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20606 (9 OF 10)

Exploration Associates

CA71221

M4 Relief Road - Stage 2

Preliminary Chemical Investigation

150006
May 2000

Client:
Ove Arup & Partners
13 Fitzroy Street
London
W1P 6BQ

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M4 Relief Road - Stage 2

Preliminary Chemical Investigation

150006
May 2000

Client:
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13 Fitzroy Street
London
W1P 6BQ

Engineer:
Ove Arup & Partners
4 Pierhead Street
Capital Waterside
Cardiff
CF10 4QP

CONTENTS

150006

1. INTRODUCTION

On the instruction of Ove Arup & Partners a preliminary chemical investigation was carried out by Exploration Associates for the proposed M4 Relief Road - Stage 2. The instruction to proceed with the investigation was received by a letter Ove Arup & Partners, dated 11 January 2000, reference 53600/69.

This factual report provides a description of the site, a summary of the investigation procedures adopted and presents the findings of the site works together, with results of the subsequent in situ and contaminant testing.

The work was carried out in general accordance with the relevant British Standards and the enclosed general notes.

2. THE SITE

The site comprised ten seperate areas, described as follows:

Site 1 - Church Road: *Part of Parc Golf Centre immediately south west of the LG factory; identified as a former inert landfill site. Located at National Grid reference ST 273 839.*

Site 2 - *Green Lane: Field located on Wentlooge Levels, immediately south of the Great Western Railway line; identified as a former inert landfill site. Located at National Grid Reference ST 291 834.*

Site 3 - *Newport Docks: Area north of Alexandra South Dock, east of the River Ebbw and west of the River Usk. Located at National Grid Reference points ST 309 848 and ST 320 854.*

Site 4 - *Docks East of Usk (Eastern Wharf): Plot of land on north eastern bank of the River Usk. Located at National Grid Reference ST 326 855.*

Site 5 - *Docks East of Usk (Marshall's Yard: Works off Corporation Road, north east of River Usk. Located at National Grid Reference ST 328 855.*

Site 6 - *Docks East of Usk (Birdport): Plot of land immediately to the south west of the dead-end of Corporation Road and north of the container terminal. Located at National Grid Reference ST 332 854.*

Site 7 - *Solutia Chemical Works: Plot of land south of the Solutia Chemical Works (formerly Monsanto). Located at National Grid Reference ST 337 852.*

Site 8 - *Llanwern Research Laboratories: Fields off Meadows Road, south of Leeway Industrial Estate, Pye Corner. Located at National Grid Reference ST 346 854.*

Site 9 - *Lanwern Tippings: Fields on Caldicot Levels immediately south of Llanwern Steelworks. Located between National Grid Reference points ST 385 854 and ST 395 856.*

Site 10 - *Magor Depot: Depot immediately east of the brewery, south of Junction 23 of the M4. Located at National Grid Reference ST 419 876.*

3. FIELDWORK

3.1 General

The fieldwork was carried out during the period 25 January to the 16 February 2000 and generally comprised Window Sampling, the excavation of Trial Pits and in situ testing.

The fieldwork was carried out in general accordance with BS 5930: 1981.

3.2 Window Sampling

Thirty three 80mm, 60mm and 40mmm nominal diameter boreholes were drilled using a combination of a hand held Window Sampler and a Geotool Tracked Rig, to depths of between 0.40 metres and 5.00 metres below existing ground level.

The depths and descriptive details of the strata encountered , comments on the groundwater conditions, details of samples taken and drilling progress are shown in the Exploratory Hole Records, Enclosure A.

During the course of the window sampling large disturbed samples (bulk) and small disturbed samples (jar) were obtained at regular intervals for identification and descriptive purposes, and to facilitate laboratory testing. On encountering groundwater, levels were recorded during 5 minute intervals for a 20 minute peroid of monitoring.

The locations of the boreholes are shown on the Exploratory Hole Location plan, Enclosure D.

3.3 Trial Pits

Twenty nine pits were excavated using a wheeled hydraulic excavator to depths of between 0.75 metres and 3.20 metres below existing ground level. The details of which are presented on the Trial Pit Records, Enclosure A.

3.4 In Situ Testing

During the course of the site works, in situ water testing was carried out for the following; temperature, pH value and conductivity. The results of which are presented in Enclosure B.

3.5 Survey

On completion of the fieldwork, a survey was undertaken by John Vincent Surveys under the supervision of Exploration Associates. The levels and co-ordinates are presented on the Exploratory Hole Records, Enclosure A.

4. LABORATORY TESTING

Laboratory testing schedules were prepared by Ove Arup & Partners . The resultant contaminant testing was undertaken TES Bretby laboratories, the results of which are presented in Enclosure C.

5. GROUND CONDITIONS

5.1 Published Geology

Reference to the British Geological Survey 1:50,000 Scale Series, Drift Map 249, Newport; indicates the site to be underlain by superficial deposits of Marine Alluvium. The solid geology of the area is shown to Mercia Mudstone of Triassic age unconformably overlying St Maughans Group and Raglan Marl of Devonian age.

5.2 Strata Encountered

For full details of the strata encountered, reference should be made to the Exploratory Hole Records. The exploratory holes generally confirmed the published geology, however a laterally impersistant layer of Made Ground was encountered at most locations.

Groundwater

Groundwater was encountered in some of the exploratory holes.

For full details of groudwater enountered, reference should be made to the individual Exploratory Hole Records.

It should be noted that groundwater levels may be subject to variations due to changes in climatic and other conditions and may therefore at times be different to those measured during the fieldworks.

FOR AND ON BEHALF OF EXPLORATION ASSOCIATES

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PRINCIPAL GEOTECHNICAL ENGINEER

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AF/RHG/150006/Rev. 2/MAY 2000

REFERENCES

BS5930(1999). Code of Practice for Site Investigations.BSI

BS1377(1990). Method of Test for Soil for Civil Engineering Purposes.BSI.

British Geological Survey. 1:50000 Scale. Sheet 249, Newport.

Ordnance Survey of Great Britain. Sheet 171, Cardiff, Newport & surrounding area.

ENCLOSURE A

Exploratory Hole Records

Symbol Sheet	
Window Sampling Records	CH1 to CH4, CH9 to CH33, CH55, CH56, CH15A & CH19A
Trial Pit Records	CH5 to CH8, CH34 to CH54,CH47A,CH52A, CH53A & CH54A

KEY TO SYMBOLS ON EXPLORATORY HOLE RECORDS

All linear dimensions are in metres or millimetres

DESCRIPTIONS

**	:	Drillers Description

SAMPLES

U ( )	:	Undisturbed 102mm diameter sample, ( ) denotes number of blows to drive sampler
U ( )F, U ( )P	:	F - not recovered, P - partially recovered
U38	:	Undisturbed 38mm diameter sample
P(F),(P)	:	Piston sample, F - not recovered, P - partially recovered
B	:	Bulk sample - disturbed
D	:	Jar Sample - disturbed
W	:	Water Sample
CBR	:	California Bearing Ratio mould sample
G	:	Gas Sample and depth of hole at time of sampling

CORE RECOVERY AND ROCK QUALITY

TCR	:	Total Core Recovery %
SCR	:	Solid Core Recovery %
RQD	:	Rock Quality Designation %
FI	:	Fracture Index (discontinuities per metre) NI - not intact, NR - not recordable, NA - not applicable

GROUNDWATER

∇	:	Groundwater strike
$\underline{\nabla}$	:	Groundwater level after standing period
Date/Water	:	Date of shift (day/month)/Depth to water at end of previous shift shown above the date and depth to water at beginning of shift given below the date.

IN SITU TESTING

S	:	Standard Penetration Test - split barrel sampler
C	:	Standard Penetration Test - solid 60° cone
V(H)(R)	:	Vane Test (Hand) (R) demonstrates remoulded strength
K(F), (C), (R), (P)	:	Permeability Test (falling, constant or rising head, packer)
PT	:	Pressuremeter Test
HP	:	Hand Penetrometer Test

MEASURED PROPERTIES

N	:	Standard Penetration Test - blows required to drive 300mm after seating drive
$^{x}/_{y}$	:	Denotes x blows for y mm within the Standard Penetration Test
$x^{*}/_{y}$	:	Denotes x blows for y mm within the seating drive
c_u	:	Undrained Shear Strength (kN/m^2)
CBR	:	California Bearing Ratio

ROTARY DRILLING SIZES

Index Letter	NOMINAL DIAMETER (mm)	
	Borehole	Core
N	75	54
H	99	76
P	120	92
S :	146	113

EXPLORATORY HOLE SYMBOLS	Project M4 Relief Road-Stage 2. Preliminary Chemical Investigation Ove Arup & Partners	Contract 150006
Exploration Associates		Figure

Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
			25/01 0000	
0.20-0.45	T		DRY	
0.45-0.90	B			
0.90-1.40	T			
1.45-1.90	B			
1.90-2.38	T			
2.38-2.70	T	NIL	DRY	
2.70				

Strata

Description	Depth (Thickness)	Level
	G.L.	10.41
Brown sandy slightly clayey TOPSOIL	0.20	10.21
Soft to firm brown slightly sandy very silty CLAY with occasional to some fine to coarse rounded to sub-rounded gravel of sandstone	0.45	9.96
Soft to firm red brown sandy very silty CLAY with some rounded to sub-rounded fine to coarse gravel of sandstone	(1.45)	
	1.90	8.51
Moderately compact brown sandy slightly silty clayey sub-rounded fine to coarse GRAVEL of sandstone	(0.48)	
	2.38	8.03
Firm red brown very silty clayey highly weathered MUDSTONE	2.70	7.71
End of Borehole.		

Legend

Equipment: Geotool R780 Tracked Rig

Borehole Dia (mm) Casing Dia (mm)
80 to 1.00m
60 to 2.70m

Groundwater
No. Struck Behaviour Sealed
No groundwater encountered

Ground Level 10.41 m OD
Coordinates 327310.67 mE
183955.65 mN

Drilled by DC
Logged by DC
Checked by AF

Remarks Refusal at 2.70 (Stiff)

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

Contract 150006

Borehole CH1(1 of 1)

Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
			25/01 0000	
0.20-0.75	T		DRY	
0.75-0.94	B			
0.94-1.12	T			
1.12		NIL	DRY	

Strata

Description	Depth (Thickness)	Level
	G.L.	10.78
Brown sandy clayey TOPSOIL	0.20	10.58
Firm orange brown sandy very silty CLAY with occasional to some rounded to sub-rounded gravel of sandstone	(0.74)	
Compact orange brown very sandy slightly silty sub-angular to sub-rounded fine to coarse GRAVEL of sandstone	0.94	9.84
End of Borehole.	1.12	9.66

Legend

Equipment: Geotool R780 Tracked Rig

Borehole Dia (mm) Casing Dia (mm)
80 to 1.00m
60 to 1.12m

Groundwater
No. Struck Behaviour Sealed

No groundwater encountered

Ground Level 10.78 m OD
Coordinates 327349.63 mE
183940.41 mN

Drilled by DC
Logged by DC
Checked by AF

Remarks Refusal at 1.12 (Could not penertrate gravels)

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

Contract 150006

Borehole CH2(1 of 1)

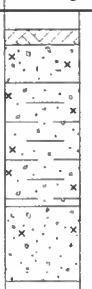
Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
0.10-0.35	T		25/01 2000 DRY	
0.35-0.85	TO			
0.85-1.17	B			
1.17-1.67	T			
1.67		NIL	DRY	

Strata

Description	Depth (Thickness)	Level
	G.L.	10.86
Brown sandy slightly silt clayey TOPSOIL	0.10	10.76
MADE GROUND: Moderately compact brown sandy very silty slightly clayey angular to sub-angular fine to coarse gravel of sandstone, slag,ash and some refuse of plastic.	0.35	10.51
	(0.82)	
Firm brown locally orange brown sandy very silty CLAY with some sub-angular to sub-rounded fine to coarse gravel of sandstone and mudstone with some pockets of orange brown very silty fine to coarse sand.	1.17	9.69
	(0.50)	
Compact red brown and green grey mottled dark grey very sandy slightly silty angular to sub-angular fine to coarse GRAVEL of sandstone and mudstone	1.67	9.19
End of Borehole.		

Legend



Equipment: Geotool R780 Tracked Rig

Borehole Dia (mm) Casing Dia (mm)
80 to 1.00m
60 to 1.67m

Groundwater
No. Struck Behaviour Sealed

No groundwater encountered

Ground Level 10.86 m OD
Coordinates 327381.55 mE
183942.57 mN

Drilled by DC
Logged by DC
Checked by AF

Remarks Refusal at 1.67 (Unable to penertrate gravels)

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

Contract 150006

Borehole CH3(1 of 1)

Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
			25/01 0000	
0.20-0.60	T		DRY	
0.60-1.00	TO			
1.00-1.50	B			
1.00-2.00	T			
		NIL	DRY	
2.17				

Strata

Description	Depth (Thickness)	Level
	G.L.	10.91
Brown sandy slightly silty slightly clayey TOPSOIL	0.20	10.71
	(0.40)	
Firm brown slightly sandy very silty CLAY with occasional sub-rounded fine to coarse gravel of sandstone and mudstone with occasional rootlets	0.60	10.31
	(0.40)	
	1.00	9.91
Firm red brown mottled grey slightly sandy very silty slightly organic CLAY with some rounded to sub-rounded fine to coarse gravel of mudstone and sandstone	(1.00)	
	2.00	8.91
Firm red brown mottled green grey slightly sandy very silty CLAY	2.17	8.74
Compact brown very sandy sub-rounded fine to coarse GRAVEL of sandstone		
End of Borehole.		

Legend

Equipment: Geotool R780 Tracked Rig

Borehole Dia (mm) / Casing Dia (mm)
80 to 1.00m
60 to 2.17m

Groundwater

No.	Struck	Behaviour	Sealed

No groundwater encountered

Ground Level 10.91 m OD
Coordinates 327375.64 mE
183925.14 mN

Drilled by DC
Logged by DC
Checked by AF

Remarks Refusal At 2.17m (could not penertrate gravels)

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

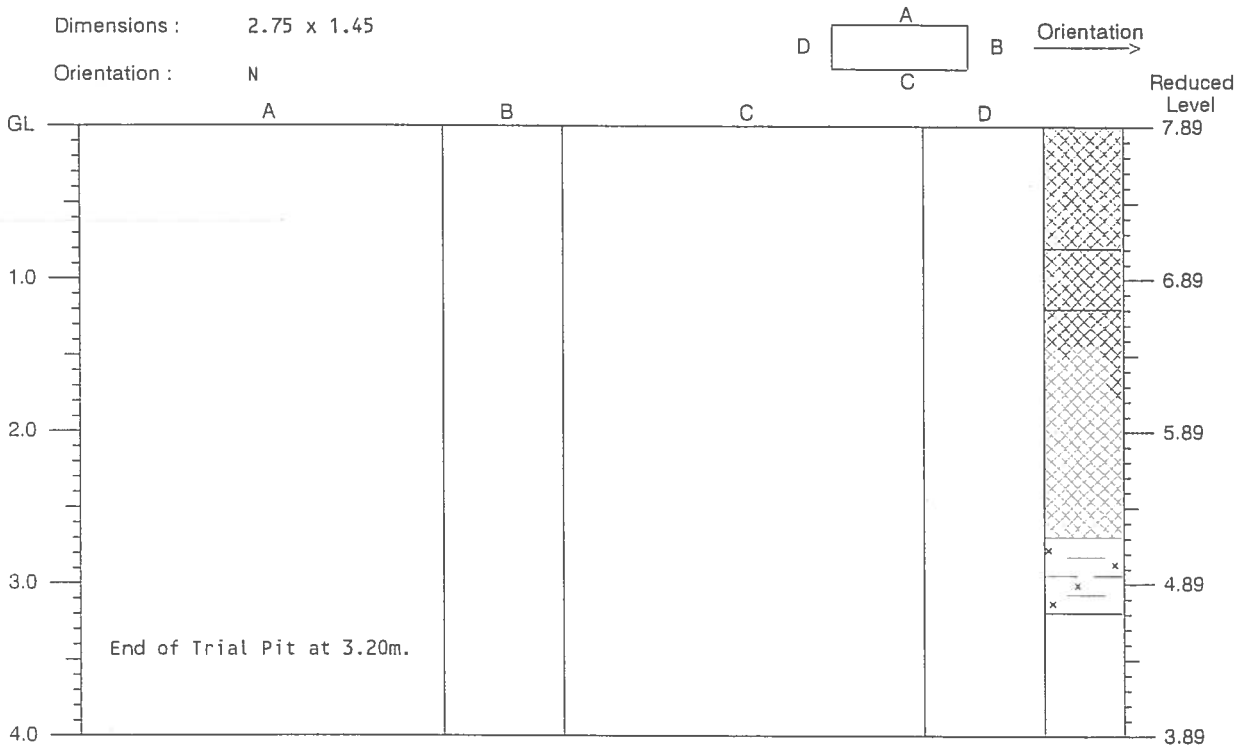
Project
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

Contract 150006

Borehole CH4(1 of 1)

Dimensions : 2.75 x 1.45

Orientation : N



Strata

Depth (m)	No.	Description
0.00-0.80	1	MADE GROUND: Loose red brown sandy very silty clayey angular to sub-angular fine to coarse gravel and cobbles of concrete, brick, sandstone and limestone with some refuse of plastic 5%.
0.80-1.20	2	MADE GROUND: Loose grey sandy very silty clayey angular to sub-angular fine to coarse gravel and cobbles of brick, concrete, slag, ash and sandstone with some boulders (<550mm) of reinforced concrete (strong creosote odour) from wooden sleepers at 1.00m).
1.20-2.70	3	MADE GROUND: Soft to firm red brown and grey sandy very silty clay with some angular to sub-angular fine to coarse gravel of slag, brick, ash, sandstone and mudstone with occasional cobbles of brick and concrete and many wooden sleepers encountered at 1.90m with some refuse of plastic 5%.
2.70-3.20	4	Firm grey mottled brown very silty organic CLAY.

Samples and Tests

Depth (m)	Type	Results
0.00-0.80	BTO	
0.80-1.20	BTO	
1.20-1.70	BTO	
2.70-3.20	BTO	
2.70	W	

Date of Excavation 31/01/00
Equipment JCB 3CX
Stability Stable

Groundwater

No.	Struck	Behaviour
1	2.70	medium flow

Ground Level 7.89 m OD
Coordinates 329050.29 mE
183417.98 mN

Logged by DC
Checked by AF

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

Project

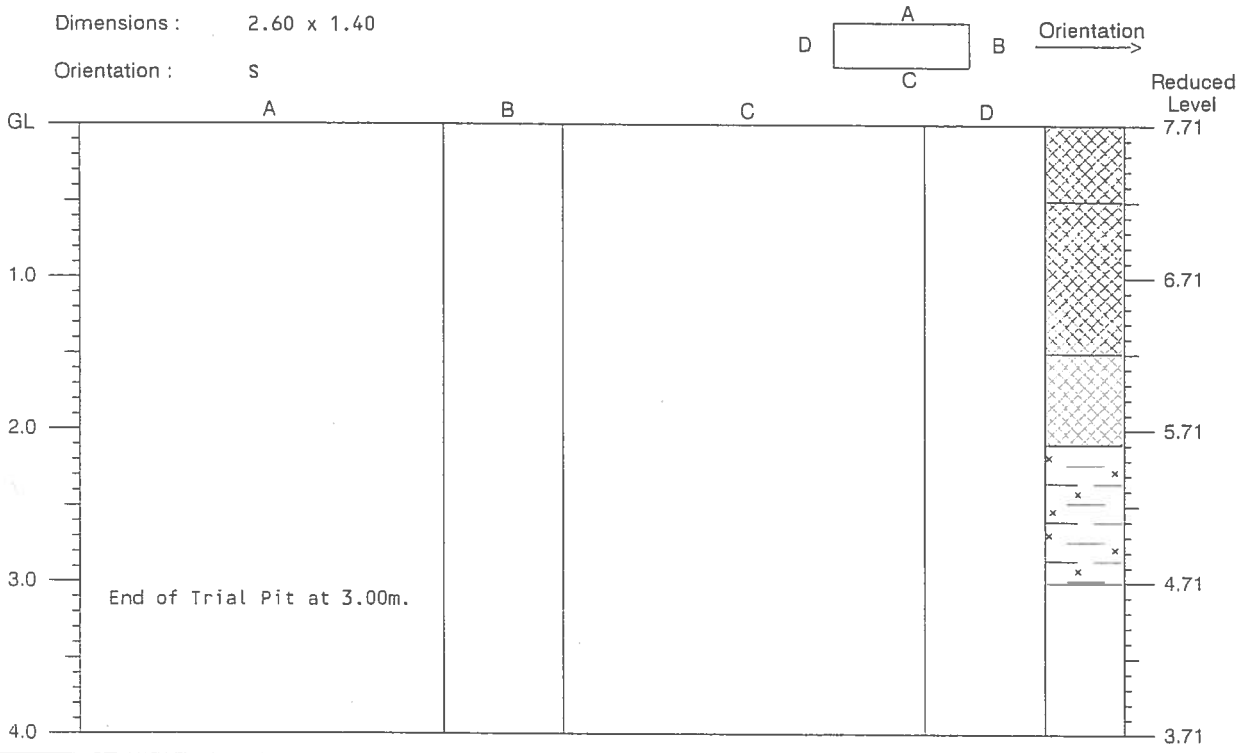
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

Contract 150006

Trial Pit CH5

Dimensions : 2.60 x 1.40

Orientation : S



Strata

Depth (m)	No.	Description
0.00-0.50	1	MADE GROUND: Firm reddish brown sandy very silty clay with much sub-angular to sub-rounded fine to coarse gravel and cobbles of brick, slag, ash, sandstone, siltstone and limestone.
0.50-1.50	2	MADE GROUND: Moderately compact grey very sandy slightly silty slightly clayey sub-angular to sub-rounded fine to coarse gravel and cobbles of concrete, brick, sandstone, slate, slag, ash and siltstone with some sub-angular boulder (<500mm) of reinforced concrete with occasional pockets of red brown very silty sandy clayey marl and some refuse of pipe 1%, plastic 1% and wood 10%.
1.50-2.10	3	MADE GROUND: Firm red brown sandy very silty clay with some angular to sub-angular fine to coarse gravel of brick, sandstone and concrete with much wood.
2.10-3.00	4	Firm grey mottled blue grey and brown slightly sandy very silty organic CLAY.

Samples and Tests

Depth (m)	Type	Results
0.00-0.50	BTO	
0.50-1.00	BTO	
1.50-2.00	BTO	
2.10-2.70	BTO	
	W	

Date of Excavation 31/01/00
Equipment JCB 3CX
Stability Stable

Groundwater

No.	Struck	Behaviour
1	1.80	slight seepage

Ground Level 7.71 m OD
Coordinates 329064.57 mE
183391.17 mN

Logged by DC
Checked by AF

Remarks Slight water seepage at 1.80m (insufficient amount for water sampling). Water sample taken in rear adjacent to CH6 (known as "Site No. 2" rear sample)

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

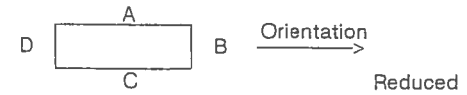
Project
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

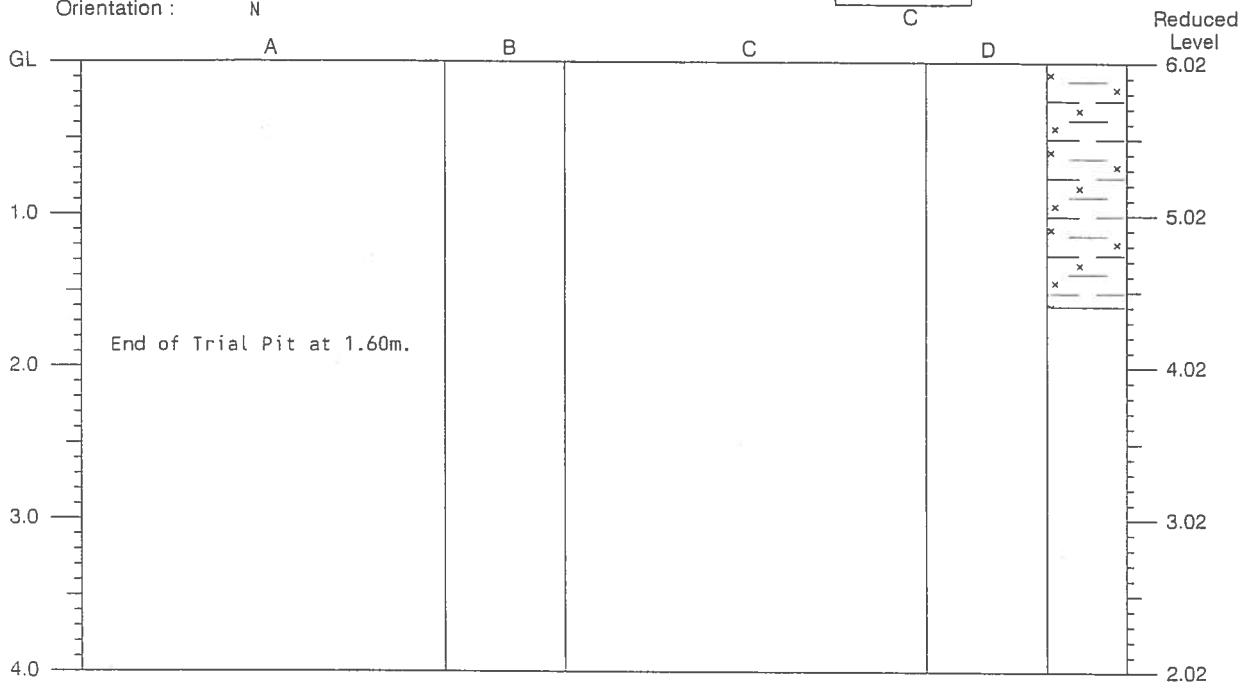
Contract 150006

Trial Pit CH6

Dimensions : 2.10 x 1.20

Orientation : N





Strata

Depth (m)	No.	Description
0.00-1.60	1	Soft to firm grey mottled brown very slightly organic CLAY.

Samples and Tests

Depth (m)	Type	Results
0.00-0.50	BTO	
1.00-1.60	B	

Date of Excavation 31/01/00
Equipment JCb 3CX
Stability Stable

Groundwater

No.	Struck	Behaviour
1	1.50	slight seepage

Ground Level 6.02 m OD
Coordinates 329130.33 mE
183458.91 mN

Logged by DC
Checked by AF

Remarks Slight seepage at 1.50m (insufficient amount for water sampling).

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

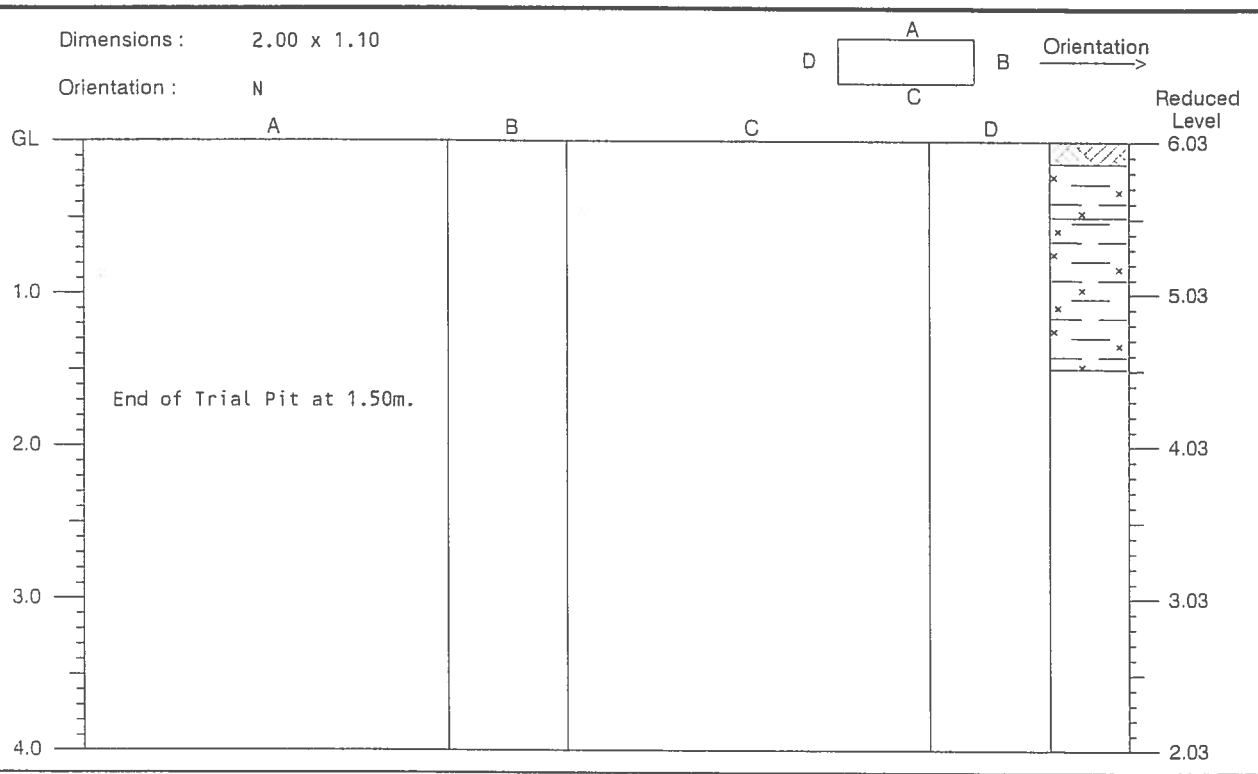
Project
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

Contract 150006

Trial Pit CH7

Dimensions : 2.00 x 1.10

Orientation : N



Strata

Depth (m)	No.	Description
0.00-0.15	1	Brown sandy clayey TOPSOIL.
0.15-0.50	2	Grey mottled brown very silty organic CLAY.
0.50-1.50	3	Blue grey mottled brown very silty CLAY.

Samples and Tests

Depth (m)	Type	Results
0.15	B	
1.00-1.50	BTO	
1.50	W	

Date of Excavation 31/01/00
Equipment JCB 3CX
Stability Stable

Groundwater

No.	Struck	Behaviour
1	1.50	medium flow

Ground Level 6.03 m OD
Coordinates 329178.75 mE
183519.18 mN

Logged by DC
Checked by AF

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

Project

M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

Contract 150006

Trial Pit CH8

Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
0.00-0.50	TO		07/02 0000 DRY	
0.50-1.00	B			
1.00-1.50	TO			
1.50-2.00	TO			
2.00-2.50	B			
3.00		NIL	DRY	

Strata

Description	Depth (Thickness)	Level
MADE GROUND: Moderately compact brown grey and red brown sandy very silty clayey angular to sub-angular fine to coarse gravel of coal, brick, concrete, slag, sandstone and limestone with some cobbles of sub-rounded sandstone	G.L.	9.80
	(1.50)	
Firm brown mottled grey very silty CLAY	1.50	8.30
	(1.50)	
no recovery 2.50m - 3.00m		
End of Borehole.	3.00	6.80

Legend

Equipment: Hand Held Window Sampler

Borehole Dia (mm) / Casing Dia (mm)
80 to 1.00m
60 to 3.00m

Groundwater
No. Struck Behaviour Sealed

No groundwater encountered

Ground Level 9.80 m OD
Coordinates 331020.20 mE
184756.13 mN

Drilled by DC
Logged by DC
Checked by AF

Remarks

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

Contract 150006

Borehole CH9(1 of 1)

Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
			07/02 2020 DRY	
0.40-1.00	TO			
1.00-1.40	TO			
1.40-2.00	TO			
		NIL	DRY	
2.00				

Strata

Description	Depth (Thickness)	Level
	G.L.	10.29
MADE GROUND: Weak grey concrete	(0.40)	
	0.40	9.89
MADE GROUND: Moderately compact dark grey and red brown sandy very silty clayey sub-angular to sub-rounded fine to coarse gravel of slag, ash,brick,concrete and limestone with ocassional sub-rounded cobbles of sandstone.	(1.60)	
	2.00	8.29
End of Borehole.		

Legend

Equipment: Hand Held Window Sampler

Borehole Dia (mm) / Casing Dia (mm)
202 to 0.40m
80 to 1.40m
60 to 2.00m

Groundwater
No. Struck Behaviour Sealed
No groundwater encountered

Ground Level 10.29 m OD
Coordinates 331076.30 mE
184823.93 mN

Drilled by DC
Logged by DC
Checked by AF

Remarks Concrete core 202mm ϕ to a depth of 0.40m (1hr)
Refusal at 2.00m (possible cobbles?)

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

Contract 150006

Borehole CH10(1 of 1)

Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
			07/02 0000 DRY	
0.35-0.85	TO			
0.85-1.15	B			
1.15-1.65	B			
1.65-2.15	TO			
3.00		NIL	DRY	

Strata

Description	Depth (Thickness)	Level
	G.L.	10.10
MADE GROUND: Black tarmac	0.15	9.95
MADE GROUND: Moderately compact grey slightly sandy angular to sub-angular fine to coarse gravel of siltstone and limestone(sub-base)	0.35	9.75
MADE GROUND: Firm red brown slightly sandy very silty clay with much angular to sub-angular fine to coarse gravel of slag,ash, coal,sandstone and brick	(1.30)	
	1.65	8.45
MADE GROUND: Soft grey very silty clayey fine to coarse sand with occasional angular to sub-angular fine to coarse gravel of slag and ash (Strong fuel odour) no recovery 2.15m - 3.00m	(1.35)	
.....	3.00	7.10
End of Borehole.		

Legend

Equipment: Hand Held Window Sampler

Borehole Dia (mm) / Casing Dia (mm)
202 to 0.15m
80 to 1.15m
60 to 3.00m

Groundwater
No. Struck Behaviour Sealed
No groundwater encountered

Ground Level 10.10 m OD
Coordinates 331177.34 mE
184920.35 mN

Drilled by DC
Logged by DC
Checked by AF

Remarks Concrete Core 202mm ϕ to a depth of 0.15m (1hr)

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

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M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

Contract 150006

Borehole CH11(1 of 1)

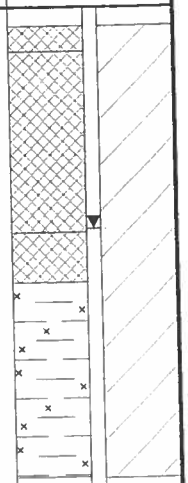
Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
			07/02 2000 DRY	
0.17-0.67	TO			
0.67-1.37	TO			
1.37-1.70	TO			
1.70-2.00	T			
1.35	W			
3.00		NIL	1.35	

Strata

Description	Depth (Thickness)	Level
	G.L.	9.66
MADE GROUND: Black tarmac	0.17	9.49
MADE GROUND: Moderately compact dark grey black very silty slightly clayey very sandy angular to sub-angular fine to coarse gravel of slag,ash,sandstone,brick and limestone with occasional cobbles of sandstone	(1.20)	
	1.37	8.29
MADE GROUND: Soft to firm grey very silty clay with occasional to some sub-rounded to sub-angular fine to coarse gravel of slag and sandstone	1.70	7.96
Soft to firm grey very silty organic CLAY no recovery 2.00m - 3.00m	(1.30)	
	3.00	6.66
End of Borehole.		

Legend



Equipment: Hand Held Window Sampler

Borehole Dia (mm) / Casing Dia (mm)
202 to 0.17m
80 to 1.17m
60 to 3.00m

Groundwater

No.	Struck	Behaviour	Sealed
1	1.35	Rose to 1.35m in 20 mins 1.35/1.35/1.35 in 5/10/15 mins	

Ground Level 9.66 m OD
Coordinates 331249.31 mE
184935.22 mN

Drilled by DC
Logged by DC
Checked by AF

Remarks Concrete core 202mm ϕ to a depth of 0.17 (1hr)
Only Sufficient amount of water for 1no litre sample (mineral)

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

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Ove Arup & Partners

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Borehole CH12(1 of 1)

Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
0.00-0.40	TO		28/01 2000 DRY	
0.40-0.77	TO			
0.77-1.07	TO	NIL	DRY	
1.07				

Strata

Description	Depth (Thickness)	Level
	G.L.	9.74
MADE GROUND: Moderately compact brown slightly silty sandy sub-angular to sub-rounded fine to coarse gravel of chert, mudstone,brick and sandstone with occasional refuse of plastic	(0.40)	
	0.40	9.34
MADE GROUND: Concrete.	0.47	9.27
	0.77	8.97
MADE GROUND: Soft to firm red brown slightly sandy very silty clay with occasional to some sub-angular fine to coarse gravel of chert, sandstone,coal,slag,ash and brick with some cobbles of sub-rounded cobbles of sandstone		
	1.07	8.67
MADE GROUND: Soft to firm dark grey black very silty clay with occasional to some sub-rounded to sub-angular fine to coarse gravel of chert,coal,ash,brick and sandstone		
End of Borehole.		

Legend

Equipment: Hand Held Window Sampler

Borehole Dia (mm) 80 to 1.00m

Casing Dia (mm)

Groundwater

No. Struck Behaviour Sealed

No groundwater encountered

Ground Level 9.74 m OD
Coordinates 331289.61 mE
184976.66 mN

Drilled by DC
Logged by DC
Checked by AF

Remarks Hole refusal at 1.07m (possible cobbles?)

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

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Borehole CH13(1 of 1)

Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
			04/02 2000	
0.16-0.50	TO		DRY	
0.50-1.30	B			
		NIL	DRY	
1.30				

Strata

Description	Depth (Thickness)	Level
	G.L.	9.10
MADE GROUND: Strong grey intact re-inforced concrete.	0.16	8.94
MADE GROUND: Compact dark grey black very silty sandy angular to sub-angular fine to coarse gravel and cobbles of slag,ash,coal, sandstone and limestone	(1.14)	
.....	1.30	7.80
End of Borehole.		

Legend

Equipment: Hand held window sampler

Borehole Dia (mm) 202 to 0.16m
80 to 1.30m

Casing Dia (mm)

Groundwater

No. Struck Behaviour Sealed

No groundwater encountered

Ground Level 9.10 m OD
Coordinates 331384.08 mE
185053.24 mN

Drilled by DC
Logged by DC
Checked by AF

Remarks Concrete core 202mm ϕ to a depth of 0.16 (1hr)
Refusal at 1.30 (Possible cobbles?)

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

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Ove Arup & Partners

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Borehole CH14(1 of 1)

Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
			27/01 2000 DRY	
0.30-0.80	TO			
		NIL	DRY	
0.80				

Strata

Description	Depth (Thickness)	Level
	G.L.	9.21
MADE GROUND: Black tarmac	0.10	9.11
	0.20	9.01
MADE GROUND: Light grey reinforced concrete.	0.30	8.91
	(0.50)	
MADE GROUND: Compact red brown very sandy angular to sub-angular fine to coarse gravel of limestone (sub-base)	0.80	8.41
MADE GROUND: Compact dark grey very silty sandy very clayey angular to sub-angular fine to coarse gravel of sandstone,slag and ash		
End of Borehole.		

Legend

Equipment: Hand Held Window Sampler

Borehole Dia (mm) Casing Dia (mm)
202 to 0.20m
80 to 0.80m

Groundwater
No. Struck Behaviour Sealed

No groundwater encountered

Ground Level 9.21 m OD
Coordinates 331417.03 mE
185090.44 mN

Drilled by DC
Logged by DC
Checked by AF

Remarks Hand Dug pit to 0.20m (½hr)
Refusal at 0.80m (possible cobbles?)

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

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Borehole CH15(1 of 1)

Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
			28/01 2000	
0.17-0.67	TO		DRY	
0.67-0.87	B	NIL	DRY	
0.87				

Strata

Description	Depth (Thickness)	Level
	G.L.	9.24
MADE GROUND: Strong light grey intact re-inforced concrete.	0.17	9.07
MADE GROUND: Compact dark grey sandy very silty very clayey angular to sub-angular fine to coarse gravel of sandstone,slag,ash,brick and limestone	(0.70)	
End of Borehole.	0.87	8.37

Legend

Equipment: Hand Held Window Sampler

Borehole Dia (mm) / Casing Dia (mm)
202 to 0.17m
80 to 0.87m

Groundwater
No. Struck Behaviour Sealed
No groundwater encountered

Ground Level 9.24 m OD
Coordinates 331415.85 mE
185091.46 mN

Drilled by DC
Logged by DC
Checked by AF

Remarks Concrete core 202mm ϕ to a depth of 0.17 (1½hrs)
Refusal at 0.87 (possible cobbles?)

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

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Ove Arup & Partners

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Borehole CH15A(1 of 1)

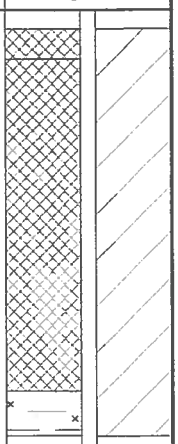
Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
			28/01 2000	
0.20-0.70	TO		DRY	
0.70-1.30	B			
1.30-1.90	B			
1.90-2.40	TO			
2.40-2.70	T	NIL	DRY	

Strata

Description	Depth (Thickness)	Level
	G.L.	8.69
MADE GROUND: Light grey strong intact re-inforced concrete	0.20	8.49
MADE GROUND: Moderately compact dark grey very silty clayey slightly sandy angular to sub-angular fine to coarse gravel of slag, slate,mudstone,ash,coal,sandstone and limestone	(2.20)	
Soft grey very silty CLAY	2.40	6.29
End of Borehole.	2.70	5.99

Legend



Equipment: Hand Held Window Sampler

Borehole Dia (mm) Casing Dia (mm)
202 to 0.20m
80 to 1.20m
60 to 2.70m

Groundwater
No. Struck Behaviour Sealed

No groundwater encountered

Ground Level 8.69 m OD
Coordinates 331453.57 mE
185126.62 mN

Drilled by DC
Logged by DC
Checked by AF

Remarks Concrete core 202mm ϕ to a depth of 0.20 (1½hrs)

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

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Borehole CH16(1 of 1)

Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
0.05-0.60	TO		27/01 2000 DRY	
0.60-1.00	TO			
1.30-1.90	TO			
1.90-2.40	TO			
1.00-1.30	B			
		NIL	DRY	
3.00				

Strata

Description	Depth (Thickness)	Level
	G.L.	8.79
Brown slightly silty very sandy TOPSOIL	0.05	8.74
	(0.55)	
MADE GROUND: Dark brown and red brown sandy very silty very clayey angular to sub-angular fine to coarse gravel of slag,brick,coal,ash, chert and sandstone	0.60	8.19
	(0.70)	
MADE GROUND: Red brown sandy very silty clay with much angular to sub-angular fine to coarse gravel of brick,coal,slag,ash and sandstone	1.30	7.49
	(0.60)	
MADE GROUND: Loose dark grey very silty sandy angular to sub-angular fine to coarse gravel of slag,ash,coal and sandstone	1.90	6.89
	(1.10)	
Soft to firm grey very silty CLAY		
.....	3.00	5.79
End of Borehole.		

Legend

Equipment: Hand Held Window Sampler

Borehole Dia (mm) Casing Dia (mm)
80 to 1.00m
60 to 3.00m

Groundwater
No. Struck Behaviour Sealed
No groundwater encountered

Ground Level 8.79 m OD
Coordinates 331500.85 mE
185119.04 mN

Drilled by DC
Logged by DC
Checked by AF

Remarks

See key sheet and appendices for explanations.

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Borehole Record

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Borehole CH17(1 of 1)

Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
0.20-0.50	TO		27/01 2000 DRY	
0.50-1.00	TO			
1.00-1.60	B			
1.60-2.20	TO			
3.20-4.00	T			
4.00-4.50	T			
4.50-5.00	T			
5.00		NIL	DRY	

Strata

Description	Depth (Thickness)	Level
	G.L.	10.02
MADE GROUND: Moderately compact red brown very sandy silty angular to sub-angular fine to coarse gravel of limestone and slag	0.20	9.82
MADE GROUND: Firm brown locally mottled orange brown sandy very silty clay with occasional to some sub-rounded fine to coarse gravel of sandstone	0.50 (1.10)	9.52
MADE GROUND: Moderately compact dark grey black very sandy very silty angular to sub-angular fine to coarse fine to coarse gravel of slag,ash,coal,chert and sandstone	1.60 (2.40)	8.42
MADE GROUND: Loose brown silty fine to coarse sand with occasional angular to sub-angular fine to coarse gravel of slag,ash,coal and sandstone no recovery 2.20m - 3.20m		
Soft to firm grey very silty CLAY with occasional sub-rounded fine to coarse gravel of sandstone	4.00 (0.50)	6.02
Firm red brown very silty CLAY with occasional to some sub-angular fine to medium gravel of mudstone	4.50 (0.50)	5.52
End of Borehole.	5.00	5.02

Legend

Equipment: Hand Held Window Sampler

Borehole Dia (mm) Casing Dia (mm)
80 to 1.00m
60 to 3.00m
40 to 5.00m

Groundwater
No. Struck Behaviour Sealed

No groundwater encountered

Ground Level 10.02 m OD
Coordinates 331575.33 mE
185145.01 mN

Drilled by DC
Logged by DC
Checked by AF

Remarks

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

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Borehole CH18(1 of 1)

Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
0.20-0.75	TO		27/01 2000 DRY	
0.75-2.00	B			
2.00-2.50	TO			
2.50-3.00	TO			
3.00		NIL	DRY	

Strata

Description	Depth (Thickness)	Level
	G.L.	10.32
MADE GROUND: Black tarmac	0.20	10.12
MADE GROUND: Loose dark grey black very silty sandy angular to sub-angular fine to coarse gravel of slag,ash,brick,sandstone and limestone	(1.80)	
Soft to firm grey slightly sandy very clayey SILT	2.00	8.32
	(1.00)	
End of Borehole.	3.00	7.32

Legend

Equipment: Hand Held Window Sampler

Borehole Dia (mm) / Casing Dia (mm)
80 to 1.00m
60 to 3.00m

Groundwater
No. Struck Behaviour Sealed

No groundwater encountered

Ground Level 10.32 m OD
Coordinates 331668.12 mE
185238.85 mN

Drilled by DC
Logged by DC
Checked by AF

Remarks Hand dug pit 0.00m - 0.20m (½hr)

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

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Borehole CH19(1 of 1)

Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
0.00-0.30	TO		27/01 2000 DRY	
0.30-0.80	TO			
1.00-1.50	TO			
1.50-2.00	B			
2.00-2.50	TO			
2.50		NIL	DRY	

Strata

Description	Depth (Thickness)	Level
	G.L.	10.32
MADE GROUND: Loose yellow brown slightly silty fine to coarse sand	0.30	10.02
MADE GROUND: Loose dark brown sandy very silty angular to sub-angular fine to coarse gravel of brick,slag,ash and sandstone	(0.50)	
	0.80	9.52
MADE GROUND: Soft brown very sandy clayey silt	(1.20)	
	2.00	8.32
MADE GROUND: Soft grey very sandy clayey silt.	(0.50)	
	2.50	7.82
End of Borehole.		

Legend

Equipment: Hand held Window Sampler

Borehole Dia (mm) Casing Dia (mm)
80 to 1.00m
60 to 2.50m

Groundwater
No. Struck Behaviour Sealed
No groundwater encountered

Ground Level 10.32 m OD
Coordinates 331745 mE
185300 mN

Drilled by DC
Logged by DC
Checked by AF

Remarks Refusal at 2.50m (Gravels)

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

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Borehole CH19A(1 of 1)

Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
0.00-0.50	TO		26/01 2000 DRY	
0.50-1.00	B			
1.00-1.50	TO			
1.50-2.20	TO			
3.00		NIL	DRY	

Strata

Description	Depth (Thickness)	Level
MADE GROUND: Compact dark brown very sandy silty angular to sub-angular fine to coarse gravel of slag,ash,sandstone and limestone	G.L.	8.85
	(1.00)	
Soft to firm grey very silty slightly organic CLAY with occasional fine to medium sub-rounded gravel of sandstone	1.00	7.85
	(2.00)	
no recovery 2.20m - 3.00m		
End of Borehole.	3.00	5.85

Legend

Equipment: Hand Held Window Sampler

Borehole Dia (mm) Casing Dia (mm)
80 to 1.00m
60 to 3.00m

Groundwater
No. Struck Behaviour Sealed
No groundwater encountered

Ground Level 8.85 m OD
Coordinates 331885.47 mE
185314.89 mN

Drilled by DC
Logged by DC
Checked by AF

Remarks

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

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Borehole CH20(1 of 1)

Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
0.00-0.50	TO		26/01 2000 DRY	
0.50-0.75	B			
0.75-1.50	TO			
1.50-2.00	B			
2.00-2.50	B			
2.50-3.00	TO			
3.00		NIL	DRY	

Strata

Description	Depth (Thickness)	Level
	G.L.	8.47
MADE GROUND: Compact dark brown and grey very sandy silty angular to sub-angular fine to coarse gravel of slag and ash	(0.75)	
	0.75	7.72
Soft to firm grey and brown very silty CLAY	(2.25)	
	3.00	5.47
End of Borehole.		

Legend

Equipment: Hand Held Window Sampler

Borehole Dia (mm) / Casing Dia (mm)
80 to 1.00m
60 to 3.00m

Groundwater

No. Struck	Behaviour	Sealed

No groundwater encountered

Ground Level 8.47 m OD
Coordinates 331943.00 mE
185338.48 mN

Drilled by DC
Logged by DC
Checked by

Remarks

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

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Borehole CH21(1 of 1)

Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
			26/01 2000 DRY	
0.30-0.60	TO			
0.60-0.75	T			
0.75-0.95	T			
1.00-1.50	TO			
1.50-2.00	B			
2.00-2.50	B			
2.50-3.00	TO			
3.00		NIL	DRY	

Strata

Description	Depth (Thickness)	Level
	G.L.	8.37
MADE GROUND: Black tarmac	0.15	8.22
MADE GROUND: Loose brown very sandy angular fine to coarse gravel of limestone (sub-base)	0.30	8.07
	0.60	7.77
MADE GROUND: Loose dark brown sandy very silty angular to sub-angular fine to coarse gravel of slag,ash,sandstone and limestone	0.75	7.62
	0.95	7.42
MADE GROUND: Brown and grey very silty fine to medium sand		
MADE GROUND: Loose dark grey sandy very silty angular to sub-angular fine to coarse gravel of slag and ash	(2.00)	
Soft to firm grey locally mottled brown very silty CLAY	2.95	5.42
End of Borehole.		

Legend

Equipment: Hand Held Window Sampler

Borehole Dia (mm) / Casing Dia (mm)
80 to 1.00m
60 to 3.00m

Groundwater
No. Struck Behaviour Sealed
No groundwater encountered

Ground Level 8.37 m OD
Coordinates 332018.57 mE
185383.50 mN

Drilled by DC
Logged by DC
Checked by AF

Remarks Breakout (½hr)

See key sheet and appendices for explanations.

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Borehole Record

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Borehole CH22(1 of 1)

Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
			26/01 2000 DRY	
0.16-0.36	T			
0.36-0.46	T			
0.46-1.00	TO			
1.00-1.50	B			
1.50-2.00	B			
2.00-2.50	B			
2.50-3.07	TO			
3.07		NIL	DRY	

Strata

Description	Depth (Thickness)	Level
	G.L.	8.47
MADE GROUND: Light grey intact re-inforced concrete	0.16	8.31
MADE GROUND: Loose dark brown very sandy slightly silty angular to sub-angular fine to coarse gravel of slag,ash and limestone	0.36	8.11
MADE GROUND: Loose light brown very sandy sub-angular to sub-rounded fine to coarse gravel of slag,ash,slate,brick and sandstone	0.46	8.01
Soft to firm grey locally mottled brown very silty CLAY	(2.61)	
End of Borehole.	3.07	5.40

Legend

Equipment: Hand Held Window Sampler

Borehole Dia (mm) / Casing Dia (mm)
202 to 0.16m
80 to 1.16m
60 to 3.07m

Groundwater

No. Struck	Behaviour	Sealed

No groundwater encountered

Ground Level 8.47 m OD
Coordinates 332057.74 mE
185390.67 mN

Drilled by DC
Logged by DC
Checked by AF

Remarks Concrete core 202mmϕ to a depth of 0.16m (1½hrs)

See key sheet and appendices for explanations.

Form 1/0

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Borehole CH23(1 of 1)

Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
0.00-0.50	TO		08/02 2000 DRY	
0.50-0.75	B			
0.75-1.00	TO			
1.00-1.50	TO			
1.50-2.00	B			
2.00-2.50	TO			
3.00		NIL	DRY	

Strata

Description	Depth (Thickness)	Level
MADE GROUND: Compact brown slightly clayey silty fine to coarse sand with occasional to some sub-angular fine to coarse gravel of brick,chert,coal,slag and ash with occasional sub-angular cobbles of sandstone	G.L. (0.75)	7.41
Firm grey brown slightly organic slightly sandy very silty CLAY	0.75 (1.25)	6.66
Soft to firm grey mottled brown very silty CLAY no recovery 2.50m - 3.00m	2.00 (1.00)	5.41
End of Borehole.	3.00	4.41

Legend

Equipment: Hand Held Window Sampler

Borehole Dia (mm) / Casing Dia (mm)
80 to 1.00m
60 to 3.00m

Groundwater
No. Struck Behaviour Sealed
No groundwater encountered

Ground Level 7.41 m OD
Coordinates 332622.32 mE
185515.17 mN

Drilled by DC
Logged by DC
Checked by AF

Remarks

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

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M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

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Borehole CH24(1 of 1)

Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
0.00-0.50	TO		05/02 2000 DRY	
0.50-0.80	B			
0.80-1.10	TO			
1.10-1.80	B			
1.80-2.30	TO			
3.00		NIL	DRY	

Strata

Description	Depth (Thickness)	Level
	G.L.	7.61
MADE GROUND: Compact brown and grey sandy very silty very clayey sub-rounded to sub-angular fine to coarse gravel of brick,slag, sandstone and limestone	(0.80)	
	0.80	6.81
Firm to stiff grey mottled brown very silty CLAY		
....becoming soft to firm below 1.80m.	(2.20)	
.....	3.00	4.61
End of Borehole.		

Legend

Equipment: Hand Held Window Sampler

Borehole Dia (mm) / Casing Dia (mm)
80 to 1.00m
60 to 3.00m

Groundwater

No. Struck	Behaviour	Sealed
	No groundwater encountered	

Ground Level 7.61 m OD
Coordinates 332754.50 mE
185473.49 mN

Drilled by DC
Logged by DC
Checked by AF

Remarks

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

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Borehole CH25(1 of 1)

Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
			08/02 0000 DRY	
0.30-0.65	TO			
0.65-1.00	T	NIL	0.65	
1.00				

Strata

Description	Depth (Thickness)	Level
MADE GROUND: Strong grey intact re-inforced concrete.	G.L.	7.19
	0.30	6.89
MADE GROUND: Moderately compact grey slightly sandy silty slightly clayey sub-angular to angular fine to coarse gravel of sandstone, brick and quartz with some cobbles of sndstone	(0.70)	
End of Borehole.	1.00	6.19

Legend

Equipment: Hand HeldWindow Sampler

Borehole Dia (mm) 80 to 1.00m

Casing Dia (mm)

Groundwater

No.	Struck	Behaviour	Sealed
1	0.65	Rose to 0.65m in 20 mins .65/.65/.65 in 5/10/15 mins	

Ground Level 7.19 m OD
Coordinates 332824.91 mE
185489.35 mN

Drilled by DC
Logged by DC
Checked by AF

Remarks Concrete core 202mmø to a depth of 0.30 (1hr)
Refusal at 1.00m (Possible cobbles??) Insufficient amount of water for same

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

Contract 150006

Borehole CH26(1 of 1)

Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
			08/02 0000 DRY	
0.55-0.90	TO			
1.10-1.50	TO			
2.00-2.50	TO			
3.00		NIL	DRY	

Strata

Description	Depth (Thickness)	Level
	G.L.	6.78
MADE GROUND: Strong grey re-inforced concrete.	0.25	6.53
MADE GROUND: Moderately compact brown sandy angular to sub-angular fine to coarse gravel of limestone and brick	0.55	6.23
MADE GROUND: Moderately compact dark grey black very silty slightly clayey fine sand with occasionl to some sub-angular fine to coarse gravel of sandstone and slag	0.90 1.10	5.88 5.68
MADE GROUND: Firm grey very silty clay with occasional sub-angular fine to medium gravel of coal and ash	(1.90)	
Firm grey very silty CLAY from 2.00 Becoming soft to firm		
.....	3.00	3.78
End of Borehole.		

Legend

Equipment: Hand Held Window Sampler

Borehole Dia (mm) / Casing Dia (mm)
80 to 1.00m
60 to 3.00m

Groundwater

No. Struck	Behaviour	Sealed

No groundwater encountered

Ground Level 6.78 m OD
Coordinates 332877.57 mE
185472.83 mN

Drilled by DC
Logged by DC
Checked by AF

Remarks Concrete core 202mmø to a depth of 0.25 (1.5 hrs)

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

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M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

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Borehole CH27(1 of 1)

Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
			08/02 2000 DRY	
0.27-0.72	TO			
1.40-1.90	B			
1.90-2.50	TO			
2.50-3.00	TO			
3.00		NIL	DRY	

Strata

Description	Depth (Thickness)	Level
	G.L.	7.89
MADE GROUND: Strong grey intact re-inforced concrete	0.27	7.62
MADE GROUND: Compact brown slightly clayey very silty fine to medium sand with some sub-angular to sub-rounded fine to coarse gravel of quartz,sandstone,mudstone,coal,slag and ash with occasional cobbles of slag	(1.13)	
	1.40	6.49
MADE GROUND: Moderately compact slightly clayey slightly silty fine to medium sand with some to much angular to sub-angular fine to coarse gravel of sandstone	(0.50)	
	1.90	5.99
Soft to firm grey mottled brown slightly sandy very silty CLAY From 2.30 becoming firm to stiff	(1.10)	
	3.00	4.89
End of Borehole.		

Legend

Equipment: Hand Held Window Sampler

Borehole Dia (mm) / Casing Dia (mm)
202 to 0.27m
80 to 1.27m
60 to 3.00m

Groundwater

No. Struck	Behaviour	Sealed

No groundwater encountered

Ground Level 7.89 m OD
Coordinates 332926.36 mE
185443.98 mN

Drilled by DC
Logged by DC
Checked by AF

Remarks Concrete core 202mmφ to a depth of 0.27m (1hr)

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

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Ove Arup & Partners

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Borehole CH28(1 of 1)

Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
0.20-0.30	TO		08/02 0000 DRY	
0.40-0.50	TO			
0.50		NIL	DRY	

Strata

Description	Depth (Thickness)	Level
MADE GROUND: Strong grey intact re-inforced concrete.	G.L.	8.04
	0.20	7.84
MADE GROUND: Moderately compact grey sandy sub-angular fine to coarse gravel of limestone (sub-base)	0.30	7.74
	0.40	7.64
MADE GROUND: Strong to weak grey concrete.	0.50	7.54
MADE GROUND: Compact dark grey slightly silty slightly clayey sandy angular to sub-angular fine to medium gravel of sandstone,slag and limestone		
End of Borehole.		

