Exploration Associates

Bedwas Colliery Reclamation Scheme
Factual Report on Ground Investigation

155218
February 1996

Client:
Rhymney Valley District Council
Ystrad Fawr
Ystrad Mynach
Hengoed
Mid Glamorgan
CF8 7SF

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Client:
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Mid Glamorgan
CF8 7SF

Engineer:
Rust Environmental
29 Cathedral Road
Cardiff
CF1 9HA

CONTENTS

155218

1. INTRODUCTION

On the instructions of Rust Environmental, consulting engineers for Rhymney Valley District Council, a ground investigation was carried out by Exploration Associates Limited for the Bedwas Colliery Reclamation Scheme; the instruction to proceed was given within a letter dated 6 December 1995, reference DMB/JPV/EGMCF022-002.

The object of the investigation was to determine the geological conditions at the site, together with the chemical and engineering properties of the soil.

The scope of the works included the drilling of boreholes using cable percussion and rotary techniques, trial pitting, laboratory testing of selected samples recovered during field operations, the installation of standpipes, in situ gas and water monitoring and the compilation of a factual report.

This report provides a description of the site and summary of the investigation procedures adopted, presents the geotechnical data obtained from the site works together with results of the subsequent laboratory testing programme.

The work was carried out in general accordance with the relevant British Standards, ISRM Rock Testing (1989) and the General Notes appended.

2. THE SITE

The site is located north of Trethomas, Bedwas, Mid Glamorgan as shown on the Site Location Plan, Drawing 1. With reference to Ordnance Survey information the approximate National Grid reference of the site is approximately ST 176 893.

The site comprised an area of land previously occupied by Bedwas Colliery, with associated areas of tip material, rail sidings, coking works and a Bezol Plant. The site is currently derelict, forming a series of plateau areas generally comprising colliery spoil, hardstanding and buried foundations.

3. FIELDWORK

3.1 General

The fieldwork was carried out during the period 2 to 22 January, 1996 and comprised the drilling of twelve light cable percussion boreholes, seven rotary open holes, one rotary cored borehole, trial pitting and the installation of standpipes.

3.2 Boreholes

Twelve 200mm nominal diameter boreholes were drilled using cable

percussion techniques to depths of between 4.00 metres and 16.00 metres below existing ground level, to assess the geotechnical and chemi-environmental properties of the strata. The location of the boreholes were determined by Rust Environmental.

The depths and descriptive details of the strata encountered, comments on the groundwater conditions, details of samples taken and drilling progress are shown on the Borehole Records, Enclosure A. Standard Penetration Tests (SPT's and CPT's) were performed in cable percussion holes at regular intervals, to give information pertaining to the relative density of materials encountered, the results of which are, uncorrected for the effects of overburden pressure.

During the course of boring small (jar) and large (bulk) disturbed samples were obtained at regular intervals for identification and description, and to facilitate contaminant laboratory testing. Groundwater samples were taken after a 20 minute period of monitoring.

One cable percussion borehole was continued using rotary coring techniques to a depth of 30.00 metres below existing ground level, using mist as a flushing medium and plastic coreliner to ensure maximum recovery. During the course of the rotary coring 92mm nominal diameter cores were recovered.

In addition, seven boreholes were drilled using a combination of 101mm, 127mm and 140mm nominal diameter rotary open hole techniques, three boreholes were initiated from ground level and five continued from the base of the cable percussion boreholes.

The depths and descriptive details of the strata encountered, together with the details of samples obtained, groundwater behaviour and rates of progress are presented on the Exploratory Hole Records, Enclosure A.

Strata descriptions are based on an examination of the samples obtained during the drilling and supplemented by in situ and laboratory test result data.

The descriptions are in general accordance with the definitions contained within BS 5930: 1981 and guidelines developed by Norbury, Child and Spink.

3.3 Trial Pits

Ninety seven trial pits were excavated using a wheeled hydraulic excavator to depths of between 0.40 metres and 6.70 metres below existing ground level, including fourteen trial pits which were re-excavated close to the original positions.

During the course of the trial pitting, the following gas concentrations were

monitored; Volatile Organic Content (VOC ppm), Hydrogen Sulphide (H_2S %), Methane (CH_4 % LEL), Carbon Dioxide (CO_2 %) and Oxygen (O_2), the results of which are presented on the trial pit records.
Small disturbed samples were obtained from the trial pits in order to facilitate laboratory testing.

The gas monitoring and sampling frequency was determined on site by Rust Environmental.

The depths and descriptive details of the strata encountered, together with the details of samples obtained and groundwater behaviour are presented within the Exploratory Hole Records, Enclosure A.

3.4 Instrumentation

Seven 50mm nominal diameter slotted standpipes were installed in Boreholes 1, 1R, 2, 4, 6A, 10 and 12 to depths of between 9.80 metres and 30.00 metres below existing ground level within pea gravel filters.

Gas valves were installed on the standpipes in Boreholes 1R and 4.

The standpipes were installed in order to facilitate the collection of water samples and the long term monitoring of gas concentrations and water levels, the results of which are tabulated in Insitu Monitoring, Enclosure B.

At the end of the site works all the standpipes were purged of three times their volume of water and a sample collected for laboratory analysis.

3.5 Survey

The positions of the exploratory holes were pre-determined by Rust Environmental.

The levels and co-ordinates of the exploratory holes were surveyed by John Vincent Surveys under the supervision of Exploration Associates Limited and are presented on Drawings 2, Enclosure D. Levels and co-ordinates are presented on the Exploratory Hole Records, Enclosure A.

4. LABORATORY TESTING

A programme of laboratory testing was scheduled by Rust Environmental. The testing was carried out by Exploration Associates Limited in accordance with BS 1377: (1990), and comprised the following tests:

- Moisture Content
- Atterberg Limits
- Particle Size Analysis

In addition, contamination suites were carried out on samples obtained during the site works. The contamination testing was carried out by ECOS Environmental Limited using a NAMAS accredited quality control and assurance system.

The laboratory test results are presented within Enclosure C.

5. GROUND CONDITIONS

5.1 Published Geology

Reference to British Geological Survey information indicates the solid geology of the site to be underlain by the Upper Pennant Measures of Carboniferous Limestone.

The superficial deposits are indicated to be Glacial Sand and Gravel.

5.2 Strata Encountered

Strata encountered generally confirmed the published geology, however a layer of Made Ground was encountered over the site.

For full details of strata encountered reference should be made to the Exploratory Hole Records, Enclosure A.

5.3 Groundwater

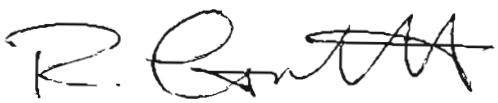
Groundwater was encountered in Boreholes 1, 1R, 2, 3, 4, 5, 6A, 6R, 10 and 12 at depths of between 2.90 metres and 32.00 metres below existing ground level.

Ground levels may at times vary to those recorded during the field operations due to variations in climate and other conditions.

For full details of groundwater levels and behaviour, reference should be made to the Exploratory Hole Records, Enclosure A and In Situ Monitoring, Enclosure B.

For and on behalf of
Exploration Associates Limited

A. Figgis
BSc.
Engineering Geologist



R. Griffiths
BSc(Hons), MSc., F.G.S., C.Geol.
Principal Geotechnical Engineer

EXPLORATION ASSOCIATES LIMITED
AF/RG/CH/155218/FEBRUARY 1996

REFERENCES

- Ordnance Survey Map No. 171. Cardiff, Newport and surrounding area. 1:50,000 Scale Series.
- BS 5930: 1981. Code of Practice for Site Investigations. British Standards Institute.
- BS 1377: 1990. Methods of Tests for Soils for Civil Engineering Purposes. British Standards Institute.
- British Geological Survey Map. Sheet 249. Drift. Newport. 1:50,000 Scale Series.
- A critical preview of section 8 (B55930) - Soil and rock Description Geol. Soc. Conf. Norbury, and Child & Spink, 1984.

Stn. T1

Stn. T5

Stn. T10

Stn. U

Stn. C

Stn. T

Stn. D

Stn. E

Stn. S

Stn. L

Stn. A

Stn. V

Area of downwash over tip surface

Area of surface gully erosion

SPRING (1900)

Open ditch

Water disappears into basements

Culvert

Open lined channel

WATER FILLED QUARRY

Water from quarry draining to S.W.S.

PART DEMOLISHED BUILDINGS

RUBBLE

Contaminated water course

Blocked

Surface water

Dye not evident in S.W.S. Is this a soakway? Further detailed investigation necessary

Open channel running down into road

ISSUE

Culverts under railway

Open ditch

Catchpits

Ditch

To S.W.S

To S.W.S.

To S.W.S

To S.W.S

BH12

BH9

BH4

BH3

BH1

TP54 TP33 TP45 TP49 TP55 TP92 TP83 TP29 TP36 TP53 TP67 TP72 TP64 TP31 TP40 TP48 TP56/56A 56B TP66 TP71 TP38 TP87 TP47A TP47 TP57 TP62 TP35 TP44 TP68 TP43 TP80 TP61 TP65 TP37 TP42 TP51 TP64 TP69 TP58 TP60 TP68 TP63 TP62 TP41 TP59 TP76 TP78 TP77 TP75/75A TP73/73A TP74 TP79 TP80 TP81 TP10/10A

STATION DATA

Stn	Eastings	Northings	Level
A	661.034	215.692	102.052
C	819.149	483.635	136.060
D	988.352	392.173	118.665
E	701.748	379.986	113.909
F	528.019	325.591	105.842
G	450.000	350.000	110.077
H	252.711	350.000	102.425
I	339.046	426.053	118.427
K	407.412	407.656	115.115
L	835.790	297.583	100.702
M	403.983	268.689	96.850
N	320.437	283.125	97.262
O	135.065	278.660	93.060
P	83.712	304.386	99.234
Q	228.715	298.654	94.711
S	684.088	335.271	108.458
T	905.942	405.505	124.740
U	803.602	520.959	138.449
V	948.311	204.236	88.347
T1	611.513	519.172	146.854
T2	616.105	602.263	171.597
T3	650.846	576.140	171.377
T4	639.724	666.582	189.937
T5	818.646	713.596	223.107
T6	850.644	713.984	217.464
T7	678.331	724.728	217.036
T8	718.305	929.529	266.651
T9	757.054	926.735	268.447
T10	986.993	568.071	152.939
T11	670.578	958.714	267.244
T12	647.542	1134.434	276.939

Revisions

Suffix	Date	Initials	Description

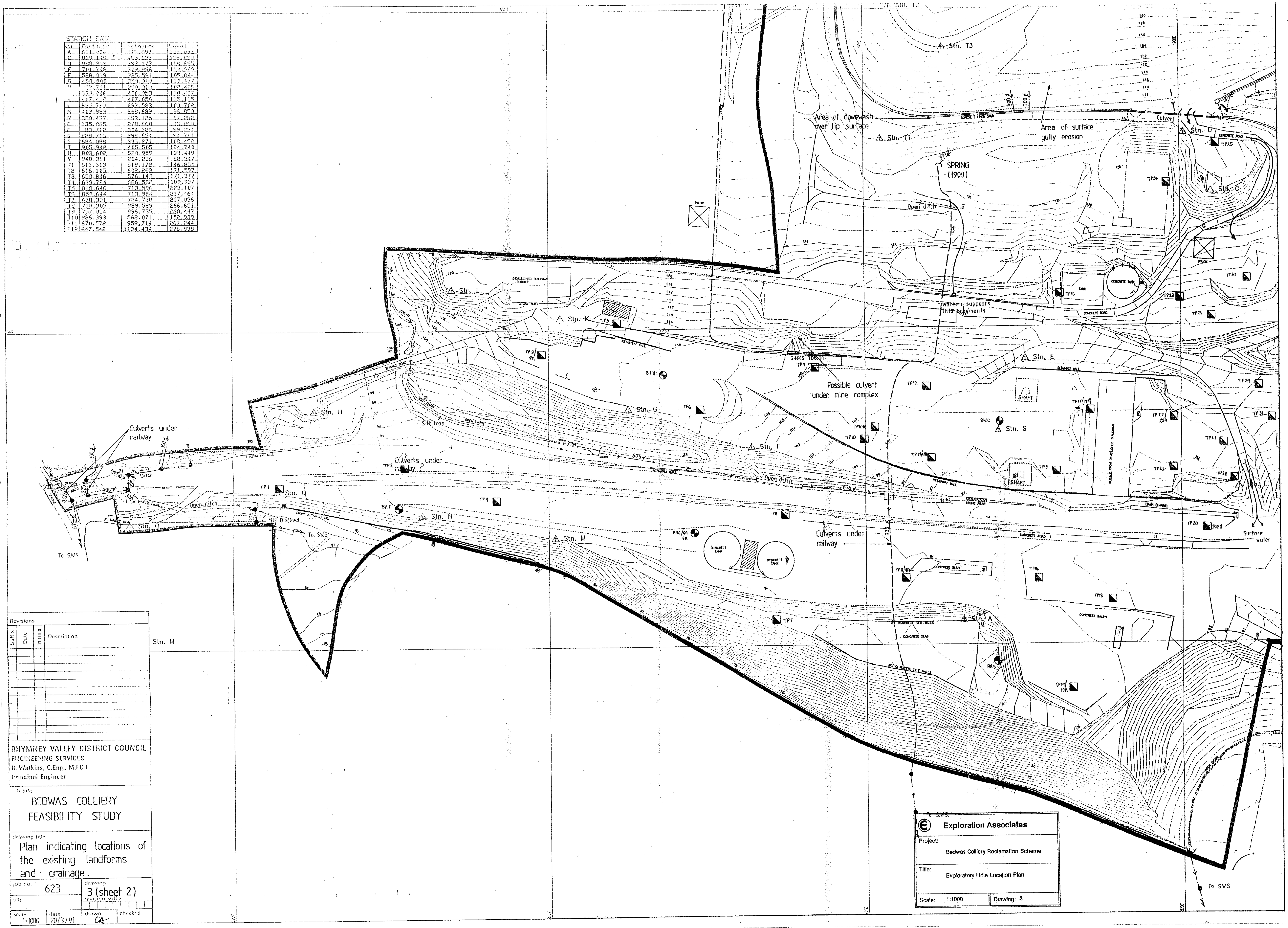
RHYMNEY VALLEY DISTRICT COUNCIL
ENGINEERING SERVICES
B. Watkins, C.Eng., M.I.C.E.
Principal Engineer

job title
BEDWAS COLLIERY FEASIBILITY STUDY

drawing title
Plan indicating locations of the existing landforms and drainage.

job no. 623 | drawing 3 (sheet 3)
sfh | revision suffix
scale 1:1000 | date 20/3/91 | drawn CA | checked

Exploration Associates
Project: Bedwas Colliery Reclamation Scheme
Title: Exploratory Hole Location Plan
Scale: 1:1000 | Drawing: 2



STATION DATA

Stn	Eastings	Northings	Level
A	661.[illegible]	215.697	10[illegible]
C	819.149	453.635	136.[illegible]
D	988.352	392.173	119.[illegible]
E	701.748	379.986	113.[illegible]
F	528.019	325.591	105.[illegible]
G	450.000	350.000	110.077
[illegible]	[illegible].711	250.000	102.425
[illegible]	333.846	426.053	118.437
K	[illegible]	407.656	115.115
L	[illegible]	297.583	100.702
M	403.923	268.689	96.850
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O	135.065	278.660	93.050
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scale 1:1000 | date 20/3/91 | drawn CA | checked

Exploration Associates
Project: Bedwas Colliery Reclamation Scheme
Title: Exploratory Hole Location Plan
Scale: 1:1000 | Drawing: 3

ENCLOSURE A

Exploratory Hole Records

Symbols	
Borehole Records	BHs 1,1R,2,3,4,5,6,6A, 6R,7,8,10,11,12
Trial Pits Records	TPs 1 to 83, and

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 { M : Small Disturbed Sample (Metal Analysis); ORG : Small Disturbed Sample (Organic Hydrocarbon Analysis)
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

$\underline{\nabla}$	:	Groundwater strike
$\underline{\blacktriangledown}$	:	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

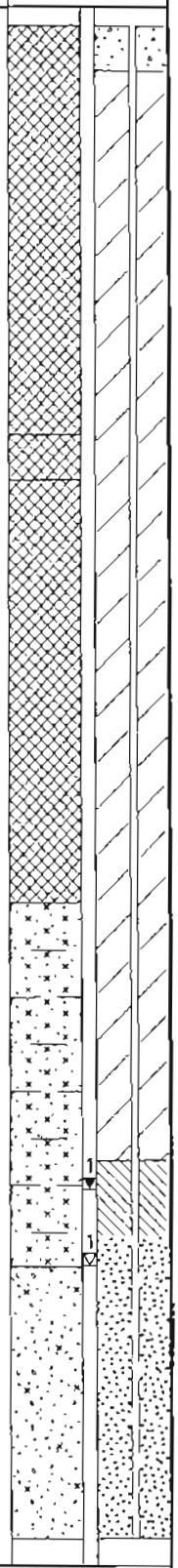
EXPLORATORY HOLE SYMBOLS	Project Bedwas Colliery Reclamation Scheme Rhymney Valley District Council	Contract 155218
Exploration Associates		Figure

Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
			08/01 1996 DRY	
1.00	B			
1.00	M/ORG			
1.00-1.34	C	NIL	DRY	50/ 190
2.50-2.95	C	2.00	DRY	34
2.70	D			
2.70	M/ORG			
3.00	B			
4.00-4.45	C	3.60	DAMP	32
5.00	B			
5.50-5.95	C	5.00	DAMP	30
5.80	D			
5.80	M/ORG			
7.00-7.45	CB	6.80		18
8.00	M/ORG			
8.20	B			
8.20	W			
9.00	M/ORG			
9.50-9.84	C	9.50	8.80	50/ 185
		9.50	9.30	
9.50			09/01 9.00	

Strata

Description	Depth (Thickness)	Level
	G.L.	90.68
MADE GROUND: Very dense dark grey clayey very silty very sandy angular fine to coarse gravel of sandstone, masonry and many cobbles.	(2.70)	
	2.70	87.98
MADE GROUND: (Dense) grey brown clayey very silty very sandy angular to sub-rounded fine to coarse gravel of sandstone and masonry.	3.00	87.68
MADE GROUND: Dense dark grey clayey very silty sandy angular to sub-rounded fine to coarse gravel of sandstone, masonry, brick and ash some cobbles.	(2.80)	
	5.80	84.88
Soft to firm grey brown sandy very clayey SILT with some angular to sub-rounded fine to coarse gravel of sandstone occasional cobbles.	(2.40)	
	8.20	82.48
Very dense brown silty sandy angular fine to coarse GRAVEL of sandstone many cobbles.	(1.80)	
	10.00	80.68



Equipment: Cable Percussion

Borehole Dia (mm): 200 to 10.40m

Casing Dia (mm): 200 to 10.40m

Groundwater

No.	Struck	Behaviour	Sealed
1	8.20	Rose to 7.70m in 20 mins	

Ground Level: 90.68 m OD

Coordinates: 318195.77 mE, 189243.06 mN

Drilled by: FF

Logged by: AF

Checked by:

Remarks

Chiselling 0.60m - 0.90m (1hr), 3.60m - 4.00m (1 1/2hrs), 5.40m - 5.80m (1 1/4hrs), 9.20m - 9.50m (1 1/4hrs), 9.70m - 10.00m (1hr), 10.00m - 10.25m (1hr), 10.25m - 10.40m (1hr). Water added to assist drilling 4.00m - 8.00m. Gases and VOC monitored at 3.00m, 9.50m and 10.40m. 50mm nominal diameter standpipe installed to 10.40m, slotted 10.40m - 8.00m pea gravel filter 10.40m - 8.00m. Equipment jet washed prior to moving position (1/2hr).

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project

Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Borehole 1(1 of 2)

Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
			09/01	
10.00	M/ORG			
10.25-10.44	C	10.25	9.90	50/
10.40	D			10
		10.40	-	
10.40				

Strata

Description	Depth (Thickness)	Level	Legend
Grey moderately weathered medium grained SANDSTONE, moderately strong; recovered as sandy angular fine to coarse gravel some cobbles.	10.40	80.28	
End of Borehole.			

Equipment: Cable Percussion

Borehole Dia (mm): 200 to 10.40m

Casing Dia (mm): 200 to 10.40m

Groundwater

No. Struck Behaviour Sealed

Ground Level 90.68 m OD

Coordinates 318195.77 mE
189243.06 mN

Drilled by FF
Logged by AF
Checked by

Remarks

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project

Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Borehole 1(2 of 2)

Sampling					Strata			
Drill Run	TCR (SCR)	Casing (RQD)	Date/ Water	FI	Description	Depth (Thickness)	Level	Legend
0.00			16/01 1996 DRY		MADE GROUND.**	G.L.	90.68	
						(7.00)		
				OH				
						7.00	83.68	
					Clay and Boulders.**			
						(3.00)		
						10.00	80.68	

Equipment: Lorry Mounted Rotary

Borehole Dia (mm): 150 to 10.00m; 127 to 30.00m

Casing Dia (mm): 140 to 10.00m

Groundwater

No.	Struck	Behaviour	Sealed
1	9.10	Slight seepage	
2	17.00	Slight seepage	
3	24.00	Moderate inflow	

Ground Level 90.68 m OD
Coordinates 318195.77 mE
189243.06 mN

Drilled by RB
Logged by AF
Checked by

Remarks Borehole commenced using rotary openhole techniques GL - 30.00m. 50mm nominal diameter standpipe installed to 30.00m, pea gravel filter 30.00m - 24.00m, slotted 24.00m - 30.00m. (Oil noted in flush returns). **Denotes drillers description.

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project: Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

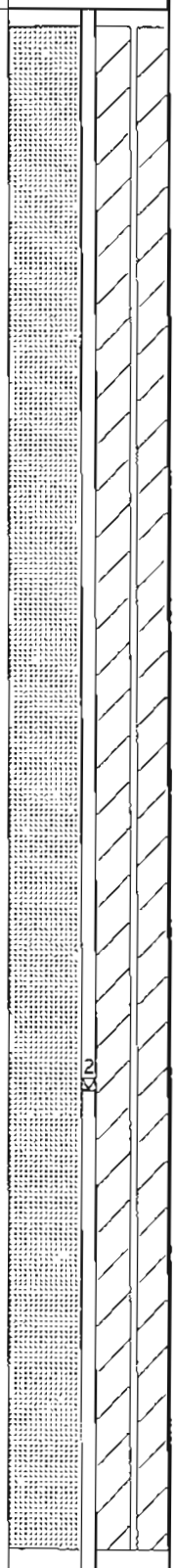
Borehole 1R(1 of 3)

Sampling

Drill Run	TCR (SCR)	Casing (RQD)	Date/ Water	Fl
			16/01	
				OH

Strata

Description	Depth (Thickness)	Level	Legend
Alternating bands of sandstone and mudstone.**			



Equipment: Lorry Mounted Rotary

Borehole Dia (mm)
150 to 10.00m
127 to 30.00m

Casing Dia (mm)
140 to 10.00m

Groundwater
No. Struck Behaviour Sealed

Ground Level 90.68 m OD
Coordinates 318195.77 mE
189243.06 mN

Drilled by RB
Logged by AF
Checked by

Remarks

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

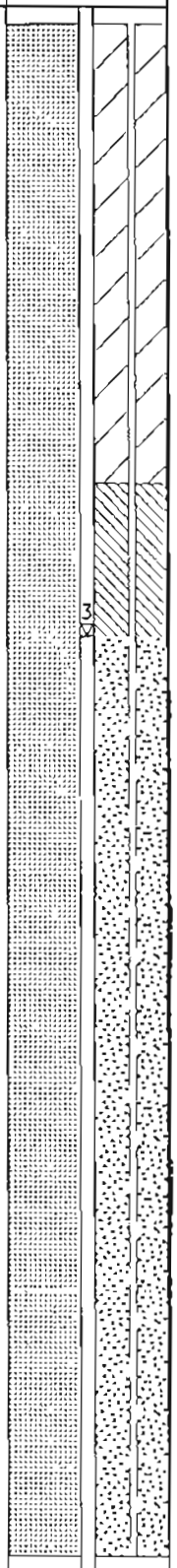
Exploration Associates

Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Borehole 1R(2 of 3)

Sampling					Strata			
Drill Run	TCR (SCR)	Casing (RQD)	Date/ Water	FI	Description	Depth (Thickness)	Level	Legend
			16/01		Continued from sheet (2 of 3).			
					.... oil noted in flush returns below 24.00m.			
				OH				
30.00		10.00	-		End of Borehole.	30.00	60.68	



Equipment: Lorry Mounted Rotary

Borehole Dia (mm)
150 to 10.00m
127 to 30.00m

Casing Dia (mm)
140 to 10.00m

Groundwater
No. Struck Behaviour Sealed

Ground Level 90.68 m OD
Coordinates 318195.77 mE
189243.06 mN

Drilled by RB
Logged by AF
Checked by

Remarks

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Borehole 1R(3 of 3)

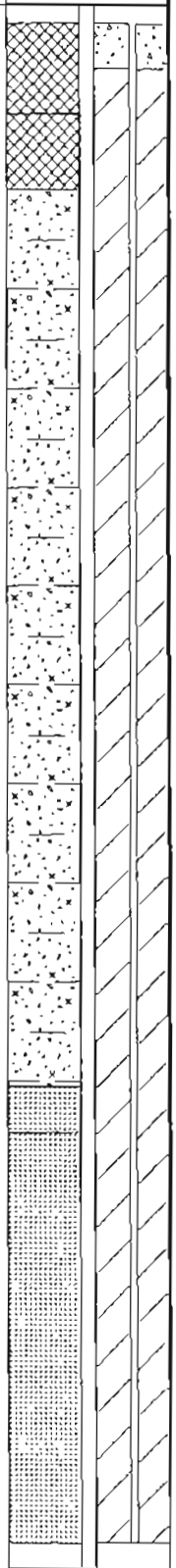
Sampling

Depth / Drill Run	Type / TCR(SCR)	Casing (RQD)	Date/ Water	SPT N (Cu)
0.00-0.60	B		05/01 1996 DRY	
0.60-1.10	B			
1.00	M/ORG			
1.10-1.50	B			
1.50-1.88	CB			50/
1.50	D			233
		1.50	1.00	
1.50			08/01	
			0.90	
2.00	B			
2.00	M/ORG			
3.00	M/ORG			
3.00-3.45	CB	3.00	2.20	41
4.00	M/ORG			
4.50-4.95	CB	4.50	3.30	36
5.00	M/ORG			
6.00	B			
6.00-6.45	C	6.00	5.50	42
		6.80	5.70	
6.80			09/01	
7.00-7.30	B			
7.30-7.38	C	7.30	5.90	50/ 42
7.30			22/01 DRY	

Strata

Description	Depth (Thickness)	Level
MADE GROUND: Grey silty sandy angular to sub-angular fine to coarse gravel of sandstone.	G.L.	81.95
	(0.60)	
MADE GROUND: Grey clayey silty very sandy angular fine to coarse gravel of sandstone.	0.60	81.35
	(0.50)	
Very dense brown slightly clayey locally clayey silty very sandy angular to sub-rounded fine to coarse GRAVEL some cobbles.	1.10	80.85
.... dense below 3.00m.	(5.90)	
Grey slightly weathered medium grained SANDSTONE, moderately strong; recovered as silty sandy angular fine to coarse gravel some cobbles.	7.00	74.95
Sandstone.**	7.30	74.65

Legend



Equipment: Cable Percussion
Lorry Mounted Rotary

Borehole Dia (mm)	Casing Dia (mm)
200 to 7.30m	200 to 7.30m
101 to 30.00m	

Groundwater

No.	Struck	Behaviour	Sealed
1	25.10	Moderate ingress	

Ground Level 81.95 m OD
Coordinates 318018.36 mE
189183.56 mN

Drilled by SL RB
Logged by AF AF
Checked by

Remarks Chiselling 0.30m - 0.60m (1hr), 1.60m - 2.20m (1 1/2hrs), 3.60m - 4.00m (1hr), 6.10m - 6.80m (2hrs), 7.00m - 7.30m (2hrs). Water added to assist drilling GL - 6.80m. Gases and VOC monitored at 1.50m (pm and am). Equipment jet washed prior to moving position. Borehole continued using rotary open hole techniques 7.30m - 30.00m. 50mm diameter standpipe installed to 30.00m, slotted 30.00m - 24.00m, pea gravel filter 30.00m - 24.00m. **Denotes drillers description.

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Borehole 2(1 of 3)

Sampling					Strata			
Drill Run	TCR (SCR)	Casing (RQD)	Date/ Water	SPT N	Description	Depth (Thickness)	Level	Legend
			22/01		Continued from (sheet 1 of 3).			
						(9.40)		
						16.70	65.25	
					Possible collapsed working.**	(1.00)		
						17.70	64.25	
					Grey mudstone.**			

Equipment: Cable Percussion
Lorry Mounted Rotary

Borehole Dia (mm): 200 to 7.30m; 101 to 30.00m
Casing Dia (mm): 200 to 7.30m

Groundwater
No. Struck Behaviour Sealed

Ground Level 81.95 m OD
Coordinates 318018.36 mE
189183.56 mN

Drilled by SL RB
Logged by AF AF
Checked by

Remarks

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Borehole 2(2 of 3)

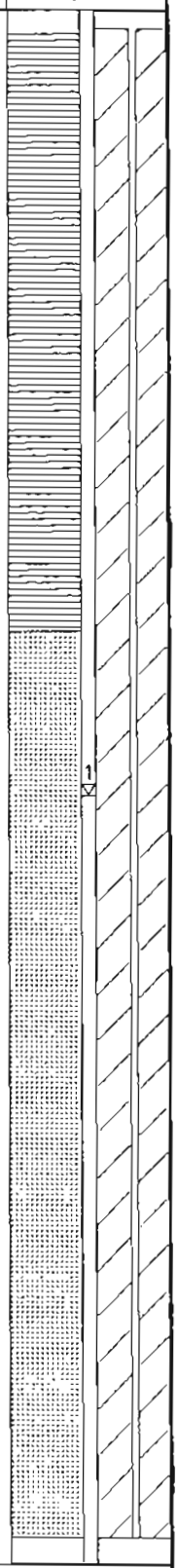
Sampling

Drill Run	TCR (SCR)	Casing (RQD)	Date/ Water	SPT N
			22/01	
30.00		7.30	-	

Strata

Description	Depth (Thickness)	Level
Continued from (sheet 2 of 3).	(6.30)	
Mainly grey sandstone.**	24.00	57.95
End of Borehole.	30.00	51.95

Legend



Equipment: Cable Percussion
Lorry Mounted Rotary

Borehole Dia (mm)	Casing Dia (mm)
200 to 7.30m	200 to 7.30m
101 to 30.00m	

Groundwater

No. Struck	Behaviour	Sealed

Ground Level	81.95 m OD	
Coordinates	318018.36	mE
	189183.56	mN
Drilled by	SL RB	
Logged by	AF AF	
Checked by		

Remarks

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project

Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Borehole 2(3 of 3)

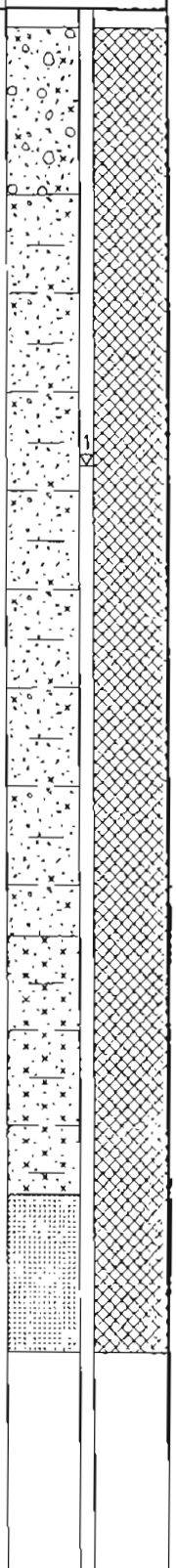
Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
			03/01 1996 DRY	
0.50-0.53	C	NIL	DRY	50/ 10
1.00-1.50	B			
2.00-2.45	C	1.80	DRY	31
3.00-3.50	B			
3.50-3.85	C	3.50	3.25	50/ 200
4.00	M/ORG			
5.00	M/ORG			
5.00-5.45	BC	5.00	4.80	42
		5.80	5.50	
5.80			04/01 5.00	
5.80	W			
6.00	M/ORG			
6.50-6.93	C	6.50	5.80	50/ 275
7.00-7.50	B			
7.00	M/ORG			
7.70	D			
8.00-8.23	CB	8.00	6.80	50/ 95
8.75	D			
		8.75	-	
8.75				

Strata

Description	Depth (Thickness)	Level
Very dense grey brown silty sandy sub-angular to sub-rounded fine to coarse GRAVEL and COBBLES of sandstone.	G.L.	94.24
	(1.10)	
Dense grey brown very clayey very silty sub-angular to sub-rounded fine to coarse SAND and GRAVEL of sandstone with some cobbles.	1.10	93.14
.... (oily with a strong hydrocarbon odour below 2.80m).		
.... very dense/large cobble at 3.50m.	(4.90)	
Firm to stiff grey mottled brown sandy very clayey SILT occasional locally some sub-angular fine to coarse gravel of sandstone occasional cobbles above 6.90m. (Hydrocarbon odour).	6.00	88.24
	(1.70)	
Grey locally brown highly weathered medium grained SANDSTONE, moderately weak to moderately strong; recovered as silty sandy angular gravel and cobbles. (Slightly oily with hydrocarbon odour).	7.70	86.54
.....	8.75	85.49
End of Borehole.		

Legend



Equipment: Cable Percussion

Borehole Dia (mm): 200 to 8.75m

Casing Dia (mm): 200 to 8.75m

Groundwater

No.	Struck	Behaviour	Sealed
1	2.90	Slight seepage	

Ground Level: 94.24 m OD

Coordinates: 318067.81 mE, 189285.21 mN

Drilled by: FF

Logged by: AF

Checked by:

Remarks

Chiselling 0.50m - 0.75m (3/4hr), 4.25m - 4.60m (1hr), 5.40m - 5.80m (1 1/2hrs), 7.80m - 8.00m (3/4hr), 8.25m - 8.50m (3/4hr), 8.50m - 8.75m (1hr). Water added to assist drilling 5.00m - 5.50m. Gases and VOC monitored at 4.00m, 5.80m, 6.50m 8.50m. Borehole backfilled with arisings. Equipment jet washed prior to moving position (1/2hr).

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project: Bedwas Colliery Reclamation Scheme, Rhymney Valley District Council

Contract: 155218

Borehole: 3(1 of 1)

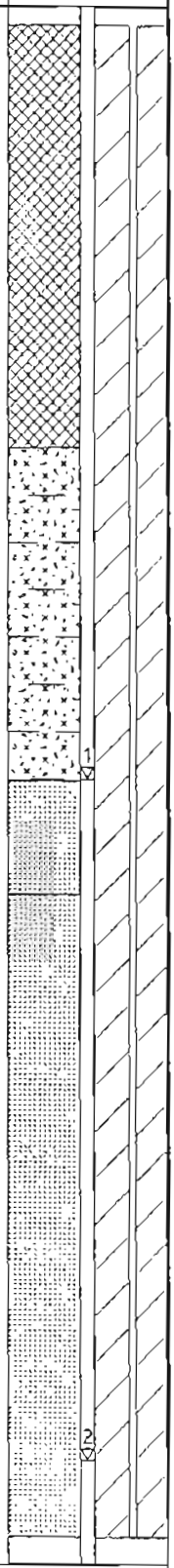
Sampling

Depth / Drill Run	Type / TCR(SCR)	Casing (RQD)	Date/ Water	SPT N (Cu)
			04/01 1996 DRY	
1.00	M/ORG			
1.00-1.45	CB	NIL	DRY	25
2.00	M/ORG			
2.50-2.95	C	2.50	DRY	36
2.80	D			
3.00	M/ORG			
3.00-3.45	B			
4.00	M/ORG			
4.00-4.45	C	4.00	DAMP	40
5.00	M			
		4.80	DAMP	
5.00			05/01 4.50	
5.00	W			
5.00-5.45	D			
5.50-5.59	C	5.30	DAMP	50/ 30
5.75				
			15/01 DAMP	

Strata

Description	Depth (Thickness)	Level
MADE GROUND: Medium dense dark grey silty very sandy angular fine to coarse gravel of brick, sandstone, concrete, timber and ash some cobbles.	G.L.	93.37
.... (dense) below 2.50m.	(2.80)	
Firm grey brown sandy very clayey SILT with some sub-angular to sub-rounded fine to coarse gravel of sandstone some cobbles. (Slight hydrocarbon odour).	2.80	90.57
	(2.20)	
Brown grey moderately weathered medium grained SANDSTONE, moderately weak; recovered as silty sandy angular fine to coarse gravel.	5.00	88.37
	(0.75)	
Alternating bands of strong sandstone and mudstone.**	5.75	87.62

Legend



Equipment: Cable Percussion
Lorry Mounted Rotary

Borehole Dia (mm)	Casing Dia (mm)
200 to 5.75m	200 to 5.75m
140 to 30.00m	

Groundwater

No.	Struck	Behaviour	Sealed
1	5.00	Rose to 4.50m overnight	
2	9.50	Slight seepage	
3	14.50	Slight seepage	

Ground Level 93.37 m OD
Coordinates 317966.51 mE
189276.88 mN

Drilled by FF RB
Logged by AF AF
Checked by

Remarks

See key sheet and appendices for explanations.

Chiselling 0.80m - 1.20m (1 1/4hrs), 4.70m - 5.00m (1hr), 5.00m - 5.50m (1 1/2hrs), 5.50m - 5.75m (1 1/2hrs). Water added to assist drilling 3.50m - 5.00m. Gas and VOC monitored at 5.00m, 5.20m 5.75m. Equipment jet washed prior to moving position (1/2hr). Borehole continued using rotary open hole techniques 5.75m - 40.00m. 50mm nominal diameter standpipe installed to 30.00m, slotted 30.00m - 15.00m, pea gravel filter 30.00m - 15.00m. **Denotes drillers description.

Form 1/0

Borehole Record

Exploration Associates

Project

Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Borehole 4(1 of 3)

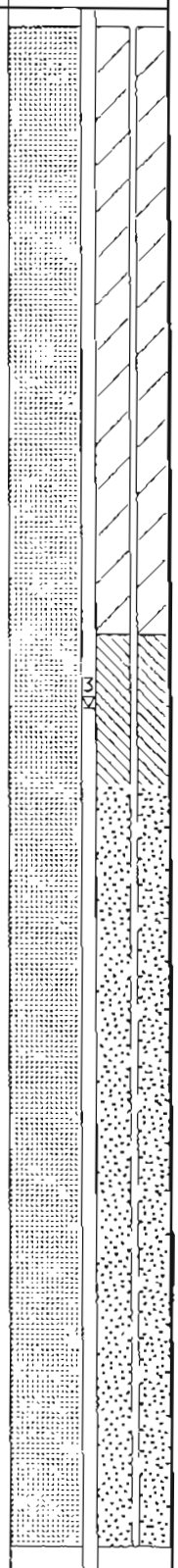
Sampling

Drill Run	TCR (SCR)	Casing (RQD)	Date/ Water	SPT N
			15/01	

Strata

Description	Depth (Thickness)	Level
Continued from sheet (1 of 3).		

Legend



Equipment: Cable Percussion
Lorry Mounted Rotary

Borehole Dia (mm)
200 to 5.75m
140 to 30.00m

Casing Dia (mm)
200 to 5.75m

Groundwater
No. Struck Behaviour Sealed

Ground Level 93.37 m OD
Coordinates 317966.51 mE
189276.88 mN

Drilled by FF RB
Logged by AF AF
Checked by

Remarks

See key sheet
and appendices
for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Borehole 4(2 of 3)

Sampling					Strata			
Drill Run	TCR (SCR)	Casing (RQD)	Date/ Water	SPT N	Description	Depth (Thickness)	Level	Legend
			15/01		Continued from sheet (2 of 3).			
30.00		5.75	-		End of Borehole.	30.00	63.37	

Equipment: Cable Percussion
Lorry Mounted Rotary

Borehole Dia (mm): 200 to 5.75m; 140 to 30.00m
Casing Dia (mm): 200 to 5.75m

Groundwater

No. Struck	Behaviour	Sealed

Ground Level 93.37 m OD
Coordinates 317966.51 mE
189276.88 mN

Drilled by FF RB
Logged by AF AF
Checked by

Remarks

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Borehole 4(3 of 3)

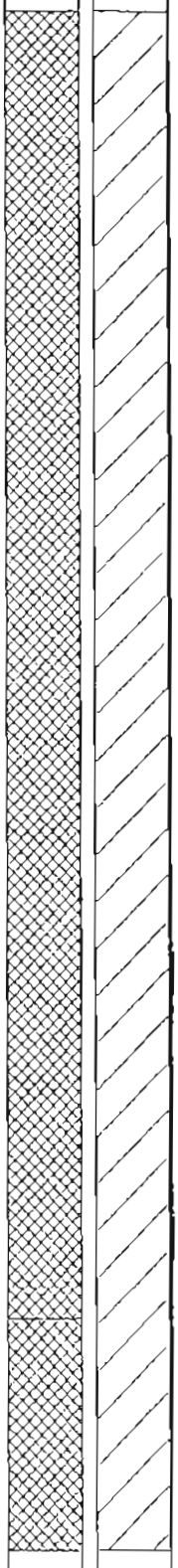
Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
			15/01 1996 DRY	
1.00	B			
1.00	M/ORG			
1.00-1.45	C	NIL	DRY	17
2.00	M			
2.50-2.95	C	2.50	DRY	18
3.00	B			
3.00	M			
4.00	M/ORG			
4.00-4.45	C	3.50	DAMP	20
5.00	M			
5.00	B			
5.50-5.91	C	5.50	DAMP	50/ 255
6.00	M			
7.00	M/ORG			
7.00-7.45	CB	6.60	DAMP	23
8.00	M			
8.50-8.76	C	8.50	DAMP	50/ 105
8.50			16/01 DRY	

Strata

Description	Depth (Thickness)	Level
	G.L.	102.59
MADE GROUND: Medium dense dark grey very silty very sandy angular fine to coarse gravel of sandstone, mudstone, brick, slag and ash some cobbles.		
	(8.50)	
.... very dense/large cobble at 5.50m.		
MADE GROUND: Very dense (cobbles of sandstone).	8.50	94.09
.... medium dense 10.00m - 10.45m.		

Legend



Equipment: Cable Percussion
Lorry Mounted Rotary

Borehole Dia (mm)	Casing Dia (mm)
200 to 16.00m	200 to 16.00m
101 to 32.00m	

Groundwater

No.	Struck	Behaviour	Sealed
1	32.00	Slight seepage encountered	

Ground Level 102.59 m OD
Coordinates 317786.52 mE
189189.17 mN

Drilled by FF RB
Logged by AF AF
Checked by

Remarks

See key sheet and appendices for explanations.

Boulder excavated by hand at 0.40m. Chiselling 5.70m - 6.10m (1 1/4hrs), 6.60m - 7.00m (1 1/4hrs), 8.20m - 8.50m (1hr), 8.50m - 9.00m (1 1/4hrs), 11.20m - 11.70m (1 1/4hrs), 12.20m - 12.60m (1hr), 14.50m - 15.00m (1 1/2hrs), 15.00m - 16.00m (3 3/4hrs). Unable to recover samples 8.50m - 16.00m. Water added to assist drilling 3.50m - 15.00m. Gases monitored at 5.50m, 8.50, 11.00m, 15.00m (am and pm). Borehole continued using rotary opne hole techniques 16.00m - 32.00m. Borehole grouted 32.00m - GL.
**Denotes drillers description.

Form 1/0

Borehole Record

Exploration Associates

Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Borehole 5(1 of 4)

Sampling

Depth / Drill Run	Type / TCR(SCR)	Casing (ROD)	Date/ Water	SPT N (Cu)
10.00-10.45	C	9.50	16/01 DRY	21
13.00-13.40	C			50/ 250
		15.50	DRY	
16.00			19/01 DRY	

Strata

Description	Depth (Thickness)	Level
Continued from sheet (1 of 4).	(7.50)	
	16.00	86.59
Fill with clayey matrix.**	(4.00)	
	20.00	82.59

Legend

Equipment: Cable Percussion
Lorry Mounted Rotary

Borehole Dia (mm): 200 to 16.00m, 101 to 32.00m
Casing Dia (mm): 200 to 16.00m

Groundwater
No. Struck Behaviour Sealed

Ground Level 102.59 m OD
Coordinates 317786.52 mE
189189.17 mN

Drilled by FF RB
Logged by AF AF
Checked by

Remarks Temperature monitored at 1.00m (12.7°C), 4.00m (11.4°C), 7.00m (12.6°C), 10.00m (15.1°C), 13.00m (13.8°C), 16.00m (14.8°). Cable percussion drilling terminated at 16.00m on engineers instruction.

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Borehole 5(2 of 4)

Sampling					Strata			
Drill Run	TCR (SCR)	Casing (RQD)	Date/ Water	SPT N	Description	Depth (Thickness)	Level	Legend
			19/01		Clay and stones.**	(3.20)		
						23.20	79.39	
					Grey brown mudstone.**	(2.80)		
						26.00	76.59	
					Grey sandstone, moderately strong.**			

Equipment: Cable Percussion
Lorry Mounted Rotary

Borehole Dia (mm): 200 to 16.00m, 101 to 32.00m
Casing Dia (mm): 200 to 16.00m

Groundwater
No. Struck Behaviour Sealed

Ground Level 102.59 m OD
Coordinates 317786.52 mE
189189.17 mN

Drilled by FF RB
Logged by AF AF
Checked by

Remarks

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Borehole 5(3 of 4)

Sampling					Strata			
Drill Run	TCR (SCR)	Casing (ROD)	Date/ Water	SPT N	Description	Depth (Thickness)	Level	Legend
			19/01					
32.00		15.50	-		End of Borehole.	32.00	70.59	1

Equipment: Cable Percussion
Lorry Mounted Rotary

Borehole Dia (mm): 200 to 16.00m; 101 to 32.00m
Casing Dia (mm): 200 to 16.00m

Groundwater
No. Struck Behaviour Sealed

Ground Level 102.59 m OD
Coordinates 317786.52 mE
189189.17 mN

Drilled by FF RB
Logged by AF AF
Checked by

Remarks

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Borehole 5(4 of 4)

Sampling					Strata		
Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)	Description	Depth (Thickness)	Level
0.00	M/ORG		09/01 1996 DRY		MADE GROUND: Brown grey clayey silty sandy angular to sub-angular fine to coarse gravel of sandstone and masonry.	G.L.	94.16
						(1.10)	
1.00	B						
1.00	M/ORG					1.10	93.06
1.10	M/ORG						
1.50-1.95	CB	1.50	DRY	19	MADE GROUND: Medium dense dark grey clayey silty sandy angular fine to coarse gravel of sandstone, ash and masonry.		
3.00-3.45	CB	3.00	DRY	27			
					.... no samples recovered below 3.60m.		
4.50-4.72	C	4.50	DRY	50/ 65	.... very dense/obstruction at 4.50m.		
		6.60	DRY				
6.60					End of Borehole.	6.60	87.56

Legend

Equipment: Cable Percussion

Borehole Dia (mm) 200 to 6.60m

Casing Dia (mm) 200 to 6.60m

Groundwater

No. Struck Behaviour Sealed

No groundwater encountered

Ground Level 94.16 m OD

Coordinates 317592.96 mE 189269.92 mN

Drilled by SL

Logged by AF

Checked by

Remarks

Chiselling 3.80m - 4.10m (1hr), 6.30m - 6.60m (1hr). Pushing obstruction/cobble 3.60m - 6.60m unable to collect any samples. Chisel and shell sticking at 6.60m, blocked out in order to free equipment unable to progress. Borehole terminated on engineers instruciton at 6.60m, moved 3.00m to BH6A. Gases and VOC monitored at 6.60m. Borehole backfilled with arisings.

