15
Nickel #M	2.4	<0.7	80.9	37.6	21.2	43.1	8.6				<0.7	mg/kg	TM30/PM15
Selenium #M	<1	<1	<1	<1	<1	<1	<1				<1	mg/kg	TM30/PM15
Vanadium	16	19	-	178	88	210	37				<1	mg/kg	TM30/PM15
Water Soluble Boron #M	1.1	0.4	1.7	1.7	1.0	1.6	1.0				<0.1	mg/kg	TM74/PM32
Zinc #M	11	6	178	71	44	91	32				<5	mg/kg	TM30/PM15
PAH MS		x10 dilution											
Naphthalene #M	<0.04	<0.40	<0.04	<0.04	<0.04	<0.04	<0.04				<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	0.42	<0.03	<0.03	<0.03	<0.03	<0.03				<0.03	mg/kg	TM4/PM8
Acenaphthene #M	0.72	0.89	<0.05	<0.05	<0.05	<0.05	<0.05				<0.05	mg/kg	TM4/PM8
Fluorene #M	0.55	0.84	<0.04	<0.04	0.05	<0.04	<0.04				<0.04	mg/kg	TM4/PM8
Phenanthrene #M	3.20	6.89	<0.03	<0.03	0.51	0.04	<0.03				<0.03	mg/kg	TM4/PM8
Anthracene #	0.71	2.94	<0.04	<0.04	0.10	<0.04	<0.04				<0.04	mg/kg	TM4/PM8
Fluoranthene #M	3.62	24.95	0.05	<0.03	0.62	0.04	0.03				<0.03	mg/kg	TM4/PM8
Pyrene #	2.54	18.97	0.06	<0.03	0.48	<0.03	0.05				<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	1.00	9.79	0.07	<0.06	0.21	<0.06	<0.06				<0.06	mg/kg	TM4/PM8
Chrysene #M	1.11	10.63	0.07	<0.02	0.24	<0.02	0.05				<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #M	1.47	14.98	0.08	<0.07	0.32	<0.07	<0.07				<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	0.99	8.19	0.07	<0.04	0.19	<0.04	<0.04				<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #M	0.67	5.27	<0.04	<0.04	0.13	<0.04	<0.04				<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	0.13	0.98	<0.04	<0.04	<0.04	<0.04	<0.04				<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	0.63	4.63	<0.04	<0.04	0.11	<0.04	<0.04				<0.04	mg/kg	TM4/PM8
PAH 16 Total	17.3	110.4	<0.6	<0.6	3.0	<0.6	<0.6				<0.6	mg/kg	TM4/PM8
Benzo(b)fluoranthene	1.06	10.79	0.06	<0.05	0.23	<0.05	<0.05				<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	0.41	4.19	0.02	<0.02	0.09	<0.02	<0.02				<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	115	103	118	114	119	121	110				<0	%	TM4/PM8

Client Name: Smith Grant LLP
Reference: R1742
Location: Upper Heyford
Contact: Gareth Carroll
JE Job No.: 14/2706

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

J E Sample No.	1-2	3-5	6-7	8-9	10-11	12-13	14-15	LOD	Units	Method No.
Sample ID	BOV-581-SS1	BOV-581-SS2	BOV-581-SS3	BOV-581-SS4	BOV-581-SS5	BOV-581-SS6	BOV-582-WEST-SS5			
Depth	0.4	0.4	0.45	0.45	0.45	0.4	0.4			
COC No / misc										
Containers	V J	V J T	V J	V J	V J	V J	V J			
Sample Date	07/02/2014	07/02/2014	07/02/2014	07/02/2014	07/02/2014	07/02/2014	07/02/2014			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1			
Date of Receipt	07/02/2014	07/02/2014	07/02/2014	07/02/2014	07/02/2014	07/02/2014	07/02/2014			
TPH CWG										
Aliphatics										
>C5-C6 #M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C6-C8 #M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C8-C10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C10-C12 #M	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM16
>C12-C16 #M	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM16
>C16-C21 #M	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM16
>C21-C35 #M	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM16
Total aliphatics C5-35	<19	<19	<19	<19	<19	<19	<19	<19	mg/kg	TM5/TM36/PM12/PM16
Aromatics										
>C5-EC7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC7-EC8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC8-EC10 #M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC10-EC12	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM16
>EC12-EC16	<4	4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM16
>EC16-EC21	<7	89	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM16
>EC21-EC35	<7	48	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM16
Total aromatics C5-35	<19	141	<19	<19	<19	<19	<19	<19	mg/kg	TM5/TM36/PM12/PM16
Total aliphatics and aromatics(C5-35)	<38	141	<38	<38	<38	<38	<38	<38	mg/kg	TM5/TM36/PM12/PM16
MTBE #	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM31/PM12
Benzene #	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM31/PM12
Toluene #	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM31/PM12
Ethylbenzene #	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM31/PM12
m/p-Xylene #	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM31/PM12
o-Xylene #	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM31/PM12
PCBs (Total vs Aroclor 1254)	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
Natural Moisture Content	11.7	7.8	15.3	17.4	15.0	15.2	14.7	<0.1	%	PM4/PM0
Hexavalent Chromium	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	mg/kg	TM38/PM20
Free Cyanide	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	mg/kg	TM89/PM45
Complex Cyanide	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	mg/kg	TM89/PM45
Organic Matter	<0.2	<0.2	<0.2	0.3	<0.2	0.3	1.2	<0.2	%	TM21/PM24
Electrical Conductivity @25C (5:1 ext)	2134	233	249	1338	354	581	185	<100	uS/cm	TM76/PM58
pH #M	8.00	8.33	7.98	7.88	9.38	8.00	8.23	<0.01	pH units	TM73/PM11
Sample Type	Clay	Clayey Sand	Clay	Clay	Clay	Clay	Clay		None	PM13/PM0
Sample Colour	Light Brown	Light Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown		None	PM13/PM0
Other Items	stones and sand	stones	stones	none	stones and sand	stones	stones and roots		None	PM13/PM0