Legend

Equipment: Hand Held Window Sampler

Borehole Dia (mm) / Casing Dia (mm)
202 to 0.20m
80 to 0.30m
100 to 0.40m

Groundwater

No. Struck	Behaviour	Sealed
	No groundwater encountered	

Ground Level 8.04 m OD
Coordinates 332956.17 mE
185427.60 mN

Drilled by DC
Logged by DC
Checked by AF

Remarks Refusal at 0.50m (possible cobbles?)

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

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Ove Arup & Partners

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Borehole CH29(1 of 1)

Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
0.00-0.50	TO		08/02 0000 DRY	
0.50-1.00	B			
1.00-1.50	TO			
1.50		NIL	DRY	

Strata

Description	Depth (Thickness)	Level
MADE GROUND: Compact brown slightly clayey slightly silty fine sand with much angular to sub-angular fine to coarse gravel of chert, brick, sandstone and slag with occasional cobbles of sandstone from 0.75m becoming moderately compact	G.L. (1.50)	8.23
End of Borehole.	1.50	6.73

Legend

Equipment: Hand Held Window Sampler

Borehole Dia (mm) Casing Dia (mm)
80 to 1.00m
60 to 1.50m

Groundwater
No. Struck Behaviour Sealed

No groundwater encountered

Ground Level 8.23 m OD
Coordinates 333037.64 mE
185405.50 mN

Drilled by DC
Logged by DC
Checked by AF

Remarks Hole refusal at 1.50m (possible wooden sleepers?)

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

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Ove Arup & Partners

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Borehole CH30(1 of 1)

Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
0.00-0.40	T		08/02 0000 DRY	
		NIL	DRY	
0.40				

Strata

Description	Depth (Thickness)	Level
	G.L.	7.96
MADE GROUND: Very compact grey black slightly silty sandy slightly clayey sub-angular fine to coarse gravel of slag,ash,sandstone and coal with occasionl cobbles of sandstone	(0.40)	
End of Borehole.	0.40	7.56

Legend

Equipment: Hand Held Window Sampler

Borehole Dia (mm) 80 to 0.40m

Casing Dia (mm)

Groundwater

No. Struck Behaviour Sealed

No groundwater encountered

Ground Level 7.96 m OD
Coordinates 333206.82 mE
185368.33 mN

Drilled by DC
Logged by DC
Checked by AF

Remarks Hole refusal at 0.40m (could not penertrate gravels)

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

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M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

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Borehole CH31(1 of 1)

Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
0.00-0.35	T		08/02 0000 DRY	
0.35-1.00	TO			
0.10	W			
		NIL	0.10	
1.00				

Strata

Description	Depth (Thickness)	Level
	G.L.	8.13
MADE GROUND: Moderately compact red brown slightly sandy slightly silty slightly clayey angular to sub-angular fine to coarse gravel of sandstone, limestone and brick with occasional to some cobbles of sandstone	0.35	7.78
	(0.65)	
MADE GROUND: Firm to stiff brown slightly sandy very silty clay with occasional sub-angular fine to coarse gravel of coal and ash	1.00	7.13
End of Borehole.		

Legend

Equipment: Hand Held Window Sampler

Borehole Dia (mm) 80 to 1.00m

Casing Dia (mm)

Groundwater

No.	Struck	Behaviour	Sealed
1	0.10	Rose to 0.10m in 20 mins .10/.10/.10 in 5/10/15 mins	

Ground Level 8.13 m OD
Coordinates 333267.59 mE
185318.45 mN

Drilled by DC
Logged by DC
Checked by AF

Remarks Refusal at 1.00m (possible wooden sleepers?)

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

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M4 Relief Road - Stage 2. Preliminary Chemical Investigation
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Borehole CH32(1 of 1)

Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
			08/02 0000	
0.20-0.50	TO		DRY	
0.50-1.00	B			
1.50-2.00	TO			
2.00-2.50	B			
2.50-3.00	TO			
3.00		NIL	DRY	

Strata

Description	Depth (Thickness)	Level
MADE GROUND: Stiff brown mottled grey very silty organic clay with a little sub-rounded fine to coarse gravel of brick and slag and with much root material	G.L.	8.28
	(1.20)	
Firm to stiff blue grey mottled brown very silty organic CLAY with some root material	1.20	7.08
	(1.30)	
Firm to stiff brown mottled grey very silty organic CLAY with much root material	2.50	5.78
	(0.50)	
End of Borehole.	3.00	5.28

Legend

Equipment: Hand Held Window Sampler

Borehole Dia (mm) Casing Dia (mm)
80 to 1.00m
60 to 3.00m

Groundwater
No. Struck Behaviour Sealed

No groundwater encountered

Ground Level 8.28 m OD
Coordinates 333473.63 mE
185296.04 mN

Drilled by DC
Logged by DC
Checked by AF

Remarks CH33 Changed from trial pit to window sample due to unsuitable access for JCB.

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

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M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

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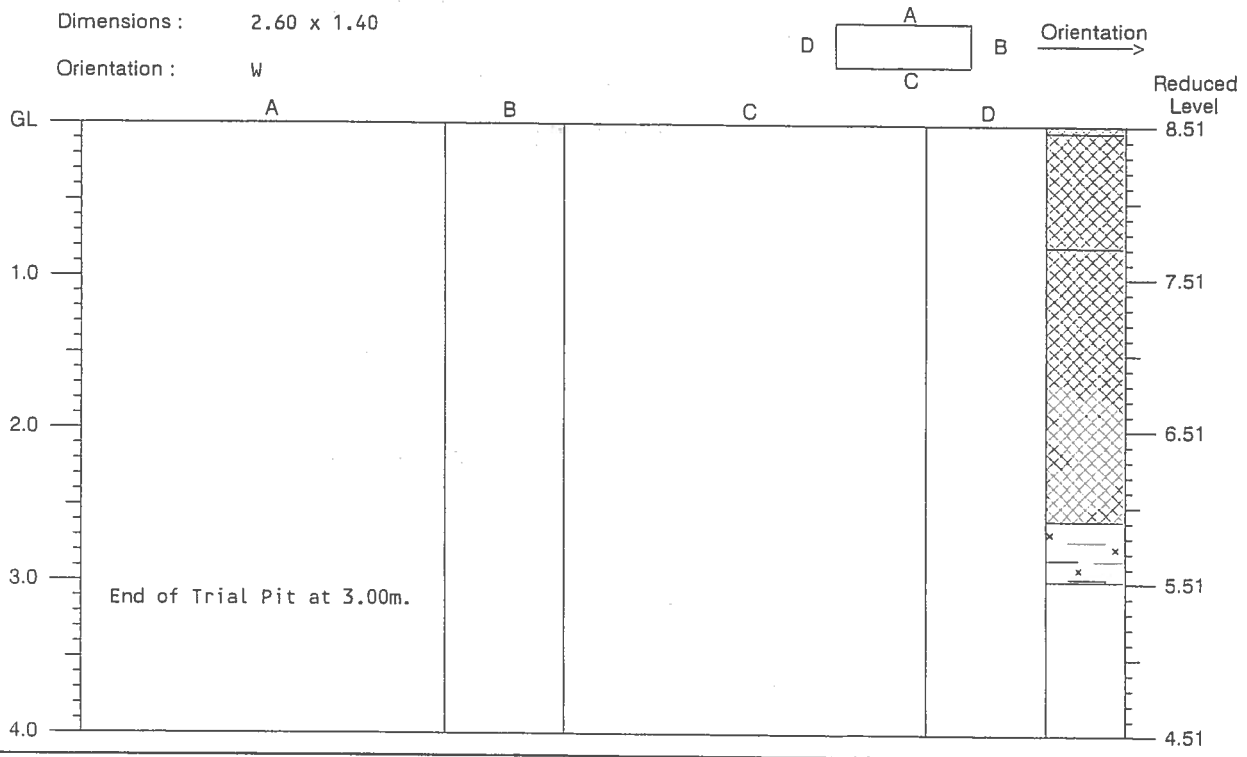
Borehole CH33(1 of 1)

Dimensions : 2.60 x 1.40

Orientation : W



Strata

Depth (m)	No.	Description
0.00-0.05	1	MADE GROUND: Loose brown sandy angular to sub-angular fine to coarse gravel of limestone (hardcore).
0.05-0.80	2	MADE GROUND: Firm brown mottled grey very silty clay with occasional sub-angular to sub-rounded fine to coarse gravel of siltstone with much root material.
0.80-2.60	3	MADE GROUND: Firm to stiff grey mottled brown very silty clay with occasional to some root material. ....at 1.00m a little sub-angular fine to coarse gravel of slag ....at 2.00m some pockets of brown fibrous peat ....at 2.40m much root material
2.60-3.00	4	Firm to stiff brown mottled blue grey very silty CLAY with some root material

Samples and Tests

Depth (m)	Type	Results
0.15-0.50	BTO	
1.40-1.60	BTO	
2.60-2.70	BTO	

Date of Excavation 01/02/00
Equipment JCB 3CX
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 8.51 m OD
Coordinates 333500.60 mE
185283.99 mN

Logged by DC
Checked by AF

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

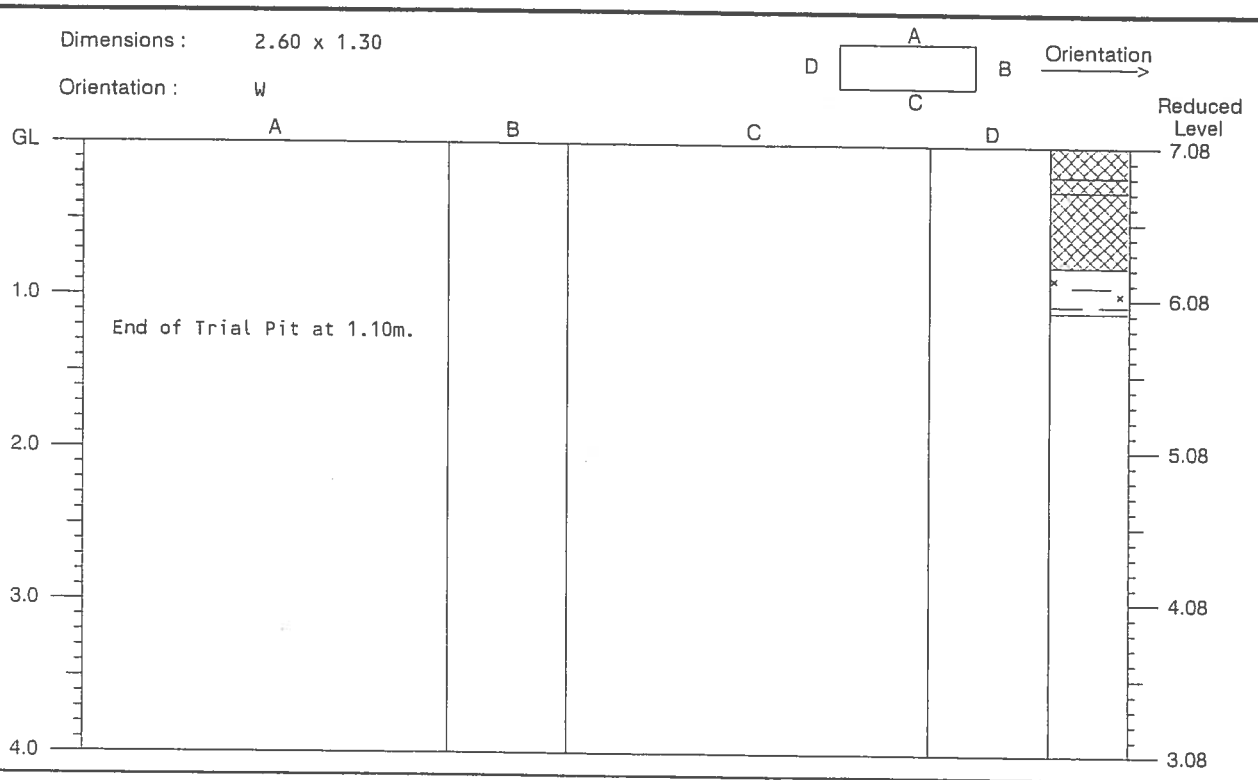
Project
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

Contract 150006

Trial Pit CH34

Dimensions : 2.60 x 1.30

Orientation : W



Strata

Depth (m)	No.	Description
0.00-0.20	1	MADE GROUND: Moderately compact grey and brown slightly silty sand sub-angular to sub-rounded fine to coarse gravel and cobbles of slag, ash, concrete, brick, limestone (strong acidic odour).
0.20-0.30	2	MADE GROUND: Moderately compact brown sandy angular to sub-angular fine to coarse gravel of limestone (sub-base).
0.30-0.80	3	MADE GROUND: Moderately compact grey sandy very silty very clayey sub-angular fine to coarse gravel and cobbles of concrete, slag, ash, limestone and siltstone with some boulders (<440mm) of slag and concrete and some metal piping (5%).
0.80-1.10	4	Stiff blue grey mottled brown very silty organic CLAY with much root material.

Samples and Tests

Depth (m)	Type	Results
0.00-0.20	BTO	
0.20-0.30	BTO	
0.50-0.70	BTO	
0.80	W	
0.80-1.10	BTO	

Date of Excavation 01/02/00
Equipment JCB 3CX
Stability Stable

Groundwater

No.	Struck	Behaviour
1	0.80	medium inflow

Ground Level 7.08 m OD
Coordinates 333540.67 mE
185256.56 mN

Logged by DC
Checked by AF

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

Project

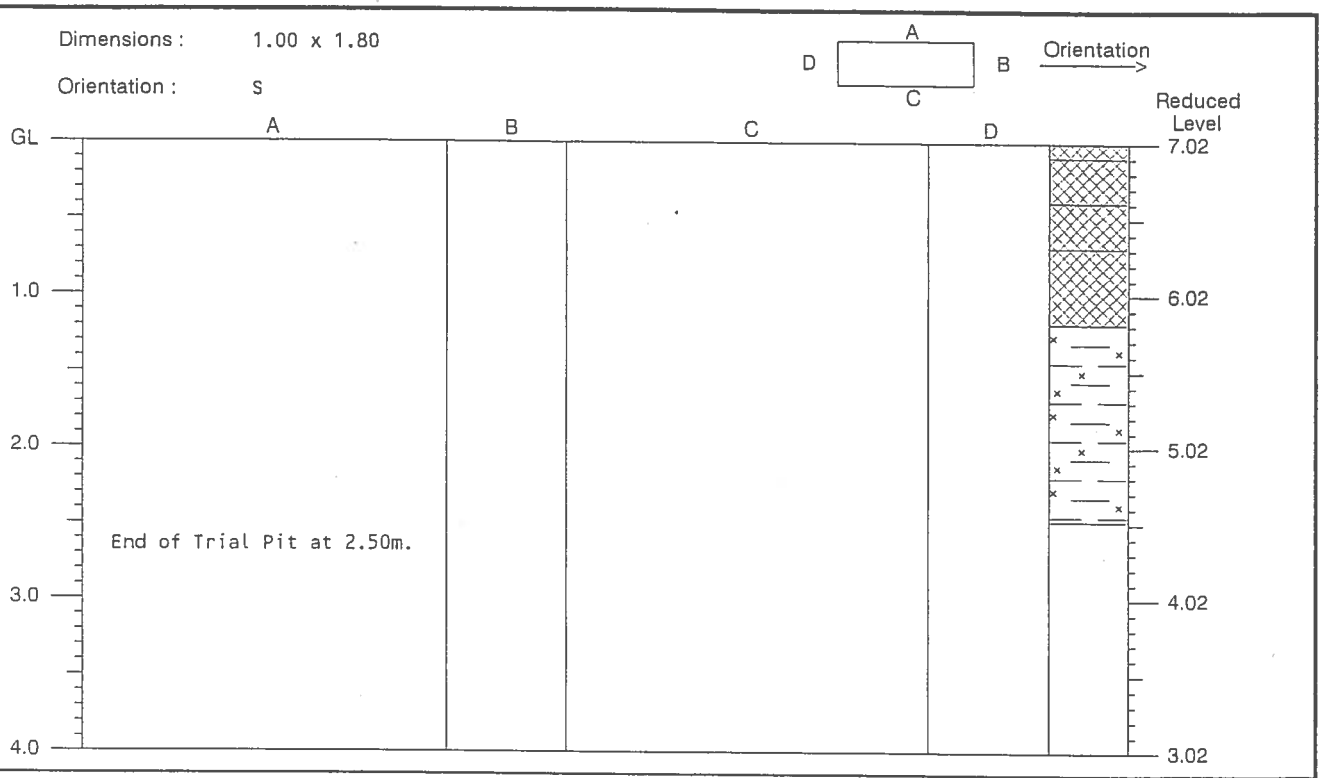
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

Contract 150006

Trial Pit CH35

Dimensions : 1.00 x 1.80

Orientation : S



Strata

Depth (m)	No.	Description
0.00-0.10	1	MADE GROUND: Loose dark grey sandy slightly silty angular to sub-angular fine to coarse gravel of limestone and sandstone.
0.10-0.40	2	MADE GROUND: Loose brown sandy angular to sub-angular fine to coarse gravel and cobbles of limestone (sub-base).
0.40-0.70	3	Firm grey very silty organic CLAY.
0.70-1.20	4	Firm to stiff grey and brown very silty organic CLAY with much root material.
1.20-2.50	5	Firm brown mottled grey very silty CLAY with some root material. ....from 1.90m becoming soft to firm

Samples and Tests

Depth (m)	Type	Results
0.00-0.10	BTO	
0.10-0.40	BTO	
0.70-1.00	BTO	
1.50-1.70	BTO	

Date of Excavation 01/02/00
Equipment JCB 3CX
Stability Stable

Groundwater

No.	Struck	Behaviour
		Not encountered during excavation

Ground Level 7.02 m OD
Coordinates 333550.07 mE
185225.06 mN

Logged by DC
Checked by AF

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

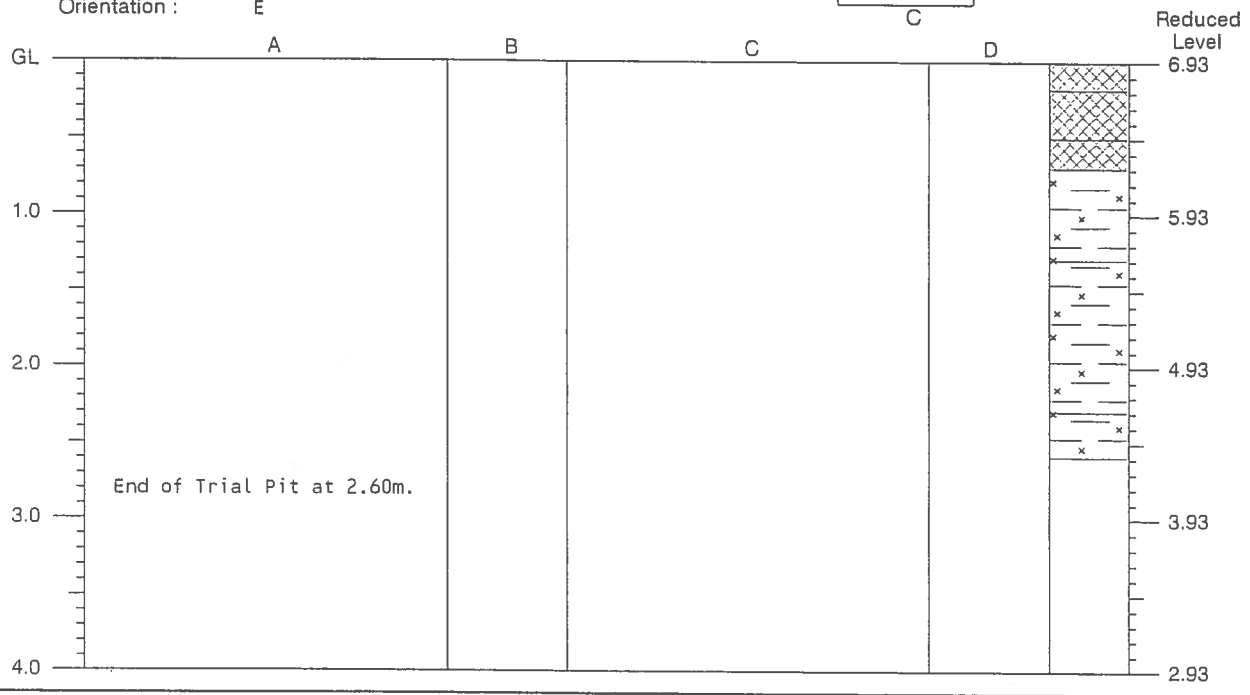
Project
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

Contract 150006

Trial Pit CH36

Dimensions : 1.00 x 2.00

Orientation : E



Strata

Depth (m)	No.	Description
0.00-0.18	1	MADE GROUND: Loose dark grey sandy angular to sub-angular fine to coarse gravel of limestone (hardcore).
0.18-0.50	2	MADE GROUND: Brown and grey slightly silty slightly clayey angular to sub-angular cobbles and boulders (<880mm) of brick and concrete with some refuse of plastic (1%).
0.50-0.70	3	MADE GROUND: Firm blue grey very silty clay with many sub-angular fine to coarse gravel and cobbles of brick and much root material and refuse of plastic (1%).
0.70-1.30	4	Firm to stiff blue grey mottled brown very silty organic CLAY.
1.30-2.30	5	Firm stiff brown mottled blue grey very silty CLAY with much root material.
2.30-2.60	6	Soft to firm blue grey very silty CLAY with occasional root material.

Samples and Tests

Depth (m)	Type	Results
0.00-0.18	BTO	
1.20-1.30	BTO	
1.50-2.00	BTO	
2.30-2.60	BTO	

Date of Excavation 01/02/00
Equipment JCB 3CX
Stability Stable

Groundwater

No.	Struck	Behaviour
1	2.00	slight seepage

Ground Level 6.93 m OD
Coordinates 333588.39 mE
185235.73 mN

Logged by DC
Checked by Af

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

Project

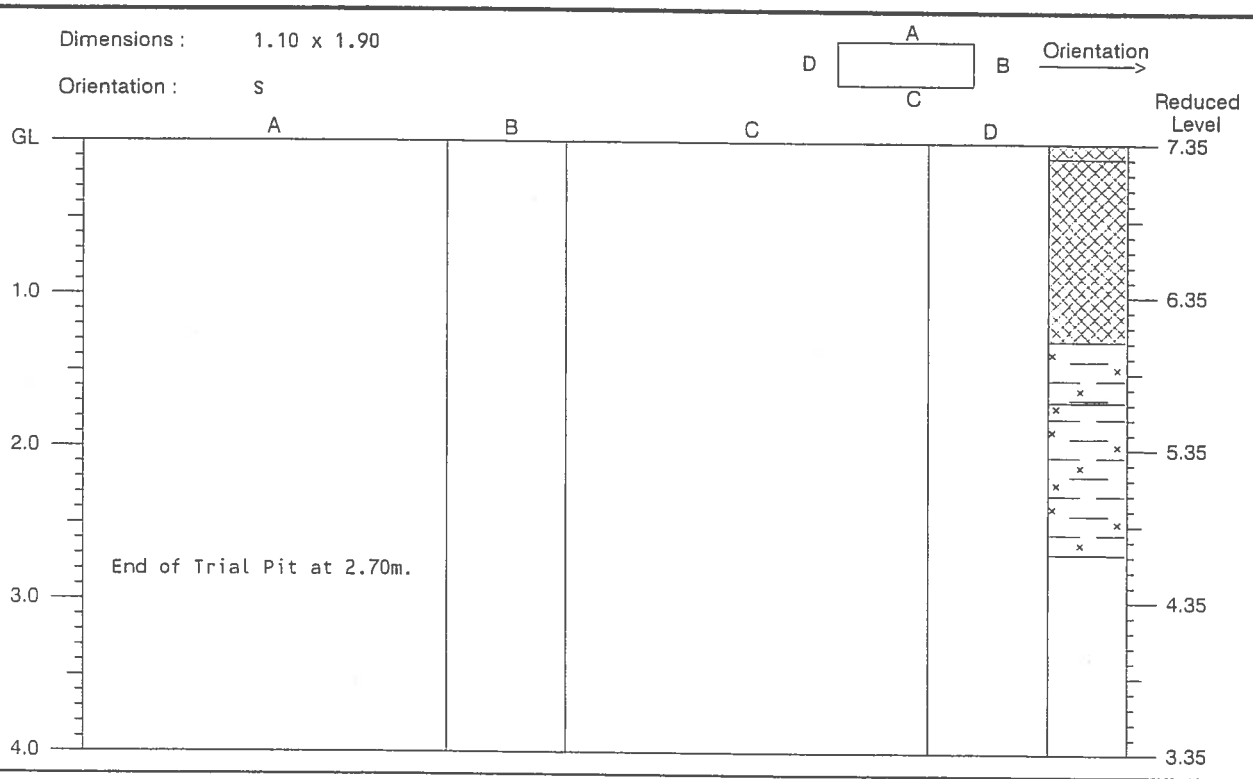
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

Contract 150006

Trial Pit CH37

Dimensions : 1.10 x 1.90

Orientation : S



Strata

Depth (m)	No.	Description
0.00-0.10	1	MADE GROUND: Loose dark grey sandy angular to sub-angular fine to coarse gravel of limestone and siltstone (hardcore).
0.10-1.30	2	MADE GROUND: Brown sandy sub-angular cobbles and boulders (>900mm) of concrete and brick with much refuse of wood (5%), metal (5%) and plastic (1%).
1.30-1.70	3	Firm to stiff blue grey mottled brown very silty CLAY with much root material.
1.70-2.70	4	Soft to firm brown mottled blue grey very silty CLAY with much root material.

Samples and Tests

Depth (m)	Type	Results
0.10-0.80	BTO	
1.30-1.70	BTO	
2.50-2.70	BTO	

Date of Excavation 01/02/00
Equipment JCB 3CX
Stability Stable

Groundwater

No.	Struck	Behaviour
		Not encountered during excavation

Ground Level 7.35 m OD
Coordinates 333599.73 mE
185219.05 mN

Logged by DC
Checked by AF

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

Project

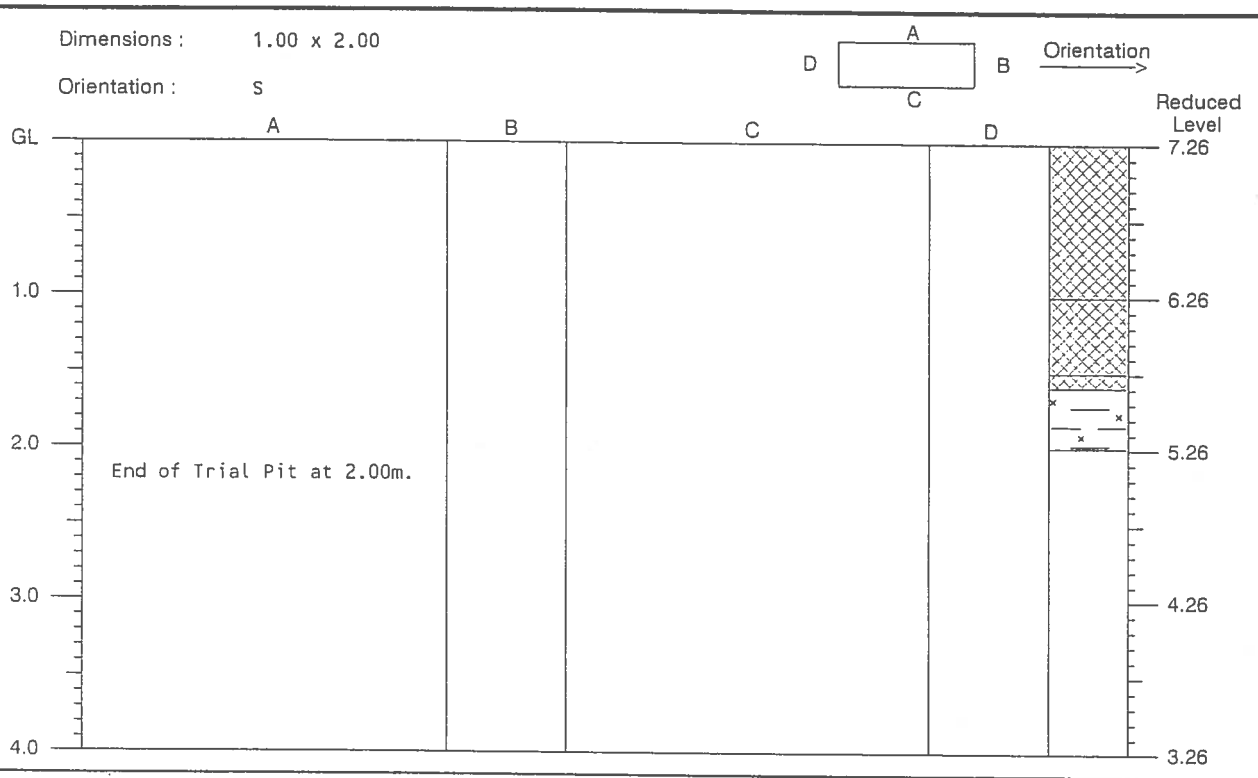
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

Contract 150006

Trial Pit CH38

Dimensions : 1.00 x 2.00

Orientation : S



Strata

Depth (m)	No.	Description
0.00-1.00	1	MADE GROUND: Soft to firm brown very silty sandy clay with much sub-rounded to sub-angular fine to coarse gravel and cobbles of concrete, brick, sandstone and boulders (<560mm) of concrete and occasional refuse of plastic (1%).
1.00-1.50	2	MADE GROUND: Moderately compact brown sandy very silty clayey sub-angular to sub-rounded fine to coarse gravel and cobbles of concrete, brick, slate, sandstone and slag with some boulders (<500mm) of concrete and refuse of wood (5%) and metal (5%).
1.50-1.60	3	MADE GROUND: Concrete.
1.60-2.00	4	Firm to stiff blue grey mottled brown very silty organic CLAY with much root material.

Samples and Tests

Depth (m)	Type	Results
0.00-0.60	BTO	
1.00-1.30	BTO	
1.60-2.00	BTO	

Date of Excavation 02/02/00
Equipment JCB 3CX
Stability Stable

Groundwater

No.	Struck	Behaviour
1	1.40	slight seepage

Ground Level 7.26 m OD
Coordinates 333612.01 mE
185209.37 mN

Logged by DC
Checked by AF

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

Project

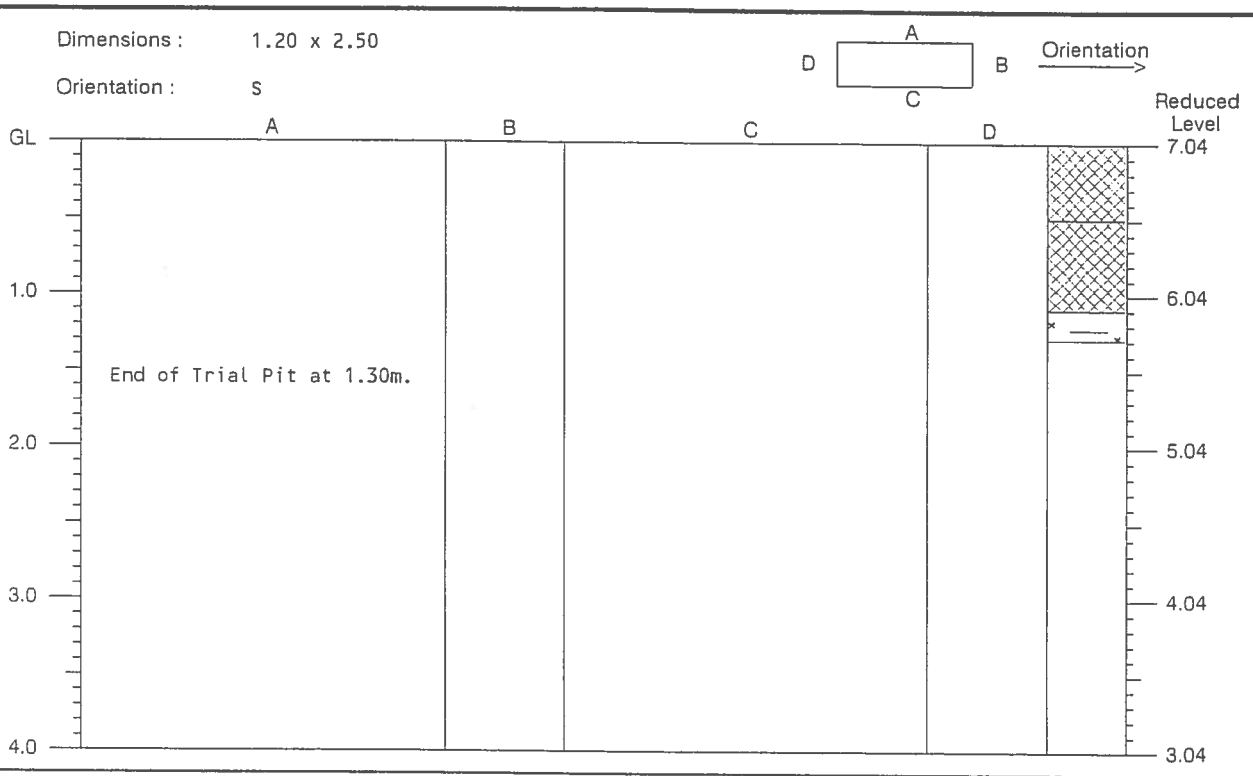
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

Contract 150006

Trial Pit CH39

Dimensions : 1.20 x 2.50

Orientation : S



Strata

Depth (m)	No.	Description
0.00-0.50	1	MADE GROUND: Loose brown sandy angular to sub-angular fine to coarse gravel of limestone (hardcore). ....at 0.50m a layer of "terram".
0.50-1.10	2	MADE GROUND: Moderately compact brown and grey sandy angular to sub-angular fine to coarse gravel and cobbles of concrete, brick, slag, sandstone and limestone with many boulders (<1400mm) of concrete and some refuse of plastic (5%) and metal (10%).
1.10-1.30	3	Firm to stiff blue grey mottled brown very silty organic CLAY.

Samples and Tests

Depth (m)	Type	Results
0.00-0.50	BTO	
0.50-0.80	BTO	
1.10-1.30	BTO	
1.10	W	

Date of Excavation 02/02/00
Equipment JCB 3CX
Stability Stable

Groundwater

No.	Struck	Behaviour
1	1.10	fast strike

Ground Level 7.04 m OD
Coordinates 333641.12 mE
185239.97 mN

Logged by DC
Checked by AF

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

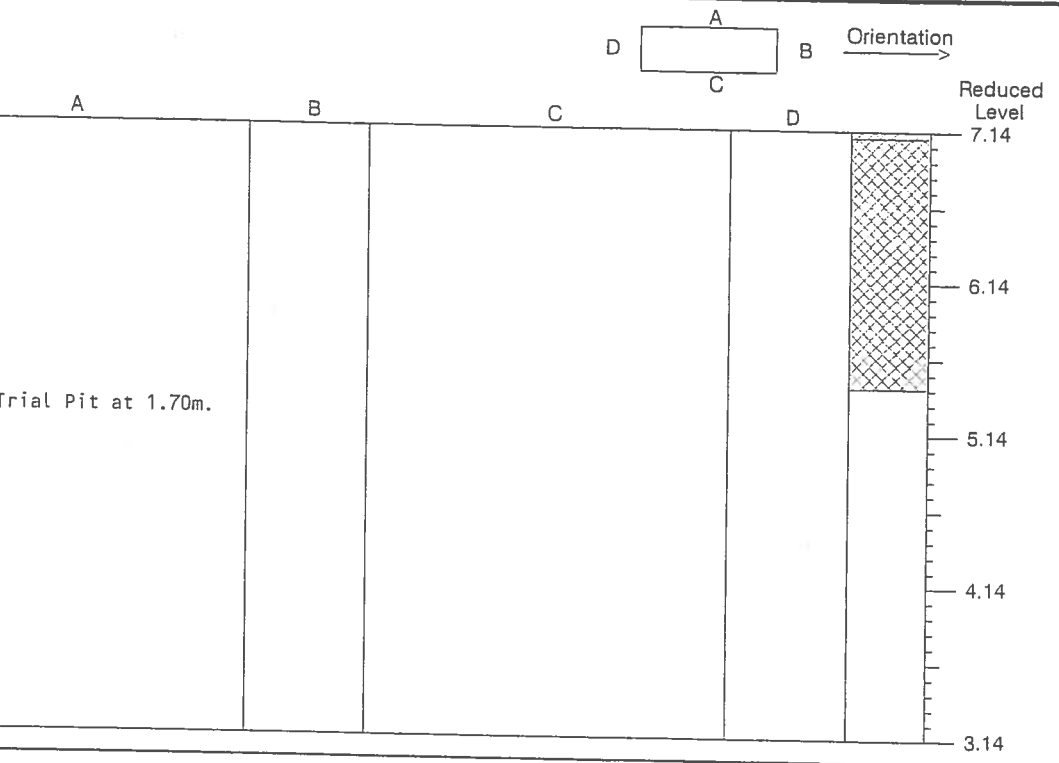
Project
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

Contract 150006

Trial Pit CH40

Dimensions :

Orientation :



Strata

Depth (m)	No.	Description
0.00-0.05	1	Brown sandy TOPSOIL.
0.05-1.70	2	MADE GROUND: Brown and grey sandy very silty clayey sub-angular fine to coarse gravel and cobbles of concrete, brick and sandstone and many boulders (<900mm) of concrete "bollards". ....from 1.40m becoming dark grey ("oil film" noticed on water in pit and on spoil excavated).

Samples and Tests

Depth (m)	Type	Results
0.05-0.40	BTO	
1.10	W	
1.40	BTO	

Date of Excavation 01/02/00
Equipment JCB 3CX
Stability Stable

Groundwater

No.	Struck	Behaviour
1	1.10	medium inflow

Ground Level 7.14 m OD
Coordinates 333625.63 mE
185205.04 mN

Logged by DC
Checked by AF

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

Project

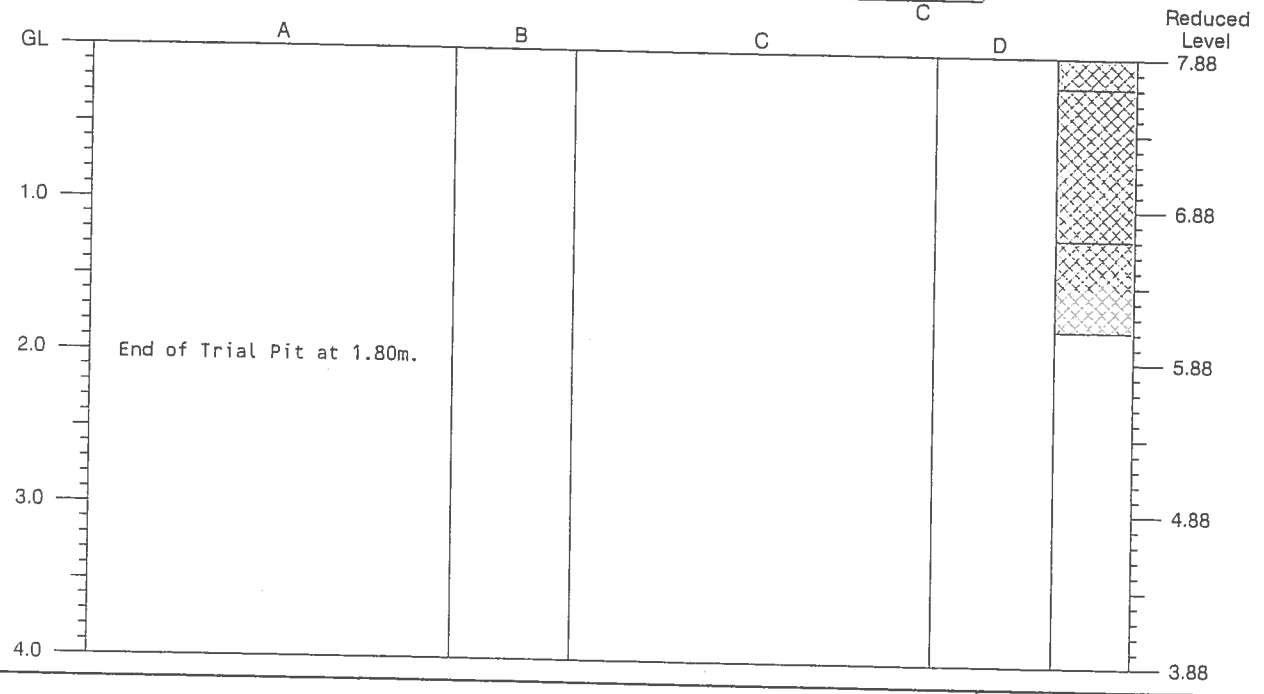
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

Contract 150006

Trial Pit CH41

Dimensions :

Orientation :



Strata

Depth (m)	No.	Description
0.00-0.20	1	Brown sandy very silty clayey TOPSOIL.
0.20-1.20	2	MADE GROUND: Loose brown sandy very silty very clayey sub-angular to sub-rounded fine to coarse gravel and cobbles of brick, concrete, slag and ash.
1.20-1.80	3	MADE GROUND: Moderately compact brown slightly sandy cobbles and boulders (<1000mm) of concrete, brick and slag with some refuse of plastic (1%) and metal (5%).

Samples and Tests

Depth (m)	Type	Results
0.20-0.70	BTO	
1.20-1.30	BTO	—

Date of Excavation 01/02/00
Equipment JCB 3CX
Stability Stable

Groundwater

No.	Struck	Behaviour
1	1.60	medium inflow

Ground Level 7.88 m OD
Coordinates 333681.23 mE
185236.03 mN

Logged by DC
Checked by Af

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

Project

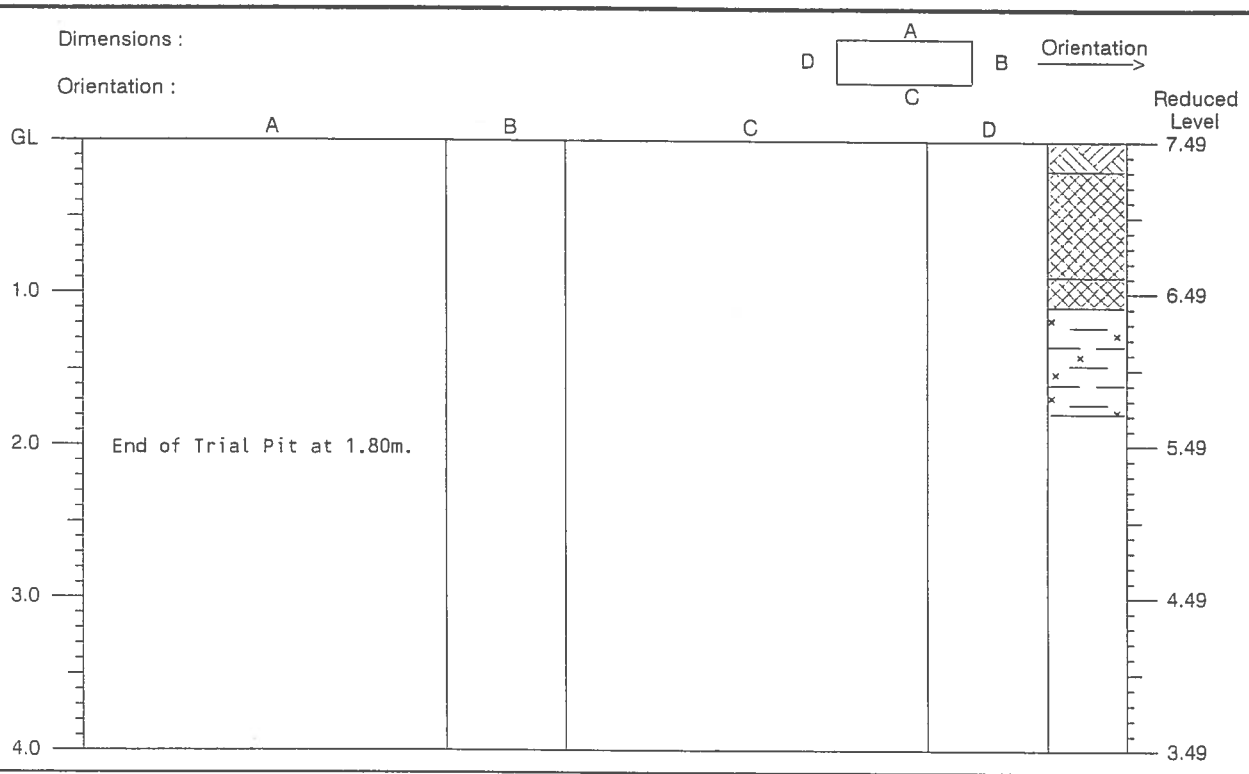
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

Contract 150006

Trial Pit CH42

Dimensions :

Orientation :



Strata

Depth (m)	No.	Description
0.00-0.20	1	Brown sandy very silty clayey TOPSOIL.
0.20-0.90	2	MADE GROUND: Firm stiff blue grey and brown very silty clay with much sub-rounded to sub-angular fine to coarse gravel and cobbles of concrete, brick, sandstone and slag and with some wooden sleepers.
0.90-1.10	3	MADE GROUND: Compact brown and grey slightly sandy cobbles and boulders (<1200) of concrete and brick.
1.10-1.80	4	Firm to stiff blue grey mottled brown very silty slightly organic CLAY with much root material.

Samples and Tests

Depth (m)	Type	Results
0.20-0.70	BTO	
1.30-1.80	BTO	

Date of Excavation 02/02/00
Equipment JCB 3CX
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 7.49 m OD
Coordinates 333709.24 mE
185218.15 mN

Logged by DC
Checked by AF

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

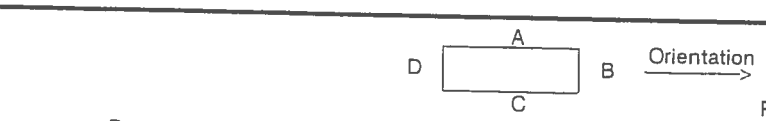
Project
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

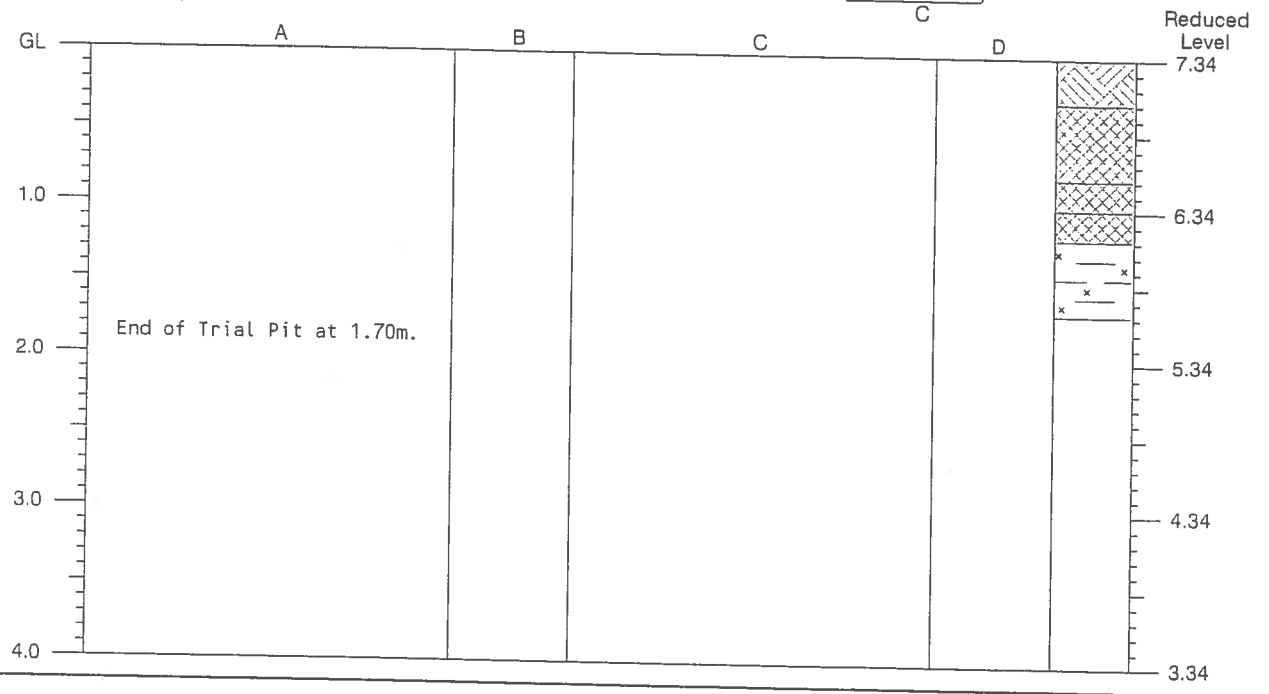
Contract 150006

Trial Pit CH43

Dimensions :

Orientation :





Strata

Depth (m)	No.	Description
0.00-0.30	1	Brown very silty clayey TOPSOIL.
0.30-0.80	2	MADE GROUND: Loose grey and brown sandy very silty clayey angular to sub-angular fine to coarse gravel and cobbles of brick, concrete, slag, ash and sandstone with some <400mm of concrete.
0.80-1.00	3	MADE GROUND:- Compact brown and grey cobbles and boulders (<450mm) of concrete and brick with some refuse of metal (5%).
1.00-1.20	4	MADE GROUND: Moderately compact brown and grey sandy sub-angular to sub-rounded fine to coarse gravel and cobbles of concrete, brick and sandstone.
1.20-1.70	5	Soft to firm blue grey mottled brown very silty organic CLAY with some root material.

Samples and Tests

Depth (m)	Type	Results
0.30-0.80	BTO	
1.00-1.20	BTO	
1.20-1.50	BTO	

Date of Excavation 02/02/00
Equipment JCB 3CX
Stability Stable

Groundwater

No.	Struck	Behaviour
1	1.70	slight seepage

Ground Level 7.34 m OD
Coordinates 333740.12 mE
185222.28 mN

Logged by DC
Checked by AF

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

Project

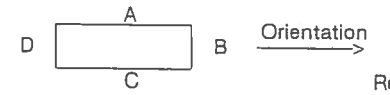
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

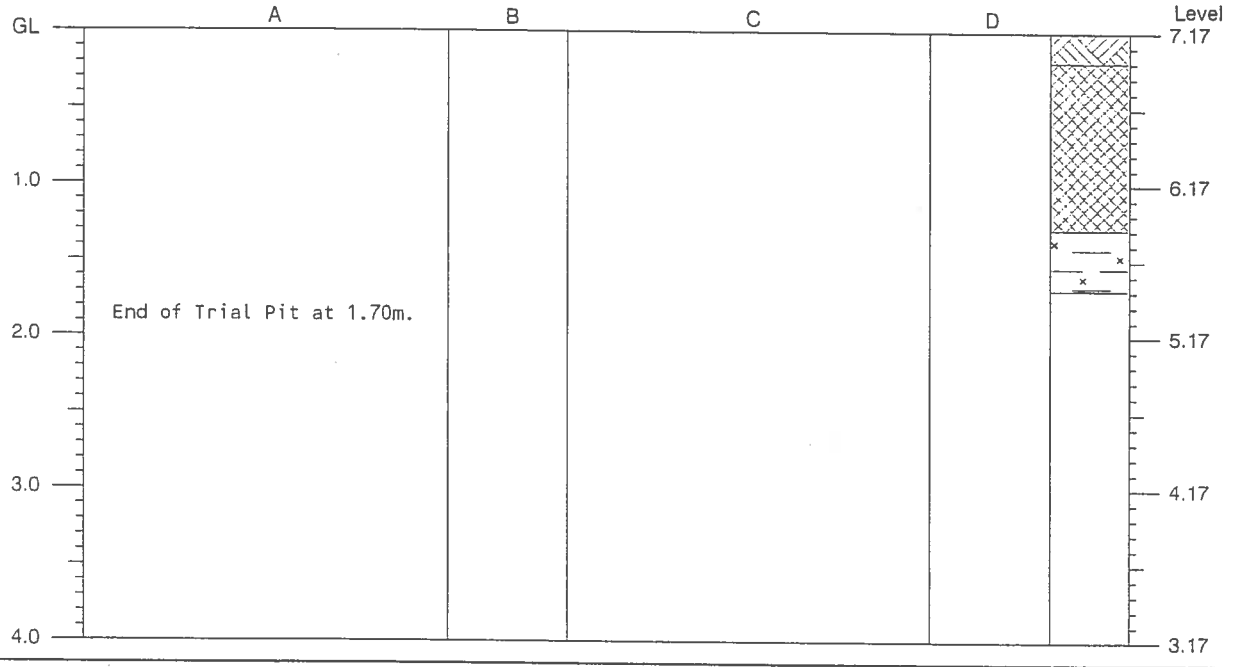
Contract 150006

Trial Pit CH44

Dimensions :

Orientation :





Strata

Depth (m)	No.	Description
0.00-0.20	1	Brown very silty slightly clayey TOPSOIL.
0.20-1.30	2	MADE GROUND: Moderately compact brown and grey sandy angular to sub-angular fine to coarse gravel and cobbles of concrete, brick and sandstone with some boulders (<560mm) of concrete and much refuse of metal (5%).
1.30-1.70	3	Firm to stiff brown mottled orange brown and blue grey very silty organic CLAY.

Samples and Tests

Depth (m)	Type	Results
0.20-0.50	BTO	
1.30-1.70	BTO	
1.30	W	

Date of Excavation 02/02/00
Equipment JCB 3CX
Stability Stable

Groundwater

No.	Struck	Behaviour
1	1.30	medium inflow

Ground Level 7.17 m OD
Coordinates 333784.67 mE
185215.33 mN

Logged by DC
Checked by AF

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

Project

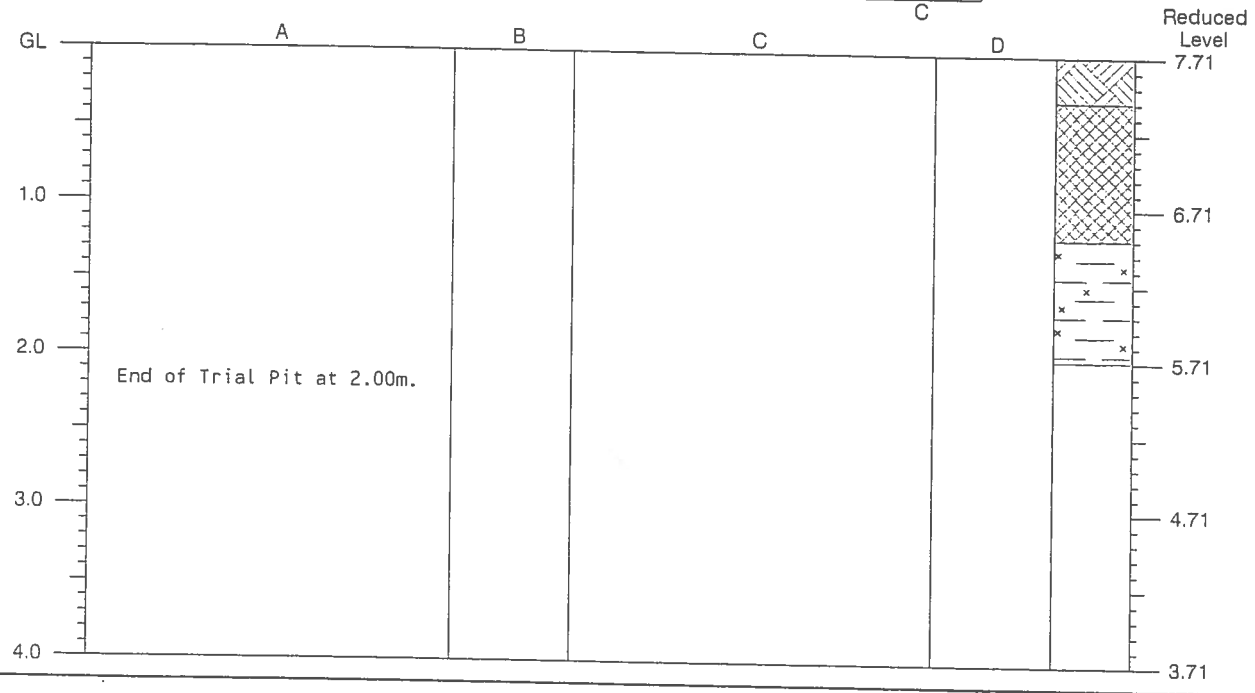
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

Contract 150006

Trial Pit CH45

Dimensions :

Orientation :



Strata

Depth (m)	No.	Description
0.00-0.30	1	Brown very silty clayey TOPSOIL with a little angular to sub-angular fine to coarse gravel of sandstone.
0.30-1.20	2	MADE GROUND: Loose brown sandy very silty very clayey sub-rounded to sub-angular fine to coarse gravel and cobbles of concrete, brick, slag, ash, slate, sandstone and limestone with occasional boulders (<650mm) of concrete and some refuse of plastic (1%) and metal (5%).
1.20-2.00	3	Firm to stiff blue grey very silty organic CLAY with much root material.