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project

Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Borehole 6(1 of 1)

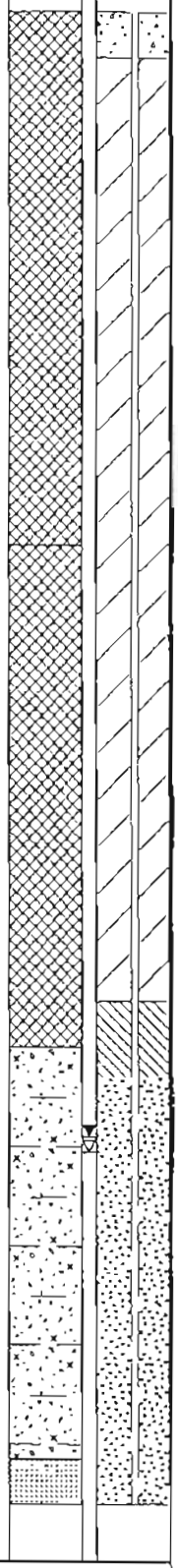
Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
			10/01 1996 DRY	
3.50-4.50	B			
4.50-4.95	C	4.50	3.20	28
6.00-6.45	C	6.00	4.90	29
6.80	M/ORG			
7.00	B			
7.50	W			
7.50-7.95	C	7.50	6.10	32
9.00-9.45	CB	9.00	7.80	36
9.50-9.80	B			
9.50	M/ORG			
9.80-9.93	C	9.80	6.90	50/ 32
		9.80	-	
9.80				

Strata

Description	Depth (Thickness)	Level
MADE GROUND: Brown grey clayey silty sandy angular to sub-angular fine to coarse gravel of sandstone and masonry.	G.L.	
	(3.50)	
MADE GROUND: Medium dense dark grey slightly sandy angular fine to coarse gravel and cobbles of sandstone. (masonry).	3.50	
	(3.30)	
Dense brown slightly clayey silty very sandy angular to sub-rounded fine to coarse GRAVEL of sandstone many cobbles.	6.80	
	(2.70)	
Grey moderately weathered medium grained SANDSTONE, moderately strong; recovered as sandy angular fine to coarse gravel and cobbles.	9.50	
	9.80	

Legend



Equipment: Cable Percussion

Borehole Dia (mm): 200 to 9.80m

Casing Dia (mm): 200 to 9.80m

Groundwater

No.	Struck	Behaviour	Sealed
1	7.50	Rose to 7.40m in 20 mins	

Drilled by SL
Logged by AF
Checked by

Remarks

Borehole commenced using open hole techniques GL - 3.50m. Chiselling 5.40m - 5.80m (1hr), 9.50m - 9.80m (1hr). Gases and VOC monitored at 5.50m - 9.80m. Water added to assist drilling 3.50m - 8.50m. 50mm nominal diameter standpipe installed to 9.80m, slotted 9.80m - 7.00m, pea gravel filter 9.80m - 7.00m. Equipment jet washed prior to leaving position.

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project: Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract: 155218

Borehole: 6A(1 of 1)

Sampling

Drill Run	TCR (SCR)	Casing (RQD)	Date/ Water	FI
0.00			17/01 1996 DRY	
				OH

Strata

Description	Depth (Thickness)	Level
Made Ground.**	G.L.	94.16
	(6.50)	
Clay and stones.**	6.50	87.66
	(3.00)	
Sandstone and mudstone.**	9.50	84.66

Legend

Equipment: Lorry Mounted Rotary

Borehole Dia (mm)
140 to 9.50m
101 to 30.00m

Casing Dia (mm)
140 to 9.50m

Groundwater

No.	Struck	Behaviour	Sealed
1	29.10	Moderate ingress	

Ground Level 94.16 m OD
Coordinates 317592.96 mE
189269.92 mN

Drilled by RB
Logged by AF
Checked by

Remarks Borehole commenced using rotary open hole techniques GL - 30.00m. Borehole grouted 30.00m - GL.
**Denotes drillers description.

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Borehole 6R(1 of 3)

Sampling					Strata		
Drill Run	TCR (SCR)	Casing (RQD)	Date/ Water	FI	Description	Depth (Thickness)	Level
			17/01		Continued from sheet (1 of 3).		
				OH		(11.30)	

Legend

Equipment: Lorry Mounted Rotary

Borehole Dia (mm)
140 to 9.50m
101 to 30.00m

Casing Dia (mm)
140 to 9.50m

Groundwater
No. Struck Behaviour Sealed

Ground Level 94.16 m OD
Coordinates 317592.96 mE
189269.92 mN

Drilled by RB
Logged by AF
Checked by

Remarks

See key sheet
and appendices
for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Borehole 6R(2 of 3)

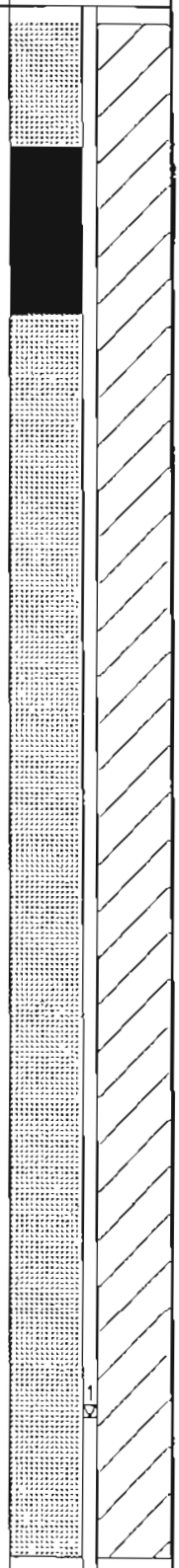
Sampling

Drill Run	TCR (SCR)	Casing (RQD)	Date/ Water	FI
			17/01	
				OH
30.00		9.50	-	

Strata

Description	Depth (Thickness)	Level
Continued from sheet (2 of 3).		
Coal.**	20.80	73.36
	(1.10)	
Sandstone and mudstone.**	21.90	72.26
End of Borehole.	30.00	64.16

Legend



Equipment: Lorry Mounted Rotary

Borehole Dia (mm)
140 to 9.50m
101 to 30.00m

Casing Dia (mm)
140 to 9.50m

Groundwater

No.	Struck	Behaviour	Sealed

Ground Level 94.16 m OD
Coordinates 317592.96 mE
189269.92 mN

Drilled by RB
Logged by AF
Checked by

Remarks

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Borehole 6R(3 of 3)

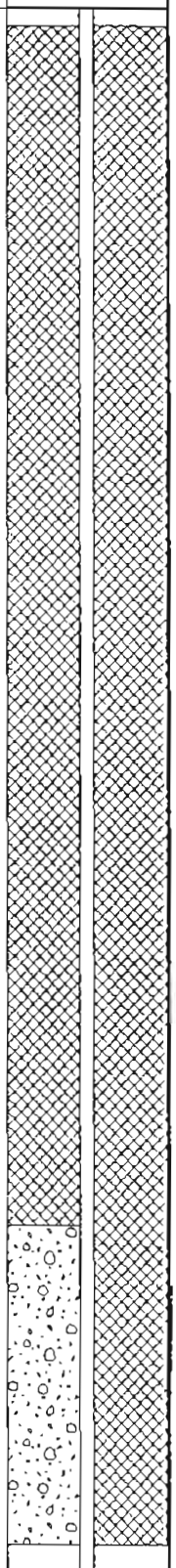
Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
0.00-0.10	M/ORG		11/01 1996 DRY	
1.00	B			
1.50-1.95	C	1.50	DRY	19
3.00-3.45	CB	3.00	DRY	23
4.50-4.95	C	4.50	DRY	21
5.00	B			
6.00-6.45	C	6.00	DRY	30
7.00	B			
7.50-7.95	CB	7.50	DRY	36
7.80	M/ORG			
7.90	M/ORG			
9.00	B			
		9.30	8.60	
9.30			12/01 8.90	
9.30-9.68	C	9.30		51/ 225

Strata

Description	Depth (Thickness)	Level
MADE GROUND: Medium dense dark grey very silty very sandy angular to sub-angular fine to coarse gravel of sandstone, ash and slag some cobbles.	G.L.	97.04
.... dense below 6.00m.	(7.90)	
Very dense brown silty very sandy angular to sub-rounded fine to coarse GRAVEL of sandstone many cobbles.	7.90	89.14
	(2.30)	

Legend



Equipment: Cable Percussion

Borehole Dia (mm) 200 to 10.50m

Casing Dia (mm) 200 to 10.50m

Groundwater

No. Struck Behaviour Sealed

No groundwater encountered

Ground Level 97.04 m OD

Coordinates 317407.28 mE
189287.15 mN

Drilled by SL
Logged by AF
Checked by

Remarks Chiselling 2.60m - 2.90m (1hr), 9.00m - 9.30m (1hr), 9.60m - 9.90m (1hr), 10.20m - 10.50m (1hr). Water added to assist drilling 8.00m - 10.50m. Gases monitored at 5.00m - 9.30m. Borehole backfilled with arisings.

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Borehole 7(1 of 2)

Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
			12/01	
10.20-10.50	D			
10.50-10.57	C	10.50	8.10	50/ 38
10.50				

Strata

Description	Depth (Thickness)	Level
	10.20	86.84
Grey slightly weathered medium grained SANDSTONE, moderately strong; recovered as slightly sandy angular fine to coarse gravel some cobbles.	10.50	86.54
End of Borehole.		

Legend

Equipment: Cable Percussion

Borehole Dia (mm) 200 to 10.50m

Casing Dia (mm) 200 to 10.50m

Groundwater

No. Struck Behaviour Sealed

Ground Level 97.04 m OD

Coordinates 317407.28 mE
189287.15 mN

Drilled by SL
Logged by AF
Checked by

Remarks

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project

Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Borehole 7(2 of 2)

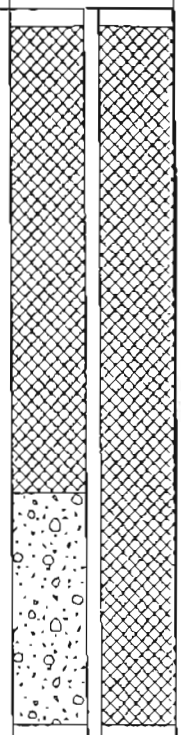
Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
0.00-1.00	B		04/01 1996 DRY	
1.00	M/ORG			
1.00-1.50	B			
1.50-1.95	SD	1.50	DRY	7
2.00	M/ORG			
3.00	M/ORG			
3.00-3.45	SD	3.00	DRY	19
4.00	M/ORG			
4.00	B			
4.50-4.58	SD	4.50	4.20	50/ 20
4.50				

Strata

Description	Depth (Thickness)	Level
MADE GROUND: Loose dark grey silty angular to sub-angular fine to coarse sand and gravel of coal, ash, siltstone and sandstone occasional cobbles.	G.L.	113.86
	(3.00)	
Medium dense brown silty very sandy sub-angular to sub-rounded fine to coarse GRAVEL of sandstone some cobbles.	3.00	110.86
.... possible sandstone bedrock at 4.50m.	4.50	109.36
End of Borehole.		

Legend



Equipment: Cable Percussion

Borehole Dia (mm) 200 to 4.50m

Casing Dia (mm) 200 to 4.50m

Groundwater

No. Struck Behaviour Sealed

No groundwater encountered

Ground Level 113.86 m OD

Coordinates 318035.12 mE 189425.54 mN

Drilled by SL

Logged by AF

Checked by

Remarks Chiselling at 4.50m (1hr) no penetration. Water added to assist drilling 3.00m - 4.50m. Gases and VOC monitored at 0.50m and 4.50m. Equipment jet washed prior to moving position (1/2hr). Borehole backfilled with arisings.

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project

Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

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Borehole 8(1 of 1)

Sampling

Depth	Type	Casing Depth	Date/ Water	SPT N (Cu)
0.00-0.10	B		04/01	
0.10-1.00	B		1996 DRY	
1.00	M/ORG			
1.50-1.95	CB	1.50	DRY	26
2.00	M/ORG			
2.00	B			
3.00	M/ORG			
3.00-3.45	CB	3.00	2.40	22
4.00	M/ORG			
4.00	B			
		4.50	3.60	
4.50			05/01	
			3.80	
4.50-4.95	CB	4.50		30
5.00	M/ORG			
5.40-5.41	C	5.40	4.40	50/ 12
5.50				

Strata

Description	Depth (Thickness)	Level
	G.L.	113.86
MADE GROUND: Dark grey silty fine to coarse sand of ash, coal and siltstone much gravel.	0.10	113.76
Orange brown very clayey silty very sandy angular to sub-angular fine to coarse GRAVEL of sandstone.	(1.40)	
Medium dense brown slightly clayey silty very sandy sub-angular to sub-rounded fine to coarse GRAVEL of sandstone some cobbles.	1.50	112.36
.... dense below 4.50m.	(3.90)	
Grey silty sandy angular fine to medium GRAVEL of sandstone. (Possible Bedrock). End of Borehole.	5.40 5.50	108.46 108.36

Legend

Equipment: Cable Percussion

Borehole Dia (mm): 200 to 5.50m

Casing Dia (mm): 200 to 5.40m

Groundwater

No. Struck Behaviour Sealed

No groundwater encountered

Ground Level 113.86 m OD

Coordinates 317971.71 mE 189411.24 mN

Drilled by SL

Logged by AF

Checked by

Remarks Chiselling 4.30m - 4.50m (1/2hr), 5.40m - 5.50m (1hr). Water added to assist drilling 1.50m - 5.50m. Gases and VOC monitored at 0.50m, 4.50m 5.50m. Equipment jet washed prior to moving position (1/2hr). Borehole backfilled with arisings.

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project

Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

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Borehole 9(1 of 1)

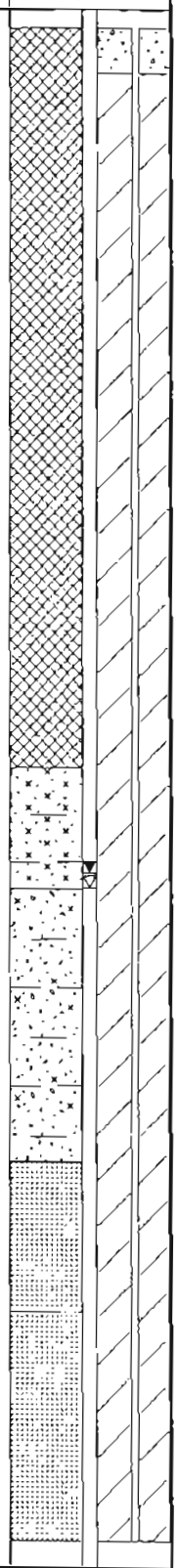
Sampling

Depth / Drill Run	Type / TCR(SCR)	Casing (ROD)	Date/ Water	SPT N (Cu)/FI
			07/01 1996 DRY	
1.00	M/ORG			
1.00-1.20	CB	1.00	DRY	50/ 85
2.00	M/ORG			
2.50-2.95	C	2.40	DAMP	20
3.00	M/ORG			
		3.50	DAMP	
3.50			10/01 DRY	
4.00	M/ORG			
4.00-4.34	C	4.00	DRY	50/ 190
4.90	D			
5.00	B			
5.50-5.83	C	5.50	DRY	50/ 180
6.00	B			
6.00	M/ORG			
7.00-7.32	C	7.00	6.50	50/ 170
8.00	M/ORG			
8.00	B			
8.50-8.61	C	8.50	8.25	50/ 20
8.50	D	8.50	8.20	
8.50		8.50	19/01	
		8.50		18
	100% (70%)	(0%)		
9.50				

Strata

Description	Depth (Thickness)	Level
	G.L.	106.86
MADE GROUND: Very dense dark grey silty very sandy angular fine to coarse gravel and cobbles of brick, masonry, concrete, ash and sandstone, possible metal fragments.	(4.90)	
	4.90	101.96
Firm brown grey mottled orange brown sandy very clayey SILT occasional angular to sub-rounded fine to coarse gravel and cobbles of sandstone.	(0.80)	
	5.70	101.16
Very dense brown silty very sandy angular to sub-rounded fine to coarse GRAVEL of sandstone many cobbles.	(1.80)	
	7.50	99.36
Brown grey highly weathered medium grained SANDSTONE, moderately weak; recovered as silty sandy angular fine to coarse gravel some cobbles.	(1.00)	
	8.50	98.36
Grey moderately strong to strong slightly weathered micaceous SANDSTONE, thinly bedded to thinly laminated with closely to very closely spaced near horizontal discontinuities.		

Legend



Equipment: Cable Percussion
Lorry Mounted Rotory

Borehole Dia (mm)
200 to 8.50m
S to 30.00m

Casing Dia (mm)
200 to 8.50m
S to 30.00m

Groundwater

No.	Struck	Behaviour	Sealed
1	5.70	Rose to 5.60m in 20 mins	
2	29.20	slight seepage.	

Ground Level 106.86 m GD
Coordinates 317785.39 mE
189338.35 mN

Drilled by FF RLB
Logged by AF PCB
Checked by

Remarks Chiselling 0.60m - 1.20m (2 1/4hrs), 4.20m - 4.70m (1 1/4hrs), 5.80m - 6.30m (1 1/2hrs), 7.60m - 7.90m (1 1/4hrs), 8.10m - 8.50m (1 3/4hr). Water added to assist drilling 2.00m - 3.00m, 6.00m - 8.50m. Gases and VOC monitored at 1.00m, 5.00m 8.50m.

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Borehole 10(1 of 3)

Sampling

Drill Run	TCR (SCR)	Casing (RQD)	Date/ Water	SPT N FI
			19/01	
	100% (95%)	(0%)		28
12.00				
				10
				N/A
	100% (95%)	(0%)		5
14.70				
	100% (95%)	(18%)		12
16.00				
	100% (100%)	(41%)		14
19.00				
	100% (100%)	(18%)		12

Strata

Description	Depth (Thickness)	Level
	(3.74)	
	12.24	94.62
Bituminous COAL.	12.33	94.53
	12.60	94.26
Very stiff grey silty friable CLAY. (SEAT EARTH).		
Grey moderately weak slightly weathered MUDSTONE, with thin and thick sand laminae and widely spaced horizontal and vertical discontinuities.	(2.10)	
	14.70	92.16
Grey moderately strong to strong slightly weathered SILTSTONE, with thin and thick sandy convoluted laminae and medium spaced horizontal discontinuities.	(4.15)	
	18.85	88.01
Grey strong fresh to slightly weathered micaceous SANDSTONE, with widely spaced horizontal discontinuities and widely spaced carbonaceous laminae.		

Legend

Equipment: Cable Percussion
Lorry Mounted Rotory

Borehole Dia (mm): 200 to 8.50m S to 30.00m

Casing Dia (mm): 200 to 8.50m S to 30.00m

Groundwater

No. Struck Behaviour Sealed

Ground Level 106.86 m OD
Coordinates 317785.39 mE 189338.35 mN

Drilled by FF RLB
Logged by AF PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

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Borehole 10(2 of 3)

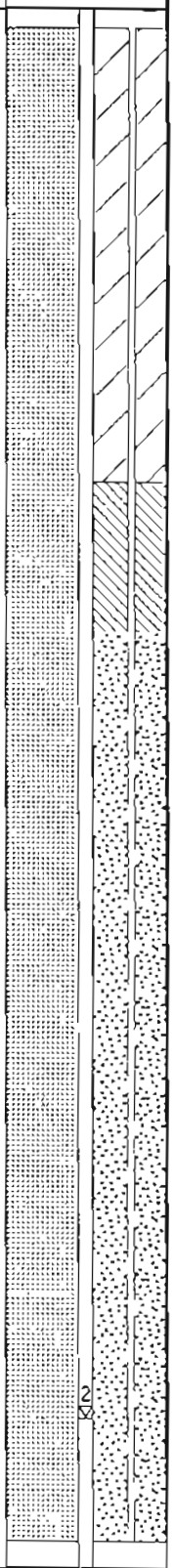
Sampling

Drill Run	TCR (SCR)	Casing (RQD)	Date/ Water	SPT N FI
			19/01	
20.20				
	100% (100%)	(63%)		9
21.80				
	100% (100%)	(75%)		10
23.00				
	100% (100%)	(59%)		9
25.00				
	100% (30%)	(0%)		20
25.60				
	100% (100%)	(66%)		7
28.00				
	100% (100%)	(78%)		3
30.00		8.50	DRY	

Strata

Description	Depth (Thickness)	Level
End of Borehole.	30.00	76.86

Legend



Equipment: Cable Percussion
Lorry Mounted Rotory

Borehole Dia (mm)
200 to 8.50m
S to 30.00m

Casing Dia (mm)
200 to 8.50m
S to 30.00m

Groundwater

No. Struck	Behaviour	Sealed

Ground Level 106.86 m OD
Coordinates 317785.39 mE
189338.35 mN

Drilled by FF RLB
Logged by AF PCB
Checked by

Remarks

See key sheet
and appendices
for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Borehole 10(3 of 3)

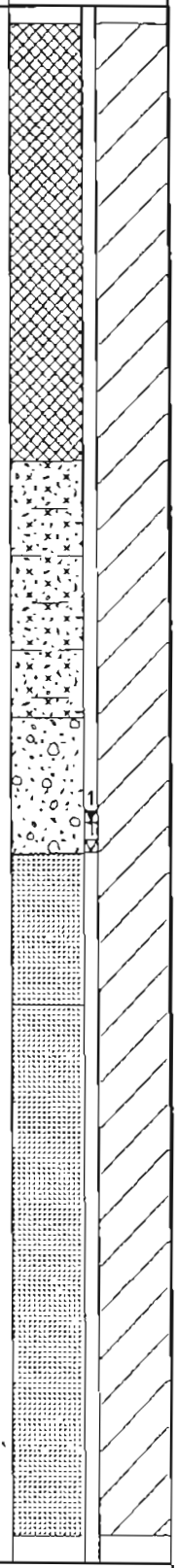
Sampling

Depth / Drill Run	Type / TCR(SCR)	Casing (RQD)	Date/ Water	SPT N (Cu)
			11/01 1996	
1.00	D			
1.00	M/ORG			
1.00-1.25	C	NIL	DRY	50/ 95
2.00	B			
2.00	M			
2.50-2.95	C	2.00	DRY	19
3.00	M			
4.00	MB			
4.00-4.45	C	4.00	DRY	32
4.60	D			
		4.75	DAMP	
4.75			12/01 DRY	
5.00	M/ORG			
5.50-5.82	C	5.50	5.10	50/ 170
6.00	M			
6.00	B			
6.50	D			
6.50-6.62	C			50/ 30
		6.50	6.25	
6.50				
			17/01 DRY	

Strata

Description	Depth (Thickness)	Level
	G.L.	109.99
MADE GROUND: Very dense brown clayey very silty very sandy angular fine to coarse gravel of sandstone, masonry and brick many cobbles.	(2.90)	
.... medium dense below 2.50m.	2.90	107.09
Dense orange brown clayey sandy SILT with occasional angular to rounded fine to coarse gravel of sandstone occasional cobbles.	(1.70)	
.... some gravel and cobbles below 4.00m.	4.60	105.39
(Dense) brown silty sandy angular to sub-rounded fine to coarse GRAVEL of sandstone some cobbles.	(0.90)	
Brown highly weathered medium grained SANDSTONE, moderately strong; recovered as silty sandy angular fine to coarse gravel and cobbles.	5.50	104.49
Alternating bands of strong sandstone and mudstone.**	(1.00)	
	6.50	103.49
	(5.20)	

Legend



Equipment: Cable Percussion
Lorry Mounted Rotary

Borehole Dia (mm)
200 to 6.50m
101 to 30.00m

Casing Dia (mm)
200 to 6.50m

Groundwater

No.	Struck	Behaviour	Sealed
1	5.50	Rose to 5.30m in 20 mins d	

Ground Level 109.99 m OD
Coordinates 317573.84 mE
189368.86 mN

Drilled by FF RB
Logged by AF AF
Checked by

Remarks Chiselling 0.50m - 0.90m (1 1/2hrs), 1.70m - 2.00m (1 1/4hrs), 4.50m - 4.75m (1hr), 4.75m - 5.00m (1hr), 5.60m - 6.00m (1 1/4hrs), 6.20m - 6.50m (1 1/2hrs). Water added to assist drilling 4.00m - 4.75m. 8" casing pulled back 0.50m to accommodate the installation of 6" casing. Borehole continued using rotary coring techniques 6.50m - 30.00m. (Reamed borehole 6.00m - 6.50m prior to start). Borehole grouted 30.00m - GL. **Denotes drillers description.

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

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Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

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Borehole 11(1 of 3)

Sampling					Strata			
Drill Run	TCR (SCR)	Casing (RQD)	Date/ Water	SPT N	Description	Depth (Thickness)	Level	Legend
			17/01		Continued from sheet (1 of 3).			
						11.70	98.29	
					Coal.**			
						(1.30)		
						13.00	96.99	
					Alternating bands of sandstone and mudstone.**			

Equipment: Cable Percussion
Lorry Mounted Rotary

Borehole Dia (mm)
200 to 6.50m
101 to 30.00m

Casing Dia (mm)
200 to 6.50m

Groundwater
No. Struck Behaviour Sealed

Ground Level 109.99 m OD
Coordinates 317573.84 mE
189368.86 mN

Drilled by FF RB
Logged by AF AF
Checked by

Remarks

See key sheet
and appendices
for explanations.

Form 1/0

Borehole Record

Exploration Associates

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Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

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Borehole 11(2 of 3)

Sampling					Strata			
Drill Run	TCR (SCR)	Casing (RQD)	Date/ Water	SPT N	Description	Depth (Thickness)	Level	Legend
			17/01		Continued from sheet (2 of 3).			
30.00					End of Borehole.	30.00	79.99	

Equipment: Cable Percussion
Lorry Mounted Rotary

Borehole Dia (mm)
200 to 6.50m
101 to 30.00m

Casing Dia (mm)
200 to 6.50m

Groundwater

No. Struck	Behaviour	Sealed

Ground Level 109.99 m OD
Coordinates 317573.84 mE
189368.86 mN

Drilled by FF RB
Logged by AF AF
Checked by

Remarks

See key sheet
and appendices
for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

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Borehole 11(3 of 3)

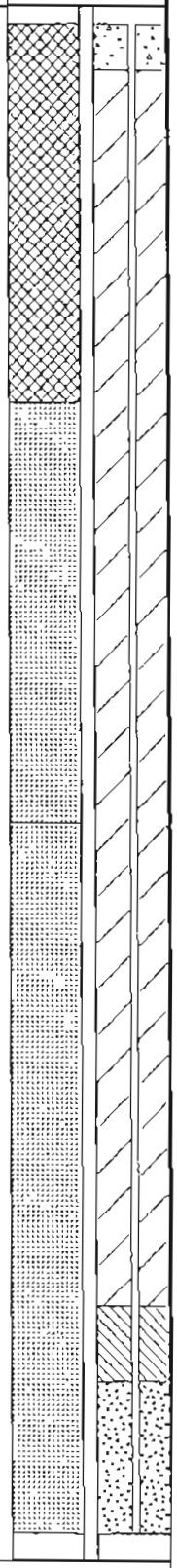
Sampling

Drill Run	TCR (SCR)	Casing (RQD)	Date/ Water	FI
0.00			17/01 1996 DRY	
				OK

Strata

Description	Depth (Thickness)	Level
Made Ground.**	G.L.	
	(2.50)	
Weathered sandstone.**	2.50	
	(2.80)	
Grey sandstone with mudstone bands.**	5.30	

Legend



Equipment: Lorry Mounted Rotary

Borehole Dia (mm)
140 to 2.50m
101 to 20.00m

Casing Dia (mm)
140 to 2.50m

Groundwater

No.	Struck	Behaviour	Sealed
1	10.50	Slight seepage	

Drilled by RB
Logged by AF
Checked by

Remarks Borehole commenced using rotary open hole techniques GL - 20.00m. Borehole grouted 20.00m - GL. **Denotes drillers description. 50 mm nominal diameter standpipe installed to 20.00m, slotted 20.00 - 10.00m, pea gravel filter 20.00 - 9.00m.

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

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Rhymney Valley District Council

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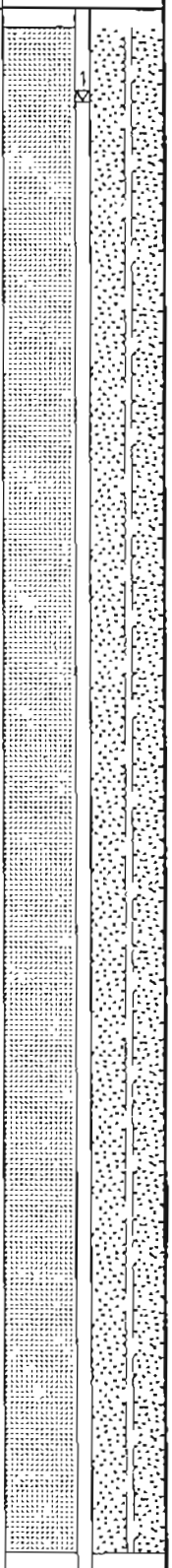
Borehole 12(1 of 2)

Sampling

Drill Run	TCR (SCR)	Casing (RQD)	Date/ Water	FI
			17/01	
				OR
20.00		2.50	-	

Strata

Description	Depth (Thickness)	Level	Legend
Continued from sheet (1 of 2).			
End of Borehole.	20.00		



Equipment: Lorry Mounted Rotary

Borehole Dia (mm)	Casing Dia (mm)
140 to 2.50m	140 to 2.50m
101 to 20.00m	

Groundwater

No. Struck	Behaviour	Sealed

Drilled by RB
Logged by AF
Checked by

Remarks

See key sheet and appendices for explanations.

Form 1/0

Borehole Record

Exploration Associates

Project

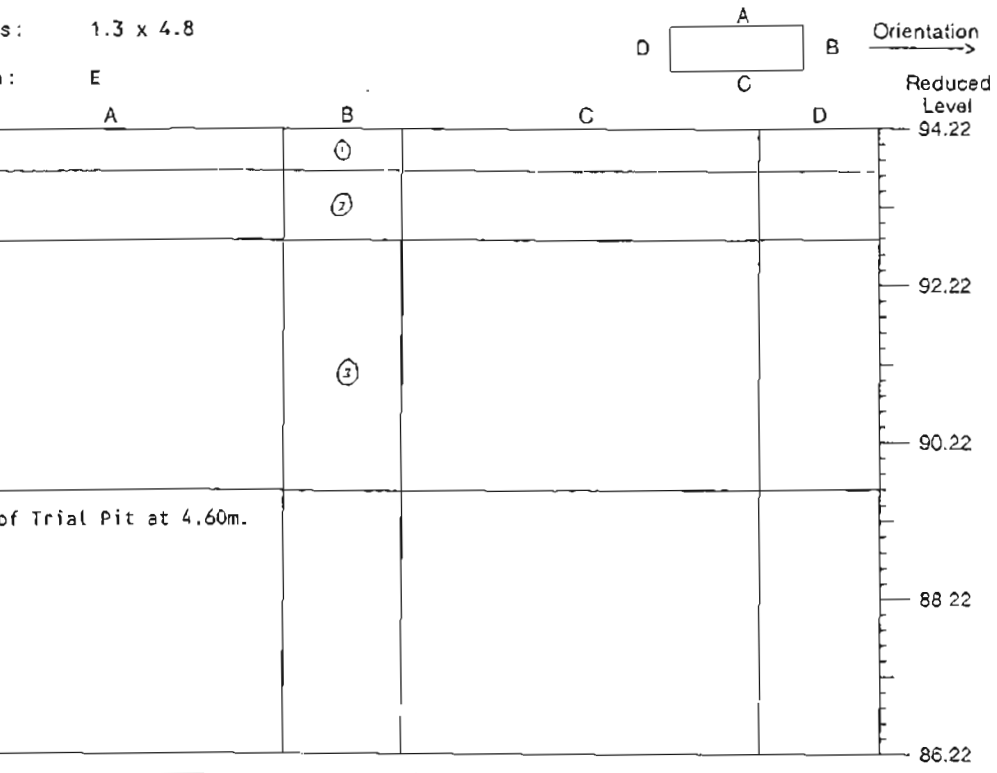
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Borehole 12(2 of 2)

Dimensions : 1.3 x 4.8

Orientation : E



Strata

Depth (m)	No.	Description
0.00-0.50	1	MADE GROUND: (Medium dense to dense) grey sandy angular fine to coarse gravel of limestone with a little sand sized ash. (Ballast).
0.50-1.40	2	MADE GROUND: (Medium dense to dense) dark brown grey silty sandy ashy angular to sub-angular fine to coarse gravel with some cobbles and occasional boulders.
1.40-4.60	3	(Dense) brown clayey very silty very sandy angular to sub-rounded fine to coarse GRAVEL of sandstone with some cobbles and occasional boulders. (Glacial Sand and Gravel).
4.60	4	Sandstone BEDROCK.

Samples and Tests

Depth (m)	Type	Results
0.10	M	
1.40	M	
3.40	M	
3.40	ORG	
4.60	M	

Date of Excavation 18/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 94.22 m OD
Coordinates 317332.33 mE
189299.94 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

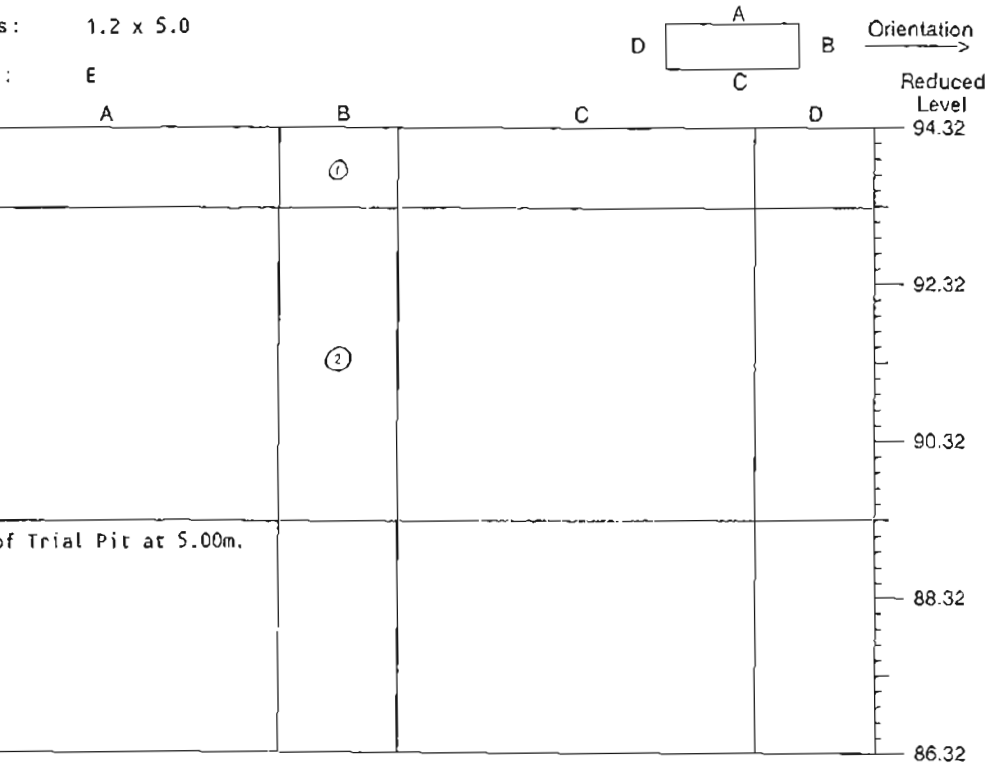
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP1

Dimensions : 1.2 x 5.0

Orientation : E



Strata

Depth (m)	No.	Description
0.00-1.00	1	MADE GROUND: (Medium dense) dark brown silty sandy angular to sub-angular fine to coarse gravel with some sand sized ash and pockets of pink brown burnt mudstone.
1.00-5.00	2	MADE GROUND: (Medium dense becoming dense below 2.00m) brown silty sandy angular to sub-rounded fine to coarse flat gravel of sandstone with some cobbles and occasional boulders. .... very clayey between 1.00m and 1.30m. .... with many cobbles and some boulders below 4.50m.

Samples and Tests

Depth (m)	Type	Results
0.10	M	
1.00	M	
3.00	M	
3.00	ORG	
5.00	M	

Date of Excavation 18/01/96
Equipment Tracked Excavator
Stability Some spalling

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 94.32 m OD
Coordinates 317410.21 mE
189312.15 mN

Logged by PCB
Checked by

Remarks Becoming difficult to excavate below 5.00m.

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

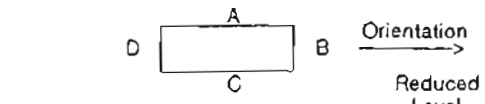
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

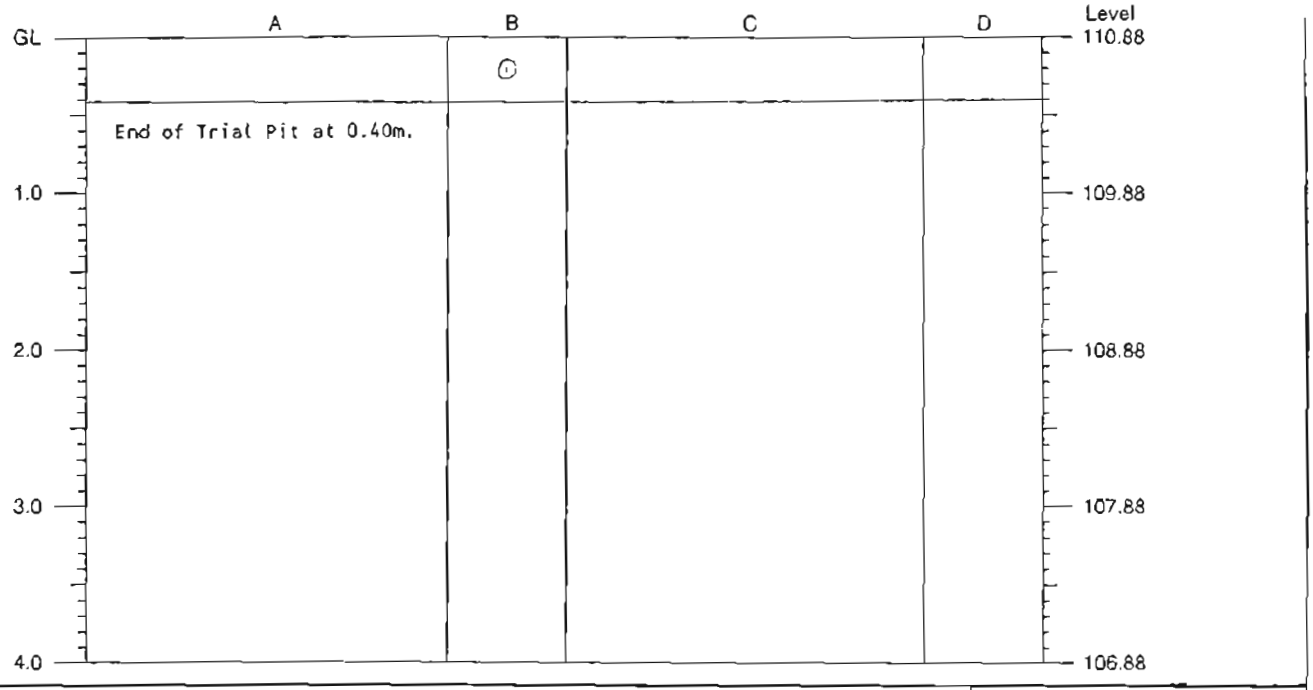
Contract 155218

Trial Pit TP2

Dimensions : 1.2 x 3.9

Orientation : E





Strata

Depth (m)	No.	Description
0.00-0.40	1	MADE GROUND: (Medium dense) brown silty sandy clayey angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles.
0.40	2	MADE GROUND: Tarmac on concrete.

Samples and Tests

Depth (m)	Type	Results

Date of Excavation 15/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 110.88 m OD
Coordinates 317497.90 mE
189382.36 mN

Logged by PCB
Checked by

Remarks Position moved due to obstruction.

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

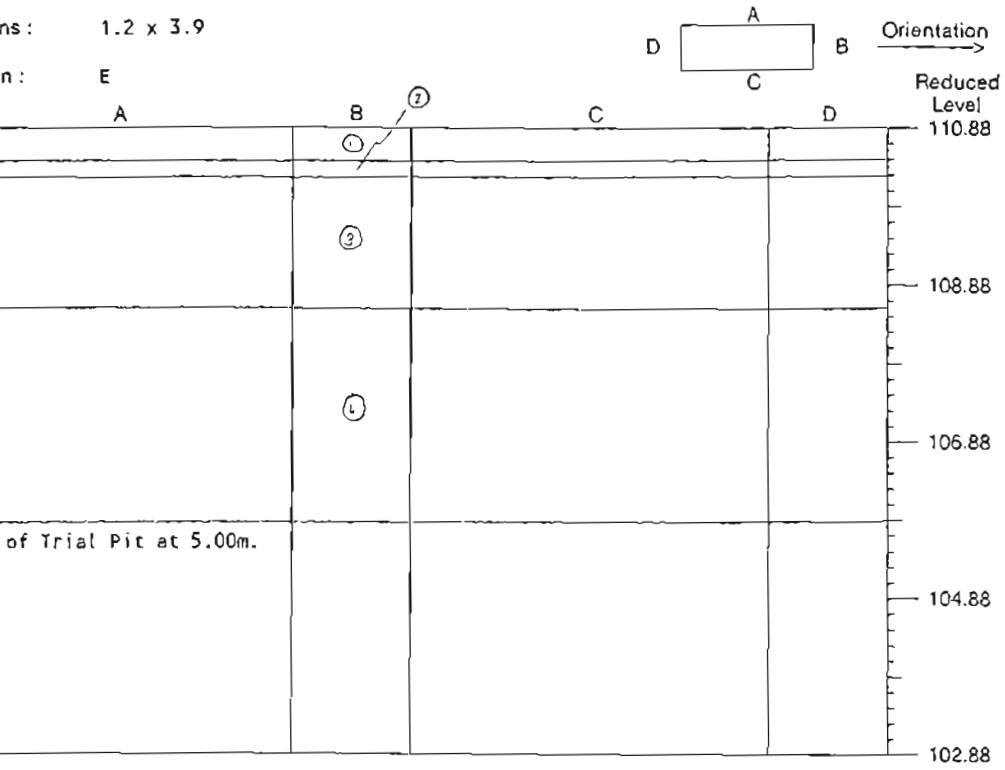
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP3

Dimensions : 1.2 x 3.9

Orientation : E



Strata

Depth (m)	No.	Description
0.00-0.40	1	MADE GROUND: (Medium dense to dense) brown silty sandy clayey angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles and a little sand sized ash.
0.40-0.60	2	MADE GROUND: (Dense to very dense) pink slightly clayey angular cobbles with rare boulders. (Hard core).
0.60-2.30	3	MADE GROUND: (Medium dense) silty very sandy angular fine to coarse gravel of coal and mudstone with occasional cobbles and some sand sized coal derived ash. (Colliery Spoil).
2.30-5.00	4	(Medium dense) brown very clayey very silty very sandy sub-angular fine to coarse GRAVEL of sandstone with some cobbles and rare boulders. (Glacial Sand and Gravel).

Samples and Tests

Depth (m)	Type	Results
0.50	M	
1.00	M	
1.00	ORG	
2.70	M	
5.00	M	

Date of Excavation 15/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 110.88 m OD
Coordinates 317497.90 mE
189382.36 mN

Logged by PCB
Checked by

Remarks Becoming difficult to excavate beyond 5.00m.
VOC monitored at 1.00m (6ppm).

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

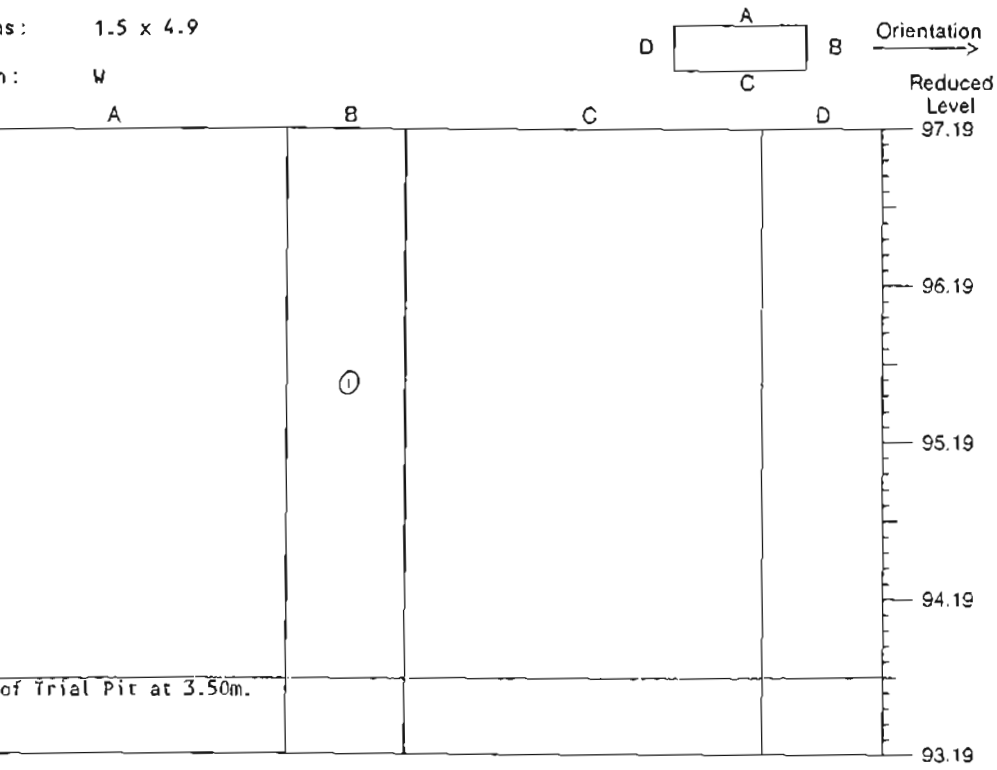
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP3A

Dimensions : 1.5 x 4.9

Orientation : W



Strata

Depth (m)	No.	Description
0.00-3.50	1	MADE GROUND: (Medium dense) dark grey very sandy angular roughly textured fine to coarse gravel of clinker with some sand sized ash. .... becoming coarse with depth. .... with some cobbles of mudstone below 2.00m.

Samples and Tests

Depth (m)	Type	Results
0.10	M	
1.50	M	
3.50	M	
3.50	ORG	

Date of Excavation 18/01/96
Equipment Tracked Excavator
Stability Very unstable, much spalling

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 97.19 m OD
Coordinates 317468.29 mE
189290.88 mN

Logged by PCB
Checked by

Remarks Trial pit abandoned at 3.50m due to continuous spalling.