Samples and Tests

Depth (m)	Type	Results
0.50-0.90	BTO	
1.20-1.70	BTO	

Date of Excavation 02/02/00
Equipment JCB 3CX
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 7.71 m OD
Coordinates 333757.41 mE
185226.90 mN

Logged by DC
Checked by AF

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

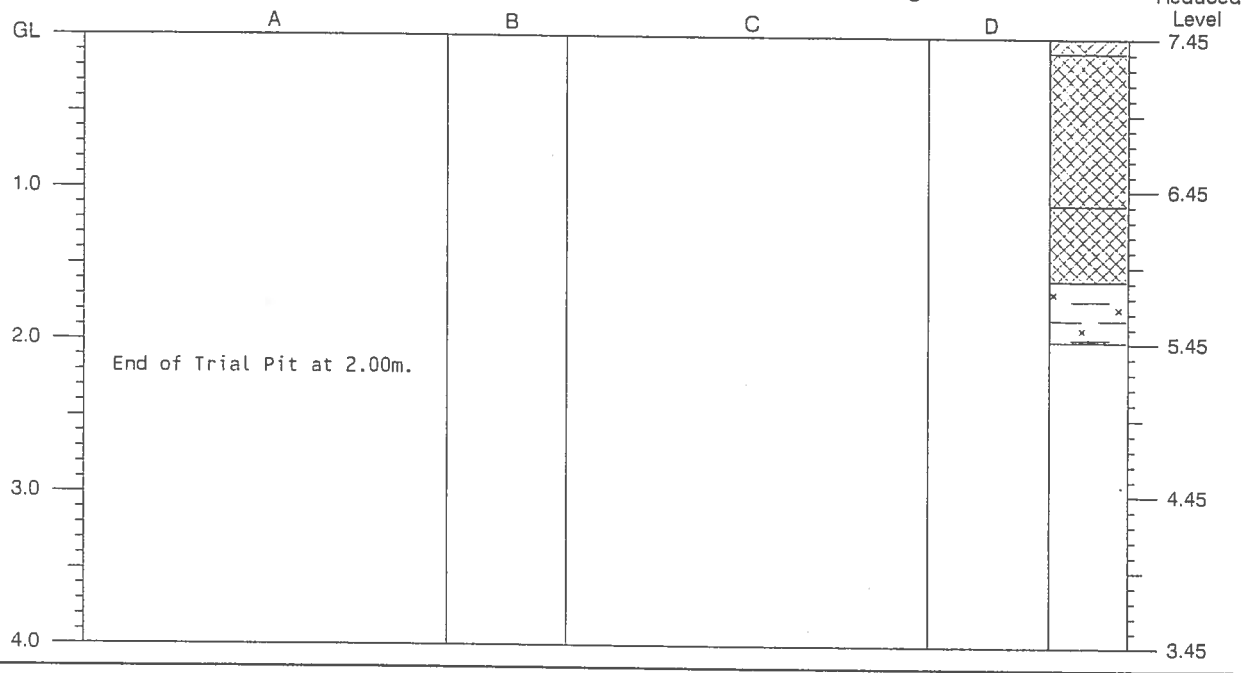
Project
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

Contract 150006

Trial Pit CH46

Dimensions :

Orientation :



Strata

Samples and Tests

Depth (m)	No.	Description	Depth (m)	Type	Results
0.00-0.10	1	Brown sandy very silty slightly clayey TOPSOIL.			
0.10-1.10	2	MADE GROUND: Moderately compact brown sandy very silty very clayey angular to sub-angular fine to coarse gravel of concrete, brick, slag, ash and sandstone with some boulders (<1080mm) of concrete and some refuse of plastic (1%), metal (5%) and wood (1%).	0.20-0.60	BTO	
1.10-1.60	3	MADE GROUND: Firm to stiff blue grey very silty slightly organic clay with a little angular to sub-angular fine to coarse gravel of concrete and brick.	1.10-1.60	BTO	
1.60-2.00	4	Firm to stiff brown very silty organic CLAY.	1.60-2.00	BTO	

Date of Excavation 02/02/00
Equipment JCB 3CX
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 7.45 m OD
Coordinates 333783.57 mE
185246.27 mN

Logged by DC
Checked by Af

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

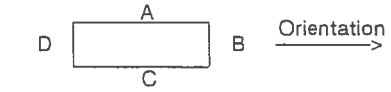
Project
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

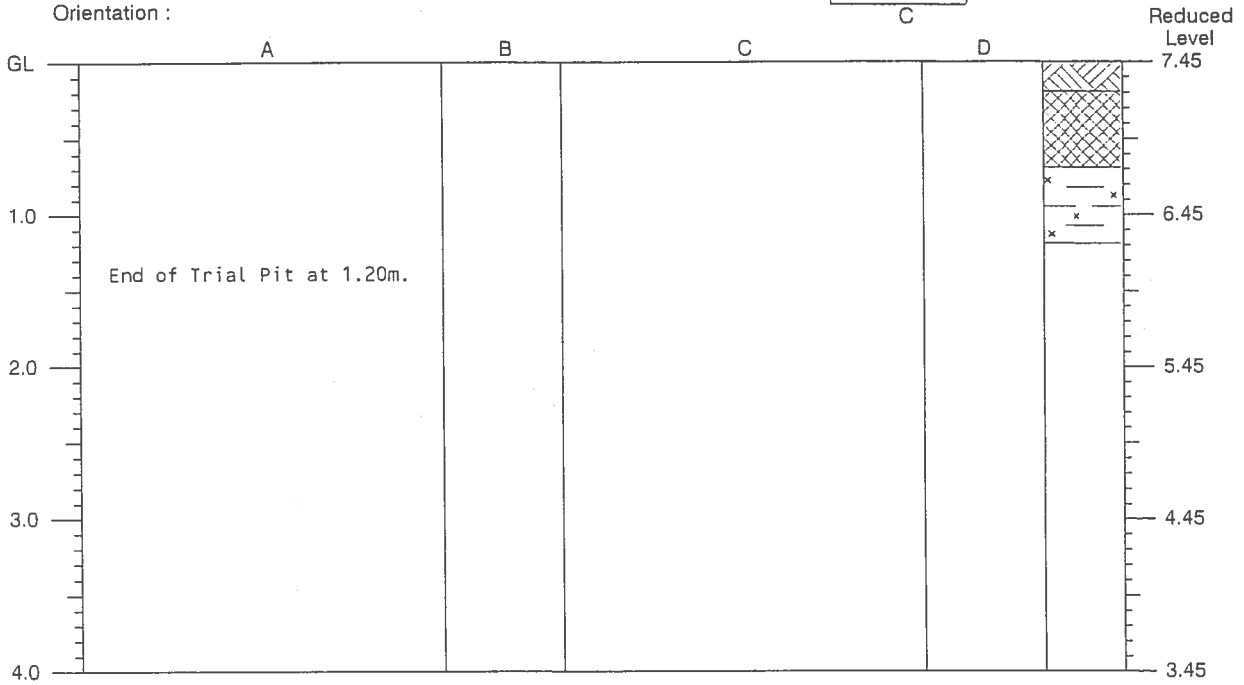
Contract 150006

Trial Pit CH47

Dimensions :

Orientation :





Strata

Depth (m)	No.	Description
0.00-0.20	1	Brown very silty clayey TOPSOIL.
0.20-0.70	2	MADE GROUND: Soft to firm brown very silty clay with occasional refuse of plastic (1%).
0.70-1.20	3	Firm to stiff blue grey very silty slightly organic CLAY.

Samples and Tests

Depth (m)	Type	Results
0.20-0.70	BTO	
0.70-1.20	BTO	

Date of Excavation 02/02/00
Equipment JCB 3CX
Stability Stable

Groundwater

No.	Struck	Behaviour
1	1.20	slight seepage

Ground Level 7.45 m OD
Coordinates 333807.57 mE
185246.27 mN

Logged by DC
Checked by AF

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

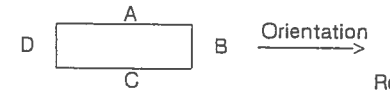
Project
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

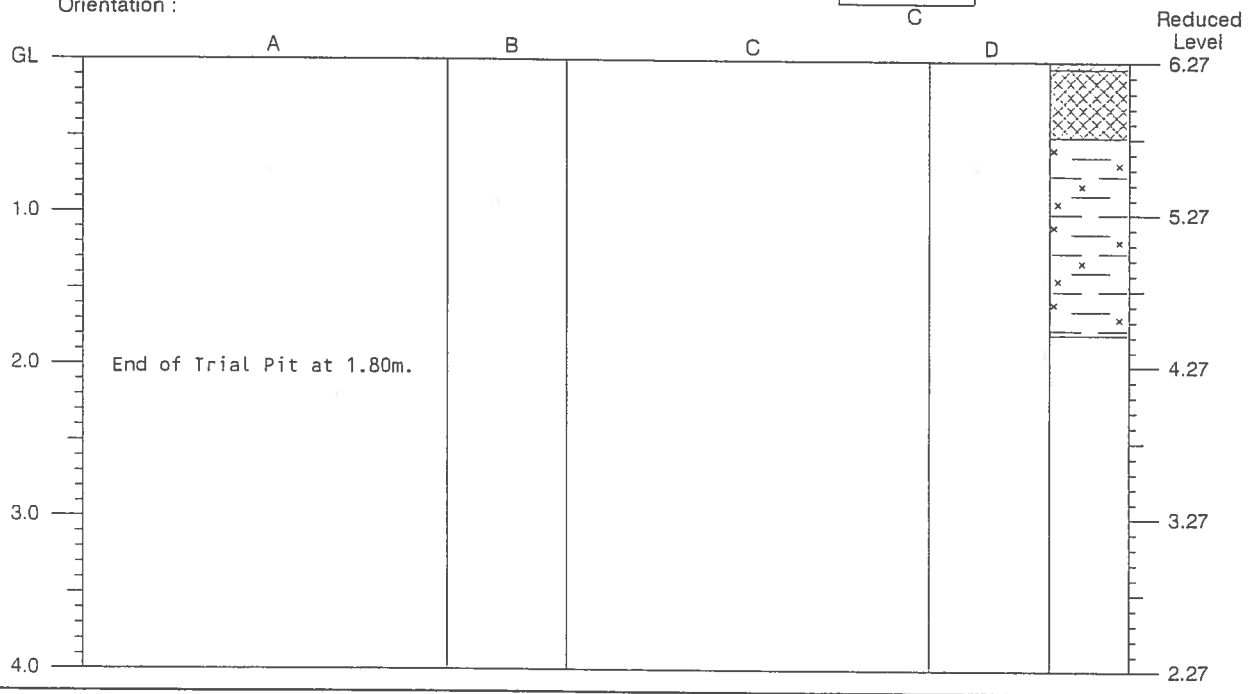
Contract 150006

Trial Pit CH47A

Dimensions :

Orientation :





Strata

Depth (m)	No.	Description
0.00-0.05	1	Brown very silty clayey TOPSOIL.
0.05-0.50	2	MADE GROUND: Very compact brown and grey sandy sub-angular to sub-rounded fine to coarse gravel and cobbles of slag, ash, limestone and sandstone with some boulders (<400mm) of slag.
0.50-1.80	3	Firm to stiff blue grey mottled brown very silty slightly organic CLAY with occasional some root matrial. ....from 1.50m becoming soft to firm.

Samples and Tests

Depth (m)	Type	Results
0.05-0.50	BTO	
1.00-1.20	BTO	
1.50-1.80	BTO	

Date of Excavation 04/02/00
Equipment JCB 3CX
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 6.27 m OD
Coordinates 333562.09 mE
185439.87 mN

Logged by DC
Checked by AF

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

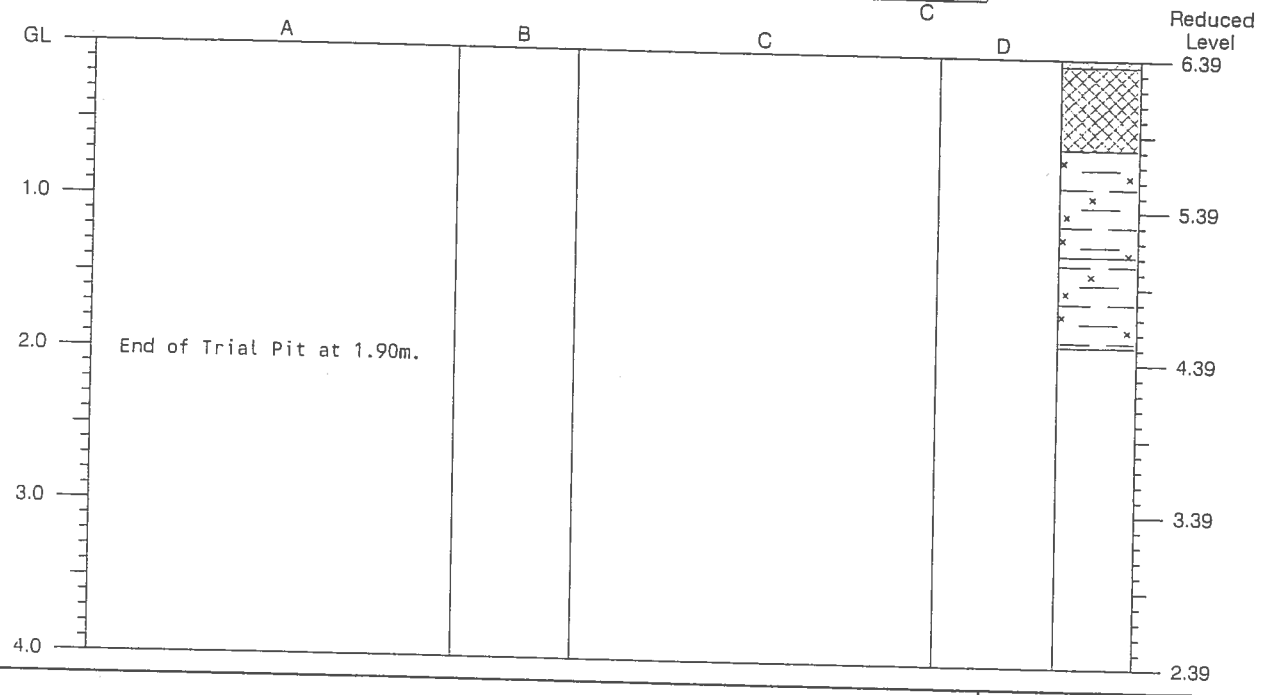
Project
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

Contract 150006

Trial Pit CH48

Dimensions :

Orientation :



Strata

Depth (m)	No.	Description
0.00-0.05	1	Brown very silty clayey TOPSOIL.
0.05-0.60	2	MADE GROUND: Moderately compact brown very sandy sub-angular to sub-rounded fine to coarse gravel and cobbles of slag, ash and brick with occasional boulders (<600mm) of slag.
0.60-1.30	3	Firm to stiff brown slightly mottled grey and orange brown very silty organic CLAY with much root material.
1.30-1.90	4	Firm grey mottled brown very silty CLAY with occasional root material.

Samples and Tests

Depth (m)	Type	Results
0.05-0.60	BTO	
0.60-1.10	BTO	
1.50-1.90	BTO	

Date of Excavation 04/02/00
Equipment JCB 3CX
Stability Stable

Groundwater

No. Struck Behaviour
Not encountered during excavation

Ground Level 6.39 m OD
Coordinates 334598.04 mE
185425.61 mN

Logged by DC
Checked by AF

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

Project

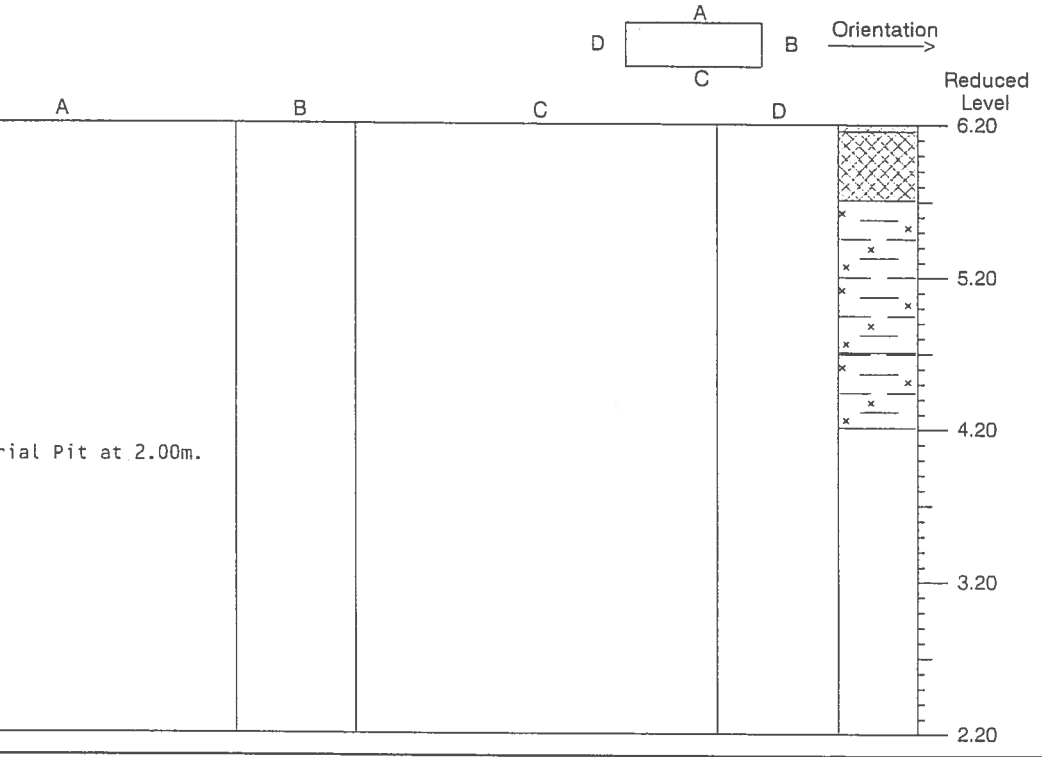
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

Contract 150006

Trial Pit CH49

Dimensions :

Orientation :



Strata

Depth (m)	No.	Description
0.00-0.05	1	Brown very silty clayey TOPSOIL.
0.05-0.50	2	MADE GROUND: Moderately compact brown very sandy sub-angular to sub-rounded fine to coarse gravel and cobbles of slag, ash and siltstone with occasional boulders (<400mm) of slag.
0.50-1.50	3	Firm brown mottled blue grey very silty slightly organic CLAY with much root material.
1.50-2.00	4	Firm grey mottled brown very silty organic CLAY with occasional root material.

Samples and Tests

Depth (m)	Type	Results
0.05-0.50	BTO	
0.50-1.00	BTO	
1.50-2.00	BTO	

Date of Excavation 04/02/00
Equipment JCB 3CX
Stability Stable

Groundwater

No.	Struck	Behaviour
1	0.50	slight seepage

Ground Level 6.20 m OD
Coordinates 334718.53 mE
185421.00 mN

Logged by DC
Checked by AF

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

Project

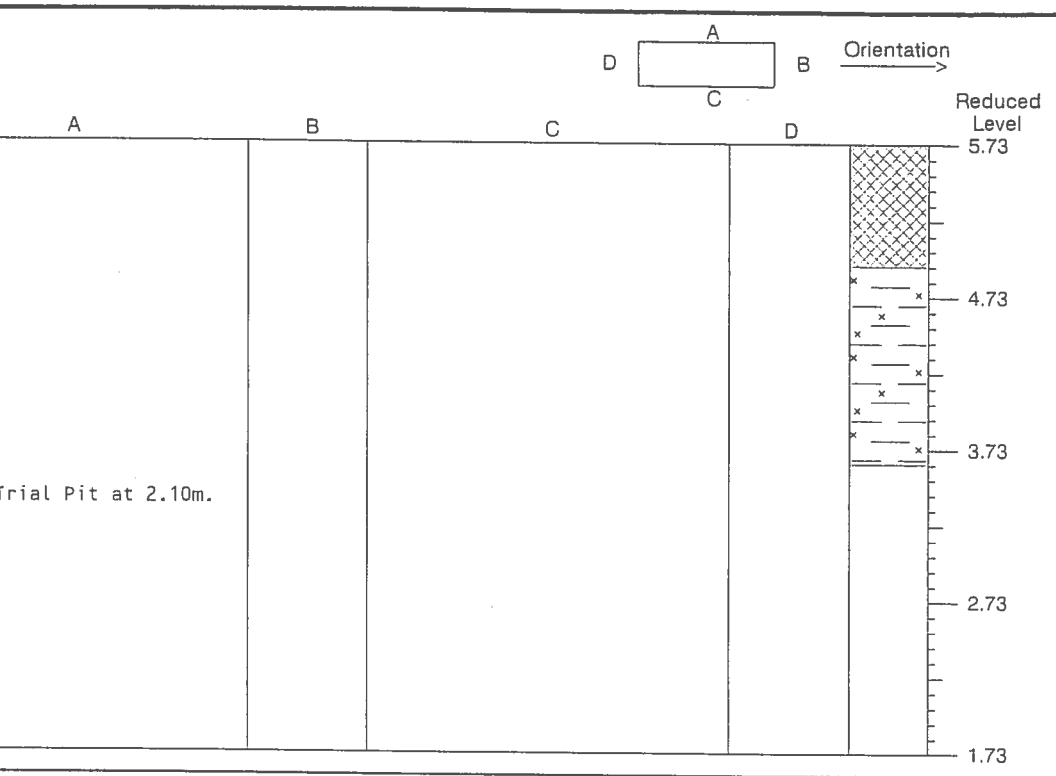
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

Contract 150006

Trial Pit CH50

Dimensions :

Orientation :



Strata

Depth (m)	No.	Description
0.00-0.80	1	MADE GROUND: Loose brown sandy slightly silty sub-angular to sub-rounded fine to coarse gravel and cobbles of slag, ash and brick.
0.80-2.10	2	Firm to stiff blue grey mottled green grey and brown very silty organic CLAY with much root material. ....from 1.90m becoming soft to firm.

Samples and Tests

Depth (m)	Type	Results
0.00-0.50	BTO	
0.80-1.10	BTO	
1.90-2.10	BTO	
0.80	W	

Date of Excavation 03/02/00
Equipment JCB 3CX
Stability Stable

Groundwater

No.	Struck	Behaviour
1	0.80	medium inflow

Ground Level 5.73 m OD
Coordinates 338603.12 mE
185406.50 mN

Logged by DC
Checked by AF

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

Project

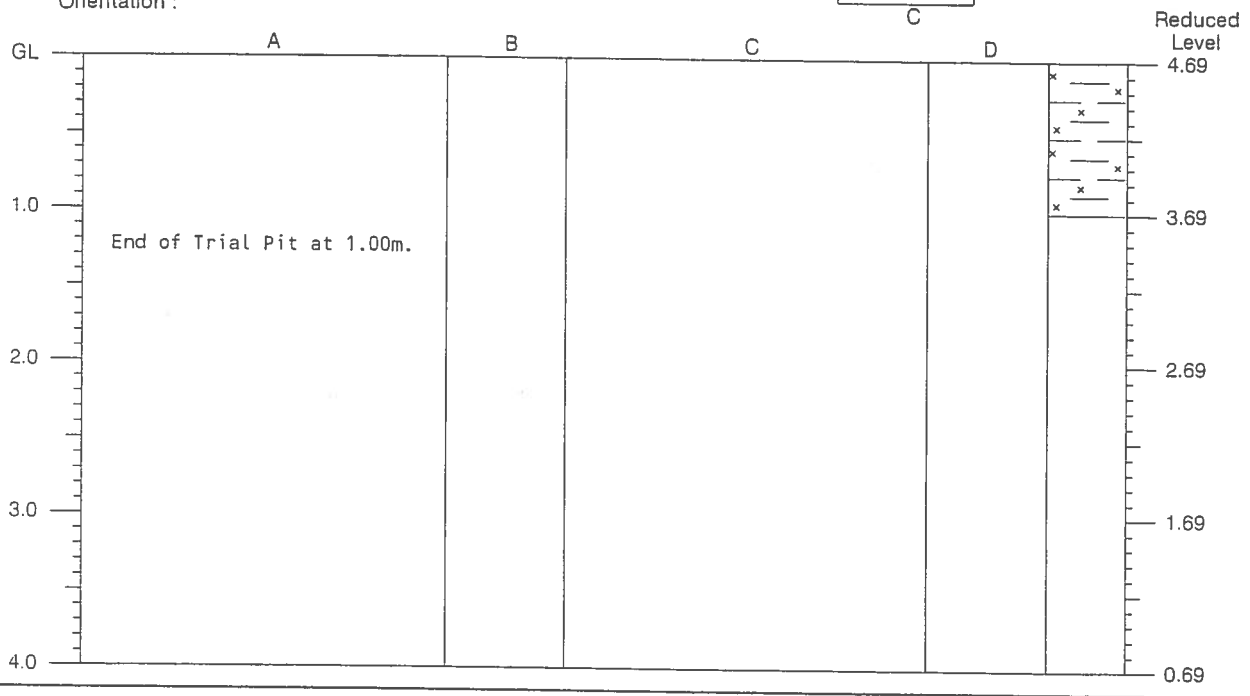
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

Contract 150006

Trial Pit CH51

Dimensions :

Orientation :



Strata

Depth (m)	No.	Description
0.00-1.00	1	Soft to firm grey mottled brown and dark grey very silty organic CLAY with much root material.

Samples and Tests

Depth (m)	Type	Results
0.50-1.00	BTO	
0.00	W	

Date of Excavation 03/02/00
Equipment JCB 3CX
Stability Stable

Groundwater
No. Struck Behaviour
Surface groundwater present

Ground Level 4.69 m OD
Coordinates 338945.93 mE
185445.65 mN

Logged by DC
Checked by AF

Remarks Pit stopped at 1.00m (surface water filled trial pit).

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

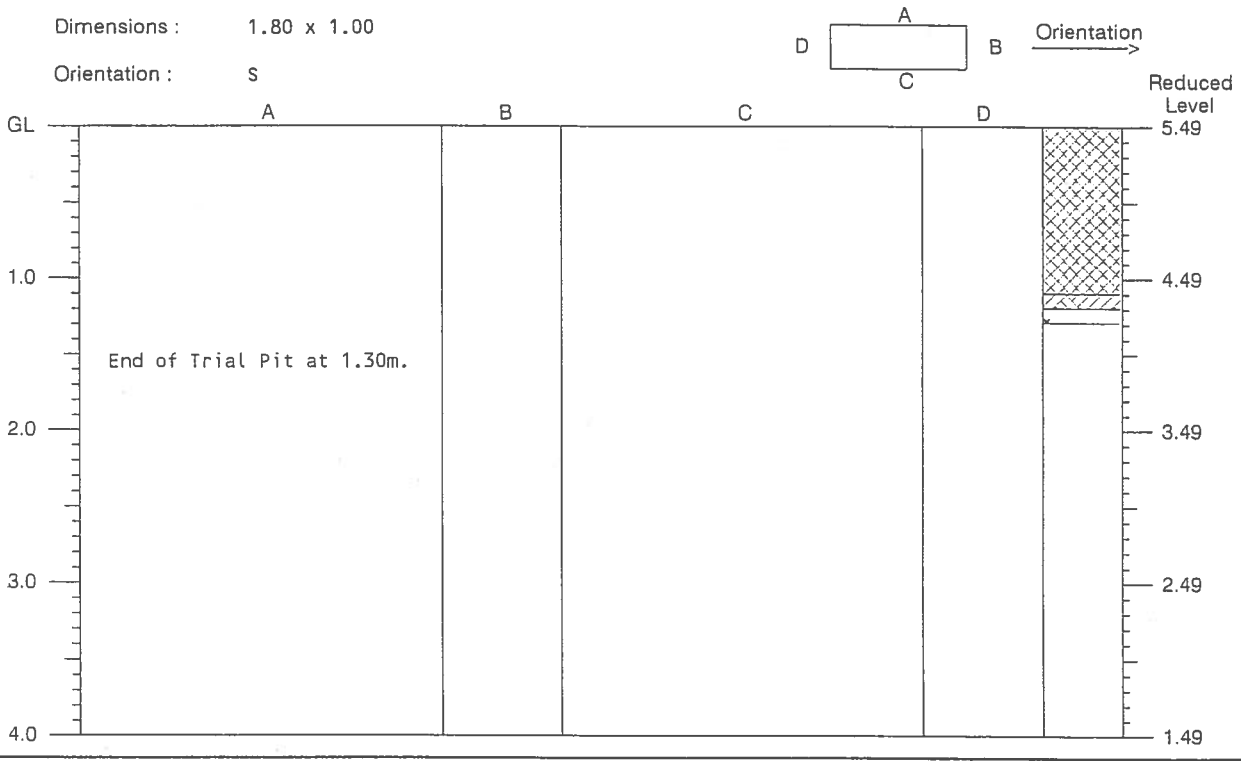
Project
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

Contract 150006

Trial Pit CH52

Dimensions : 1.80 x 1.00

Orientation : S



Strata

Depth (m)	No.	Description
0.00-1.10	1	MADE GROUND: Moderatly compact grey sandy slightly silty sub-angular to sub-rounded fine to coarse gravel and cobbles of slag,ash,siltstone and limestone
1.10-1.20	2	TOPSOIL
1.20-1.30	3	Firm to stiff grey brown very silty CLAY with much root material

Samples and Tests

Depth (m)	Type	Results
0.30	BTO	
0.80	W	
1.20	BTO	

Date of Excavation 16/02/00
Equipment JCB 3CX
Stability Stable

Groundwater

No.	Struck	Behaviour
1	0.80	Fast

Ground Level 5.49 m OD
Coordinates 338946.51 mE
185449.82 mN

Logged by DC
Checked by AF

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

Project

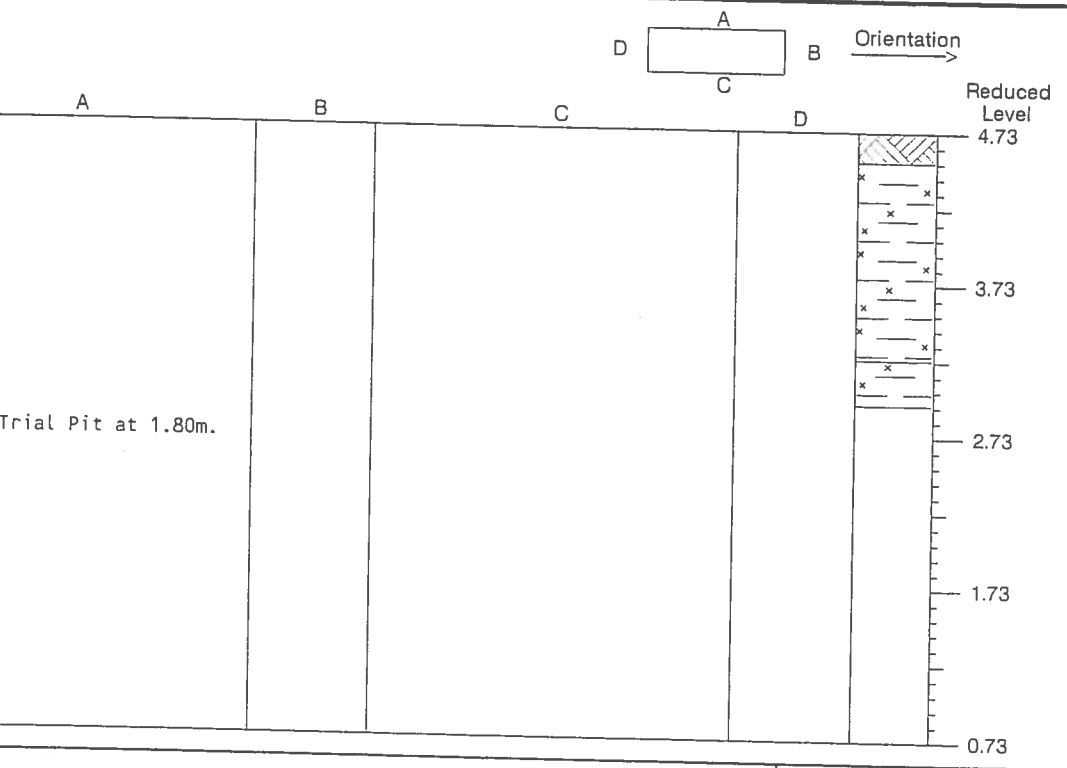
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

Contract 150006

Trial Pit CH52A

Dimensions :

Orientation :



Strata

Depth (m)	No.	Description
0.00-0.20	1	Brown very silty clayey TOPSOIL.
0.20-1.50	2	Firm to stiff grey mottled brown very silty CLAY with much root material.
1.50-1.80	3	Soft to firm blue grey mottled brown and dark grey very silty CLAY with much organic and root material.

Samples and Tests

Depth (m)	Type	Results
0.40-0.50	BTO	
1.50	W	
1.50-1.80	BTO	

Date of Excavation 03/02/00
Equipment JCB 3CX
Stability Stable

Groundwater

No.	Struck	Behaviour
1	1.50	medium flow

Ground Level 4.73 m OD
Coordinates 339261.29 mE
185485.43 mN

Logged by DC
Checked by AF

Remarks Water sample taken in rear adjacent to CH53 known as "size No. 9 rear sample".

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

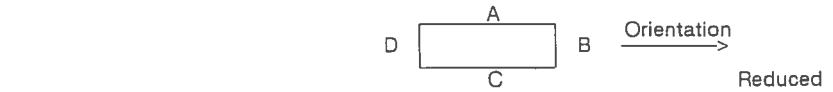
Project
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

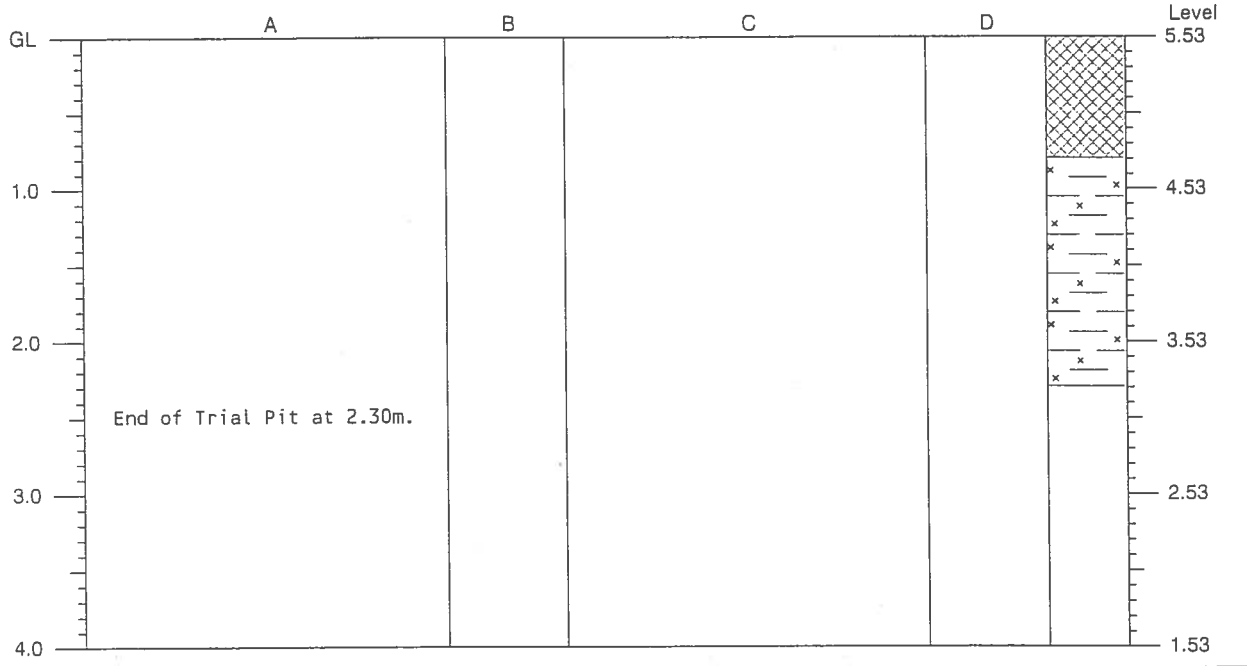
Contract 150006

Trial Pit CH53

Dimensions : 1.90 x 1.10

Orientation : W





Strata

Depth (m)	No.	Description
0.00-0.80	1	MADE GROUND: Loose grey sandy slightly silty sub-angular to sub-rounded fine to coarse gravel and cobbles of slag,ash,brick,siltstone and limestone
0.80-2.30	2	Firm to stiff grey brown very silty CLAY with much root material ....from 1.60m becomming soft to firm

Samples and Tests

Depth (m)	Type	Results
0.40	BTO	
1.10	BTO	

Date of Excavation 16/02/00
Equipment JCB 3CX
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 5.53 m OD
Coordinates 339262.37 mE
185482.23 mN

Logged by DC
Checked by AF

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

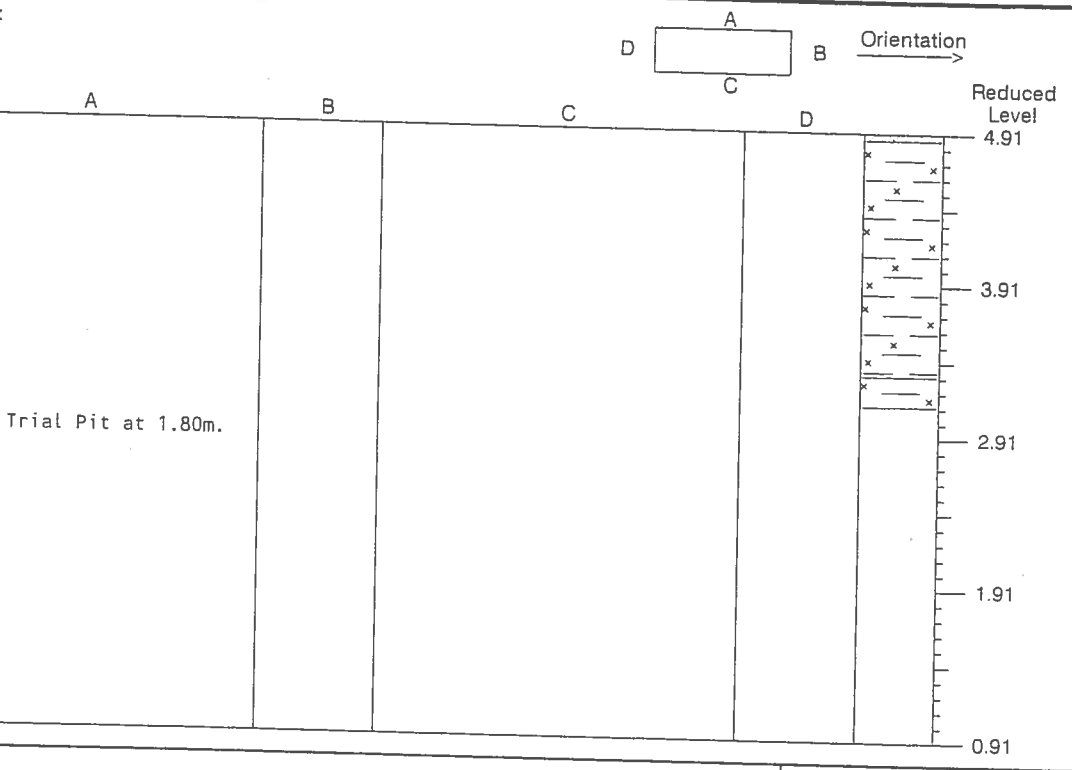
Project
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

Contract 150006

Trial Pit CH53A

Dimensions :

Orientation :



Strata

Depth (m)	No.	Description
0.00-0.05	1	Brown very silty clayey TOPSOIL.
0.05-1.60	2	Firm to stiff brown and grey very silty organic CLAY with much root material. ....from 1.10m becoming soft to firm.
1.60-1.80	3	Soft to firm grey mottled brown and dark grey very silty organic CLAY with much root material.

Samples and Tests

Depth (m)	Type	Results
0.05-0.50	BTO	
1.60-1.80	BTO	

Date of Excavation 03/02/00
Equipment JCB 3CX
Stability Stable

Groundwater

No.	Struck	Behaviour
1	1.60	slight water seepage

Ground Level 4.91 m OD
Coordinates 339514.60 mE
185546.01 mN

Logged by DC
Checked by AF

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

Project

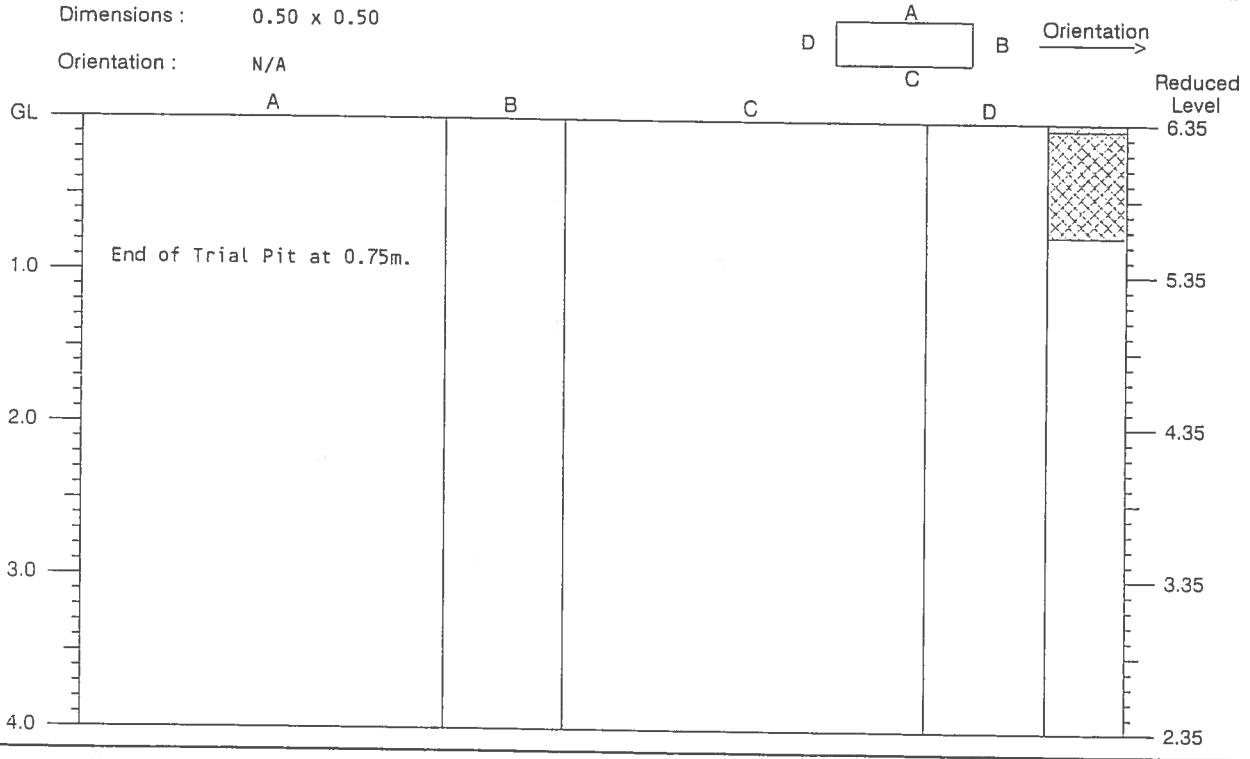
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

Contract 150006

Trial Pit CH54

Dimensions : 0.50 x 0.50

Orientation : N/A



Strata

Depth (m)	No.	Description
0.00-0.05	1	Brown clayey very silty TOPSOIL
0.05-0.75	2	MADE GROUND: Firm to stiff grey brown very silty CLAY with occasional to some root material

Samples and Tests

Depth (m)	Type	Results
0.40	BTO	

Date of Excavation 16/02/00
Equipment Hand Dug
Stability Stable

Groundwater

No.	Struck	Behaviour
		Not encountered during excavation

Ground Level 6.35 m OD
Coordinates 339512.35 mE
185556.72 mN

Logged by DC
Checked by AF

Remarks CH54A Excavated by hand due to unsuitable access for the JCB 3CX

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

Project
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

Contract 150006

Trial Pit CH54A

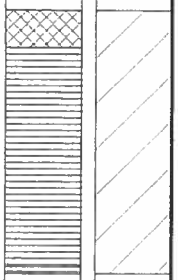
Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
0.00-0.25	T		05/02 0000	
0.25-0.75	TO		DRY	
0.75-1.00	B			
1.00-1.70	TO			
1.70-1.75	T	NIL	DRY	
1.75				

Strata

Description	Depth (Thickness)	Level
	G.L.	21.45
MADE GROUND: Loose brown very silty sandy sub-angular to sub-rounded fine to coarse gravel of slag, ash and sandstone with much root material	0.25	21.20
Purple and green grey very silty highly weathered MUDSTONE	(1.45)	
Red brown silty weathered MUDSTONE End of Borehole.	1.70 1.75	19.75 19.70

Legend



Equipment: Hand Held Window Sampler

Borehole Dia (mm) / Casing Dia (mm)
80 to 1.00m
60 to 1.75m

Groundwater
No. Struck Behaviour Sealed
No groundwater encountered

Ground Level 21.45 m OD
Coordinates 341851.79 mE
187531.14 mN

Drilled by DC
Logged by DC
Checked by AF

Remarks Refusal at 1.75m

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project
M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

Contract 150006

Borehole CH55(1 of 1)

Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
0.00-0.40	TO		05/02 0000 DRY	
0.40-0.60	T	NIL	DRY	
0.60				

Strata

Description	Depth (Thickness)	Level	Legend
	G.L.	20.64	
Soft to firm brown very silty slightly sandy CLAY with occasional to some root material	(0.40)		
Red and yellow brown weathered MUDSTONE	0.40	20.24	
End of Borehole.	0.60	20.04	

Equipment: Hand Held Window Sampler

Borehole Dia (mm) 80 to 0.60m

Casing Dia (mm)

Groundwater

No. Struck Behaviour Sealed

No groundwater encountered

Ground Level 20.64 m OD
Coordinates 341890.96 mE
187529.33 mN

Drilled by DC
Logged by DC
Checked by AF

Remarks Refusal at 0.60m

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project

M4 Relief Road - Stage 2. Preliminary Chemical Investigation
Ove Arup & Partners

Contract 150006

Borehole CH56(1 of 1)

ENCLOSURE B

In Situ Testing

HOLE		TEMP. deg. C		pH		COND. µs
Site no7		7.9		6.58		721
ch52a		8.0		7.14		621
ch40		7.1		8.19		515
ch45		7.2		8.24		480
ch17		7.0		7.92		627
ch53		8.8		6.92		1590
ch52a		9.1		7.63		467
site no9		8.9		7.28		734
ch51		8.5		10.20		452
ch9		7.9		6.94		814
ch8		7.4		7.02		796
site no2		7.0		6.98		521
ch33		7.2		7.99		624
ch41		7.0		8.02		547
ch12		7.2		6.42		627
ch32		7.6		7.41		728

On Site Water Testing	**Project** M4 Relief Road - Stage 2,Preliminary Chemical Investigation	**Contract** 150006
Exploration Associates	Ove Arup & partners	**Figure No** WT1

ENCLOSURE C

Laboratory Test Results

Contaminant Test Results

Soils	CL/000368, CL/000484, CL/000542, CL/000543 & CL/000581
Leachates	CL/000368, CL/000484, CL/000542, & CL/000543
Waters	W/EXR/000694, W/EXR/000771 & W/EXR/000800

TEST REPORT
SOIL SAMPLE ANALYSIS

1252
1411

TES Report No. CL/000368

Site: M4 Relief Road

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
Mid Glamorgan
CF31 1JZ

The 14 samples described in this report were scheduled for analysis by TES Bretby on Wednesday, 2 February 2000. The analysis was completed by Wednesday, 16 February 2000.

Tests marked as 'not UKAS accredited' and any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by TES Bretby laboratories.

The following tables are contained in this report:

Table 1 Sample Descriptions
Table 2 Main Analysis Results

On behalf of
TES Bretby : J. Hannah
J Hannah Project Co-ordinator

Date of Issue: 16/02/00

Tests marked 'not UKAS accredited' in this report are not included in the UKAS Accreditation Schedule for our laboratory.

TES Bretby accepts no responsibility for the sampling related to the above results

TEST REPORT
SOIL SAMPLE ANALYSIS

1252
1411

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
Mid Glamorgan
CF31 1JZ

TES Report No. 000368

Site: M4 Relief Road

Page No	Assessed Area	ID No. EFS/CL	Sample	Depth (m) from	to	Description
1	M4 Relief Road	0002699	CH/ 1/	0.20		CH1 0.20
1	M4 Relief Road	0002700	CH/ 2/	0.20		CH2 0.20
1	M4 Relief Road	0002701	CH/ 3/	0.10		CH3 0.10
1	M4 Relief Road	0002703	CH/ 3/	1.17		CH3 1.17
2	M4 Relief Road	0002704	CH/ 4/	0.60		CH4 0.60
2	M4 Relief Road	0002706	CH/ 20/	0.00		CH20 0.00
2	M4 Relief Road	0002710	CH/ 20/	1.00		CH20 1.00
2	M4 Relief Road	0002707	CH/ 21/	0.00		CH21 0.00
3	M4 Relief Road	0002711	CH/ 21/	2.50		CH21 2.50
3	M4 Relief Road	0002708	CH/ 22/	0.30		CH22 0.30
3	M4 Relief Road	0002709	CH/ 22/	0.75		CH22 0.75
3	M4 Relief Road	0002712	CH/ 22/	1.00		CH22 1.00
4	M4 Relief Road	0002702	CH/ 23/	0.16		CH23 0.16
4	M4 Relief Road	0002705	CH/ 23/	0.46		CH23 0.46

Date of Issue: 16/02/00

Tests not marked 'not UKAS accredited' in this report are not included in the UKAS Accreditation Schedule for our laboratory.

TES Bretby accepts no responsibility for the sampling related to the above results

TES Bretby
Report 000368
Table 1
Sheet 1/ 1

TEST REPORT
SOIL SAMPLE ANALYSIS

1252
1411

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
Mid Glamorgan
CF31 1JZ

TES Report No. 000368

Site: M4 Relief Road

Customer reference	CH	CH	CH	CH
	1	2	3	3
Depth (m)	0.20	0.20	0.10	1.17
Date logged	02/02/00	02/02/00	02/02/00	02/02/00
TES Bretby ID Number	CL/0002699	CL/0002700	CL/0002701	CL/0002703

UKAS accredited	Test No.	CL/0002699	CL/0002700	CL/0002701	CL/0002703
Chromium (total)	ICPSSS11	19	17	17	15
CN- (total)	ICTSCN28	<1	<1	<1	<1
Copper	ICPSSS11	6	8	8	7
Lead	ICPSSS11	30	17	30	14
Nickel	ICPSSS11	14	15	8	19
Oil FTIR	FTIRSW			1920	
PAH (screening)	PAHSCUV	<10	<10	502	<10
pH units	WSLM3	6.4	7.4	8.2	7.2
Phenol Index	WSLM4	<0.5	<0.5	<0.5	<0.5
SO4-- (acid sol)	ICPACS58	307	77	1020	26
TPH FTIR (AR)	FTIRSW			1790	
Zinc	ICPSSS11	47	47	54	41

not UKAS accredited		CL/0002699	CL/0002700	CL/0002701	CL/0002703
Arsenic (Ms)		6.40	6.70	5.40	5.00
Boron.		<0.5	<0.5	<0.5	<0.5
Cadmium (Ms)		0.12	0.05	0.28	0.09
Mercury (Ms)		<0.01	<0.01	<0.01	<0.01
Selenium (MS)				0.88	<0.50

Results expressed as mg/kg Air Dried unless stated otherwise
SO4 Analysis not conducted in accordance with BS1377
AR denotes analysis conducted on As Received Sample

Date of Issue: 16/02/00

Tests marked 'not UKAS accredited' in this report are not included in the UKAS Accreditation Schedule for our laboratory.

TES Bretby accepts no responsibility for the sampling related to the above results

TEST REPORT
SOIL SAMPLE ANALYSIS

1252
1411

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
Mid Glamorgan
CF31 1JZ

TES Report No. 000368

Site: M4 Relief Road

Customer reference		CH 4	CH 20	CH 20	CH 21
Depth (m)		0.60	0.00	1.00	0.00
Date logged		02/02/00	02/02/00	02/02/00	02/02/00
TES Bretby ID Number		CL/0002704	CL/0002706	CL/0002710	CL/0002707
UKAS accredited	Test No.	CL/0002704	CL/0002706	CL/0002710	CL/0002707
Chromium (total)	ICPSSS11	21	33	27	42
CN- (total)	ICTSCN28	<1	<1	<1	<1
Copper	ICPSSS11	30	315	26	164
Lead	ICPSSS11	32	82	34	102
Nickel	ICPSSS11	16	32	24	24
Oil FTIR	FTIRSW		112		172
PAH (screening)	PAHSCUV	<10	43	14	44
pH units	WSLM3	7.2	8.1	8.1	9.2
Phenol Index	WSLM4	<0.5	<0.5	<0.5	<0.5
SO4-- (acid sol)	ICPACS58	122	712	632	1080
TPH FTIR (AR)	FTIRSW		112		79
Zinc	ICPSSS11	43	272	103	116
not UKAS accredited		CL/0002704	CL/0002706	CL/0002710	CL/0002707
Arsenic (Ms)		4.00	17	11.00	17
Boron.		<0.5	<0.5	1.0	0.9
Cadmium (Ms)		0.04	0.27	0.11	0.17
Mercury (Ms)		<0.01	0.24	<0.01	1.76
Selenium (MS)		<0.50	1.55	0.90	1.60

Results expressed as mg/kg Air Dried unless stated otherwise
SO4 Analysis not conducted in accordance with BS1377
AR denotes analysis conducted on As Received Sample

Date of Issue: 16/02/00

Tests marked 'not UKAS accredited' in this report are not included in the UKAS Accreditation Schedule for our laboratory.

TES Bretby accepts no responsibility for the sampling related to the above results

TEST REPORT
SOIL SAMPLE ANALYSIS

1252
1411

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
Mid Glamorgan
CF31 1JZ

TES Report No. 000368

Site: M4 Relief Road

Customer reference		CH	CH	CH	CH
Depth (m)		21 2.50	22 0.30	22 0.75	22 1.00
Date logged		02/02/00	02/02/00	02/02/00	02/02/00
TES Bretby ID Number		CL/0002711	CL/0002708	CL/0002709	CL/0002712
UKAS accredited	Test No.	CL/0002711	CL/0002708	CL/0002709	CL/0002712
Chromium (total)	ICPSSS11	39	27	15	34
CN- (total)	ICTSCN28	<1	1	<1	1
Copper	ICPSSS11	22	490	26	18
Lead	ICPSSS11	43	426	36	38
Nickel	ICPSSS11	31	44	12	28
Oil FTIR	FTIRSW		1120	87	
PAH (screening)	PAHSCUV	301	288	84	13
pH units	WSLM3	8.1	8.2	8.2	8.0
Phenol Index	WSLM4	1.5	<0.5	<0.5	<0.5
SO4-- (acid sol)	ICPACS58	1090	1320	444	513
TPH FTIR (AR)	FTIRSW		1220	65	
Zinc	ICPSSS11	120	434	47	87
not UKAS accredited		CL/0002711	CL/0002708	CL/0002709	CL/0002712
Arsenic (Ms)		10.00	31	10.00	12.00
Boron.		2.5	<0.5	<0.5	1.5
Cadmium (Ms)		0.15	1.27	0.11	0.13
Mercury (Ms)		<0.01	0.46	0.04	<0.01
Selenium (MS)		<0.50	1.70	<0.50	<0.50

Results expressed as mg/kg Air Dried unless stated otherwise
SO4 Analysis not conducted in accordance with BS1377
AR denotes analysis conducted on As Received Sample

Date of Issue: 16/02/00

Tests marked 'not UKAS accredited' in this report are not included in the UKAS Accreditation Schedule for our laboratory.

TES Bretby accepts no responsibility for the sampling related to the above results

TEST REPORT
SOIL SAMPLE ANALYSIS

1252
1411

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
Mid Glamorgan
CF31 1JZ

TES Report No. 000368

Site: M4 Relief Road

Customer reference	CH	CH		
Depth (m)	23 0.16	23 0.46		
Date logged	02/02/00	02/02/00		
TES Bretby ID Number	CL/0002702	CL/0002705		

UKAS accredited	Test No.	CL/0002702	CL/0002705		
Chromium (total)	ICPSSS11	44	16		
CN- (total)	ICTSCN28	<1	<1		
Copper	ICPSSS11	743	46		
Lead	ICPSSS11	969	78		
Nickel	ICPSSS11	91	14		
Oil FTIR	FTIRSW	732			
PAH (screening)	PAHSCUV	832	35		
pH units	WSLM3	7.8	8.4		
Phenol Index	WSLM4	0.5	<0.5		
SO4-- (acid sol)	ICPACS58	1660	325		
TPH FTIR (AR)	FTIRSW	67			
Zinc	ICPSSS11	718	67		

not UKAS accredited		CL/0002702	CL/0002705		
Arsenic (Ms)		83	13.00		
Boron.		<0.5	<0.5		
Cadmium (Ms)		6.08	0.17		
Mercury (Ms)		1.32	0.08		
Selenium (MS)		1.21	0.53		

Results expressed as mg/kg Air Dried unless stated otherwise
SO4 Analysis not conducted in accordance with BS1377
AR denotes analysis conducted on As Received Sample

Date of Issue: 16/02/00

Tests marked 'not UKAS accredited' in this report are not included in the UKAS Accreditation Schedule for our laboratory.

TES Bretby accepts no responsibility for the sampling related to the above results

TEST REPORT
SOIL SAMPLE ANALYSIS

1252
1411

TES Report No. CL/000484

Site: M4 Relief Road

Exploration Associates
Unit 15
Crosby Yard
Bridgend
Mid Glamorgan
CF31 1JZ

The 24 samples described in this report were scheduled for analysis by TES Bretby on Friday, 11 February 2000. The analysis was completed by Thursday, 24 February 2000.

Tests marked as 'not UKAS accredited' and any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by TES Bretby laboratories.

The following tables are contained in this report:

Table 1 Sample Descriptions
Table 2 Main Analysis Results
Tables of Semi-Volatile Organic Compounds (21 Pages)
Tables of Volatile Organic Compounds (5 Pages)

On behalf of
TES Bretby : J. Hannah
J Hannah Project Co-ordinator

Date of Issue: 24/02/00

Tests marked 'not UKAS accredited' in this report are not included in the UKAS Accreditation Schedule for our laboratory.

TES Bretby accepts no responsibility for the sampling related to the above results

TEST REPORT
SOIL SAMPLE ANALYSIS

1252
1411

Exploration Associates
Unit 15
Crosby Yard
Bridgend
Mid Glamorgan
CF31 1JZ

TES Report No. 000484

Site: M4 Relief Road

Page No	Assessed Area	ID No. EFS/CL	Sample	Depth (m) from	to	Description
1	M4 Relief Road	0003497	CH/ 5/	0.00		CH5 0.0
1	M4 Relief Road	0003498	CH/ 5/	0.80		CH5 0.8
1	M4 Relief Road	0003499	CH/ 6/	0.00		CH6 0.0
1	M4 Relief Road	0003500	CH/ 6/	1.50		CH6 1.5
2	M4 Relief Road	0003501	CH/ 7/	0.00		CH7 0.0
2	M4 Relief Road	0003502	CH/ 34/	0.15		CH34 0.15
2	M4 Relief Road	0003503	CH/ 34/	1.40		CH34 1.40
2	M4 Relief Road	0003504	CH/ 35/	0.00		CH35 0.00
3	M4 Relief Road	0003505	CH/ 35/	0.50		CH35 0.50
3	M4 Relief Road	0003506	CH/ 35/	0.80		CH35 0.80
3	M4 Relief Road	0003507	CH/ 36/	0.10		CH36 0.10
3	M4 Relief Road	0003508	CH/ 36/	0.70		CH36 0.70
4	M4 Relief Road	0003509	CH/ 37/	0.00		CH37 0.00
4	M4 Relief Road	0003510	CH/ 37/	1.20		CH37 1.20
4	M4 Relief Road	0003511	CH/ 38/	0.10		CH38 0.10
4	M4 Relief Road	0003512	CH/ 38/	1.30		CH38 1.30
5	M4 Relief Road	0003513	CH/ 39/	0.00		CH39 0.00
5	M4 Relief Road	0003514	CH/ 39/	1.00		CH39 1.00
5	M4 Relief Road	0003515	CH/ 40/	0.00		CH40 0.00
5	M4 Relief Road	0003516	CH/ 40/	0.50		CH40 0.50

Date of Issue: 24/02/00

Tests not marked 'not UKAS accredited' in this report are not included in the UKAS Accreditation Schedule for our laboratory.

TES Bretby accepts no responsibility for the sampling related to the above results

TES Bretby
Report 000484
Table 1
Sheet 1/ 2

TEST REPORT
SOIL SAMPLE ANALYSIS

1252
1411

Exploration Associates
Unit 15
Crosby Yard
Bridgend
Mid Glamorgan
CF31 1JZ

TES Report No. 000484

Site: M4 Relief Road

Page No	Assessed Area	ID No. EFS/CL	Sample	Depth (m) from	to	Description
6	M4 Relief Road	0003517	CH/ 41/	0.05		CH41 0.05
6	M4 Relief Road	0003518	CH/ 41/	1.40		CH41 1.40
6	M4 Relief Road	0003519	CH/ 42/	0.20		CH42 0.20
6	M4 Relief Road	0003520	CH/ 42/	1.20		CH42 1.20

Date of Issue: 24/02/00

Tests not marked 'not UKAS accredited' in this report are not included in the UKAS Accreditation Schedule for our laboratory.