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

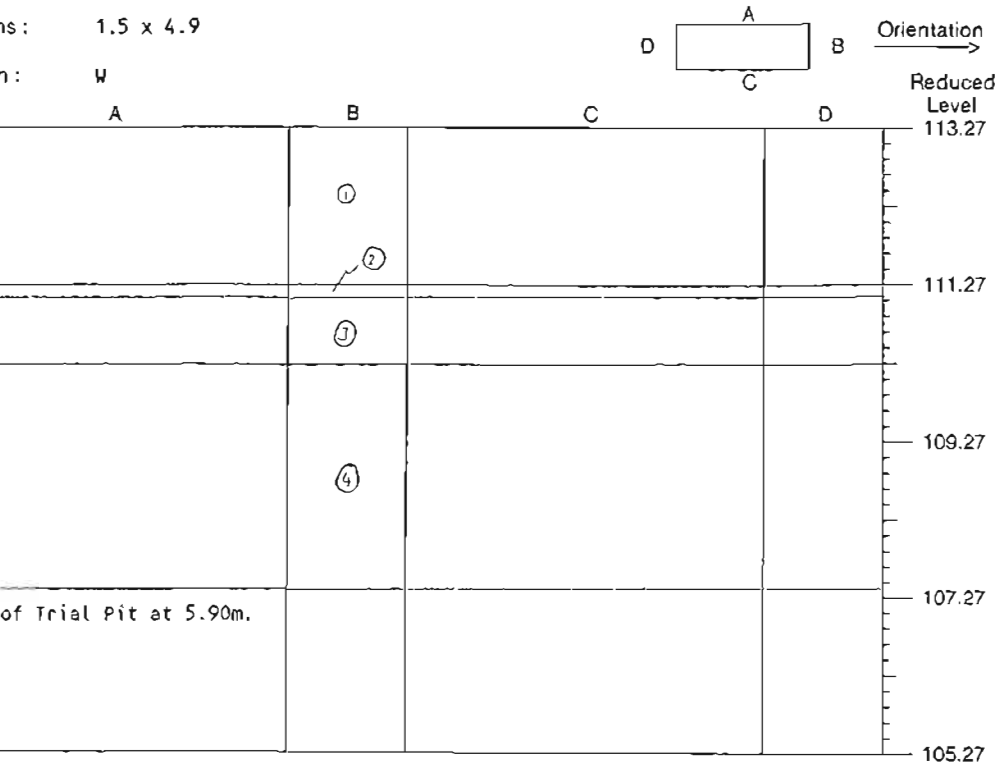
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP4

Dimensions : 1.5 x 4.9

Orientation : W



Strata

Depth (m)	No.	Description
0.00-2.00	1	MADE GROUND: (Medium dense) angular cobbles of brick and boulders of concrete and many pieces of plastic.
2.00-2.10	2	MADE GROUND: (Loose to medium dense) dark grey very silty fine to coarse sand with some angular fine gravel of slag and coal with a little sand sized ash.
2.10-3.00	3	Soft brown mottled orange brown clayey very sandy SILT. (Glacial Deposit).
3.00-5.90	4	(Medium dense) light brown slightly clayey very silty very sandy sub-angular to sub-rounded fine to coarse GRAVEL of sandstone with occasional cobbles. .... with many cobbles below 4.50m.

Samples and Tests

Depth (m)	Type	Results
2.00-2.10	M	
2.00	ORG	
3.00	M	
5.00	M	

Date of Excavation 13/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 113.27 m OD
Coordinates 317544.84 mE
189401.14 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

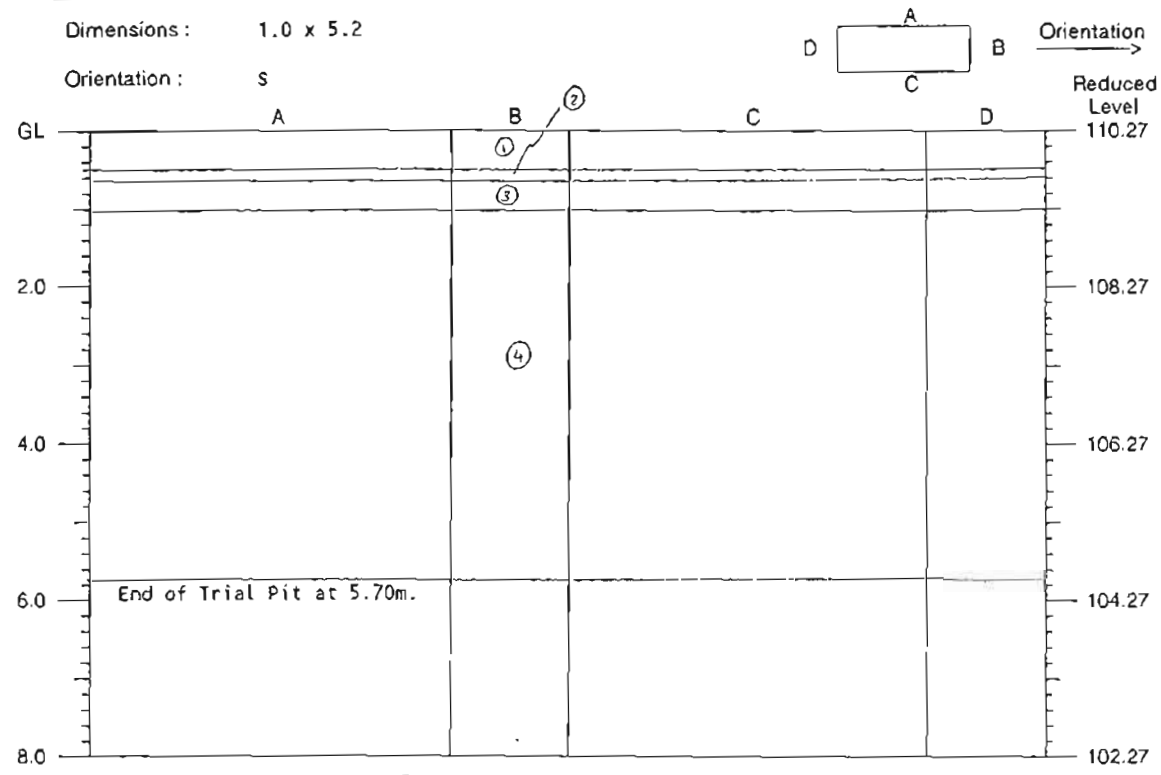
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP5

Dimensions : 1.0 x 5.2

Orientation : S



Strata

Depth (m)	No.	Description
0.00-0.50	1	MADE GROUND: (Medium dense) brown slightly clayey very silty very sandy sub-angular to sub-rounded fine to coarse gravel of sandstone with some cobbles and rare boulders.
0.50-0.60	2	MADE GROUND: (Very dense) grey gravelly angular cobbles. (Hard core).
0.60-1.00	3	MADE GROUND: (Dense to very dense) grey silty sandy angular to sub-angular fine to coarse gravel of limestone, mudstone, coal and brick fragments with some cobbles and occasional boulders with a faint hydrocarbon odour.
1.00-5.70	4	MADE GROUND: (Very dense) grey slightly silty sandy angular to sub-angular fine to coarse gravel of mudstone and coal with occasional cobbles and some sand sized coal derived ash. (Colliery Spoil).

Samples and Tests

Depth (m)	Type	Results
0.10	M	
1.00	M	
1.00	ORG	
3.00	M	
5.00	M	

Date of Excavation 13/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 110.27 m OD
Coordinates 317597.07 mE
189347.33 mN

Logged by PCB
Checked by

Remarks VOC monitored at 1.00m (0ppm).

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

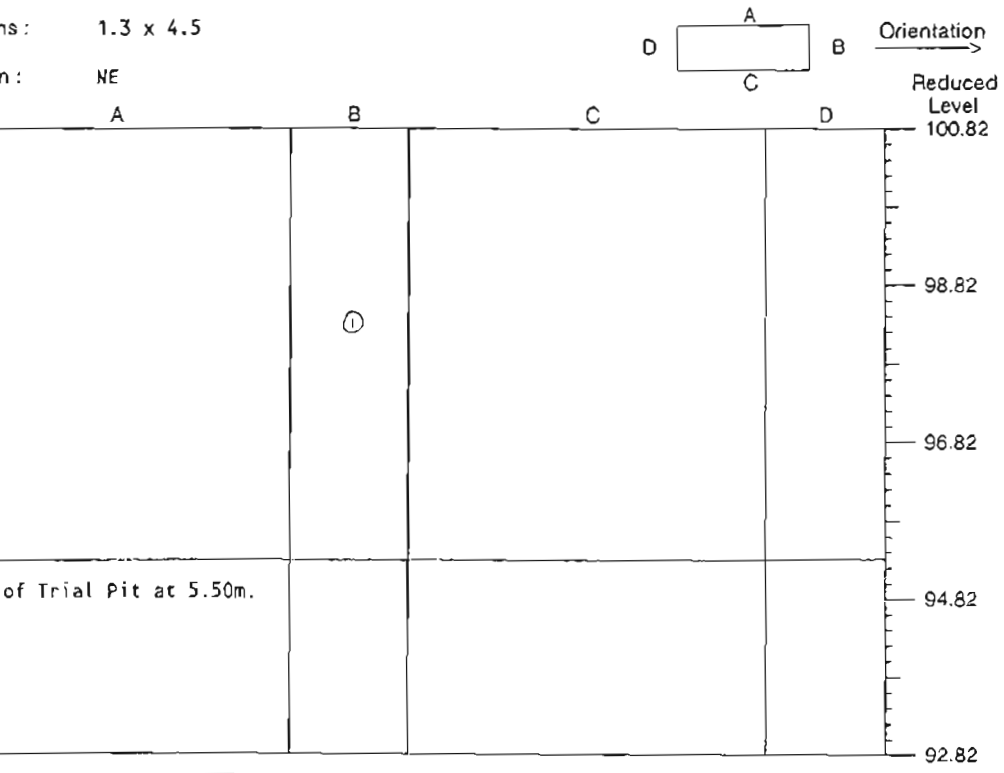
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP6

Dimensions : 1.3 x 4.5

Orientation : NE



Strata

Samples and Tests

Depth (m)	No.	Description	Depth (m)	Type	Results
0.00-5.50	1	MADE GROUND: (Medium dense) dark grey silty sandy angular to sub-angular fine to coarse gravel of coal and mudstone with some cobbles and some sand sized ash.	0.10	M	
			1.00	M	
			1.00	ORG	
			3.50	M	
		.... with a rail track running along the length of the bund at 1.50m.	5.10	M	

Date of Excavation 18/01/96
Equipment Tracked Excavator
Stability Unstable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 100.82 m OD
Coordinates 317643.17 mE
189215.67 mN

Logged by PCB
Checked by

Remarks VOC monitored at 0.10m (0ppm), 1.00m (0ppm).

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

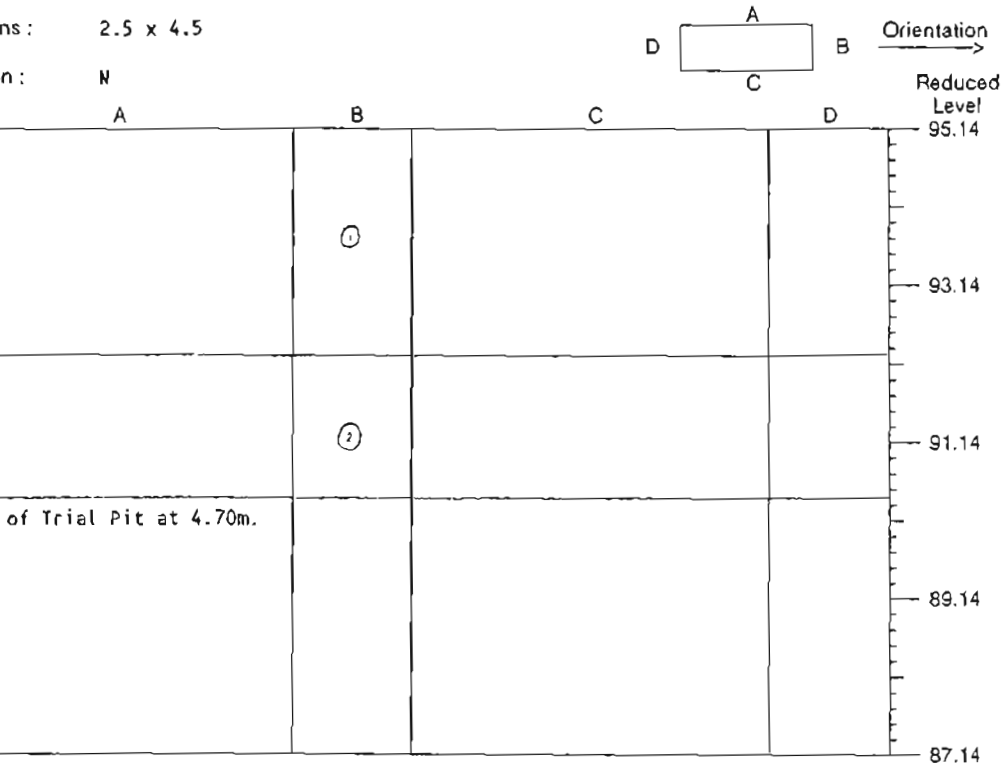
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP7

Dimensions : 2.5 x 4.5

Orientation : N



Strata

Depth (m)	No.	Description
0.00-2.90	1	MADE GROUND: (Medium dense to dense) brown silty sandy very clayey angular to sub-angular fine to medium gravel of sandstone.
2.90-4.70	2	MADE GROUND: (Medium dense) dark grey slightly clayey silty very sandy angular to sub-angular fine to coarse of sandstone with many cobbles some boulders and some sand sized ash with occasional pieces of metal.

Samples and Tests

Depth (m)	Type	Results
0.10	M	
2.00	M	
2.00	ORG	
3.30	M	
4.70	M	

Date of Excavation 17/01/96
Equipment Tracked Excavator
Stability Some spalling

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 95.14 m OD
Coordinates 317649.57 mE
189281.01 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

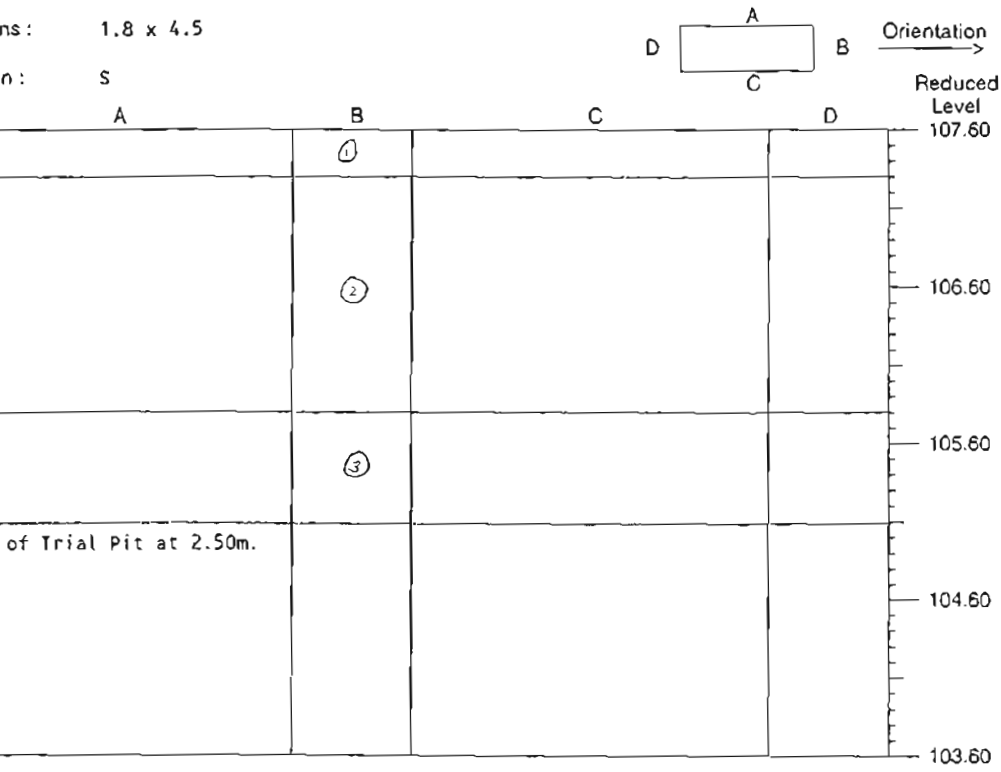
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP8

Dimensions : 1.8 x 4.5

Orientation : S



Strata

Depth (m)	No.	Description
0.00-0.30	1	MADE GROUND: (Loose to medium dense) dark grey silty sandy angular to sub-angular fine to coarse gravel of coal and coke with some cobbles occasional bricks some sand sized ash and a weak hydrocarbon odour.
0.30-1.80	2	MADE GROUND: (Medium dense) orange brown slightly clayey silty very sandy angular to sub-angular fine to coarse gravel of sandstone with some cobbles, bricks and occasional boulders.
1.80-2.50	3	(Very dense) brown slightly silty slightly sandy angular COBBLES and BOULDERS of sandstone (Bedrock).

Samples and Tests

Depth (m)	Type	Results
0.10	M	
1.00	M	
1.00	ORG	
2.50	M	

Date of Excavation 13/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 107.60 m OD
Coordinates 317669.14 mE
189372.39 mN

Logged by PCB
Checked by

Remarks VOC monitored at 1.00m (0ppm).

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

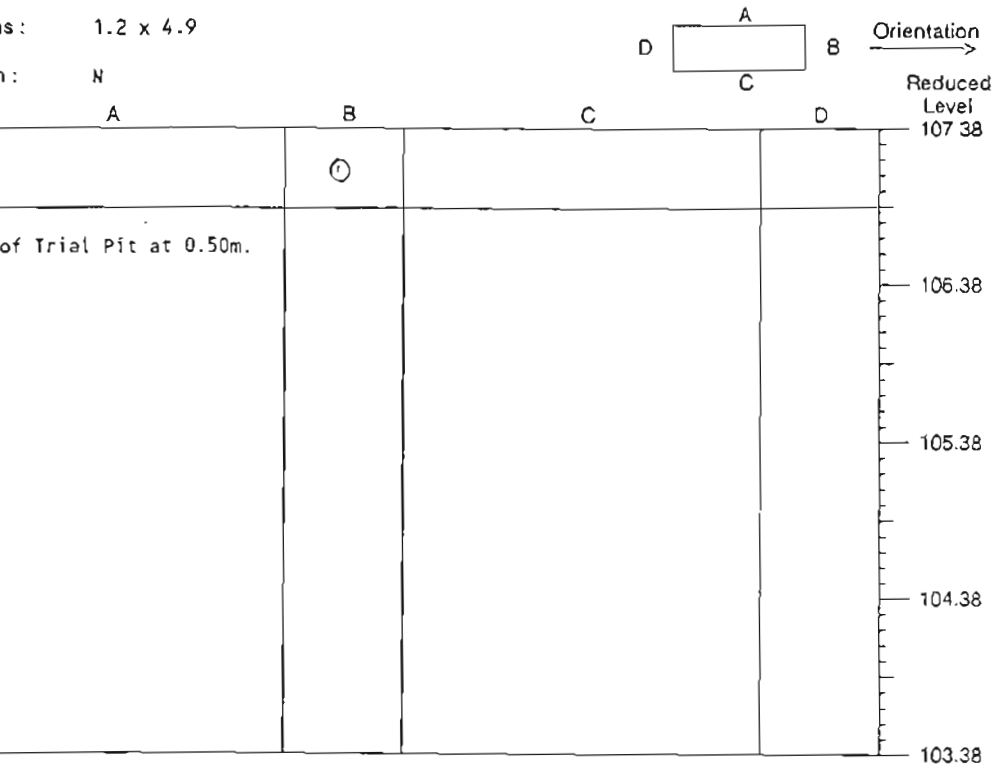
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP9

Dimensions : 1.2 x 4.9

Orientation : N



Strata

Depth (m)	No.	Description
0.00-0.50	1	MADE GROUND: (Medium dense) brown slightly clayey very silty very sandy sub-angular to rounded fine to coarse gravel of sandstone many cobbles.
0.50	2	MADE GROUND: Concrete.

Samples and Tests

Depth (m)	Type	Results
0.10	M	

Date of Excavation 13/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 107.38 m OD
Coordinates 317699.68 mE
189327.94 mN

Logged by PCB
Checked by

Remarks Move 7.00m NE to TP10A.

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

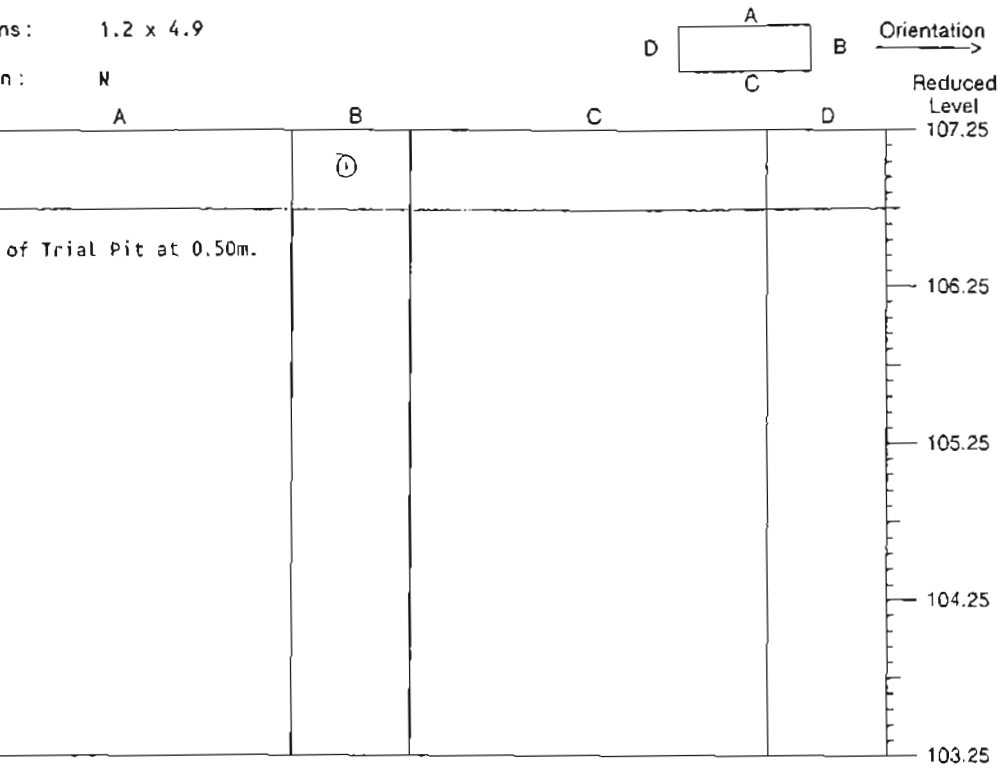
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP10

Dimensions : 1.2 x 4.9

Orientation : N



Strata

Depth (m)	No.	Description
0.00-0.50	1	MADE GROUND: (Medium dense) brown slightly clayey very silty very sandy sub-angular to rounded fine to coarse gravel of sandstone many cobbles.
0.50	2	MADE GROUND: Concrete.

Samples and Tests

Depth (m)	Type	Results

Date of Excavation 13/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 107.25 m OD
Coordinates 317706.54 mE
189335.37 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

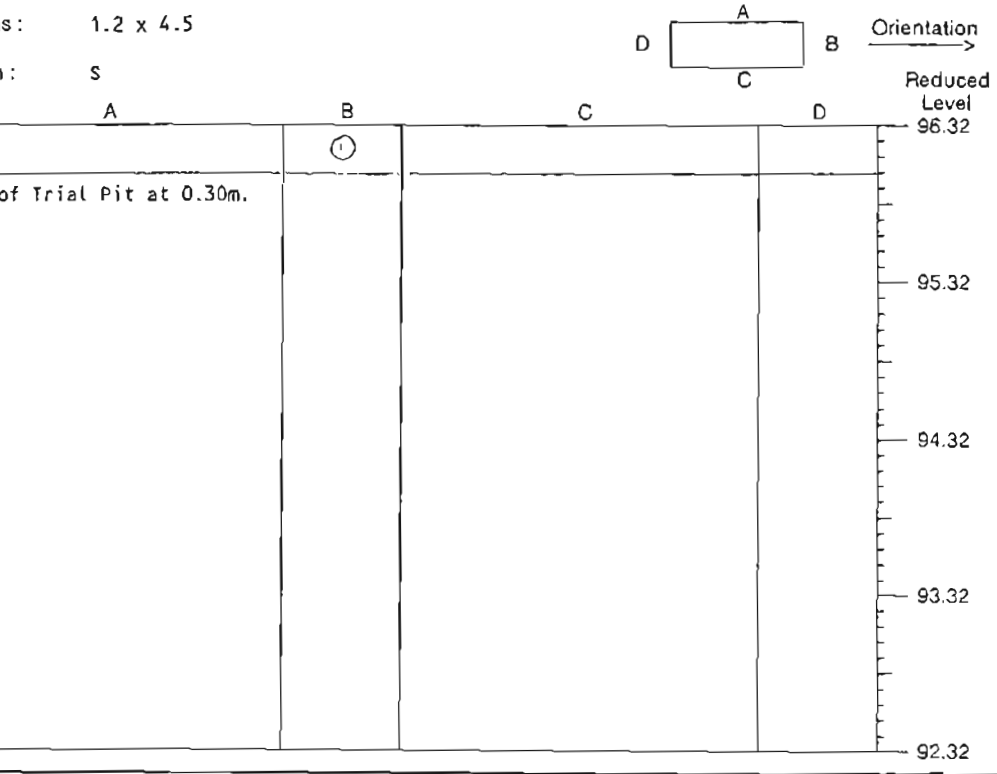
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP10A

Dimensions : 1.2 x 4.5

Orientation : S



Strata

Depth (m)	No.	Description
0.00-0.30	1	MADE GROUND: (Medium dense to dense) brown grey silty sandy angular to sub-angular fine to coarse gravel with some cobbles, bricks and occasional boulders with some sand sized coal derived ash.
0.30	2	MADE GROUND: Concrete.

Samples and Tests

Depth (m)	Type	Results
0.10	M	

Date of Excavation 17/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 96.32 m OD
Coordinates 317725.26 mE
189241.52 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

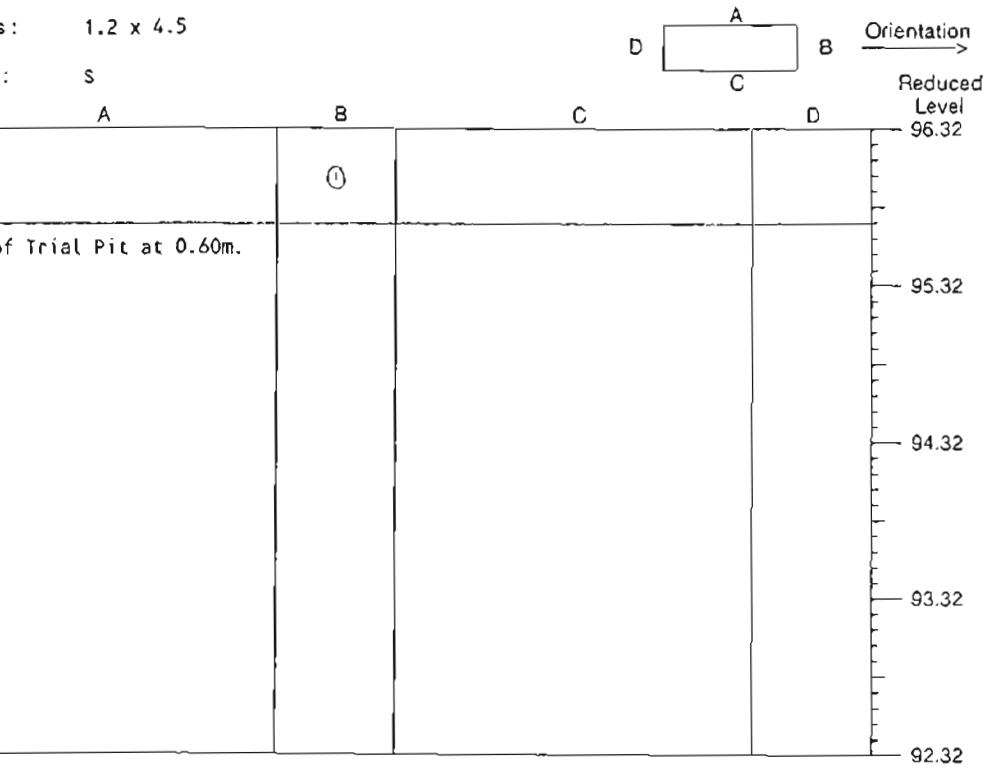
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP11

Dimensions : 1.2 x 4.5

Orientation : S



Strata

Depth (m)	No.	Description
0.00-0.60	1	MADE GROUND: (Medium dense) dark brown grey silty sandy angular to sub-angular fine to coarse gravel with some cobbles, bricks and occasional boulders with some sand sized coal derived ash.
0.60	2	MADE GROUND: Concrete.

Samples and Tests

Depth (m)	Type	Results
0.50	M	
0.50	ORG	

Date of Excavation 17/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 96.32 m OD
Coordinates 317725.26 mE
189241.52 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

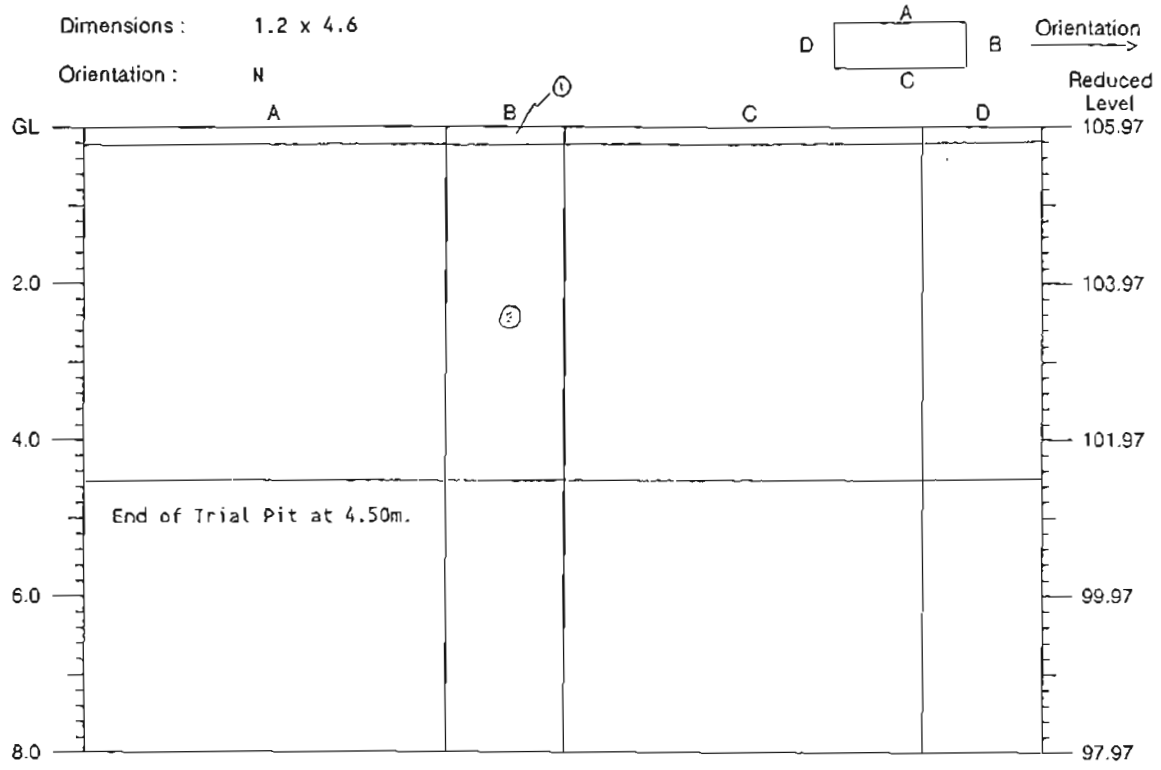
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP11A

Dimensions : 1.2 x 4.6

Orientation : N



Strata

Depth (m)	No.	Description
0.00-0.20	1	MADE GROUND: (Medium dense) dark grey silty sandy angular to sub-angular fine to coarse gravel with occasional cobbles, occasional bricks and some sand sized coal derived ash.
0.20-4.50	2	MADE GROUND: (Medium dense) orange brown slightly clayey silty very sandy angular to sub-angular fine to coarse gravel of sandstone with occasional cobbles rare boulders. (Reworked Glacial Sand and Gravel). .... with a slightly hydrocarbon odour below 1.60m. .... becoming natural ground below 1.60m. .... with many cobbles and boulders of sandstone below 4.00m.

Samples and Tests

Depth (m)	Type	Results
0.10	M	
1.00	M	
1.00	ORG	
3.00	M	
4.50	M	

Date of Excavation 13/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Slight seepage at 0.70m

Ground Level 105.97 m OD
Coordinates 317739.34 mE
189360.39 mN

Logged by PCB
Checked by

Remarks VOC monitored at 1.00m (0ppm). Difficult to excavate below 4.50m.

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

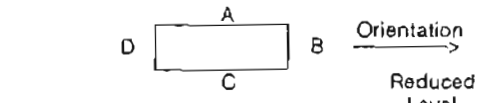
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

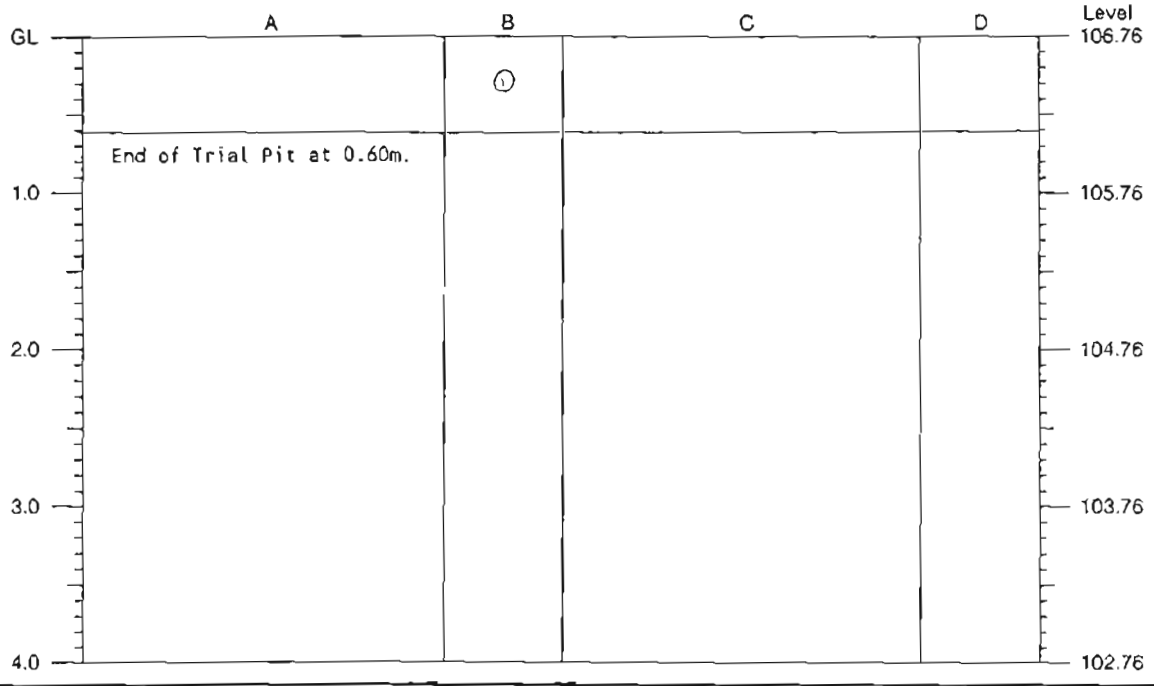
Contract 155218

Trial Pit TP12

Dimensions : 1.2 x 3.5

Orientation : E





Strata

Depth (m)	No.	Description
0.00-0.60	1	MADE GROUND: (Medium dense) brown silty clayey sandy angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles.
0.60	2	MADE GROUND: Concrete platform.

Samples and Tests

Depth (m)	Type	Results
0.10	M	

Date of Excavation 15/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 106.76 m OD
Coordinates 317741.52 mE
189316.13 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

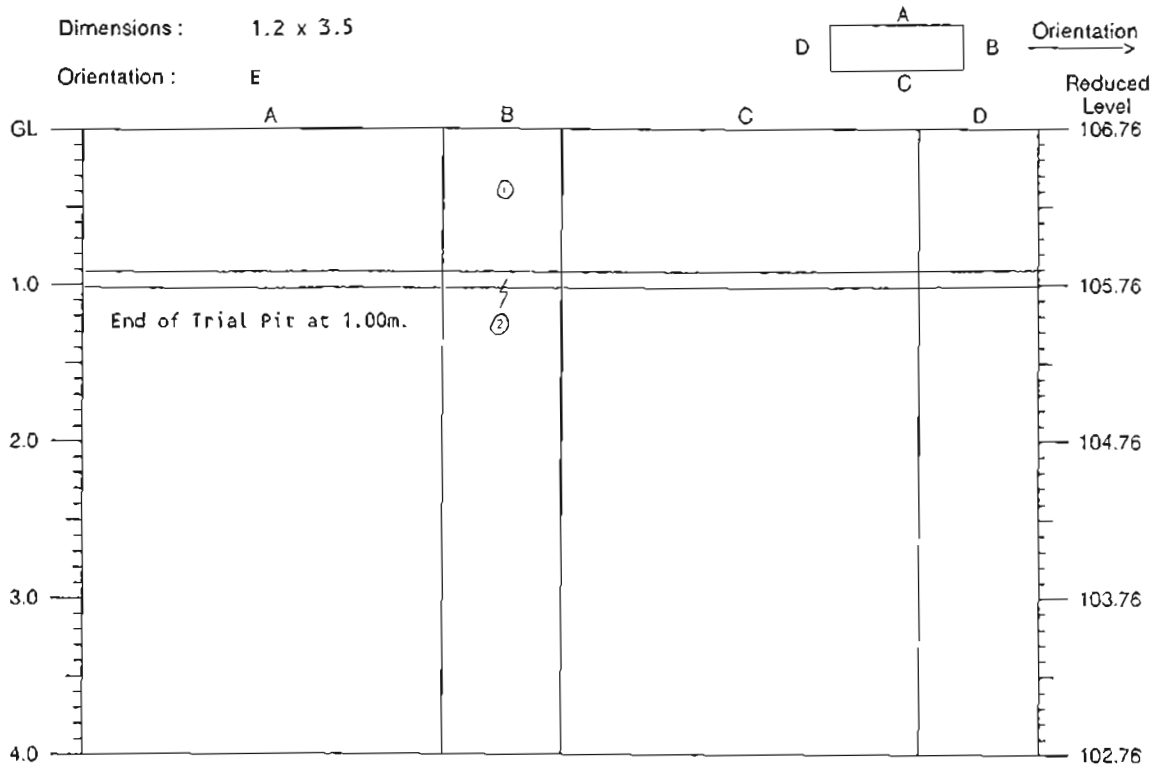
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP13

Dimensions : 1.2 x 3.5

Orientation : E



Strata

Depth (m)	No.	Description
0.00-0.90	1	MADE GROUND: (Medium dense) brown silty clayey sandy angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles.
0.90-1.00	2	MADE GROUND: (Soft to firm) dark grey brown silty sandy slightly gravelly clay.
1.00	3	MADE GROUND: Concrete platform.

Samples and Tests

Depth (m)	Type	Results
0.90	M	
0.90	ORG	

Date of Excavation 15/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 106.76 m OD
Coordinates 317741.52 mE
189316.13 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

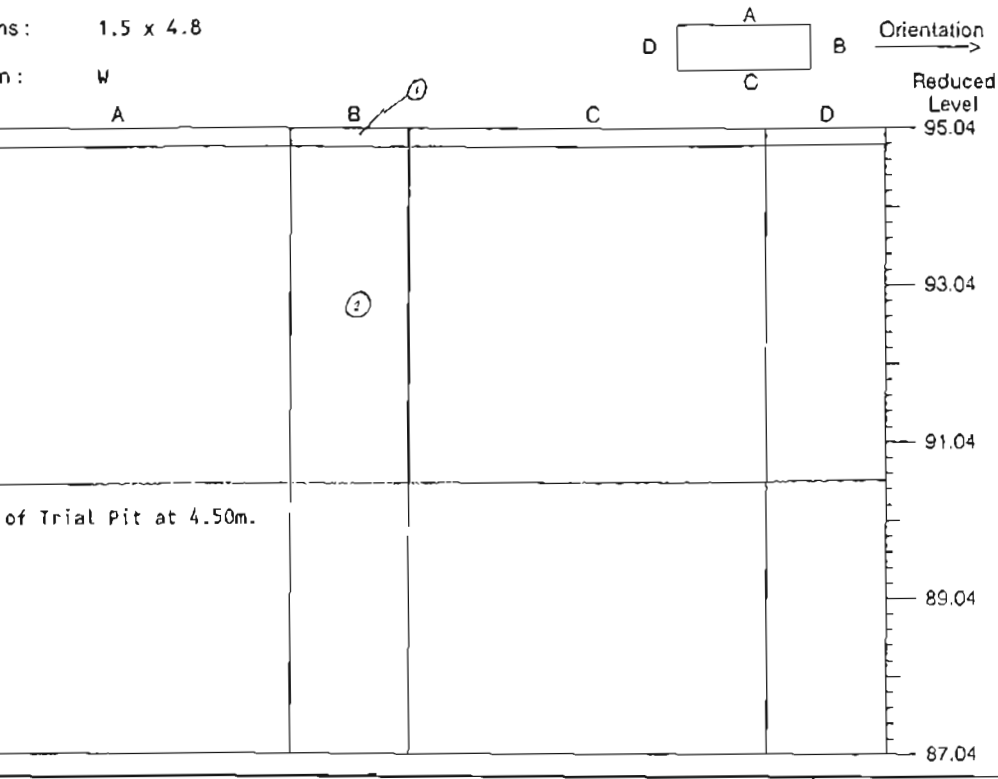
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP13A

Dimensions : 1.5 x 4.8

Orientation : W



Strata

Depth (m)	No.	Description
0.00-0.20	1	MADE GROUND: (Medium dense) brown silty sandy angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles.
0.20-4.50	2	MADE GROUND: (Medium dense) dark grey silty sandy angular to sub-angular fine to coarse gravel of coal and mudstone with some cobbles occasional pieces of metal and much timber and some sand sized coal derived ash. .... with many cobbles of mudstone between 1.50m and 2.00m.

Samples and Tests

Depth (m)	Type	Results
0.30	M	
2.50	M	
2.50	ORG	
4.40	M	

Date of Excavation 17/01/96
Equipment Tracked Excavator
Stability Unstable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 95.04 m OD
Coordinates 317809.13 mE
189281.01 mN

Logged by PCB
Checked by

Remarks VOC monitored at 1.00m (0.2ppm).

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

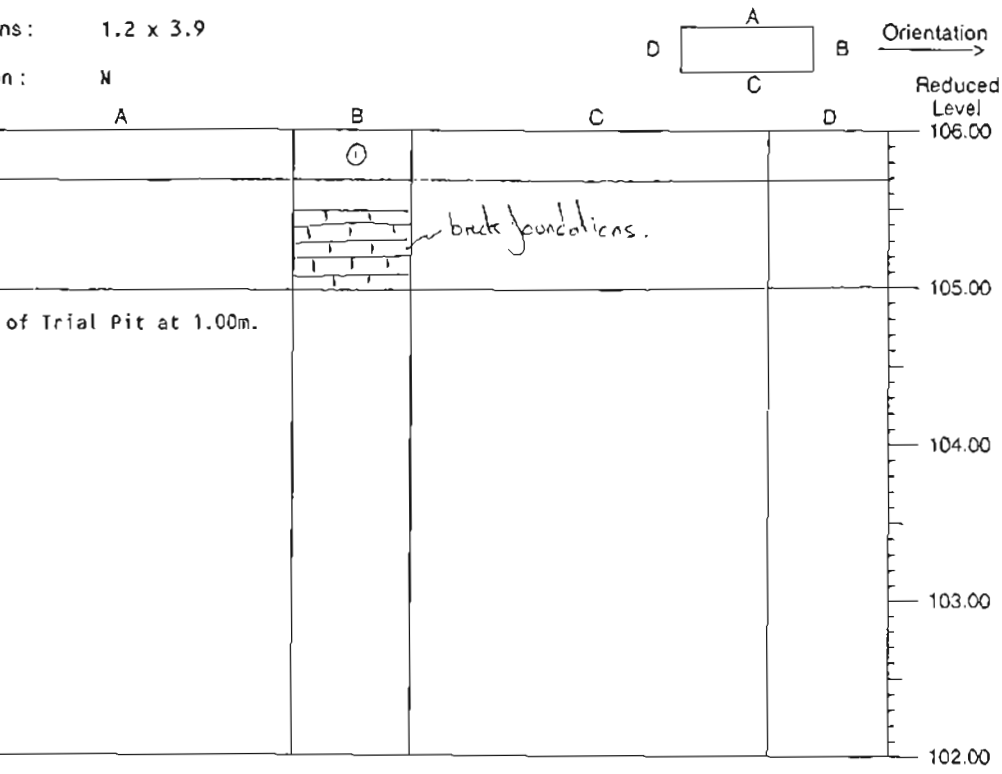
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP14

Dimensions : 1.2 x 3.9

Orientation : N



Strata

Depth (m)	No.	Description
0.00-0.30	1	MADE GROUND: (Medium dense) silty clayey sandy angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles of brick.
0.30-1.00	2	MADE GROUND: (Medium dense) dark grey brown silty sandy angular to sub-angular fine to coarse gravel of mudstone coal and sandstone with some cobbles of brick and occasional boulders.

Samples and Tests

Depth (m)	Type	Results
0.10	M	
0.60	M	

Date of Excavation 15/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 106.00 m OD
Coordinates 317821.16 mE
189307.14 mN

Logged by PCB
Checked by

Remarks VOC monitored at 0.60m (3.5ppm). Location moved 10.00m west of original position and concrete encountered at 0.50m.