TES Bretby accepts no responsibility for the sampling related to the above results

TES Bretby
Report 000484
Table 1
Sheet 2/ 2

TEST REPORT
SOIL SAMPLE ANALYSIS

1252
1411

Exploration Associates
Unit 15
Crosby Yard
Bridgend
Mid Glamorgan
CF31 1JZ

TES Report No. 000484

Site: M4 Relief Road

Customer reference		CH	CH	CH	CH
Depth (m)		5 0.00	5 0.80	6 0.00	6 1.50
Date logged		11/02/00	11/02/00	11/02/00	11/02/00
TES Bretby ID Number		CL/0003497	CL/0003498	CL/0003499	CL/0003500
UKAS accredited	Test No.	CL/0003497	CL/0003498	CL/0003499	CL/0003500
Chromium (total)	ICPSSS11	25	29	16	16
CN- (total)	ICTSCN28	<1	<1	<1	<1
Copper	ICPSSS11	74	178	27	31
Lead	ICPSSS11	1610	1920	500	545
Nickel	ICPSSS11	23	27	16	17
Oil FTIR	FTIRSW	641	1946	338	183
PAH (screening)	PAHSCUV	75	201	79	72
pH units	WSLM3	8.3	8.0	8.4	8.9
Phenol Index	WSLM4	<0.5	0.6	<0.5	<0.5
SO4-- (acid sol)	ICPACS58	1110	1300	868	798
TPH FTIR (AR)	FTIRSW	1590	973	496	108
Zinc	ICPSSS11	186	280	119	130

not UKAS accredited		CL/0003497	CL/0003498	CL/0003499	CL/0003500
Arsenic (Ms)		9.90	13.00	7.70	6.60
Boron.		0.6	1.3	0.5	1.0
Cadmium (Ms)		1.10	1.32	0.51	0.27
Mercury (Ms)		0.42	0.41	0.15	0.12
Selenium (MS)		0.83	0.72	0.61	0.58

Results expressed as mg/kg Air Dried unless stated otherwise
SO4 Analysis not conducted in accordance with BS1377
AR denotes analysis conducted on As Received Sample

Date of Issue: 24/02/00

Tests marked 'not UKAS accredited' in this report are not included in the UKAS Accreditation Schedule for our laboratory.

TES Bretby accepts no responsibility for the sampling related to the above results

TEST REPORT
SOIL SAMPLE ANALYSIS

1252
1411

Exploration Associates
Unit 15
Crosby Yard
Bridgend
Mid Glamorgan
CF31 1JZ

TES Report No. 000484

Site: M4 Relief Road

Customer reference	CH	CH	CH	CH
	7	34	34	35
Depth (m)	0.00	0.15	1.40	0.00
Date logged	11/02/00	11/02/00	11/02/00	11/02/00
TES Bretby ID Number	CL/0003501	CL/0003502	CL/0003503	CL/0003504

UKAS accredited	Test No.	CL/0003501	CL/0003502	CL/0003503	CL/0003504
Chromium (total)	ICPSSS11	38	45	38	56
CN- (total)	ICTSCN28	<1	<1	<1	<1
Copper	ICPSSS11	10	17	14	343
Cyanide (Free)	BGCN22		<1	<1	<1
Lead	ICPSSS11	43	59	45	95
Nickel	ICPSSS11	38	34	33	31
Oil FTIR	FTIRSW		178	104	280
PAH (screening)	PAHSCUV	<10	<10	<10	50
PCB - ARO	PCBAROEC		1.2	2.8	17
pH units	WSLM3	8.0	7.7	8.1	9.4
Phenol Index	WSLM4	<0.5	<0.5	<0.5	<0.5
SO4-- (acid sol)	ICPACS58	152	575	424	1630
Sulphide	ICTSCN28		5	<1	<1
SVOC	SVOCSW		*	*	*
Thiocyanate	WSLM5		8	<2	<2
TPH FTIR (AR)	FTIRSW		116	420	275
VOC	VOCSW				*
Zinc	ICPSSS11	99	113	100	239

not UKAS accredited		CL/0003501	CL/0003502	CL/0003503	CL/0003504
Arsenic (Ms)		18	16	13.00	6.90
Boron.		1.3	2.9	1.0	0.8
Cadmium (Ms)		0.08	0.13	0.13	1.37
Mercury (Ms)		0.08	0.18	0.43	15.2
Selenium (MS)			<0.50	<0.50	1.51

Results expressed as mg/kg Air Dried unless stated otherwise
SO4 Analysis not conducted in accordance with BS1377
AR denotes analysis conducted on As Received Sample
* denotes results included on attached sheet

Date of Issue: 24/02/00

Tests marked 'not UKAS accredited' in this report are not included in the UKAS Accreditation Schedule for our laboratory.

TES Bretby accepts no responsibility for the sampling related to the above results

TEST REPORT
SOIL SAMPLE ANALYSIS

1252
1411

Exploration Associates
Unit 15
Crosby Yard
Bridgend
Mid Glamorgan
CF31 1JZ

TES Report No. 000484

Site: M4 Relief Road

Customer reference		CH	CH	CH	CH
Depth (m)		35 0.50	35 0.80	36 0.10	36 0.70
Date logged		11/02/00	11/02/00	11/02/00	11/02/00
TES Bretby ID Number		CL/0003505	CL/0003506	CL/0003507	CL/0003508
UKAS accredited	Test No.	CL/0003505	CL/0003506	CL/0003507	CL/0003508
Chromium (total)	ICPSSS11	31	30	25	33
CN- (total)	ICTSCN28	<1	<1	<1	<1
Copper	ICPSSS11	22	12	22	10
Cyanide (Free)	BGCN22	<1	<1	<1	<1
Lead	ICPSSS11	71	45	128	37
Nickel	ICPSSS11	25	28	11	29
Oil FTIR	FTIRSW	365	238	1749	67
PAH (screening)	PAHSCUV	33	18	432	<10
PCB - ARO	PCBAROEC	18	7.8	27	1.5
pH units	WSLM3	7.8	7.8	9.5	8.2
Phenol Index	WSLM4	1.3	0.5	<0.5	<0.5
SO4-- (acid sol)	ICPACS58	944	485	2270	328
Sulphide	ICTSCN28	13	6	10	<1
SVOC	SVOCSW	*	*	*	*
Thiocyanate	WSLM5	13	4	<2	<2
TPH FTIR (AR)	FTIRSW	256	40	1530	195
VOC	VOCSW	*	*		
Zinc	ICPSSS11	112	90	303	80

not UKAS accredited		CL/0003505	CL/0003506	CL/0003507	CL/0003508
Arsenic (Ms)		15.00	13.00	6.00	8.90
Boron.		2.4	2.9	<0.5	1.5
Cadmium (Ms)		0.27	0.17	7.17	0.09
Mercury (Ms)		0.67	0.20	1.09	0.08
Selenium (MS)		0.89	<0.50	1.55	<0.50

Results expressed as mg/kg Air Dried unless stated otherwise
SO4 Analysis not conducted in accordance with BS1377
AR denotes analysis conducted on As Received Sample
* denotes results included on attached sheet

Date of Issue: 24/02/00

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Site: M4 Relief Road

Customer reference	CH	CH	CH	CH
Depth (m)	37 0.00	37 1.20	38 0.10	38 1.30
Date logged	11/02/00	11/02/00	11/02/00	11/02/00
TES Bretby ID Number	CL/0003509	CL/0003510	CL/0003511	CL/0003512

UKAS accredited	Test No.	CL/0003509	CL/0003510	CL/0003511	CL/0003512
Chromium (total)	ICPSSS11	18	37	221	37
CN- (total)	ICTSCN28	<1	<1	<1	<1
Copper	ICPSSS11	35	12	52	11
Cyanide (Free)	BGCN22	<1	<1	<1	<1
Lead	ICPSSS11	75	42	368	44
Nickel	ICPSSS11	14	32	29	34
Oil FTIR	FTIRSW	185	74	1120	77
PAH (screening)	PAHSCUV	23	953	<10	<10
PCB - ARO	PCBAROEC	117	41	117	2.1
pH units	WSLM3	9.7	8.5	9.8	8.6
Phenol Index	WSLM4	<0.5	<0.5	0.8	<0.5
SO4-- (acid sol)	ICPACS58	1450	304	1920	327
Sulphide	ICTSCN28	2	<1	25	<1
SVOC	SVOCSW	*	*	*	*
Thiocyanate	WSLM5	<2	<2	2	<2
TPH FTIR (AR)	FTIRSW	258	1870	843	31
Zinc	ICPSSS11	206	98	499	91

not UKAS accredited		CL/0003509	CL/0003510	CL/0003511	CL/0003512
Arsenic (Ms)		3.80	11.00	9.80	13.00
Boron.		<0.5	2.4	<0.5	2.5
Cadmium (Ms)		1.57	0.11	0.83	0.08
Mercury (Ms)		2.34	0.14	5.96	0.16
Selenium (MS)		1.39	<0.50	0.94	<0.50

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TES Report No. 000484

Site: M4 Relief Road

Customer reference	CH	CH	CH	CH
Depth (m)	39 0.00	39 1.00	40 0.00	40 0.50
Date logged	11/02/00	11/02/00	11/02/00	11/02/00
TES Bretby ID Number	CL/0003513	CL/0003514	CL/0003515	CL/0003516

UKAS accredited	Test No.	CL/0003513	CL/0003514	CL/0003515	CL/0003516
Chromium (total)	ICPSSS11	142	184	10	74
CN- (total)	ICTSCN28	<1	<1	<1	<1
Copper	ICPSSS11	40	34	5	20
Cyanide (Free)	BGCN22	<1	<1	<1	<1
Lead	ICPSSS11	497	98	31	53
Nickel	ICPSSS11	34	46	14	24
Oil FTIR	FTIRSW	285	2900	84	894
PAH (screening)	PAHSCUV	126	610	10	86
PCB - ARO	PCBAROEC	94	165	3.7	96
pH units	WSLM3	10.3	10.4	9.4	11.2
Phenol Index	WSLM4	1.3	1.6	<0.5	0.8
SO4-- (acid sol)	ICPACS58	1600	2020	486	2440
Sulphide	ICTSCN28	363	122	<1	4
SVOC	SVOCSW	*	*	*	*
Thiocyanate	WSLM5	2	5	<2	<2
TPH FTIR (AR)	FTIRSW	245	609	48	524
Zinc	ICPSSS11	243	151	63	134

not UKAS accredited		CL/0003513	CL/0003514	CL/0003515	CL/0003516
Arsenic (Ms)		12.00	12.00	4.60	8.30
Boron.		<0.5	0.5	<0.5	0.7
Cadmium (Ms)		0.54	0.71	0.22	0.41
Mercury (Ms)		4.22	7.67	0.23	9.82
Selenium (MS)		1.49	1.38	1.28	0.89

Results expressed as mg/kg Air Dried unless stated otherwise
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TES Report No. 000484

Site: M4 Relief Road

Customer reference	CH	CH	CH	CH
Depth (m)	41 0.05	41 1.40	42 0.20	42 1.20
Date logged	11/02/00	11/02/00	11/02/00	11/02/00
TES Bretby ID Number	CL/0003517	CL/0003518	CL/0003519	CL/0003520

UKAS accredited	Test No.	CL/0003517	CL/0003518	CL/0003519	CL/0003520
Chromium (total)	ICPSSS11	120	272	37	43
CN- (total)	ICTSCN28	<1	<1	<1	<1
Copper	ICPSSS11	31	64	25	26
Cyanide (Free)	BGCN22	<1	<1	<1	<1
Lead	ICPSSS11	85	61	54	64
Nickel	ICPSSS11	28	32	26	33
Oil FTIR	FTIRSW	566	866	548	656
PAH (screening)	PAHSCUV	62	146	1470	1970
PCB - ARO	PCBAROEC	103	80	1010	1430
pH units	WSLM3	10.6	10.3	9.4	8.9
Phenol Index	WSLM4	<0.5	0.5	0.8	1.1
SO4-- (acid sol)	ICPACS58	1360	1760	1050	987
Sulphide	ICTSCN28	803	23	24	10
SVOC	SVOCSW	*	*	*	*
Thiocyanate	WSLM5	2	<2	<2	<2
TPH FTIR (AR)	FTIRSW	141	2400	127	244
VOC	VOCSW		*	*	
Zinc	ICPSSS11	386	488	128	133

not UKAS accredited		CL/0003517	CL/0003518	CL/0003519	CL/0003520
Arsenic (Ms)		9.80	8.10	7.40	7.70
Boron.		<0.5	<0.5	0.6	<0.5
Cadmium (Ms)		0.35	0.75	1.15	1.70
Mercury (Ms)		6.83	12.50	8.88	14.90
Selenium (MS)		1.37	0.91	1.08	1.03

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TES Bretby

Semi-Volatile Organic Compounds

UKAS TESTING 1252

Customer and Site Details:	Exploration Associates: M4 Relief Road		
Sample Details:	CH/0034/ / 0.15- m	**Date Booked in:**	11-Feb-00
LIMS ID Number:	CL03502	**Date Extracted:**	16-Feb-00
Job Number:	484	**Date Analysed:**	17-Feb-00

Matrix:	Soil	**QC Batch Number:**	219
Ext Method:	Soxhlet	**Multiplier:**	0.0667
Operator:	sw	**Dilution Factor:**	1
Directory/Quant File:	0217ABN.MS5 0217CCC2.D	**GPC (Y/N)**	N

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

* These compounds are not currently UKAS accredited.

Concentrations are reported on a wet weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-4	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	29.56	2.2	98
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

* compounds not currently UKAS accredited

Internal Standards	% Area
1,4-Dichlorobenzene-d4	113
Naphthalene-d8	104
Acenaphthene-d10	111
Phenanthrene-d10	105
Chrysene-d12	103
Perylene-d12	100

Surrogates	% Rec
2-Fluorophenol	80
Phenol-d5	85
Nitrobenzene-d5	83
2-Fluorobiphenyl	84
2,4,6-Tribromophenol	103
Terphenyl-d14	101

TES Bretby

Semi-Volatile Organic Compounds

UKAS TESTING 1252

Customer and Site Details:	Exploration Associates: M4 Relief Road		
Sample Details:	CH/0034/ / 1.40- m	**Date Booked in:**	11-Feb-00
LIMS ID Number:	CL03503	**Date Extracted:**	16-Feb-00
Job Number:	484	**Date Analysed:**	17-Feb-00

Matrix:	Soil	**QC Batch Number:**	219
Ext Method:	Soxhlet	**Multiplier:**	0.0667
Operator:	SW	**Dilution Factor:**	1
Directory/Quant File:	0217ABN.MS2 0217CCC3.D	**GPC (Y/N)**	N

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

* These compounds are not currently UKAS accredited.
Concentrations are reported on a wet weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-4	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	30.86	1.7	94
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

* compounds not currently UKAS accredited

Internal Standards	% Area
1,4-Dichlorobenzene-d4	97
Naphthalene-d8	82
Acenaphthene-d10	99
Phenanthrene-d10	88
Chrysene-d12	90
Perylene-d12	92

Surrogates	% Rec
2-Fluorophenol	74
Phenol-d5	70
Nitrobenzene-d5	72
2-Fluorobiphenyl	79
2,4,6-Tribromophenol	97
Terphenyl-d14	97

TES Bretby

Semi-Volatile Organic Compounds

UKAS TESTING

1252

Customer and Site Details:	Exploration Associates : M4 Relief Road			**Matrix:**	Soil	**QC Batch Number:**	219
Sample Details:	CH/0035/0.00m	**Date Booked in:**	11-Feb-00	**Ext Method:**	Soxhlet	**Multiplier:**	0.133
LIMS ID Number:	CL03504	**Date Extracted:**	16-Feb-00	**Operator:**	cs	**Dilution Factor:**	2
Job Number:	484	**Date Analysed:**	18-Feb-00	**Directory/Quant File:**	0218ABN.MS2 0218CCC1.D	**GPC (Y/N)**	Y

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 4.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 1.0	-
2-Chlorophenol	95-57-8	-	< 4.0	-
1,3-Dichlorobenzene	541-73-1	-	< 1.0	-
1,4-Dichlorobenzene	106-46-7	-	< 1.0	-
Benzyl alcohol	100-51-6	-	< 1.0	-
1,2-Dichlorobenzene	95-50-1	-	< 1.0	-
2-Methylphenol	95-48-7	-	< 1.0	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 1.0	-
Hexachloroethane	67-72-1	-	< 1.0	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 1.0	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 4.0	-
Nitrobenzene	98-95-3	-	< 1.0	-
Isophorone	78-59-1	-	< 1.0	-
2-Nitrophenol	88-75-5	-	< 4.0	-
2,4-Dimethylphenol	105-67-9	-	< 4.0	-
Benzoic Acid	65-85-0	-	< 20.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 1.0	-
2,4-Dichlorophenol	120-83-2	-	< 4.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 1.0	-
Naphthalene	91-20-3	-	< 0.4	-
4-Chlorophenol *	106-48-9	-	< 4.0	-
4-Chloroaniline	106-47-8	-	< 1.0	-
Hexachlorobutadiene	87-68-3	-	< 1.0	-
4-Chloro-3-methylphenol	59-50-7	-	< 1.0	-
2-Methylnaphthalene	91-57-6	-	< 0.4	-
1-Methylnaphthalene *	90-12-0	-	< 0.4	-
Hexachlorocyclopentadiene	77-47-4	-	< 1.0	-
2,4,6-Trichlorophenol	88-06-2	-	< 4.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 4.0	-
2-Chloronaphthalene	91-58-7	-	< 0.4	-
Biphenyl *	92-52-4	16.40	0.5	96
Diphenyl ether *	101-84-8	-	< 0.4	-
2-Nitroaniline	88-74-4	-	< 1.0	-
Acenaphthylene	208-96-8	-	< 0.4	-
Dimethylphthalate	131-11-3	-	< 1.0	-
2,6-Dinitrotoluene	606-20-2	-	< 1.0	-
Acenaphthene	83-32-9	-	< 0.4	-
3-Nitroaniline *	99-09-2	-	< 1.0	-

* These compounds are not currently UKAS accredited.
Concentrations are reported on a wet weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5	-	< 2.0	-
Dibenzofuran	132-64-9	-	< 1.0	-
4-Nitrophenol	100-02-7	-	< 10.0	-
2,4-Dinitrotoluene	121-14-2	-	< 1.0	-
Fluorene	86-73-7	-	< 0.4	-
Diethylphthalate	84-66-2	-	< 1.0	-
4-Chlorophenyl-phenylether	7005-72-4	-	< 1.0	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 10.0	-
4-Nitroaniline	100-01-6	-	< 1.0	-
N-Nitrosodiphenylamine	86-30-6	-	< 1.0	-
4-Bromophenyl-phenylether	101-55-3	-	< 1.0	-
Hexachlorobenzene	118-74-1	-	< 1.0	-
Pentachlorophenol	87-86-5	-	< 10.0	-
Phenanthrene	85-01-8	-	< 0.4	-
Anthracene	120-12-7	-	< 0.4	-
Di-n-butylphthalate	84-74-2	-	< 1.0	-
Fluoranthene	206-44-0	-	< 0.4	-
Pyrene	129-00-0	-	< 0.4	-
Butylbenzylphthalate	85-68-7	-	< 1.0	-
Benzo[a]anthracene	56-55-3	-	< 0.4	-
Chrysene	218-01-9	30.44	0.7	99
3,3'-Dichlorobenzidine	91-94-1	-	< 4.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	30.83	1.9	93
Di-n-octylphthalate	117-84-0	-	< 0.4	-
Benzo[b]fluoranthene	205-99-2	-	< 0.4	-
Benzo[k]fluoranthene	207-08-9	-	< 0.4	-
Benzo[a]pyrene	50-32-8	-	< 0.4	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.4	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.4	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.4	-

* compounds not currently UKAS accredited

Internal Standards	% Area
1,4-Dichlorobenzene-d4	122
Naphthalene-d8	117
Acenaphthene-d10	130
Phenanthrene-d10	124
Chrysene-d12	132
Perylene-d12	130

Surrogates	% Rec
2-Fluorophenol	47
Phenol-d5	52
Nitrobenzene-d5	51
2-Fluorobiphenyl	55
2,4,6-Tribromophenol	78
Terphenyl-d14	77

TES Bretby

Semi-Volatile Organic Compounds

UKAS TESTING

1252

Customer and Site Details:	Exploration Associates: M4 Relief Road		
Sample Details:	CH/0035/ / 0.50- m	**Date Booked in:**	11-Feb-00
LIMS ID Number:	CL03505	**Date Extracted:**	16-Feb-00
Job Number:	484	**Date Analysed:**	22-Feb-00

Matrix:	Soil	**QC Batch Number:**	219
Ext Method:	Soxhlet	**Multiplier:**	0.0667
Operator:	SW	**Dilution Factor:**	1
Directory/Quant File:	0222ABN.MS5 0222CCC1.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	8.29	3.9	99
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol *	106-48-9	11.90	6.0	90
4-Chloroaniline	106-47-8	12.00	19.2	100
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	13.51	1.9	76
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methyl naphthalene *	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl *	92-52-4	-	< 0.2	-
Diphenyl ether *	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

* These compounds are not currently UKAS accredited.

Concentrations are reported on a wet weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-4	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	29.51	2.6	98
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

* compounds not currently UKAS accredited

Internal Standards	% Area
1,4-Dichlorobenzene-d4	102
Naphthalene-d8	100
Acenaphthene-d10	110
Phenanthrene-d10	111
Chrysene-d12	124
Perylene-d12	137

Surrogates	% Rec
2-Fluorophenol	91
Phenol-d5	103
Nitrobenzene-d5	90
2-Fluorobiphenyl	84
2,4,6-Tribromophenol	111
Terphenyl-d14	93

TES Bretby

Semi-Volatile Organic Compounds

UKAS TESTING 1252

Customer and Site Details:	Exploration Associates: M4 Relief Road		
Sample Details:	CH/0035/ / 0.80- m	**Date Booked in:**	11-Feb-00
LIMS ID Number:	CL03506	**Date Extracted:**	16-Feb-00
Job Number:	484	**Date Analysed:**	17-Feb-00

Matrix:	Soil	**QC Batch Number:**	219
Ext Method:	Soxhlet	**Multiplier:**	0.0667
Operator:	SW	**Dilution Factor:**	1
Directory/Quant File:	0217ABN.MS2 0217CCC3.D	**GPC (Y/N)**	N

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

* These compounds are not currently UKAS accredited.
Concentrations are reported on a wet weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-4	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	30.86	0.8	93
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

* compounds not currently UKAS accredited

Internal Standards	% Area
1,4-Dichlorobenzene-d4	103
Naphthalene-d8	87
Acenaphthene-d10	104
Phenanthrene-d10	95
Chrysene-d12	99
Perylene-d12	96

Surrogates	% Rec
2-Fluorophenol	80
Phenol-d5	75
Nitrobenzene-d5	80
2-Fluorobiphenyl	78
2,4,6-Tribromophenol	97
Terphenyl-d14	91

TES Bretby

Semi-Volatile Organic Compounds

UKAS TESTING 1252

Customer and Site Details:	Exploration Associates : M4 Relief Road		
Sample Details:	CH/0036/0.10m	**Date Booked in:**	11-Feb-00
LIMS ID Number:	CL03507	**Date Extracted:**	16-Feb-00
Job Number:	484	**Date Analysed:**	18-Feb-00

Matrix:	Soil	**QC Batch Number:**	219
Ext Method:	Soxhlet	**Multiplier:**	0.333
Operator:	cs	**Dilution Factor:**	5
Directory/Quant File:	0218ABN.MS2 0218CCC1.D	**GPC (Y/N)**	Y

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 10.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 2.5	-
2-Chlorophenol	95-57-8	-	< 10.0	-
1,3-Dichlorobenzene	541-73-1	-	< 2.5	-
1,4-Dichlorobenzene	106-46-7	-	< 2.5	-
Benzyl alcohol	100-51-6	-	< 2.5	-
1,2-Dichlorobenzene	95-50-1	-	< 2.5	-
2-Methylphenol	95-48-7	-	< 2.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 2.5	-
Hexachloroethane	67-72-1	-	< 2.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 2.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 10.0	-
Nitrobenzene	98-95-3	-	< 2.5	-
Isophorone	78-59-1	-	< 2.5	-
2-Nitrophenol	88-75-5	-	< 10.0	-
2,4-Dimethylphenol	105-67-9	-	< 10.0	-
Benzoic Acid	65-85-0	-	< 50.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 2.5	-
2,4-Dichlorophenol	120-83-2	-	< 10.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 2.5	-
Naphthalene	91-20-3	-	< 1.0	-
4-Chlorophenol *	106-48-9	-	< 10.0	-
4-Chloroaniline	106-47-8	-	< 2.5	-
Hexachlorobutadiene	87-68-3	-	< 2.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 2.5	-
2-Methylnaphthalene	91-57-6	-	< 1.0	-
1-Methylnaphthalene *	90-12-0	-	< 1.0	-
Hexachlorocyclopentadiene	77-47-4	-	< 2.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 10.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 10.0	-
2-Chloronaphthalene	91-58-7	-	< 1.0	-
Biphenyl *	92-52-4	-	< 1.0	-
Diphenyl ether *	101-84-8	-	< 1.0	-
2-Nitroaniline	88-74-4	-	< 2.5	-
Acenaphthylene	208-96-8	-	< 1.0	-
Dimethylphthalate	131-11-3	-	< 2.5	-
2,6-Dinitrotoluene	606-20-2	-	< 2.5	-
Acenaphthene	83-32-9	-	< 1.0	-
3-Nitroaniline *	99-09-2	-	< 2.5	-

* These compounds are not currently UKAS accredited.
Concentrations are reported on a wet weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5	-	< 5.0	-
Dibenzofuran	132-64-9	-	< 2.5	-
4-Nitrophenol	100-02-7	-	< 25.0	-
2,4-Dinitrotoluene	121-14-2	-	< 2.5	-
Fluorene	86-73-7	-	< 1.0	-
Diethylphthalate	84-66-2	-	< 2.5	-
4-Chlorophenyl-phenylether	7005-72-4	-	< 2.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 25.0	-
4-Nitroaniline	100-01-6	-	< 2.5	-
N-Nitrosodiphenylamine	86-30-6	-	< 2.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 2.5	-
Hexachlorobenzene	118-74-1	-	< 2.5	-
Pentachlorophenol	87-86-5	-	< 25.0	-
Phenanthrene	85-01-8	-	< 1.0	-
Anthracene	120-12-7	-	< 1.0	-
Di-n-butylphthalate	84-74-2	-	< 2.5	-
Fluoranthene	206-44-0	-	< 1.0	-
Pyrene	129-00-0	-	< 1.0	-
Butylbenzylphthalate	85-68-7	-	< 2.5	-
Benzo[a]anthracene	56-55-3	-	< 1.0	-
Chrysene	218-01-9	-	< 1.0	-
3,3'-Dichlorobenzidine	91-94-1	-	< 10.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	30.82	4.7	95
Di-n-octylphthalate	117-84-0	-	< 1.0	-
Benzo[b]fluoranthene	205-99-2	-	< 1.0	-
Benzo[k]fluoranthene	207-08-9	-	< 1.0	-
Benzo[a]pyrene	50-32-8	-	< 1.0	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 1.0	-
Dibenzo[a,h]anthracene	53-70-3	-	< 1.0	-
Benzo[g,h,i]perylene	191-24-2	-	< 1.0	-

* compounds not currently UKAS accredited

Internal Standards	% Area
1,4-Dichlorobenzene-d4	110
Naphthalene-d8	102
Acenaphthene-d10	117
Phenanthrene-d10	115
Chrysene-d12	116
Perylene-d12	109

Surrogates	% Rec
2-Fluorophenol	55
Phenol-d5	59
Nitrobenzene-d5	56
2-Fluorobiphenyl	62
2,4,6-Tribromophenol	71
Terphenyl-d14	89

TES Bretby

Semi-Volatile Organic Compounds

UKAS TESTING 1252

Customer and Site Details:	Exploration Associates: M4 Relief Road		
Sample Details:	CH/0036/ / 0.70- m	**Date Booked in:**	11-Feb-00
LIMS ID Number:	CL03508	**Date Extracted:**	16-Feb-00
Job Number:	484	**Date Analysed:**	17-Feb-00

Matrix:	Soil	**QC Batch Number:**	219
Ext Method:	Soxhlet	**Multiplier:**	0.0667
Operator:	sw	**Dilution Factor:**	1
Directory/Quant File:	0217ABN.MS5 0217CCC2.D	**GPC (Y/N)**	N

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

* These compounds are not currently UKAS accredited.
Concentrations are reported on a wet weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-4	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	29.55	2.6	97
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

* compounds not currently UKAS accredited

Internal Standards	% Area
1,4-Dichlorobenzene-d4	112
Naphthalene-d8	105
Acenaphthene-d10	111
Phenanthrene-d10	104
Chrysene-d12	105
Perylene-d12	104

Surrogates	% Rec
2-Fluorophenol	72
Phenol-d5	79
Nitrobenzene-d5	80
2-Fluorobiphenyl	78
2,4,6-Tribromophenol	88
Terphenyl-d14	96

TES Bretby

Semi-Volatile Organic Compounds

UKAS TESTING 1252

Customer and Site Details:	Exploration Associates : M4 Relief Road		
Sample Details:	CH/0037/0.00m	**Date Booked in:**	11-Feb-00
LIMS ID Number:	CL03509	**Date Extracted:**	16-Feb-00
Job Number:	484	**Date Analysed:**	18-Feb-00

Matrix:	Soil	**QC Batch Number:**	219
Ext Method:	Soxhlet	**Multiplier:**	0.0667
Operator:	CS	**Dilution Factor:**	1
Directory/Quant File:	0218ABN.MS4 0218CCC1.D	**GPC (Y/N)**	Y

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	11.75	0.3	91
4-Chlorophenol *	106-48-9	-	< 2.0	-
4-Chloroaniline *	106-47-8	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methyl naphthalene *	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl *	92-52-4	15.17	0.5	99
Diphenyl ether *	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline *	99-09-2	-	< 0.5	-

* These compounds are not currently UKAS accredited.
Concentrations are reported on a wet weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-4	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	18.74	0.7	63
N-Nitrosodiphenylamine	86-30-6	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	29.05	0.3	98
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	29.69	1.7	99
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	37.35	0.3	99
Dibenzo[a,h]anthracene	53-70-3	37.55	0.2	95
Benzo[g,h,i]perylene	191-24-2	38.30	0.4	99

* compounds not currently UKAS accredited

Internal Standards	% Area
1,4-Dichlorobenzene-d4	108
Naphthalene-d8	98
Acenaphthene-d10	100
Phenanthrene-d10	101
Chrysene-d12	110
Perylene-d12	105

Surrogates	% Rec
2-Fluorophenol	64
Phenol-d5	66
Nitrobenzene-d5	47
2-Fluorobiphenyl	50
2,4,6-Tribromophenol	63
Terphenyl-d14	71

TES Bretby

Semi-Volatile Organic Compounds

UKAS TESTING 1252

Customer and Site Details:	Exploration Associates: M4 Relief Road		
Sample Details:	CH/0037/ / 1.20- m	**Date Booked in:**	11-Feb-00
LIMS ID Number:	CL03510	**Date Extracted:**	16-Feb-00
Job Number:	484	**Date Analysed:**	17-Feb-00

Matrix:	Soil	**QC Batch Number:**	219
Ext Method:	Soxhlet	**Multiplier:**	0.0667
Operator:	SW	**Dilution Factor:**	1
Directory/Quant File:	0217ABN.MS2 0217CCC3.D	**GPC (Y/N)**	N

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

* These compounds are not currently UKAS accredited.
Concentrations are reported on a wet weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-4	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	30.86	2.1	94
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

* compounds not currently UKAS accredited

Internal Standards	% Area
1,4-Dichlorobenzene-d4	95
Naphthalene-d8	81
Acenaphthene-d10	95
Phenanthrene-d10	86
Chrysene-d12	87
Perylene-d12	83

Surrogates	% Rec
2-Fluorophenol	76
Phenol-d5	66
Nitrobenzene-d5	71
2-Fluorobiphenyl	75
2,4,6-Tribromophenol	94
Terphenyl-d14	94

TES Bretby

Semi-Volatile Organic Compounds

UKAS TESTING

1252

Customer and Site Details:	Exploration Associates : M4 Relief Road		
Sample Details:	CH/0038/0.10m	**Date Booked in:**	11-Feb-00
LIMS ID Number:	CL03511	**Date Extracted:**	16-Feb-00
Job Number:	484	**Date Analysed:**	18-Feb-00

Matrix:	Soil	**QC Batch Number:**	219
Ext Method:	Soxhlet	**Multiplier:**	0.333
Operator:	CS	**Dilution Factor:**	5
Directory/Quant File:	0218ABN.MS4 0218CCC1.D	**GPC (Y/N)**	Y

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 10.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 2.5	-
2-Chlorophenol	95-57-8	-	< 10.0	-
1,3-Dichlorobenzene	541-73-1	-	< 2.5	-
1,4-Dichlorobenzene	106-46-7	-	< 2.5	-
Benzyl alcohol	100-51-6	-	< 2.5	-
1,2-Dichlorobenzene	95-50-1	-	< 2.5	-
2-Methylphenol	95-48-7	-	< 2.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 2.5	-
Hexachloroethane	67-72-1	-	< 2.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 2.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 10.0	-
Nitrobenzene	98-95-3	-	< 2.5	-
Isophorone	78-59-1	-	< 2.5	-
2-Nitrophenol	88-75-5	-	< 10.0	-
2,4-Dimethylphenol	105-67-9	-	< 10.0	-
Benzoic Acid	65-85-0	-	< 50.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 2.5	-
2,4-Dichlorophenol	120-83-2	-	< 10.0	-
1,2,4-Trichlorobenzene	120-82-1	11.63	7.2	98
Naphthalene	91-20-3	-	< 1.0	-
4-Chlorophenol *	106-48-9	-	< 10.0	-
4-Chloroaniline *	106-47-8	-	< 2.5	-
Hexachlorobutadiene	87-68-3	-	< 2.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 2.5	-
2-Methylnaphthalene	91-57-6	-	< 1.0	-
1-Methyl naphthalene *	90-12-0	-	< 1.0	-
Hexachlorocyclopentadiene	77-47-4	-	< 2.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 10.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 10.0	-
2-Chloronaphthalene	91-58-7	-	< 1.0	-
Biphenyl *	92-52-4	15.18	3.4	99
Diphenyl ether *	101-84-8	-	< 1.0	-
2-Nitroaniline	88-74-4	-	< 2.5	-
Acenaphthylene	208-96-8	-	< 1.0	-
Dimethylphthalate	131-11-3	-	< 2.5	-
2,6-Dinitrotoluene	606-20-2	-	< 2.5	-
Acenaphthene	83-32-9	-	< 1.0	-
3-Nitroaniline *	99-09-2	-	< 2.5	-

* These compounds are not currently UKAS accredited.

Concentrations are reported on a wet weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5	-	< 5.0	-
Dibenzofuran	132-64-9	-	< 2.5	-
4-Nitrophenol	100-02-7	-	< 25.0	-
2,4-Dinitrotoluene	121-14-2	-	< 2.5	-
Fluorene	86-73-7	-	< 1.0	-
Diethylphthalate	84-66-2	-	< 2.5	-
4-Chlorophenyl-phenylether	7005-72-4	-	< 2.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 25.0	-
4-Nitroaniline	100-01-6	-	< 2.5	-
N-Nitrosodiphenylamine	86-30-6	-	< 2.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 2.5	-
Hexachlorobenzene	118-74-1	-	< 2.5	-
Pentachlorophenol	87-86-5	-	< 25.0	-
Phenanthrene	85-01-8	-	< 1.0	-
Anthracene	120-12-7	-	< 1.0	-
Di-n-butylphthalate	84-74-2	-	< 2.5	-
Fluoranthene	206-44-0	24.70	1.3	99
Pyrene	129-00-0	-	< 1.0	-
Butylbenzylphthalate	85-68-7	-	< 2.5	-
Benzo[a]anthracene	56-55-3	-	< 1.0	-
Chrysene	218-01-9	29.05	2.0	100
3,3'-Dichlorobenzidine	91-94-1	-	< 10.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 2.5	-
Di-n-octylphthalate	117-84-0	-	< 1.0	-
Benzo[b]fluoranthene	205-99-2	-	< 1.0	-
Benzo[k]fluoranthene	207-08-9	-	< 1.0	-
Benzo[a]pyrene	50-32-8	-	< 1.0	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 1.0	-
Dibenzo[a,h]anthracene	53-70-3	-	< 1.0	-
Benzo[g,h,i]perylene	191-24-2	-	< 1.0	-

* compounds not currently UKAS accredited

Internal Standards	% Area
1,4-Dichlorobenzene-d4	110
Naphthalene-d8	99
Acenaphthene-d10	99
Phenanthrene-d10	99
Chrysene-d12	128
Perylene-d12	113

Surrogates	% Rec
2-Fluorophenol	84
Phenol-d5	81
Nitrobenzene-d5	58
2-Fluorobiphenyl	70
2,4,6-Tribromophenol	75
Terphenyl-d14	85

TES Bretby

Semi-Volatile Organic Compounds

UKAS TESTING 1252

Customer and Site Details:	Exploration Associates : M4 Relief Road		
Sample Details:	CH/0038/0.10m	**Job Number:**	484
LIMS ID Number:	CL03511		
		Multiplier:	0.333
Date Booked in:	11-Feb-00	**Dilution Factor:**	5
Date Extracted:	16-Feb-00	**GPC (Y/N):**	Y
Date Analysed:	18-Feb-00	**Matrix:**	Soil
QC Batch Number:	219	**Method:**	Soxhlet
Directory:	0218ABN.MS4	**Operator:**	CS

Tentatively Identified Compounds	CAS #	R.T.	mg/kg	% Fit
Octachloro-dibenzo[b,e][1,4]dioxin	003268-87-9	37.16	5.9	95

The compounds listed above have been tentatively identified by a computer based library search.
Compounds identified in the sample are not reported if they also occur in the method blank.
The % fit is an indication of the reliability of the compound assignment.
Due to the similarity between mass spectra of some isomeric compounds assignments may not be correct.
Other compounds may also be present but identification was not possible.
Concentrations are semi-quantitative, assume a response factor of 1 and use the nearest internal standard.
Concentrations are reported on a wet weight basis.

TES Bretby

Semi-Volatile Organic Compounds

UKAS TESTING 1252

Customer and Site Details:	Exploration Associates: M4 Relief Road		
Sample Details:	CH/0038/ / 1.30- m	**Date Booked in:**	11-Feb-00
LIMS ID Number:	CL03512	**Date Extracted:**	16-Feb-00
Job Number:	484	**Date Analysed:**	17-Feb-00

Matrix:	Soil	**QC Batch Number:**	219
Ext Method:	Soxhlet	**Multiplier:**	0.0667
Operator:	SW	**Dilution Factor:**	1
Directory/Quant File:	0217ABN.MS2 0217CCC3.D	**GPC (Y/N)**	N

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

* These compounds are not currently UKAS accredited.
Concentrations are reported on a wet weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-4	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	30.86	2.2	95
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

* compounds not currently UKAS accredited

Internal Standards	% Area
1,4-Dichlorobenzene-d4	97
Naphthalene-d8	81
Acenaphthene-d10	98
Phenanthrene-d10	91
Chrysene-d12	85
Perylene-d12	79

Surrogates	% Rec
2-Fluorophenol	77
Phenol-d5	70
Nitrobenzene-d5	73
2-Fluorobiphenyl	74
2,4,6-Tribromophenol	92
Terphenyl-d14	100

TES Bretby

Semi-Volatile Organic Compounds

UKAS TESTING 1252

Customer and Site Details:	Exploration Associates : M4 Relief Road		
Sample Details:	CH/0039/0.00m	**Date Booked in:**	11-Feb-00
LIMS ID Number:	CL03513	**Date Extracted:**	16-Feb-00
Job Number:	484	**Date Analysed:**	18-Feb-00

Matrix:	Soil	**QC Batch Number:**	219
Ext Method:	Soxhlet	**Multiplier:**	0.0667
Operator:	CS	**Dilution Factor:**	1
Directory/Quant File:	0218ABN.MS4 0218CCC1.D	**GPC (Y/N)**	Y

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol *	106-48-9	-	< 2.0	-
4-Chloroaniline *	106-47-8	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methyl naphthalene *	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl *	92-52-4	15.18	0.3	99
Diphenyl ether *	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline *	99-09-2	-	< 0.5	-

* These compounds are not currently UKAS accredited.

Concentrations are reported on a wet weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-4	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	21.18	1.7	99
Anthracene	120-12-7	21.31	0.4	93
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	24.71	2.2	98
Pyrene	129-00-0	25.34	1.5	100
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	28.95	0.7	91
Chrysene	218-01-9	29.07	1.1	97
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	29.71	4.1	99
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	32.01	0.8	93
Benzo[k]fluoranthene	207-08-9	32.07	0.6	93
Benzo[a]pyrene	50-32-8	32.95	0.8	98
Indeno[1,2,3-cd]pyrene	193-39-5	37.41	0.3	99
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	38.35	0.6	99

* compounds not currently UKAS accredited

Internal Standards	% Area
1,4-Dichlorobenzene-d4	97
Naphthalene-d8	85
Acenaphthene-d10	91
Phenanthrene-d10	96
Chrysene-d12	107
Perylene-d12	96

Surrogates	% Rec
2-Fluorophenol	81
Phenol-d5	85
Nitrobenzene-d5	56
2-Fluorobiphenyl	65
2,4,6-Tribromophenol	78
Terphenyl-d14	88

TES Bretby

Semi-Volatile Organic Compounds

UKAS TESTING 1252

Customer and Site Details:	Exploration Associates : M4 Relief Road		
Sample Details:	CH/0039/0.00m	**Job Number:**	484
LIMS ID Number:	CL03513		
		Multiplier:	0.0667
Date Booked in:	11-Feb-00	**Dilution Factor:**	1
Date Extracted:	16-Feb-00	**GPC (Y/N):**	Y
Date Analysed:	18-Feb-00	**Matrix:**	Soil
QC Batch Number:	219	**Method:**	Soxhlet
Directory:	0218ABN.MS4	**Operator:**	CS

Tentatively Identified Compounds	CAS #	R.T.	mg/kg	% Fit
Octachloro-dibenzo[b,e][1,4]dioxin	003268-87-9	37.24	2.0	95

The compounds listed above have been tentatively identified by a computer based library search.
Compounds identified in the sample are not reported if they also occur in the method blank.
The % fit is an indication of the reliability of the compound assignment.
Due to the similarity between mass spectra of some isomeric compounds assignments may not be correct.
Other compounds may also be present but identification was not possible.
Concentrations are semi-quantitative, assume a response factor of 1 and use the nearest internal standard.
Concentrations are reported on a wet weight basis.

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Semi-Volatile Organic Compounds

UKAS TESTING 1252

Customer and Site Details:	Exploration Associates : M4 Relief Road		
Sample Details:	CH/0039/1.00m	**Date Booked in:**	11-Feb-00
LIMS ID Number:	CL03514	**Date Extracted:**	16-Feb-00
Job Number:	484	**Date Analysed:**	18-Feb-00

Matrix:	Soil	**QC Batch Number:**	219
Ext Method:	Soxhlet	**Multiplier:**	0.133
Operator:	CS	**Dilution Factor:**	2
Directory/Quant File:	0218ABN.MS4 0218CCC1.D	**GPC (Y/N)**	Y

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 4.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 1.0	-
2-Chlorophenol	95-57-8	-	< 4.0	-
1,3-Dichlorobenzene	541-73-1	-	< 1.0	-
1,4-Dichlorobenzene	106-46-7	-	< 1.0	-
Benzyl alcohol	100-51-6	-	< 1.0	-
1,2-Dichlorobenzene	95-50-1	-	< 1.0	-
2-Methylphenol	95-48-7	-	< 1.0	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 1.0	-
Hexachloroethane	67-72-1	-	< 1.0	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 1.0	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 4.0	-
Nitrobenzene	98-95-3	-	< 1.0	-
Isophorone	78-59-1	-	< 1.0	-
2-Nitrophenol	88-75-5	-	< 4.0	-
2,4-Dimethylphenol	105-67-9	-	< 4.0	-
Benzoic Acid	65-85-0	-	< 20.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 1.0	-
2,4-Dichlorophenol	120-83-2	-	< 4.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 1.0	-
Naphthalene	91-20-3	-	< 0.4	-
4-Chlorophenol *	106-48-9	-	< 4.0	-
4-Chloroaniline *	106-47-8	-	< 1.0	-
Hexachlorobutadiene	87-68-3	-	< 1.0	-
4-Chloro-3-methylphenol	59-50-7	-	< 1.0	-
2-Methylnaphthalene	91-57-6	-	< 0.4	-
1-Methyl naphthalene *	90-12-0	-	< 0.4	-
Hexachlorocyclopentadiene	77-47-4	-	< 1.0	-
2,4,6-Trichlorophenol	88-06-2	-	< 4.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 4.0	-
2-Chloronaphthalene	91-58-7	-	< 0.4	-
Biphenyl *	92-52-4	15.18	0.6	98
Diphenyl ether *	101-84-8	-	< 0.4	-
2-Nitroaniline	88-74-4	-	< 1.0	-
Acenaphthylene	208-96-8	-	< 0.4	-
Dimethylphthalate	131-11-3	-	< 1.0	-
2,6-Dinitrotoluene	606-20-2	-	< 1.0	-
Acenaphthene	83-32-9	-	< 0.4	-
3-Nitroaniline *	99-09-2	-	< 1.0	-

* These compounds are not currently UKAS accredited.
Concentrations are reported on a wet weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5	-	< 2.0	-
Dibenzofuran	132-64-9	-	< 1.0	-
4-Nitrophenol	100-02-7	-	< 10.0	-
2,4-Dinitrotoluene	121-14-2	-	< 1.0	-
Fluorene	86-73-7	-	< 0.4	-
Diethylphthalate	84-66-2	-	< 1.0	-
4-Chlorophenyl-phenylether	7005-72-4	-	< 1.0	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 10.0	-
4-Nitroaniline	100-01-6	-	< 1.0	-
N-Nitrosodiphenylamine	86-30-6	-	< 1.0	-
4-Bromophenyl-phenylether	101-55-3	-	< 1.0	-
Hexachlorobenzene	118-74-1	-	< 1.0	-
Pentachlorophenol	87-86-5	-	< 10.0	-
Phenanthrene	85-01-8	21.18	0.4	99
Anthracene	120-12-7	-	< 0.4	-
Di-n-butylphthalate	84-74-2	-	< 1.0	-
Fluoranthene	206-44-0	24.70	0.8	98
Pyrene	129-00-0	25.34	0.6	99
Butylbenzylphthalate	85-68-7	-	< 1.0	-
Benzo[a]anthracene	56-55-3	-	< 0.4	-
Chrysene	218-01-9	29.05	1.9	99
3,3'-Dichlorobenzidine	91-94-1	-	< 4.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	29.70	6.9	99
Di-n-octylphthalate	117-84-0	-	< 0.4	-
Benzo[b]fluoranthene	205-99-2	32.00	0.5	97
Benzo[k]fluoranthene	207-08-9	32.06	0.4	97
Benzo[a]pyrene	50-32-8	32.94	0.6	94
Indeno[1,2,3-cd]pyrene	193-39-5	37.36	0.5	97
Dibenzo[a,h]anthracene	53-70-3	-	< 0.4	-
Benzo[g,h,i]perylene	191-24-2	38.31	0.4	98

* compounds not currently UKAS accredited

Internal Standards	% Area
1,4-Dichlorobenzene-d4	89
Naphthalene-d8	76
Acenaphthene-d10	83
Phenanthrene-d10	85
Chrysene-d12	109
Perylene-d12	95

Surrogates	% Rec
2-Fluorophenol	66
Phenol-d5	65
Nitrobenzene-d5	47
2-Fluorobiphenyl	60
2,4,6-Tribromophenol	78
Terphenyl-d14	82

TES Bretby

Semi-Volatile Organic Compounds

UKAS TESTING 1252

Customer and Site Details:	Exploration Associates: M4 Relief Road		
Sample Details:	CH/0040/ / 0.00- m	**Date Booked in:**	11-Feb-00
LIMS ID Number:	CL03515	**Date Extracted:**	16-Feb-00
Job Number:	484	**Date Analysed:**	17-Feb-00

Matrix:	Soil	**QC Batch Number:**	219
Ext Method:	Soxhlet	**Multiplier:**	0.0667
Operator:	SW	**Dilution Factor:**	1
Directory/Quant File:	0217ABN.MS2 0217CCC3.D	**GPC (Y/N)**	N

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

* These compounds are not currently UKAS accredited.
Concentrations are reported on a wet weight basis.

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

* compounds not currently UKAS accredited

Internal Standards	% Area
1,4-Dichlorobenzene-d4	103
Naphthalene-d8	86
Acenaphthene-d10	105
Phenanthrene-d10	95
Chrysene-d12	102
Perylene-d12	99

Surrogates	% Rec
2-Fluorophenol	85
Phenol-d5	78
Nitrobenzene-d5	83
2-Fluorobiphenyl	82
2,4,6-Tribromophenol	98
Terphenyl-d14	93

TES Bretby

Semi-Volatile Organic Compounds

UKAS TESTING 1252

Customer and Site Details:	Exploration Associates : M4 Relief Road		
Sample Details:	CH/0040/0.50m	**Date Booked in:**	11-Feb-00
LIMS ID Number:	CL03516	**Date Extracted:**	16-Feb-00
Job Number:	484	**Date Analysed:**	18-Feb-00

Matrix:	Soil		**QC Batch Number:**	219	
Ext Method:	Soxhlet		**Multiplier:**	0.333	
Operator:	CS		**Dilution Factor:**	5	
Directory/Quant File:	0218ABN.MS4	0218CCC1.D	**GPC (Y/N)**	Y	

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 10.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 2.5	-
2-Chlorophenol	95-57-8	-	< 10.0	-
1,3-Dichlorobenzene	541-73-1	-	< 2.5	-
1,4-Dichlorobenzene	106-46-7	-	< 2.5	-
Benzyl alcohol	100-51-6	-	< 2.5	-
1,2-Dichlorobenzene	95-50-1	-	< 2.5	-
2-Methylphenol	95-48-7	-	< 2.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 2.5	-
Hexachloroethane	67-72-1	-	< 2.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 2.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 10.0	-
Nitrobenzene	98-95-3	-	< 2.5	-
Isophorone	78-59-1	-	< 2.5	-
2-Nitrophenol	88-75-5	-	< 10.0	-
2,4-Dimethylphenol	105-67-9	-	< 10.0	-
Benzoic Acid	65-85-0	-	< 50.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 2.5	-
2,4-Dichlorophenol	120-83-2	-	< 10.0	-
1,2,4-Trichlorobenzene	120-82-1	11.63	2.6	99
Naphthalene	91-20-3	-	< 1.0	-
4-Chlorophenol *	106-48-9	-	< 10.0	-
4-Chloroaniline *	106-47-8	-	< 2.5	-
Hexachlorobutadiene	87-68-3	-	< 2.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 2.5	-
2-Methylnaphthalene	91-57-6	-	< 1.0	-
1-Methyl naphthalene *	90-12-0	-	< 1.0	-
Hexachlorocyclopentadiene	77-47-4	-	< 2.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 10.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 10.0	-
2-Chloronaphthalene	91-58-7	-	< 1.0	-
Biphenyl *	92-52-4	-	< 1.0	-
Diphenyl ether *	101-84-8	-	< 1.0	-
2-Nitroaniline	88-74-4	-	< 2.5	-
Acenaphthylene	208-96-8	-	< 1.0	-
Dimethylphthalate	131-11-3	-	< 2.5	-
2,6-Dinitrotoluene	606-20-2	-	< 2.5	-
Acenaphthene	83-32-9	-	< 1.0	-
3-Nitroaniline *	99-09-2	-	< 2.5	-

* These compounds are not currently UKAS accredited.
Concentrations are reported on a wet weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5	-	< 5.0	-
Dibenzofuran	132-64-9	-	< 2.5	-
4-Nitrophenol	100-02-7	-	< 25.0	-
2,4-Dinitrotoluene	121-14-2	-	< 2.5	-
Fluorene	86-73-7	-	< 1.0	-
Diethylphthalate	84-66-2	-	< 2.5	-
4-Chlorophenyl-phenylether	7005-72-4	-	< 2.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 25.0	-
4-Nitroaniline	100-01-6	-	< 2.5	-
N-Nitrosodiphenylamine	86-30-6	-	< 2.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 2.5	-
Hexachlorobenzene	118-74-1	-	< 2.5	-
Pentachlorophenol	87-86-5	-	< 25.0	-
Phenanthrene	85-01-8	-	< 1.0	-
Anthracene	120-12-7	-	< 1.0	-
Di-n-butylphthalate	84-74-2	-	< 2.5	-
Fluoranthene	206-44-0	-	< 1.0	-
Pyrene	129-00-0	-	< 1.0	-
Butylbenzylphthalate	85-68-7	-	< 2.5	-
Benzo[a]anthracene	56-55-3	-	< 1.0	-
Chrysene	218-01-9	-	< 1.0	-
3,3'-Dichlorobenzidine	91-94-1	-	< 10.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	29.69	3.5	100
Di-n-octylphthalate	117-84-0	-	< 1.0	-
Benzo[b]fluoranthene	205-99-2	-	< 1.0	-
Benzo[k]fluoranthene	207-08-9	-	< 1.0	-
Benzo[a]pyrene	50-32-8	-	< 1.0	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 1.0	-
Dibenzo[a,h]anthracene	53-70-3	-	< 1.0	-
Benzo[g,h,i]perylene	191-24-2	-	< 1.0	-

* compounds not currently UKAS accredited

Internal Standards	% Area
1,4-Dichlorobenzene-d4	119
Naphthalene-d8	107
Acenaphthene-d10	117
Phenanthrene-d10	117
Chrysene-d12	141
Perylene-d12	115

Surrogates	% Rec
2-Fluorophenol	89
Phenol-d5	88
Nitrobenzene-d5	65
2-Fluorobiphenyl	74
2,4,6-Tribromophenol	75
Terphenyl-d14	93

TES Bretby

Semi-Volatile Organic Compounds

UKAS TESTING 1252

Customer and Site Details:	Exploration Associates: M4 Relief Road		
Sample Details:	CH/0041/ / 0.05- m	**Date Booked in:**	11-Feb-00
LIMS ID Number:	CL03517	**Date Extracted:**	16-Feb-00
Job Number:	484	**Date Analysed:**	22-Feb-00

Matrix:	Soil	**QC Batch Number:**	219
Ext Method:	Soxhlet	**Multiplier:**	0.0667
Operator:	SW	**Dilution Factor:**	1
Directory/Quant File:	0222ABN.MS5 0222CCC1.D	**GPC (Y/N)**	N

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

* These compounds are not currently UKAS accredited.

Concentrations are reported on a wet weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-4	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	29.51	1.6	98
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

* compounds not currently UKAS accredited

Internal Standards	% Area
1,4-Dichlorobenzene-d4	103
Naphthalene-d8	101
Acenaphthene-d10	113
Phenanthrene-d10	113
Chrysene-d12	123
Perylene-d12	123

Surrogates	% Rec
2-Fluorophenol	100
Phenol-d5	107
Nitrobenzene-d5	94
2-Fluorobiphenyl	86
2,4,6-Tribromophenol	111
Terphenyl-d14	93

TES Bretby

Semi-Volatile Organic Compounds

UKAS TESTING 1252

Customer and Site Details:	Exploration Associates : M4 Relief Road		
Sample Details:	CH/0041/1.40m	**Date Booked in:**	11-Feb-00
LIMS ID Number:	CL03518	**Date Extracted:**	16-Feb-00
Job Number:	484	**Date Analysed:**	18-Feb-00

Matrix:	Soil	**QC Batch Number:**	219
Ext Method:	Soxhlet	**Multiplier:**	1.667
Operator:	CS	**Dilution Factor:**	25
Directory/Quant File:	0218ABN.MS4 0218CCC1.D	**GPC (Y/N)**	Y

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 50.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 12.5	-
2-Chlorophenol	95-57-8	-	< 50.0	-
1,3-Dichlorobenzene	541-73-1	-	< 12.5	-
1,4-Dichlorobenzene	106-46-7	-	< 12.5	-
Benzyl alcohol	100-51-6	-	< 12.5	-
1,2-Dichlorobenzene	95-50-1	-	< 12.5	-
2-Methylphenol	95-48-7	-	< 12.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 12.5	-
Hexachloroethane	67-72-1	-	< 12.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 12.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 50.0	-
Nitrobenzene	98-95-3	-	< 12.5	-
Isophorone	78-59-1	-	< 12.5	-
2-Nitrophenol	88-75-5	-	< 50.0	-
2,4-Dimethylphenol	105-67-9	-	< 50.0	-
Benzoic Acid	65-85-0	-	< 250	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 12.5	-
2,4-Dichlorophenol	120-83-2	-	< 50.0	-
1,2,4-Trichlorobenzene	120-82-1	11.63	14.9	98
Naphthalene	91-20-3	-	< 5.0	-
4-Chlorophenol *	106-48-9	-	< 50.0	-
4-Chloroaniline	106-47-8	-	< 12.5	-
Hexachlorobutadiene	87-68-3	-	< 12.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 12.5	-
2-Methylnaphthalene	91-57-6	-	< 5.0	-
1-Methyl naphthalene *	90-12-0	-	< 5.0	-
Hexachlorocyclopentadiene	77-47-4	-	< 12.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 50.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 50.0	-
2-Chloronaphthalene	91-58-7	-	< 5.0	-
Biphenyl *	92-52-4	-	< 5.0	-
Diphenyl ether *	101-84-8	-	< 5.0	-
2-Nitroaniline	88-74-4	-	< 12.5	-
Acenaphthylene	208-96-8	-	< 5.0	-
Dimethylphthalate	131-11-3	-	< 12.5	-
2,6-Dinitrotoluene	606-20-2	-	< 12.5	-
Acenaphthene	83-32-9	-	< 5.0	-
3-Nitroaniline	99-09-2	-	< 12.5	-

* These compounds are not currently UKAS accredited.

Concentrations are reported on a wet weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5	-	< 25.0	-
Dibenzofuran	132-64-9	-	< 12.5	-
4-Nitrophenol	100-02-7	-	< 125	-
2,4-Dinitrotoluene	121-14-2	-	< 12.5	-
Fluorene	86-73-7	-	< 5.0	-
Diethylphthalate	84-66-2	-	< 12.5	-
4-Chlorophenyl-phenylether	7005-72-4	-	< 12.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 125	-
4-Nitroaniline	100-01-6	-	< 12.5	-
N-Nitrosodiphenylamine	86-30-6	-	< 12.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 12.5	-
Hexachlorobenzene	118-74-1	-	< 12.5	-
Pentachlorophenol	87-86-5	-	< 125	-
Phenanthrene	85-01-8	-	< 5.0	-
Anthracene	120-12-7	-	< 5.0	-
Di-n-butylphthalate	84-74-2	-	< 12.5	-
Fluoranthene	206-44-0	-	< 5.0	-
Pyrene	129-00-0	-	< 5.0	-
Butylbenzylphthalate	85-68-7	-	< 12.5	-
Benzo[a]anthracene	56-55-3	-	< 5.0	-
Chrysene	218-01-9	-	< 5.0	-
3,3'-Dichlorobenzidine	91-94-1	-	< 50.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 12.5	-
Di-n-octylphthalate	117-84-0	-	< 5.0	-
Benzo[b]fluoranthene	205-99-2	-	< 5.0	-
Benzo[k]fluoranthene	207-08-9	-	< 5.0	-
Benzo[a]pyrene	50-32-8	-	< 5.0	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 5.0	-
Dibenzo[a,h]anthracene	53-70-3	-	< 5.0	-
Benzo[g,h,i]perylene	191-24-2	-	< 5.0	-

* compounds not currently UKAS accredited

Internal Standards	% Area
1,4-Dichlorobenzene-d4	115
Naphthalene-d8	102
Acenaphthene-d10	105
Phenanthrene-d10	111
Chrysene-d12	125
Perylene-d12	103

Surrogates	% Rec
2-Fluorophenol	93
Phenol-d5	83
Nitrobenzene-d5	64
2-Fluorobiphenyl	69
2,4,6-Tribromophenol	54
Terphenyl-d14	79

TES Bretby

Semi-Volatile Organic Compounds

UKAS TESTING 1252

Customer and Site Details:	Exploration Associates : M4 Relief Road		
Sample Details:	CH/0042/0.20m	**Date Booked in:**	11-Feb-00
LIMS ID Number:	CL03519	**Date Extracted:**	16-Feb-00
Job Number:	484	**Date Analysed:**	18-Feb-00

Matrix:	Soil	**QC Batch Number:**	219
Ext Method:	Soxhlet	**Multiplier:**	0.0667
Operator:	CS	**Dilution Factor:**	1
Directory/Quant File:	0218ABN.MS4 0218CCC1.D	**GPC (Y/N)**	Y

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol *	106-48-9	-	< 2.0	-
4-Chloroaniline *	106-47-8	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methyl naphthalene *	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl *	92-52-4	15.18	0.2	99
Diphenyl ether *	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline *	99-09-2	-	< 0.5	-

* These compounds are not currently UKAS accredited.
Concentrations are reported on a wet weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-4	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	21.18	0.3	100
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	24.71	0.8	97
Pyrene	129-00-0	25.33	0.7	99
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	28.95	0.3	96
Chrysene	218-01-9	29.06	0.8	97
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	29.70	1.8	99
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	32.01	0.6	97
Benzo[k]fluoranthene	207-08-9	32.06	0.5	97
Benzo[a]pyrene	50-32-8	32.96	0.6	98
Indeno[1,2,3-cd]pyrene	193-39-5	37.38	0.5	97
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	38.32	0.4	100

* compounds not currently UKAS accredited

Internal Standards	% Area
1,4-Dichlorobenzene-d4	98
Naphthalene-d8	83
Acenaphthene-d10	94
Phenanthrene-d10	98
Chrysene-d12	116
Perylene-d12	88

Surrogates	% Rec
2-Fluorophenol	67
Phenol-d5	69
Nitrobenzene-d5	50
2-Fluorobiphenyl	58
2,4,6-Tribromophenol	72
Terphenyl-d14	80

TES Bretby

Semi-Volatile Organic Compounds

UKAS TESTING 1252

Customer and Site Details:	Exploration Associates : M4 Relief Road		
Sample Details:	CH/0042/1.20m	**Date Booked in:**	11-Feb-00
LIMS ID Number:	CL03520	**Date Extracted:**	16-Feb-00
Job Number:	484	**Date Analysed:**	18-Feb-00

Matrix:	Soil	**QC Batch Number:**	219
Ext Method:	Soxhlet	**Multiplier:**	0.0667
Operator:	CS	**Dilution Factor:**	1
Directory/Quant File:	0218ABN.MS4 0218CCC2.D	**GPC (Y/N)**	Y

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol *	106-48-9	-	< 2.0	-
4-Chloroaniline *	106-47-8	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methyl naphthalene *	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl *	92-52-4	15.18	0.6	99
Diphenyl ether *	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline *	99-09-2	-	< 0.5	-

* These compounds are not currently UKAS accredited.

Concentrations are reported on a wet weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-4	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	29.08	1.6	98
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	29.71	0.9	100
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	32.02	0.2	90
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	32.97	0.2	94
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

* compounds not currently UKAS accredited

Internal Standards	% Area
1,4-Dichlorobenzene-d4	90
Naphthalene-d8	80
Acenaphthene-d10	86
Phenanthrene-d10	85
Chrysene-d12	98
Perylene-d12	82

Surrogates	% Rec
2-Fluorophenol	66
Phenol-d5	51
Nitrobenzene-d5	49
2-Fluorobiphenyl	59
2,4,6-Tribromophenol	72
Terphenyl-d14	52

TES Bretby

Volatile Organic Compounds by PTGCMS

UKAS TESTING 1252

Customer and Site Details:	Exploration Associates : M4 Relief Road	**Directory/Quant file:**	0215VOC.MS1\ 0215CCC4.D	**Matrix:**	Soil
Sample Details:	CH/0035/ / 0.00-	**Date Booked in:**	11-Feb-00	**Method:**	Purge and Trap
LIMS ID Number:	CL03504	**Date Analysed:**	15-Feb-00	**Dilution:**	5
Report Number:	484	**Operator:**	AB	**Position:**	9

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4	-	< 5	-
Bromomethane	74-83-9	-	< 5	-
Chloroethane	75-00-3	-	< 5	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 7	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 5	-
1,3-Dichloropropane	142-28-29	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Concentrations are reported on a wet weight basis

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

Concentrations are reported on a wet weight basis

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	12.24	111	Dibromofluoromethane	89
1,4-Difluorobenzene	13.39	102	Toluene-d8	102
Chlorobenzene-d5	17.69	97	Bromofluorobenzene	97
1,4-Dichlorobenzene-d4	21.15	93		

TES Bretby

Volatile Organic Compounds by PTGCMS

UKAS TESTING 1252

Customer and Site Details:	Exploration Associates : M4 Relief Road	**Directory/Quant file:**	0215VOC.MS1\ 0215CCC4.D	**Matrix:**	Soil
Sample Details:	CH/0035/ / 0.50-	**Date Booked in:**	11-Feb-00	**Method:**	Purge and Trap
LIMS ID Number:	CL03505	**Date Analysed:**	15-Feb-00	**Dilution:**	5
Report Number:	484	**Operator:**	AB	**Position:**	10

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4	-	< 5	-
Bromomethane	74-83-9	-	< 5	-
Chloroethane	75-00-3	-	< 5	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	12.91	168	95
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5	-	< 5	-
Toluene	108-88-3	15.66	23	98
trans 1,3-Dichloropropene	10061-02-6	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 5	-
1,3-Dichloropropane	142-28-29	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	17.74	56	91
Ethylbenzene	100-41-4	17.82	571	97
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	17.98	2,390	79
o-Xylene	95-47-6	18.6	496	92

Concentrations are reported on a wet weight basis

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8	-	< 5	-
1,3,5-Trimethylbenzene	108-67-8	-	< 5	-
4-Chlorotoluene	106-43-4	-	< 5	-
tert-Butylbenzene	98-06-6	-	< 5	-
1,2,4-Trimethylbenzene	95-63-6	-	< 5	-
sec-Butylbenzene	135-98-8	-	< 5	-
p-Isopropyltoluene	99-87-6	-	< 5	-
1,3-Dichlorobenzene	541-73-1	21.08	39	95
1,4-Dichlorobenzene	106-46-7	21.20	594	97
n-Butylbenzene	104-51-8	-	< 5	-
1,2-Dichlorobenzene	95-50-1	21.79	174	96
1,2-Dibromo-3-chloropropane	96-12-8	-	< 25	-
1,2,4-Trichlorobenzene	120-82-1	24.31	64	99
Hexachlorobutadiene	87-68-3	-	< 25	-
Naphthalene	91-20-3	-	< 25	-
1,2,3-Trichlorobenzene	87-61-6	-	< 25	-

Concentrations are reported on a wet weight basis

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	12.25	101	Dibromofluoromethane	91
1,4-Difluorobenzene	13.39	99	Toluene-d8	100
Chlorobenzene-d5	17.70	89	Bromofluorobenzene	88
1,4-Dichlorobenzene-d4	21.16	67		

TES Bretby

Volatile Organic Compounds by PTGCMS

UKAS TESTING
1252

Customer and Site Details:	Exploration Associates : M4 Relief Road	**Directory/Quant file:**	0215VOC.MS1\ 0215CCC4.D	**Matrix:**	Soil
Sample Details:	CH/0035/ / 0.80-	**Date Booked in:**	11-Feb-00	**Method:**	Purge and Trap
LIMS ID Number:	CL03506	**Date Analysed:**	15-Feb-00	**Dilution:**	5
Report Number:	484	**Operator:**	AB	**Position:**	11

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4	-	< 5	-
Bromomethane	74-83-9	-	< 5	-
Chloroethane	75-00-3	-	< 5	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	12.92	96	95
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5	-	< 5	-
Toluene	108-88-3	15.66	10	96
trans 1,3-Dichloropropene	10061-02-6	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 5	-
1,3-Dichloropropane	142-28-29	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	17.75	17	79
Ethylbenzene	100-41-4	17.83	244	96
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	17.98	968	93
o-Xylene	95-47-6	18.6	213	90

Concentrations are reported on a wet weight basis

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8	-	< 5	-
1,3,5-Trimethylbenzene	108-67-8	-	< 5	-
4-Chlorotoluene	106-43-4	-	< 5	-
tert-Butylbenzene	98-06-6	-	< 5	-
1,2,4-Trimethylbenzene	95-63-6	-	< 5	-
sec-Butylbenzene	135-98-8	-	< 5	-
p-Isopropyltoluene	99-87-6	-	< 5	-
1,3-Dichlorobenzene	541-73-1	21.07	6	94
1,4-Dichlorobenzene	106-46-7	21.20	165	92
n-Butylbenzene	104-51-8	-	< 5	-
1,2-Dichlorobenzene	95-50-1	21.80	36	94
1,2-Dibromo-3-chloropropane	96-12-8	-	< 25	-
1,2,4-Trichlorobenzene	120-82-1	24.32	25	96
Hexachlorobutadiene	87-68-3	-	< 25	-
Naphthalene	91-20-3	-	< 25	-
1,2,3-Trichlorobenzene	87-61-6	-	< 25	-

Concentrations are reported on a wet weight basis

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	12.24	79	Dibromofluoromethane	102
1,4-Difluorobenzene	13.40	79	Toluene-d8	101
Chlorobenzene-d5	17.69	76	Bromofluorobenzene	100
1,4-Dichlorobenzene-d4	21.17	67		

TES Bretby

Volatile Organic Compounds by PTGCMS

Customer and Site Details: Exploration Associates : M4 Relief Road
Sample Details: CH/0041/ / 1.40-
LIMS ID Number: CL03518
Report Number: 484

Directory/Quant file: 0215VOC.MS1\ 0215CCC4.D
Date Booked in: 11/2/020
Date Analysed: 15-Feb-00
Operator: AB

Matrix: Soil
Method: Purge and Trap
Dilution: 5
Position: 12

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4	-	< 5	-
Bromomethane	74-83-9	-	< 5	-
Chloroethane	75-00-3	-	< 5	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 5	-
1,3-Dichloropropane	142-28-29	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	17.82	9	92
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	17.98	12	86
o-Xylene	95-47-6	-	< 5	-

Concentrations are reported on a wet weight basis

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	18.61	20	93
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8	-	< 5	-
1,3,5-Trimethylbenzene	108-67-8	-	< 5	-
4-Chlorotoluene	106-43-4	-	< 5	-
tert-Butylbenzene	98-06-6	-	< 5	-
1,2,4-Trimethylbenzene	95-63-6	-	< 5	-
sec-Butylbenzene	135-98-8	-	< 5	-
p-Isopropyltoluene	99-87-6	-	< 5	-
1,3-Dichlorobenzene	541-73-1	21.07	6	76
1,4-Dichlorobenzene	106-46-7	21.20	46	76
n-Butylbenzene	104-51-8	-	< 5	-
1,2-Dichlorobenzene	95-50-1	21.79	5	82
1,2-Dibromo-3-chloropropane	96-12-8	-	< 25	-
1,2,4-Trichlorobenzene	120-82-1	24.32	72	96
Hexachlorobutadiene	87-68-3	-	< 25	-
Naphthalene	91-20-3	-	< 25	-
1,2,3-Trichlorobenzene	87-61-6	-	< 25	-

Concentrations are reported on a wet weight basis

Internal standards	R.T.	Area %
Pentafluorobenzene	12.24	60
1,4-Difluorobenzene	13.40	61
Chlorobenzene-d5	17.70	54
1,4-Dichlorobenzene-d4	21.16	39

Surrogates	% Rec
Dibromofluoromethane	114
Toluene-d8	96
Bromofluorobenzene	101

TES Bretby

Volatile Organic Compounds by PTGCMS

UKAS TESTING 1252

Customer and Site Details: Exploration Associates: M4 Relief Road
Sample Details: CH/0042/ / 0.20-
LIMS ID Number: CL03519
Report Number: 484

Directory/Quant file: 0217VOC.MS1\ 0217CCC1.D
Date Booked in: 11-Feb-00
Date Analysed: 17-Feb-00
Operator: at

Matrix: Soil
Method: Purge and Trap
Dilution: 5
Position: 9

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4	-	< 5	-
Bromomethane	74-83-9	-	< 5	-
Chloroethane	75-00-3	-	< 5	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 5	-
1,3-Dichloropropane	142-28-29	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Concentrations are reported on a wet weight basis

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

Concentrations are reported on a wet weight basis

Internal standards	R.T.	Area %
Pentafluorobenzene	12.18	69
1,4-Difluorobenzene	13.34	71
Chlorobenzene-d5	17.65	79
1,4-Dichlorobenzene-d4	21.12	77

Surrogates	% Rec
Dibromofluoromethane	129
Toluene-d8	103
Bromofluorobenzene	113

TEST REPORT
SOIL SAMPLE ANALYSIS

UKAS TESTING
1252
1411

TES Report No. CL/000542

Site: M4 Relief Road

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
Mid Glamorgan
CF31 1JZ

The 29 samples described in this report were scheduled for analysis by TES Bretby on Wednesday, 16 February 2000. The analysis was completed by Thursday, 2 March 2000.

Tests marked as 'not UKAS accredited' and any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by TES Bretby laboratories.

The following tables are contained in this report:

Table 1 Sample Descriptions
Table 2 Main Analysis Results
Table of Volatile Organic Compounds (1 Page)

On behalf of
TES Bretby : J. Hannah
J Hannah Project Co-ordinator

Date of Issue: 02/03/00

Tests marked 'not UKAS accredited' in this report are not included in the UKAS Accreditation Schedule for our laboratory.

TES Bretby accepts no responsibility for the sampling related to the above results

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TEST REPORT
SOIL SAMPLE ANALYSIS

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1411

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
Mid Glamorgan
CF31 1JZ

TES Report No. 000542

Site: M4 Relief Road

Page No	Assessed Area	ID No. EFS/CL	Sample	Depth (m) from	to	Description
1	M4 Relief Road	0003912	CH/ 8/	1.00		CH8 1.0
1	M4 Relief Road	0003913	CH/ 9/	0.00		CH9 0.0
1	M4 Relief Road	0003914	CH/ 9/	1.50		CH9 1.5
1	M4 Relief Road	0003915	CH/ 10/	0.40		CH10 0.4
2	M4 Relief Road	0003916	CH/ 10/	1.40		CH10 1.4
2	M4 Relief Road	0003917	CH/ 11/	0.35		CH11 0.35
2	M4 Relief Road	0003918	CH/ 11/	1.65		CH11 1.65
2	M4 Relief Road	0003919	CH/ 12/	0.17		CH12 0.17
3	M4 Relief Road	0003920	CH/ 12/	0.67		CH12 0.67
3	M4 Relief Road	0003921	CH/ 13/	0.00		CH13 0.0
3	M4 Relief Road	0003922	CH/ 13/	0.77		CH13 0.77
3	M4 Relief Road	0003923	CH/ 14/	0.16		CH14 0.16
4	M4 Relief Road	0003924	CH/ 15/	0.30		CH15 0.3
4	M4 Relief Road	0003925	CH/ 15/A	0.17		CH15A 0.17
4	M4 Relief Road	0003926	CH/ 16/	0.20		CH16 0.2
4	M4 Relief Road	0003927	CH/ 16/	1.90		CH16 1.9
5	M4 Relief Road	0003928	CH/ 17/	0.60		CH17 0.6
5	M4 Relief Road	0003929	CH/ 17/	1.30		CH17 1.3
5	M4 Relief Road	0003930	CH/ 17/	1.90		CH17 1.9
5	M4 Relief Road	0003931	CH/ 18/	0.20		CH18 0.2

Date of Issue: 02/03/00

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TES Bretby accepts no responsibility for the sampling related to the above results

TES Bretby
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TEST REPORT
SOIL SAMPLE ANALYSIS

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Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
Mid Glamorgan
CF31 1JZ

TES Report No. 000542

Site: M4 Relief Road

Page No	Assessed Area	ID No. EFS/CL	Sample	Depth (m) from	to	Description
6	M4 Relief Road	0003932	CH/ 18/	1.60		CH18 1.6
6	M4 Relief Road	0003933	CH/ 18/	4.00		CH18 4.0
6	M4 Relief Road	0003934	CH/ 19/	0.20		CH19 0.2
6	M4 Relief Road	0003935	CH/ 19/	2.00		CH19 2.0
7	M4 Relief Road	0003936	CH/ 19/A	0.30		CH19A 0.3
7	M4 Relief Road	0003937	CH/ 19/A	1.00		CH19A 1.0
7	M4 Relief Road	0003938	CH/ 24/	0.00		CH24 0.0
7	M4 Relief Road	0003939	CH/ 24/	0.75		CH24 0.75
8	M4 Relief Road	0003940	CH/ 25/	0.00		CH25 0.0

Date of Issue: 02/03/00

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Table 1
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TEST REPORT
SOIL SAMPLE ANALYSIS

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Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
Mid Glamorgan
CF31 1JZ

TES Report No. 000542

Site: M4 Relief Road

Customer reference		CH 8	CH 9	CH 9	CH 10
Depth (m)		1.00	0.00	1.50	0.40
Date logged		16/02/00	16/02/00	16/02/00	16/02/00
TES Bretby ID Number		CL/0003912	CL/0003913	CL/0003914	CL/0003915
UKAS accredited	Test No.	CL/0003912	CL/0003913	CL/0003914	CL/0003915
Chromium (total)	ICPSSS11	45	40	41	27
CN- (total)	ICTSCN28	<1	<1	<1	1
Copper	ICPSSS11	12	20	19	181
Cyanide (Free)	BGCN22		<1	<1	<1
Lead	ICPSSS11	51	245	52	421
Nickel	ICPSSS11	38	19	34	31
Oil FTIR	FTIRSW		2230	184	547
PAH (screening)	PAHSCUV	<10	372	12	87
pH units	WSLM3	7.9	9.5	8.0	9.9
Phenol Index	WSLM4	<0.5	2.8	<0.5	<0.5
SO4-- (acid sol)	ICPACS58	283	6190	1070	2830
Sulphide	ICTSCN28		16	<1	502
TPH FTIR (AR)	FTIRSW		783	<20	136
Zinc	ICPSSS11	112	149	100	1040
not UKAS accredited		CL/0003912	CL/0003913	CL/0003914	CL/0003915
Arsenic (Ms)		13.00	8.70	13.00	21
Boron.		1.3	1.1	1.3	3.2
Cadmium (Ms)		0.11	0.38	0.13	11.20
Mercury (Ms)		0.04	0.14	0.02	3.77
Selenium (MS)			0.98	0.61	1.07

Results expressed as mg/kg Air Dried unless stated otherwise
SO4 Analysis not conducted in accordance with BS1377
AR denotes analysis conducted on As Received Sample

Date of Issue: 02/03/00

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TES Bretby accepts no responsibility for the sampling related to the above results

TEST REPORT
SOIL SAMPLE ANALYSIS

1252
1411

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
Mid Glamorgan
CF31 1JZ

TES Report No. 000542

Site: M4 Relief Road

Customer reference		CH 10	CH 11	CH 11	CH 12
Depth (m)		1.40	0.35	1.65	0.17
Date logged		16/02/00	16/02/00	16/02/00	16/02/00
TES Bretby ID Number		CL/0003916	CL/0003917	CL/0003918	CL/0003919
UKAS accredited	Test No.				
Chromium (total)	ICPSSS11	25	42	160	30
CN- (total)	ICTSCN28	<1	4	2	<1
Copper	ICPSSS11	34	64	402	169
Cyanide (Free)	BGCN22	<1	<1	<1	<1
Lead	ICPSSS11	90	120	390	304
Nickel	ICPSSS11	24	47	183	34
Oil FTIR	FTIRSW	1410	23800	116000	932
PAH (screening)	PAHSCUV	108	233	1620	170
pH units	WSLM3	8.4	10.1	9.7	8.8
Phenol Index	WSLM4	<0.5	<0.5	1.3	<0.5
SO4-- (acid sol)	ICPACS58	1310	2640	7650	1900
Sulphide	ICTSCN28	50	<1	58	114
TPH FTIR (AR)	FTIRSW	63	75	46300	405
Zinc	ICPSSS11	144	398	3230	170
not UKAS accredited		CL/0003916	CL/0003917	CL/0003918	CL/0003919
Arsenic (Ms)		10.00	11.00	86	40
Boron.		1.7	1.3	<0.5	1.8
Cadmium (Ms)		0.82	0.28	0.31	0.30
Mercury (Ms)		0.42	0.16	0.16	0.41
Selenium (MS)		0.64	0.61	0.76	1.07

Results expressed as mg/kg Air Dried unless stated otherwise
SO4 Analysis not conducted in accordance with BS1377
AR denotes analysis conducted on As Received Sample

Date of Issue: 02/03/00

Tests marked 'not UKAS accredited' in this report are not included in the UKAS Accreditation Schedule for our laboratory.

TES Bretby accepts no responsibility for the sampling related to the above results

TEST REPORT
SOIL SAMPLE ANALYSIS

1252
1411

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
Mid Glamorgan
CF31 1JZ

TES Report No. 000542

Site: M4 Relief Road

Customer reference		CH	CH	CH	CH
Depth (m)		12 0.67	13 0.00	13 0.77	14 0.16
Date logged		16/02/00	16/02/00	16/02/00	16/02/00
TES Bretby ID Number		CL/0003920	CL/0003921	CL/0003922	CL/0003923
UKAS accredited	Test No.				
Chromium (total)	ICPSSS11	31	13	20	25
CN- (total)	ICTSCN28	<1	<1	<1	<1
Copper	ICPSSS11	100	42	18	141
Cyanide (Free)	BGCN22	<1	<1	<1	<1
Lead	ICPSSS11	118	154	69	173
Nickel	ICPSSS11	34	14	20	43
Oil FTIR	FTIRSW	809	247	1160	2260
PAH (screening)	PAHSCUV	177	143	332	111
pH units	WSLM3	7.9	8.5	8.7	8.8
Phenol Index	WSLM4	<0.5	<0.5	<0.5	<0.5
SO4-- (acid sol)	ICPACS58	1150	1410	2200	906
Sulphide	ICTSCN28	27	21	30	54
TPH FTIR (AR)	FTIRSW	303	220	113	169
Zinc	ICPSSS11	131	912	94	258

not UKAS accredited		CL/0003920	CL/0003921	CL/0003922	CL/0003923
Arsenic (Ms)		27	36	12.00	21
Boron.		0.8	<0.5	1.1	1.6
Cadmium (Ms)		0.53	9.74	0.25	0.41
Mercury (Ms)		0.19	0.27	0.07	1.27
Selenium (MS)		1.02	1.09	0.58	0.96

Results expressed as mg/kg Air Dried unless stated otherwise
SO4 Analysis not conducted in accordance with BS1377
AR denotes analysis conducted on As Received Sample

Date of Issue: 02/03/00

Tests marked 'not UKAS accredited' in this report are not included in the UKAS Accreditation Schedule for our laboratory.

TES Bretby accepts no responsibility for the sampling related to the above results

TEST REPORT
SOIL SAMPLE ANALYSIS

1252
1411

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
Mid Glamorgan
CF31 1JZ

TES Report No. 000542

Site: M4 Relief Road

Customer reference	CH	CH	CH	CH
Depth (m)	15 0.30	15 A 0.17	16 0.20	16 1.90
Date logged	16/02/00	16/02/00	16/02/00	16/02/00
TES Bretby ID Number	CL/0003924	CL/0003925	CL/0003926	CL/0003927

UKAS accredited	Test No.	CL/0003924	CL/0003925	CL/0003926	CL/0003927
Chromium (total)	ICPSSS11	29	33	15	22
CN- (total)	ICTSCN28	<1	<1	<1	<1
Copper	ICPSSS11	80	128	78	61
Cyanide (Free)	BGCN22	<1	<1	<1	<1
Lead	ICPSSS11	126	98	98	60
Nickel	ICPSSS11	35	43	41	23
Oil FTIR	FTIRSW	242	229	157	1460
PAH (screening)	PAHSCUV	81	43	49	215
pH units	WSLM3	9.0	8.9	8.3	9.9
Phenol Index	WSLM4	<0.5	<0.5	<0.5	<0.5
SO4-- (acid sol)	ICPACS58	1120	974	680	1760
Sulphide	ICTSCN28	73	158	5	16
TPH FTIR (AR)	FTIRSW	106	140	335	711
Zinc	ICPSSS11	138	116	105	91

not UKAS accredited		CL/0003924	CL/0003925	CL/0003926	CL/0003927
Arsenic (Ms)		18	19	12.00	22
Boron.		2.5	2.1	1.7	1.8
Cadmium (Ms)		0.30	0.29	0.17	0.48
Mercury (Ms)		0.68	0.54	0.42	0.30
Selenium (MS)		0.88	0.87	1.25	1.01

Results expressed as mg/kg Air Dried unless stated otherwise
SO4 Analysis not conducted in accordance with BS1377
AR denotes analysis conducted on As Received Sample

Date of Issue: 02/03/00

Tests marked 'not UKAS accredited' in this report are not included in the UKAS Accreditation Schedule for our laboratory.

TES Bretby accepts no responsibility for the sampling related to the above results

TEST REPORT
SOIL SAMPLE ANALYSIS

1252
1411

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
Mid Glamorgan
CF31 1JZ

TES Report No. 000542

Site: M4 Relief Road

Customer reference	CH	CH	CH	CH
Depth (m)	17 0.60	17 1.30	17 1.90	18 0.20
Date logged TES Bretby ID Number	16/02/00 CL/0003928	16/02/00 CL/0003929	16/02/00 CL/0003930	16/02/00 CL/0003931

UKAS accredited	Test No.	CL/0003928	CL/0003929	CL/0003930	CL/0003931
Chromium (total)	ICPSSS11	26	21	38	31
CN- (total)	ICTSCN28	<1	<1	<1	<1
Copper	ICPSSS11	27	104	22	16
Cyanide (Free)	BGCN22	<1	<1	<1	<1
Lead	ICPSSS11	86	92	61	63
Nickel	ICPSSS11	28	37	35	30
Oil FTIR	FTIRSW	126	251	128	95
PAH (screening)	PAHSCUV	515	564	45	17
pH units	WSLM3	8.3	10.3	7.7	8.1
Phenol Index	WSLM4	<0.5	0.5	0.5	0.5
SO4-- (acid sol)	ICPACS58	779	1740	796	1380
Sulphide	ICTSCN28	<1	14	7	1
TPH FTIR (AR)	FTIRSW	35	144	95	38
Zinc	ICPSSS11	119	142	112	96

not UKAS accredited		CL/0003928	CL/0003929	CL/0003930	CL/0003931
Arsenic (Ms)		9.20	11.00	15.00	11.00
Boron.		<0.5	1.0	2.9	1.1
Cadmium (Ms)		0.17	0.28	0.09	0.18
Mercury (Ms)		0.20	0.35	0.12	<0.01
Selenium (MS)		0.51	0.60	<0.50	0.61

Results expressed as mg/kg Air Dried unless stated otherwise
SO4 Analysis not conducted in accordance with BS1377
AR denotes analysis conducted on As Received Sample

Date of Issue: 02/03/00

Tests marked 'not UKAS accredited' in this report are not included in the UKAS Accreditation Schedule for our laboratory.

TES Bretby accepts no responsibility for the sampling related to the above results

TES Bretby, P.O. Box 100, Burton-on-Trent, DE15 0XD Telephone: 01283 554400 Fax: 01283 554422
TES Bretby is a division of Environmental Services Group Limited Registered in England Number 2880501

TEST REPORT
SOIL SAMPLE ANALYSIS

1252
1411

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
Mid Glamorgan
CF31 1JZ

TES Report No. 000542

Site: M4 Relief Road

Customer reference	CH 18	CH 18	CH 19	CH 19
Depth (m)	1.60	4.00	0.20	2.00
Date logged	16/02/00	16/02/00	16/02/00	16/02/00
TES Bretby ID Number	CL/0003932	CL/0003933	CL/0003934	CL/0003935

UKAS accredited	Test No.	CL/0003932	CL/0003933	CL/0003934	CL/0003935
Chromium (total)	ICPSSS11	16	20	14	21
CN- (total)	ICTSCN28	2	<1	<1	<1
Copper	ICPSSS11	69	35	38	8
Cyanide (Free)	BGCN22	<1	<1	<1	<1
Lead	ICPSSS11	298	80	59	26
Nickel	ICPSSS11	21	24	37	21
Oil FTIR	FTIRSW	42	103	131	85
PAH (screening)	PAHSCUV	20	34	19	11
pH units	WSLM3	8.1	8.3	8.2	8.1
Phenol Index	WSLM4	<0.5	<0.5	<0.5	<0.5
SO4-- (acid sol)	ICPACS58	1960	891	498	1490
Sulphide	ICTSCN28	<1	21	2	8
TPH FTIR (AR)	FTIRSW	<20	30	91	<20
Zinc	ICPSSS11	163	149	61	51

not UKAS accredited		CL/0003932	CL/0003933	CL/0003934	CL/0003935
Arsenic (Ms)		22	15.00	13.00	6.20
Boron.		<0.5	1.1	1.1	1.3
Cadmium (Ms)		0.27	0.22	0.12	0.08
Mercury (Ms)		0.10	0.35	0.11	<0.01
Selenium (MS)		0.91	0.89	0.61	0.58

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TES Bretby
Report 000542
Table 2
Sheet 6/ 8

TEST REPORT
SOIL SAMPLE ANALYSIS

1252
1411

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
Mid Glamorgan
CF31 1JZ

TES Report No. 000542

Site: M4 Relief Road

Customer reference	CH 19 A	CH 19 A	CH 24	CH 24
Depth (m)	0.30	1.00	0.00	0.75
Date logged	16/02/00	16/02/00	16/02/00	16/02/00
TES Bretby ID Number	CL/0003936	CL/0003937	CL/0003938	CL/0003939

UKAS accredited	Test No.	CL/0003936	CL/0003937	CL/0003938	CL/0003939
Chromium (total)	ICPSSS11	17	19	99	44
CN- (total)	ICTSCN28	<1	<1	<1	<1
Copper	ICPSSS11	56	14	141	25
Cyanide (Free)	BGCN22	<1	<1	<1	<1
Lead	ICPSSS11	232	47	154	69
Nickel	ICPSSS11	35	18	51	39
Oil FTIR	FTIRSW	64	159	200	149
PAH (screening)	PAHSCUV	12	22	17	19
pH units	WSLM3	8.5	8.4	9.5	7.3
Phenol Index	WSLM4	<0.5	<0.5	<0.5	<0.5
SO4-- (acid sol)	ICPACS58	1550	1450	836	760
Sulphide	ICTSCN28	<1	4	40	6
TPH FTIR (AR)	FTIRSW	<20	99	<20	<20
Zinc	ICPSSS11	830	77	280	122

not UKAS accredited		CL/0003936	CL/0003937	CL/0003938	CL/0003939
Arsenic (Ms)		34	8.10	9.30	17
Boron.		2.3	2.1	<0.5	5.0
Cadmium (Ms)		1.72	0.21	0.87	0.20
Mercury (Ms)		0.08	0.03	0.14	0.14
Selenium (MS)		0.82	0.72	0.60	0.42

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TES Bretby
Report 000542
Table 2
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TEST REPORT
SOIL SAMPLE ANALYSIS

1252
1411

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
Mid Glamorgan
CF31 1JZ

TES Report No. 000542

Site: M4 Relief Road

Customer reference	CH			
Depth (m)	25 0.00			
Date logged	16/02/00			
TES Bretby ID Number	CL/0003940			

UKAS accredited	Test No.	CL/0003940			
Chromium (total)	ICPSSS11	16			
CN- (total)	ICTSCN28	<1			
Copper	ICPSSS11	16			
Cyanide (Free)	BGCN22	<1			
Lead	ICPSSS11	56			
Nickel	ICPSSS11	9			
Oil FTIR	FTIRSW	1130			
PAH (screening)	PAHSCUV	191			
pH units	WSLM3	10.6			
Phenol Index	WSLM4	<0.5			
SO4-- (acid sol)	ICPACS58	2440			
Sulphide	ICTSCN28	12			
TPH FTIR (AR)	FTIRSW	302			
Zinc	ICPSSS11	69			

not UKAS accredited		CL/0003940			
Arsenic (Ms)		4.60			
Boron.		0.5			
Cadmium (Ms)		0.51			
Mercury (Ms)		0.14			
Selenium (MS)		0.64			

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Date of Issue: 02/03/00

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Volatile Organic Compounds by PTGCMS

1252

Customer and Site Details:	Exploration Associates : M4 Relief Road	**Directory/Quant file:**	0229VOC.MS1\ 0229CCC1.D	**Matrix:**	Soil
Sample Details:	CH 11 / 1.65m	**Date Booked in:**	16-Feb-00	**Method:**	Purge and Trap
LIMS ID Number:	CL03918	**Date Analysed:**	29-Feb-00	**Dilution:**	5
Report Number:	000542	**Operator:**	D.WALTON	**Position:**	2

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4	-	< 5	-
Bromomethane	74-83-9	-	< 5	-
Chloroethane	75-00-3	-	< 5	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5	-	< 5	-
Toluene	108-88-3	15.67	120	99
trans 1,3-Dichloropropene	10061-02-6	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 5	-
1,3-Dichloropropane	142-28-29	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	17.85	9	92
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	18.01	37	97
o-Xylene	95-47-6	18.61	15	96

Concentrations are reported on a wet weight basis

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8	-	< 5	-
1,3,5-Trimethylbenzene	108-67-8	19.96	26	99
4-Chlorotoluene	106-43-4	-	< 5	-
tert-Butylbenzene	98-06-6	-	< 5	-
1,2,4-Trimethylbenzene	95-63-6	20.56	81	99
sec-Butylbenzene	135-98-8	20.81	7	87
p-Isopropyltoluene	99-87-6	21.00	12	97
1,3-Dichlorobenzene	541-73-1	-	< 5	-
1,4-Dichlorobenzene	106-46-7	-	< 5	-
n-Butylbenzene	104-51-8	21.63	12	80
1,2-Dichlorobenzene	95-50-1	21.81	23	90
1,2-Dibromo-3-chloropropane	96-12-8	-	< 25	-
1,2,4-Trichlorobenzene	120-82-1	-	< 25	-
Hexachlorobutadiene	87-68-3	-	< 25	-
Naphthalene	91-20-3	24.81	51	100
1,2,3-Trichlorobenzene	87-61-6	-	< 25	-

Concentrations are reported on a wet weight basis

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	12.27	114	Dibromofluoromethane	96
1,4-Difluorobenzene	13.42	108	Toluene-d8	95
Chlorobenzene-d5	17.72	95	Bromofluorobenzene	91
1,4-Dichlorobenzene-d4	21.17	74		

TEST REPORT
SOIL SAMPLE ANALYSIS

1252
1411

Amended Report
TES Report No. CL/000543

Site: M4 Relief Road

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
Mid Glamorgan
CF31 1JZ

The 34 samples described in this report were scheduled for analysis by TES Bretby on Wednesday, 16 February 2000. The analysis was completed by Tuesday, 4 April 2000.

Tests marked as 'not UKAS accredited' and any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by TES Bretby laboratories.

The following tables are contained in this report:

Table 1 Sample Descriptions
Table 2 Main Analysis Results

On behalf of
TES Bretby : J.Hannah
J Hannah Project Co-ordinator

Date of Issue: 04/04/00

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TES Bretby accepts no responsibility for the sampling related to the above results

TES Bretby
Report 000543
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Sheet 1/ 1

TEST REPORT
SOIL SAMPLE ANALYSIS

1252
1411

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
Mid Glamorgan
CF31 1JZ

Amended Report
TES Report No. 000543

Site: M4 Relief Road

Page No	Assessed Area	ID No. EFS/CL	Sample	Depth (m) from	to	Description
1	M4 Relief Road	0003941	CH/ 25/	0.80		CH25 0.8
1	M4 Relief Road	0003942	CH/ 26/	0.30		CH26 0.3
1	M4 Relief Road	0003943	CH/ 27/	0.55		CH27 0.55
1	M4 Relief Road	0003944	CH/ 27/	1.10		CH27 1.1
2	M4 Relief Road	0003945	CH/ 28/	0.22		CH28 0.22
2	M4 Relief Road	0003946	CH/ 28/	1.90		CH28 1.9
2	M4 Relief Road	0003947	CH/ 29/	0.40		CH29 0.4
2	M4 Relief Road	0003948	CH/ 30/	0.00		CH30 0.0
3	M4 Relief Road	0003949	CH/ 30/	1.00		CH30 1.0
3	M4 Relief Road	0003950	CH/ 31/	0.00		CH31 0.0
3	M4 Relief Road	0003951	CH/ 32/	0.00		CH32 0.0
3	M4 Relief Road	0003952	CH/ 32/	0.50		CH32 0.5
4	M4 Relief Road	0003953	CH/ 33/	0.20		CH33 0.2
4	M4 Relief Road	0003954	CH/ 33/	1.50		CH33 1.5
4	M4 Relief Road	0003955	CH/ 43/	0.20		CH43 0.2
4	M4 Relief Road	0003956	CH/ 43/	1.30		CH43 1.3
5	M4 Relief Road	0003957	CH/ 44/	0.30		CH44 0.3
5	M4 Relief Road	0003958	CH/ 44/	1.00		CH44 1.0
5	M4 Relief Road	0003959	CH/ 45/	0.20		CH45 0.2
5	M4 Relief Road	0003961	CH/ 46/	0.50		CH46 0.5

Date of Issue: 04/04/00

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TES Bretby
Report 000543
Table 1
Sheet 1/ 2

TEST REPORT
SOIL SAMPLE ANALYSIS

UKAS TESTING

1252
1411

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
Mid Glamorgan
CF31 1JZ

Amended Report
TES Report No. 000543

Site: M4 Relief Road

Page No	Assessed Area	ID No. EFS/CL	Sample	Depth (m) from	to	Description
6	M4 Relief Road	0003960	CH/ 46/	1.20		CH46 1.2
6	M4 Relief Road	0003962	CH/ 47/	0.10		CH47 0.1
6	M4 Relief Road	0003963	CH/ 47/	1.10		CH47 1.1
6	M4 Relief Road	0003964	CH/ 47/A	0.20		CH47A 0.2
7	M4 Relief Road	0003965	CH/ 48/	0.05		CH48 0.5
7	M4 Relief Road	0003966	CH/ 48/	1.00		CH48 1.0
7	M4 Relief Road	0003967	CH/ 49/	0.05		CH49 0.05
7	M4 Relief Road	0003968	CH/ 49/	0.60		CH49 0.6
8	M4 Relief Road	0003970	CH/ 50/	0.05		CH50 0.05
8	M4 Relief Road	0003969	CH/ 50/	0.50		CH50 0.5
8	M4 Relief Road	0003971	CH/ 51/	0.00		CH51 0.0
8	M4 Relief Road	0003972	CH/ 55/	0.00		CH55 0.0
9	M4 Relief Road	0003973	CH/ 55/	0.25		CH55 0.25
9	M4 Relief Road	0003974	CH/ 56/	0.00		CH56 0.0

Date of Issue: 04/04/00

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TES Bretby
Report 000543
Table 1
Sheet 2/ 2

TEST REPORT
SOIL SAMPLE ANALYSIS

1252
1411

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
Mid Glamorgan
CF31 1JZ

Amended Report
TES Report No. 000543

Site: M4 Relief Road

Customer reference	CH	CH	CH	CH
Depth (m)	25 0.80	26 0.30	27 0.55	27 1.10
Date logged	16/02/00	16/02/00	16/02/00	16/02/00
TES Bretby ID Number	CL/0003941	CL/0003942	CL/0003943	CL/0003944

UKAS accredited	Test No.	CL/0003941	CL/0003942	CL/0003943	CL/0003944
Chromium (total)	ICPSSS11	35	13	120	42
CN- (total)	ICTSCN28	<1	<1	<1	<1
Copper	ICPSSS11	23	19	147	15
Cyanide (Free)	BGCN22		<1	<1	<1
Lead	ICPSSS11	68	45	157	49
Nickel	ICPSSS11	32	10	53	33
Oil FTIR	FTIRSW		137	485	105
PAH (screening)	PAHSCUV	71	40	56	<10
pH units	WSLM3	7.6	10.3	8.5	8.6
Phenol Index	WSLM4	<0.5	<0.5	<0.5	<0.5
SO4-- (acid sol)	ICPACS58	843	1110	626	533
Sulphide	ICTSCN28		16	11	4
TPH FTIR (AR)	FTIRSW		<20	346	<20
Zinc	ICPSSS11	129	53	188	92

not UKAS accredited		CL/0003941	CL/0003942	CL/0003943	CL/0003944
Arsenic (Ms)		15.00	6.43	14.40	11.30
Boron.		1.6	1.0	1.8	2.6
Cadmium (Ms)		0.21	0.10	0.35	0.12
Mercury (Ms)		0.14	0.09	0.14	0.04
Selenium (MS)			0.94	0.60	<0.50

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TEST REPORT
SOIL SAMPLE ANALYSIS

1252
1411

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
Mid Glamorgan
CF31 1JZ

Amended Report
TES Report No. 000543

Site: M4 Relief Road

Customer reference	CH	CH	CH	CH
Depth (m)	28 0.22	28 1.90	29 0.40	30 0.00
Date logged	16/02/00	16/02/00	16/02/00	16/02/00
TES Bretby ID Number	CL/0003945	CL/0003946	CL/0003947	CL/0003948

UKAS accredited	Test No.	CL/0003945	CL/0003946	CL/0003947	CL/0003948
Chromium (total)	ICPSSS11	16	14	33	32
CN- (total)	ICTSCN28	<1	<1	<1	<1
Copper	ICPSSS11	43	10	52	60
Cyanide (Free)	BGCN22	<1	<1	<1	<1
Lead	ICPSSS11	62	26	60	125
Nickel	ICPSSS11	13	10	29	23
Oil FTIR	FTIRSW	175	137	443	152
PAH (screening)	PAHSCUV	58	20	21	10
pH units	WSLM3	11.2	11.1	10.0	9.2
Phenol Index	WSLM4	<0.5	<0.5	<0.5	<0.5
SO4-- (acid sol)	ICPACS58	2240	1370	674	760
Sulphide	ICTSCN28	<1	1	19	19
TPH FTIR (AR)	FTIRSW	66	53	88	<20
Zinc	ICPSSS11	89	44	63	139

not UKAS accredited		CL/0003945	CL/0003946	CL/0003947	CL/0003948
Arsenic (Ms)		16.7	5.52	8.18	8.85
Boron.		0.6	0.6	0.7	1.5
Cadmium (Ms)		0.22	0.17	0.18	0.36
Mercury (Ms)		2.91	0.13	0.80	0.38
Selenium (MS)		0.99	1.01	0.67	0.83

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SOIL SAMPLE ANALYSIS

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1411

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
Mid Glamorgan
CF31 1JZ

Amended Report
TES Report No. 000543

Site: M4 Relief Road

Customer reference	CH	CH	CH	CH
Depth (m)	30 1.00	31 0.00	32 0.00	32 0.50
Date logged	16/02/00	16/02/00	16/02/00	16/02/00
TES Bretby ID Number	CL/0003949	CL/0003950	CL/0003951	CL/0003952

UKAS accredited	Test No.	CL/0003949	CL/0003950	CL/0003951	CL/0003952
Chromium (total)	ICPSSS11	45	2170	1790	41
CN- (total)	ICTSCN28	<1	<1	<1	<1
Copper	ICPSSS11	77	536	221	172
Cyanide (Free)	BGCN22	<1	<1	<1	<1
Lead	ICPSSS11	111	182	166	417
Nickel	ICPSSS11	29	141	49	32
Oil FTIR	FTIRSW	477	160	514	131
PAH (screening)	PAHSCUV	66	10	26	44
PCB - ARO	PCBAROEC		0.2	0.2	0.5
pH units	WSLM3	10.4	11.7	11.2	8.8
Phenol Index	WSLM4	<0.5	<0.5	<0.5	<0.5
SO4-- (acid sol)	ICPACS58	1190	2440	1150	1420
Sulphide	ICTSCN28	20	14	38	<1
TPH FTIR (AR)	FTIRSW	132	105	1190	94
Zinc	ICPSSS11	168	475	390	389

not UKAS accredited		CL/0003949	CL/0003950	CL/0003951	CL/0003952
Arsenic (Ms)		12.00	21.3	12.80	29.5
Boron.		3.2	23	2.1	1.3
Cadmium (Ms)		0.68	1.09	0.57	0.29
Mercury (Ms)		1.21	0.38	3.21	16.9
Selenium (MS)		0.97	2.52	1.79	0.97

Results expressed as mg/kg Air Dried unless stated otherwise
SO4 Analysis not conducted in accordance with BS1377
AR denotes analysis conducted on As Received Sample

Date of Issue: 04/04/00

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TES Bretby accepts no responsibility for the sampling related to the above results

TEST REPORT
SOIL SAMPLE ANALYSIS

1252
1411

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
Mid Glamorgan
CF31 1JZ

Amended Report
TES Report No. 000543

Site: M4 Relief Road

Customer reference	CH	CH	CH	CH
	33	33	43	43
Depth (m)	0.20	1.50	0.20	1.30
Date logged	16/02/00	16/02/00	16/02/00	16/02/00
TES Bretby ID Number	CL/0003953	CL/0003954	CL/0003955	CL/0003956

UKAS accredited	Test No.	CL/0003953	CL/0003954	CL/0003955	CL/0003956
Chromium (total)	ICPSSS11	40	30	41	36
CN- (total)	ICTSCN28	<1	<1	<1	<1
Copper	ICPSSS11	16	19	15	11
Cyanide (Free)	BGCN22	<1	<1	<1	<1
Lead	ICPSSS11	56	52	44	41
Nickel	ICPSSS11	33	21	31	33
Oil FTIR	FTIRSW	141	234	906	72
PAH (screening)	PAHSCUV	16	38	2370	60
PCB - ARO	PCBAROEC	1.1	1.9	136	1.8
pH units	WSLM3	8.0	8.0	9.3	8.0
Phenol Index	WSLM4	<0.5	0.5	11.2	<0.5
SO4-- (acid sol)	ICPACS58	694	620	1340	435
Sulphide	ICTSCN28	<1	17	7	<1
TPH FTIR (AR)	FTIRSW	28	22	330	60
Zinc	ICPSSS11	103	121	91	82

not UKAS accredited		CL/0003953	CL/0003954	CL/0003955	CL/0003956
Arsenic (Ms)		13.30	7.68	10.20	12.30
Boron.		1.1	2.0	0.7	2.2
Cadmium (Ms)		0.12	0.54	0.10	0.07
Mercury (Ms)		0.64	2.14	0.07	0.24
Selenium (MS)		0.47	0.94	0.36	<0.50

Results expressed as mg/kg Air Dried unless stated otherwise
SO4 Analysis not conducted in accordance with BS1377
AR denotes analysis conducted on As Received Sample

Date of Issue: 04/04/00

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TES Bretby, P.O. Box 100, Burton-on-Trent, DE15 0XD Telephone: 01283 554400 Fax: 01283 554422
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TEST REPORT
SOIL SAMPLE ANALYSIS

1252
1411

Exploration Associates
Unit 15
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Mid Glamorgan
CF31 1JZ

Amended Report
TES Report No. 000543

Site: M4 Relief Road

Customer reference		CH 44	CH 44	CH 45	CH 46
Depth (m)		0.30	1.00	0.20	0.50
Date logged		16/02/00	16/02/00	16/02/00	16/02/00
TES Bretby ID Number		CL/0003957	CL/0003958	CL/0003959	CL/0003961
UKAS accredited	Test No.	CL/0003957	CL/0003958	CL/0003959	CL/0003961
Chromium (total)	ICPSSS11	49	50	76	87
CN- (total)	ICTSCN28	<1	<1	<1	<1
Copper	ICPSSS11	41	16	19	31
Cyanide (Free)	BGCN22	<1	<1	<1	<1
Lead	ICPSSS11	62	46	45	124
Nickel	ICPSSS11	28	15	11	37
Oil FTIR	FTIRSW	805	657	251	487
PAH (screening)	PAHSCUV	2310	1430	55	1940
PCB - ARO	PCBAROEC	58	19.9	2.0	35
pH units	WSLM3	9.8	9.6	11.8	9.7
Phenol Index	WSLM4	0.6	0.7	<0.5	1.5
SO4-- (acid sol)	ICPACS58	1690	2550	2950	1560
Sulphide	ICTSCN28	6	17	11	25
TPH FTIR (AR)	FTIRSW	879	162	72	88
Zinc	ICPSSS11	123	70	37	145
not UKAS accredited		CL/0003957	CL/0003958	CL/0003959	CL/0003961
Arsenic (Ms)		7.91	8.15	8.74	7.34
Boron.		0.7	1.0	0.6	0.6
Cadmium (Ms)		0.47	0.40	0.14	0.50
Mercury (Ms)		34.0	7.66	0.19	2.50
Selenium (MS)		1.03	1.02	0.87	1.14

Results expressed as mg/kg Air Dried unless stated otherwise
SO4 Analysis not conducted in accordance with BS1377
AR denotes analysis conducted on As Received Sample

Date of Issue: 04/04/00

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TEST REPORT
SOIL SAMPLE ANALYSIS

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Exploration Associates
Unit 15
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Amended Report
TES Report No. 000543

Site: M4 Relief Road

Customer reference	CH 46	CH 47	CH 47	CH 47 A
Depth (m)	1.20	0.10	1.10	0.20
Date logged	16/02/00	16/02/00	16/02/00	16/02/00
TES Bretby ID Number	CL/0003960	CL/0003962	CL/0003963	CL/0003964

UKAS accredited	Test No.	CL/0003960	CL/0003962	CL/0003963	CL/0003964
Chromium (total)	ICPSSS11	101	54	51	67
CN- (total)	ICTSCN28	<1	<1	<1	<1
Copper	ICPSSS11	30	22	18	20
Cyanide (Free)	BGCN22	<1	<1	<1	<1
Lead	ICPSSS11	131	54	84	55
Nickel	ICPSSS11	44	24	36	22
Oil FTIR	FTIRSW	780	401	93	294
PAH (screening)	PAHSCUV	2400	47	26	97
PCB - ARO	PCBAROEC	44	238	7.0	72
pH units	WSLM3	8.8	10.0	8.1	9.8
Phenol Index	WSLM4	0.6	1.1	<0.5	<0.5
SO4-- (acid sol)	ICPACS58	1450	1210	1050	1100
Sulphide	ICTSCN28	7	44	9	29
TPH FTIR (AR)	FTIRSW	58	273	24	114
Zinc	ICPSSS11	143	125	118	115

not UKAS accredited		CL/0003960	CL/0003962	CL/0003963	CL/0003964
Arsenic (Ms)		8.18	9.03	13.60	7.52
Boron.		<0.5	1.0	1.3	1.2
Cadmium (Ms)		0.72	0.46	0.14	0.43
Mercury (Ms)		2.84	1.02	0.14	2.27
Selenium (MS)		1.24	0.98	<0.50	0.91

Results expressed as mg/kg Air Dried unless stated otherwise
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Date of Issue: 04/04/00

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TEST REPORT
SOIL SAMPLE ANALYSIS

1252
1411

Exploration Associates
Unit 15
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Wildmill
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Mid Glamorgan
CF31 1JZ

Amended Report
TES Report No. 000543

Site: M4 Relief Road

Customer reference	CH 48	CH 48	CH 49	CH 49
Depth (m)	0.05	1.00	0.05	0.60
Date logged	16/02/00	16/02/00	16/02/00	16/02/00
TES Bretby ID Number	CL/0003965	CL/0003966	CL/0003967	CL/0003968

UKAS accredited	Test No.	CL/0003965	CL/0003966	CL/0003967	CL/0003968
Chromium (total)	ICPSSS11	349	42	214	35
CN- (total)	ICTSCN28	1	<1	4	<1
Copper	ICPSSS11	30	11	20	14
Iron	ICPSSS11			32500	
Lead	ICPSSS11	56	44	134	53
Nickel	ICPSSS11	7	32	8	29
Oil FTIR	FTIRSW	74		42	
PAH (screening)	PAHSCUV	72	<10	85	<10
pH units	WSLM3	10.6	8.6	10.5	8.2
Phenol Index	WSLM4	<0.5	<0.5	<0.5	<0.5
SO4-- (acid sol)	ICPACS58	4810	668	5090	672
Sulphide	ICTSCN28	762		583	
TPH FTIR (AR)	FTIRSW	25		63	
Zinc	ICPSSS11	41	116	589	102

not UKAS accredited		CL/0003965	CL/0003966	CL/0003967	CL/0003968
Arsenic (Ms)		3.41	10.60	7.16	10.70
Boron.		1.8	1.6	1.5	1.4
Cadmium (Ms)		0.13	0.08	0.64	0.12
Mercury (Ms)		0.15	0.05	0.04	0.02
Selenium (MS)		1.85	<0.50	1.69	<0.50

Results expressed as mg/kg Air Dried unless stated otherwise
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Date of Issue: 04/04/00

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TEST REPORT
SOIL SAMPLE ANALYSIS

1252
1411

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
Mid Glamorgan
CF31 1JZ

Amended Report
TES Report No. 000543

Site: M4 Relief Road

Customer reference	CH	CH	CH	CH
Depth (m)	50 0.05	50 0.50	51 0.00	55 0.00
Date logged	16/02/00	16/02/00	16/02/00	16/02/00
TES Bretby ID Number	CL/0003970	CL/0003969	CL/0003971	CL/0003972

UKAS accredited	Test No.	CL/0003970	CL/0003969	CL/0003971	CL/0003972
Chromium (total)	ICPSSS11	60	50	706	11
CN- (total)	ICTSCN28	4	<1	3	<1
Copper	ICPSSS11	19	12	24	10
Iron	ICPSSS11	16700		14300	
Lead	ICPSSS11	180	45	62	36
Nickel	ICPSSS11	9	32	5	8
Oil FTIR	FTIRSW	74		585	15900
PAH (screening)	PAHSCUV	102	15	82	4980
pH units	WSLM3	9.9	9.6	12.2	9.9
Phenol Index	WSLM4	<0.5	<0.5	<0.5	<0.5
SO4-- (acid sol)	ICPACS58	7330	636	4020	2100
Sulphide	ICTSCN28	30		6	144
TPH FTIR (AR)	FTIRSW	181		198	6100
Zinc	ICPSSS11	520	103	69	58

not UKAS accredited		CL/0003970	CL/0003969	CL/0003971	CL/0003972
Arsenic (Ms)		11.10	9.63	2.82	5.22
Boron.		0.7	1.0	0.9	0.9
Cadmium (Ms)		1.50	0.11	0.13	0.23
Mercury (Ms)		0.02	0.04	0.07	0.01
Selenium (MS)		1.33	0.40	1.63	0.84

Results expressed as mg/kg Air Dried unless stated otherwise
SO4 Analysis not conducted in accordance with BS1377
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Date of Issue: 04/04/00

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TEST REPORT
SOIL SAMPLE ANALYSIS

1252
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Exploration Associates
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Amended Report
TES Report No. 000543

Site: M4 Relief Road

Customer reference	CH 55	CH 56		
Depth (m)	0.25	0.00		
Date logged	16/02/00	16/02/00		
TES Bretby ID Number	CL/0003973	CL/0003974		

UKAS accredited	Test No.	CL/0003973	CL/0003974		
Chromium (total)	ICPSSS11	20	23		
CN- (total)	ICTSCN28	<1	<1		
Copper	ICPSSS11	3	18		
Lead	ICPSSS11	19	38		
Nickel	ICPSSS11	24	18		
Oil FTIR	FTIRSW	292	182		
PAH (screening)	PAHSCUV	12	<10		
pH units	WSLM3	8.5	8.1		
Phenol Index	WSLM4	<0.5	<0.5		
SO4-- (acid sol)	ICPACS58	644	337		
Sulphide	ICTSCN28	4	<1		
TPH FTIR (AR)	FTIRSW	468	185		
Zinc	ICPSSS11	24	52		

not UKAS accredited		CL/0003973	CL/0003974		
Arsenic (Ms)		8.69	9.74		
Boron.		0.5	0.6		
Cadmium (Ms)		0.04	0.24		
Mercury (Ms)		<0.01	0.03		
Selenium (MS)		0.85	<0.50		

Results expressed as mg/kg Air Dried unless stated otherwise
SO4 Analysis not conducted in accordance with BS1377
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Date of Issue: 04/04/00

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TES Bretby

Semi-Volatile Organic Compounds

UKAS TESTING 1252

Customer and Site Details:	Exploration Associates: M4 Relief Road		
Sample Details:	CH/0033/ / 0.20- m	**Date Booked in:**	16-Feb-00
LIMS ID Number:	CL03953	**Date Extracted:**	18-Feb-00
Job Number:	534	**Date Analysed:**	24-Feb-00

Matrix:	Soil	**QC Batch Number:**	226
Ext Method:	Soxhlet	**Multiplier:**	0.0667
Operator:	SW	**Dilution Factor:**	1
Directory/Quant File:	0224ABN.MS5 0224CCC1.D	**GPC (Y/N)**	N

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

* These compounds are not currently UKAS accredited.

Concentrations are reported on a wet weight basis.