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

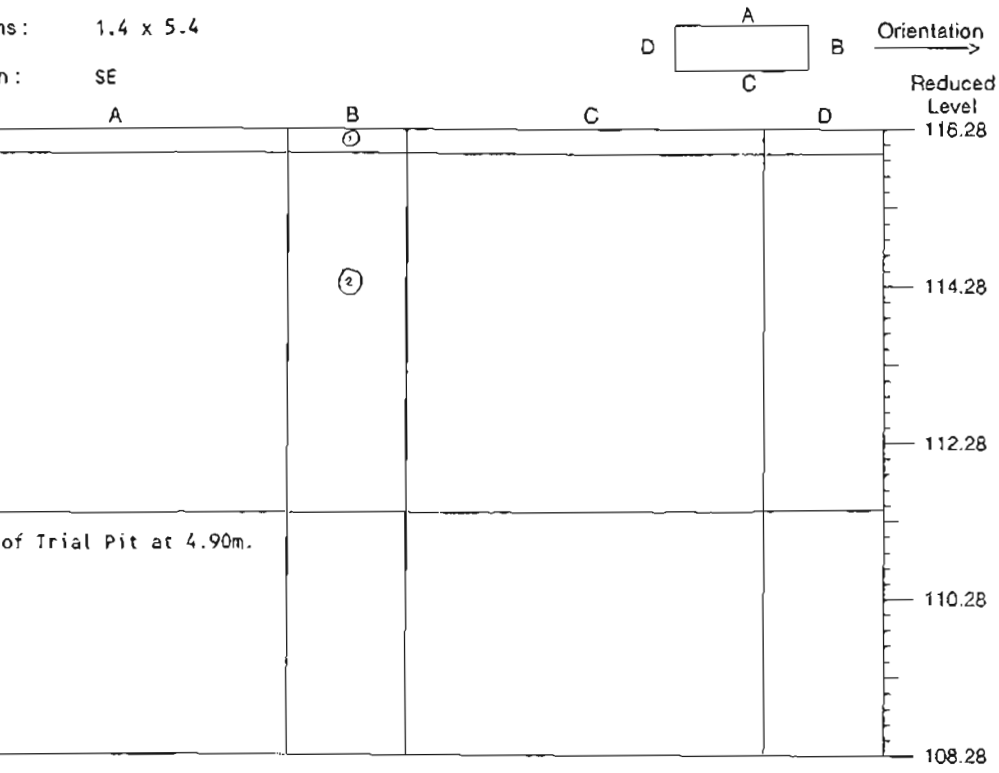
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP15

Dimensions : 1.4 x 5.4

Orientation : SE



Strata

Samples and Tests

Depth (m)	No.	Description	Depth (m)	Type	Results
0.00-0.15	1	MADE GROUND: (Medium dense to dense) grey silty sandy angular to sub-angular fine to coarse gravel with a little sand sized ash.			
0.15-4.90	2	MADE GROUND: (Dense) brown orange brown silty clayey sandy angular to sub-angular fine to coarse gravel of sandstone with some cobbles. (Reworked Glacial Sand and Gravel).	1.20 1.20	M ORG	
		.... with many boulders of sandstone below 2.50m.			
		drain encountered along face C at 1.00m, possible natural ground below 1.00m.			
4.90	3	(Very dense) brown slightly sandy angular COBBLES and BOULDERS of sandstone. (Bedrock).	4.90 4.90	M ORG	

Date of Excavation 12/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater

No.	Struck	Behaviour
		Slight seepage at 1.40m

Ground Level 116.28 m OD
Coordinates 317824.38 mE
189417.16 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

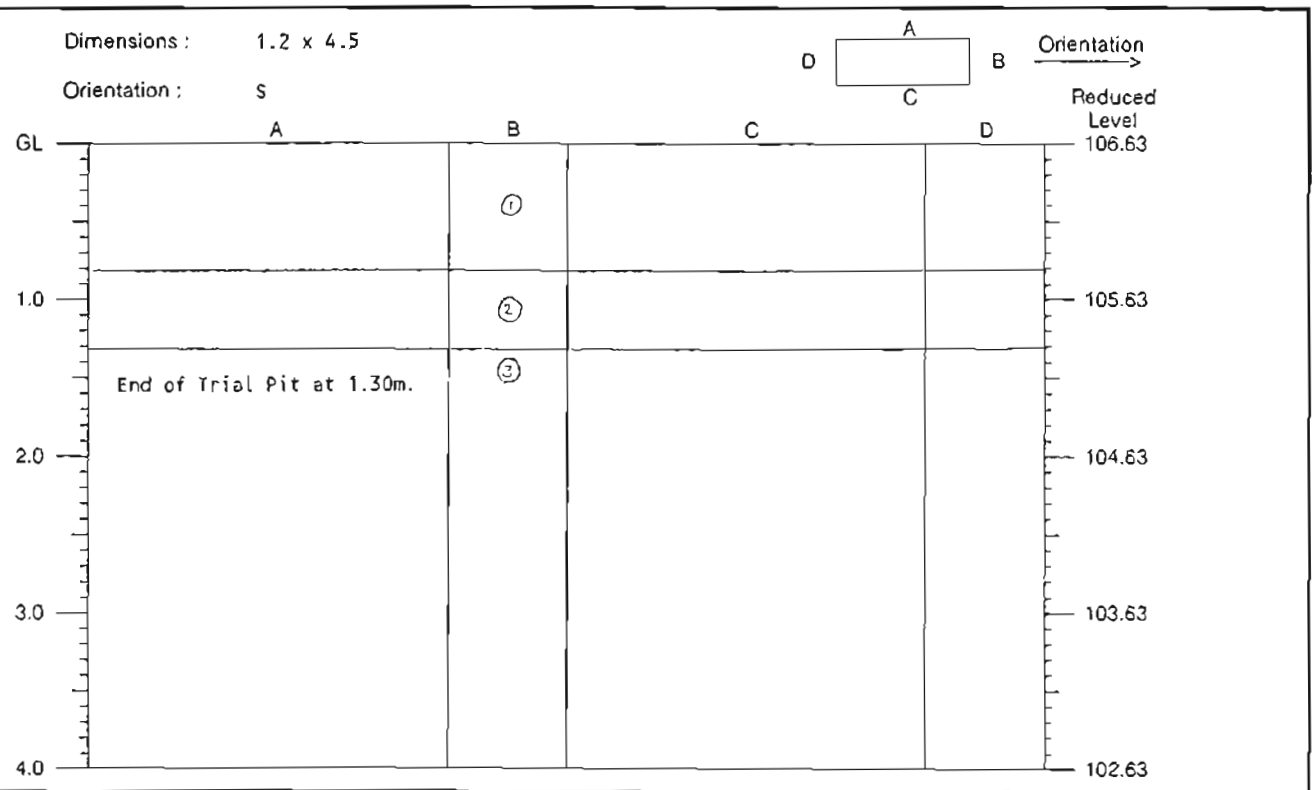
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP16

Dimensions : 1.2 x 4.5

Orientation : S



Strata

Depth (m)	No.	Description
0.00-0.80	1	MADE GROUND: (Medium dense) brown silty clayey sandy angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles, bricks and rare pieces of timber.
0.80-1.30	2	MADE GROUND: (Medium dense) dark grey silty very sandy angular to sub-angular fine to coarse gravel of coal and coke with some cobbles of brick and some sand sized ash.
1.30	3	MADE GROUND: Concrete platform.

Samples and Tests

Depth (m)	Type	Results
1.20	M	

Date of Excavation 15/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater

No.	Struck	Behaviour
		Not encountered during excavation

Ground Level 106.63 m OD
Coordinates 317842.75 mE
189345.16 mN

Logged by PCB
Checked by

Remarks Location moved perpendicular to original location.

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

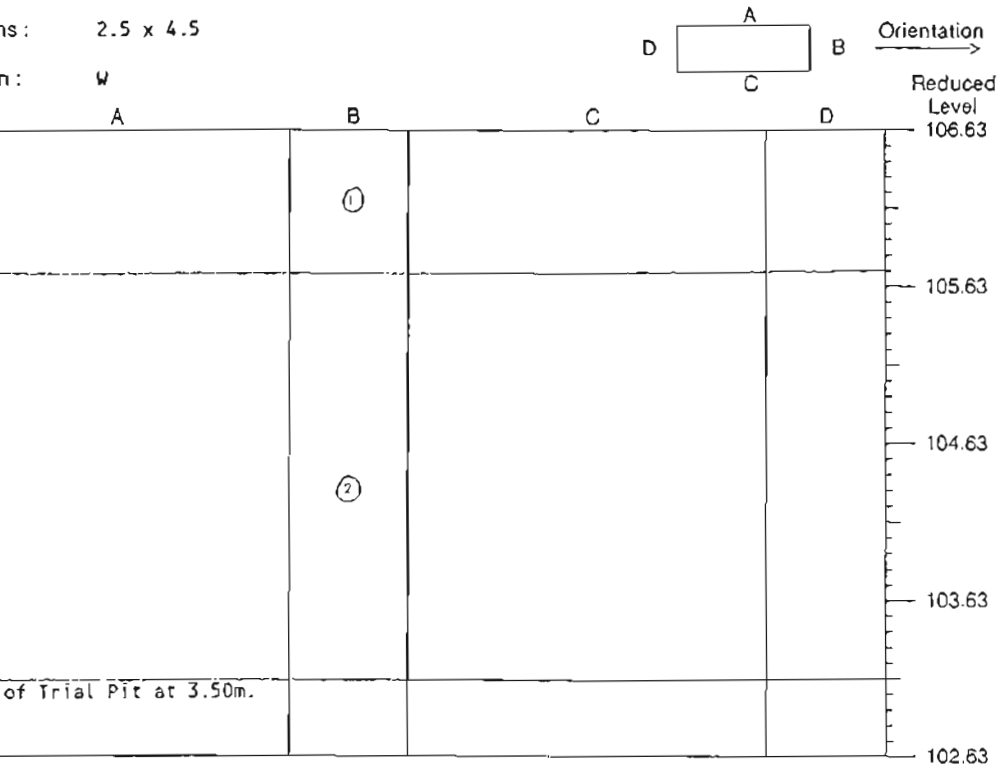
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP17

Dimensions : 2.5 x 4.5

Orientation : W



Strata

Depth (m)	No.	Description
0.00-0.90	1	MADE GROUND: (Medium dense) brown silty clayey sandy angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles.
0.90-3.50	2	MADE GROUND: (Dense) silty sandy ashy angular cobbles and boulders of brick and sandstone.

Samples and Tests

Depth (m)	Type	Results
3.50	M	
3.50	ORG	

Date of Excavation 15/01/96
Equipment Tracked Excavator
Stability Unstable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 106.63 m OD
Coordinates 317842.75 mE
189345.16 mN

Logged by PCB
Checked by

Remarks VOC monitored at 3.50m (4ppm). Hole abandoned due to spalling.

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

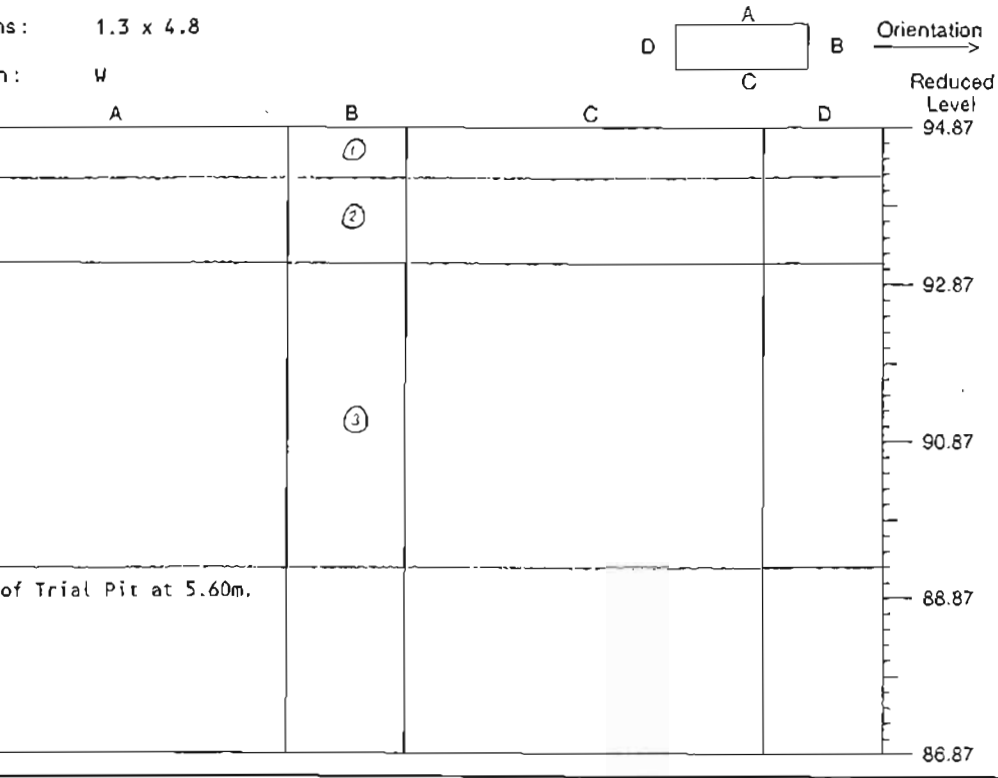
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP17A

Dimensions : 1.3 x 4.8

Orientation : W



Strata

Depth (m)	No.	Description
0.00-0.60	1	MADE GROUND: (Medium dense) brown silty clayey sandy sub-angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles, rare bricks and rare boulders.
0.60-1.70	2	MADE GROUND: (Medium dense) dark grey black silty sandy very ashy angular fine to coarse gravel of coal and mudstone with occasional cobbles.
1.70-5.60	3	MADE GROUND: (Medium dense) brown grey silty sandy angular fine to coarse gravel of mudstone with some coal, cobbles and occasional boulders.

Samples and Tests

Depth (m)	Type	Results
0.10	M	
1.30	M	
1.30	ORG	
3.50	M	
5.40	M	
5.60	M	

Date of Excavation 17/01/96
Equipment Tracked Excavator
Stability Unstable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 94.87 m OD
Coordinates 317855.62 mE
189227.16 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

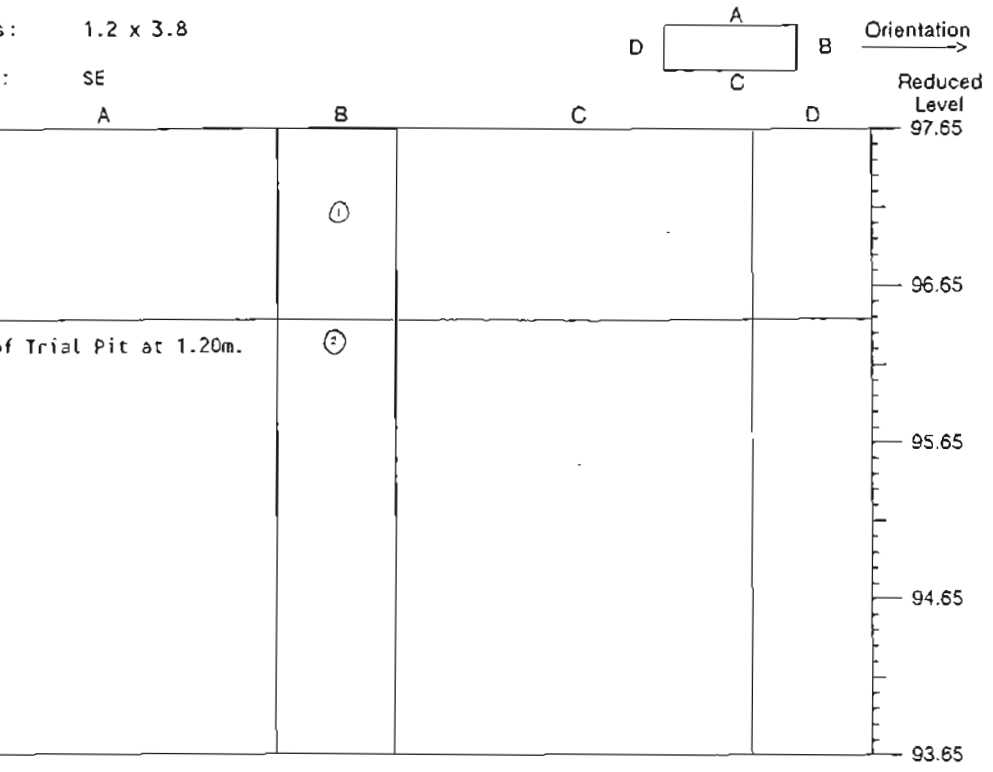
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP18

Dimensions : 1.2 x 3.8

Orientation : SE



Strata

Depth (m)	No.	Description
0.00-1.20	1	MADE GROUND: (Loose to medium dense) dark grey silty sandy angular to sub-angular fine to coarse gravel of coal and mudstone with some sand sized coal derived ash. (Colliery Spoil).
1.20	2	MADE GROUND: Concrete.

Samples and Tests

Depth (m)	Type	Results
0.10	M	

Date of Excavation 18/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater

No.	Struck	Behaviour
		Not encountered during excavation

Ground Level 97.65 m OD
Coordinates 317830.07 mE
189172.55 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

Project

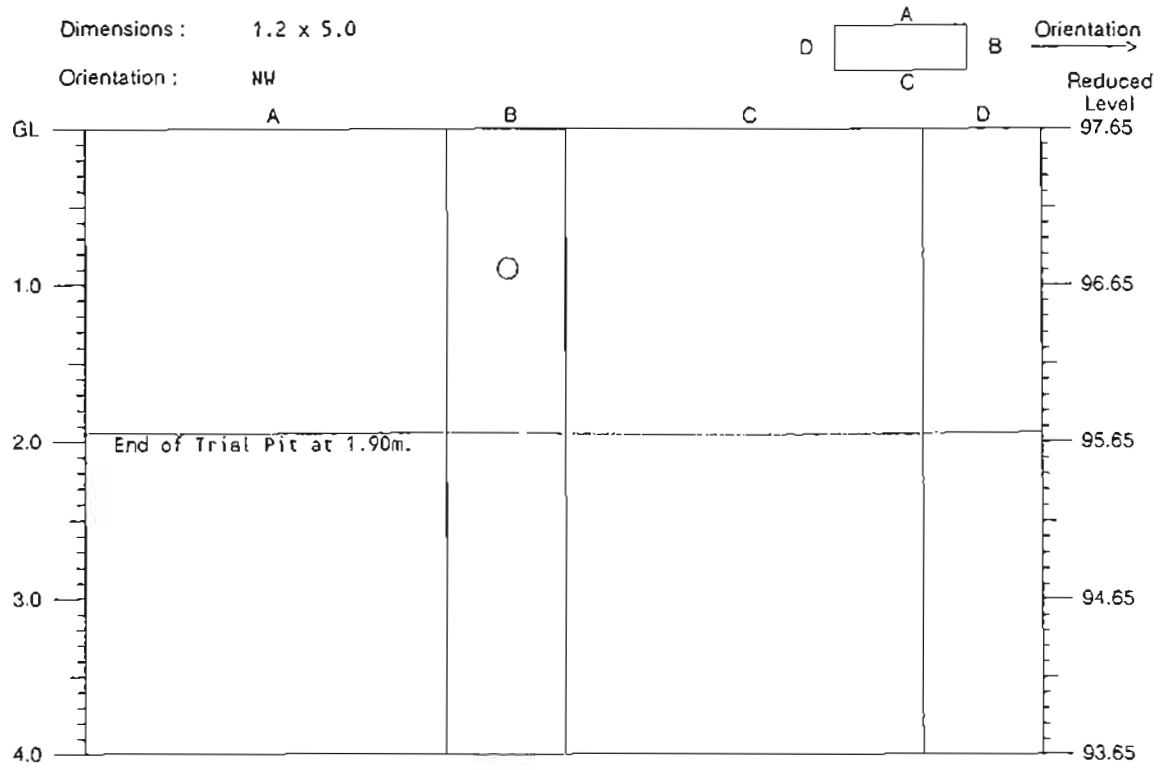
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP19

Dimensions : 1.2 x 5.0

Orientation : NW



Strata

Depth (m)	No.	Description
0.00-1.90	1	MADE GROUND: (Medium dense) dark grey silty sandy angular to sub-angular fine to coarse gravel of coal and mudstone with some sand sized coal derived ash.

Samples and Tests

Depth (m)	Type	Results
1.90	M	
1.90	ORG	

Date of Excavation 18/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater

No.	Struck	Behaviour
		Not encountered during excavation

Ground Level 97.65 m OD
Coordinates 317830.07 mE
189172.55 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

Project

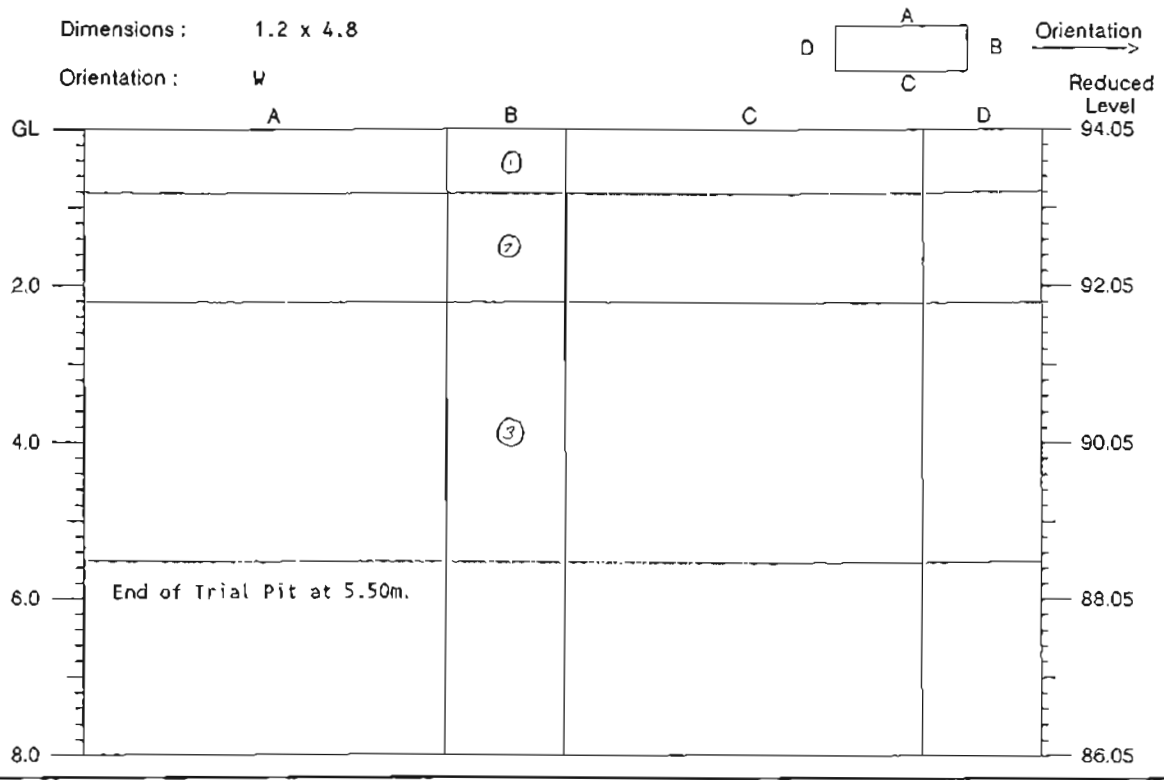
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP19A

Dimensions : 1.2 x 4.8

Orientation : W



Strata

Depth (m)	No.	Description
0.00-0.80	1	MADE GROUND: (Medium dense) brown silty clayey sandy angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles.
0.80-2.20	2	MADE GROUND: (Medium dense) dark brown and grey silty clayey sandy angular fine to coarse gravel of coal and mudstone with occasional cobbles and some sand sized coal derived ash.
2.20-5.50	3	(Dense) orange brown clay very silty very sandy angular to sub-rounded fine to coarse GRAVEL of sandstone with occasional cobbles. (Glacial Sand and Gravel).

Samples and Tests

Depth (m)	Type	Results
0.10	M	
0.80	M	
1.40	M	
3.40	M	
5.50	M	

Date of Excavation 18/01/96
Equipment Tracked Excavator
Stability Some spalling

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 94.05 m OD
Coordinates 317915.12 mE
189271.20 mN

Logged by PCB
Checked by

Remarks VOC monitored at 3.40m (0ppm).

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

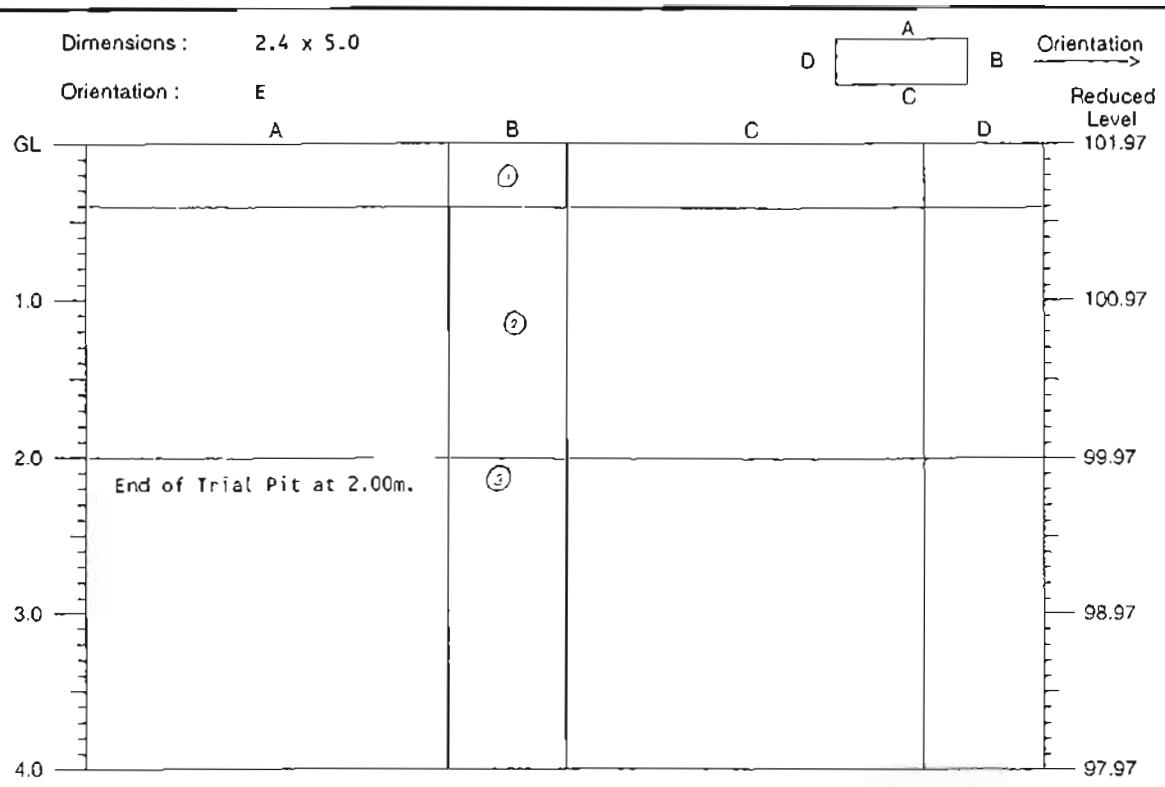
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP20

Dimensions : 2.4 x 5.0

Orientation : E



Strata

Depth (m)	No.	Description
0.00-0.40	1	MADE GROUND: (Medium dense to dense) brown silty sandy clayey angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles and rare pieces of timber and rare boulders.
0.40-2.00	2	MADE GROUND: (Dense) dark grey silty very sandy angular to sub-angular fine to coarse gravel of coal and mudstone with many cobbles of brick and some boulders of concrete with some sand sized coal derived ash.
2.00	3	MADE GROUND: Brick wall obstruction at 2.00m.

Samples and Tests

Depth (m)	Type	Results
1.00	M	
2.60	M	
2.60	ORG	

Date of Excavation 15/01/96
Equipment Tracked Excavator
Stability Some spalling

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 101.97 m OD
Coordinates 317894.54 mE
189308.69 mN

Logged by PCB
Checked by

Remarks VOC monitored at 1.00m (3ppm), 2.60m (4ppm).

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

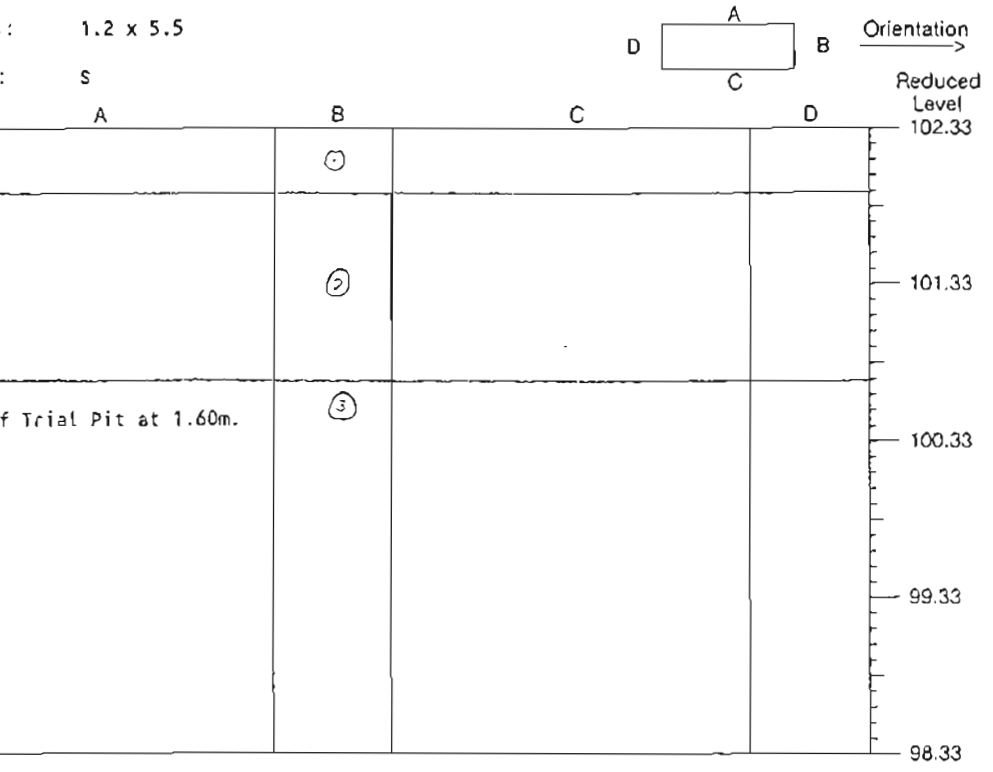
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP21

Dimensions : 1.2 x 5.5

Orientation : S



Strata

Depth (m)	No.	Description
0.00-0.40	1	MADE GROUND: (Medium dense) orange brown silty sandy clayey angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles.
0.40-1.60	2	MADE GROUND: (Medium dense to dense) grey silty sandy angular to sub-angular fine to coarse gravel of coal and mudstone with some sand sized ash. (Colliery Spoil).
1.60	3	MADE GROUND: Concrete obstruction.

Samples and Tests

Depth (m)	Type	Results
1.00	M	

Date of Excavation 15/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 102.33 m OD
Coordinates 317984.94 mE
189640.48 mN

Logged by PCB
Checked by

Remarks VOC monitored at 1.00m (4ppm).

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

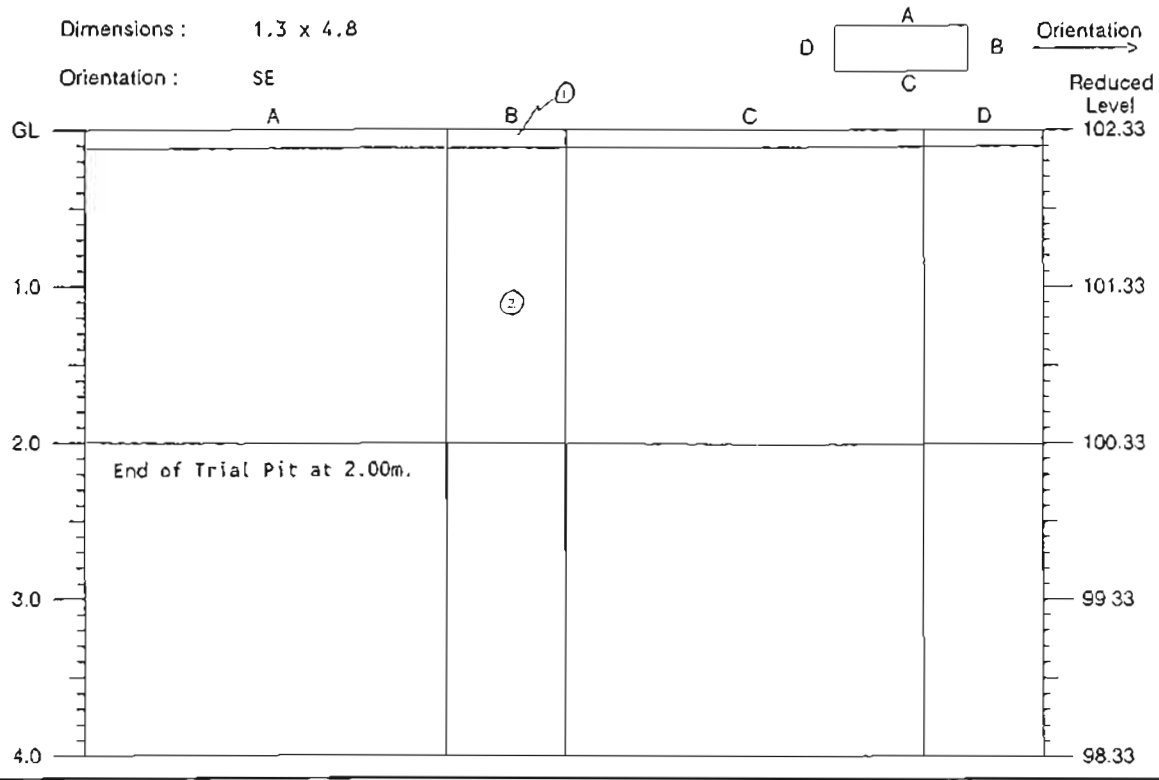
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP22

Dimensions : 1.3 x 4.8

Orientation : SE



Strata

Depth (m)	No.	Description
0.00-0.10	1	MADE GROUND: (Medium dense) brown silty sandy clayey angular to sub-rounded fine to coarse gravel of sandstone.
0.10-2.00	2	MADE GROUND: (Medium dense becoming very dense) brown grey silty sandy angular to sub-angular fine to coarse gravel of coke with some sand sized ash. .... with many cobbles of brick below 1.00m.

Samples and Tests

Depth (m)	Type	Results
2.00	M	
2.00	ORG	

Date of Excavation 15/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 102.33 m OD
Coordinates 317894.83 mE
189340.48 mN

Logged by PCB
Checked by

Remarks VOC monitored at 2.00m (4ppm).

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

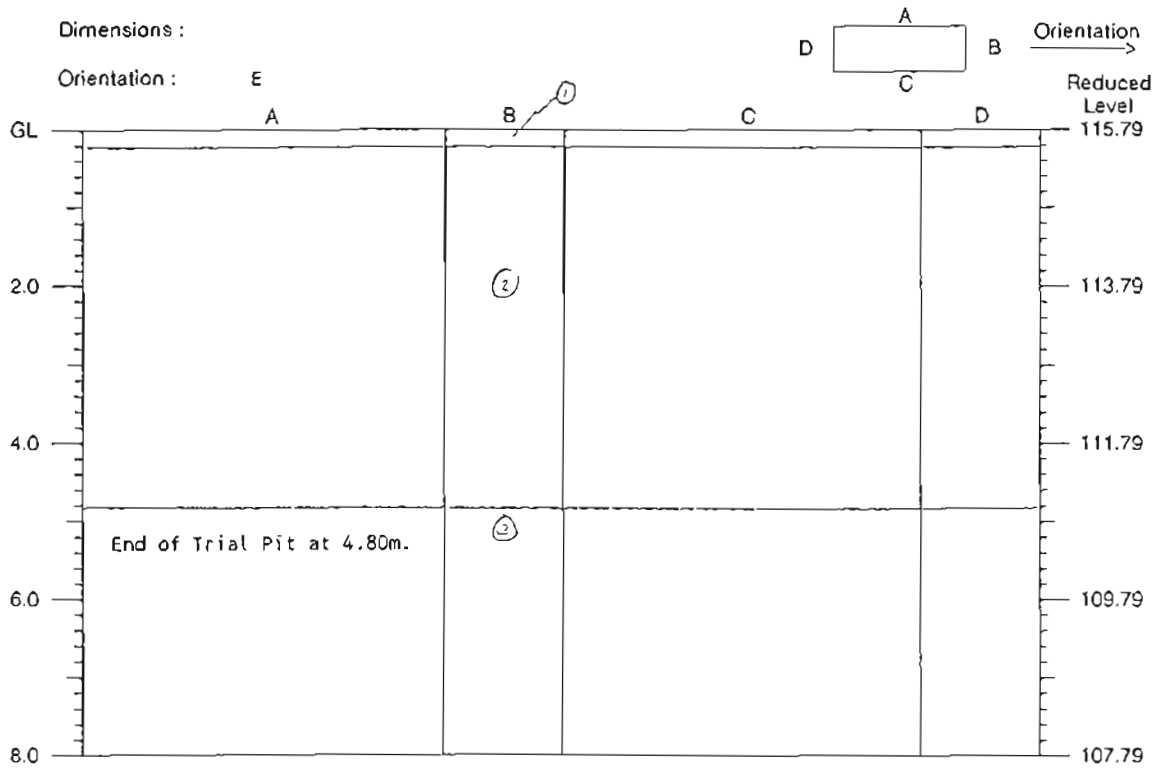
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP22A

Dimensions :

Orientation : E



Strata

Depth (m)	No.	Description
0.00-0.20	1	MADE GROUND: (Medium dense) dark grey very silty very sandy gravel of coke and coal with a little sand sized ash.
0.20-4.80	2	(Dense) orange brown slightly clayey very silty very sandy angular to sub-angular fine to coarse GRAVEL of sandstone with occasional cobbles. (Glacial Sand and Gravel).
4.80	3	(Very dense) slightly silty slightly sandy angular COBBLES and BOULDERS of sandstone (Bedrock).

Samples and Tests

Depth (m)	Type	Results
1.50	M	
1.50	ORG	
3.20	M	
3.20	ORG	

Date of Excavation 12/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Slight seepage at 3.20m

Ground Level 115.79 m OD
Coordinates 317899.10 mE
189413.76 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

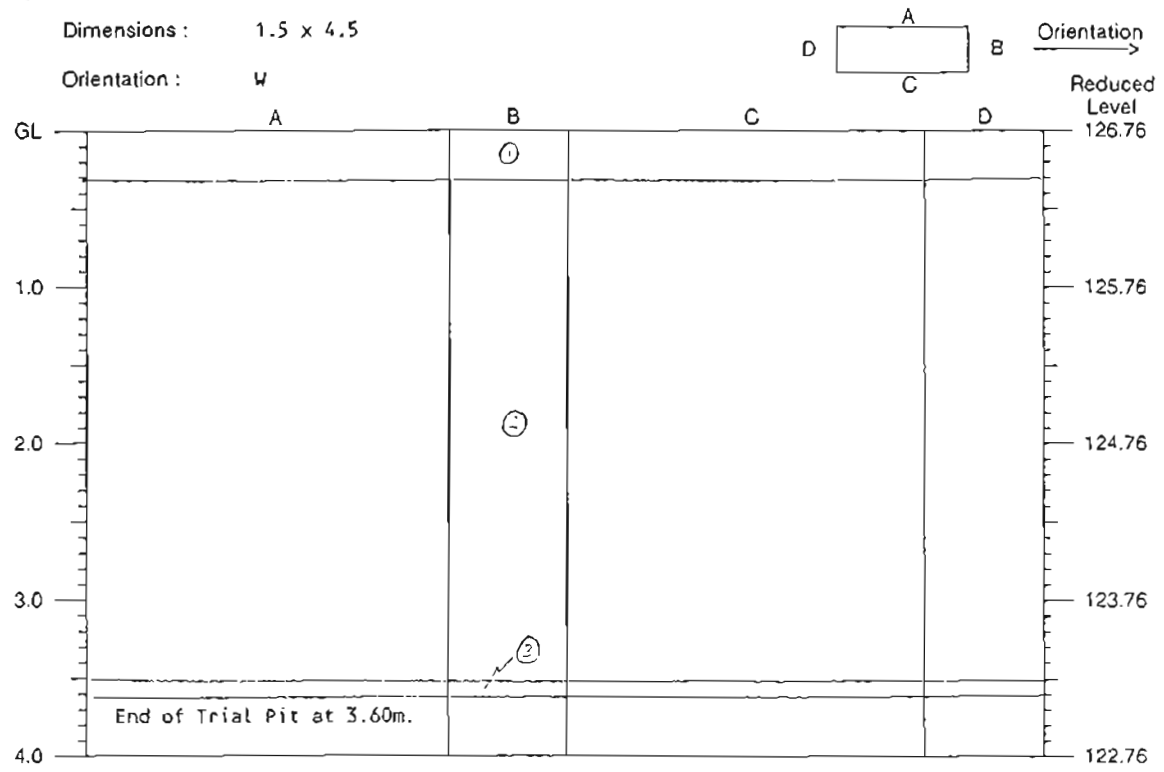
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP23

Dimensions : 1.5 x 4.5

Orientation : W



Strata

Depth (m)	No.	Description
0.00-0.30	1	MADE GROUND: (Medium dense) dark grey silty sandy angular to sub-angular fine to coarse gravel with some sand sized ash with occasional pieces of metal cable and occasional bricks.
0.30-3.50	2	MADE GROUND: (Medium dense) light brown very silty very sandy angular to sub-angular fine to coarse gravel of sandstone with occasional cobbles and rare boulders and rare cobbles of brick. (Reworked Glacial Sand and Gravel). (Possibly natural ground below 1.10m).
3.50-3.60	3	.... with many angular cobbles and boulders of sandstone. (Bedrock).

Samples and Tests

Depth (m)	Type	Results
1.50	M	
1.50	ORG	
3.30	M	
3.30	ORG	

Date of Excavation 11/01/96
Equipment Tracked Excavator
Stability Slightly unstable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 126.76 m OD
Coordinates 317890.09 mE
189485.71 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

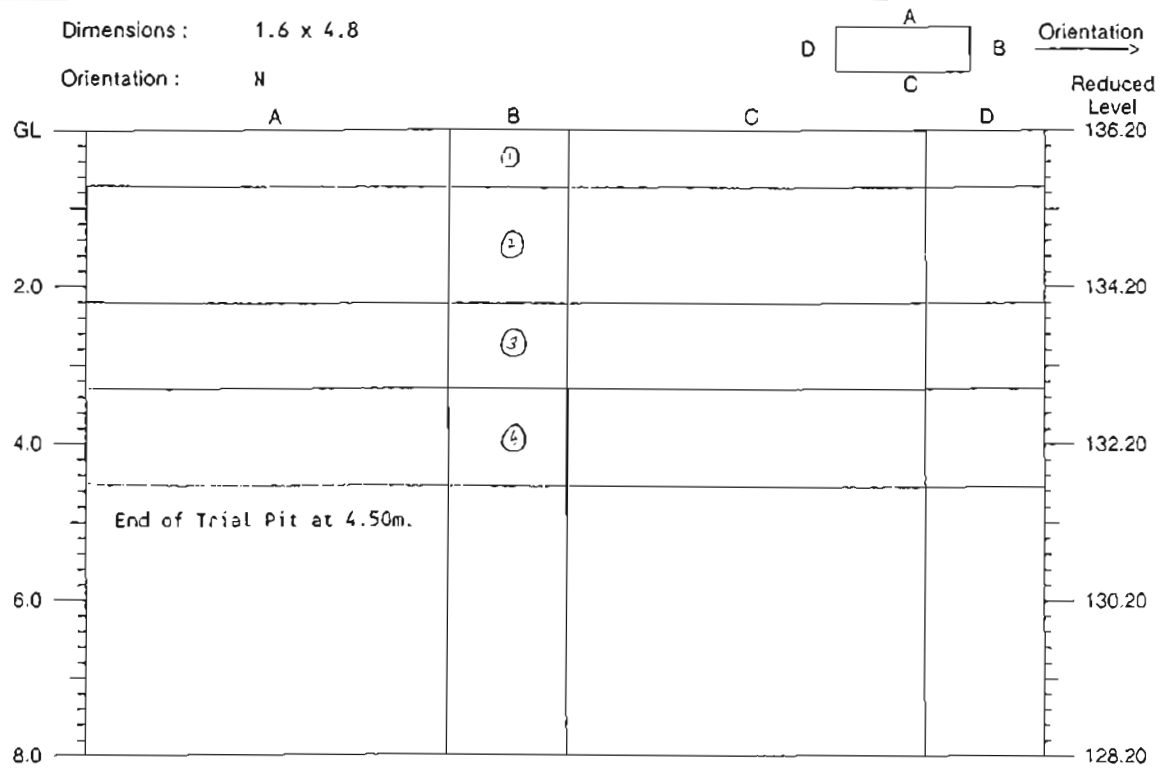
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP24

Dimensions : 1.6 x 4.8

Orientation : N



Strata

Depth (m)	No.	Description
0.00-0.70	1	MADE GROUND: (Loose to medium dense) dark grey black very silty very sandy angular to sub-angular fine to coarse gravel with occasional cobbles and much sand sized ash. .... with a plank of wood at 0.70m.
0.70-2.20	2	MADE GROUND: (Very dense) grey silty sandy angular fine to coarse gravel of mudstone and siltstone (Coal Measures) with many cobbles some boulders and some sand sized coal derived ash. (Colliery Spoil).
2.20-3.30	3	MADE GROUND: (Dense) grey brown slightly clayey silty sandy angular to sub-angular fine to coarse gravel with rare cobbles and a strong contaminant odour.
3.30-4.50	4	(Very dense) orange brown very silty very sandy angular to sub-angular fine to coarse gravel of sandstone with some cobbles and rare boulders.

Samples and Tests

Depth (m)	Type	Results
0.50	M	
0.50	ORG	
2.00	M	
2.00	ORG	
2.80	M	
2.80	M	
4.50	M	
4.50	ORG	

Date of Excavation 11/01/96
Equipment Tracked Excavator
Stability Unstable

Groundwater

No.	Struck	Behaviour
		Slight seepage at 0.80m

Ground Level 136.20 m OD
Coordinates 317921.47 mE
189510.37 mN

Logged by PCB
Checked by

Remarks VOC monitored at 2.80m (50ppm), 4.50m (ppm).

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

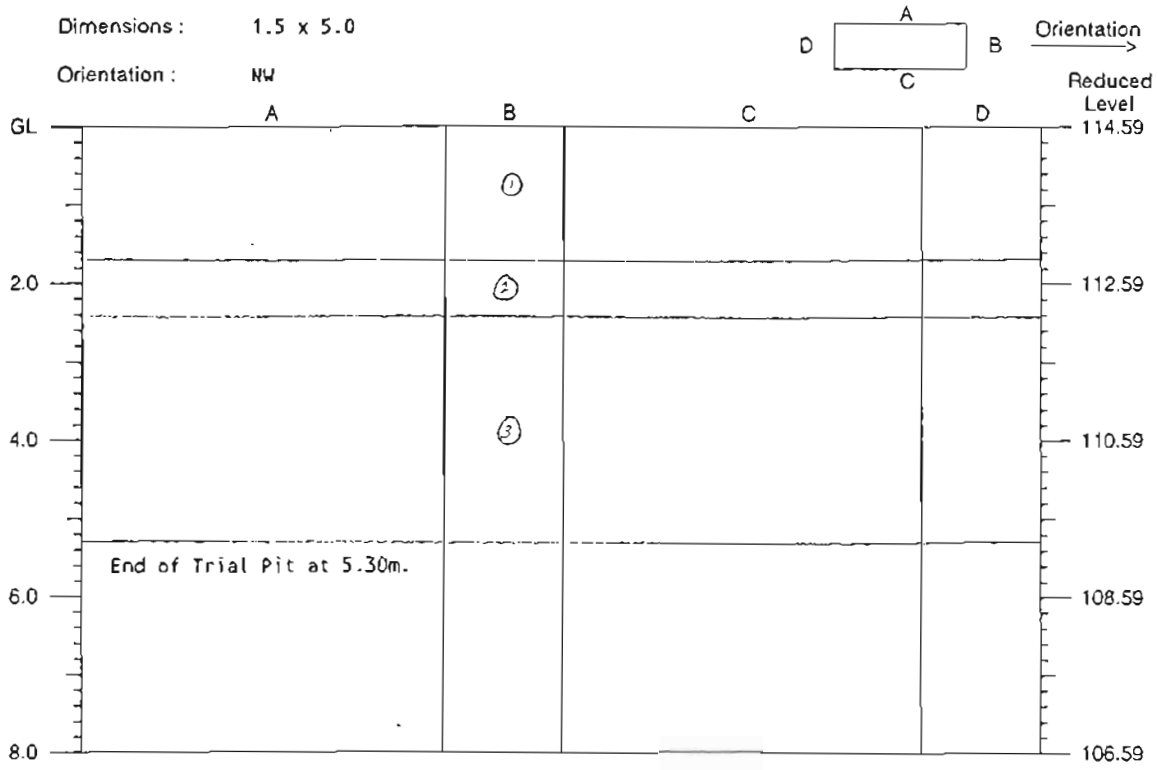
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP25

Dimensions : 1.5 x 5.0

Orientation : NW



Strata

Depth (m)	No.	Description
0.00-1.70	1	MADE GROUND: (Medium dense) dark grey and brown grey silty very sandy angular to sub-angular fine to coarse gravel with some cobbles much sand sized coal derived ash with occasional pieces of metal and rubber.
1.70-2.40	2	MADE GROUND: (Loose to medium dense) black silty fine to coarse sand with some angular to sub-angular fine to coarse gravel of coal with much ash.
2.40-5.30	3	(Medium dense to dense) orange brown slightly clayey very silty very sandy angular to sub-angular fine to coarse GRAVEL of sandstone with occasional cobbles. (Glacial Sand and Gravel).