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

* compounds not currently UKAS accredited

Internal Standards	% Area
1,4-Dichlorobenzene-d4	95
Naphthalene-d8	90
Acenaphthene-d10	94
Phenanthrene-d10	91
Chrysene-d12	102
Perylene-d12	113

Surrogates	% Rec
2-Fluorophenol	50
Phenol-d5	71
Nitrobenzene-d5	74
2-Fluorobiphenyl	78
2,4,6-Tribromophenol	40
Terphenyl-d14	90

TES Bretby

Semi-Volatile Organic Compounds

UKAS TESTING 1252

Customer and Site Details:	Exploration Associates: M4 Relief Road		
Sample Details:	CH/0033/ / 1.50- m	**Date Booked in:**	16-Feb-00
LIMS ID Number:	CL03954	**Date Extracted:**	18-Feb-00
Job Number:	543	**Date Analysed:**	24-Feb-00

Matrix:	Soil	**QC Batch Number:**	226
Ext Method:	Soxhlet	**Multiplier:**	0.0667
Operator:	SW	**Dilution Factor:**	1
Directory/Quant File:	0224ABN.MS4 0224CCC2.D	**GPC (Y/N)**	N

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

* These compounds are not currently UKAS accredited.
Concentrations are reported on a wet weight basis.

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

* compounds not currently UKAS accredited

Internal Standards	% Area
1,4-Dichlorobenzene-d4	90
Naphthalene-d8	80
Acenaphthene-d10	80
Phenanthrene-d10	79
Chrysene-d12	85
Perylene-d12	81

Surrogates	% Rec
2-Fluorophenol	76
Phenol-d5	86
Nitrobenzene-d5	80
2-Fluorobiphenyl	82
2,4,6-Tribromophenol	77
Terphenyl-d14	93

TES Bretby

Semi-Volatile Organic Compounds

Customer and Site Details:	Exploration Associates: M4 Relief Road		
Sample Details:	CH/0043/ / 0.20- m	**Date Booked in:**	16-Feb-00
LIMS ID Number:	CL03955	**Date Extracted:**	18-Feb-00
Job Number:	543	**Date Analysed:**	28-Feb-00

Matrix:	Soil	**QC Batch Number:**	226
Ext Method:	Soxhlet	**Multiplier:**	0.6667
Operator:	SW	**Dilution Factor:**	10
Directory/Quant File:	0228ABN.MS2 0228CCC1.D	**GPC (Y/N)**	Y

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 20.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 5.0	-
2-Chlorophenol	95-57-8	-	< 20.0	-
1,3-Dichlorobenzene	541-73-1	-	< 5.0	-
1,4-Dichlorobenzene	106-46-7	-	< 5.0	-
Benzyl alcohol	100-51-6	-	< 5.0	-
1,2-Dichlorobenzene	95-50-1	-	< 5.0	-
2-Methylphenol	95-48-7	-	< 5.0	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 5.0	-
Hexachloroethane	67-72-1	-	< 5.0	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 5.0	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 20.0	-
Nitrobenzene	98-95-3	-	< 5.0	-
Isophorone	78-59-1	-	< 5.0	-
2-Nitrophenol	88-75-5	-	< 20.0	-
2,4-Dimethylphenol	105-67-9	-	< 20.0	-
Benzoic Acid	65-85-0	-	< 100	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 5.0	-
2,4-Dichlorophenol	120-83-2	-	< 20.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 5.0	-
Naphthalene	91-20-3	-	< 2.0	-
4-Chlorophenol *	106-48-9	-	< 20.0	-
4-Chloroaniline	106-47-8	-	< 5.0	-
Hexachlorobutadiene	87-68-3	-	< 5.0	-
4-Chloro-3-methylphenol	59-50-7	-	< 5.0	-
2-Methylnaphthalene	91-57-6	-	< 2.0	-
1-Methylnaphthalene *	90-12-0	-	< 2.0	-
Hexachlorocyclopentadiene	77-47-4	-	< 5.0	-
2,4,6-Trichlorophenol	88-06-2	-	< 20.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 20.0	-
2-Chloronaphthalene	91-58-7	-	< 2.0	-
Biphenyl *	92-52-4	16.01	9.6	96
Diphenyl ether *	101-84-8	-	< 2.0	-
2-Nitroaniline	88-74-4	-	< 5.0	-
Acenaphthylene	208-96-8	-	< 2.0	-
Dimethylphthalate	131-11-3	-	< 5.0	-
2,6-Dinitrotoluene	606-20-2	-	< 5.0	-
Acenaphthene	83-32-9	-	< 2.0	-
3-Nitroaniline	99-09-2	-	< 5.0	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5	-	< 10.0	-
Dibenzofuran	132-64-9	-	< 5.0	-
4-Nitrophenol	100-02-7	-	< 50.0	-
2,4-Dinitrotoluene	121-14-2	-	< 5.0	-
Fluorene	86-73-7	19.28	2.2	95
Diethylphthalate	84-66-2	-	< 5.0	-
4-Chlorophenyl-phenylether	7005-72-4	-	< 5.0	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 50.0	-
4-Nitroaniline	100-01-6	-	< 5.0	-
N-Nitrosodiphenylamine	86-30-6	-	< 5.0	-
4-Bromophenyl-phenylether	101-55-3	-	< 5.0	-
Hexachlorobenzene	118-74-1	-	< 5.0	-
Pentachlorophenol	87-86-5	-	< 50.0	-
Phenanthrene	85-01-8	22.11	2.9	98
Anthracene	120-12-7	-	< 2.0	-
Di-n-butylphthalate	84-74-2	-	< 5.0	-
Fluoranthene	206-44-0	-	< 2.0	-
Pyrene	129-00-0	-	< 2.0	-
Butylbenzylphthalate	85-68-7	-	< 5.0	-
Benzo[a]anthracene	56-55-3	-	< 2.0	-
Chrysene	218-01-9	30.03	44.0	99
3,3'-Dichlorobenzidine	91-94-1	-	< 20.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	30.43	6.9	93
Di-n-octylphthalate	117-84-0	-	< 2.0	-
Benzo[b]fluoranthene	205-99-2	-	< 2.0	-
Benzo[k]fluoranthene	207-08-9	-	< 2.0	-
Benzo[a]pyrene	50-32-8	-	< 2.0	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 2.0	-
Dibenzo[a,h]anthracene	53-70-3	-	< 2.0	-
Benzo[g,h,i]perylene	191-24-2	-	< 2.0	-

* These compounds are not currently UKAS accredited.
Concentrations are reported on a wet weight basis.

* compounds not currently UKAS accredited

Internal Standards	% Area
1,4-Dichlorobenzene-d4	102
Naphthalene-d8	98
Acenaphthene-d10	108
Phenanthrene-d10	103
Chrysene-d12	107
Perylene-d12	111

Surrogates	% Rec
2-Fluorophenol	43 D
Phenol-d5	61
Nitrobenzene-d5	58
2-Fluorobiphenyl	81
2,4,6-Tribromophenol	D
Terphenyl-d14	18 D

TES Bretby

Semi-Volatile Organic Compounds

Customer and Site Details:	Exploration Associates: M4 Relief Road		
Sample Details:	CH/0043/ / 0.20- m	**Job Number:**	543
LIMS ID Number:	CL03955		
		Multiplier:	0.6667
Date Booked in:	16-Feb-00	**Dilution Factor:**	10
Date Extracted:	18-Feb-00	**GPC (Y/N):**	Y
Date Analysed:	28-Feb-00	**Matrix:**	Soil
QC Batch Number:	226	**Method:**	Soxhlet
Directory:	0228ABN.MS2	**Operator:**	SW

Tentatively Identified Compounds	CAS #	R.T.	mg/kg	% Fit
Dibenzo[b,e][1,4]dioxin, octachloro	003268-87-9	38.40	7.9	99

The compounds listed above have been tentatively identified by a computer based library search.
Compounds identified in the sample are not reported if they also occur in the method blank.
The % fit is an indication of the reliability of the compound assignment.
Due to the similarity between mass spectra of some isomeric compounds assignments may not be correct.
Other compounds may also be present but identification was not possible.
Concentrations are semi-quantitative, assume a response factor of 1 and use the nearest internal standard.
Concentrations are reported on a wet weight basis.

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Semi-Volatile Organic Compounds

UKAS TESTING 1252

Customer and Site Details:	Exploration Associates: M4 Relief Road		
Sample Details:	CH/0043/ / 1.30- m	**Date Booked in:**	16-Feb-00
LIMS ID Number:	CL03956	**Date Extracted:**	18-Feb-00
Job Number:	543	**Date Analysed:**	24-Feb-00

Matrix:	Soil		**QC Batch Number:**	226
Ext Method:	Soxhlet		**Multiplier:**	0.0667
Operator:	SW		**Dilution Factor:**	1
Directory/Quant File:	0224ABN.MS5	0224CCC1.D	**GPC (Y/N)**	N

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

* These compounds are not currently UKAS accredited.

Concentrations are reported on a wet weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-4	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	29.36	5.6	96
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

* compounds not currently UKAS accredited

Internal Standards	% Area
1,4-Dichlorobenzene-d4	96
Naphthalene-d8	92
Acenaphthene-d10	96
Phenanthrene-d10	92
Chrysene-d12	101
Perylene-d12	108

Surrogates	% Rec
2-Fluorophenol	67
Phenol-d5	79
Nitrobenzene-d5	74
2-Fluorobiphenyl	78
2,4,6-Tribromophenol	70
Terphenyl-d14	94

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Semi-Volatile Organic Compounds

Customer and Site Details:	Exploration Associates: M4 Relief Road		
Sample Details:	CH/0044/ / 0.30- m	**Date Booked in:**	16-Feb-00
LIMS ID Number:	CL03957	**Date Extracted:**	18-Feb-00
Job Number:	543	**Date Analysed:**	24-Feb-00

Matrix:	Soil	**QC Batch Number:**	226
Ext Method:	Soxhlet	**Multiplier:**	0.1333
Operator:	SW	**Dilution Factor:**	2
Directory/Quant File:	0224ABN.MS4 0224CCC2.D	**GPC (Y/N)**	Y

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 4.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 1.0	-
2-Chlorophenol	95-57-8	-	< 4.0	-
1,3-Dichlorobenzene	541-73-1	-	< 1.0	-
1,4-Dichlorobenzene	106-46-7	-	< 1.0	-
Benzyl alcohol	100-51-6	-	< 1.0	-
1,2-Dichlorobenzene	95-50-1	-	< 1.0	-
2-Methylphenol	95-48-7	-	< 1.0	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 1.0	-
Hexachloroethane	67-72-1	-	< 1.0	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 1.0	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 4.0	-
Nitrobenzene	98-95-3	-	< 1.0	-
Isophorone	78-59-1	-	< 1.0	-
2-Nitrophenol	88-75-5	-	< 4.0	-
2,4-Dimethylphenol	105-67-9	-	< 4.0	-
Benzoic Acid	65-85-0	-	< 20.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 1.0	-
2,4-Dichlorophenol	120-83-2	-	< 4.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 1.0	-
Naphthalene	91-20-3	-	< 0.4	-
4-Chlorophenol *	106-48-9	-	< 4.0	-
4-Chloroaniline *	106-47-8	-	< 1.0	-
Hexachlorobutadiene	87-68-3	-	< 1.0	-
4-Chloro-3-methylphenol	59-50-7	-	< 1.0	-
2-Methylnaphthalene	91-57-6	-	< 0.4	-
1-Methyl naphthalene *	90-12-0	-	< 0.4	-
Hexachlorocyclopentadiene	77-47-4	-	< 1.0	-
2,4,6-Trichlorophenol	88-06-2	-	< 4.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 4.0	-
2-Chloronaphthalene	91-58-7	-	< 0.4	-
Biphenyl *	92-52-4	15.37	4.8	100
Diphenyl ether *	101-84-8	-	< 0.4	-
2-Nitroaniline	88-74-4	-	< 1.0	-
Acenaphthylene	208-96-8	-	< 0.4	-
Dimethylphthalate	131-11-3	-	< 1.0	-
2,6-Dinitrotoluene	606-20-2	-	< 1.0	-
Acenaphthene	83-32-9	-	< 0.4	-
3-Nitroaniline *	99-09-2	-	< 1.0	-

* These compounds are not currently UKAS accredited.
Concentrations are reported on a wet weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5	-	< 2.0	-
Dibenzofuran	132-64-9	-	< 1.0	-
4-Nitrophenol	100-02-7	-	< 10.0	-
2,4-Dinitrotoluene	121-14-2	-	< 1.0	-
Fluorene	86-73-7	18.57	0.8	100
Diethylphthalate	84-66-2	-	< 1.0	-
4-Chlorophenyl-phenylether	7005-72-4	-	< 1.0	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 10.0	-
4-Nitroaniline	100-01-6	-	< 1.0	-
N-Nitrosodiphenylamine	86-30-6	-	< 1.0	-
4-Bromophenyl-phenylether	101-55-3	-	< 1.0	-
Hexachlorobenzene	118-74-1	-	< 1.0	-
Pentachlorophenol	87-86-5	-	< 10.0	-
Phenanthrene	85-01-8	21.37	1.1	99
Anthracene	120-12-7	-	< 0.4	-
Di-n-butylphthalate	84-74-2	-	< 1.0	-
Fluoranthene	206-44-0	24.91	0.6	99
Pyrene	129-00-0	25.54	0.5	92
Butylbenzylphthalate	85-68-7	-	< 1.0	-
Benzo[a]anthracene	56-55-3	-	< 0.4	-
Chrysene	218-01-9	29.34	20.4	98
3,3'-Dichlorobenzidine	91-94-1	-	< 4.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	29.89	4.4	98
Di-n-octylphthalate	117-84-0	-	< 0.4	-
Benzo[b]fluoranthene	205-99-2	-	< 0.4	-
Benzo[k]fluoranthene	207-08-9	32.29	0.7	M
Benzo[a]pyrene	50-32-8	33.23	0.6	87
Indeno[1,2,3-cd]pyrene	193-39-5	37.85	0.4	98
Dibenzo[a,h]anthracene	53-70-3	-	< 0.4	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.4	-

* compounds not currently UKAS accredited

Internal Standards	% Area
1,4-Dichlorobenzene-d4	87
Naphthalene-d8	79
Acenaphthene-d10	82
Phenanthrene-d10	86
Chrysene-d12	87
Perylene-d12	75

Surrogates	% Rec
2-Fluorophenol	53
Phenol-d5	69
Nitrobenzene-d5	65
2-Fluorobiphenyl	80
2,4,6-Tribromophenol	78
Terphenyl-d14	14

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Semi-Volatile Organic Compounds

Customer and Site Details:	Exploration Associates: M4 Relief Road		
Sample Details:	CH/0044/ / 1.00- m	**Date Booked in:**	16-Feb-00
LIMS ID Number:	CL03958	**Date Extracted:**	18-Feb-00
Job Number:	543	**Date Analysed:**	24-Feb-00

Matrix:	Soil	**QC Batch Number:**	226
Ext Method:	Soxhlet	**Multiplier:**	0.1333
Operator:	SW	**Dilution Factor:**	2
Directory/Quant File:	0224ABN.MS4 0224CCC2.D	**GPC (Y/N)**	Y

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 4.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 1.0	-
2-Chlorophenol	95-57-8	-	< 4.0	-
1,3-Dichlorobenzene	541-73-1	-	< 1.0	-
1,4-Dichlorobenzene	106-46-7	-	< 1.0	-
Benzyl alcohol	100-51-6	-	< 1.0	-
1,2-Dichlorobenzene	95-50-1	-	< 1.0	-
2-Methylphenol	95-48-7	-	< 1.0	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 1.0	-
Hexachloroethane	67-72-1	-	< 1.0	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 1.0	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 4.0	-
Nitrobenzene	98-95-3	-	< 1.0	-
Isophorone	78-59-1	-	< 1.0	-
2-Nitrophenol	88-75-5	-	< 4.0	-
2,4-Dimethylphenol	105-67-9	-	< 4.0	-
Benzoic Acid	65-85-0	-	< 20.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 1.0	-
2,4-Dichlorophenol	120-83-2	-	< 4.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 1.0	-
Naphthalene	91-20-3	-	< 0.4	-
4-Chlorophenol *	106-48-9	-	< 4.0	-
4-Chloroaniline *	106-47-8	-	< 1.0	-
Hexachlorobutadiene	87-68-3	-	< 1.0	-
4-Chloro-3-methylphenol	59-50-7	-	< 1.0	-
2-Methylnaphthalene	91-57-6	-	< 0.4	-
1-Methyl naphthalene *	90-12-0	-	< 0.4	-
Hexachlorocyclopentadiene	77-47-4	-	< 1.0	-
2,4,6-Trichlorophenol	88-06-2	-	< 4.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 4.0	-
2-Chloronaphthalene	91-58-7	-	< 0.4	-
Biphenyl *	92-52-4	15.37	7.8	99
Diphenyl ether *	101-84-8	-	< 0.4	-
2-Nitroaniline	88-74-4	-	< 1.0	-
Acenaphthylene	208-96-8	-	< 0.4	-
Dimethylphthalate	131-11-3	-	< 1.0	-
2,6-Dinitrotoluene	606-20-2	-	< 1.0	-
Acenaphthene	83-32-9	-	< 0.4	-
3-Nitroaniline *	99-09-2	-	< 1.0	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5	-	< 2.0	-
Dibenzofuran	132-64-9	-	< 1.0	-
4-Nitrophenol	100-02-7	-	< 10.0	-
2,4-Dinitrotoluene	121-14-2	-	< 1.0	-
Fluorene	86-73-7	18.58	1.3	99
Diethylphthalate	84-66-2	-	< 1.0	-
4-Chlorophenyl-phenylether	7005-72-4	-	< 1.0	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 10.0	-
4-Nitroaniline	100-01-6	-	< 1.0	-
N-Nitrosodiphenylamine	86-30-6	-	< 1.0	-
4-Bromophenyl-phenylether	101-55-3	-	< 1.0	-
Hexachlorobenzene	118-74-1	-	< 1.0	-
Pentachlorophenol	87-86-5	-	< 10.0	-
Phenanthrene	85-01-8	21.37	1.7	99
Anthracene	120-12-7	-	< 0.4	-
Di-n-butylphthalate	84-74-2	-	< 1.0	-
Fluoranthene	206-44-0	24.91	1.2	92
Pyrene	129-00-0	25.54	0.6	93
Butylbenzylphthalate	85-68-7	-	< 1.0	-
Benzo[a]anthracene	56-55-3	29.22	0.5	63
Chrysene	218-01-9	29.36	27.8	96
3,3'-Dichlorobenzidine	91-94-1	-	< 4.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	29.89	7.7	99
Di-n-octylphthalate	117-84-0	-	< 0.4	-
Benzo[b]fluoranthene	205-99-2	32.26	0.6	97
Benzo[k]fluoranthene	207-08-9	32.31	1.2	M
Benzo[a]pyrene	50-32-8	-	< 0.4	-
Indeno[1,2,3-cd]pyrene	193-39-5	37.82	0.7	96
Dibenzo[a,h]anthracene	53-70-3	-	< 0.4	-
Benzo[g,h,i]perylene	191-24-2	38.66	0.6	98

* These compounds are not currently UKAS accredited.
Concentrations are reported on a wet weight basis.

* compounds not currently UKAS accredited

Internal Standards	% Area
1,4-Dichlorobenzene-d4	82
Naphthalene-d8	74
Acenaphthene-d10	79
Phenanthrene-d10	84
Chrysene-d12	84
Perylene-d12	73

Surrogates	% Rec
2-Fluorophenol	57
Phenol-d5	73
Nitrobenzene-d5	67
2-Fluorobiphenyl	82
2,4,6-Tribromophenol	89
Terphenyl-d14	4

TES Bretby

Semi-Volatile Organic Compounds

UKAS TESTING 1252

Customer and Site Details:	Exploration Associates: M4 Relief Road		
Sample Details:	CH/0045/ / 0.20- m	**Date Booked in:**	16-Feb-00
LIMS ID Number:	CL03959	**Date Extracted:**	18-Feb-00
Job Number:	543	**Date Analysed:**	24-Feb-00

Matrix:	Soil	**QC Batch Number:**	226
Ext Method:	Soxhlet	**Multiplier:**	0.1667
Operator:	SW	**Dilution Factor:**	2.5
Directory/Quant File:	0224ABN.MS5 0224CCC1.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 5.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 1.3	-
2-Chlorophenol	95-57-8	-	< 5.0	-
1,3-Dichlorobenzene	541-73-1	-	< 1.3	-
1,4-Dichlorobenzene	106-46-7	-	< 1.3	-
Benzyl alcohol	100-51-6	-	< 1.3	-
1,2-Dichlorobenzene	95-50-1	-	< 1.3	-
2-Methylphenol	95-48-7	-	< 1.3	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 1.3	-
Hexachloroethane	67-72-1	-	< 1.3	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 1.3	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 5.0	-
Nitrobenzene	98-95-3	-	< 1.3	-
Isophorone	78-59-1	-	< 1.3	-
2-Nitrophenol	88-75-5	-	< 5.0	-
2,4-Dimethylphenol	105-67-9	-	< 5.0	-
Benzoic Acid	65-85-0	-	< 25.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 1.3	-
2,4-Dichlorophenol	120-83-2	-	< 5.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 1.3	-
Naphthalene	91-20-3	-	< 0.5	-
4-Chlorophenol *	106-48-9	-	< 5.0	-
4-Chloroaniline	106-47-8	-	< 1.3	-
Hexachlorobutadiene	87-68-3	-	< 1.3	-
4-Chloro-3-methylphenol	59-50-7	-	< 1.3	-
2-Methylnaphthalene	91-57-6	-	< 0.5	-
1-Methyl naphthalene *	90-12-0	-	< 0.5	-
Hexachlorocyclopentadiene	77-47-4	-	< 1.3	-
2,4,6-Trichlorophenol	88-06-2	-	< 5.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 5.0	-
2-Chloronaphthalene	91-58-7	-	< 0.5	-
Biphenyl *	92-52-4	-	< 0.5	-
Diphenyl ether *	101-84-8	-	< 0.5	-
2-Nitroaniline	88-74-4	-	< 1.3	-
Acenaphthylene	208-96-8	-	< 0.5	-
Dimethylphthalate	131-11-3	-	< 1.3	-
2,6-Dinitrotoluene	606-20-2	-	< 1.3	-
Acenaphthene	83-32-9	-	< 0.5	-
3-Nitroaniline	99-09-2	-	< 1.3	-

* These compounds are not currently UKAS accredited.
Concentrations are reported on a wet weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5	-	< 2.5	-
Dibenzofuran	132-64-9	-	< 1.3	-
4-Nitrophenol	100-02-7	-	< 12.5	-
2,4-Dinitrotoluene	121-14-2	-	< 1.3	-
Fluorene	86-73-7	-	< 0.5	-
Diethylphthalate	84-66-2	-	< 1.3	-
4-Chlorophenyl-phenylether	7005-72-4	-	< 1.3	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 12.5	-
4-Nitroaniline	100-01-6	-	< 1.3	-
N-Nitrosodiphenylamine	86-30-6	-	< 1.3	-
4-Bromophenyl-phenylether	101-55-3	-	< 1.3	-
Hexachlorobenzene	118-74-1	-	< 1.3	-
Pentachlorophenol	87-86-5	-	< 12.5	-
Phenanthrene	85-01-8	-	< 0.5	-
Anthracene	120-12-7	-	< 0.5	-
Di-n-butylphthalate	84-74-2	-	< 1.3	-
Fluoranthene	206-44-0	-	< 0.5	-
Pyrene	129-00-0	-	< 0.5	-
Butylbenzylphthalate	85-68-7	-	< 1.3	-
Benzo[a]anthracene	56-55-3	-	< 0.5	-
Chrysene	218-01-9	-	< 0.5	-
3,3'-Dichlorobenzidine	91-94-1	-	< 5.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 1.3	-
Di-n-octylphthalate	117-84-0	-	< 0.5	-
Benzo[b]fluoranthene	205-99-2	-	< 0.5	-
Benzo[k]fluoranthene	207-08-9	-	< 0.5	-
Benzo[a]pyrene	50-32-8	-	< 0.5	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.5	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.5	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.5	-

* compounds not currently UKAS accredited

Internal Standards	% Area
1,4-Dichlorobenzene-d4	95
Naphthalene-d8	90
Acenaphthene-d10	93
Phenanthrene-d10	93
Chrysene-d12	108
Perylene-d12	128

Surrogates	% Rec
2-Fluorophenol	54
Phenol-d5	69
Nitrobenzene-d5	64
2-Fluorobiphenyl	90
2,4,6-Tribromophenol	34
Terphenyl-d14	92

TES Bretby

Semi-Volatile Organic Compounds

Customer and Site Details:	Exploration Associates: M4 Relief Road		
Sample Details:	CH/0046/ / 0.50- m	**Date Booked in:**	16-Feb-00
LIMS ID Number:	CL03961	**Date Extracted:**	18-Feb-00
Job Number:	543	**Date Analysed:**	24-Feb-00

Matrix:	Soil	**QC Batch Number:**	226
Ext Method:	Soxhlet	**Multiplier:**	0.6667
Operator:	SW	**Dilution Factor:**	10
Directory/Quant File:	0224ABN.MS4 0224CCC2.D	**GPC (Y/N)**	Y

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 20.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 5.0	-
2-Chlorophenol	95-57-8	-	< 20.0	-
1,3-Dichlorobenzene	541-73-1	-	< 5.0	-
1,4-Dichlorobenzene	106-46-7	-	< 5.0	-
Benzyl alcohol	100-51-6	-	< 5.0	-
1,2-Dichlorobenzene	95-50-1	-	< 5.0	-
2-Methylphenol	95-48-7	-	< 5.0	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 5.0	-
Hexachloroethane	67-72-1	-	< 5.0	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 5.0	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 20.0	-
Nitrobenzene	98-95-3	-	< 5.0	-
Isophorone	78-59-1	-	< 5.0	-
2-Nitrophenol	88-75-5	-	< 20.0	-
2,4-Dimethylphenol	105-67-9	-	< 20.0	-
Benzoic Acid	65-85-0	-	< 100	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 5.0	-
2,4-Dichlorophenol	120-83-2	-	< 20.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 5.0	-
Naphthalene	91-20-3	-	< 2.0	-
4-Chlorophenol *	106-48-9	-	< 20.0	-
4-Chloroaniline *	106-47-8	-	< 5.0	-
Hexachlorobutadiene	87-68-3	-	< 5.0	-
4-Chloro-3-methylphenol	59-50-7	-	< 5.0	-
2-Methylnaphthalene	91-57-6	-	< 2.0	-
1-Methyl naphthalene *	90-12-0	-	< 2.0	-
Hexachlorocyclopentadiene	77-47-4	-	< 5.0	-
2,4,6-Trichlorophenol	88-06-2	-	< 20.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 20.0	-
2-Chloronaphthalene	91-58-7	-	< 2.0	-
Biphenyl *	92-52-4	15.37	50.7	100
Diphenyl ether *	101-84-8	-	< 2.0	-
2-Nitroaniline	88-74-4	-	< 5.0	-
Acenaphthylene	208-96-8	-	< 2.0	-
Dimethylphthalate	131-11-3	-	< 5.0	-
2,6-Dinitrotoluene	606-20-2	-	< 5.0	-
Acenaphthene	83-32-9	-	< 2.0	-
3-Nitroaniline *	99-09-2	-	< 5.0	-

* These compounds are not currently UKAS accredited.

Concentrations are reported on a wet weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5	-	< 10.0	-
Dibenzofuran	132-64-9	-	< 5.0	-
4-Nitrophenol	100-02-7	-	< 50.0	-
2,4-Dinitrotoluene	121-14-2	-	< 5.0	-
Fluorene	86-73-7	18.57	22.5	99
Diethylphthalate	84-66-2	-	< 5.0	-
4-Chlorophenyl-phenylether	7005-72-4	-	< 5.0	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 50.0	-
4-Nitroaniline	100-01-6	-	< 5.0	-
N-Nitrosodiphenylamine	86-30-6	-	< 5.0	-
4-Bromophenyl-phenylether	101-55-3	-	< 5.0	-
Hexachlorobenzene	118-74-1	-	< 5.0	-
Pentachlorophenol	87-86-5	-	< 50.0	-
Phenanthrene	85-01-8	21.38	37.3	100
Anthracene	120-12-7	21.49	4.1	99
Di-n-butylphthalate	84-74-2	-	< 5.0	-
Fluoranthene	206-44-0	24.91	2.8	97
Pyrene	129-00-0	-	< 2.0	-
Butylbenzylphthalate	85-68-7	-	< 5.0	-
Benzo[a]anthracene	56-55-3	-	< 2.0	-
Chrysene	218-01-9	29.39	158	98
3,3'-Dichlorobenzidine	91-94-1	-	< 20.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 5.0	-
Di-n-octylphthalate	117-84-0	-	< 2.0	-
Benzo[b]fluoranthene	205-99-2	-	< 2.0	-
Benzo[k]fluoranthene	207-08-9	-	< 2.0	-
Benzo[a]pyrene	50-32-8	-	< 2.0	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 2.0	-
Dibenzo[a,h]anthracene	53-70-3	-	< 2.0	-
Benzo[g,h,i]perylene	191-24-2	-	< 2.0	-

* compounds not currently UKAS accredited

Internal Standards	% Area
1,4-Dichlorobenzene-d4	83
Naphthalene-d8	73
Acenaphthene-d10	76
Phenanthrene-d10	74
Chrysene-d12	88
Perylene-d12	92

Surrogates	% Rec
2-Fluorophenol	46 D
Phenol-d5	60
Nitrobenzene-d5	69
2-Fluorobiphenyl	91
2,4,6-Tribromophenol	76
Terphenyl-d14	D

TES Bretby

Semi-Volatile Organic Compounds

Customer and Site Details:	Exploration Associates: M4 Relief Road		
Sample Details:	CH/0046/ / 1.20- m	**Date Booked in:**	16-Feb-00
LIMS ID Number:	CL03960	**Date Extracted:**	18-Feb-00
Job Number:	543	**Date Analysed:**	24-Feb-00

Matrix:	Soil	**QC Batch Number:**	226
Ext Method:	Soxhlet	**Multiplier:**	0.0667
Operator:	SW	**Dilution Factor:**	1
Directory/Quant File:	0224ABN.MS4 0224CCC3.D	**GPC (Y/N)**	Y

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol *	106-48-9	-	< 2.0	-
4-Chloroaniline *	106-47-8	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methyl naphthalene *	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl *	92-52-4	15.36	1.4	99
Diphenyl ether *	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline *	99-09-2	-	< 0.5	-

* These compounds are not currently UKAS accredited.
Concentrations are reported on a wet weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	18.57	0.3	98
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-4	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	21.37	0.5	99
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	24.91	0.6	97
Pyrene	129-00-0	25.54	0.5	85
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	29.16	0.3	93
Chrysene	218-01-9	29.29	2.9	99
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	32.22	0.3	98
Benzo[k]fluoranthene	207-08-9	32.29	0.4	99
Benzo[a]pyrene	50-32-8	33.21	0.3	92
Indeno[1,2,3-cd]pyrene	193-39-5	37.86	0.2	94
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	38.64	0.2	99

* compounds not currently UKAS accredited

Internal Standards	% Area
1,4-Dichlorobenzene-d4	91
Naphthalene-d8	82
Acenaphthene-d10	85
Phenanthrene-d10	84
Chrysene-d12	93
Perylene-d12	81

Surrogates	% Rec
2-Fluorophenol	39
Phenol-d5	59
Nitrobenzene-d5	68
2-Fluorobiphenyl	76
2,4,6-Tribromophenol	44
Terphenyl-d14	6

TES Bretby

Semi-Volatile Organic Compounds

Customer and Site Details:	Exploration Associates: M4 Relief Road		
Sample Details:	CH/0046/ / 1.20- m	**Job Number:**	543
LIMS ID Number:	CL03960		
		Multiplier:	0.0667
Date Booked in:	16-Feb-00	**Dilution Factor:**	1
Date Extracted:	18-Feb-00	**GPC (Y/N):**	Y
Date Analysed:	24-Feb-00	**Matrix:**	Soil
QC Batch Number:	226	**Method:**	Soxhlet
Directory:	0224ABN.MS4	**Operator:**	SW

Tentatively Identified Compounds	CAS #	R.T.	mg/kg	% Fit
Dibenzo[b,e][1,4]dioxin, octachloro	003268-87-9	37.61	2.4	95

The compounds listed above have been tentatively identified by a computer based library search.
Compounds identified in the sample are not reported if they also occur in the method blank.
The % fit is an indication of the reliability of the compound assignment.
Due to the similarity between mass spectra of some isomeric compounds assignments may not be correct.
Other compounds may also be present but identification was not possible.
Concentrations are semi-quantitative, assume a response factor of 1 and use the nearest internal standard.
Concentrations are reported on a wet weight basis.

TES Bretby

Semi-Volatile Organic Compounds

UKAS TESTING 1252

Customer and Site Details:	Exploration Associates: M4 Relief Road		
Sample Details:	CH/0047/ / 0.10- m	**Date Booked in:**	16-Feb-00
LIMS ID Number:	CL03962	**Date Extracted:**	18-Feb-00
Job Number:	543	**Date Analysed:**	25-Feb-00

Matrix:	Soil	**QC Batch Number:**	226
Ext Method:	Soxhlet	**Multiplier:**	0.0667
Operator:	SW	**Dilution Factor:**	1
Directory/Quant File:	0224ABN.MS4 0224CCC3.D	**GPC (Y/N)**	Y

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol *	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methyl naphthalene *	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl *	92-52-4	15.36	0.5	99
Diphenyl ether *	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

* These compounds are not currently UKAS accredited.
Concentrations are reported on a wet weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-4	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	29.26	0.3	97
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	29.88	3.8	99
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

* compounds not currently UKAS accredited

Internal Standards	% Area
1,4-Dichlorobenzene-d4	91
Naphthalene-d8	85
Acenaphthene-d10	87
Phenanthrene-d10	89
Chrysene-d12	86
Perylene-d12	81

Surrogates	% Rec
2-Fluorophenol	54
Phenol-d5	65
Nitrobenzene-d5	63
2-Fluorobiphenyl	78
2,4,6-Tribromophenol	89
Terphenyl-d14	99

TES Bretby

Semi-Volatile Organic Compounds

UKAS TESTING 1252

Customer and Site Details:	Exploration Associates: M4 Relief Road		
Sample Details:	CH/0047/ / 0.10- m	**Job Number:**	543
LIMS ID Number:	CL03962		
		Multiplier:	0.0667
Date Booked in:	16-Feb-00	**Dilution Factor:**	1
Date Extracted:	18-Feb-00	**GPC (Y/N):**	Y
Date Analysed:	25-Feb-00	**Matrix:**	Soil
QC Batch Number:	226	**Method:**	Soxhlet
Directory:	0224ABN.MS4	**Operator:**	SW

Tentatively Identified Compounds	CAS #	R.T.	mg/kg	% Fit
Chlorinated Biphenyls			>31.6	

The compounds listed above have been tentatively identified by a computer based library search.
Compounds identified in the sample are not reported if they also occur in the method blank.
The % fit is an indication of the reliability of the compound assignment.
Due to the similarity between mass spectra of some isomeric compounds assignments may not be correct.
Other compounds may also be present but identification was not possible.
Concentrations are semi-quantitative, assume a response factor of 1 and use the nearest internal standard.
Concentrations are reported on a wet weight basis.

TES Bretby

Semi-Volatile Organic Compounds

UKAS TESTING 1252

Customer and Site Details:	Exploration Associates: M4 Relief Road		
Sample Details:	CH/0047/ / 1.10- m	**Date Booked in:**	16-Feb-00
LIMS ID Number:	CL03963	**Date Extracted:**	18-Feb-00
Job Number:	543	**Date Analysed:**	25-Feb-00

Matrix:	Soil	**QC Batch Number:**	226
Ext Method:	Soxhlet	**Multiplier:**	0.0667
Operator:	SW	**Dilution Factor:**	1
Directory/Quant File:	0225ABN.MS4 0225CCC1.D	**GPC (Y/N)**	N

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

* These compounds are not currently UKAS accredited.
Concentrations are reported on a wet weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-4	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	29.83	8.1	99
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

* compounds not currently UKAS accredited

Internal Standards	% Area
1,4-Dichlorobenzene-d4	84
Naphthalene-d8	76
Acenaphthene-d10	76
Phenanthrene-d10	71
Chrysene-d12	68
Perylene-d12	64

Surrogates	% Rec
2-Fluorophenol	67
Phenol-d5	79
Nitrobenzene-d5	76
2-Fluorobiphenyl	78
2,4,6-Tribromophenol	71
Terphenyl-d14	101

TES Bretby

Semi-Volatile Organic Compounds

UKAS TESTING 1252

Customer and Site Details:	Exploration Associates: M4 Relief Road		
Sample Details:	CH/0047/A /0.20- m	**Date Booked in:**	16-Feb-00
LIMS ID Number:	CL03964	**Date Extracted:**	18-Feb-00
Job Number:	543	**Date Analysed:**	25-Feb-00

Matrix:	Soil	**QC Batch Number:**	226
Ext Method:	Soxhlet	**Multiplier:**	0.0667
Operator:	SW	**Dilution Factor:**	1
Directory/Quant File:	0225ABN.MS4 0225CCC1.D	**GPC (Y/N)**	Y

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol *	106-48-9	-	< 2.0	-
4-Chloroaniline *	106-47-8	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methyl naphthalene *	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl *	92-52-4	15.31	0.4	99
Diphenyl ether *	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline *	99-09-2	-	< 0.5	-

* These compounds are not currently UKAS accredited.

Concentrations are reported on a wet weight basis.

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-4	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	24.86	0.3	99
Pyrene	129-00-0	25.49	0.2	93
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	29.20	0.4	98
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	29.82	0.7	98
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	32.16	0.2	99
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	33.13	0.2	96
Indeno[1,2,3-cd]pyrene	193-39-5	37.67	0.2	97
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

* compounds not currently UKAS accredited

Internal Standards	% Area
1,4-Dichlorobenzene-d4	82
Naphthalene-d8	75
Acenaphthene-d10	81
Phenanthrene-d10	80
Chrysene-d12	81
Perylene-d12	74

Surrogates	% Rec
2-Fluorophenol	32
Phenol-d5	46
Nitrobenzene-d5	46
2-Fluorobiphenyl	60
2,4,6-Tribromophenol	63
Terphenyl-d14	98

TES Bretby

Volatile Organic Compounds by PTGCMS

UKAS TESTING 1252

Customer and Site Details:	Exploration Associates: M4 Relief Road	**Directory/Quant file:**	0225VOC.MS1\ 0225CCC1.D	**Matrix:**	Soil
Sample Details:	CH 46 / 0.50m	**Date Booked in:**	16-Feb-00	**Method:**	Purge and Trap
LIMS ID Number:	CL03961	**Date Analysed:**	26-Feb-00	**Dilution:**	5
Report Number:	000543	**Operator:**	D.WALTON	**Position:**	1

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4	-	< 5	-
Bromomethane	74-83-9	-	< 5	-
Chloroethane	75-00-3	-	< 5	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 5	-
1,3-Dichloropropane	142-28-29	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Concentrations are reported on a wet weight basis

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

Concentrations are reported on a wet weight basis

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	12.14	88	Dibromofluoromethane	100
1,4-Difluorobenzene	13.28	85	Toluene-d8	99
Chlorobenzene-d5	17.60	81	Bromofluorobenzene	95
1,4-Dichlorobenzene-d4	21.06	72		

TEST REPORT
SOIL SAMPLE ANALYSIS

1252
1411

Amended Report
TES Report No. CL/000581

Site: M4 Relief Road

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
Mid Glamorgan
CF31 1JZ

The 5 samples described in this report were scheduled for analysis by TES Bretby on Thursday, 17 February 2000. The analysis was completed by Tuesday, 4 April 2000.

Tests marked as 'not UKAS accredited' and any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by TES Bretby laboratories.

The following tables are contained in this report:

Table 1 Sample Descriptions
Table 2 Main Analysis Results

On behalf of
TES Bretby : J.Hannah
J Hannah Project Co-ordinator

Date of Issue: 04/04/00

Tests marked 'not UKAS accredited' in this report are not included in the UKAS Accreditation Schedule for our laboratory.

TES Bretby accepts no responsibility for the sampling related to the above results

TES Bretby
Report 000581
Control Page
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TEST REPORT
SOIL SAMPLE ANALYSIS

1252
1411

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
Mid Glamorgan
CF31 1JZ

Amended Report
TES Report No. 000581

Site: M4 Relief Road

Page No	Assessed Area	ID No. EFS/CL	Sample	Depth (m) from	to	Description
1	M4 Relief Road	0004281	CH/ 52/A	0.30		CH52A 0.3
1	M4 Relief Road	0004282	CH/ 52/A	1.20		CH52A 1.2
1	M4 Relief Road	0004283	CH/ 53/A	0.40		CH53A 0.4
1	M4 Relief Road	0004284	CH/ 53/A	1.10		CH53A 1.1
2	M4 Relief Road	0004285	CH/ 54/A	0.40		CH54A 0.4

Date of Issue: 04/04/00

Tests not marked 'not UKAS accredited' in this report are not included in the UKAS Accreditation Schedule for our laboratory.

TES Bretby accepts no responsibility for the sampling related to the above results

TES Bretby
Report 000581
Table 1
Sheet 1/ 1

TEST REPORT
SOIL SAMPLE ANALYSIS

1252
1411

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
Mid Glamorgan
CF31 1JZ

Amended Report
TES Report No. 000581

Site: M4 Relief Road

Customer reference	CH 52 A	CH 52 A	CH 53 A	CH 53 A
Depth (m)	0.30	1.20	0.40	1.10
Date logged	17/02/00	17/02/00	17/02/00	17/02/00
TES Bretby ID Number	CL/0004281	CL/0004282	CL/0004283	CL/0004284

UKAS accredited	Test No.	CL/0004281	CL/0004282	CL/0004283	CL/0004284
Chromium (total)	ICPSSS11	53	647	670	48
CN- (total)	ICTSCN28	<1	<1	<1	<1
Copper	ICPSSS11	15	23	19	13
Cyanide (Free)	BGCN22	<1	<1	<1	<1
Elemental Sulphur	ELESULP	47	<20	<20	<20
Iron	ICPSSS11			131000	
Lead	ICPSSS11	59	65	71	53
Nickel	ICPSSS11	42	4	7	38
Oil FTIR	FTIRSW	95	133	164	43
PAH (screening)	PAHSCUV	11	12	26	<10
pH units	WSLM3	8.0	12.3	12.2	9.0
Phenol Index	WSLM4	<0.5	<0.5	<0.5	<0.5
SO4-- (acid sol)	ICPACS58	678	1750	2660	644
Sulphide	ICTSCN28	<1	48	66	<1
TPH FTIR (AR)	FTIRSW	37	190	225	55
Zinc	ICPSSS11	118	44	61	130

not UKAS accredited		CL/0004281	CL/0004282	CL/0004283	CL/0004284
Arsenic (Ms)		15.2	2.23	1.15	13.20
Boron.		1.6	2.0	6.0	1.0
Cadmium (Ms)		0.15	0.14	1.60	0.17
Mercury (Ms)		<0.01	<0.01	0.02	<0.01
Selenium (MS)		<0.50	1.46	1.60	<0.50

Results expressed as mg/kg Air Dried unless stated otherwise
SO4 Analysis not conducted in accordance with BS1377
AR denotes analysis conducted on As Received Sample

Date of Issue: 04/04/00

Tests marked 'not UKAS accredited' in this report are not included in the UKAS Accreditation Schedule for our laboratory.

TES Bretby accepts no responsibility for the sampling related to the above results

TEST REPORT
SOIL SAMPLE ANALYSIS

1252
1411

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
Mid Glamorgan
CF31 1JZ

Amended Report
TES Report No. 000581

Site: M4 Relief Road

Customer reference	CH			
Depth (m)	54 A 0.40			
Date logged	17/02/00			
TES Bretby ID Number	CL/0004285			

UKAS accredited	Test No.	CL/0004285			
Chromium (total)	ICPSSS11	36			
CN- (total)	ICTSCN28	<1			
Copper	ICPSSS11	10			
Lead	ICPSSS11	35			
Nickel	ICPSSS11	27			
Oil FTIR	FTIRSW	77			
PAH (screening)	PAHSCUV	<10			
pH units	WSLM3	10.0			
Phenol Index	WSLM4	<0.5			
SO4-- (acid sol)	ICPACS58	866			
TPH FTIR (AR)	FTIRSW	<20			
Zinc	ICPSSS11	69			

not UKAS accredited		CL/0004285			
Arsenic (Ms)		8.30			
Boron.		0.8			
Cadmium (Ms)		0.13			
Mercury (Ms)		<0.01			
Selenium (MS)		<0.50			

Results expressed as mg/kg Air Dried unless stated otherwise
SO4 Analysis not conducted in accordance with BS1377
AR denotes analysis conducted on As Received Sample

Date of Issue: 04/04/00

Tests marked 'not UKAS accredited' in this report are not included in the UKAS Accreditation Schedule for our laboratory.

TES Bretby accepts no responsibility for the sampling related to the above results

TES Bretby
Report 000581
Table 2
Sheet 2/ 2

TEST REPORT
LEACHATE SAMPLE ANALYSIS

1252

TES Report No. CL/000368

Site: M4 RELIEF RD

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
CF31 1JZ

The Sample described in this report was scheduled for analysis by TES Bretby on Thursday, 30 March 2000. The analysis was completed by Wednesday, 12 April 2000.

Tests marked as 'not UKAS accredited' and any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by TES Bretby laboratories.

The following tables are contained in this report:

Table 1 Sample Descriptions
Table 2 Main Analysis Results

On behalf of
TES Bretby :
J Elstub Project Co-ordinator

Date of Issue: 12/04/00

Tests marked 'not UKAS accredited' in this report are not included in the UKAS Accreditation Schedule for our laboratory.
TES Bretby accepts no responsibility for the sampling related to the above results.

TES Bretby
Report Number
CL/000368
Control Page
Sheet 1/ 1

TEST REPORT
LEACHATE SAMPLE ANALYSIS

1252

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
CF31 1JZ

TES Report No. CL/000368

Client: EXPLORATION ASS.
Site: M4 RELIEF RD

Page No	ID No. W/EX/		Sample Date
1	0007513	JOB 000368 CL/0002702	
1	0007514	JOB 000368 Blank	

Date of Issue: 12/04/00

Tests marked 'not UKAS accredited' in this report are not included in the UKAS Accreditation Schedule for our laboratory.

TES Bretby accepts no responsibility for the sampling related to the above results.

TES Bretby
Report Number
CL/000368
Table 1
Sheet 1/ 1

TEST REPORT
LEACHATE SAMPLE ANALYSIS

1252

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
CF31 1JZ

TES Report No. W/EXR/001544

Client: EXPLORATION ASS.
Site: M4 RELIEF RD

NDW

Customer Reference	CH 23				
Depth (m)	0.16	blank			
TES Bretby ID Number Leachate W/EX/..	0007513	0007514			
Soil Sample EFS/CL/..	0002702				

UKAS accredited	Test No.	0007513	0007514		
pH units	WSLM3	7.4	7.6		
TPH FTIR	FTIRSW	5.9	<0.2		
TPH GC	TPHFID	I.S	I.S		

not UKAS accredited		0007513	0007514		
Copper as Cu (Dissolved)		0.007	<0.001		
Zinc as Zn (Dissolved)		0.021	<0.001		
Arsenic as As (Dissolved)		0.004	<0.001		

Results expressed as mg/l unless stated, for the sample as received
.S Insufficient Sample for analysis

Date of Issue: 12/04/00

Tests marked 'not UKAS accredited' in this report are not included in the UKAS Accreditation Schedule for our laboratory.

TES Bretby accepts no responsibility for the sampling related to the above results.

TES Bretby
EFS/CL/000368
W/EXR/001544
Table 2
Sheet 1/ 1

TEST REPORT
LEACHATE SAMPLE ANALYSIS

1252

TES Report No. CL/000484

Site: M4 RELIEF RD

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
CF31 1JZ

The 4 Samples described in this report were scheduled for analysis by TES Bretby on Thursday, 30 March 2000. The analysis was completed by Thursday, 13 April 2000.

Tests marked as 'not UKAS accredited' and any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by TES Bretby laboratories.

The following tables are contained in this report:

Table 1 Sample Descriptions
Table 2 Main Analysis Results

On behalf of
TES Bretby :
J Elstub
Project Co-ordinator

Date of Issue: 13/04/00

Tests marked 'not UKAS accredited' in this report are not included in the UKAS Accreditation Schedule for our laboratory.
TES Bretby accepts no responsibility for the sampling related to the above results.

TES Bretby, P.O. Box 100, Burton-on-Trent, DE15 0XD Telephone: 01283 554400 Fax: 01283 554422
TES Bretby is a division of Environmental Services Group Limited Registered in England Number 2880501

TEST REPORT
LEACHATE SAMPLE ANALYSIS

1252

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
CF31 1JZ

TES Report No. CL/000484

Client: EXPLORATION ASS.
Site: M4 RELIEF RD

Page No	ID No. W/EX/		Sample Date
1	0007515	JOB 000484 CL/0003507	
1	0007516	JOB 000484 CL/0003511	
1	0007517	JOB 000484 CL/0003513	
1	0007518	JOB 000484 CL/0003520	
2	0007519	JOB 000484 Blank	

Date of Issue: 13/04/00

Tests marked 'not UKAS accredited' in this report are not included in the UKAS Accreditation Schedule for our laboratory.

TES Bretby accepts no responsibility for the sampling related to the above results.

TES Bretby, P.O. Box 100, Burton-on-Trent, DE15 0XD Telephone: 01283 554400 Fax: 01283 554422
TES Bretby is a division of Environmental Services Group Limited Registered in England Number 2880501

TEST REPORT
LEACHATE SAMPLE ANALYSIS

1252

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
CF31 1JZ

TES Report No. W/EXR/001545

Client: EXPLORATION ASS.
Site: M4 RELIEF RD

SOLUTIA

Customer Reference	CH 36	CH 38	CH 39	CH 42
Depth (m)	0.10	0.10	0.00	1.20
TES Bretby ID Number Leachate W/EX/..	0007515	0007516	0007517	0007518
Soil Sample EFS/CL/..	0003507	0003511	0003513	0003520

UKAS accredited	Test No.	0007515	0007516	0007517	0007518
pH units	WSLM3	7.9	7.8	7.9	8.1
TPH FTIR	FTIRSW	0.5	<0.3	<0.3	<0.3
TPH GC	TPHFID	I.S	I.S	I.S	I.S
Pentachlorophenol	SVOCSW	<0.050	<0.050	<0.050	<0.050

not UKAS accredited		0007515	0007516	0007517	0007518
Copper as Cu (Dissolved)		0.003	0.003	0.007	0.004
Zinc as Zn (Dissolved)		0.008	0.016	0.023	0.011
PCB - ARO		<0.0008	<0.0008	<0.001	<0.001

Results expressed as mg/l unless stated, for the sample as received
I.S Insufficient Sample for analysis

Date of Issue: 13/04/00

Tests marked 'not UKAS accredited' in this report are not included in the UKAS Accreditation Schedule for our laboratory.

TES Bretby accepts no responsibility for the sampling related to the above results.

TES Bretby
EFS/CL/000484
W/EXR/001545
Table 2
Sheet 1/ 2

TEST REPORT
LEACHATE SAMPLE ANALYSIS

1252

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
CF31 1JZ

TES Report No. W/EXR/001545

Client: EXPLORATION ASS.
Site: M4 RELIEF RD

Customer Reference Depth (m)		blank			
TES Bretby ID Number Leachate W/EX/.. Soil Sample EFS/CL/..		0007519			
UKAS accredited	Test No.	0007519			
pH units	WSLM3	8.2			
TPH FTIR	FTIRSW	<0.2			
TPH GC	TPHFID	I.S			
Pentachlorophenol	SVOCSW	<0.050			
not UKAS accredited		0007519			
Copper as Cu (Dissolved)		≤0.001			
Zinc as Zn (Dissolved)		<0.001			
PCB - ARO		<0.0006			

esults expressed as mg/l unless stated, for the sample as received
I.S Insufficient Sample for analysis

Date of Issue: 13/04/00

Tests marked 'not UKAS accredited' in this report are not included in the UKAS Accreditation Schedule for our laboratory.

TES Bretby accepts no responsibility for the sampling related to the above results.

TES Bretby
EFS/CL/000484
W/EXR/001545
Table 2
Sheet 2/ 2

TEST REPORT

LEACHATE SAMPLE ANALYSIS

TES Report No. CL/000542

Site: M4 RELIEF RD

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
CF31 1JZ

The 4 Samples described in this report were scheduled for analysis by TES Bretby on Thursday, 30 March 2000. The analysis was completed by Friday, 14 April 2000.

Tests marked as 'not UKAS accredited' and any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by TES Bretby laboratories.

The following tables are contained in this report:

Table 1 Sample Descriptions
Table 2 Main Analysis Results

On behalf of
TES Bretby :
J Elstub Project Co-ordinator

Date of Issue: 14/04/00

TEST REPORT

LEACHATE SAMPLE ANALYSIS

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
CF31 1JZ

TES Report No. CL/000542

Client: EXPLORATION ASSOCIATES
Site: M4 RELIEF RD

Page No	ID No. W/EX/		Sample Date
1	0007497	JOB 000542 CL/0003913	
1	0007498	JOB 000542 CL/0003915	
1	0007499	JOB 000542 CL/0003917	
1	0007500	JOB 000542 CL/0003918	
2	0007501	JOB 000542 Blank	

Date of Issue: 14/04/00

TES Bretby, P.O. Box 100, Burton-on-Trent, DE15 0XD
Telephone: 01283 554400 Fax: 01283 554422

TES Bretby
Report Number
CL/000542
Table 1
Sheet 1/ 1

TEST REPORT

LEACHATE SAMPLE ANALYSIS

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
CF31 1JZ

TES Report No. W/EXR/001541

Client: EXPLORATION ASSOCIATES
Site: M4 RELIEF RD

NDW

Customer Reference		CH 9	CH 10	CH 11	CH 11
Depth (m)		0.00	0.40	0.35	1.65
TES Bretby ID Number	Leachate W/EX/..	0007497	0007498	0007499	0007500
	Soil Sample EFS/CL/..	0003913	0003915	0003917	0003918

UKAS accredited	Test No.	0007497	0007498	0007499	0007500
TPH FTIR	FTIRSW	0.4	0.6	3.7	1.0

not UKAS accredited		0007497	0007498	0007499	0007500
pH units		7.6	8.0	7.9	7.7
Copper as Cu (Dissolved)		0.002	0.006	0.002	0.011
Zinc as Zn (Dissolved)		0.034	0.011	0.020	0.025
Arsenic as As (Dissolved)		0.002	0.005	0.002	0.009
TPH GC		<0.2	<0.1	<0.1	3.7

Results expressed as mg/l unless stated, for the sample as received

Note - pH Units not UKAS accredited due to QC failure

Date of Issue: 14/04/00

TES Bretby, P.O. Box 100, Burton-on-Trent, DE15 0XD
Telephone: 01283 554400 Fax: 01283 554422

TES Bretby
EFS/CL/000542
W/EXR/001541
Table 2
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TEST REPORT

LEACHATE SAMPLE ANALYSIS

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
CF31 1JZ

TES Report No. W/EXR/001541

Client: EXPLORATION ASSOCIATES
Site: M4 RELIEF RD

Customer Reference		blank			
Depth (m)					
TES Bretby ID Number Leachate W/EX/.. Soil Sample EFS/CL/..		0007501			
UKAS accredited	Test No.	0007501			
TPH FTIR	FTIRSW	<0.2			
not UKAS accredited		0007501			
pH units		8.0			
Copper as Cu (Dissolved)		<0.001			
Zinc as Zn (Dissolved)		<0.001			
Arsenic as As (Dissolved)		<0.001			
TPH GC		<0.1			

Results expressed as mg/l unless stated, for the sample as received

Note - pH Units not UKAS accredited due to QC failure

Date of Issue: 14/04/00

TES Bretby, P.O. Box 100, Burton-on-Trent, DE15 0XD
Telephone: 01283 554400 Fax: 01283 554422

TES Bretby
EFS/CL/000542
W/EXR/001541
Table 2
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TEST REPORT

LEACHATE SAMPLE ANALYSIS

TES Report No. CL/000543

Site: M4 RELIEF RD

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
CF31 1JZ

The 8 Samples described in this report were scheduled for analysis by TES Bretby on Thursday, 30 March 2000. The analysis was completed by Friday, 14 April 2000.

Tests marked as 'not UKAS accredited' and any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by TES Bretby laboratories.

The following tables are contained in this report:

Table 1 Sample Descriptions
Table 2 Main Analysis Results

On behalf of
TES Bretby : _____
P Thompson Project Co-ordinator

Date of Issue: 14/04/00

TEST REPORT

LEACHATE SAMPLE ANALYSIS

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
CF31 1JZ

TES Report No. CL/000543

Client: EXPLORATION ASS.
Site: M4 RELIEF RD

Page No	ID No. W/EX/		Sample Date
1	0007504	JOB 000543 CL/0003950	
1	0007505	JOB 000543 CL/0003951	
1	0007506	JOB 000543 CL/0003955	
1	0007507	JOB 000543 CL/0003962	
2	0007508	JOB 000543 CL/0003967	
2	0007509	JOB 000543 CL/0003970	
2	0007510	JOB 000543 CL/0003971	
2	0007511	JOB 000543 CL/0003972	
3	0007512	JOB 000543 Blank	

Date of Issue: 14/04/00

TES Bretby, P.O. Box 100, Burton-on-Trent, DE15 0XD
Telephone: 01283 554400 Fax: 01283 554422

TES Bretby
Report Number
CL/000543
Table 1
Sheet 1/ 1

TEST REPORT

LEACHATE SAMPLE ANALYSIS

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
CF31 1JZ

TES Report No. W/EXR/001543

Client: EXPLORATION ASS.
Site: M4 RELIEF RD

ND-E SOL

Customer Reference	CH 31	CH 32	CH 43	CH 47
Depth (m)	0.00	0.00	0.20	0.10
TES Bretby ID Number Leachate W/EX/..	0007504	0007505	0007506	0007507
Soil Sample EFS/CL/..	0003950	0003951	0003955	0003962

UKAS accredited	Test No.	0007504	0007505	0007506	0007507
pH units	WSLM3	10.8	9.4	8.8	8.6
TPH FTIR	FTIRSW			4.0	<0.2
Pentachlorophenol	SVOCSW			<0.083	<0.050

not UKAS accredited		0007504	0007505	0007506	0007507
Chromium as Cr (Dissolved)		0.035	0.005		
Copper as Cu (Dissolved)		0.014	0.008	0.004	0.003
Zinc as Zn (Dissolved)				0.006	0.010
Boron as B (Dissolved)		0.09	0.14		
PCB - ARO				<0.002	<0.0009
TPH GC		<0.1	<0.1	<0.2	<0.2

Results expressed as mg/l unless stated, for the sample as received

Date of Issue: 14/04/00

TES Bretby, P.O. Box 100, Burton-on-Trent, DE15 0XD
Telephone: 01283 554400 Fax: 01283 554422

TES Bretby
EFS/CL/000543
W/EXR/001543
Table 2
Sheet 1/ 3

TEST REPORT

LEACHATE SAMPLE ANALYSIS

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
CF31 1JZ

TES Report No. W/EXR/001543

Client: EXPLORATION ASS.
Site: M4 RELIEF RD

LLANWERN EPR. EPR MD

Customer Reference	CH 49	CH 50	CH 51	CH 55
Depth (m)	0.05	0.05	0.00	0.00
TES Bretby ID Number Leachate W/EX/..	0007508	0007509	0007510	0007511
Soil Sample EFS/CL/..	0003967	0003970	0003971	0003972

UKAS accredited	Test No.	0007508	0007509	0007510	0007511
pH units	WSLM3	8.4	8.5	10.9	9.8
Total Sulphur as SO4 (Dissolved)	ICPPWW13	13.6	12.7	28.0	
Iron as Fe (Dissolved)	ICPPWW13	0.03	0.17	<0.01	
TPH FTIR	FTIRSW				0.8

not UKAS accredited		0007508	0007509	0007510	0007511
Zinc as Zn (Dissolved)		0.005	0.026		
TPH GC					I.S

Results expressed as mg/l unless stated, for the sample as received
.S Insufficient Sample for analysis

Date of Issue: 14/04/00

TES Bretby, P.O. Box 100, Burton-on-Trent, DE15 0XD
Telephone: 01283 554400 Fax: 01283 554422

TEST REPORT

LEACHATE SAMPLE ANALYSIS

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
CF31 1JZ

TES Report No. W/EXR/001543

Client: EXPLORATION ASS.
Site: M4 RELIEF RD

Customer Reference Depth (m)		blank			
TES Bretby ID Number Leachate W/EX/.. Soil Sample EFS/CL/..		0007512			
UKAS accredited	Test No.	0007512			
pH units	WSLM3	8.8			
Total Sulphur as SO4 (Dissolved)	ICPPWW13	<0.06			
Iron as Fe (Dissolved)	ICPPWW13	<0.01			
TPH FTIR	FTIRSW	<0.2			
Pentachlorophenol	SVOCSW	<0.050			
not UKAS accredited		0007512			
Chromium as Cr (Dissolved)		<0.001			
Copper as Cu (Dissolved)		<0.001			
Zinc as Zn (Dissolved)		<0.001			
Boron as B (Dissolved)		<0.05			
PCB - ARO		<0.0005			
TPH GC		<0.1			

Results expressed as mg/l unless stated, for the sample as received

Date of Issue: 14/04/00

TES Bretby, P.O. Box 100, Burton-on-Trent, DE15 0XD
Telephone: 01283 554400 Fax: 01283 554422

TES Bretby
EFS/CL/000543
W/EXR/001543
Table 2
Sheet 3/ 3

TEST REPORT
LEACHATE SAMPLE ANALYSIS

1252

TES Report No. CL/000581

Site: M4 RELIEF RD

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
CF31 1JZ

The Sample described in this report was scheduled for analysis by TES Bretby on Thursday, 30 March 2000. The analysis was completed by Monday, 10 April 2000.