Samples and Tests

Depth (m)	Type	Results
1.00	M	
1.00	ORG	
1.50	M	
1.50	ORG	
2.50	M	
2.50	ORG	
5.30	M	
5.30	ORG	

Date of Excavation 12/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Slight seepage at 1.50m

Ground Level 114.59 m OD
Coordinates 317918.67 mE
189402.88 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

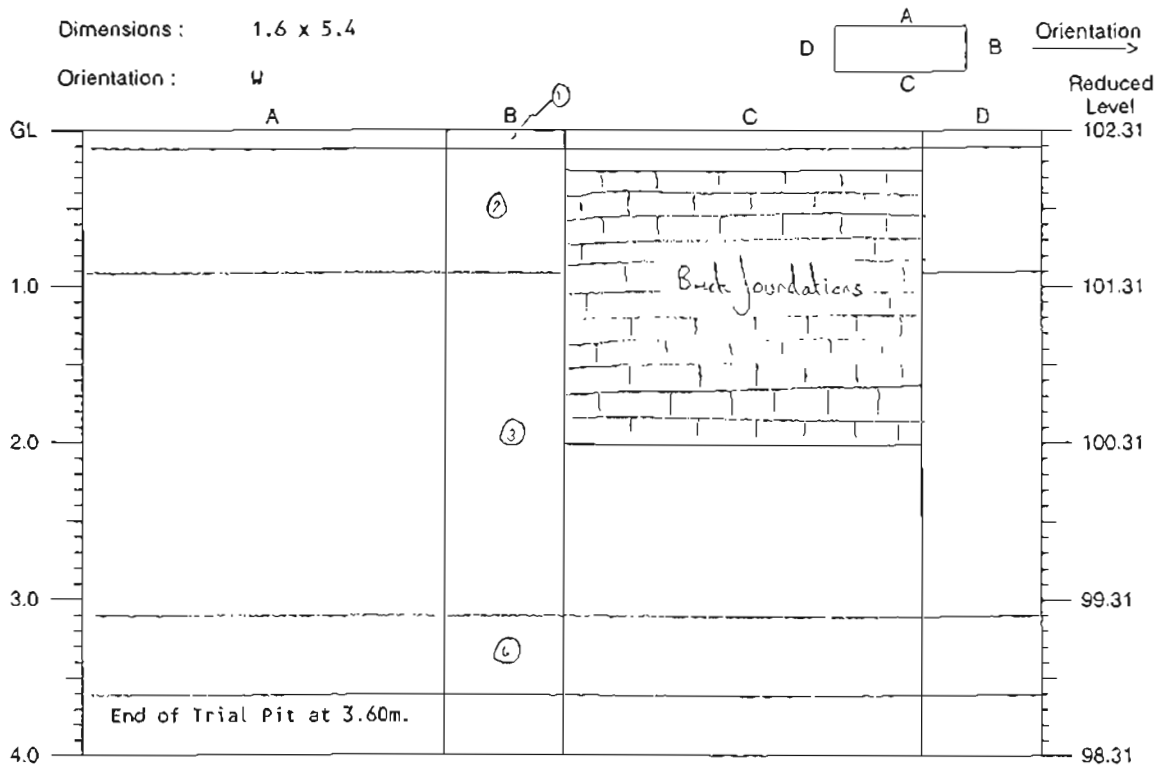
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP26

Dimensions : 1.6 x 5.4

Orientation : W



Strata			Samples and Tests		
Depth (m)	No.	Description	Depth (m)	Type	Results
0.00-0.10	1	MADE GROUND: (Medium dense) brown silty clayey sandy sub-angular to sub-rounded fine to coarse gravel of sandstone.			
0.10-0.90	2	MADE GROUND: (Medium dense to dense) dark grey silty sandy angular to sub-angular fine to coarse gravel of coal with occasional cobbles of brick and some sand sized coal derived ash. .... metal girder along Face D at 0.90m.	0.50 0.50	M ORG	
0.90-3.10	3	MADE GROUND: (Medium dense to dense) brown grey very silty very sandy angular fine to coarse gravel with many cobbles of brick, pieces of metal occasional boulders and much silt to sand sized ash, and occasional pieces of timber.	2.00 2.00	M ORG	
3.10-3.60	4	Possible MADE GROUND: (Medium dense/firm) red brown clayey very sandy SILT with some sub-angular to sub-rounded fine to coarse gravel of sandstone.	3.60 3.60	M ORG	

Date of Excavation 12/01/96
Equipment Tracked Excavator
Stability Some spalling

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 102.31 m OD
Coordinates 317925.78 mE
189324.33 mN

Logged by PCB
Checked by

Remarks Brick wall on Face B causing obstruction. Space restrictions.

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

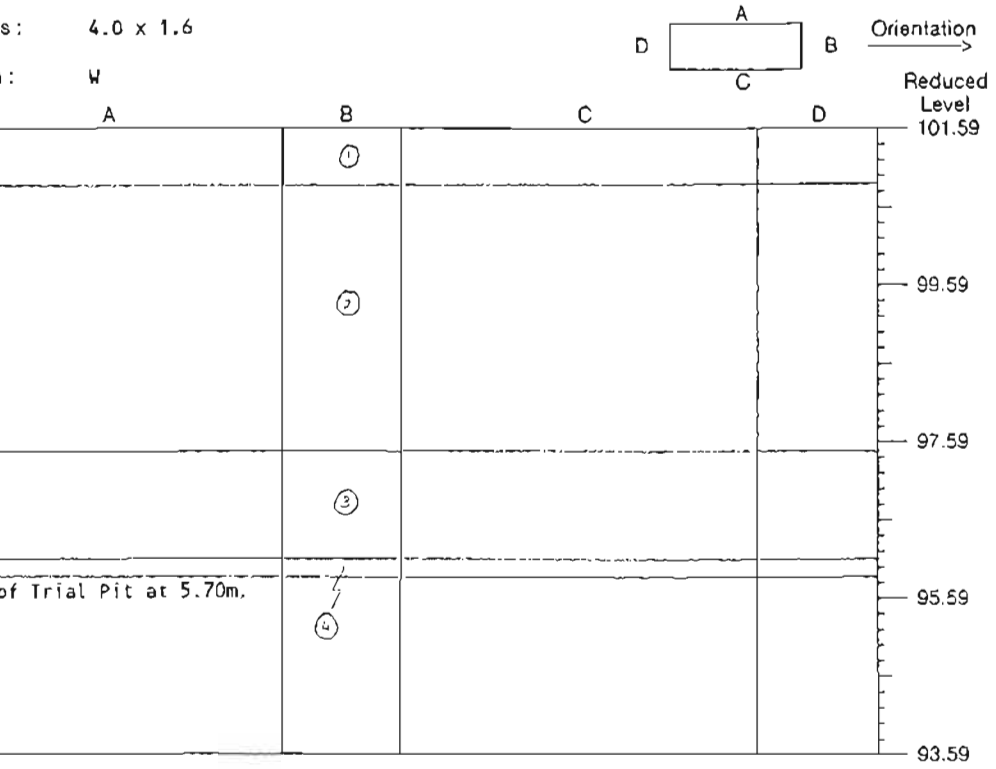
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP27

Dimensions : 4.0 x 1.6

Orientation : W



Strata

Depth (m)	No.	Description
0.00-0.70	1	MADE GROUND: (Medium dense to dense) brown silty clayey sandy sub-angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles and rare boulders.
0.70-4.10	2	MADE GROUND: (Medium dense to dense) dark grey silty clayey sandy angular to sub-angular fine to coarse gravel of sandstone coal and coke with some cobbles bricks and occasional boulders and some sand sized ash.
4.10-5.50	3	MADE GROUND: (Soft to firm) grey and brown silty sandy clay with some angular to sub-rounded fine to coarse gravel of sandstone concrete.
5.50-5.70	4	(Medium dense) orange brown friable clayey sandy SILT with some sub-angular to sub-rounded fine to coarse gravel of sandstone. (Glacial Deposit).

Samples and Tests

Depth (m)	Type	Results
0.10	M	
2.00	M	
2.00	ORG	
4.00	M	
5.20	M	
5.70	M	

Date of Excavation 15/01/96
Equipment Tracked Excavator
Stability Some spalling

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 101.59 m OD
Coordinates 317932.27 mE
189301.84 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

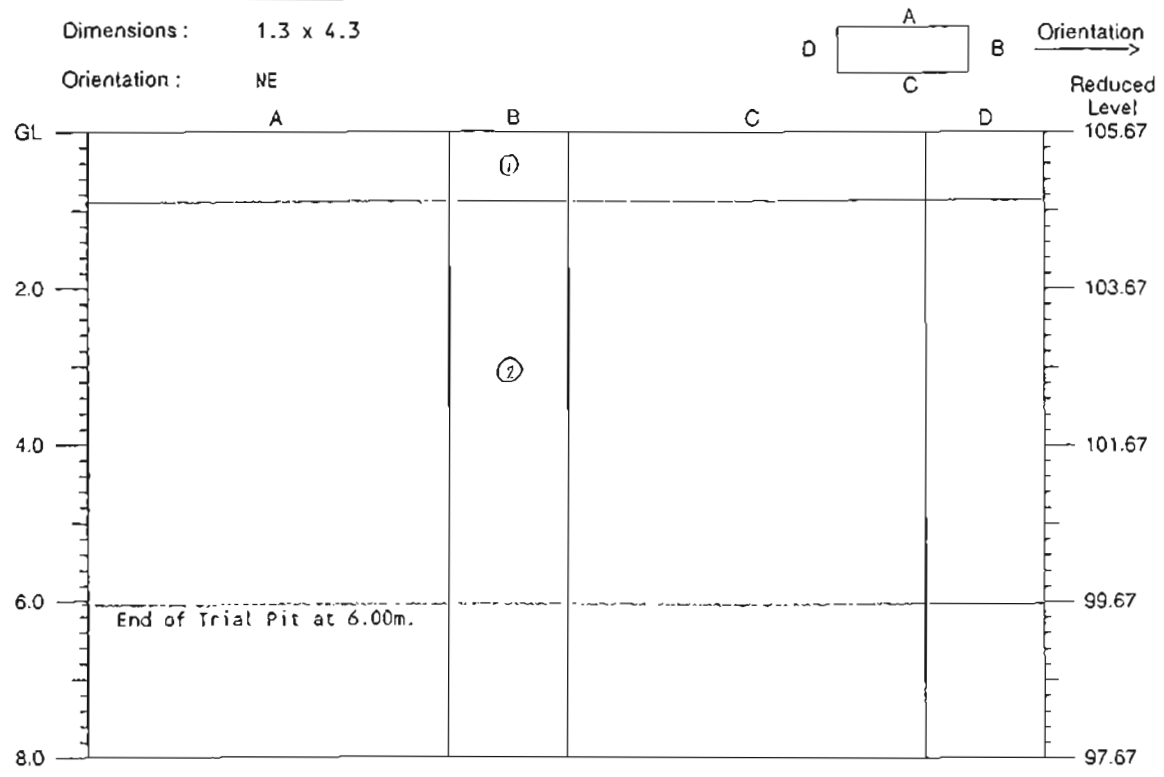
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP28

Dimensions : 1.3 x 4.3

Orientation : NE



Strata

Depth (m)	No.	Description
0.00-0.90	1	MADE GROUND: (Medium dense) dark grey black silty sandy angular fine to coarse gravel of coal with occasional cobbles, rare boulders and some sand sized coal derived ash.
0.90-6.00	2	(Medium dense) light brown clayey sandy silt with much angular to sub-rounded gravel of sandstone. (Glacial Deposit). .... MADE GROUND between 0.90m and 1.30m. .... plastic drain (disused) struck at 1.30m with slight seepage from drain.

Samples and Tests

Depth (m)	Type	Results
0.50-0.90	B	
0.50	ORG	
2.00	B	
2.00	ORG	
3.00	B	
3.00	ORG	
4.00	B	
4.00	ORG	
5.00	B	
5.00	ORG	
6.00	B	
6.00	ORG	

Date of Excavation 02/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Slight seepage from drain

Ground Level 105.67 m OD
Coordinates 317947.93 mE
189359.32 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

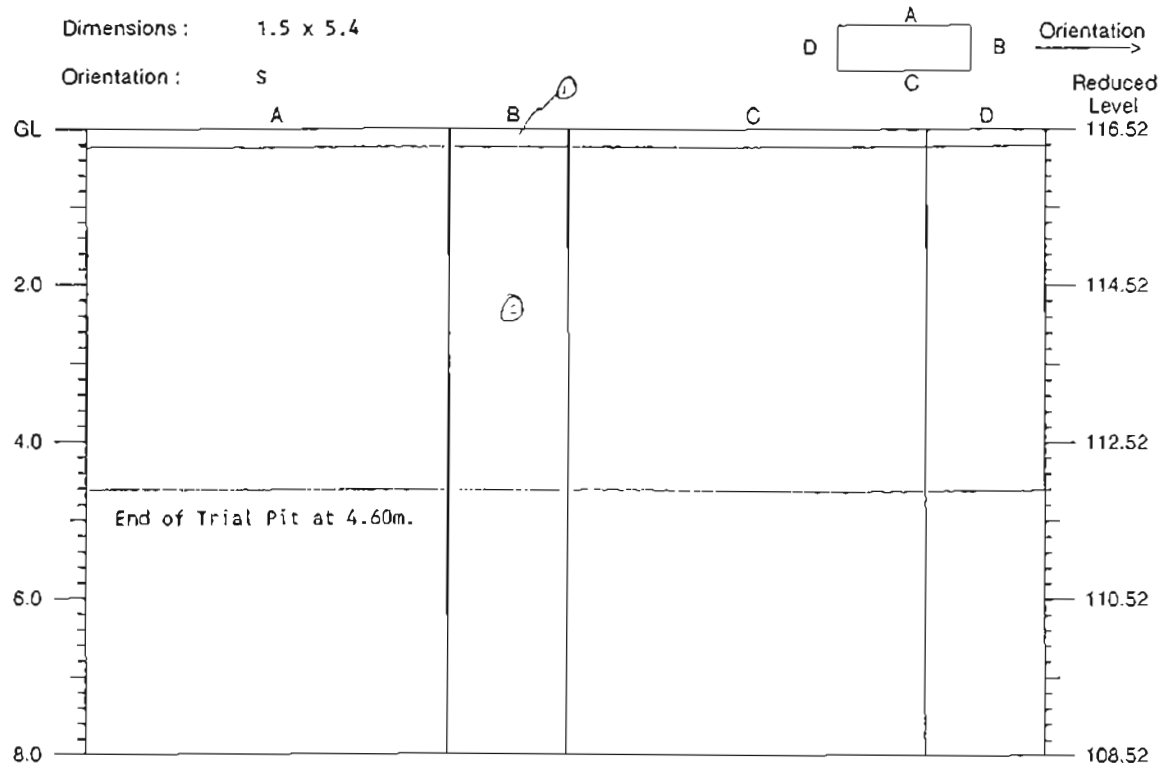
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP29

Dimensions : 1.5 x 5.4

Orientation : S



Strata

Depth (m)	No.	Description
0.00-0.20	1	MADE GROUND: (Medium dense) dark grey silty sandy angular to sub-angular fine to coarse gravel of coal and coke with some sand sized ash.
0.20-4.60	2	(Dense becoming dense below 2.00m) orange brown slightly clayey very silty very sandy angular to sub-angular fine to coarse GRAVEL of sandstone with some cobbles. (Glacial Sand and Gravel).
4.60	3	(Very dense) slightly silty slightly sandy angular COBBLES and BOULDERS of sandstone. (Bedrock).

Samples and Tests

Depth (m)	Type	Results
1.70	M	
1.70	ORG	
4.60	M	
4.60	ORG	

Date of Excavation 12/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 116.52 m OD
Coordinates 317940.78 mE
189425.95 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

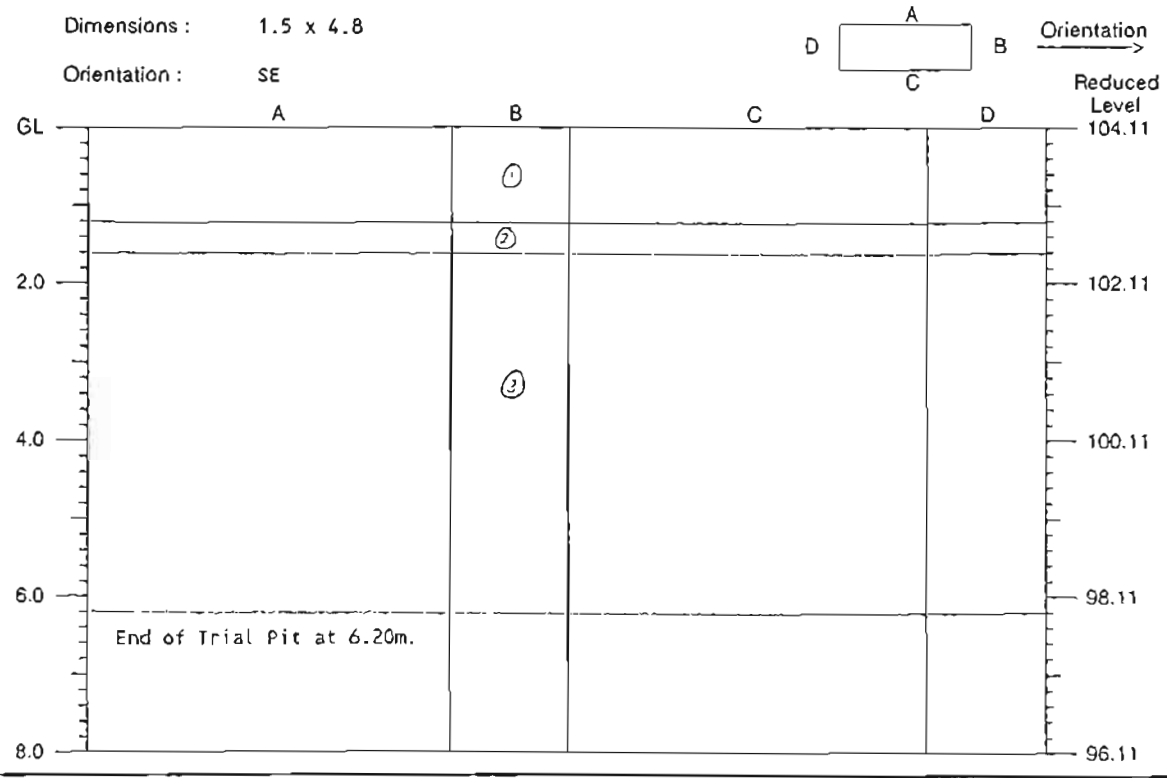
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP30

Dimensions : 1.5 x 4.8

Orientation : SE



Strata

Depth (m)	No.	Description
0.00-1.20	1	MADE GROUND: (Medium dense) brown silty clayey sandy sub-angular to sub-rounded fine to coarse gravel of sandstone with some cobbles and occasional boulders.
1.20-1.60	2	MADE GROUND: (Loose) dark grey black silty fine to medium sand of coal derived ash with a little angular to sub-angular fine to coarse gravel.
1.60-6.20	3	(Medium dense to dense) orange brown clayey very silty very sandy angular to sub-rounded fine to coarse GRAVEL of sandstone with occasional cobbles and rare boulders.

Samples and Tests

Depth (m)	Type	Results
1.60	M	
3.30	M	
5.30	M	
5.30	ORG	
5.90	ORG	

Date of Excavation 03/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater

No.	Struck	Behaviour
		Not encountered during excavation

Ground Level 104.11 m OD
Coordinates 317956.17 mE
189339.43 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

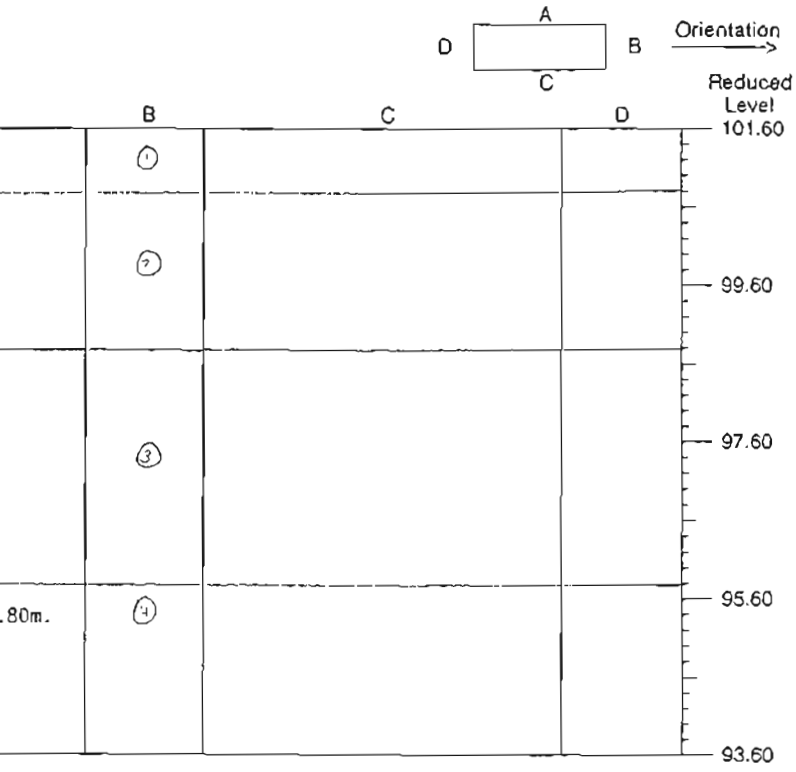
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP31

Dimensions : 2.5 x 5.8

Orientation : SE



Strata

Depth (m)	No.	Description
0.00-0.80	1	MADE GROUND: (Dense) brown silty sandy clayey sub-angular to sub-rounded fine to coarse gravel of sandstone with some cobbles and occasional roots.
0.80-2.80	2	MADE GROUND: (Medium dense) dark grey silty fine to medium sandy ash with many cobbles and boulders.
2.80-5.80	3	(Dense) orange brown silty sandy very clayey sub-angular to sub-rounded fine to coarse GRAVEL of sandstone with some cobbles and a hydrocarbon odour. (Glacial Deposit with hydrocarbon contaminants).
5.80	4	(Dense) grey silty sandy sub-angular to sub-rounded fine to coarse GRAVEL of sandstone with occasional cobbles.

Samples and Tests

Depth (m)	Type	Results
1.70	ORG	
3.50	ORG	
4.00	ORG	
5.80	ORG	

Date of Excavation 04/01/96
Equipment Tracked Excavator
Stability Unstable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 101.60 m OD
Coordinates 317960.80 mE
189322.96 mN

Logged by PCB
Checked by

Remarks VOC monitored at 6.00m (3ppm), 3.50m (3.0ppm), 1.70m (0ppm).

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

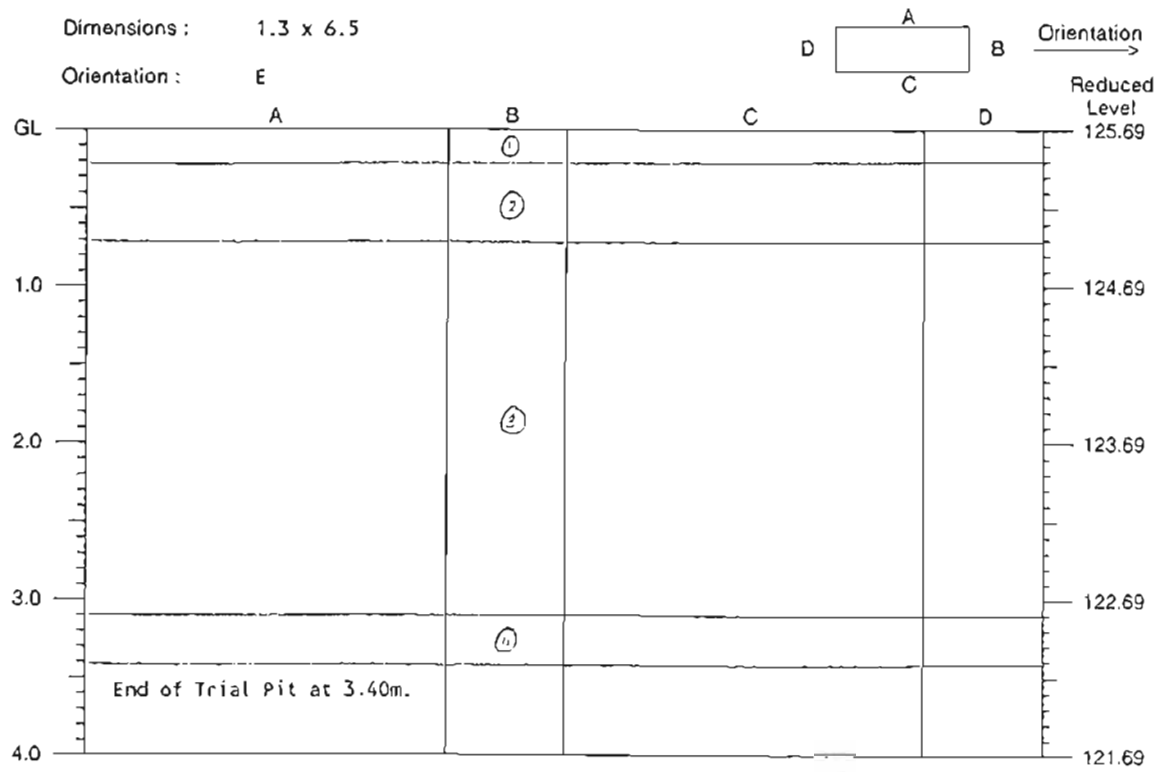
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP32

Dimensions : 1.3 x 6.5

Orientation : E



Strata

Depth (m)	No.	Description
0.00-0.20	1	MADE GROUND: (Medium dense) dark grey silty very sandy angular to sub-angular fine to coarse gravel with occasional cobbles and much sand sized coal derived ash.
0.20-0.70	2	MADE GROUND: (Firm/medium dense) brown slightly clayey silty fine to medium sand with a little angular to sub-angular fine to coarse gravel.
0.70-3.10	3	(Dense becoming very dense below 2.00m) orange brown light brown slightly clayey very silty very sandy angular to sub-angular fine to coarse gravel of sandstone with some cobbles and occasional boulders.
3.10-3.40	4	(Very dense) brown slightly silty slightly sandy angular COBBLES and BOULDERS of sandstone. (Bedrock).

Samples and Tests

Depth (m)	Type	Results
1.70	M	
3.40	M	
3.40	ORG	

Date of Excavation 11/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 125.69 m OD
Coordinates 317968.51 mE
189475.63 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

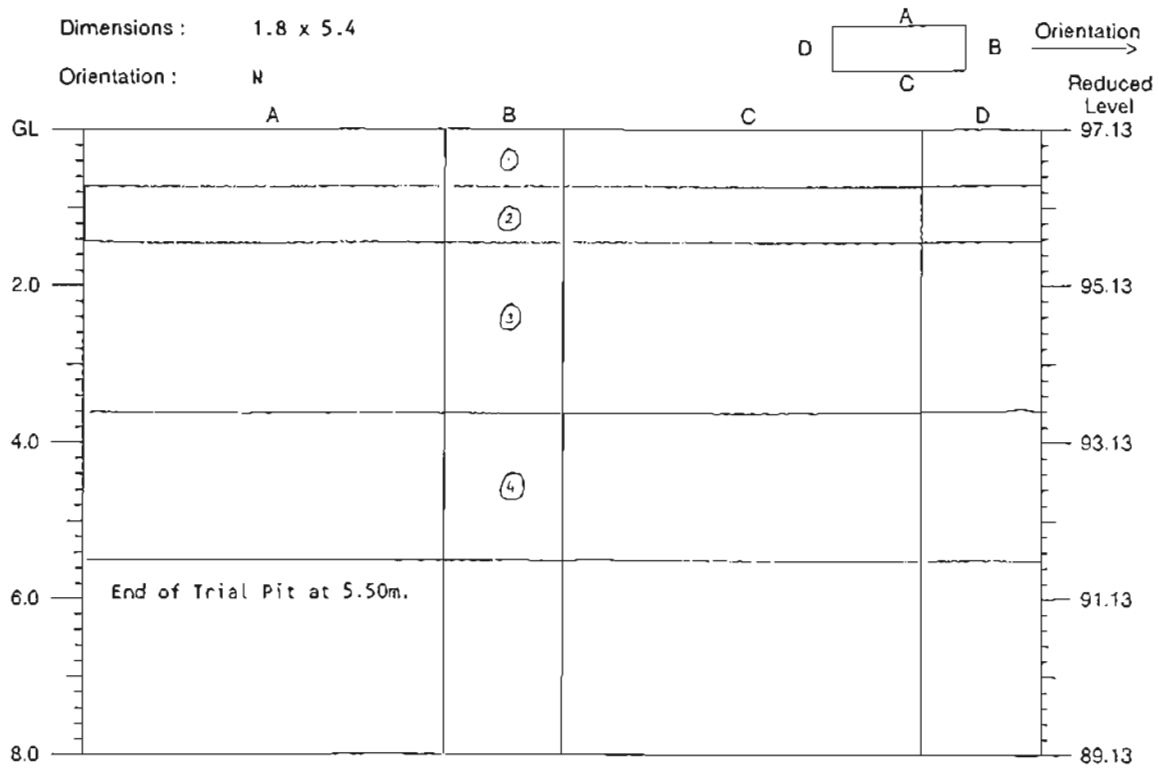
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP33

Dimensions : 1.8 x 5.4

Orientation : N



Strata

Depth (m)	No.	Description
0.00-0.70	1	MADE GROUND: (Medium dense to dense) brown silty sandy clayey sub-angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles.
0.70-1.40	2	MADE GROUND: (Medium dense) dark grey very silty fine to medium sandy ash with some angular to sub-angular fine to coarse gravel some timber and much tar with a hydrocarbon odour.
1.40-3.60	3	MADE GROUND: (Medium dense) dark grey brown silty sandy very clayey sub-angular to sub-rounded fine to coarse gravel with some cobbles, pieces of timber and occasional boulders and some tar and hydrocarbon odour.
3.60-5.50	4	(Dense) grey slightly clayey silty very sandy sub-angular to sub-rounded fine to coarse GRAVEL of sandstone with some cobbles. (Glacial Sand and Gravel). .... becoming brown in colour below 4.50m.

Samples and Tests

Depth (m)	Type	Results
1.70	M	
1.70	ORG	
4.10	ORG	
5.50	ORG	

Date of Excavation 04/01/96
Equipment Tracked Excavator
Stability Unstable

Groundwater

No.	Struck	Behaviour
		Seepages of tar at 1.00m
		Water seepage at 2.60m

Ground Level 97.13 m OD
Coordinates 317966.80 mE
189299.96 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

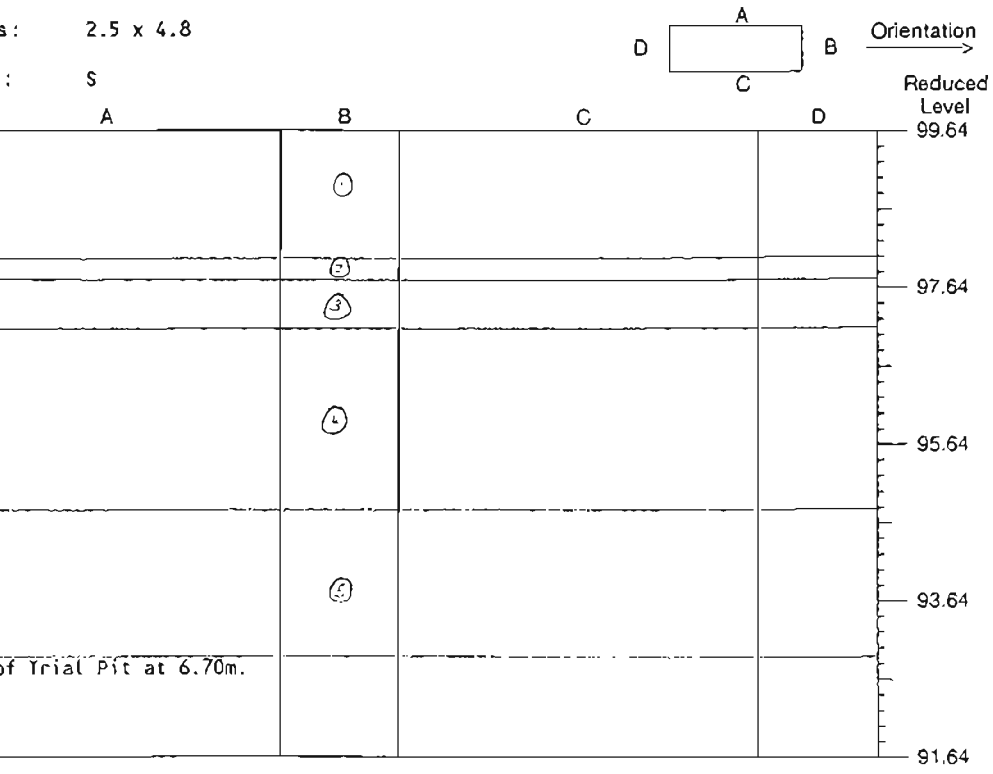
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP34

Dimensions : 2.5 x 4.8

Orientation : S



Strata

Depth (m)	No.	Description
0.00-1.60	1	MADE GROUND: (Dense) brown silty sandy clayey sub-angular to sub-rounded fine to coarse gravel of sandstone with some cobbles and occasional boulders and occasional cobbles of brick.
1.60-1.90	2	MADE GROUND: (Medium dense) dark grey silty very sandy angular to sub-angular fine to coarse gravel with some tar and a hydrocarbon odour.
1.90-2.50	3	MADE GROUND: (Medium dense to dense) brown silty sandy clayey angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles.
2.50-4.80	4	MADE GROUND: (Medium dense) dark grey very silty fine to coarse sand with a little angular to sub-angular fine to coarse gravel with much sand sized ash and a strong hydrocarbon odour.
4.80-6.70	5	(Dense) grey brown silty sandy very clayey sub-angular to sub-rounded fine to coarse GRAVEL of sandstone with occasional cobbles and heavily stained with hydrocarbons.

Samples and Tests

Depth (m)	Type	Results
1.60	ORG	
3.80	ORG	
4.60	ORG	
5.60	ORG	

Date of Excavation 04/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater

No.	Struck	Behaviour
		Slight seepages at 1.70m, 2.50m
		Seepages of tar

Ground Level 99.64 m OD
Coordinates 317969.96 mE
189314.20 mN

Logged by PCB
Checked by

Remarks VOC monitored at 0.60m (5ppm), 5.00m (7ppm), 5.60m (6ppm).

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

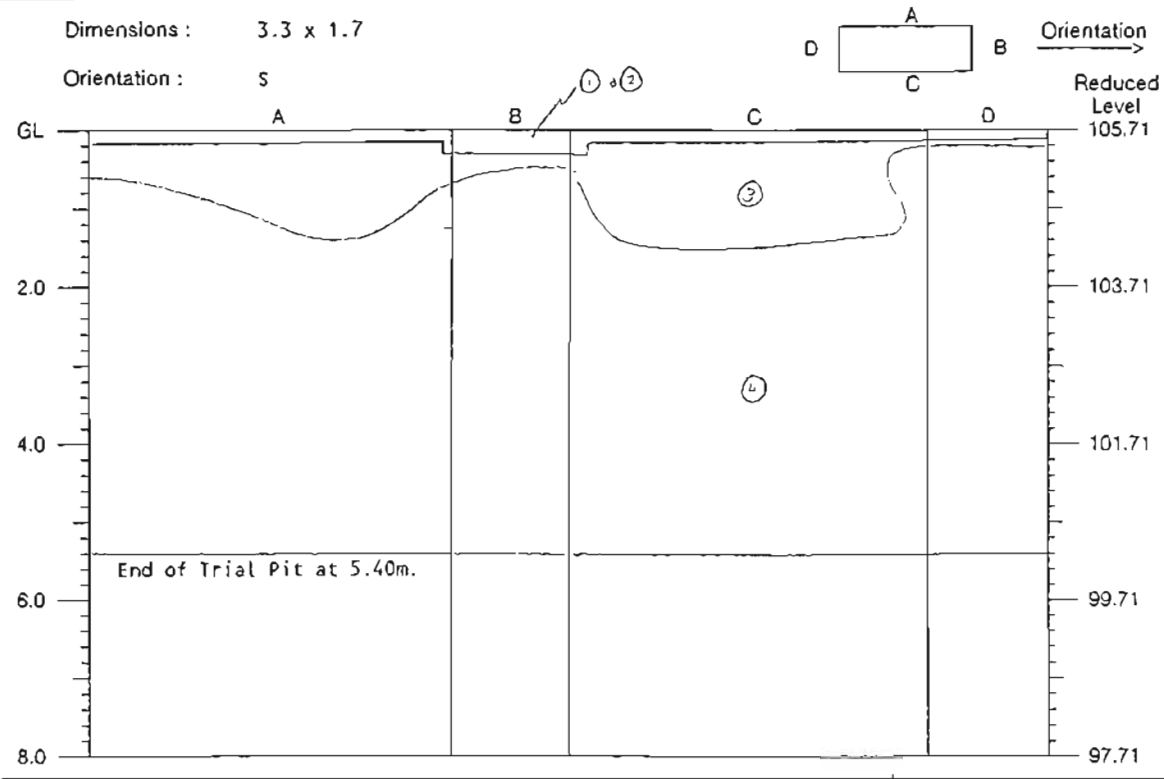
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP35

Dimensions : 3.3 x 1.7

Orientation : S



Strata

Depth (m)	No.	Description
0.00-0.05	1	MADE GROUND: Black tarmac layer.
0.05-0.15	2	MADE GROUND: Concrete.
0.15-1.10	3	MADE GROUND: (Dense to medium dense) dark grey very silty fine to coarse sandy ash (coal derived) with a little angular fine to coarse gravel of coal with occasional cobbles and rare boulders. .... brown plastic pipe encountered at 1.00m with associated metal wire/cable. .... with a metal pipe encountered at 0.30m.
1.10-5.40	4	(Dense) brown orange brown silty very clayey very sandy angular to sub-rounded fine to coarse GRAVEL of sandstone with occasional cobbles. .... becoming very dense below 2.50m.

Samples and Tests

Depth (m)	Type	Results
1.00	M	
1.00	ORG	
2.30	M	
2.30	ORG	
4.30	M	
5.40	M	

Date of Excavation 03/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater

No.	Struck	Behaviour
		Slight seepage from pipe at 1.00m.
		Slight seepage at 2.40m.

Ground Level 105.71 m OD
Coordinates 317974.41 mE
189361.66 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

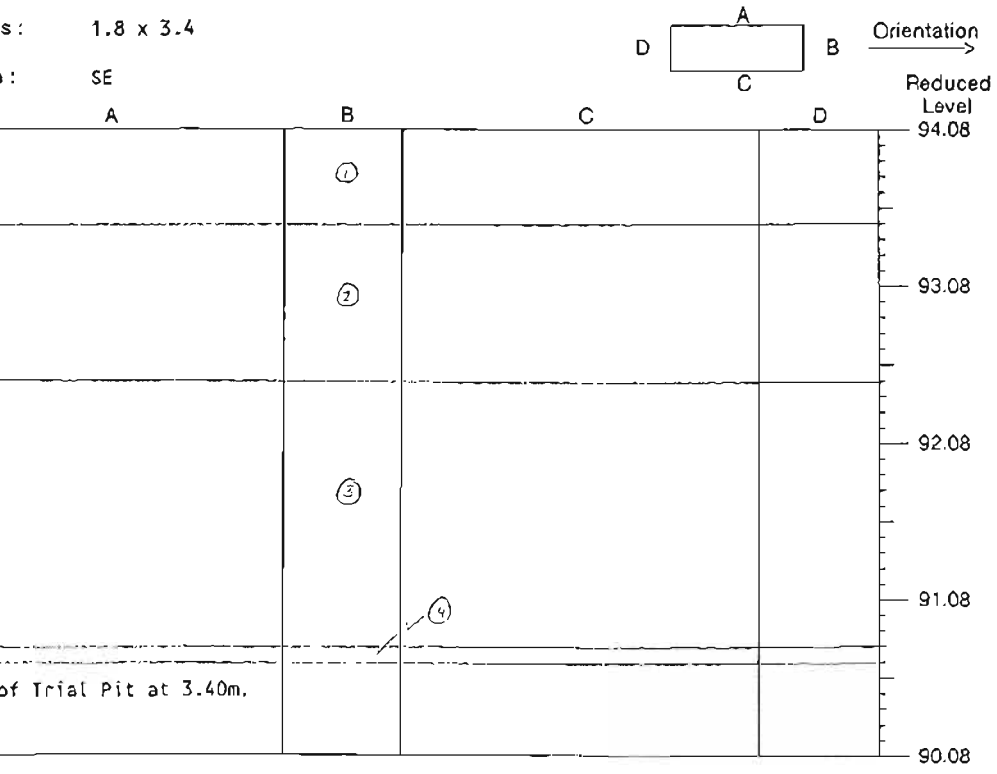
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP36

Dimensions : 1.8 x 3.4

Orientation : SE



Strata

Depth (m)	No.	Description
0.00-0.60	1	MADE GROUND: (Medium dense) brown silty sandy clayey sub-angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles and occasional boulders of concrete.
0.60-1.60	2	MADE GROUND: (Medium dense) dark grey silty fine to medium sandy ash with a little angular to sub-angular fine to coarse gravel.
1.60-3.30	3	MADE GROUND: (Medium dense to dense) brown grey silty clayey very sandy sub-angular to sub-rounded fine to coarse gravel of sandstone with some cobbles and rare boulders.
3.30-3.40	4	(Very dense) angular COBBLES of sandstone with some angular boulders. (Fractured Bedrock).

Samples and Tests

Depth (m)	Type	Results
0.50	M	
3.40	ORG	

Date of Excavation 05/01/96
Equipment Tracked Machine
Stability Unstable some spalling

Groundwater
No Struck Behaviour
Not encountered during excavation

Ground Level 94.08 m OD
Coordinates 317960.59 mE
189288.24 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

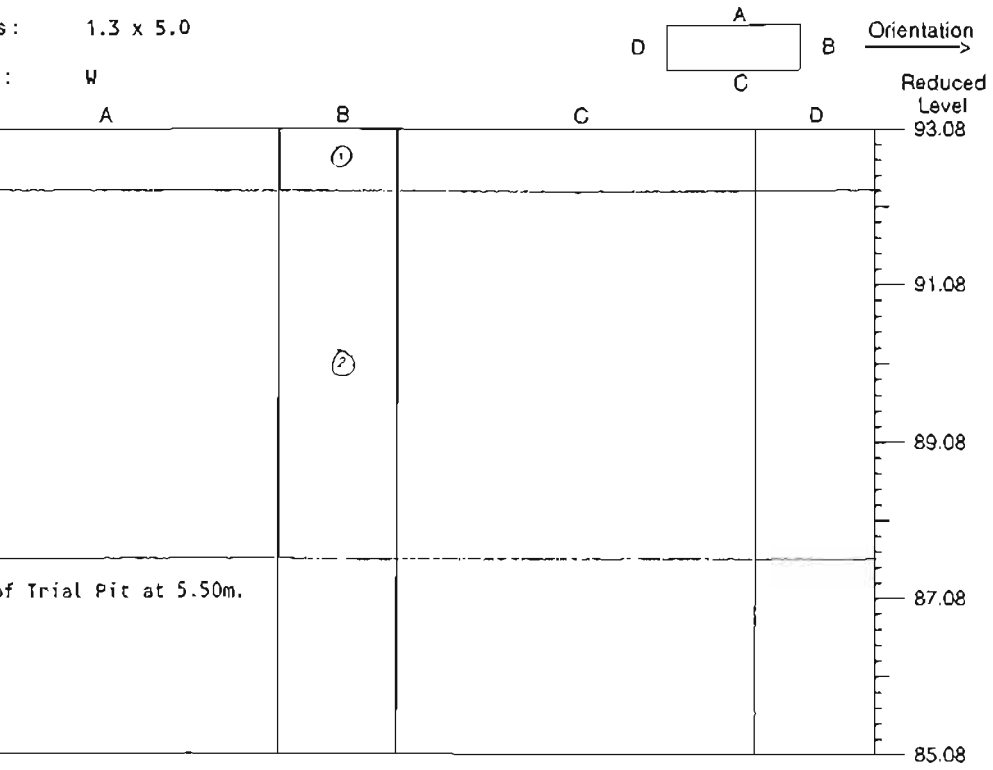
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP37

Dimensions : 1.3 x 5.0

Orientation : W



Strata

Depth (m)	No.	Description
0.00-0.80	1	MADE GROUND: (Medium dense) brown silty clayey sandy angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles, bricks and a little sand sized ash.
0.80-5.50	2	MADE GROUND: (Dense) dark grey black silty very sandy angular to sub-angular fine to coarse gravel of coal and mudstone with cobbles of brick and concrete and much sand sized coal derived ash. (Colliery Spoil). .... with a rail track encountered at 1.00m.

Samples and Tests

Depth (m)	Type	Results
0.10	M	
1.00	M	
2.50	M	
2.50	ORG	
4.00	M	

Date of Excavation 15/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 93.08 m OD
Coordinates 317964.62 mE
189246.33 mN

Logged by PCB
Checked by

Remarks VOC monitored at 4.00m (5ppm).

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

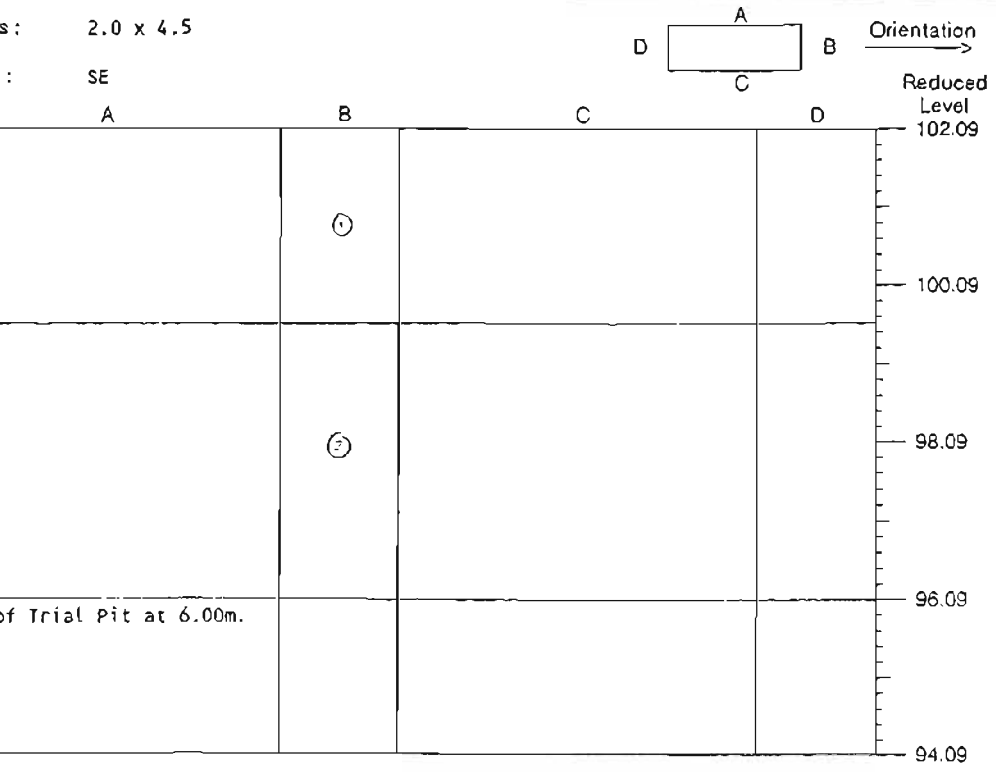
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP38

Dimensions : 2.0 x 4.5

Orientation : SE



Strata

Depth (m)	No.	Description
0.00-2.50	1	MADE GROUND: (Dense) brown silty clayey sandy angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles and rare boulders.
2.50-6.00	2	MADE GROUND: (Medium dense) black silty fine to coarse sand of coal derived ash with some angular to sub-angular fine to coarse gravel and a very strong hydrocarbon odour with occasional piece of timber and metal cable and occasional pockets of black tar and some cobbles of brick and occasional boulders.

Samples and Tests

Depth (m)	Type	Results
2.50	M	
2.50	ORG	
2.70	ORG	
6.00	ORG	

Date of Excavation 03/01/96
Equipment Tracked Excavator
Stability Unstable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 102.09 m OD
Coordinates 317980.94 mE
189327.93 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

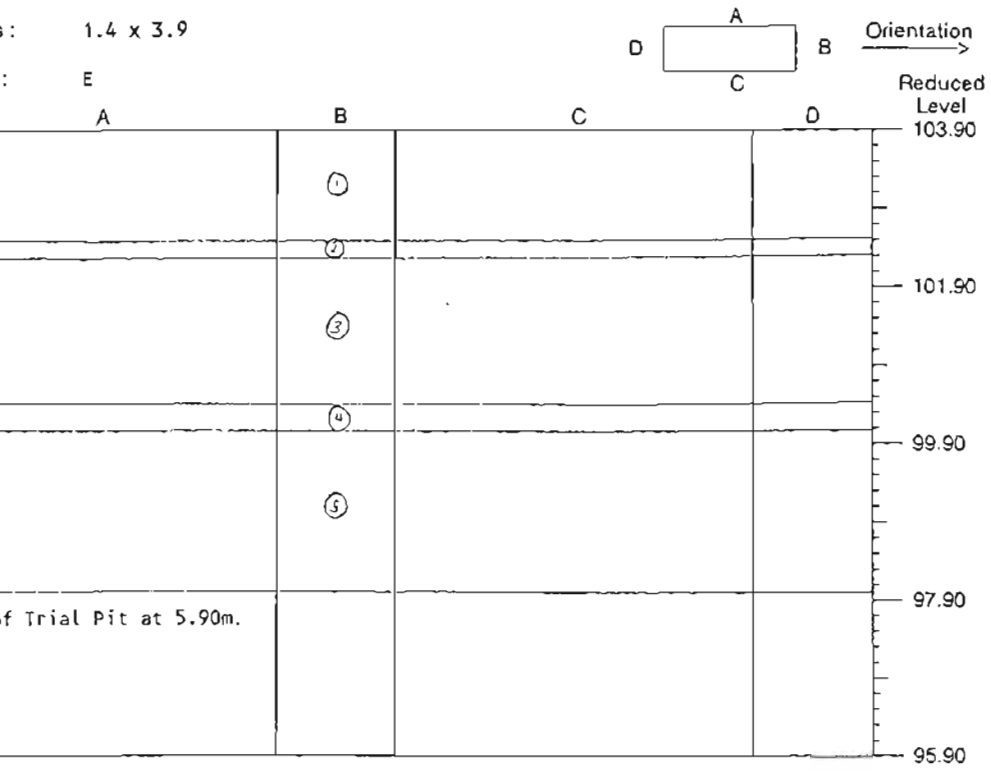
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP39

Dimensions : 1.4 x 3.9

Orientation : E



Strata

Depth (m)	No.	Description
0.00-1.40	1	MADE GROUND: (Dense) brown silty clayey sandy angular to sub-rounded fine to coarse gravel with occasional cobbles and rare boulders.
1.40-1.60	2	MADE GROUND: (Medium dense) black sandy textile matting with a strong bituminous odour with occasional cobbles of brick and some roots and rootlets.
1.60-3.50	3	(Medium dense to dense) orange brown silty clayey very sandy angular to sub-rounded fine to coarse GRAVEL of sandstone with occasional cobbles. (Glacial Deposit).
3.50-3.80	4	(Medium dense) grey brown silty clayey very sandy angular to sub-rounded fine to coarse GRAVEL of sandstone with occasional cobbles and a strong (BTEX) hydrocarbon odour.
3.80-5.90	5	(Medium dense to dense) orange brown silty clayey very sandy angular to sub-rounded fine to coarse GRAVEL of sandstone with occasional cobbles. (Glacial Deposit).

Samples and Tests

Depth (m)	Type	Results
0.80	M	
1.50	M	
3.30	ORG	
3.50	ORG	
5.90	ORG	
4.80	ORG	

Date of Excavation 03/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Slight seepage at 3.60m

Ground Level 103.90 m OD
Coordinates 317985.26 mE
189343.98 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

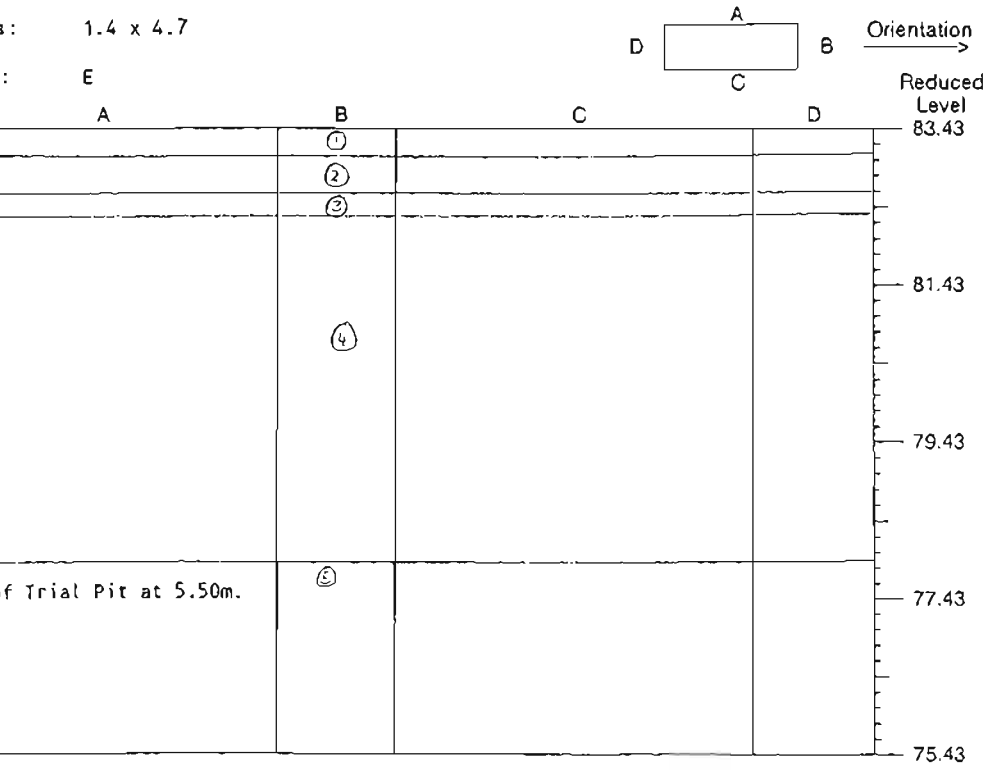
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP40

Dimensions : 1.4 x 4.7

Orientation : E



Strata

Depth (m)	No.	Description
0.00-0.30	1	MADE GROUND: (Dense) brown grey slightly silty sandy angular to sub-angular fine to coarse gravel of slag with some cobbles.
0.30-0.80	2	MADE GROUND: (Stiff/medium dense) dark green grey clayey sandy silt with a little angular fine to medium gravel of coal with a faint hydrocarbon odour.
0.80-1.10	3	(Medium dense/stiff) light brown clayey sandy SILT. (Glacial Deposit).
1.10-5.50	4	(Dense) orange brown sandy clayey very silty angular to sub-rounded fine to coarse GRAVEL of sandstone with some cobbles. (Glacial Sand and Gravel).
5.50	5	Sandstone BEDROCK.

Samples and Tests

Depth (m)	Type	Results
0.10	M	
0.60	M	
0.90	M	
0.90	ORG	
3.00	M	
5.00	N	
5.50	M	

Date of Excavation 19/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 83.43 m OD
Coordinates 318009.63 mE
189200.83 mN

Logged by PCB
Checked by

Remarks VOC monitored 0.60m (4ppm), 0.90m (15ppm), 3.00m (8ppm).

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

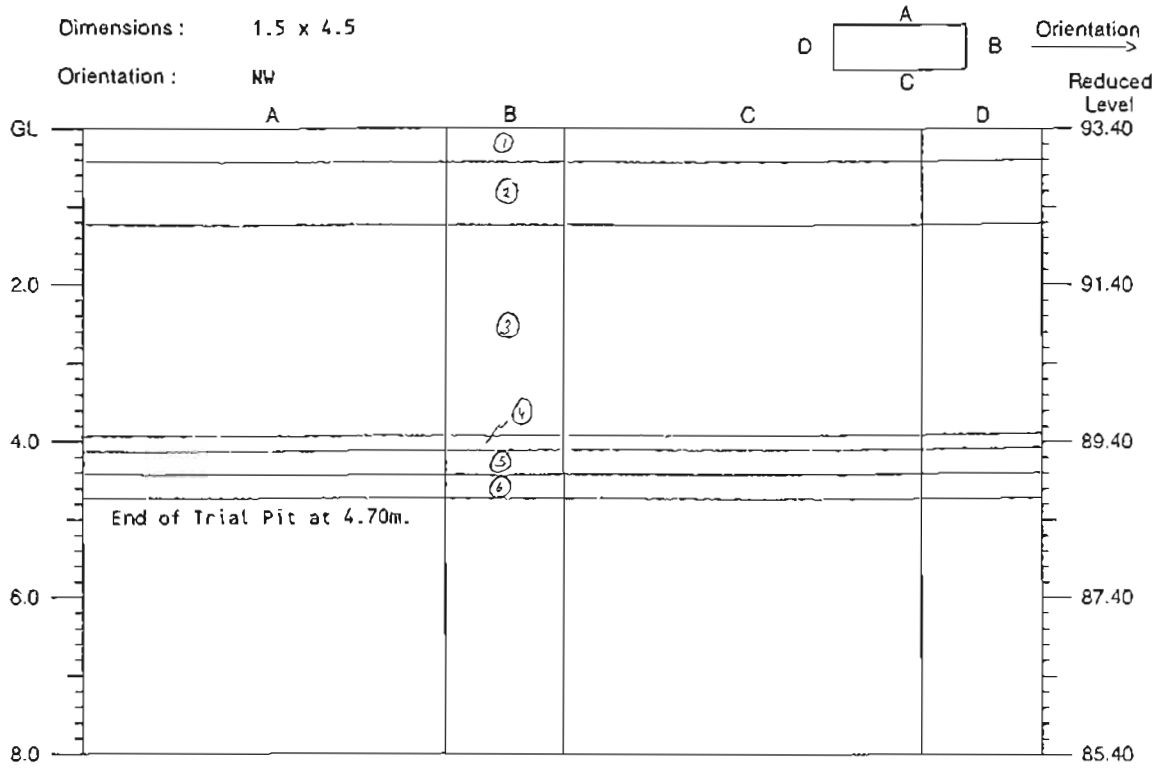
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP41

Dimensions : 1.5 x 4.5

Orientation : NW



Strata

Depth (m)	No.	Description
0.00-0.40	1	MADE GROUND: (Dense) light brown silty clayey sandy angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles.
0.40-1.20	2	MADE GROUND: (Medium dense) dark grey very sandy angular fine to coarse gravel of roughly textured clinker with some cobbles and rare boulders.
1.20-3.90	3	MADE GROUND: (Dense) brown and grey brown very silty very clayey fine to coarse sand with some sub-angular to sub-rounded fine to coarse gravel of sandstone with hydrocarbon staining and odour. (Glacial Sand and Gravel Reworked).
3.90-4.10	4	MADE GROUND: (Medium dense) dark grey black silty sandy angular to sub-angular fine to coarse gravel with some sand sized coal derived ash.
4.10-4.40	5	MADE GROUND: (Dense) brown and grey brown very silty very clayey fine to coarse sand with some sub-angular to sub-rounded fine to coarse gravel of sandstone with some cobbles.
4.40-4.70	6	MADE GROUND: (Dense) orange brown silty clayey very sandy angular to sub-rounded fine to coarse gravel of sandstone with some cobbles and rare boulders.
4.70	7	MADE GROUND: Possible concrete obstruction.

Samples and Tests

Depth (m)	Type	Results
0.70	M	
0.70	ORG	
2.60	M	
2.60	ORG	
4.00	M	
4.00	ORG	

Date of Excavation 05/01/96
Equipment Tracked Excavator
Stability Some spalling

Groundwater
No. Struck Behaviour
Seepage at 2.00m

Ground Level 93.40 m OD
Coordinates 317992.60 mE
189274.84 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

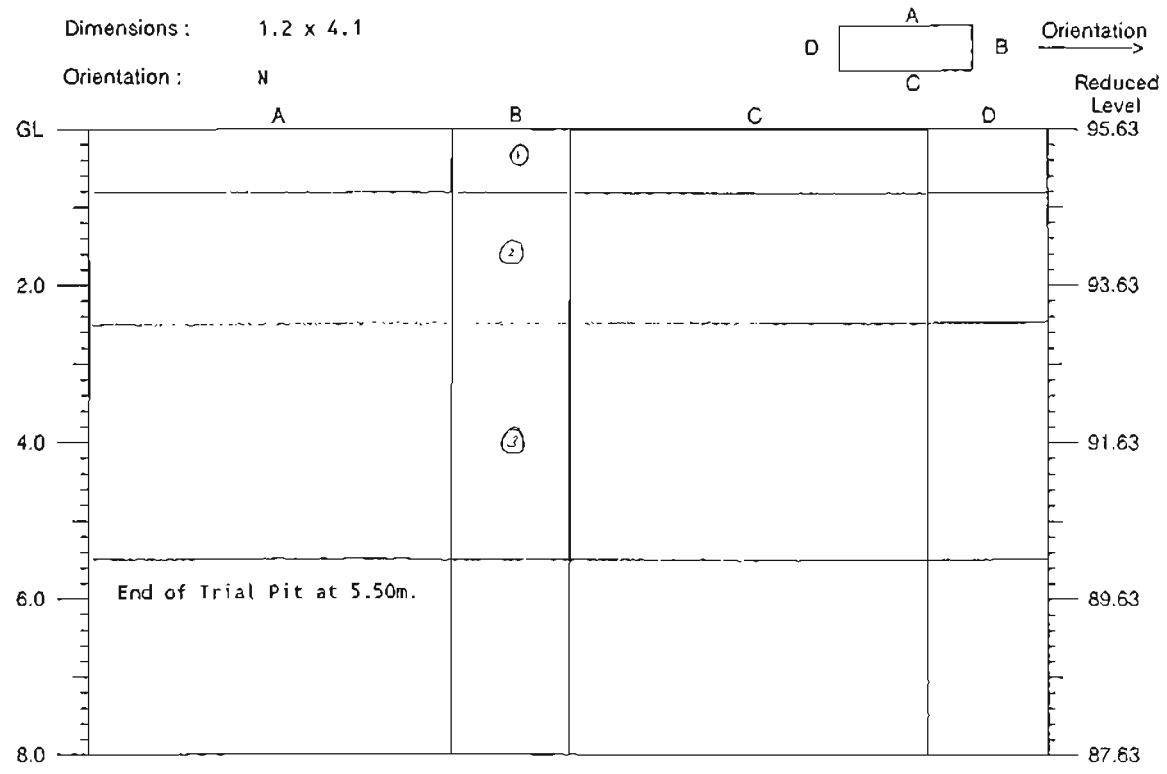
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP42

Dimensions : 1.2 x 4.1

Orientation : N



Strata

Depth (m)	No.	Description
0.00-0.80	1	MADE GROUND: (Dense) brown silty clayey sandy sub-angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles.
0.80-2.50	2	MADE GROUND: (Dense) dark grey silty very sandy angular to sub-angular fine to coarse gravel with some cobbles of brick and some boulders of concrete and a little sand sized ash.
2.50-5.50	3	(Dense) brown slightly clayey very silty very sandy sub-angular to sub-rounded fine to coarse GRAVEL of sandstone with some cobbles and occasional boulders.

Samples and Tests

Depth (m)	Type	Results
1.00	M	
1.00	ORG	
4.00	M	
4.00	ORG	
4.00	W	
5.50	M	
5.50	ORG	

Date of Excavation 04/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Seepage at 4.00m

Ground Level 95.63 m OD
Coordinates 318014.48 mE
189297.66 mN

Logged by PCB
Checked by

Remarks Made two attempts at TP43 both encountered shallow obstructions. Two moves and two set ups.

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

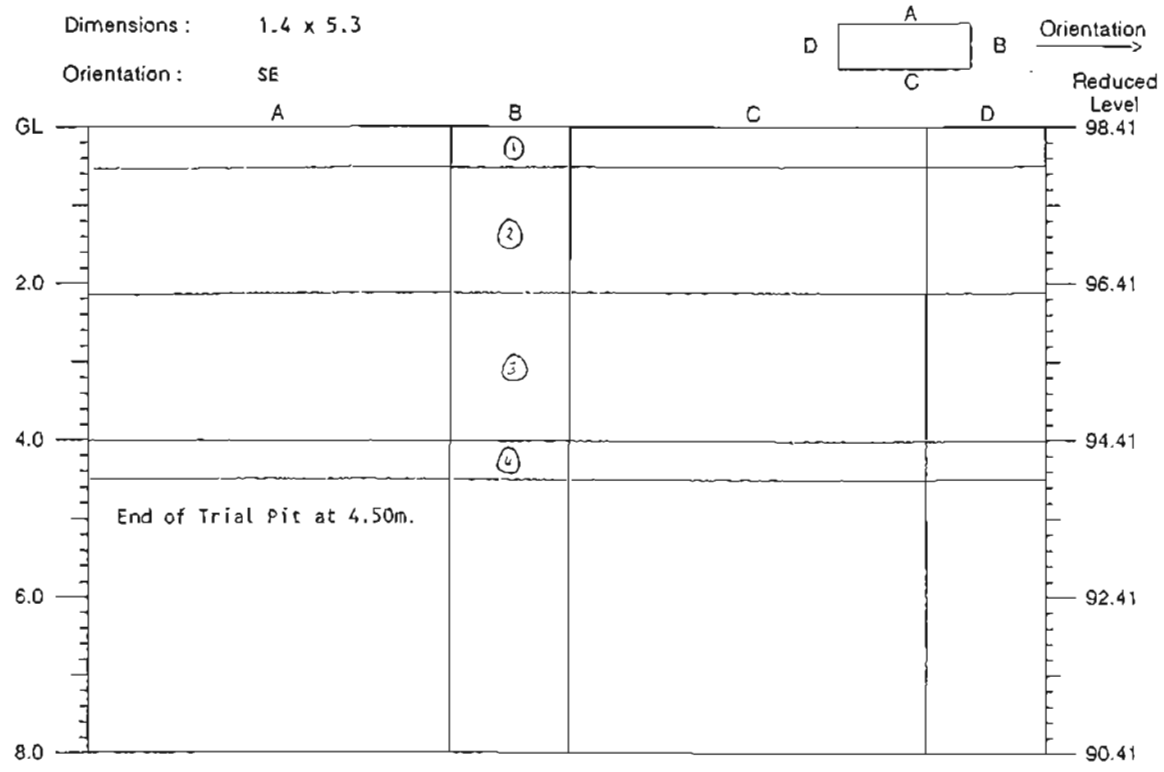
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP43

Dimensions : 1.4 x 5.3

Orientation : SE



Strata

Depth (m)	No.	Description
0.00-0.50	1	MADE GROUND: (Medium dense to dense) brown silty sandy clayey sub-angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles.
0.50-2.10	2	MADE GROUND: (Medium dense) dark grey black silty very sandy angular to sub-angular fine to coarse gravel with occasional cobbles, occasional boulders much sand sized ash and a hydrocarbon odour.
2.10-4.00	3	MADE GROUND: (Dense) brown grey silty very sandy sub-angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles.
4.00-4.50	4	MADE GROUND: (Loose) brown and dark grey silty fine to coarse sand with much tar and a strong hydrocarbon odour.

Samples and Tests

Depth (m)	Type	Results
1.20	M	
1.20	ORG	
1.50	ORG	
3.50	M	
3.50	ORG	
4.00	W	

Date of Excavation 04/01/96
Equipment Tracked Excavator
Stability Unstable below 4.00m

Groundwater

No.	Struck	Behaviour
		Seepages of tar at 1.40m and 4.00m

Ground Level 98.41 m OD
Coordinates 317997.07 mE
189314.84 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

Project

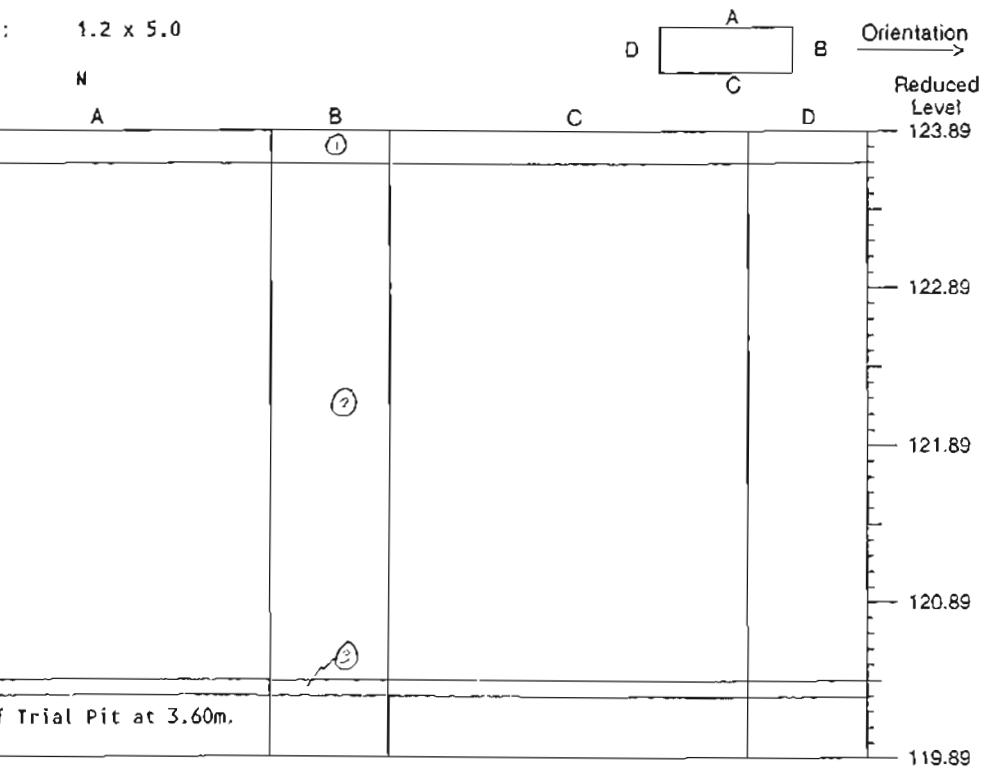
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP44

Dimensions : 1.2 x 5.0

Orientation : N



Strata

Depth (m)	No.	Description
0.00-0.20	1	MADE GROUND: (Medium dense) dark grey black silty very sandy angular to sub-angular fine to coarse gravel of coal and coke with much sand sized ash.
0.20-3.50	2	(Dense becoming very dense below 2.00m) slightly clayey very silty very sandy angular to sub-angular fine to coarse gravel of sandstone with some cobbles and occasional boulders.
3.50-3.60	3	(Very dense) slightly silty slightly sandy angular COBBLES and BOULDERS of sandstone. (Bedrock).

Samples and Tests

Depth (m)	Type	Results
1.20	M	
3.10	ORG	

Date of Excavation 11/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 123.89 m OD
Coordinates 317997.95 mE
189460.41 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

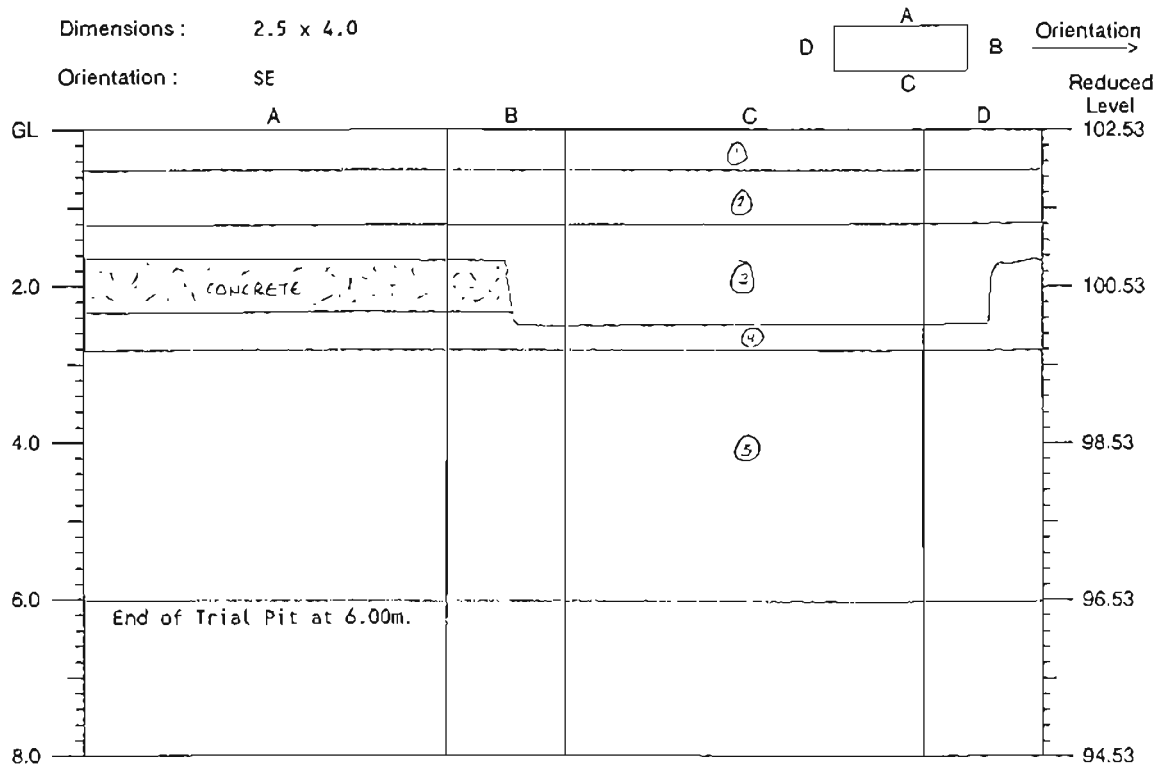
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP45

Dimensions : 2.5 x 4.0

Orientation : SE



Strata

Depth (m)	No.	Description
0.00-0.55	1	MADE GROUND: (Dense) brown silty very sandy very clayey angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles and occasional boulders.
0.55-1.20	2	MADE GROUND: (Medium dense to dense) brown grey silty sandy clayey organic angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles and occasional boulders.
1.20-2.50	3	MADE GROUND: (Medium dense to dense) dark grey black silty sandy clayey organic angular to sub-rounded fine to coarse gravel with occasional cobbles and occasional boulders with many pieces of timber, occasional bricks and much partly decomposing plant matter particularly at 1.20m.
2.50-2.80	4	Soft to firm orange brown grey brown sandy clayey SILT with a little angular to sub-rounded fine to coarse gravel of sandstone. (Glacial Deposit).
2.80-6.00	5	(Medium dense) orange brown silty clayey fine to medium SAND with some angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles. (Glacial Deposit). .... angular gravel of siltstone.

Samples and Tests

Depth (m)	Type	Results
1.20	M	
2.30	M	
2.30	ORG	
3.00	W	
3.10	M	
4.60	M	
4.60	ORG	
6.00	M	

Date of Excavation 03/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater

No.	Struck	Behaviour
1	2.20	Seepage from underneath concrete

Ground Level 102.53 m OD
Coordinates 318009.11 mE
189347.58 mN

Logged by PCB
Checked by

Remarks Trial pit widened due to obstruction at 1.80m.

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

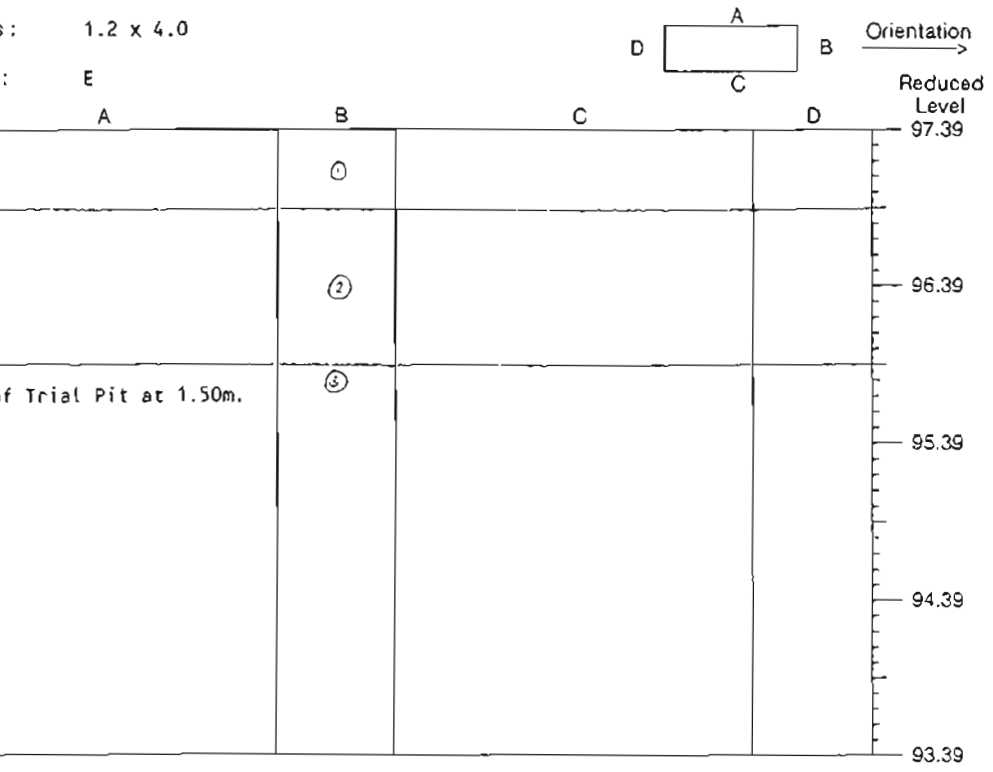
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP46

Dimensions : 1.2 x 4.0

Orientation : E



Strata

Depth (m)	No.	Description
0.00-0.50	1	MADE GROUND: (Medium dense) brown silty sandy clayey sub-angular to sub-rounded fine to coarse gravel with occasional cobbles.
0.50-1.50	2	MADE GROUND: (Dense) brown grey brown silty sandy clayey sub-angular to sub-rounded fine to coarse gravel with many cobbles, bricks and some boulders and a strong hydrocarbon odour.
1.50	3	MADE GROUND: Concrete platform.

Samples and Tests

Depth (m)	Type	Results

Date of Excavation 05/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Inflow at 1.40m

Ground Level 97.39 m OD
Coordinates 318022.60 mE
189317.20 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

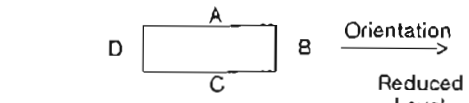
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

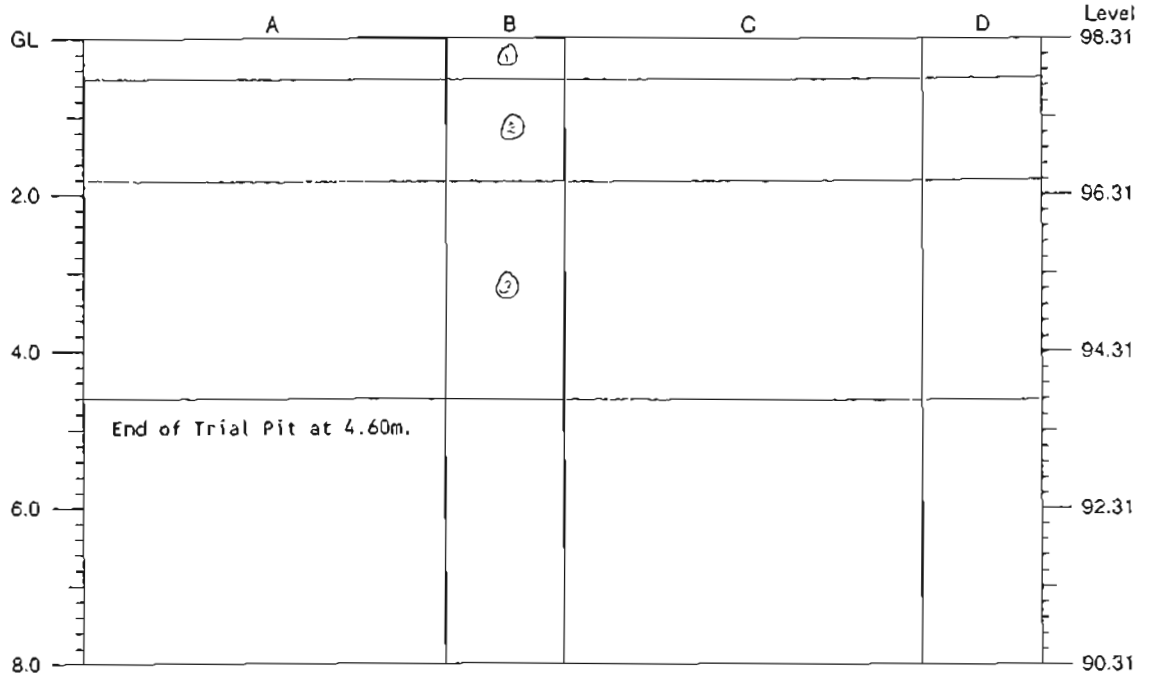
Contract 155218

Trial Pit TP47

Dimensions : 2.9 x 4.8

Orientation : S





Strata

Depth (m)	No.	Description
0.00-0.50	1	MADE GROUND: (Medium dense) orange brown silty sandy clayey angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles and many rootlets.
0.50-1.80	2	MADE GROUND: (Medium dense) dark grey silty very sandy angular to sub-angular fine to coarse gravel with much sand sized ash with some cobbles of brick.
1.80-4.60	3	MADE GROUND: (Medium dense) brown silty sandy clayey angular to sub-rounded fine to coarse gravel of sandstone with some cobbles and rare boulders and a slight hydrocarbon odour.

Samples and Tests

Depth (m)	Type	Results
1.10	M	
1.10	ORG	
3.40	W	
4.00	ORG	

Date of Excavation 05/01/96
Equipment Tracked Excavator
Stability Unstable

Groundwater
No. Struck Behaviour
Rapid inflow at 3.40m

Ground Level 98.31 m OD
Coordinates 318013.99 mE
189320.24 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

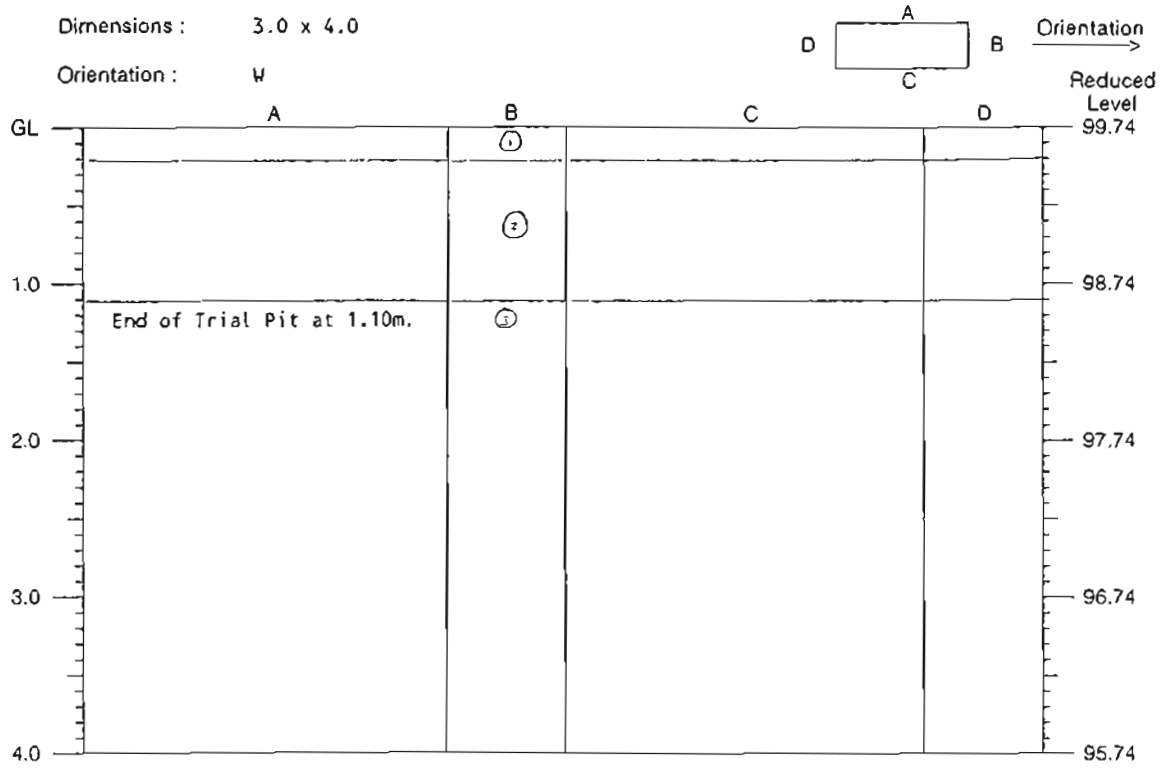
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP47A

Dimensions : 3.0 x 4.0

Orientation : W



Strata

Depth (m)	No.	Description
0.00-0.20	1	MADE GROUND: (Medium dense) brown silty sandy clayey angular to sub-rounded fine to coarse gravel with occasional cobbles.
0.20-1.10	2	MADE GROUND: (Medium dense) dark grey silty fine to coarse sand with a little angular to sub-angular fine to coarse gravel with many cobbles of brick and occasional boulders and a strong hydrocarbon odour and some sand sized ash.
1.10	3	MADE GROUND: Metal sheeting.

Samples and Tests

Depth (m)	Type	Results

Date of Excavation 05/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 99.74 m OD
Coordinates 318028.11 mE
189333.65 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

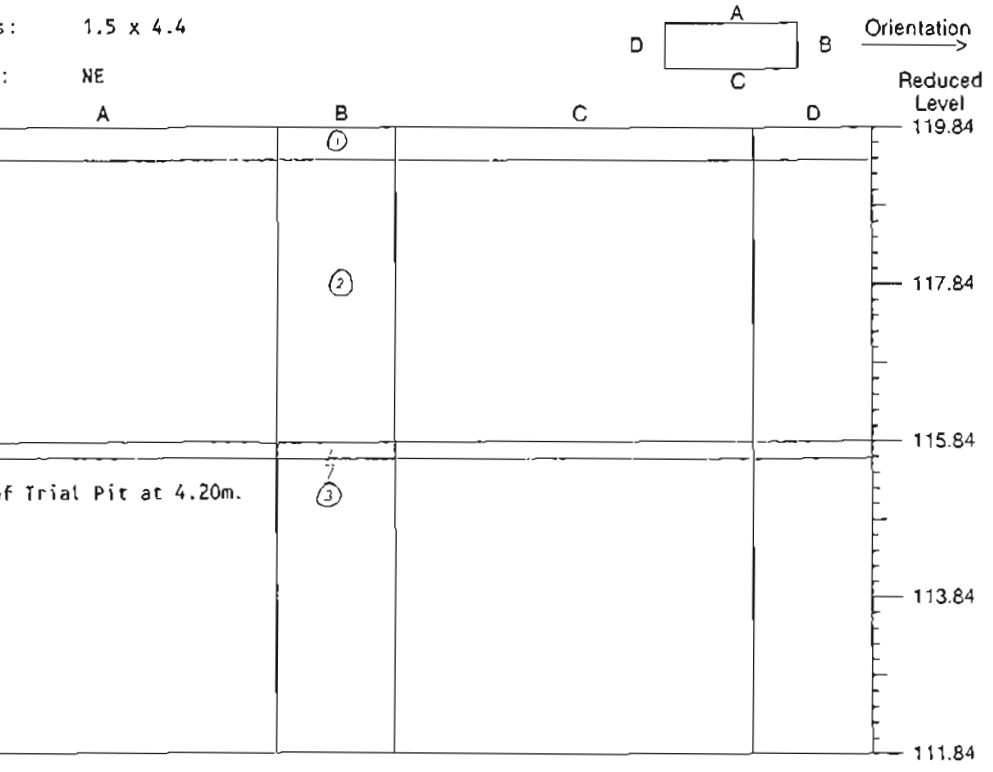
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP48

Dimensions : 1.5 x 4.4

Orientation : NE



Strata

Depth (m)	No.	Description
0.00-0.40	1	MADE GROUND: (Medium dense) brown silty sandy clayey angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles.
0.40-4.00	2	(Dense) light brown with some red brown iron staining very silty very sandy angular to sub-angular fine to coarse gravel of sandstone with many cobbles and occasional boulders. .... becoming very dense below 3.00m.
4.00-4.20	3	(Very dense) light brown slightly silty slightly sandy angular COBBLES and BOULDERS of sandstone. (Bedrock).

Samples and Tests

Depth (m)	Type	Results
1.50	M	
3.50	ORG	
4.20	M	

Date of Excavation 11/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 119.84 m OD
Coordinates 318004.84 mE
189437.94 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

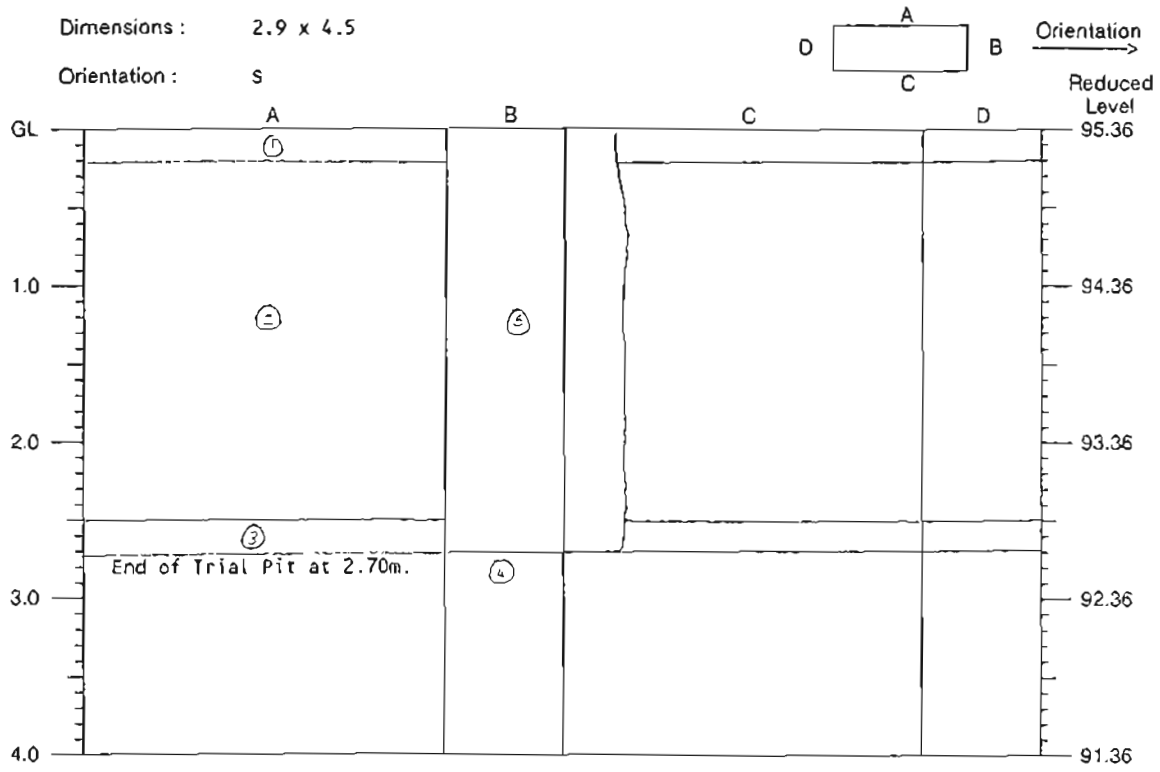
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP49

Dimensions : 2.9 x 4.5

Orientation : S



Strata

Depth (m)	No.	Description
0.00-0.20	1	MADE GROUND: (Medium dense) brown silty sandy clayey angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles.
0.20-2.50	2	MADE GROUND: (Medium dense) black silty very sandy angular to sub-angular fine to coarse gravel with some cobbles and boulders, much sand sized ash a hydrocarbon odour and two large tyres and some rubber cable.
2.50-2.70	3	MADE GROUND: (Medium dense) green brown grey silty fine to coarse sand with some sub-angular to sub-rounded fine to coarse gravel.
2.70	4	MADE GROUND: Concrete platform.
0.00-2.70	5	MADE GROUND: Concrete wall.