Tests marked as 'not UKAS accredited' and any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by TES Bretby laboratories.

The following tables are contained in this report:

Table 1 Sample Descriptions
Table 2 Main Analysis Results

On behalf of
TES Bretby :
J Elstub Project Co-ordinator

Date of Issue: 10/04/00

Tests marked 'not UKAS accredited' in this report are not included in the UKAS Accreditation Schedule for our laboratory.
TES Bretby accepts no responsibility for the sampling related to the above results.

TES Bretby
Report Number
CL/000581
Control Page
Sheet 1/ 1

TEST REPORT
LEACHATE SAMPLE ANALYSIS

1252

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
CF31 1JZ

TES Report No. CL/000581

Client: EXPLORATION ASS.
Site: M4 RELIEF RD

Page No	ID No. W/EX/		Sample Date
1	0007502	JOB 000581 CL/0004283	
1	0007503	JOB 000581 Blank	

Date of Issue: 10/04/00

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TES Bretby
Report Number
CL/000581
Table 1
Sheet 1/ 1

TEST REPORT
LEACHATE SAMPLE ANALYSIS

1252

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
CF31 1JZ

TES Report No. W/EXR/001542

Client: EXPLORATION ASS.
Site: M4 RELIEF RD

EP.L

Customer Reference	CH 53 A				
Depth (m)	0.40	blank			
TES Bretby ID Number Leachate W/EX/..	0007502	0007503			
Soil Sample EFS/CL/..	0004283				

UKAS accredited	Test No.	0007502	0007503		
pH units	WSLM3	11.8	10.2		
Total Sulphur as SO4 (Dissolved)	ICPPWW13	13.9	<0.06		
Iron as Fe (Dissolved)	ICPPWW13	<0.01	<0.01		

esults expressed as mg/l unless stated, for the sample as received

Date of Issue: 10/04/00

Tests marked 'not UKAS accredited' in this report are not included in the UKAS Accreditation Schedule for our laboratory.

TES Bretby accepts no responsibility for the sampling related to the above results.

TES Bretby
EFS/CL/000581
W/EXR/001542
Table 2
Sheet 1/ 1

TEST REPORT

WATER SAMPLE ANALYSIS

TES Report No. W/EXR/000694

Site: M4 RELIEF RD

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
CF31 1JZ

The 6 Samples described in this report were scheduled for analysis by TES Bretby on Thursday, 10 February 2000. The analysis was completed by Monday, 28 February 2000.

Tests marked as 'not UKAS accredited' and any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by TES Bretby laboratories.

The following tables are contained in this report:

Table 1 Sample Descriptions
Table 2 Main Analysis Results
Table 3 Phenol Results
Tables of Poly Aromatic Hydrocarbons (6 Pages)
Tables of Volatile Organic Compounds (3 Pages)

On behalf of
TES Bretby : J Elstub Project Co-ordinator

Date of Issue: 28/02/00

TEST REPORT

WATER SAMPLE ANALYSIS

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
CF31 1JZ

TES Report No. W/EXR/000694

Client: EXPLORATION ASS.
Site: M4 RELIEF RD

Page No	ID No. W/EX/		Sample Date
1	0003196	Site 02 Reen Sample	31/01/00
1	0003195	BH CH 05 @ 2.70m	31/01/00
1	0003197	BH CH 08 @ 1.50m	31/01/00
1	0003198	BH CH 35 @ 0.80m	31/01/00
2	0003199	BH CH 40 @ 1.10m	31/01/00
2	0003200	BH CH 41 @ 1.10m	31/01/00

Date of Issue: 28/02/00

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TES Bretby
Report Number
W/EXR/000694
Table 1
Sheet 1/ 1

TEST REPORT

WATER SAMPLE ANALYSIS

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
CF31 1JZ

TES Report No. W/EXR/000694

Client: EXPLORATION ASS.
Site: M4 RELIEF RD

Sample reference Sample Date TES Bretby ID Number W/EX/..		Sample 01 31/01/00 0003196	Sample 02 31/01/00 0003195	Sample 03 31/01/00 0003197	Sample 04 31/01/00 0003198
UKAS accredited	Test No.	0003196	0003195	0003197	0003198
pH units	WSLM3	7.1	7.0	7.0	7.8
Chloride as Cl	WSLM1				75
Total Sulphur as SO4 (Dissolved)	ICPPWW13	26.0	18.6	24.0	91.4
Ammoniacal Nitrogen as N	AMMKA40				17
Thiocyanate as SCN	WSLM5				0.6
Sulphide (Free) as S	ISESW24				<0.2
Biochemical Oxygen Demand	WSLM20				17
TPH FTIR	FTIRSW	0.09	0.33	0.06	0.17
Phenol Index as C6H5OH	WSLM4	<0.05	<0.05	<0.05	1.06
TPH GC	TPHFID	0.12	0.6	<0.1	10.0
Volatile Organic Compounds	VOCSW				*
Pentachlorophenol	SVOCSW				4.275

not UKAS accredited		0003196	0003195	0003197	0003198
Nickel as Ni (Dissolved)		0.004	0.087	0.007	0.007
Chromium as Cr (Dissolved)		<0.001	0.001	<0.001	0.002
Cadmium as Cd (Dissolved)		<0.0001	<0.0001	<0.0001	<0.0001
Copper as Cu (Dissolved)		0.004	0.006	0.003	0.004
Lead as Pb (Dissolved)		<0.001	<0.001	<0.001	<0.001
Zinc as Zn (Dissolved)		0.032	0.075	0.043	0.030
Arsenic as As (Dissolved)		0.002	0.022	0.002	0.009
Boron as B (Dissolved)		0.06	0.24	0.22	0.33
Mercury as Hg (Dissolved)		<0.0001	<0.0001	<0.0001	<0.0001
Selenium as Se (Dissolved)		<0.001	0.007	<0.001	0.002
Cyanide (Free) as CN					<0.025
Cyanide (Total) as CN		1.3	<0.025	<0.025	0.05
Complex Cyanide as CN					0.05
PCB - ARO					0.066
PAH HPLC		*	*	*	*

Results expressed as mg/l unless stated, for the sample as received
* See attached sheets for results
Sample 01: Site 02 Reen Sample
Sample 02: BH CH 05 @ 2.70m
Sample 03: BH CH 08 @ 1.50m
Sample 04: BH CH 35 @ 0.80m

Date of Issue: 28/02/00

TES Bretby, P.O. Box 100, Burton-on-Trent, DE15 0XD
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TEST REPORT

WATER SAMPLE ANALYSIS

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
CF31 1JZ

TES Report No. W/EXR/000694

Client: EXPLORATION ASS.
Site: M4 RELIEF RD

Sample reference Sample Date TES Bretby ID Number W/EX/..		Sample 05 31/01/00 0003199	Sample 06 31/01/00 0003200		
UKAS accredited	Test No.	0003199	0003200		
pH units	WSLM3	8.9	7.4		
Chloride as Cl	WSLM1	21	17		
Total Sulphur as SO4 (Dissolved)	ICPPWW13	41.1	23.3		
Ammoniacal Nitrogen as N	AMMKA40	<0.2	<0.2		
Thiocyanate as SCN	WSLM5	<0.2	<0.2		
Sulphide (Free) as S	ISESW24	<0.2	0.8		
Biochemical Oxygen Demand	WSLM20	4.0	<2.0		
TPH FTIR	FTIRSW	0.18	0.66		
Phenol Index as C6H5OH	WSLM4	<0.05	<0.05		
TPH GC	TPHFID	0.8	8.0		
Volatile Organic Compounds	VOCSW	*	*		
Pentachlorophenol	SVOCSW	<0.050	<0.063		

not UKAS accredited		0003199	0003200		
Nickel as Ni (Dissolved)		0.006	0.010		
Chromium as Cr (Dissolved)		0.003	0.004		
Cadmium as Cd (Dissolved)		<0.0001	<0.0001		
Copper as Cu (Dissolved)		0.010	0.003		
Lead as Pb (Dissolved)		<0.001	<0.001		
Zinc as Zn (Dissolved)		0.016	0.034		
Arsenic as As (Dissolved)		0.007	0.012		
Boron as B (Dissolved)		0.07	0.06		
Mercury as Hg (Dissolved)		<0.0001	<0.0001		
Selenium as Se (Dissolved)		<0.001	<0.001		
Cyanide (Free) as CN		<0.025	<0.025		
Cyanide (Total) as CN		0.05	<0.025		
Complex Cyanide as CN		0.05	<0.025		
PCB - ARO		0.048	0.022		
PAH HPLC		*	*		

* Min. Oil
- All 6-compounds

Results expressed as mg/l unless stated, for the sample as received
* See attached sheets for results
Sample 05: BH CH 40 @ 1.10m
Sample 06: BH CH 41 @ 1.10m

Date of Issue: 28/02/00

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TEST REPORT

WATER SAMPLE ANALYSIS

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
CF31 1JZ

TES Report No. W/EXR/000694

Client: EXPLORATION ASS.
Site: M4 RELIEF RD

Phenol Analysis

Sample reference Sample Date TES Bretby ID Number W/EX/..	Sample 01 31/01/00 0003198	Sample 02 31/01/00 0003199	Sample 03 31/01/00 0003200	
not UKAS accredited	0003198	0003199	0003200	
Phenol	1.083	<0.0005	0.0006	
Cresols	4.14	<0.0005	0.0024	
Dimethylphenols	<0.05	<0.0005	<0.0005	
Trimethylphenols	0.9780	<0.0005	<0.0005	

Results expressed as mg/l unless stated, for the sample as received
Sample 01: BH CH 35 @ 0.80m
Sample 02: BH CH 40 @ 1.10m
Sample 03: BH CH 41 @ 1.10m

Date of Issue: 28/02/00

TES Bretby, P.O. Box 100, Burton-on-Trent, DE15 0XD
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TES Bretby
Report Number
W/EXR/000694
Table 3
Sheet 1/ 1

TES Bretby

Polycyclic Aromatic Hydrocarbons by HPLC

Customer and Site Details:	Exploration Ass. : M4 Relief Road		
Sample Details:	BH CH 05 @ 2.70m	**Report Number:**	694
LIMS ID Number:	EX3195	**Date Booked in:**	10-Feb-00
QC Batch Number:	282	**Date Extracted:**	15-Feb-00
Directory:	0215PAH.LC2	**Date Analysed:**	16-Feb-00
Dilution (fluorescence):	1.0	**Matrix:**	Water
Dilution (UV):	1.0	**Ext Method:**	Sep Funnel

Target Compounds	CAS #	Concentration µg/l	Fluorescence / UV
Naphthalene	91-20-3	1.19	Fluorescence
Acenaphthylene	208-96-8	< 1.00	UV
Acenaphthene	83-32-9	0.16	Fluorescence
Fluorene	86-73-7	0.11	Fluorescence
Phenanthrene	85-01-8	0.15	Fluorescence
Anthracene	120-12-7	< 0.05	Fluorescence
Fluoranthene	206-44-0	0.08	Fluorescence
Pyrene	129-00-0	< 0.05	Fluorescence
Benzo[a]anthracene	56-55-3	< 0.05	Fluorescence
Chrysene	218-01-9	< 0.05	Fluorescence
Benzo[b]fluoranthene	205-99-2	< 0.05	Fluorescence
Benzo[k]fluoranthene	207-08-9	< 0.05	Fluorescence
Benzo[a]pyrene	50-32-8	< 0.05	Fluorescence
Indeno[1,2,3-cd]pyrene	193-39-5	< 0.05	Fluorescence
Dibenzo[a,h]anthracene	53-70-3	< 0.05	Fluorescence
Benzo[g,h,i]perylene	191-24-2	< 0.05	Fluorescence
Total PAHs (USEPA 16)	-	< 3.18	-

Data may be obtained from either the fluorescence detector or when the response is very high a less sensitive UV detector (this is indicated for each compound). Any dilutions necessary during analysis have been included in the calculations. Reported results do not require any corrections.

TES Bretby

Polycyclic Aromatic Hydrocarbons by HPLC

Customer and Site Details:	Exploration Ass. : M4 Relief Road		
Sample Details:	Site 02 Reen Sample	**Report Number:**	694
LIMS ID Number:	EX3196	**Date Booked in:**	10-Feb-00
QC Batch Number:	282	**Date Extracted:**	15-Feb-00
Directory:	0215PAH.LC2	**Date Analysed:**	16-Feb-00
Dilution (fluorescence):	1.0	**Matrix:**	Water
Dilution (UV):	1.0	**Ext Method:**	Sep Funnel

Target Compounds	CAS #	Concentration µg/l	Fluorescence / UV
Naphthalene	91-20-3	< 0.50	Fluorescence
Acenaphthylene	208-96-8	< 1.00	UV
Acenaphthene	83-32-9	< 0.05	Fluorescence
Fluorene	86-73-7	< 0.05	Fluorescence
Phenanthrene	85-01-8	< 0.05	Fluorescence
Anthracene	120-12-7	< 0.05	Fluorescence
Fluoranthene	206-44-0	< 0.05	Fluorescence
Pyrene	129-00-0	< 0.05	Fluorescence
Benzo[a]anthracene	56-55-3	< 0.05	Fluorescence
Chrysene	218-01-9	< 0.05	Fluorescence
Benzo[b]fluoranthene	205-99-2	< 0.05	Fluorescence
Benzo[k]fluoranthene	207-08-9	< 0.05	Fluorescence
Benzo[a]pyrene	50-32-8	< 0.05	Fluorescence
Indeno[1,2,3-cd]pyrene	193-39-5	< 0.05	Fluorescence
Dibenzo[a,h]anthracene	53-70-3	< 0.05	Fluorescence
Benzo[g,h,i]perylene	191-24-2	< 0.05	Fluorescence
Total PAHs (USEPA 16)	-	< 2.20	-

Data may be obtained from either the fluorescence detector or when the response is very high a less sensitive UV detector (this is indicated for each compound). Any dilutions necessary during analysis have been included in the calculations. Reported results do not require any corrections.

TES Bretby

Polycyclic Aromatic Hydrocarbons by HPLC

Customer and Site Details:	Exploration Ass. : M4 Relief Road		
Sample Details:	BH CH 08 @ 1.50m	**Report Number:**	694
LIMS ID Number:	EX3197	**Date Booked in:**	10-Feb-00
QC Batch Number:	282	**Date Extracted:**	15-Feb-00
Directory:	0215PAH.LC2	**Date Analysed:**	16-Feb-00
Dilution (fluorescence):	1.0	**Matrix:**	Water
Dilution (UV):	1.0	**Ext Method:**	Sep Funnel

Target Compounds	CAS #	Concentration µg/l	Fluorescence / UV
Naphthalene	91-20-3	< 0.50	Fluorescence
Acenaphthylene	208-96-8	< 1.00	UV
Acenaphthene	83-32-9	< 0.05	Fluorescence
Fluorene	86-73-7	< 0.05	Fluorescence
Phenanthrene	85-01-8	< 0.05	Fluorescence
Anthracene	120-12-7	< 0.05	Fluorescence
Fluoranthene	206-44-0	< 0.05	Fluorescence
Pyrene	129-00-0	< 0.05	Fluorescence
Benzo[a]anthracene	56-55-3	< 0.05	Fluorescence
Chrysene	218-01-9	< 0.05	Fluorescence
Benzo[b]fluoranthene	205-99-2	< 0.05	Fluorescence
Benzo[k]fluoranthene	207-08-9	< 0.05	Fluorescence
Benzo[a]pyrene	50-32-8	< 0.05	Fluorescence
Indeno[1,2,3-cd]pyrene	193-39-5	< 0.05	Fluorescence
Dibenzo[a,h]anthracene	53-70-3	< 0.05	Fluorescence
Benzo[g,h,i]perylene	191-24-2	< 0.05	Fluorescence
Total PAHs (USEPA 16)	-	< 2.20	-

Data may be obtained from either the fluorescence detector or when the response is very high a less sensitive UV detector (this is indicated for each compound). Any dilutions necessary during analysis have been included in the calculations. Reported results do not require any corrections.

TES Bretby

Polycyclic Aromatic Hydrocarbons by HPLC

Customer and Site Details:	Exploration Ass. : M4 Relief Road		
Sample Details:	BH CH 35 @ 0.80m	**Report Number:**	694
LIMS ID Number:	EX3198	**Date Booked in:**	10-Feb-00
QC Batch Number:	282	**Date Extracted:**	15-Feb-00
Directory:	0215PAH.LC2	**Date Analysed:**	16-Feb-00
Dilution (fluorescence):	10.0	**Matrix:**	Water
Dilution (UV):	1.0	**Ext Method:**	Sep Funnel

Target Compounds	CAS #	Concentration µg/l	Fluorescence / UV
Naphthalene	91-20-3	< 5.00	Fluorescence
Acenaphthylene	208-96-8	< 1.00	UV
Acenaphthene	83-32-9	0.54	Fluorescence
Fluorene	86-73-7	1.07	Fluorescence
Phenanthrene	85-01-8	< 0.50	Fluorescence
Anthracene	120-12-7	0.64	Fluorescence
Fluoranthene	206-44-0	< 0.50	Fluorescence
Pyrene	129-00-0	< 0.50	Fluorescence
Benzo[a]anthracene	56-55-3	< 0.50	Fluorescence
Chrysene	218-01-9	< 0.50	Fluorescence
Benzo[b]fluoranthene	205-99-2	< 0.50	Fluorescence
Benzo[k]fluoranthene	207-08-9	< 0.50	Fluorescence
Benzo[a]pyrene	50-32-8	< 0.50	Fluorescence
Indeno[1,2,3-cd]pyrene	193-39-5	< 0.50	Fluorescence
Dibenzo[a,h]anthracene	53-70-3	< 0.50	Fluorescence
Benzo[g,h,i]perylene	191-24-2	< 0.50	Fluorescence
Total PAHs (USEPA 16)	-	< 13.75	-

Data may be obtained from either the fluorescence detector or when the response is very high a less sensitive UV detector (this is indicated for each compound). Any dilutions necessary during analysis have been included in the calculations. Reported results do not require any corrections.

TES Bretby

Polycyclic Aromatic Hydrocarbons by HPLC

Customer and Site Details:	Exploration Ass. : M4 Relief Road		
Sample Details:	BH CH 40 @ 1.10m	**Report Number:**	694
LIMS ID Number:	EX3199	**Date Booked in:**	10-Feb-00
QC Batch Number:	282	**Date Extracted:**	15-Feb-00
Directory:	0215PAH.LC2	**Date Analysed:**	16-Feb-00
Dilution (fluorescence):	1.0	**Matrix:**	Water
Dilution (UV):	1.0	**Ext Method:**	Sep Funnel

Target Compounds	CAS #	Concentration µg/l	Fluorescence / UV
Naphthalene	91-20-3	< 0.50	Fluorescence
Acenaphthylene	208-96-8	< 1.00	UV
Acenaphthene	83-32-9	< 0.05	Fluorescence
Fluorene	86-73-7	< 0.05	Fluorescence
Phenanthrene	85-01-8	< 0.05	Fluorescence
Anthracene	120-12-7	< 0.05	Fluorescence
Fluoranthene	206-44-0	< 0.05	Fluorescence
Pyrene	129-00-0	< 0.05	Fluorescence
Benzo[a]anthracene	56-55-3	< 0.05	Fluorescence
Chrysene	218-01-9	< 0.05	Fluorescence
Benzo[b]fluoranthene	205-99-2	< 0.05	Fluorescence
Benzo[k]fluoranthene	207-08-9	< 0.05	Fluorescence
Benzo[a]pyrene	50-32-8	< 0.05	Fluorescence
Indeno[1,2,3-cd]pyrene	193-39-5	< 0.05	Fluorescence
Dibenzo[a,h]anthracene	53-70-3	< 0.05	Fluorescence
Benzo[g,h,i]perylene	191-24-2	< 0.05	Fluorescence
Total PAHs (USEPA 16)	-	< 2.20	-

Data may be obtained from either the fluorescence detector or when the response is very high a less sensitive UV detector (this is indicated for each compound). Any dilutions necessary during analysis have been included in the calculations. Reported results do not require any corrections.

TES Bretby

Polycyclic Aromatic Hydrocarbons by HPLC

Customer and Site Details:	Exploration Ass. : M4 Relief Road		
Sample Details:	BH CH 41 @ 1.10m	**Report Number:**	694
LIMS ID Number:	EX3200	**Date Booked in:**	10-Feb-00
QC Batch Number:	282	**Date Extracted:**	15-Feb-00
Directory:	0215PAH.LC2	**Date Analysed:**	16-Feb-00
Dilution (fluorescence):	1.0	**Matrix:**	Water
Dilution (UV):	1.0	**Ext Method:**	Sep Funnel

Target Compounds	CAS #	Concentration µg/l	Fluorescence / UV
Naphthalene	91-20-3	< 0.50	Fluorescence
Acenaphthylene	208-96-8	< 1.00	UV
Acenaphthene	83-32-9	< 0.05	Fluorescence
Fluorene	86-73-7	0.07	Fluorescence
Phenanthrene	85-01-8	0.17	Fluorescence
Anthracene	120-12-7	< 0.05	Fluorescence
Fluoranthene	206-44-0	0.21	Fluorescence
Pyrene	129-00-0	0.19	Fluorescence
Benzo[a]anthracene	56-55-3	0.50	Fluorescence
Chrysene	218-01-9	0.56	Fluorescence
Benzo[b]fluoranthene	205-99-2	0.16	Fluorescence
Benzo[k]fluoranthene	207-08-9	0.06	Fluorescence
Benzo[a]pyrene	50-32-8	0.16	Fluorescence
Indeno[1,2,3-cd]pyrene	193-39-5	0.07	Fluorescence
Dibenzo[a,h]anthracene	53-70-3	< 0.05	Fluorescence
Benzo[g,h,i]perylene	191-24-2	0.07	Fluorescence
Total PAHs (USEPA 16)	-	< 3.87	-

Data may be obtained from either the fluorescence detector or when the response is very high a less sensitive UV detector (this is indicated for each compound). Any dilutions necessary during analysis have been included in the calculations. Reported results do not require any corrections.

TES Bretby

Volatile Organic Compounds by PTGCMS

UKAS TESTING 1252

Customer and Site Details:	Exploration Associates : M4 Relief Road	**Directory/Quant file:**	0214VOC.MS3\ 0214CCC1.D	**Matrix:**	Water
Sample Details:	BH CH 35 / 0.80m	**Date Booked in:**	10-Feb-00	**Method:**	Purge and Trap
LIMS ID Number:	EX03198	**Date Analysed:**	14-Feb-00	**Dilution:**	5
Report Number:	000694	**Operator:**	D.WALTON	**Position:**	6

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4	-	< 5	-
Bromomethane	74-83-9	-	< 5	-
Chloroethane	75-00-3	-	< 5	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	12.55	130	94
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5	-	< 5	-
Toluene	108-88-3	15.33	18	94
trans 1,3-Dichloropropene	10061-02-6	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 5	-
1,3-Dichloropropane	142-28-29	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	17.42	6	61
Ethylbenzene	100-41-4	17.52	255	97
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	17.67	872	98
o-Xylene	95-47-6	18.29	245	93

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8	-	< 5	-
1,3,5-Trimethylbenzene	108-67-8	-	< 5	-
4-Chlorotoluene	106-43-4	-	< 5	-
tert-Butylbenzene	98-06-6	-	< 5	-
1,2,4-Trimethylbenzene	95-63-6	-	< 5	-
sec-Butylbenzene	135-98-8	-	< 5	-
p-Isopropyltoluene	99-87-6	-	< 5	-
1,3-Dichlorobenzene	541-73-1	20.79	6	79
1,4-Dichlorobenzene	106-46-7	20.91	45	83
n-Butylbenzene	104-51-8	-	< 5	-
1,2-Dichlorobenzene	95-50-1	21.51	12	96
1,2-Dibromo-3-chloropropane	96-12-8	-	< 25	-
1,2,4-Trichlorobenzene	120-82-1	24.01	204	97
Hexachlorobutadiene	87-68-3	-	< 25	-
Naphthalene	91-20-3	-	< 25	-
1,2,3-Trichlorobenzene	87-61-6	-	< 25	-

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	11.89	82	Dibromofluoromethane	109
1,4-Difluorobenzene	13.04	86	Toluene-d8	101
Chlorobenzene-d5	17.39	87	Bromofluorobenzene	97
1,4-Dichlorobenzene-d4	20.87	86		

TES Bretby

Volatile Organic Compounds by PTGCMS

UKAS TESTING 1252

Customer and Site Details:	Exploration Associates : M4 Relief Road	**Directory/Quant file:**	0214VOC.MS3\ 0214CCC1.D	**Matrix:**	Water
Sample Details:	BH CH 40 / 1.10m	**Date Booked in:**	10-Feb-00	**Method:**	Purge and Trap
LIMS ID Number:	EX03199	**Date Analysed:**	14-Feb-00	**Dilution:**	1
Report Number:	000694	**Operator:**	D.WALTON	**Position:**	7

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Dichlorodifluoromethane	75-71-8	-	< 1	-
Chloromethane	74-87-3	-	< 1	-
Vinyl Chloride	75-01-4	-	< 1	-
Bromomethane	74-83-9	-	< 1	-
Chloroethane	75-00-3	-	< 1	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-4	-	< 1	-
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	-	< 1	-
2,2-Dichloropropane	594-20-7	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	-	< 1	-
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	-	< 1	-
1,1,1-Trichloroethane	71-55-6	-	< 1	-
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	-	< 1	-
1,2-Dichloroethane	107-06-2	-	< 1	-
Trichloroethene	79-01-6	-	< 1	-
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4	-	< 1	-
cis 1,3-Dichloropropene	10061-01-5	-	< 1	-
Toluene	108-88-3	-	< 1	-
trans 1,3-Dichloropropene	10061-02-6	-	< 1	-
1,1,2-Trichloroethane	79-00-5	-	< 1	-
Tetrachloroethene	127-18-4	-	< 1	-
1,3-Dichloropropane	142-28-29	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	-	< 1	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	-	< 1	-
o-Xylene	95-47-6	-	< 1	-

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

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	11.89	86	Dibromofluoromethane	107
1,4-Difluorobenzene	13.05	90	Toluene-d8	99
Chlorobenzene-d5	17.38	91	Bromofluorobenzene	97
1,4-Dichlorobenzene-d4	20.87	88		

TES Bretby

Volatile Organic Compounds by PTGCMS

UKAS TESTING 1252

Customer and Site Details:	Exploration Associates : M4 Relief Road	**Directory/Quant file:**	0215VOC.MS3\ 0214CCC1.D	**Matrix:**	Water
Sample Details:	BH CH 41 / 1.10m	**Date Booked in:**	10-Feb-00	**Method:**	Purge and Trap
LIMS ID Number:	EX03200	**Date Analysed:**	15-Feb-00	**Dilution:**	1
Report Number:	000694	**Operator:**	D.WALTON	**Position:**	10

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Dichlorodifluoromethane	75-71-8	-	< 1	-
Chloromethane	74-87-3	-	< 1	-
Vinyl Chloride	75-01-4	-	< 1	-
Bromomethane	74-83-9	-	< 1	-
Chloroethane	75-00-3	-	< 1	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-4	-	< 1	-
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	-	< 1	-
2,2-Dichloropropane	594-20-7	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	-	< 1	-
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	-	< 1	-
1,1,1-Trichloroethane	71-55-6	-	< 1	-
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	-	< 1	-
1,2-Dichloroethane	107-06-2	-	< 1	-
Trichloroethene	79-01-6	-	< 1	-
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4	-	< 1	-
cis 1,3-Dichloropropene	10061-01-5	-	< 1	-
Toluene	108-88-3	-	< 1	-
trans 1,3-Dichloropropene	10061-02-6	-	< 1	-
1,1,2-Trichloroethane	79-00-5	-	< 1	-
Tetrachloroethene	127-18-4	-	< 1	-
1,3-Dichloropropane	142-28-29	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	-	< 1	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	-	< 1	-
o-Xylene	95-47-6	-	< 1	-

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

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	11.89	82	Dibromofluoromethane	109
1,4-Difluorobenzene	13.04	85	Toluene-d8	100
Chlorobenzene-d5	17.38	87	Bromofluorobenzene	100
1,4-Dichlorobenzene-d4	20.86	89		

TEST REPORT

WATER SAMPLE ANALYSIS

TES Report No. W/EXR/000771

Site: M4 RELIEF RD

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
CF31 1JZ

The 5 Samples described in this report were scheduled for analysis by TES Bretby on Wednesday, 16 February 2000. The analysis was completed by Monday, 6 March 2000.

Tests marked as 'not UKAS accredited' and any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by TES Bretby laboratories.

The following tables are contained in this report:

Table 1 Sample Descriptions
Table 2 Main Analysis Results
Table 3 Phenol Results
Tables of Poly Aromatic Hydrocarbons (5 Pages)
Tables of Volatile Organic Compounds (1 Page)

On behalf of
TES Bretby :
J Elstub
Project Co-ordinator

Date of Issue: 06/03/00

TES Bretby, P.O. Box 100, Burton-on-Trent, DE15 0XD
Telephone: 01283 554400 Fax: 01283 554422

TEST REPORT

WATER SAMPLE ANALYSIS

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
CF31 1JZ

TES Report No. W/EXR/000771

Client: EXPLORATION ASS.
Site: M4 RELIEF RD

Page No	ID No. W/EX/		Sample Date
1	0003674	BH CH 12 @ 1.35m	07/02/00
1	0003675	BH CH 17 @ 2.70m	
1	0003676	BH CH 32 @ 0.10m	
1	0003677	BH CH 45 @ 1.30m	
2	0003678	BH CH 51 @ 0.80m	

Date of Issue: 06/03/00

TES Bretby, P.O. Box 100, Burton-on-Trent, DE15 0XD
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TEST REPORT

WATER SAMPLE ANALYSIS

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
CF31 1JZ

TES Report No. W/EXR/000771

Client: EXPLORATION ASS.
Site: M4 RELIEF RD

Sample reference Sample Date TES Bretby ID Number	W/EX/..	Sample 01 07/02/00 0003674	Sample 02 0003675	Sample 03 0003676	Sample 04 0003677
UKAS accredited	Test No.	0003674	0003675	0003676	0003677
pH units	WSLM3	7.4	7.7	10.8	8.6
Chloride as Cl	WSLM1				24
Total Sulphur as SO4 (Dissolved)	ICPPWW13	79.8	253	65.5	4.07
Ammoniacal Nitrogen as N	AMMKA40				<0.2
Cyanide (Total) as CN	ICTSCN28		<0.025	<0.025	<0.025
Thiocyanate as SCN	WSLM5				0.2
Sulphide (Free) as S	ISESW24				<0.2
Chemical Oxygen Demand	WSLM11				33
Biochemical Oxygen Demand	WSLM20				3.0
TPH FTIR	FTIRSW		0.08	4.15	0.41
Phenol Index as C6H5OH	WSLM4	<0.05	<0.05	0.06	<0.05
TPH GC	TPHFID	0.22	0.12	14.0	5.7
Volatile Organic Compounds	VOCSW				*
Pentachlorophenol	SVOCSW				<0.050

not UKAS accredited		0003674	0003675	0003676	0003677
Nickel as Ni (Dissolved)		0.007	0.009	0.009	0.004
Chromium as Cr (Dissolved)		<0.001	<0.001	0.001	0.018
Cadmium as Cd (Dissolved)		<0.0001	<0.0001	<0.0001	<0.0001
Copper as Cu (Dissolved)		0.013	0.002	0.019	0.009
Lead as Pb (Dissolved)		<0.001	<0.001	0.010	<0.001
Zinc as Zn (Dissolved)		0.007	0.007	0.003	0.009
Arsenic as As (Dissolved)		0.002	0.003	0.007	0.009
Boron as B (Dissolved)		0.07	0.36	0.76	<0.05
Mercury as Hg (Dissolved)		<0.0001	<0.0001	0.0003	<0.0001
Selenium as Se (Dissolved)		<0.001	<0.001	0.004	<0.001
Cyanide (Free) as CN					<0.025
Complex Cyanide as CN					<0.025
PCB - ARO				0.0008	0.0023
PAH HPLC		*	*	*	*

Results expressed as mg/l unless stated, for the sample as received
* See atttached sheets for results
Sample 01: BH CH 12 @ 1.35m
Sample 02: BH CH 17 @ 2.70m
Sample 03: BH CH 32 @ 0.10m
Sample 04: BH CH 45 @ 1.30m

Date of Issue: 06/03/00

TES Bretby, P.O. Box 100, Burton-on-Trent, DE15 0XD
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TES Bretby
Report Number
W/EXR/000771
Table 2
Sheet 1/ 2

TEST REPORT

WATER SAMPLE ANALYSIS

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
CF31 1JZ

TES Report No. W/EXR/000771

Client: EXPLORATION ASS.
Site: M4 RELIEF RD

Sample reference Sample Date TES Bretby ID Number	W/EX/..	Sample 05 0003678			
UKAS accredited	Test No.	0003678			
pH units	WSLM3	10.1			
Total Sulphur as SO4 (Dissolved)	ICPPWW13	62.0			
Cyanide (Total) as CN	ICTSCN28	0.09			
Sulphide (Free) as S	ISESW24	<0.2			
TPH FTIR	FTIRSW	0.09			
Phenol Index as C6H5OH	WSLM4	<0.05			
TPH GC	TPHFID	0.57			
not UKAS accredited		0003678			
Nickel as Ni (Dissolved)		0.004			
Chromium as Cr (Dissolved)		0.005			
Cadmium as Cd (Dissolved)		<0.0001			
Copper as Cu (Dissolved)		0.009			
Lead as Pb (Dissolved)		<0.001			
Zinc as Zn (Dissolved)		0.026			
Arsenic as As (Dissolved)		0.006			
Boron as B (Dissolved)		0.19			
Mercury as Hg (Dissolved)		<0.0001			
Selenium as Se (Dissolved)		<0.001			
PAH HPLC		*			

Results expressed as mg/l unless stated, for the sample as received
* See atttached sheets for results
Sample 05: BH CH 51 @ 0.80m

Date of Issue: 06/03/00

TES Bretby, P.O. Box 100, Burton-on-Trent, DE15 0XD
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TES Bretby
Report Number
W/EXR/000771
Table 2
Sheet 2/ 2

TEST REPORT

WATER SAMPLE ANALYSIS

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
CF31 1JZ

TES Report No. W/EXR/000771

Client: EXPLORATION ASS.
Site: M4 RELIEF RD

Phenol Analysis

Sample reference	Sample 01			
Sample Date				
TES Bretby ID Number W/EX/..	0003677			
not UKAS accredited	0003677			
Phenol	<0.0005			
Cresols	<0.0005			
Dimethylphenols	<0.0005			
Trimethylphenols	<0.0005			

Results expressed as mg/l unless stated, for the sample as received
Sample 01: BH CH 45 @ 1.30m

Date of Issue: 06/03/00

TES Bretby, P.O. Box 100, Burton-on-Trent, DE15 0XD
Telephone: 01283 554400 Fax: 01283 554422

TES Bretby
Report Number
W/EXR/000771
Table 3
Sheet 1/ 1

TES Bretby

Polycyclic Aromatic Hydrocarbons by HPLC

Customer and Site Details:	Exploration Ass : M4 Relief Road		
Sample Details:	BH CH 12 @ 1.35m	**Report Number:**	771
LIMS ID Number:	EX3674	**Date Booked in:**	16-Feb-00
QC Batch Number:	286	**Date Extracted:**	23-Feb-00
Directory:	0223PAH.LC1	**Date Analysed:**	24-Feb-00
Dilution (fluorescence):	1.0	**Matrix:**	Water
Dilution (UV):	1.0	**Ext Method:**	Sep Funnel

Target Compounds	CAS #	Concentration µg/l	Fluorescence / UV
Naphthalene	91-20-3	< 0.50	Fluorescence
Acenaphthylene	208-96-8	< 1.00	UV
Acenaphthene	83-32-9	< 0.05	Fluorescence
Fluorene	86-73-7	< 0.05	Fluorescence
Phenanthrene	85-01-8	< 0.05	Fluorescence
Anthracene	120-12-7	< 0.05	Fluorescence
Fluoranthene	206-44-0	< 0.05	Fluorescence
Pyrene	129-00-0	< 0.05	Fluorescence
Benzo[a]anthracene	56-55-3	< 0.05	Fluorescence
Chrysene	218-01-9	< 0.05	Fluorescence
Benzo[b]fluoranthene	205-99-2	< 0.05	Fluorescence
Benzo[k]fluoranthene	207-08-9	< 0.05	Fluorescence
Benzo[a]pyrene	50-32-8	< 0.05	Fluorescence
Indeno[1,2,3-cd]pyrene	193-39-5	< 0.05	Fluorescence
Dibenzo[a,h]anthracene	53-70-3	< 0.05	Fluorescence
Benzo[g,h,i]perylene	191-24-2	< 0.05	Fluorescence
Total PAHs (USEPA 16)	-	< 2.20	-

Data may be obtained from either the fluorescence detector or when the response is very high a less sensitive UV detector (this is indicated for each compound). Any dilutions necessary during analysis have been included in the calculations. Reported results do not require any corrections.

TES Bretby

Polycyclic Aromatic Hydrocarbons by HPLC

Customer and Site Details:	Exploration Ass : M4 Relief Road		
Sample Details:	BH CH 17 @ 2.70m	**Report Number:**	771
LIMS ID Number:	EX3675	**Date Booked in:**	16-Feb-00
QC Batch Number:	286	**Date Extracted:**	23-Feb-00
Directory:	0223PAH.LC1	**Date Analysed:**	24-Feb-00
Dilution (fluorescence):	1.0	**Matrix:**	Water
Dilution (UV):	1.0	**Ext Method:**	Sep Funnel

Target Compounds	CAS #	Concentration µg/l	Fluorescence / UV
Naphthalene	91-20-3	< 0.50	Fluorescence
Acenaphthylene	208-96-8	< 1.00	UV
Acenaphthene	83-32-9	< 0.05	Fluorescence
Fluorene	86-73-7	< 0.05	Fluorescence
Phenanthrene	85-01-8	< 0.05	Fluorescence
Anthracene	120-12-7	< 0.05	Fluorescence
Fluoranthene	206-44-0	< 0.05	Fluorescence
Pyrene	129-00-0	< 0.05	Fluorescence
Benzo[a]anthracene	56-55-3	< 0.05	Fluorescence
Chrysene	218-01-9	< 0.05	Fluorescence
Benzo[b]fluoranthene	205-99-2	< 0.05	Fluorescence
Benzo[k]fluoranthene	207-08-9	< 0.05	Fluorescence
Benzo[a]pyrene	50-32-8	< 0.05	Fluorescence
Indeno[1,2,3-cd]pyrene	193-39-5	< 0.05	Fluorescence
Dibenzo[a,h]anthracene	53-70-3	< 0.05	Fluorescence
Benzo[g,h,i]perylene	191-24-2	< 0.05	Fluorescence
Total PAHs (USEPA 16)	-	< 2.20	-

Data may be obtained from either the fluorescence detector or when the response is very high a less sensitive UV detector (this is indicated for each compound). Any dilutions necessary during analysis have been included in the calculations. Reported results do not require any corrections.

TES Bretby

Polycyclic Aromatic Hydrocarbons by HPLC

Customer and Site Details:	Exploration Ass : M4 Relief Road		
Sample Details:	BH CH 32 @ 0.10m	**Report Number:**	771
LIMS ID Number:	EX3676	**Date Booked in:**	16-Feb-00
QC Batch Number:	286	**Date Extracted:**	23-Feb-00
Directory:	0223PAH.LC1	**Date Analysed:**	24-Feb-00
Dilution (fluorescence):	1.0	**Matrix:**	Water
Dilution (UV):	1.0	**Ext Method:**	Sep Funnel

Target Compounds	CAS #	Concentration µg/l	Fluorescence / UV
Naphthalene	91-20-3	< 1.00	UV
Acenaphthylene	208-96-8	< 1.00	UV
Acenaphthene	83-32-9	< 0.05	Fluorescence
Fluorene	86-73-7	0.63	Fluorescence
Phenanthrene	85-01-8	0.38	Fluorescence
Anthracene	120-12-7	0.06	Fluorescence
Fluoranthene	206-44-0	0.17	Fluorescence
Pyrene	129-00-0	0.21	Fluorescence
Benzo[a]anthracene	56-55-3	0.12	Fluorescence
Chrysene	218-01-9	< 0.05	Fluorescence
Benzo[b]fluoranthene	205-99-2	< 0.05	Fluorescence
Benzo[k]fluoranthene	207-08-9	< 0.05	Fluorescence
Benzo[a]pyrene	50-32-8	< 0.05	Fluorescence
Indeno[1,2,3-cd]pyrene	193-39-5	< 0.05	Fluorescence
Dibenzo[a,h]anthracene	53-70-3	< 0.05	Fluorescence
Benzo[g,h,i]perylene	191-24-2	< 0.05	Fluorescence
Total PAHs (USEPA 16)	-	< 3.97	-

Data may be obtained from either the fluorescence detector or when the response is very high a less sensitive UV detector (this is indicated for each compound). Any dilutions necessary during analysis have been included in the calculations. Reported results do not require any corrections.

TES Bretby

Polycyclic Aromatic Hydrocarbons by HPLC

Customer and Site Details:	Exploration Ass : M4 Relief Road		
Sample Details:	BH CH 45 @ 1.30m	**Report Number:**	771
LIMS ID Number:	EX3677	**Date Booked in:**	16-Feb-00
QC Batch Number:	286	**Date Extracted:**	23-Feb-00
Directory:	0223PAH.LC1	**Date Analysed:**	24-Feb-00
Dilution (fluorescence):	1.0	**Matrix:**	Water
Dilution (UV):	1.0	**Ext Method:**	Sep Funnel

Target Compounds	CAS #	Concentration µg/l	Fluorescence / UV
Naphthalene	91-20-3	< 0.50	Fluorescence
Acenaphthylene	208-96-8	< 1.00	UV
Acenaphthene	83-32-9	< 0.05	Fluorescence
Fluorene	86-73-7	< 0.05	Fluorescence
Phenanthrene	85-01-8	< 0.05	Fluorescence
Anthracene	120-12-7	< 0.05	Fluorescence
Fluoranthene	206-44-0	< 0.05	Fluorescence
Pyrene	129-00-0	< 0.05	Fluorescence
Benzo[a]anthracene	56-55-3	< 0.05	Fluorescence
Chrysene	218-01-9	< 0.05	Fluorescence
Benzo[b]fluoranthene	205-99-2	< 0.05	Fluorescence
Benzo[k]fluoranthene	207-08-9	< 0.05	Fluorescence
Benzo[a]pyrene	50-32-8	< 0.05	Fluorescence
Indeno[1,2,3-cd]pyrene	193-39-5	< 0.05	Fluorescence
Dibenzo[a,h]anthracene	53-70-3	< 0.05	Fluorescence
Benzo[g,h,i]perylene	191-24-2	< 0.05	Fluorescence
Total PAHs (USEPA 16)	-	< 2.20	-

Data may be obtained from either the fluorescence detector or when the response is very high a less sensitive UV detector (this is indicated for each compound). Any dilutions necessary during analysis have been included in the calculations. Reported results do not require any corrections.

TES Bretby

Polycyclic Aromatic Hydrocarbons by HPLC

Customer and Site Details:	Exploration Ass : M4 Relief Road		
Sample Details:	BH CH 51 @ 0.80m	**Report Number:**	771
LIMS ID Number:	EX3678	**Date Booked in:**	16-Feb-00
QC Batch Number:	286	**Date Extracted:**	23-Feb-00
Directory:	0223PAH.LC1	**Date Analysed:**	24-Feb-00
Dilution (fluorescence):	1.0	**Matrix:**	Water
Dilution (UV):	1.0	**Ext Method:**	Sep Funnel

Target Compounds	CAS #	Concentration µg/l	Fluorescence / UV
Naphthalene	91-20-3	< 0.50	Fluorescence
Acenaphthylene	208-96-8	< 1.00	UV
Acenaphthene	83-32-9	< 0.05	Fluorescence
Fluorene	86-73-7	< 0.05	Fluorescence
Phenanthrene	85-01-8	< 0.05	Fluorescence
Anthracene	120-12-7	< 0.05	Fluorescence
Fluoranthene	206-44-0	< 0.05	Fluorescence
Pyrene	129-00-0	< 0.05	Fluorescence
Benzo[a]anthracene	56-55-3	< 0.05	Fluorescence
Chrysene	218-01-9	< 0.05	Fluorescence
Benzo[b]fluoranthene	205-99-2	< 0.05	Fluorescence
Benzo[k]fluoranthene	207-08-9	< 0.05	Fluorescence
Benzo[a]pyrene	50-32-8	< 0.05	Fluorescence
Indeno[1,2,3-cd]pyrene	193-39-5	< 0.05	Fluorescence
Dibenzo[a,h]anthracene	53-70-3	< 0.05	Fluorescence
Benzo[g,h,i]perylene	191-24-2	< 0.05	Fluorescence
Total PAHs (USEPA 16)	-	< 2.20	-

Data may be obtained from either the fluorescence detector or when the response is very high a less sensitive UV detector (this is indicated for each compound). Any dilutions necessary during analysis have been included in the calculations. Reported results do not require any corrections.

TES Bretby

Volatile Organic Compounds by PTGCMS

UKAS TESTING 1252

Customer and Site Details:	Exploration Associates : M4 Relief Road	**Directory/Quant file:**	0221VOC.MS3\ 0221CCC1.D	**Matrix:**	Water
Sample Details:	BH CH 45 / 1.30m	**Date Booked in:**	16-Feb-00	**Method:**	Purge and Trap
LIMS ID Number:	EX03677	**Date Analysed:**	22-Feb-00	**Dilution:**	1
Report Number:	000771	**Operator:**	D.WALTON	**Position:**	10

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Dichlorodifluoromethane	75-71-8	-	< 1	-
Chloromethane	74-87-3	-	< 1	-
Vinyl Chloride	75-01-4	-	< 1	-
Bromomethane	74-83-9	-	< 1	-
Chloroethane	75-00-3	-	< 1	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-4	-	< 1	-
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	-	< 1	-
2,2-Dichloropropane	594-20-7	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	-	< 1	-
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	-	< 1	-
1,1,1-Trichloroethane	71-55-6	-	< 1	-
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	-	< 1	-
1,2-Dichloroethane	107-06-2	-	< 1	-
Trichloroethene	79-01-6	-	< 1	-
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4	-	< 1	-
cis 1,3-Dichloropropene	10061-01-5	-	< 1	-
Toluene	108-88-3	-	< 1	-
trans 1,3-Dichloropropene	10061-02-6	-	< 1	-
1,1,2-Trichloroethane	79-00-5	-	< 1	-
Tetrachloroethene	127-18-4	-	< 1	-
1,3-Dichloropropane	142-28-29	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	-	< 1	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	-	< 1	-
o-Xylene	95-47-6	-	< 1	-

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

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	11.89	94	Dibromofluoromethane	109
1,4-Difluorobenzene	13.04	97	Toluene-d8	97
Chlorobenzene-d5	17.38	93	Bromofluorobenzene	89
1,4-Dichlorobenzene-d4	20.87	82		

TEST REPORT

WATER SAMPLE ANALYSIS

TES Report No. W/EXR/000800

Site: M4 RELIEF RD

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
CF31 1JZ

The 4 Samples described in this report were scheduled for analysis by TES Bretby on Thursday, 17 February 2000. The analysis was completed by Friday, 3 March 2000.

Tests marked as 'not UKAS accredited' and any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by TES Bretby laboratories.

The following tables are contained in this report:

Table 1 Sample Descriptions
Table 2 Main Analysis Results
Table 3 Phenol Results
Tables of Poly Aromatic Hydrocarbons (4 Pages)
Table of Volatile Organic Compounds (1 Page)

On behalf of
TES Bretby :
J Elstub Project Co-ordinator

Date of Issue: 03/03/00

TEST REPORT

WATER SAMPLE ANALYSIS

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
CF31 1JZ

TES Report No. W/EXR/000800

Client: EXPLORATION ASS.
Site: M4 RELIEF RD

Page No	ID No. W/EX/		Sample Date
1	0003829	BH CH 52 @ 0.00m	
1	0003830	BH CH 52A @ 0.80m	
1	0003831	Site No 7 Pond Sample	
1	0003832	Site No 9 Reen Sample	

Date of Issue: 03/03/00

TES Bretby, P.O. Box 100, Burton-on-Trent, DE15 0XD
Telephone: 01283 554400 Fax: 01283 554422

TES Bretby
Report Number
W/EXR/000800
Table 1
Sheet 1/ 1

TEST REPORT

WATER SAMPLE ANALYSIS

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
CF31 1JZ

TES Report No. W/EXR/000800

Client: EXPLORATION ASS.
Site: M4 RELIEF RD

Sample reference Sample Date TES Bretby ID Number W/EX/..		Sample 01 0003829	Sample 02 0003830	Sample 03 0003831	Sample 04 0003832
UKAS accredited	Test No.	0003829	0003830	0003831	0003832
pH units	WSLM3	7.5	11.9	7.9	7.2
Total Sulphur as SO4 (Dissolved)	ICPPWW13	38.5	26.4	60.7	87.3
Thiocyanate as SCN	WSLM5		0.2	0.2	
Sulphide (Free) as S	ISESW24	<0.2	<0.2	<0.2	<0.2
Chemical Oxygen Demand	WSLM11			16	
Biochemical Oxygen Demand	WSLM20			3.5	
TPH FTIR	FTIRSW	0.08	0.08	<0.05	<0.05
Phenol Index as C6H5OH	WSLM4	<0.05	<0.05	<0.05	<0.05
TPH GC	TPHFID	0.38	0.27	<0.1	<0.1
Volatile Organic Compounds	VOCSW			*	

not UKAS accredited		0003829	0003830	0003831	0003832
Nickel as Ni (Dissolved)		0.005	0.002	0.006	0.005
Chromium as Cr (Dissolved)		<0.001	<0.001	<0.001	<0.001
Cadmium as Cd (Dissolved)		<0.0001	<0.0001	<0.0001	<0.0001
Copper as Cu (Dissolved)		0.003	0.002	0.003	0.009
Lead as Pb (Dissolved)		<0.001	<0.001	<0.001	0.005
Zinc as Zn (Dissolved)		0.050	<0.001	0.034	0.029
Arsenic as As (Dissolved)		<0.001	<0.001	0.003	<0.001
Boron as B (Dissolved)		0.06	<0.05	0.18	0.09
Mercury as Hg (Dissolved)		<0.0001	<0.0001	<0.0001	<0.0001
Selenium as Se (Dissolved)		<0.001	0.003	<0.001	<0.001
Cyanide (Free) as CN			<0.025	<0.025	
Cyanide (Total) as CN		<0.025	<0.025	<0.025	<0.025
Complex Cyanide as CN			<0.025	<0.025	
PCB - ARO				<0.001	
PAH HPLC		*	*	*	*

Results expressed as mg/l unless stated, for the sample as received
* See attached sheets for results
Sample 01: BH CH 52 @ 0.00m
Sample 02: BH CH 52A @ 0.80m
Sample 03: Site No 7 Pond Sample
Sample 04: Site No 9 Reen Sample

Date of Issue: 03/03/00

TES Bretby, P.O. Box 100, Burton-on-Trent, DE15 0XD
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TES Bretby
Report Number
W/EXR/000800
Table 2
Sheet 1/ 1

TEST REPORT

WATER SAMPLE ANALYSIS

Exploration Associates
Unit 15
Crosby Yard
Wildmill
Bridgend
CF31 1JZ

TES Report No. W/EXR/000800

Client: EXPLORATION ASS.
Site: M4 RELIEF RD

Phenol Analysis

Sample reference Sample Date TES Bretby ID Number W/EX/..	Sample 01 0003830	Sample 02 0003831		
not UKAS accredited	0003830	0003831		
Phenol	0.0204	<0.0005		
Cresols	0.0401	<0.0005		
Dimethylphenols	0.0186	<0.0005		
Trimethylphenols	<0.0005	<0.0005		

Results expressed as mg/l unless stated, for the sample as received
Sample 01: BH CH 52A @ 0.80m
Sample 02: Site No 7 Pond Sample

Date of Issue: 03/03/00

TES Bretby, P.O. Box 100, Burton-on-Trent, DE15 0XD
Telephone: 01283 554400 Fax: 01283 554422

TES Bretby
Report Number W/EXR/000800
Table 3
Sheet 1/ 1

TES Bretby

Polycyclic Aromatic Hydrocarbons by HPLC

Customer and Site Details:	Exploration Ass. : M4 Relief Road		
Sample Details:	BH CH 52 @ 0.00m	**Report Number:**	800
LIMS ID Number:	EX3829	**Date Booked in:**	17-Feb-00
QC Batch Number:	288	**Date Extracted:**	28-Feb-00
Directory:	0228PAH.LC2	**Date Analysed:**	29-Feb-00
Dilution (fluorescence):	1.0	**Matrix:**	Water
Dilution (UV):	1.0	**Ext Method:**	Sep Funnel

Target Compounds	CAS #	Concentration µg/l	Fluorescence / UV
Naphthalene	91-20-3	< 0.50	Fluorescence
Acenaphthylene	208-96-8	< 1.00	UV
Acenaphthene	83-32-9	< 0.05	Fluorescence
Fluorene	86-73-7	< 0.05	Fluorescence
Phenanthrene	85-01-8	< 0.05	Fluorescence
Anthracene	120-12-7	< 0.05	Fluorescence
Fluoranthene	206-44-0	< 0.05	Fluorescence
Pyrene	129-00-0	< 0.05	Fluorescence
Benzo[a]anthracene	56-55-3	< 0.05	Fluorescence
Chrysene	218-01-9	< 0.05	Fluorescence
Benzo[b]fluoranthene	205-99-2	< 0.05	Fluorescence
Benzo[k]fluoranthene	207-08-9	< 0.05	Fluorescence
Benzo[a]pyrene	50-32-8	< 0.05	Fluorescence
Indeno[1,2,3-cd]pyrene	193-39-5	< 0.05	Fluorescence
Dibenzo[a,h]anthracene	53-70-3	< 0.05	Fluorescence
Benzo[g,h,i]perylene	191-24-2	< 0.05	Fluorescence
Total PAHs (USEPA 16)	-	< 2.20	-

Data may be obtained from either the fluorescence detector or when the response is very high a less sensitive UV detector (this is indicated for each compound). Any dilutions necessary during analysis have been included in the calculations. Reported results do not require any corrections.

TES Bretby

Polycyclic Aromatic Hydrocarbons by HPLC

Customer and Site Details:	Exploration Ass. : M4 Relief Road		
Sample Details:	BH CH 52A @ 0.80m	**Report Number:**	800
LIMS ID Number:	EX3830	**Date Booked in:**	17-Feb-00
QC Batch Number:	288	**Date Extracted:**	28-Feb-00
Directory:	0228PAH.LC2	**Date Analysed:**	29-Feb-00
Dilution (fluorescence):	1.0	**Matrix:**	Water
Dilution (UV):	1.0	**Ext Method:**	Sep Funnel

Target Compounds	CAS #	Concentration µg/l	Fluorescence / UV
Naphthalene	91-20-3	0.74	Fluorescence
Acenaphthylene	208-96-8	< 1.00	UV
Acenaphthene	83-32-9	< 0.05	Fluorescence
Fluorene	86-73-7	0.47	Fluorescence
Phenanthrene	85-01-8	0.69	Fluorescence
Anthracene	120-12-7	0.07	Fluorescence
Fluoranthene	206-44-0	0.16	Fluorescence
Pyrene	129-00-0	0.13	Fluorescence
Benzo[a]anthracene	56-55-3	0.10	Fluorescence
Chrysene	218-01-9	0.06	Fluorescence
Benzo[b]fluoranthene	205-99-2	0.07	Fluorescence
Benzo[k]fluoranthene	207-08-9	< 0.05	Fluorescence
Benzo[a]pyrene	50-32-8	0.06	Fluorescence
Indeno[1,2,3-cd]pyrene	193-39-5	< 0.05	Fluorescence
Dibenzo[a,h]anthracene	53-70-3	< 0.05	Fluorescence
Benzo[g,h,i]perylene	191-24-2	< 0.05	Fluorescence
Total PAHs (USEPA 16)	-	< 3.80	-

Data may be obtained from either the fluorescence detector or when the response is very high a less sensitive UV detector (this is indicated for each compound). Any dilutions necessary during analysis have been included in the calculations. Reported results do not require any corrections.