Samples and Tests

Depth (m)	Type	Results
0.80	M	
0.80	ORG	

Date of Excavation 05/01/96
Equipment Tracked Excavator
Stability Unstable

Groundwater

No.	Struck	Behaviour
		Slight seepage at 0.50m

Ground Level 95.36 m OD
Coordinates 318032.67 mE
189302.08 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

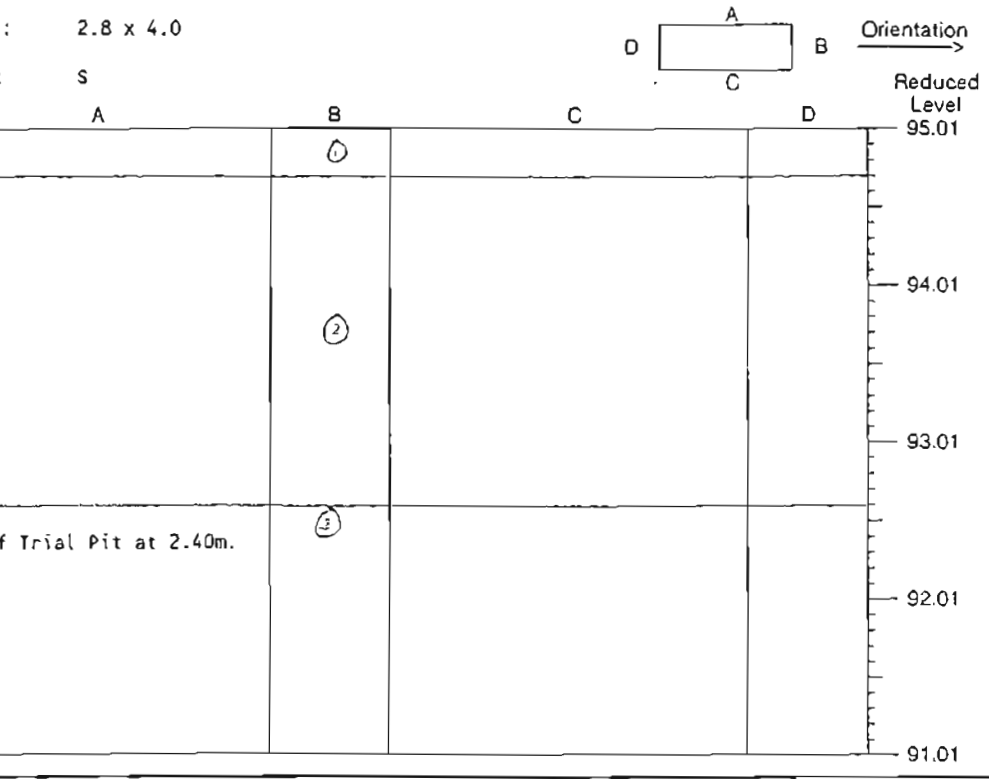
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP50

Dimensions : 2.8 x 4.0

Orientation : S



Strata

Depth (m)	No.	Description
0.00-0.30	1	MADE GROUND: (Medium dense) brown silty sandy clayey angular to sub-rounded fine to coarse gravel of sandstone with some cobbles.
0.30-2.40	2	MADE GROUND: (Medium dense) black silty sandy angular to sub-angular fine to coarse gravel with some cobbles, boulders, rubber tyres, metal pipes, sand sized ash and a strong hydrocarbon odour.
2.40	3	MADE GROUND: Concrete platform.

Samples and Tests

Depth (m)	Type	Results
1.60	W	
1.60	ORG	

Date of Excavation 08/01/96
Equipment Tracked Excavator
Stability Unstable

Groundwater
No. Struck Behaviour
Rapid inflow at 1.60m

Ground Level 95.01 m OD
Coordinates 318043.71 mE
189300.42 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

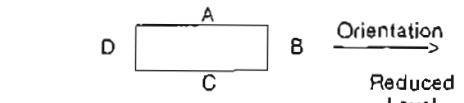
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

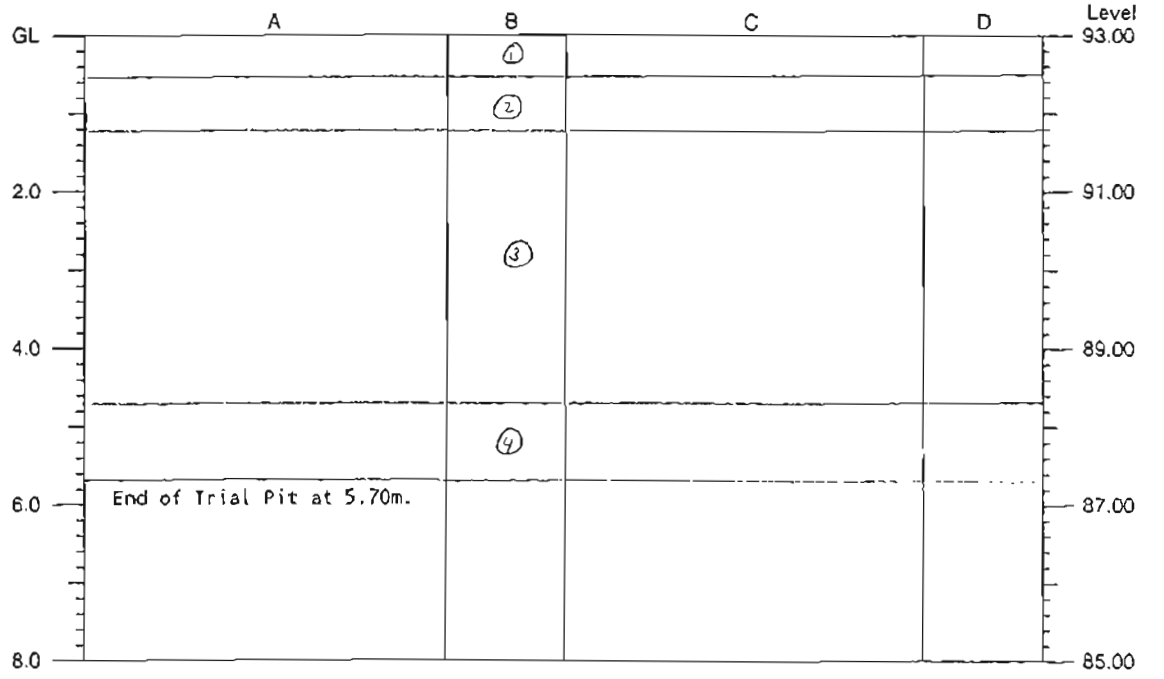
Contract 155218

Trial Pit TP50A

Dimensions : 1.6 x 5.4

Orientation : S





Strata

Depth (m)	No.	Description
0.00-0.50	1	MADE GROUND: (Medium dense to dense) silty sandy angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles.
0.50-1.20	2	MADE GROUND: (Medium dense) dark grey black silty fine to coarse sand with some angular to sub-angular fine to coarse gravel with much sand sized ash.
1.20-4.70	3	MADE GROUND: (Medium dense to dense) grey brown and dark grey silty clayey sandy angular to sub-rounded fine to coarse gravel with some cobbles occasional boulders and some sand sized ash.
4.70-5.70	4	MADE GROUND: (Dense) grey brown silty clayey very sandy sub-angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles.

Samples and Tests

Depth (m)	Type	Results
0.70	M	
0.70	ORG	
4.10	M	
4.10	ORG	
5.70	M	
5.70	ORG	

Date of Excavation 09/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Seepage at 3.30m

Ground Level 93.00 m OD
Coordinates 318025.07 mE
189271.35 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

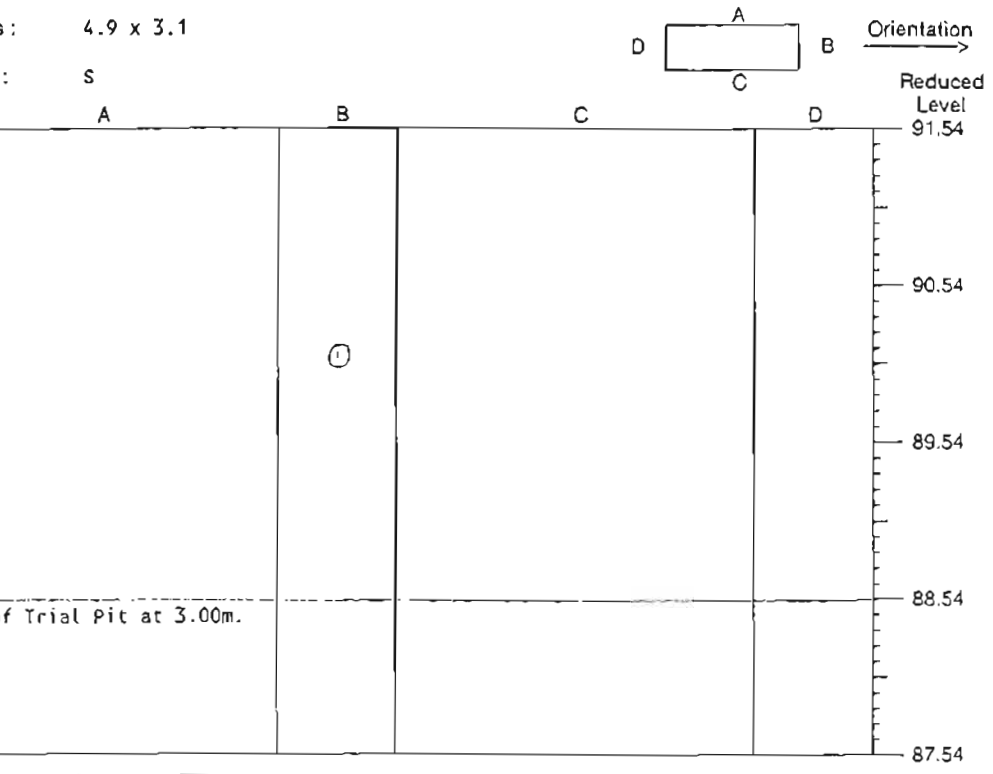
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP51

Dimensions : 4.9 x 3.1

Orientation : S



Strata

Depth (m)	No.	Description
0.00-3.00	1	MADE GROUND: (Medium dense) dark grey silty sandy ashy angular fine to coarse gravel of mudstone and coal with some angular cobbles and boulders of mudstone. .... with a soft brown silty sandy clay layer between 1.60m and 1.75m. .... with many angular boulders of mudstone below 2.50m.

Samples and Tests

Depth (m)	Type	Results
0.10	M	
1.50	M	
1.50	ORG	
3.00	M	

Date of Excavation 19/01/96
Equipment Tracked Excavator
Stability Much spalling

Groundwater

No.	Struck	Behaviour
		Not encountered during excavation

Ground Level 91.54 m OD
Coordinates 318040.08 mE
189245.22 mN

Logged by PCB
Checked by

Remarks VOC monitored at 1.50m (0ppm). Trial pit terminated due to continuous spalling and undermine of pit sides.

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

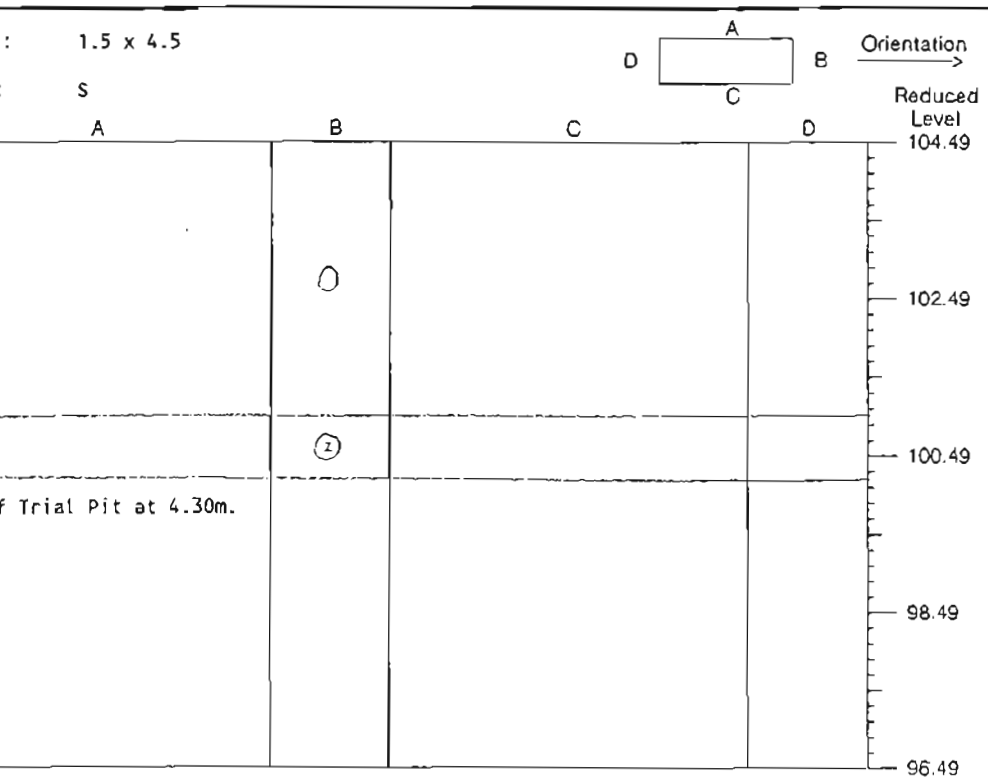
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP52

Dimensions : 1.5 x 4.5

Orientation : S



Strata

Depth (m)	No.	Description
0.00-3.50	1	MADE GROUND: (Medium dense to dense) brown silty clayey sandy sub-angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles. .... becoming stained dark grey black with a strong hydrocarbon odour between 3.20m and 3.50m.
3.50-4.30	2	(Medium dense to dense) light grey very silty very sandy sub-angular to sub-rounded fine to coarse gravel of sandstone with some cobbles and rare boulders. (Glacial Sand and Gravel).

Samples and Tests

Depth (m)	Type	Results
2.00	M	
2.00	ORG	
3.50	M	
3.50	ORG	
4.30	M	
4.30	ORG	

Date of Excavation 10/01/96
Equipment Tracked Excavator
Stability Unstable

Groundwater
No. Struck Behaviour
Inflow at 3.00m

Ground Level 104.49 m OD
Coordinates 318040.08 mE
189360.92 mN

Logged by PCB
Checked by

Remarks VOC monitored at 3.50m (30ppm).

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

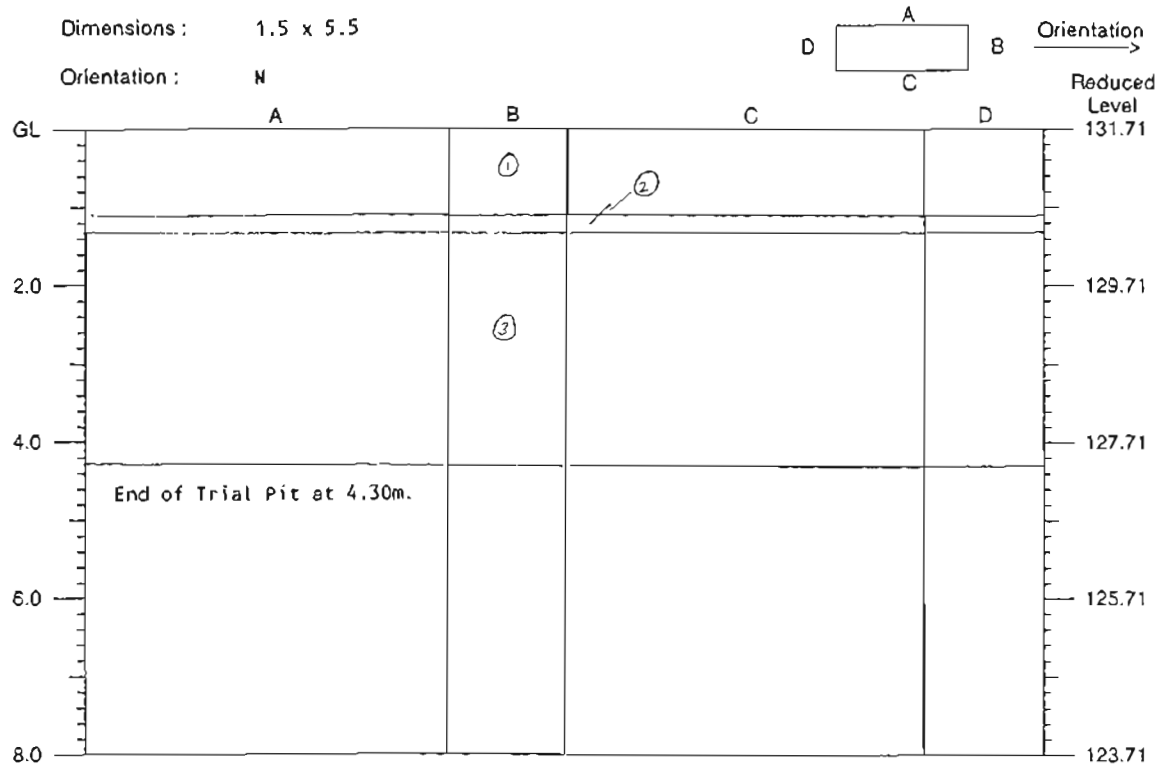
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP53

Dimensions : 1.5 x 5.5

Orientation : N



Strata

Depth (m)	No.	Description
0.00-1.10	1	MADE GROUND: (Medium dense) grey slightly clayey silty sandy angular fine to coarse gravel of mudstone (Coal Measures) with some cobbles and some sand sized coal derived ash. (Colliery Spoil).
1.10-1.30	2	(Firm) grey brown slightly clayey slightly sandy very organic SILT with maby partly decomposed rootlets. (Original buried surface).
1.30-4.30	3	(Dense) orange brown to light brown very silty very sandy angular fine to coarse GRAVEL of sandstone with some cobbles and rare boulders. (Glacial Sand and Gravel). .... with many angular boulders of sandstone below 4.00m. (Possible Bedrock).

Samples and Tests

Depth (m)	Type	Results
1.00	M	
1.00	ORG	
2.60	M	
2.60	ORG	
4.30	M	
4.30	ORG	

Date of Excavation 11/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 131.71 m OD
Coordinates 318046.98 mE
189490.78 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

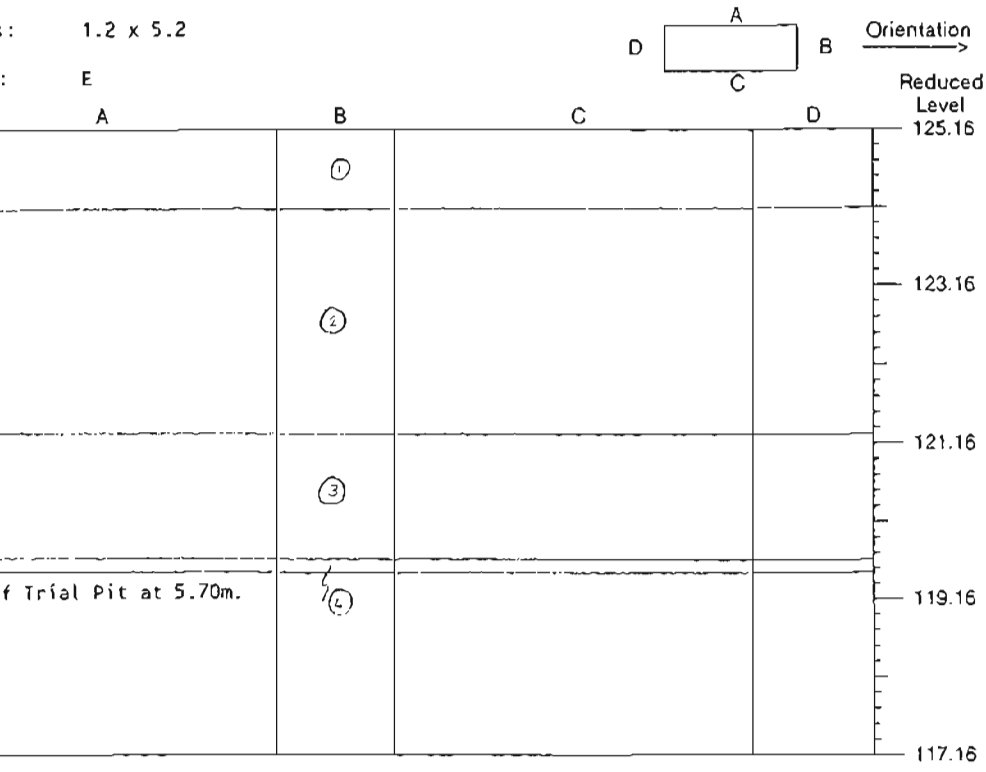
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP54

Dimensions : 1.2 x 5.2

Orientation : E



Strata

Depth (m)	No.	Description
0.00-1.00	1	MADE GROUND: (Medium dense) dark grey silty very sandy angular to sub-angular fine to coarse gravel with occasional cobbles rare bricks and some sand sized ash.
1.00-3.90	2	MADE GROUND: (Medium dense) brown grey slightly clayey very silty fine to coarse sand with much sub-angular fine to coarse gravel of sandstone with some cobbles, occasional bricks and rare pieces of metal pipe.
3.90-5.50	3	MADE GROUND: (Loose to medium dense) dark grey black silty very sandy angular to sub-angular fine to medium gravel of coal and coke with much sand sized ash. .... large piece of timber at 4.40m.
5.50-5.70	4	(Medium dense) light brown slightly clayey very silty very sandy angular to sub-angular to sub-rounded fine to coarse gravel of SANDSTONE. (Glacial Sand and Gravel).

Samples and Tests

Depth (m)	Type	Results
1.20	M	
1.20	ORG	
2.80	ORG	
4.00	M	
5.70	M	
5.70	ORG	

Date of Excavation 11/01/96
Equipment Tracked Excavator
Stability Unstable

Groundwater
No. Struck Behaviour
Slight seepage at 1.20m

Ground Level 125.16 m OD
Coordinates 318047.24 mE
189443.09 mN

Logged by PCB
Checked by

Remarks VOC monitored at 1.20m (25ppm), 2.80m (15ppm), 4.00m (8ppm), 5.70m (8ppm).

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

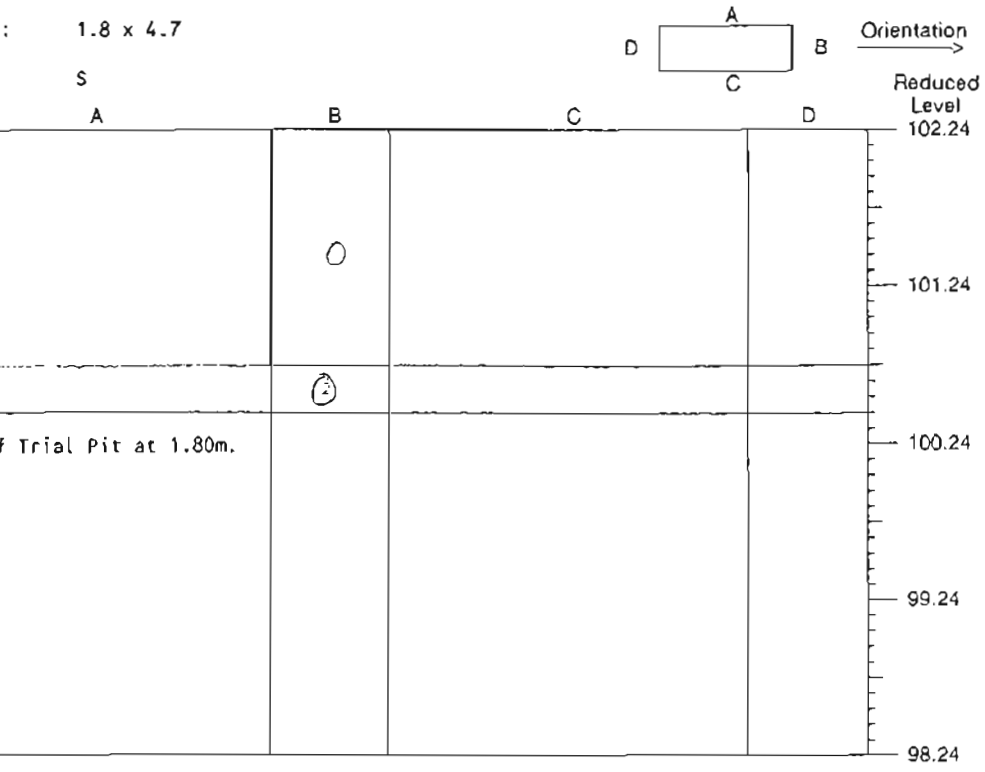
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP55

Dimensions : 1.8 x 4.7

Orientation : S



Strata

Depth (m)	No.	Description
0.00-1.50	1	MADE GROUND: (Dense) brown clayey silty sandy sub-angular to sub-rounded fine to coarse gravel of sandstone with some cobbles occasional boulders. .... timber sleeper at 1.70m.
1.50-1.80	2	MADE GROUND: (Dense) dark brown and grey silty clayey angular to sub-angular fine to coarse gravel with occasional cobbles and rare boulders and occasional bricks.
1.80	3	MADE GROUND: Concrete obstruction with some bricks.

Samples and Tests

Depth (m)	Type	Results

Date of Excavation 08/01/96
Equipment Tracked Excavator
Stability Some spalling

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 102.24 m OD
Coordinates 318061.43 mE
189346.04 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

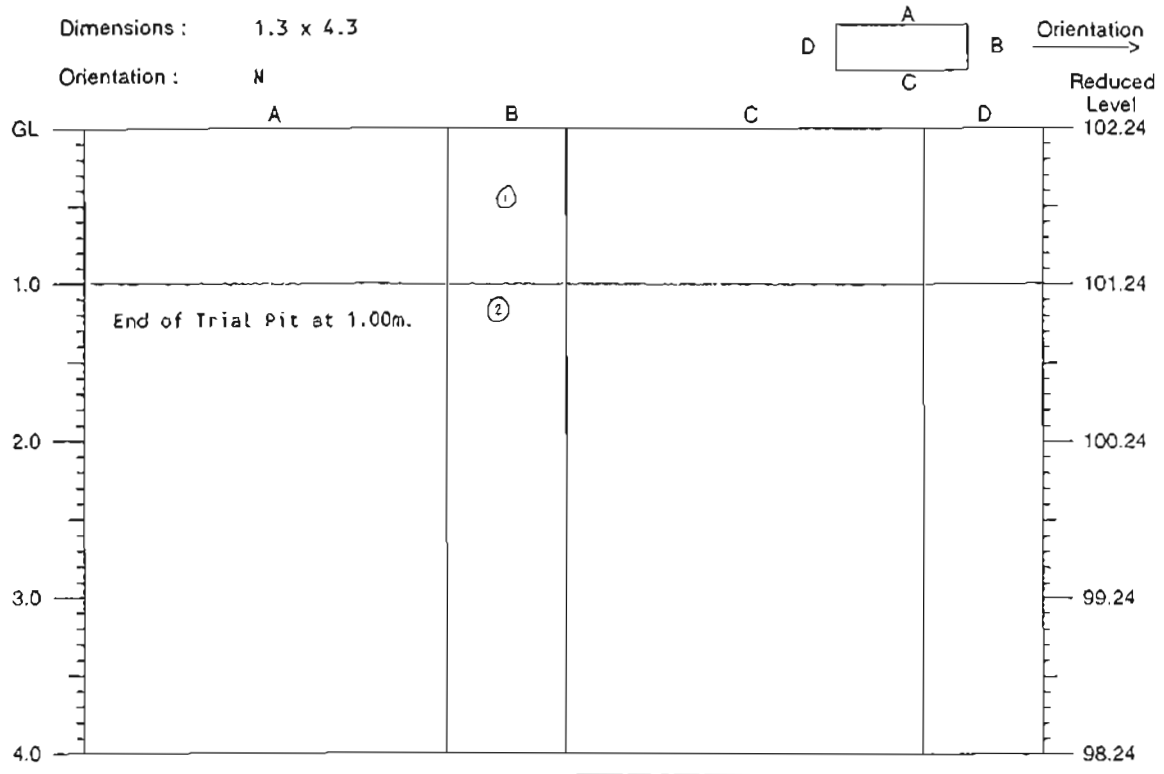
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP56

Dimensions : 1.3 x 4.3

Orientation : N



Strata

Depth (m)	No.	Description
0.00-1.00	1	MADE GROUND: (Medium dense to dense) brown silty clayey sandy angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles rare boulders and some bricks.
1.00	2	MADE GROUND: Concrete platform.

Samples and Tests

Depth (m)	Type	Results

Date of Excavation 08/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 102.24 m OD
Coordinates 318061.43 mE
189346.04 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

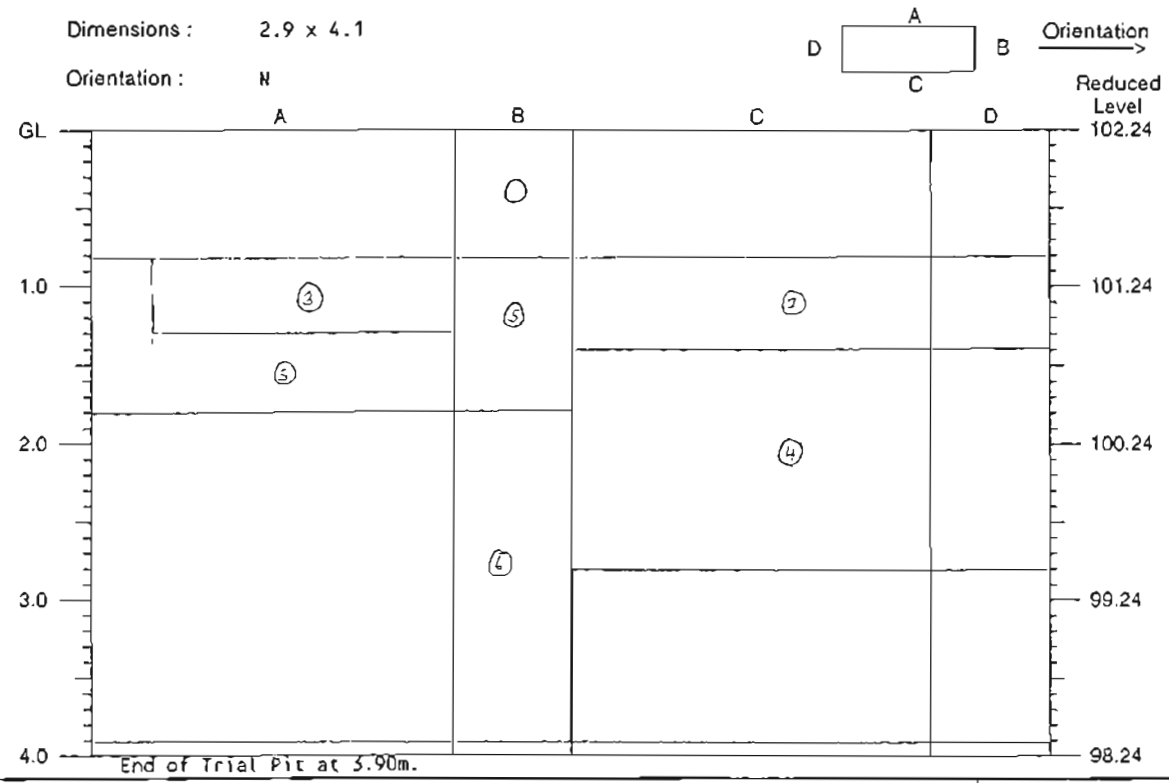
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP56A

Dimensions : 2.9 x 4.1

Orientation : N



Strata

Depth (m)	No.	Description
0.00-0.80	1	MADE GROUND: (Medium dense to dense) brown silty clayey sandy sub-angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles and rare boulders.
0.80-2.10	2	MADE GROUND: (Medium dense to dense) brown silty clayey very sandy sub-angular to sub-rounded fine to coarse gravel with occasional cobbles, bricks and rare boulders.
0.80-1.30	3	MADE GROUND: Corrugated metal sheet.
1.40-2.80	4	MADE GROUND: Brick wall.
0.80-1.80	5	MADE GROUND: (Dense) red brown angular cobbles of brick with a matrix of silty sandy gravelly ash.
2.10-3.90	6	MADE GROUND: (Dense) brown grey angular cobbles and boulders of sandstone with a silty sandy very gravelly matrix and a strong diesel odour.

Samples and Tests

Depth (m)	Type	Results
1.70	M	
1.70	ORG	
2.90	M	
2.90	ORG	
3.70	W	
3.90	M	
3.90	ORG	

Date of Excavation 10/01/96
Equipment Tracked Excavator
Stability Some spalling

Groundwater
No. Struck Behaviour
Rapid inflow at 3.70m

Ground Level 102.24 m OD
Coordinates 318061.43 mE
189346.04 mN

Logged by PCB
Checked by

Remarks VOC monitored at 2.90m (80ppm), 3.90m (75ppm). Pit excavated to 1.00m tiled platform encountered. Corner of tiled platform lifted so excavation could continue.

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

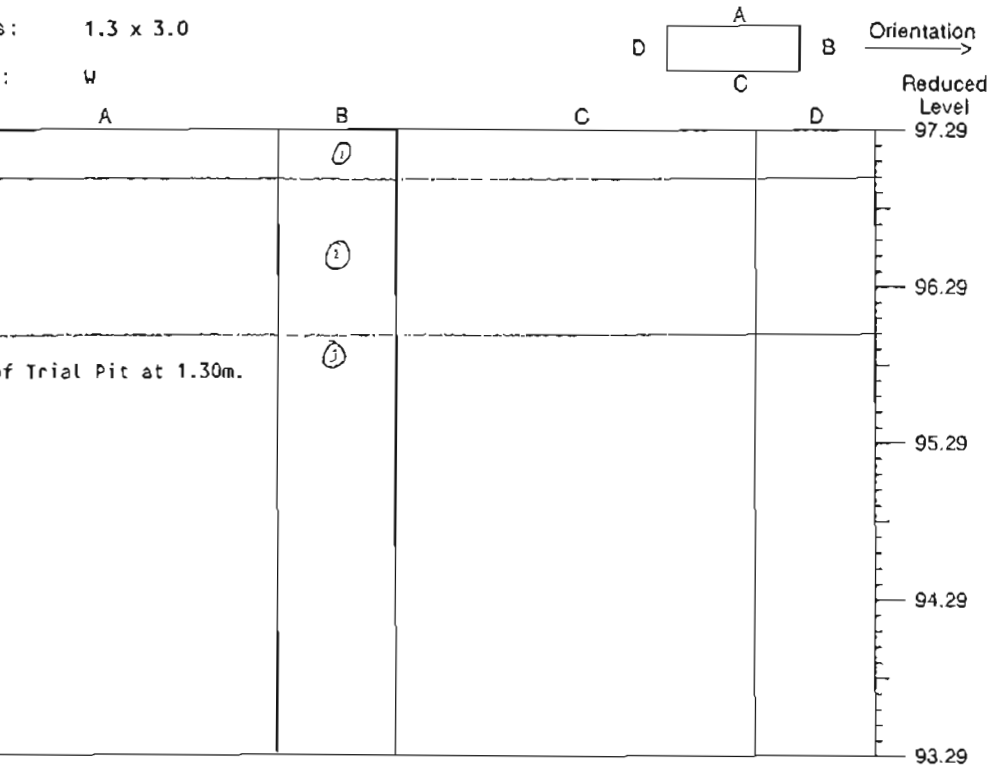
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP56B

Dimensions : 1.3 x 3.0

Orientation : W



Strata

Depth (m)	No.	Description
0.00-0.30	1	MADE GROUND: (Medium dense) brown silty sandy clayey sub-angular to sub-rounded fine to coarse gravel with occasional cobbles and rootlets.
0.30-1.30	2	MADE GROUND: (Medium dense) dark grey black very silty very sandy angular to sub-angular fine to coarse gravel with some cobbles, occasional boulders, many pieces of timber and a strong hydrocarbon odour.
1.30	3	MADE GROUND: Concrete platform.

Samples and Tests

Depth (m)	Type	Results
1.00	M	
1.00	ORG	

Date of Excavation 05/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater

No.	Struck	Behaviour
		Not encountered during excavation

Ground Level 97.29 m OD
Coordinates 318058.46 mE
189323.18 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

Project

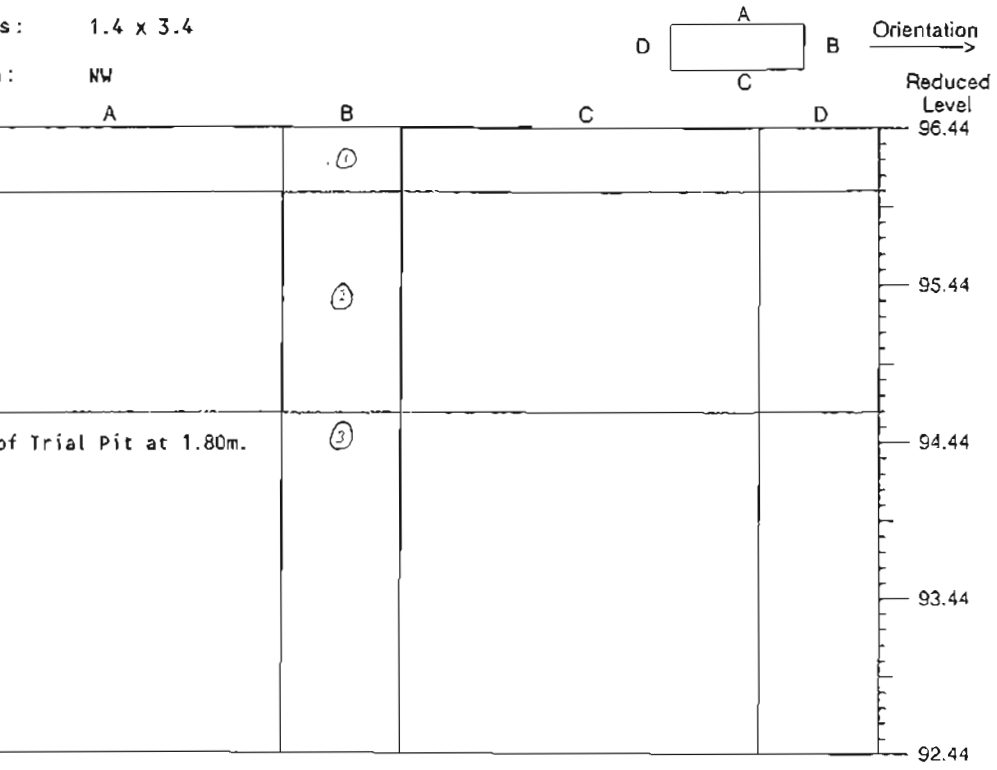
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP57

Dimensions : 1.4 x 3.4

Orientation : NW



Strata			Samples and Tests		
Depth (m)	No.	Description	Depth (m)	Type	Results
0.00-0.40	1	MADE GROUND: (Medium dense) brown silty sandy clayey angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles.			
0.40-1.80	2	MADE GROUND: (Dense) dark grey sandy ashy angular to sub-angular fine to coarse gravel with many cobbles of brick occasional boulders of concrete stained with hydrocarbon and a strong hydrocarbon odour.	1.20 1.20 1.60	M ORG W	
0.40-1.80	3	MADE GROUND: Concrete.			

Date of Excavation 05/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 96.44 m OD
Coordinates 318062.81 mE
189313.22 mN

Logged by PCB
Checked by

Remarks First set up encountered obstruction at 0.30m.

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

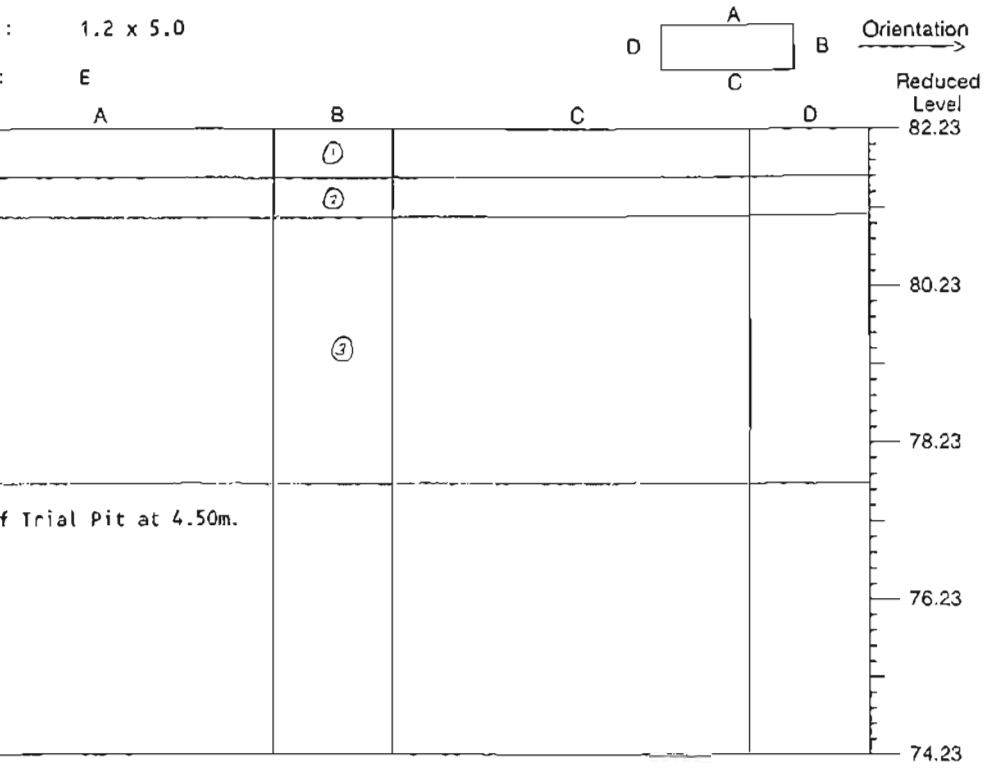
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP58

Dimensions : 1.2 x 5.0

Orientation : E



Strata

Depth (m)	No.	Description
0.00-0.60	1	MADE GROUND: (Dense) grey silty sandy ashy angular to sub-angular fine to coarse gravel of coal and mudstone with occasional cobbles occasional bricks.
0.60-1.10	2	MADE GROUND: (Stiff/medium dense) light brown slightly clayey sandy silt with a little angular to sub-angular fine to coarse gravel and occasional cobbles with a slight hydrocarbon odour.
1.10-4.50	3	MADE GROUND: (Dense) brown slightly clayey silty very sandy angular to sub-rounded fine to coarse gravel of sandstone with some cobbles and rare boulders. .... with fragments of coal, ash and mudstone below 2.00m. .... with many angular cobbles of sandstone at 4.50m. (Bedrock). .... possible natural ground at 2.50m.

Samples and Tests

Depth (m)	Type	Results
0.10	M	
0.60	M	
0.60	ORG	
3.00	M	
4.50	M	

Date of Excavation 19/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Slight seepage at 2.00m.

Ground Level 82.23 m OD
Coordinates 318065.90 mE
189197.63 mN

Logged by PCB
Checked by

Remarks VOC monitored at 0.60m (3ppm), 4.50m (2ppm).

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

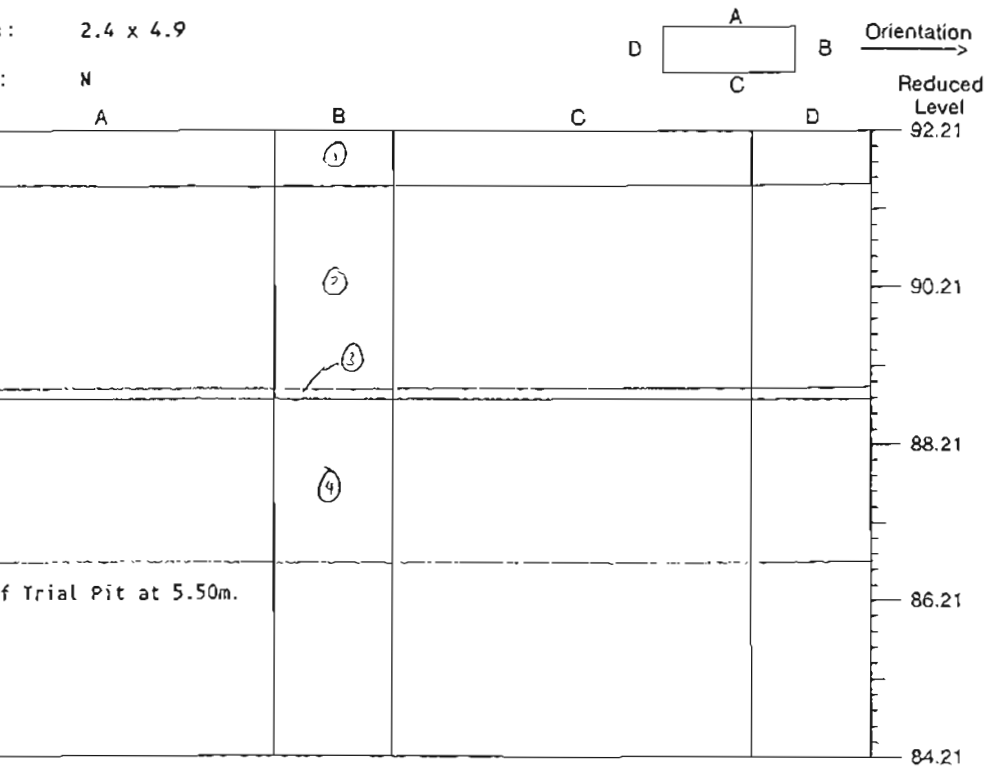
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP59

Dimensions : 2.4 x 4.9

Orientation : N



Strata

Depth (m)	No.	Description
0.00-0.70	1	MADE GROUND: (Medium dense to dense) brown silty clayey sandy sub-angular to sub-rounded fine to coarse gravel of sandstone with some cobbles, rare boulders and occasional brick fragments.
0.70-3.30	2	MADE GROUND: (Medium dense to dense) dark grey sandy angular fine to coarse gravel with many cobbles of sandstone occasional boulders with occasional pockets of orange brown silty gravelly very sandy clay and pockets of colliery spoil and ash.
3.30-3.40	3	MADE GROUND: (Medium dense) pinkish brown silty sandy angular to sub-angular fine to coarse gravel of clinker with a hydrocarbon odour.
3.40-5.50	4	MADE GROUND: (Medium dense) brown grey brown and orange brown silty fine to coarse sand with a little sub-angular to sub-rounded fine to coarse gravel of sandstone and occasional cobbles.