TES Bretby

Polycyclic Aromatic Hydrocarbons by HPLC

Customer and Site Details:	Exploration Ass. : M4 Relief Road		
Sample Details:	Site No 7 Pond Sample	**Report Number:**	800
LIMS ID Number:	EX3831	**Date Booked in:**	17-Feb-00
QC Batch Number:	288	**Date Extracted:**	28-Feb-00
Directory:	0228PAH.LC2	**Date Analysed:**	29-Feb-00
Dilution (fluorescence):	1.0	**Matrix:**	Water
Dilution (UV):	1.0	**Ext Method:**	Sep Funnel

Target Compounds	CAS #	Concentration µg/l	Fluorescence / UV
Naphthalene	91-20-3	< 0.50	Fluorescence
Acenaphthylene	208-96-8	< 1.00	UV
Acenaphthene	83-32-9	< 0.05	Fluorescence
Fluorene	86-73-7	< 0.05	Fluorescence
Phenanthrene	85-01-8	< 0.05	Fluorescence
Anthracene	120-12-7	< 0.05	Fluorescence
Fluoranthene	206-44-0	< 0.05	Fluorescence
Pyrene	129-00-0	< 0.05	Fluorescence
Benzo[a]anthracene	56-55-3	< 0.05	Fluorescence
Chrysene	218-01-9	< 0.05	Fluorescence
Benzo[b]fluoranthene	205-99-2	< 0.05	Fluorescence
Benzo[k]fluoranthene	207-08-9	< 0.05	Fluorescence
Benzo[a]pyrene	50-32-8	< 0.05	Fluorescence
Indeno[1,2,3-cd]pyrene	193-39-5	< 0.05	Fluorescence
Dibenzo[a,h]anthracene	53-70-3	< 0.05	Fluorescence
Benzo[g,h,i]perylene	191-24-2	< 0.05	Fluorescence
Total PAHs (USEPA 16)	-	< 2.20	-

Data may be obtained from either the fluorescence detector or when the response is very high a less sensitive UV detector (this is indicated for each compound). Any dilutions necessary during analysis have been included in the calculations. Reported results do not require any corrections.

TES Bretby

Polycyclic Aromatic Hydrocarbons by HPLC

Customer and Site Details:	Exploration Ass. : M4 Relief Road		
Sample Details:	Site No 9 Reen Sample	**Report Number:**	800
LIMS ID Number:	EX3832	**Date Booked in:**	17-Feb-00
QC Batch Number:	288	**Date Extracted:**	28-Feb-00
Directory:	0228PAH.LC2	**Date Analysed:**	29-Feb-00
Dilution (fluorescence):	1.0	**Matrix:**	Water
Dilution (UV):	1.0	**Ext Method:**	Sep Funnel

Target Compounds	CAS #	Concentration µg/l	Fluorescence / UV
Naphthalene	91-20-3	< 0.50	Fluorescence
Acenaphthylene	208-96-8	< 1.00	UV
Acenaphthene	83-32-9	< 0.05	Fluorescence
Fluorene	86-73-7	< 0.05	Fluorescence
Phenanthrene	85-01-8	< 0.05	Fluorescence
Anthracene	120-12-7	< 0.05	Fluorescence
Fluoranthene	206-44-0	< 0.05	Fluorescence
Pyrene	129-00-0	< 0.05	Fluorescence
Benzo[a]anthracene	56-55-3	< 0.05	Fluorescence
Chrysene	218-01-9	< 0.05	Fluorescence
Benzo[b]fluoranthene	205-99-2	< 0.05	Fluorescence
Benzo[k]fluoranthene	207-08-9	< 0.05	Fluorescence
Benzo[a]pyrene	50-32-8	< 0.05	Fluorescence
Indeno[1,2,3-cd]pyrene	193-39-5	< 0.05	Fluorescence
Dibenzo[a,h]anthracene	53-70-3	< 0.05	Fluorescence
Benzo[g,h,i]perylene	191-24-2	< 0.05	Fluorescence
Total PAHs (USEPA 16)	-	< 2.20	-

Data may be obtained from either the fluorescence detector or when the response is very high a less sensitive UV detector (this is indicated for each compound). Any dilutions necessary during analysis have been included in the calculations. Reported results do not require any corrections.

TES Bretby

Volatile Organic Compounds by PTGCMS

UKAS TESTING 1252

Customer and Site Details: Exlporation Associates : M4 Relief Road
Sample Details: Site No7 Pond Sample
LIMS ID Number: EX03831
Report Number: 000800

Directory/Quant file: 0222VOC.MS3\ 0221CCC3.D
Date Booked in: 17-Feb-00
Date Analysed: 23-Feb-00
Operator: D.WALTON

Matrix: Water
Method: Purge and Trap
Dilution: 1
Position: 4

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Dichlorodifluoromethane	75-71-8	-	< 1	-
Chloromethane	74-87-3	-	< 1	-
Vinyl Chloride	75-01-4	-	< 1	-
Bromomethane	74-83-9	-	< 1	-
Chloroethane	75-00-3	-	< 1	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-4	-	< 1	-
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	-	< 1	-
2,2-Dichloropropane	594-20-7	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	-	< 1	-
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	11.68	7	98
1,1,1-Trichloroethane	71-55-6	-	< 1	-
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	-	< 1	-
1,2-Dichloroethane	107-06-2	-	< 1	-
Trichloroethene	79-01-6	-	< 1	-
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4	14.20	2	96
cis 1,3-Dichloropropene	10061-01-5	-	< 1	-
Toluene	108-88-3	-	< 1	-
trans 1,3-Dichloropropene	10061-02-6	-	< 1	-
1,1,2-Trichloroethane	79-00-5	-	< 1	-
Tetrachloroethene	127-18-4	-	< 1	-
1,3-Dichloropropane	142-28-29	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	-	< 1	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	-	< 1	-
o-Xylene	95-47-6	-	< 1	-

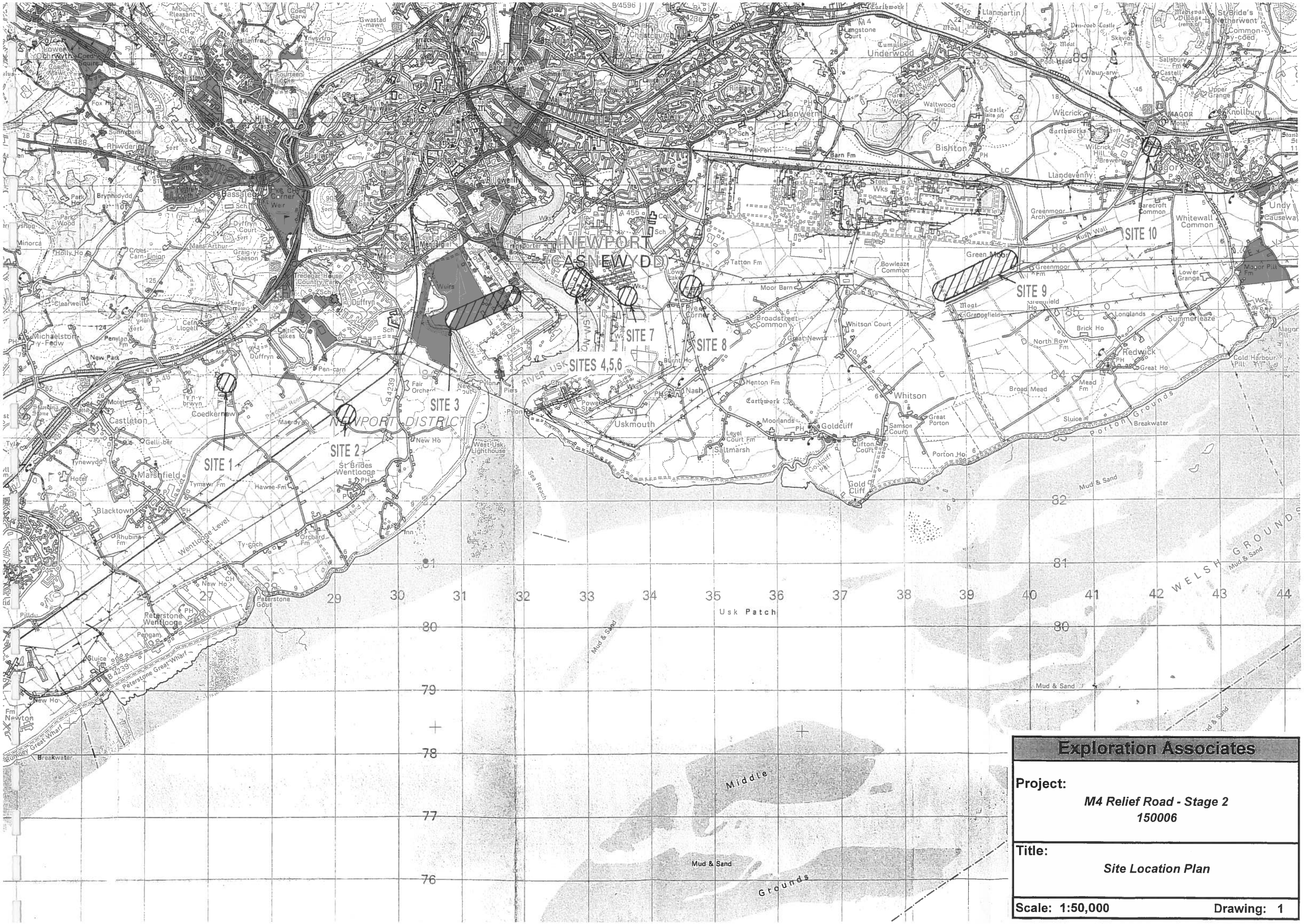
Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Styrene	100-42-5	-	< 1	-
Bromoform	75-25-2	-	< 1	-
iso-Propylbenzene	98-82-8	-	< 1	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 1	-
Propylbenzene	103-65-1	-	< 1	-
Bromobenzene	108-86-1	-	< 1	-
1,2,3-Trichloropropane	96-18-4	-	< 1	-
2-Chlorotoluene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

Internal standards	R.T.	Area %
Pentafluorobenzene	11.89	124
1,4-Difluorobenzene	13.04	126
Chlorobenzene-d5	17.37	113
1,4-Dichlorobenzene-d4	20.87	95

Surrogates	% Rec
Dibromofluoromethane	92
Toluene-d8	95
Bromofluorobenzene	92

ENCLOSURE D

Drawings



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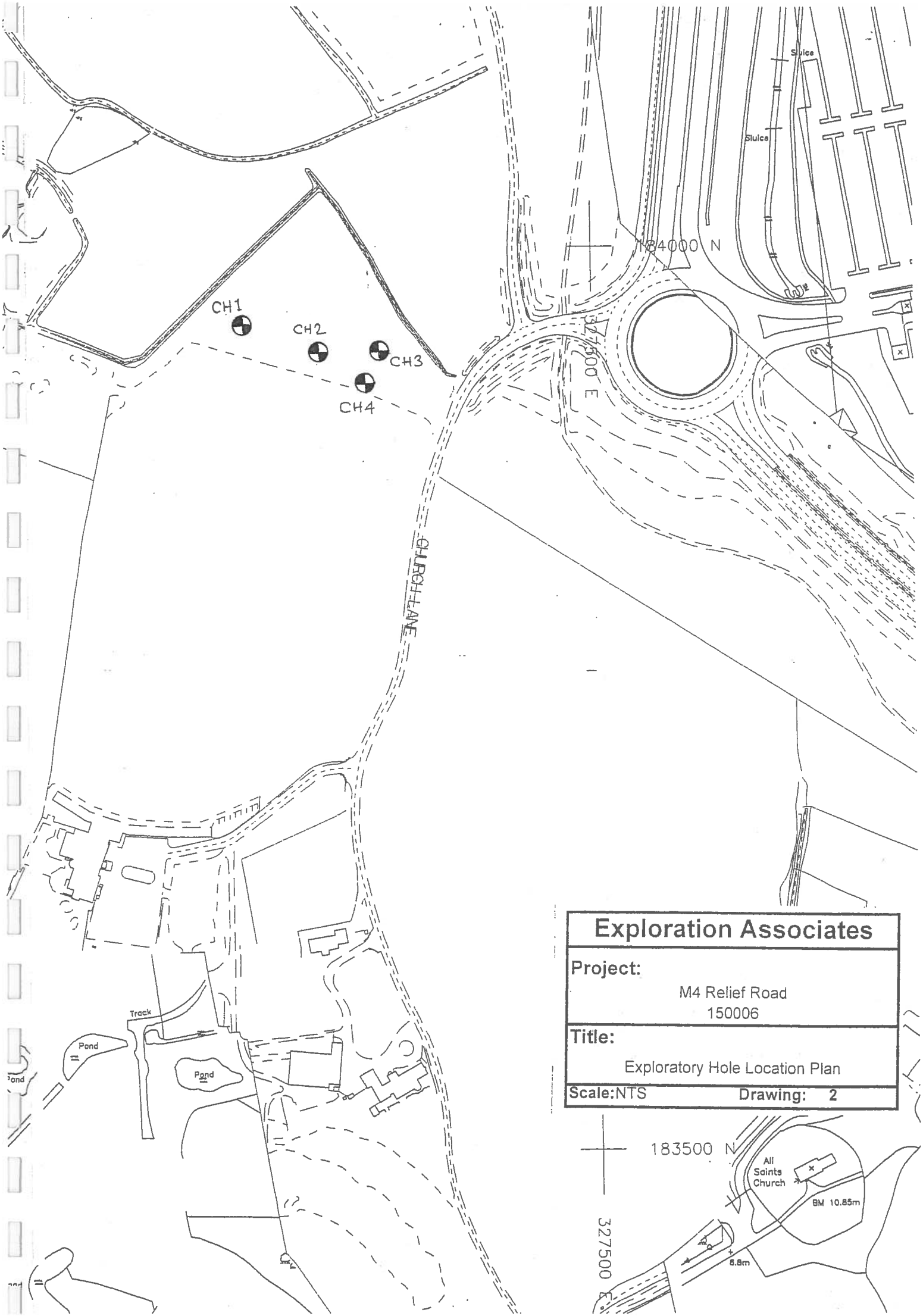
Project: *M4 Relief Road - Stage 2* *150006*	
Title: *Site Location Plan*	
Scale: 1:50,000	**Drawing: 1**

APPENDIX

General Notes



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Project: M4 Relief Road 150006	
Title: Exploratory Hole Location Plan	
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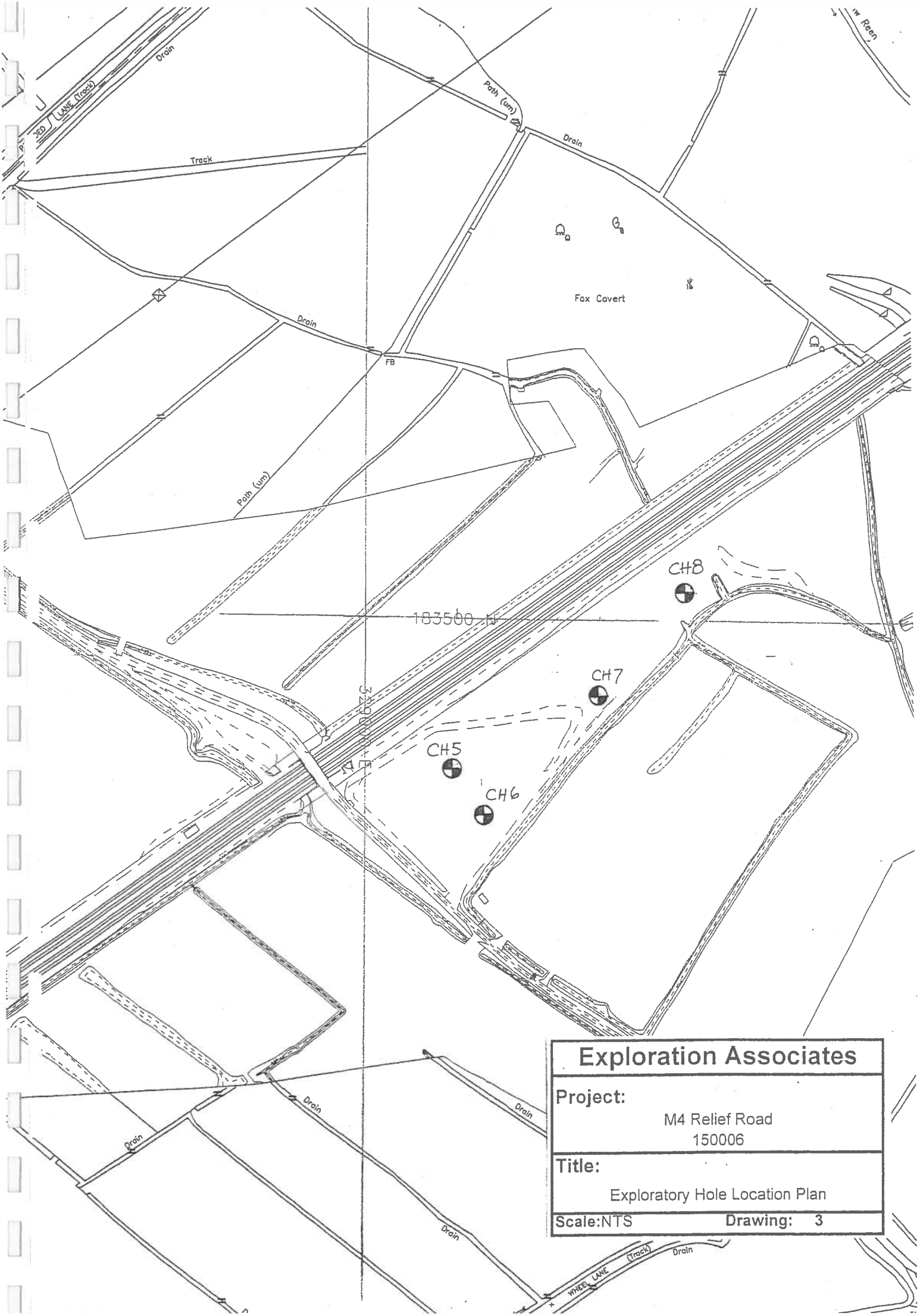

Exploration Associates	
Project:	M4 Relief Road 150006
Title:	Exploratory Hole Location Plan
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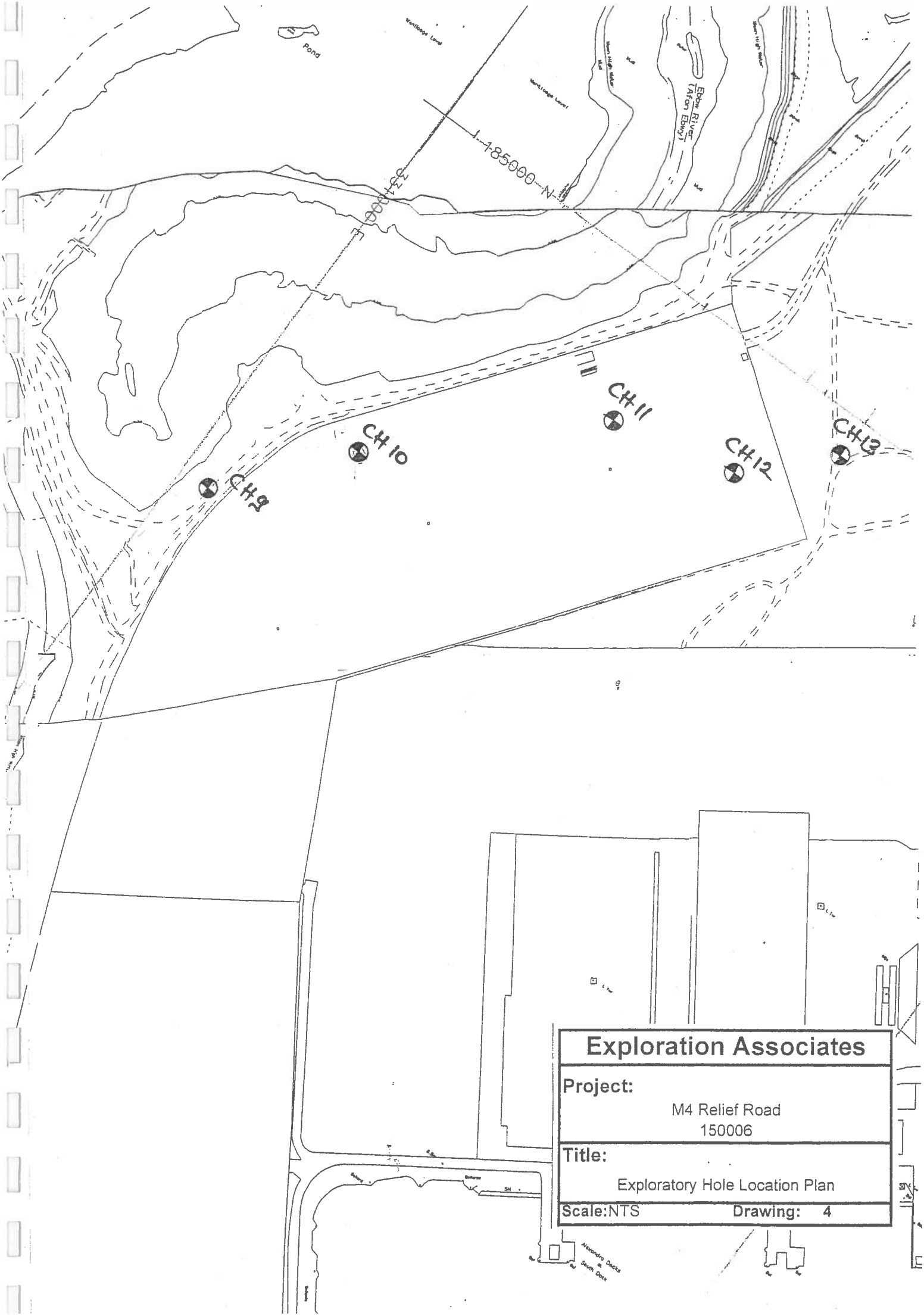

Exploration Associates	
Project:	M4 Relief Road 150006
Title:	Exploratory Hole Location Plan
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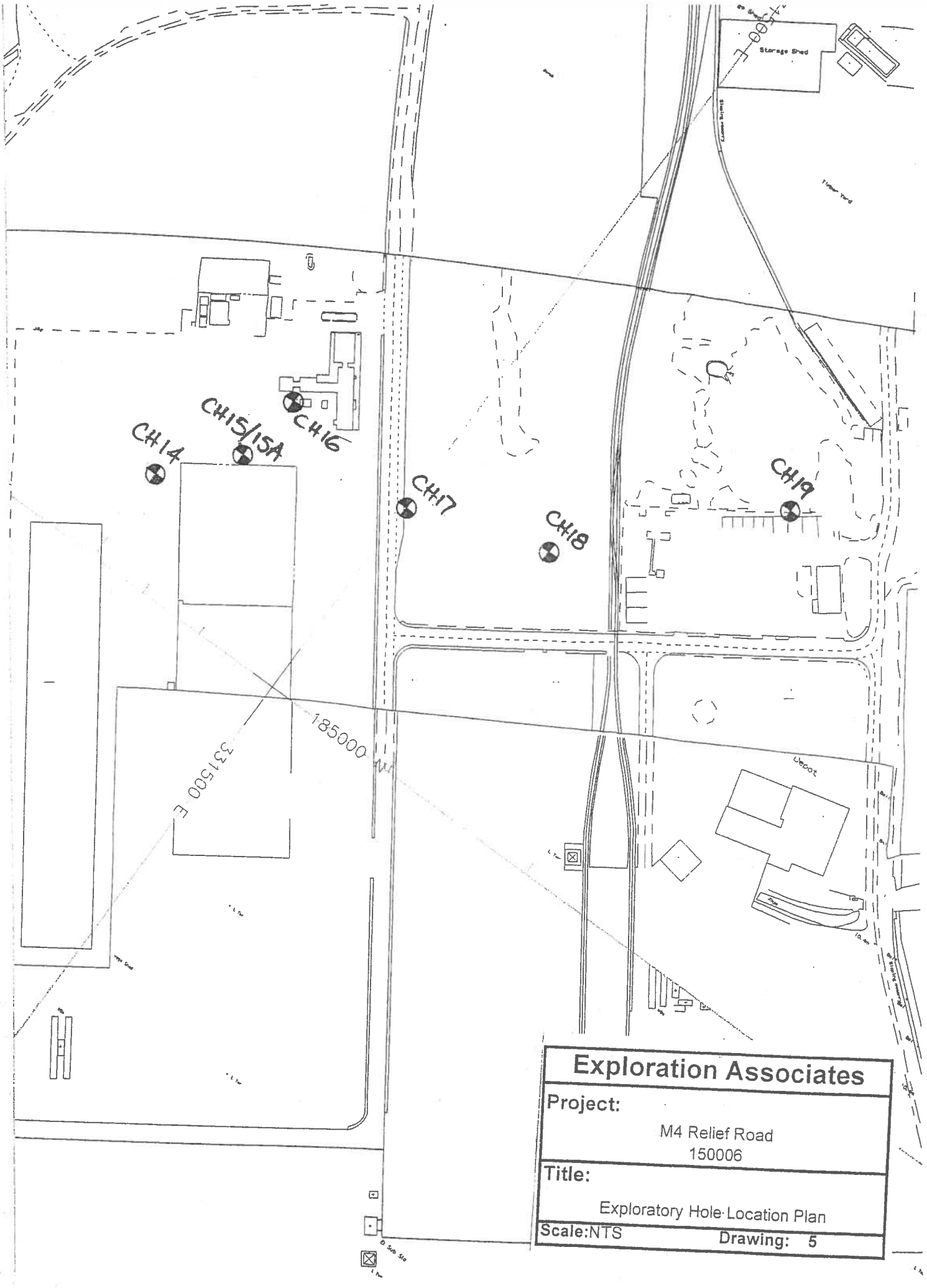

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Project:	M4 Relief Road 150006
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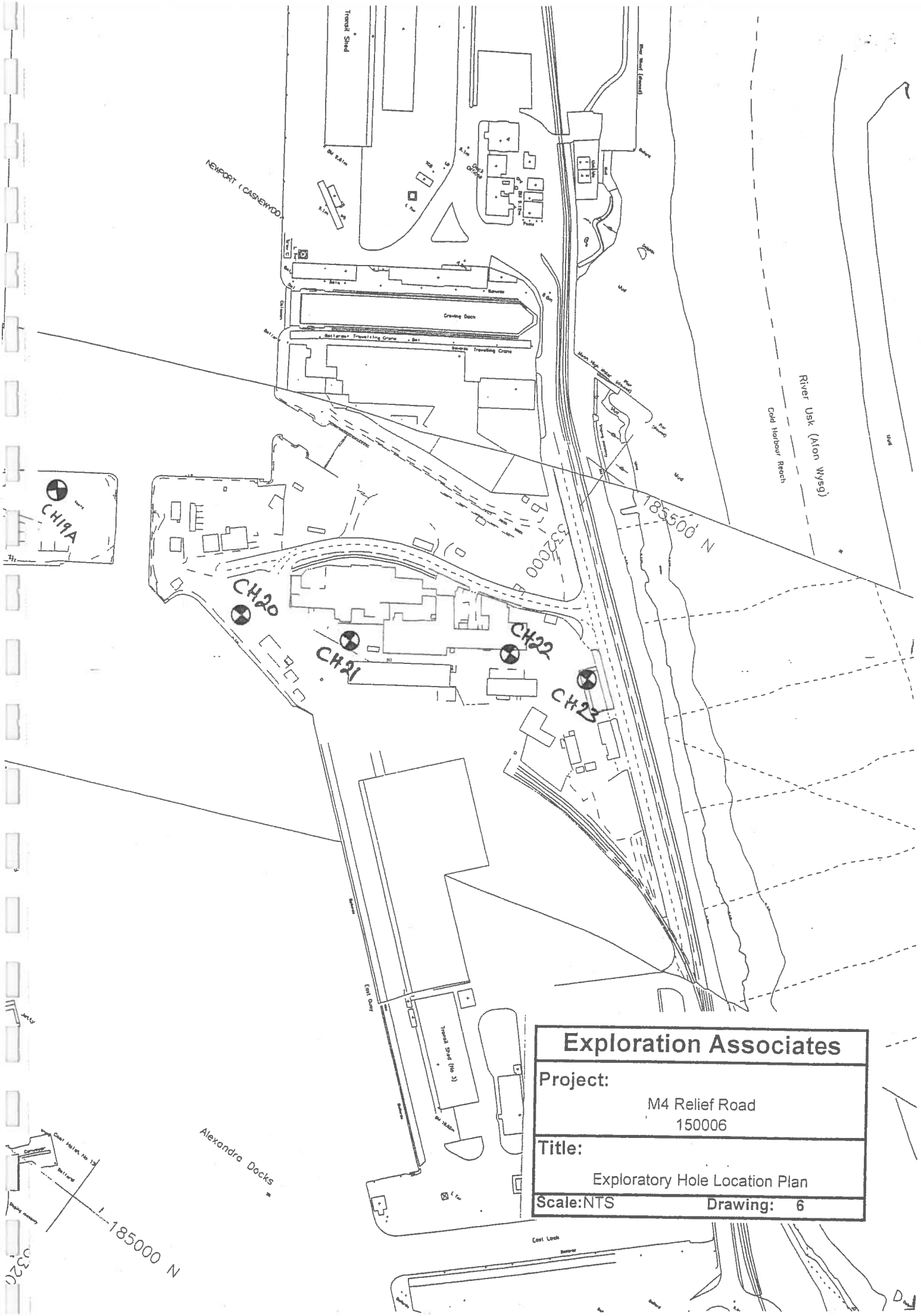

Exploration Associates	
Project:	M4 Relief Road 150006
Title:	Exploratory Hole Location Plan
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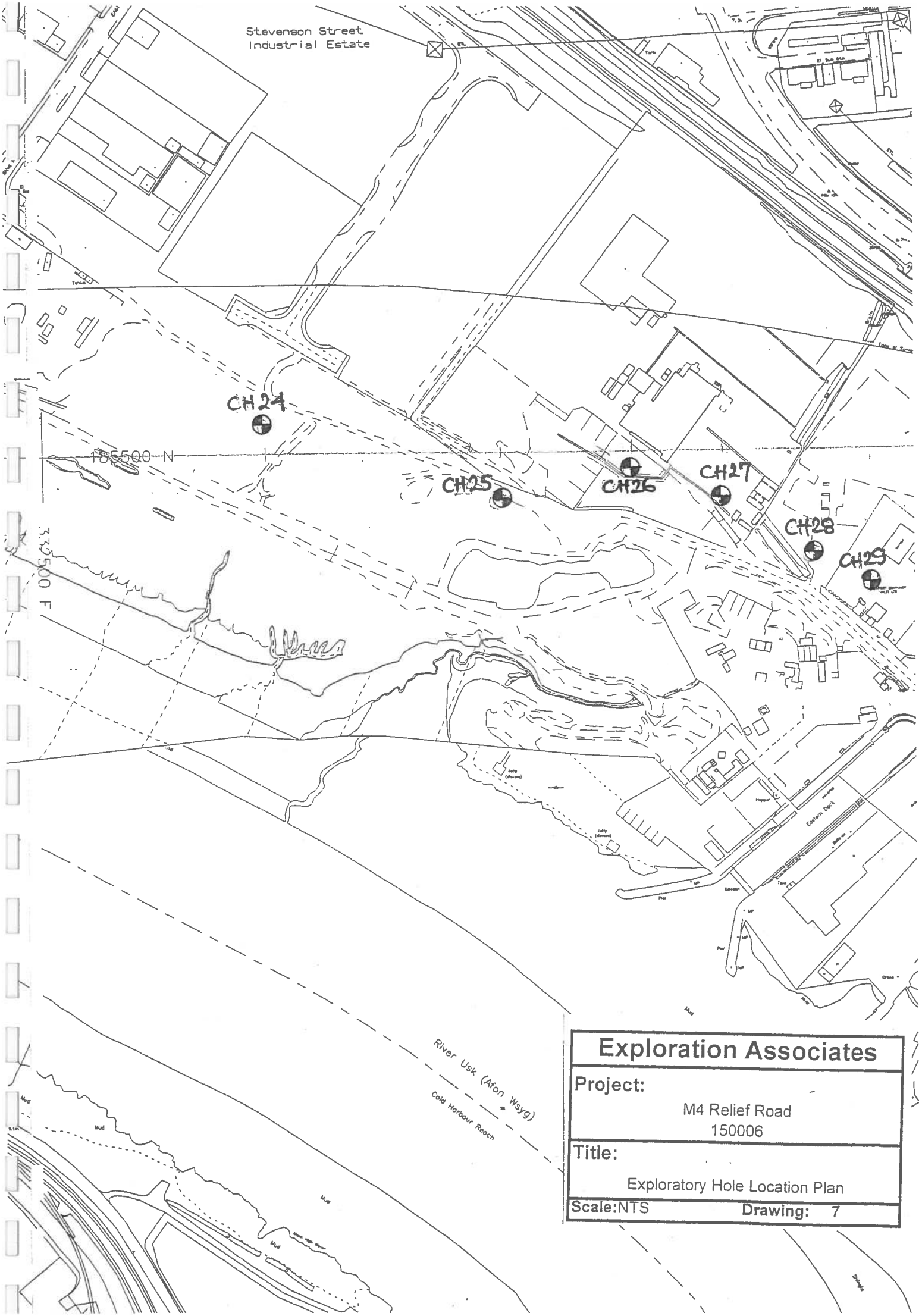

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Project:	M4 Relief Road 150006
Title:	Exploratory Hole Location Plan
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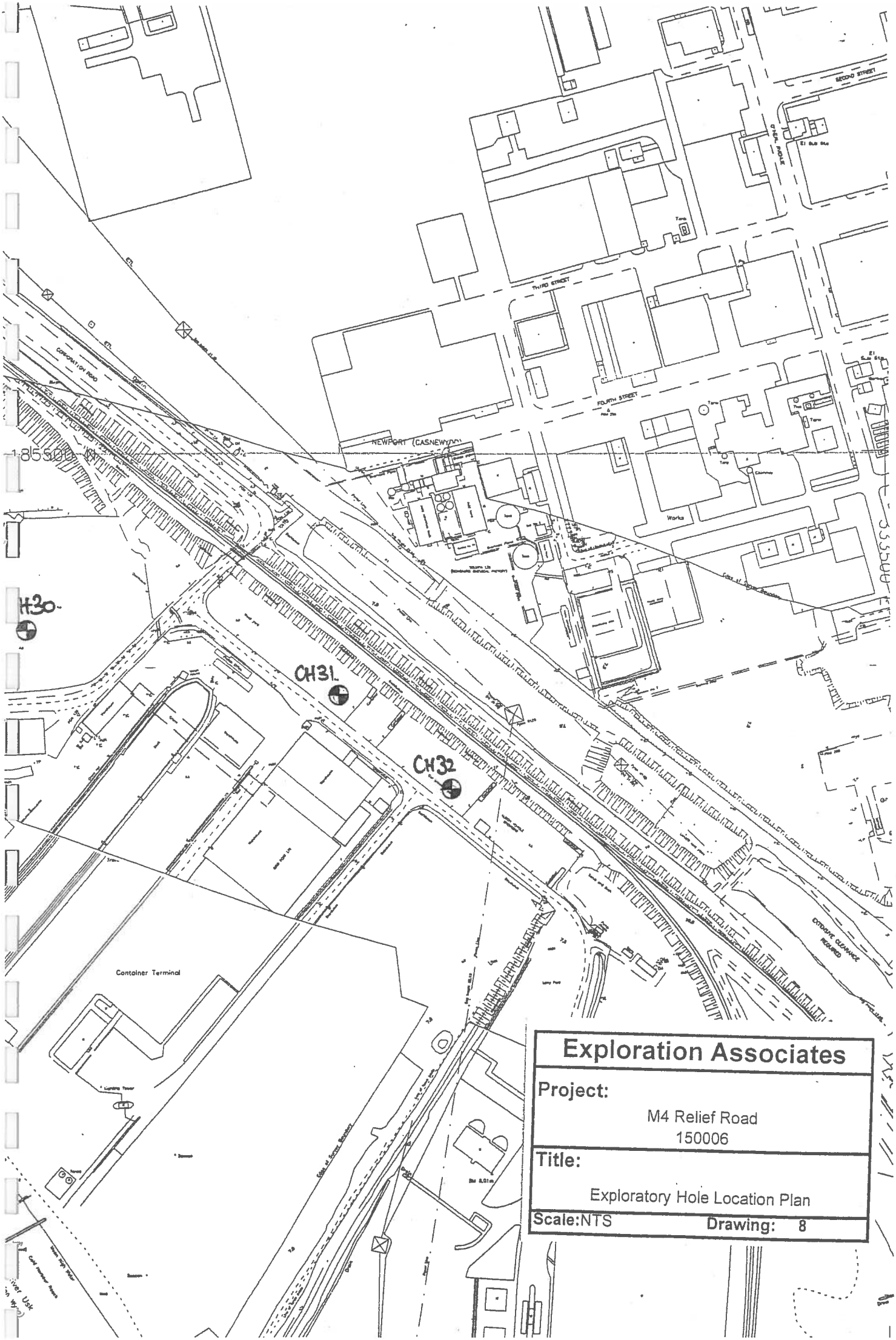

Exploration Associates	
Project:	M4 Relief Road 150006
Title:	Exploratory Hole Location Plan
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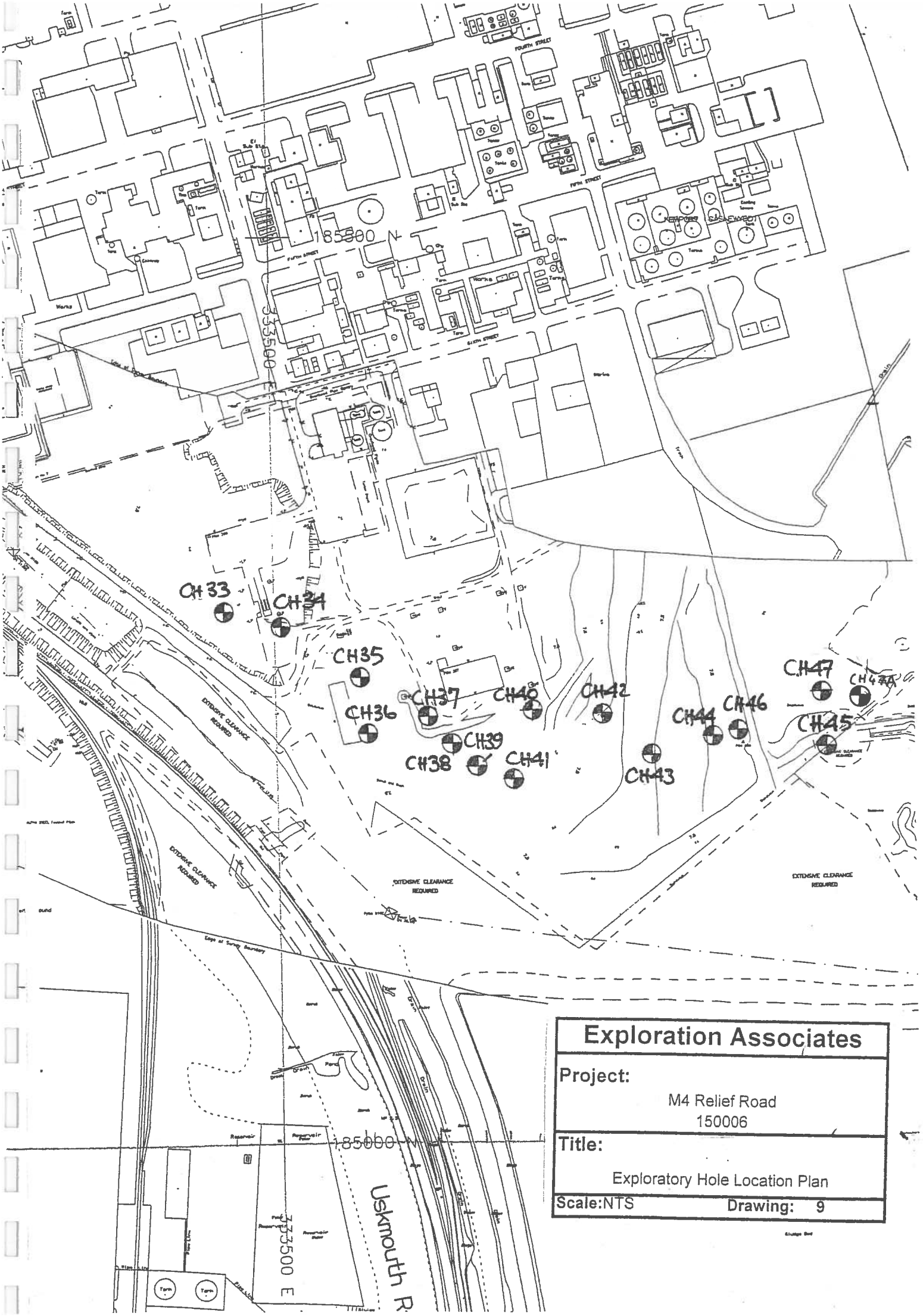

Exploration Associates	
Project:	M4 Relief Road 150006
Title:	Exploratory Hole Location Plan
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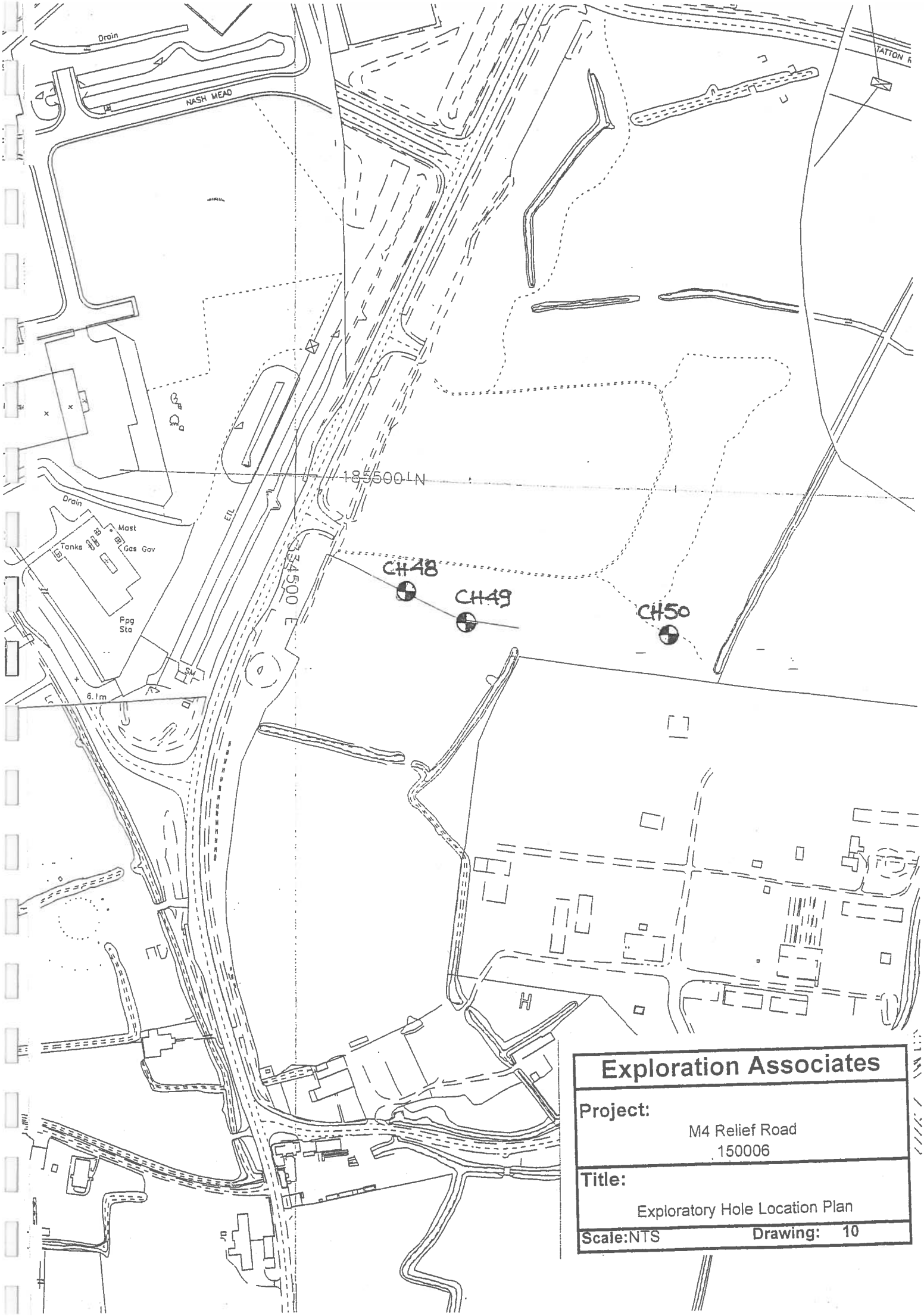

Exploration Associates	
Project:	M4 Relief Road 150006
Title:	Exploratory Hole Location Plan
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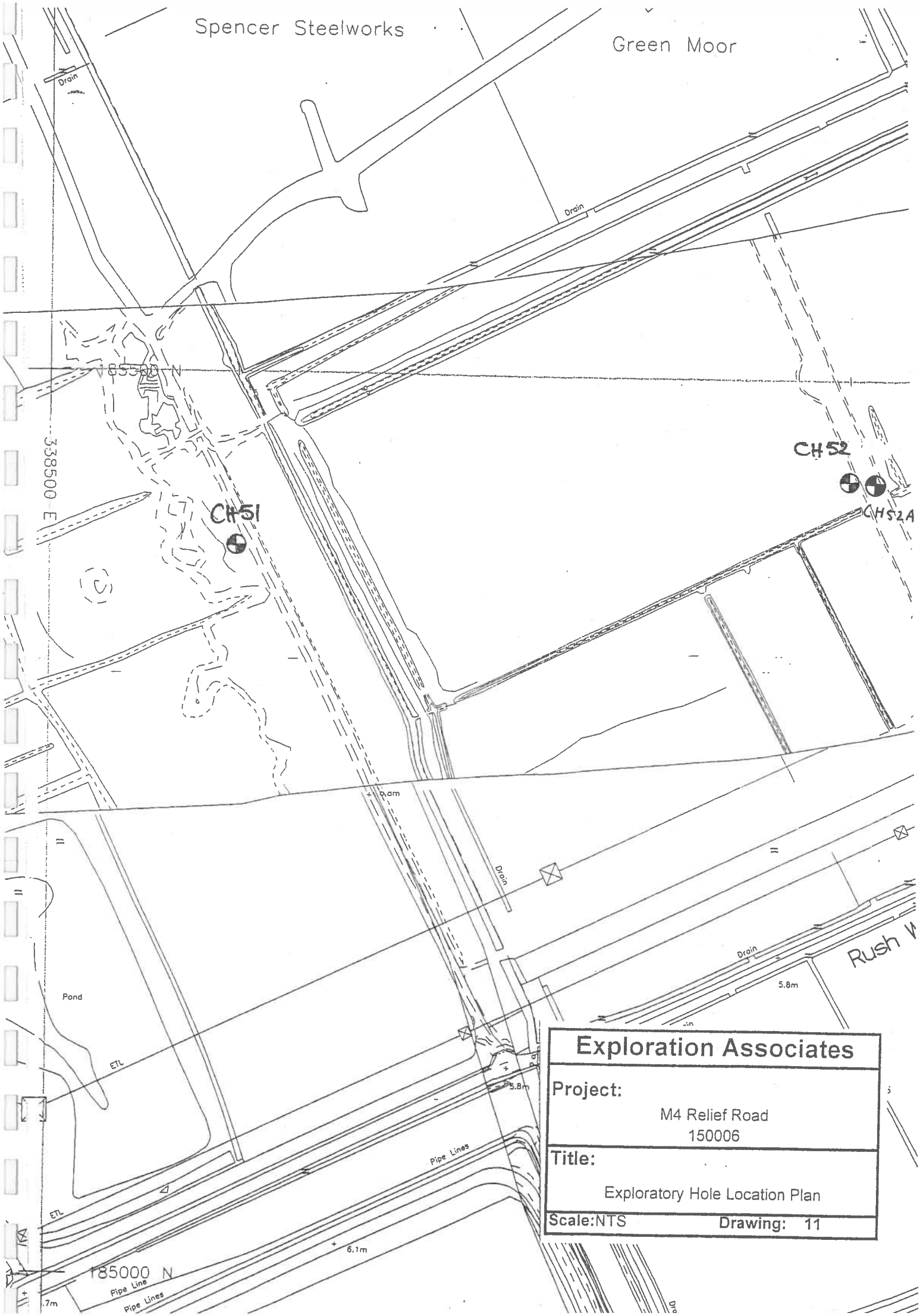

Exploration Associates	
Project:	M4 Relief Road 150006
Title:	Exploratory Hole Location Plan
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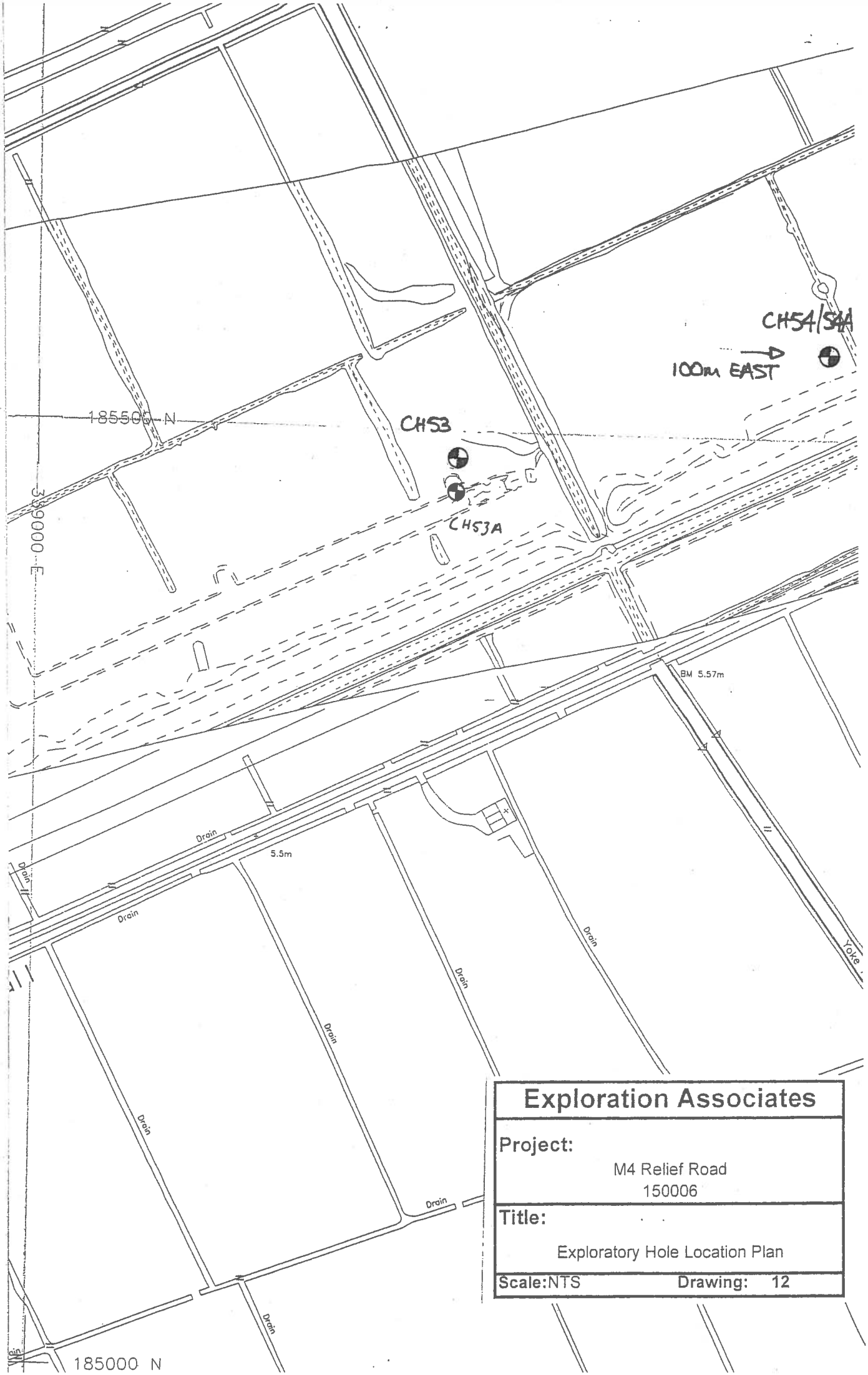

Exploration Associates	
Project:	M4 Relief Road 150006
Title:	Exploratory Hole Location Plan
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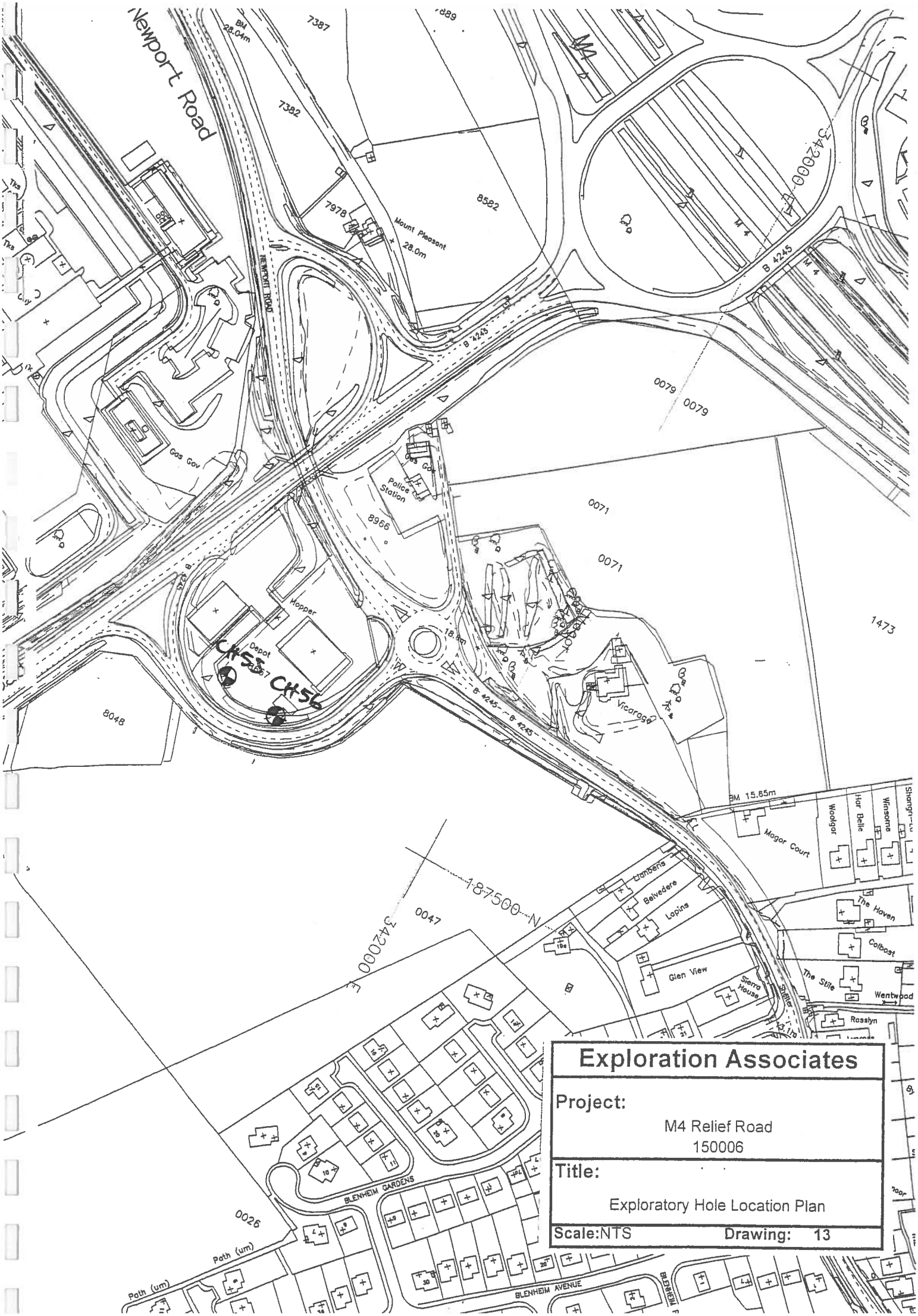

Exploration Associates	
Project:	M4 Relief Road 150006
Title:	Exploratory Hole Location Plan
Scale: NTS	Drawing: 13

General Notes

These notes, which accompany the ground investigation report, are intended to assist the user of the information contained in the report. They point out some inevitable shortcomings of any ground investigation and do not constitute a disclaimer of responsibility for the results obtained by Exploration Associates Limited.

1. The information in this report is based on the ground conditions encountered during the ground investigation work and the results of any field and laboratory testing. The exploratory records describe the ground conditions at their specific locations and should not be regarded as representative of the ground as a whole.

2. Ground investigations are performed by the company in general accordance with the recommendations in BS 5930 (1981) "Code of Practice for Site Investigations". The testing of soils, rocks and aggregates generally follow the recommendations of BS 1377 (1990) "Methods of test for soils for Civil Engineering Purposes", the International Society of Rock Mechanics (Brown, 1981) "Rock characterisation, testing and monitoring, ISRM suggested methods", and BS 812 (1975) "Methods of sampling and testing of mineral aggregates, sands and filters", respectively.

3. The primary purpose of ground investigation boreholes and trial pits is to probe the stratified sequences of soil and/or rock. From the results of these probings no conclusions should be drawn concerning the presence of size, lithological nature and numbers per unit volume of ground of cobbles and boulders in soil types such as glacial till (boulder clay).

4. When cable percussion boring techniques are used in superficial and drift deposits some mixing of thin-layered soils inevitably occurs. If strong randomly-occurring pieces of rock are encountered in soil material then the rock may be either pushed aside or penetrated and broken up in which case the arisings that are recovered may not be indicative of the nature of the material in situ.

5. Rotary drilling techniques may sometimes be used for drilling through superficial deposits and rocks in order to provide a very general indication of the nature of the ground. Where open-hole methods have been used for the ground investigation the description of the ground is based on the cuttings recovered from the flushing medium and the rate of progress in advancing the hole. Descriptions of strata and the depths of changes in strata may not be accurate under these conditions.

6. Groundwater conditions noted during boring may be subject to change through seasonal and/or other effects such as, for example, boring and constructional excavation. When a groundwater inflow is encountered during boring, work on the hole is suspended, typically for 20 minutes, and any change in level is recorded. The groundwater level recorded on resumption of boring may not be the natural pre-boring standing water level. When piezometers are installed in boreholes the reported groundwater levels may also be subject to variation due to seasonal and/or other effects.

7. The factual information contained within the ground investigation report should not be used for any purpose other than for the development project for which it was prepared unless a check has been carried out on its applicability. Where the ground investigation report contains an interpretation of the factual information that interpretation must be considered in the context of the stated development proposals and should not be used in any other context.

8. This report is for the use of the person or organisation that commissioned the work. Exploration Associates Limited accepts no responsibility if the information is used by any other party. The information is the property and copyright of the person or organisation that commissioned the investigation. It should not be reproduced or transmitted in any form without the owner's written permission.