Samples and Tests

Depth (m)	Type	Results
1.20	M	
2.90	M	
2.90	ORG	
3.40	M	
3.40	ORG	
5.50	M	
5.50	ORG	

Date of Excavation 09/01/96
Equipment Tracked Excavator
Stability Unstable

Groundwater
No. Struck Behaviour
Slight seepage at 3.40m

Ground Level 92.21 m OD
Coordinates 318062.50 mE
189259.48 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

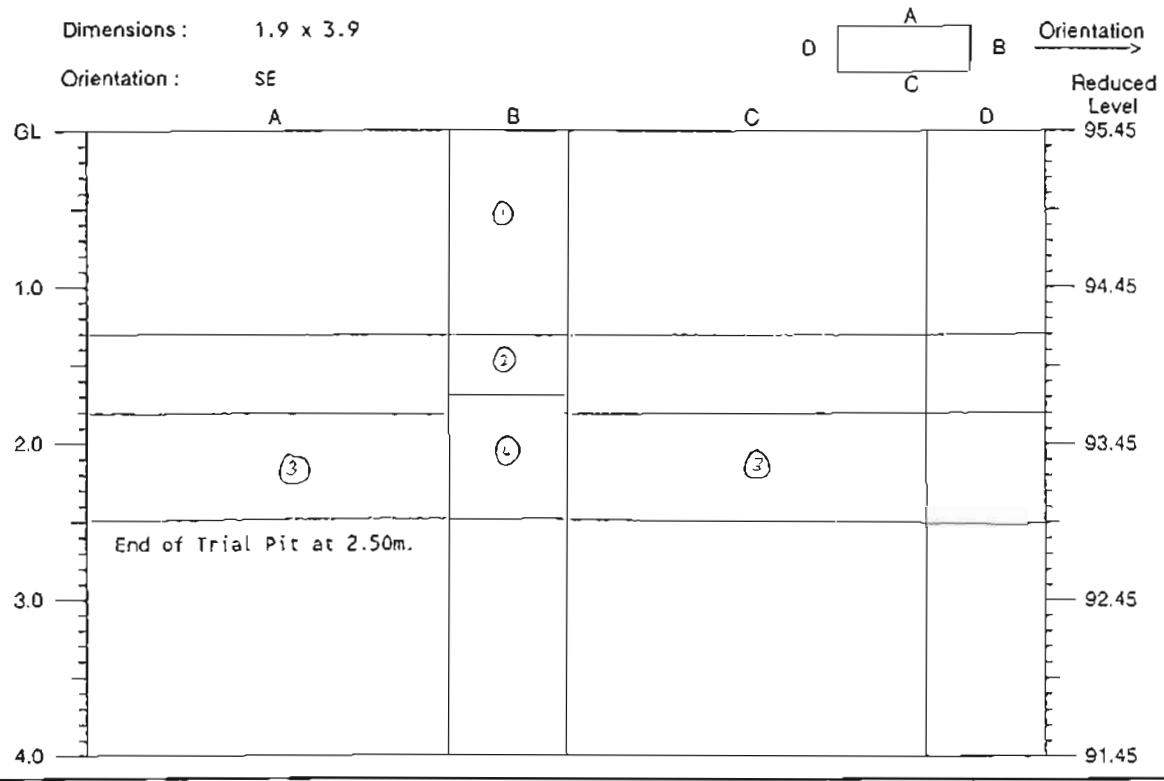
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP60

Dimensions : 1.9 x 3.9

Orientation : SE



Strata

Depth (m)	No.	Description
0.00-1.30	1	MADE GROUND: (Medium dense to dense) brown silty sandy clayey angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles some boulders.
1.30-1.80	2	MADE GROUND: (Dense) dark grey black very silty fine to medium sand with some angular to sub-angular fine to coarse gravel with much sand sized ash.
1.80-2.50	3	MADE GROUND: (Dense) dark grey black silty sandy angular to sub-angular fine to coarse gravel with many cobbles and some boulders and a strong hydrocarbon odour.
1.70-2.50	4	MADE GROUND: Brickwall.

Samples and Tests

Depth (m)	Type	Results
1.30	M	
1.30	ORG	
2.30	M	
2.30	ORG	

Date of Excavation 08/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Rapid inflow at 2.50m

Ground Level 95.45 m OD
Coordinates 318072.47 mE
189302.56 mN

Logged by PCB
Checked by

Remarks VOC monitored at 2.50m (80ppm), H2S (0ppm).

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

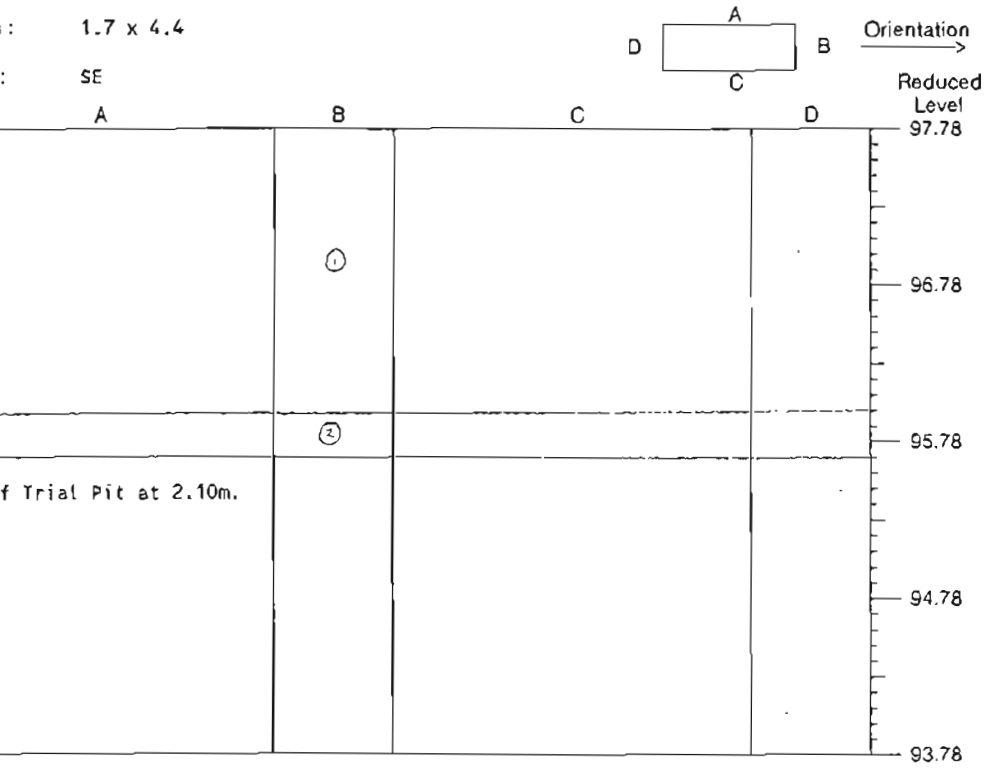
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP61

Dimensions : 1.7 x 4.4

Orientation : SE



Strata

Depth (m)	No.	Description
0.00-1.80	1	MADE GROUND: (Medium dense to dense) dark brown silty clayey sandy angular to sub-rounded fine to coarse gravel with some cobbles of brick and occasional boulders of concrete.
1.80-2.10	2	MADE GROUND: (Medium dense to dense) brown and dark brown silty sandy very clayey angular fine to coarse gravel with some cobbles of brick, occasional boulders some sand sized ash and a strong hydrocarbon odour.

Samples and Tests

Depth (m)	Type	Results
1.80	M	
1.80	ORG	
2.10	ORG	

Date of Excavation 08/01/96
Equipment Tracked Excavator
Stability Unstable

Groundwater
No. Struck Behaviour
Inflow at 2.10m (upwelling)

Ground Level 97.78 m OD
Coordinates 318079.10 mE
189320.41 mN

Logged by PCB
Checked by

Remarks VOC monitored at 2.10m (1ppm), spoil (1ppm) H2S.

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

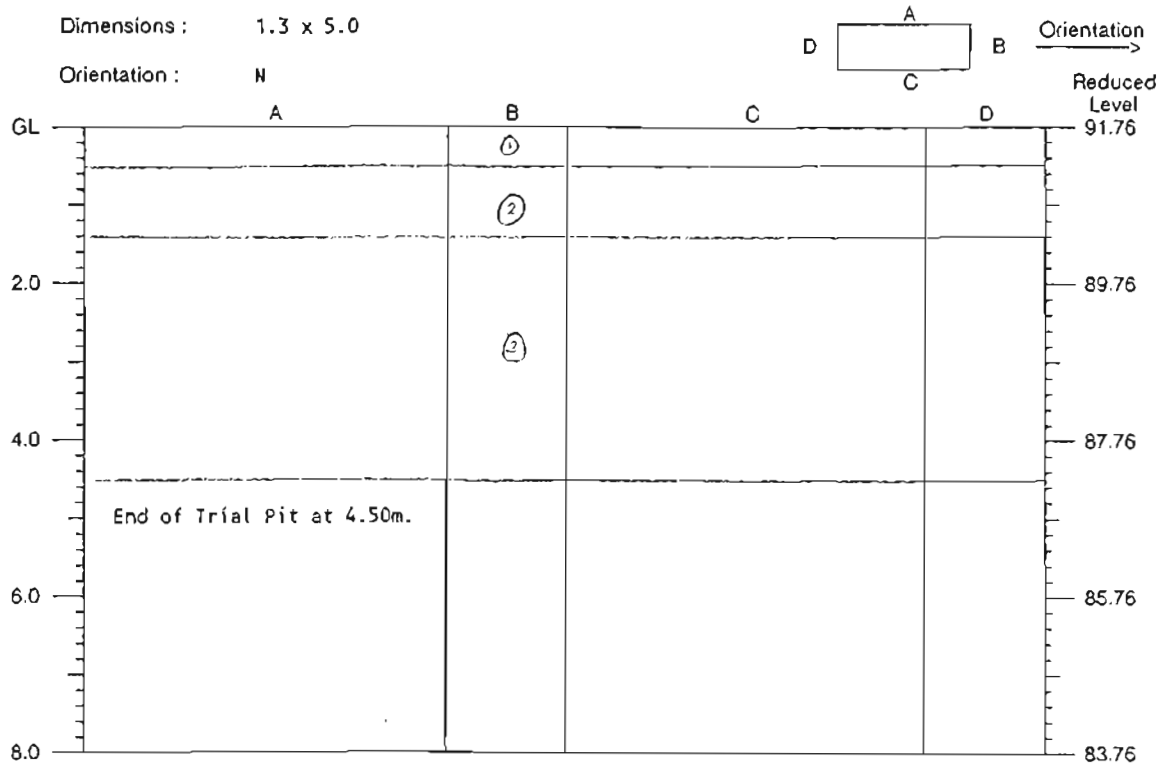
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP62

Dimensions : 1.3 x 5.0

Orientation : N



Strata

Depth (m)	No.	Description
0.00-0.50	1	MADE GROUND: (Medium dense) brown silty clayey sandy angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles.
0.50-1.40	2	MADE GROUND: (Loose to medium dense) dark grey black silty sandy ash (coal derived) with a little angular to sub-angular fine to coarse gravel of coal.
1.40-4.50	3	MADE GROUND: (Medium dense) dark grey silty sandy angular fine to coarse gravel of mudstone with some coal, many cobbles and occasional boulders and occasional bricks and pieces of timber.

Samples and Tests

Depth (m)	Type	Results
0.10	M	
1.10	M	
1.10	ORG	
2.20	M	
4.20	M	

Date of Excavation 19/01/96
Equipment Tracked Excavator
Stability Unstable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 91.76 m OD
Coordinates 318063.94 mE
189241.69 mN

Logged by PCB
Checked by

Remarks VOC monitored at 1.10m (0ppm). Due to continuous caving unable to advance.

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

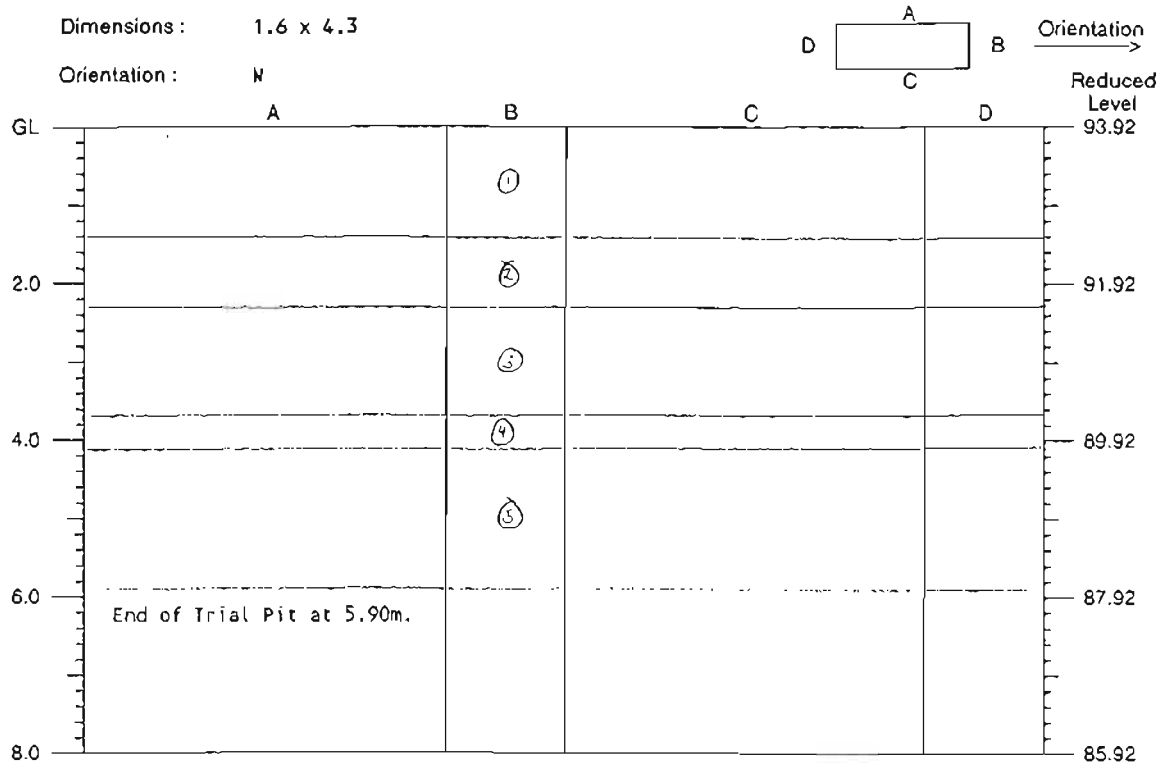
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP63

Dimensions : 1.6 x 4.3

Orientation : N



Strata

Depth (m)	No.	Description
0.00-1.40	1	MADE GROUND: (Medium dense to dense) brown silty clayey sandy angular to sub-rounded fine to coarse gravel of sandstone with some cobbles of sandstone and brick and occasional boulders.
1.40-2.30	2	MADE GROUND: (Medium dense) dark grey slightly silty sandy very ashy angular to sub-angular fine to coarse gravel with some cobbles, rare boulders and occasional brick fragments.
2.30-3.70	3	MADE GROUND: (Medium dense) light brown silty fine to coarse sand with some sub-angular to sub-rounded fine to coarse gravel of sandstone with some cobbles and rare boulders.
3.70-4.10	4	MADE GROUND: (Medium dense) light grey silty clayey fine to coarse sand with a little sub-angular to sub-rounded fine to coarse gravel of sandstone with a slight hydrocarbon odour.
4.10-5.90	5	MADE GROUND: (Dense) brown silty very clayey fine to coarse sand with a little sub-angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles.

Samples and Tests

Depth (m)	Type	Results
1.50	M	
1.50	ORG	
3.30	M	
3.30	ORG	
3.30	D	
4.80	ORG	
5.90	ORG	
5.90	W	

Date of Excavation 09/01/96
Equipment Tracked Excavator
Stability Unstable

Groundwater
No. Struck Behaviour
Slight seepage at 2.80m

Ground Level 93.92 m OD
Coordinates 318077.71 mE
189275.72 mN

Logged by PCB
Checked by

Remarks VOC monitored at 3.30m (on spoil) (3ppm), 3.30m (20ppm), 4.60m (on spoil) (50ppm), 4.80m (20ppm), 5.90m (5ppm).

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

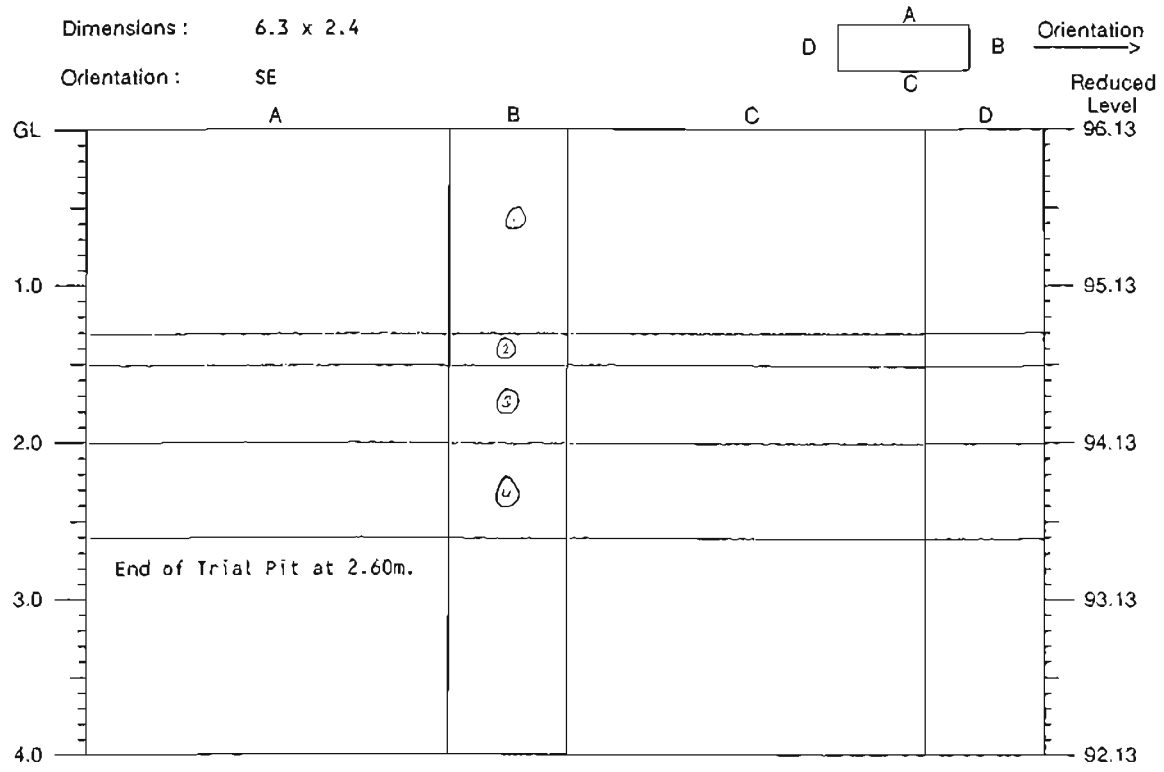
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP64

Dimensions : 6.3 x 2.4

Orientation : SE



Strata

Depth (m)	No.	Description
0.00-1.30	1	MADE GROUND: (Medium dense to dense) brown silty sandy clayey angular to sub-rounded fine to coarse gravel with some cobbles occasional boulders.
1.30-1.50	2	MADE GROUND: (Medium dense to dense) dark grey brown silty clayey very sandy angular fine to coarse gravel with many cobbles of brick and wire cable.
1.50-2.00	3	MADE GROUND: Top of a brickwall.
2.00-2.60	4	MADE GROUND: (Dense) dark grey silty sandy gravelly cobbles of brick with some wire cable, timber and a strong hydrocarbon odour.

Samples and Tests

Depth (m)	Type	Results
2.50	M	
2.50	ORG	
2.50	W	

Date of Excavation 08/01/96
Equipment Tracked Excavator
Stability Some spalling

Groundwater
No. Struck Behaviour
Inflow at 2.80m

Ground Level 96.13 m OD
Coordinates 318083.35 mE
189302.84 mN

Logged by PCB
Checked by

Remarks VOC monitored at 2.50m (1ppm).

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

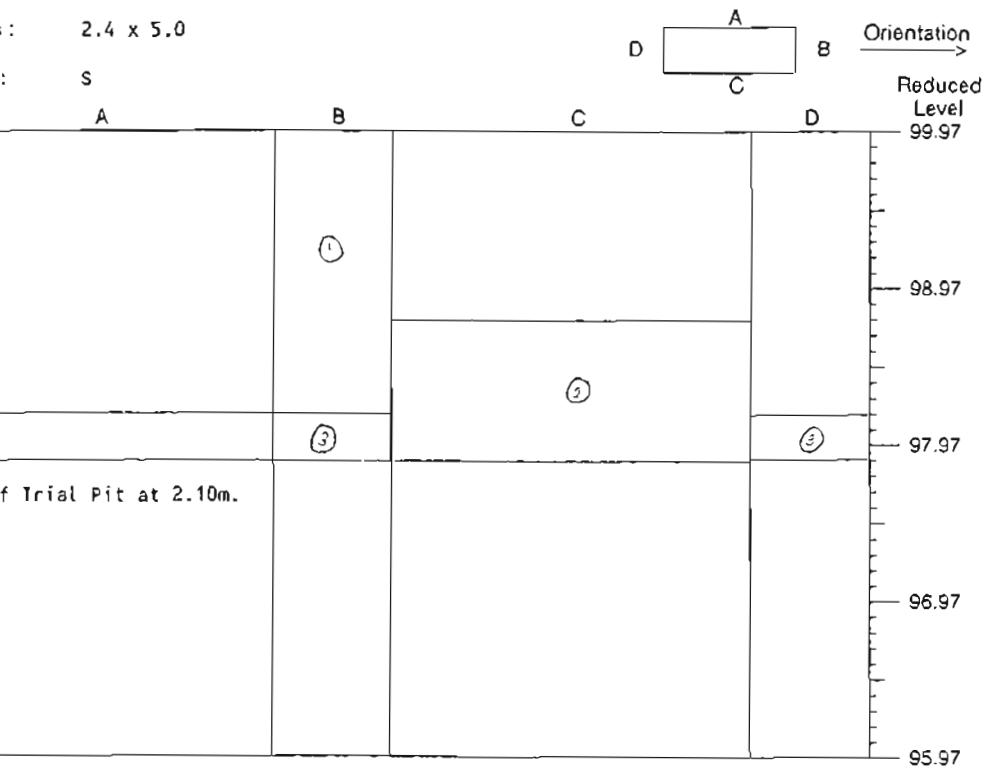
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP65

Dimensions : 2.4 x 5.0

Orientation : S



Strata

Depth (m)	No.	Description
0.00-1.80	1	MADE GROUND: (Medium dense to dense) silty clayey sandy angular fine to coarse gravel with many cobbles and occasional boulders with occasional roots.
1.20-2.10	2	MADE GROUND: Brick wall.
1.80-2.10	3	MADE GROUND: (Medium dense) black silty clayey sandy angular fine to coarse gravel with much sand sized ash and a slight hydrocarbon odour.
2.10	4	MADE GROUND: Concrete obstruction.

Samples and Tests

Depth (m)	Type	Results
1.80	M	
1.80	ORG	

Date of Excavation 08/01/96
Equipment Tracked Excavator
Stability Some spalling

Groundwater
No. Struck Behaviour
Inflow at 1.80m

Ground Level 99.97 m OD
Coordinates 318091.29 mE
189338.15 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

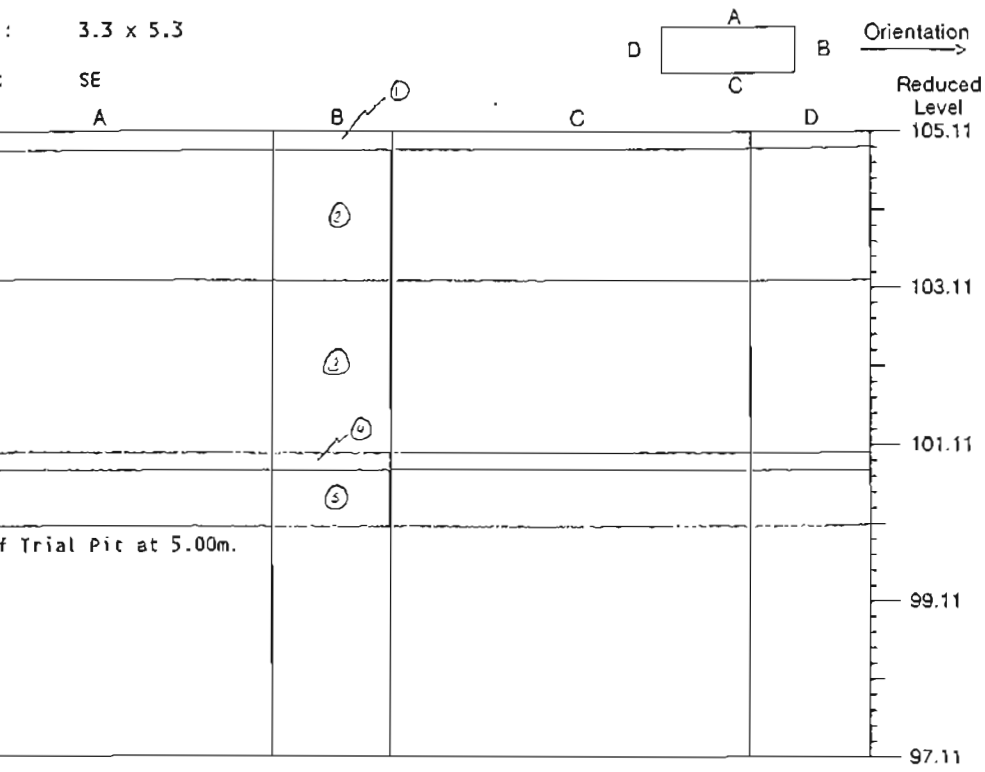
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP66

Dimensions : 3.3 x 5.3

Orientation : SE



Strata

Depth (m)	No.	Description
0.00-0.20	1	MADE GROUND: (Medium dense) brown silty clayey sandy sub-angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles and many rootlets.
0.20-1.90	2	MADE GROUND: (Medium dense) brown and grey slightly clayey silty sandy angular fine to coarse gravel of mudstone with occasional cobbles and rare boulders.
1.90-4.10	3	MADE GROUND: (Dense) brown reddish brown silty sandy angular fine to coarse gravel of sandstone and mudstone with occasional cobbles.
4.10-4.30	4	MADE GROUND: Stiff dark brown silty slightly sandy amorphous peat with occasional woody remnants.
4.30-5.00	5	(Dense) red brown silty sandy sub-angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles.

Samples and Tests

Depth (m)	Type	Results
2.10	M	
2.10	ORG	
3.40	M	
3.40	ORG	
5.00	M	

Date of Excavation 10/01/96
Equipment Tracked Excavator
Stability Much spalling

Groundwater
No. Struck Behaviour
Slight seepage at 4.20m

Ground Level 105.11 m OD
Coordinates 318084.63 mE
189362.26 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

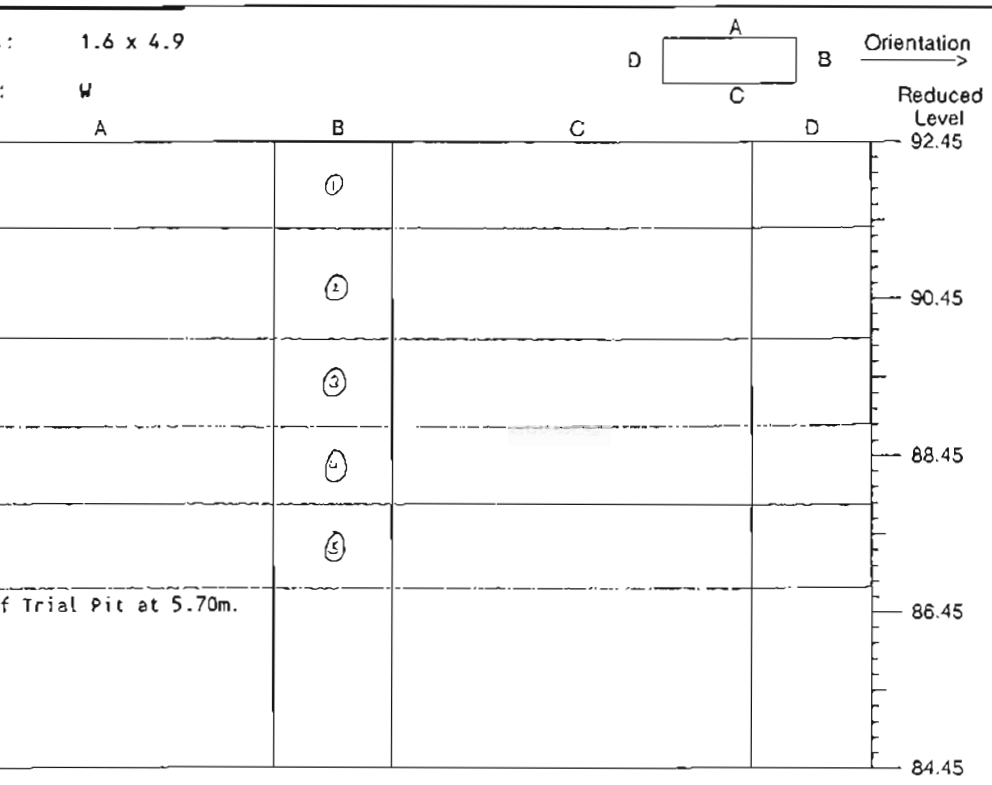
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP67

Dimensions : 1.6 x 4.9

Orientation : W



Strata

Depth (m)	No.	Description
0.00-1.10	1	MADE GROUND: (Medium dense) dark grey slightly silty very sandy angular to sub-angular fine to coarse gravel with some cobbles and much sand sized ash.
1.10-2.50	2	MADE GROUND: (Dense) brown silty very sandy angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles and rare boulders. .... with band of grey silty sandy gravelly ash between 2.30m and 2.50m.
2.50-3.60	3	MADE GROUND: (Dense) brown silty clayey very sandy sub-angular to sub-rounded fine to coarse gravel of sandstone with some cobbles and occasional boulders.
3.60-4.60	4	MADE GROUND: (Dense) grey brown silty sandy angular to sub-angular fine to coarse gravel of sandstone with many angular cobbles of sandstone and occasional boulders.
4.60-5.70	5	(Dense) brown grey silty fine to coarse SAND with some sub-angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles. (Glacial Sand and Gravel).

Samples and Tests

Depth (m)	Type	Results
1.00	M	
1.00	ORG	
3.50	M	
3.50	ORG	
5.10	M	
5.10	ORG	

Date of Excavation 09/01/96
Equipment Tracked Excavator
Stability Unstable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 92.45 m OD
Coordinates 318090.44 mE
189263.55 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

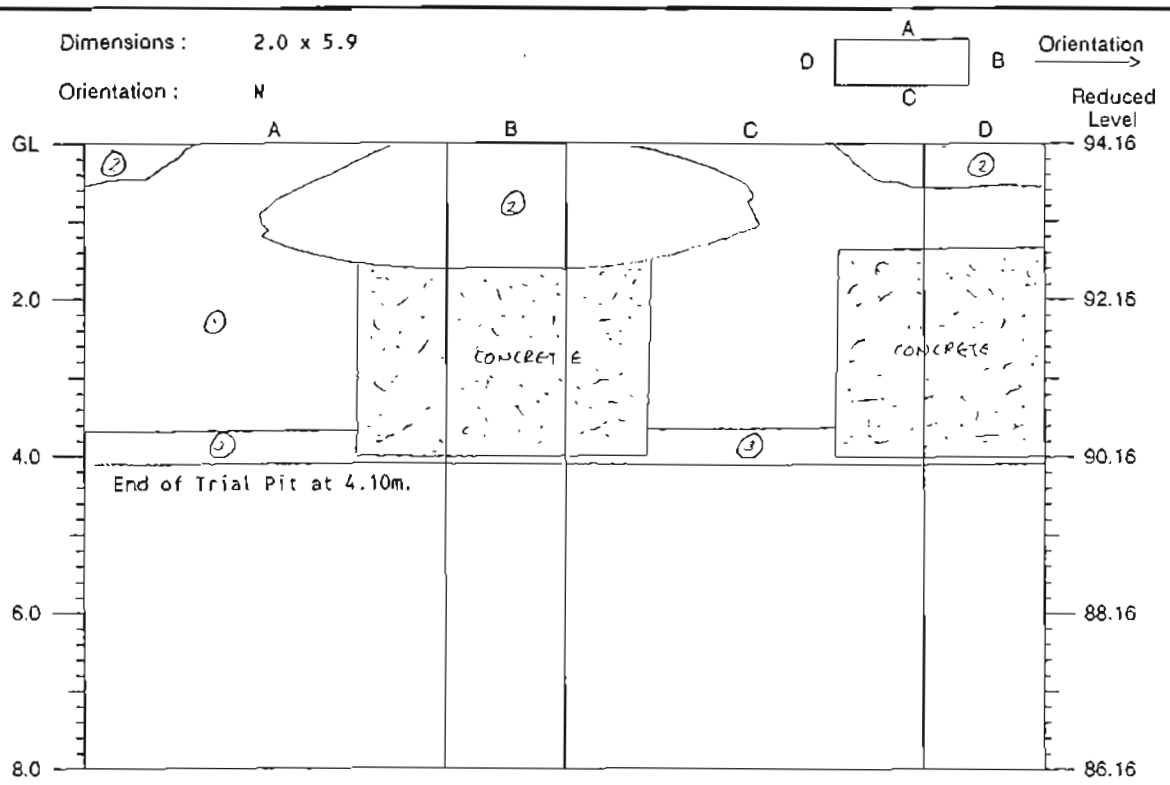
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP68

Dimensions : 2.0 x 5.9

Orientation : N



Strata

Depth (m)	No.	Description
0.00-3.70	1	MADE GROUND: (Medium dense) dark brown grey silty sandy angular to sub-angular fine to coarse gravel with occasional cobbles and some sand sized ash.
0.00-1.60	2	MADE GROUND: (Dense) brown silty clayey sandy sub-angular to sub-rounded fine to coarse gravel of sandstone with some cobbles of brick occasional boulders.
3.70-4.10	3	MADE GROUND: (Dense) light grey silty very sandy sub-angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles and rare boulders. (Reworked Glacial Sand and Gravel).

Samples and Tests

Depth (m)	Type	Results
1.20	M	
1.20	ORG	
2.90	ORG	
4.10	M	
4.10	ORG	

Date of Excavation 08/01/96
Equipment Tracked Excavator
Stability Some spalling

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 94.16 m OD
Coordinates 318096.65 mE
189280.22 mN

Logged by PCB
Checked by

Remarks VOC monitored at 2.90m (1ppm), 4.10m (1ppm).

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

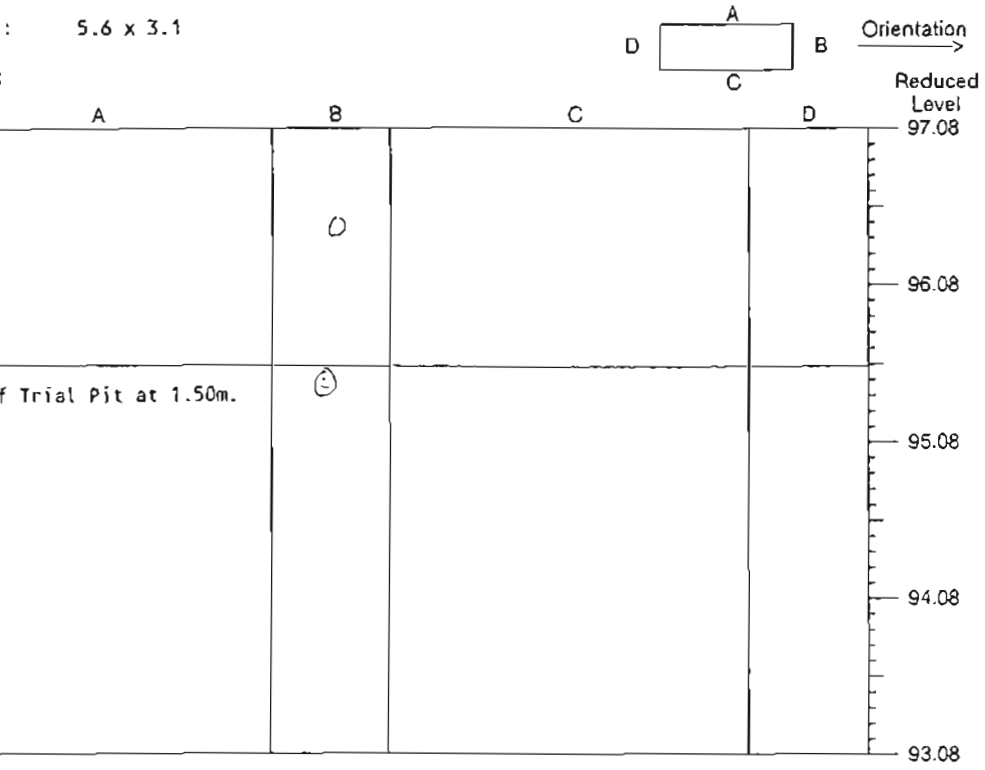
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP69

Dimensions : 5.6 x 3.1

Orientation :



Strata

Depth (m)	No.	Description
0.00-1.50	1	MADE GROUND: (Dense) brown silty sandy clayey angular to sub-rounded fine to coarse gravel with many cobbles occasional boulders some bricks and boulders of solidified tar possibly tarmac.
1.50	2	MADE GROUND: Platform obstruction.

Samples and Tests

Depth (m)	Type	Results

Date of Excavation 08/01/96
Equipment Tracked Excavator
Stability

Groundwater
No. Struck Behaviour
Slight seepage at 1.50m

Ground Level 97.08 m OD
Coordinates 318115.07 mE
189318.55 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

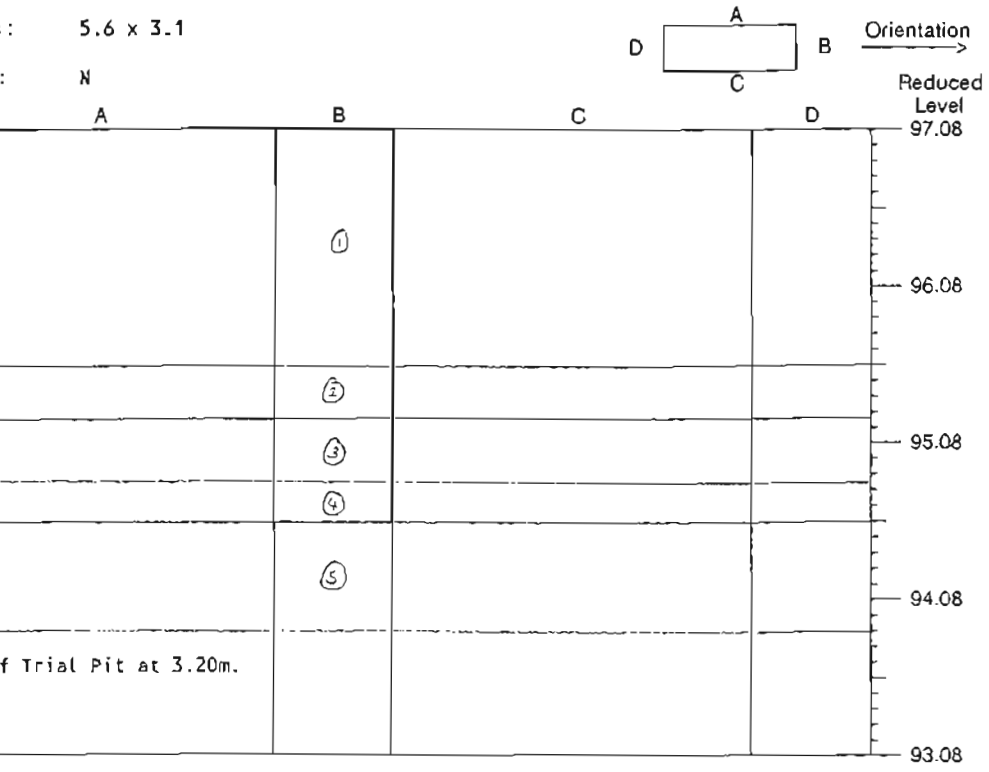
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP70

Dimensions : 5.6 x 3.1

Orientation : N



Strata

Depth (m)	No.	Description
0.00-1.50	1	MADE GROUND: (Dense) brown silty sandy clayey angular to sub-rounded fine to coarse gravel with many cobbles occasional boulders some bricks and boulders of solidified tar possibly tarmac.
1.50	2	MADE GROUND: Platform obstruction.
1.50-1.85	3	MADE GROUND: Concrete.
1.85-2.25	4	MADE GROUND: (Dense) brown slightly sandy angular coarse gravel with occasional angular cobbles. (sub-base).
1.85-2.50	5	MADE GROUND: (Medium dense to dense) dark grey silty sandy angular to sub-angular fine to coarse gravel with some cobbles rare boulders and a strong hydrocarbon odour.
2.50-3.20	6	MADE GROUND: (Loose to medium dense) dark grey slightly sandy very silty ash with some sub-angular to sub-rounded fine to coarse gravel and a strong hydrocarbon odour.

Samples and Tests

Depth (m)	Type	Results
1.80	W	
2.30	M	
2.30	ORG	
2.60	M	
2.60	ORG	

Date of Excavation 08/01/96
Equipment Tracked Excavator
Stability Some spalling

Groundwater
No. Struck Behaviour
Slight seepage at 1.50m

Ground Level 97.08 m OD
Coordinates 318115.07 mE
189318.55 mN

Logged by PCB
Checked by

Remarks VOC monitored at 2.60m (500ppm). Continuous inflow at Face B at 1.80m.

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

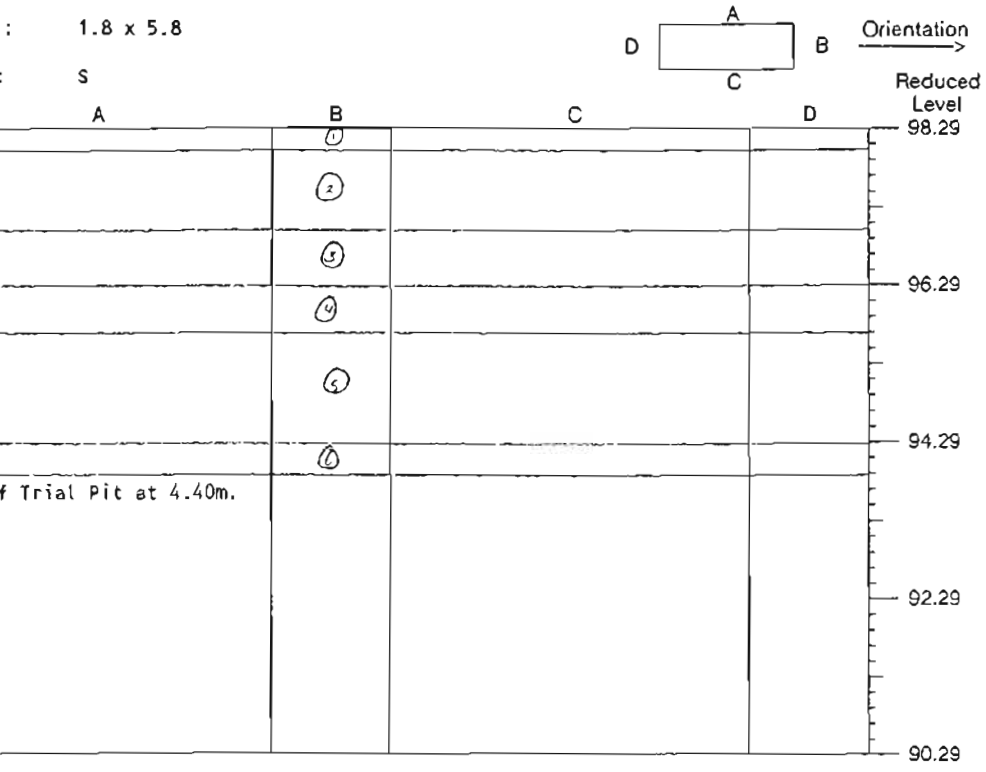
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP70A

Dimensions : 1.8 x 5.8

Orientation : S



Strata

Depth (m)	No.	Description
0.00-0.15	1	MADE GROUND: Concrete.
0.15-1.30	2	MADE GROUND: (Medium dense to dense) grey brown silty sandy
1.30-2.00	3	MADE GROUND: (Dense) orange brown silty very sandy angular to sub-rounded fine to coarse gravel of sandstone with some cobbles and rare boulders.
2.00-2.60	4	MADE GROUND: (Dense) brown dark grey silty very sandy angular to sub-rounded fine to coarse gravel of sandstone with some cobbles rare boulders and a strong hydrocarbon odour.
2.60-4.00	5	MADE GROUND: (Very dense) brown silty angular fine to coarse gravel of sandstone with some cobbles. (Possible bedrock at 3.60m).
4.00-4.40	6	MADE GROUND: (Very dense) brown slightly sandy angular fine to coarse gravel of sandstone with many cobbles. (Bedrock).

Samples and Tests

Depth (m)	Type	Results
1.20	M	
1.20	ORG	
2.80	ORG	
4.00	M	
4.00	ORG	

Date of Excavation 10/01/96
Equipment Tracked Excavator
Stability Occasional spalling

Groundwater
No. Struck Behaviour
Inflow at 0.15m

Ground Level 98.29 m OD
Coordinates 318116.87 mE
189334.96 mN

Logged by PCB
Checked by

Remarks VOC monitored at 1.20m (150ppm), 2.80m (30ppm), 4.00m (25ppm).

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

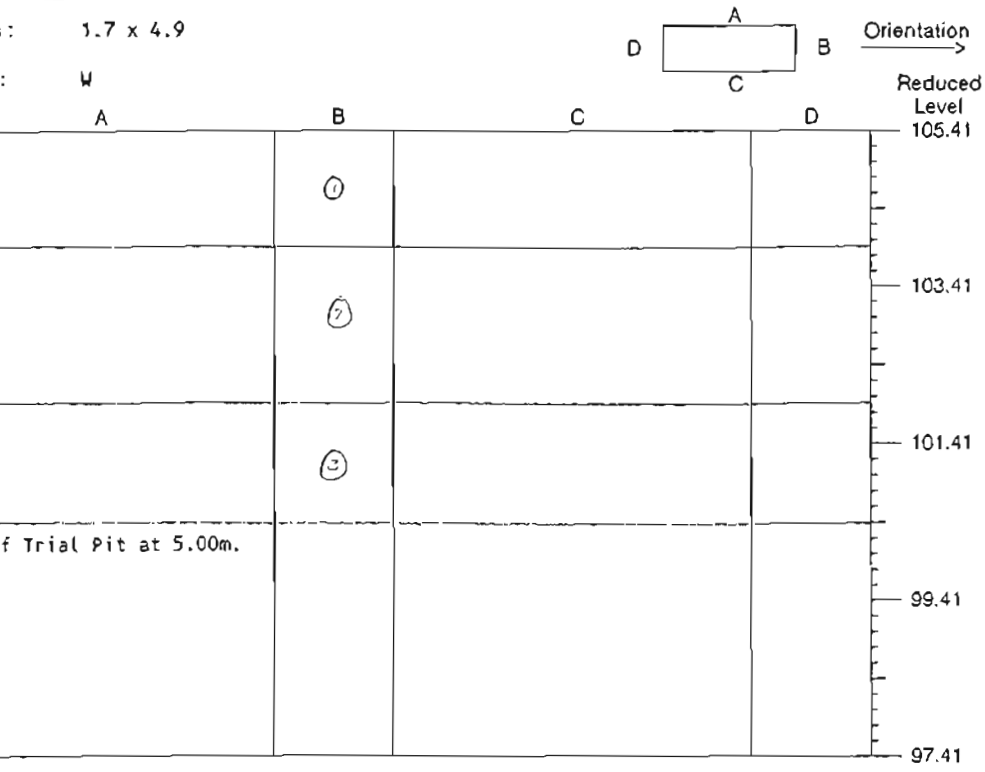
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP71

Dimensions : 1.7 x 4.9

Orientation : W



Strata

Depth (m)	No.	Description
0.00-1.50	1	MADE GROUND: (Medium dense) brown slightly clayey silty very sandy angular to sub-rounded fine to coarse gravel of sandstone with some cobbles occasional bricks and rare boulders and occasional polythene sheeting.
1.50-3.50	2	MADE GROUND: (Loose to medium dense) dark grey black very silty fine to coarse sandy ash with a little angular fine to coarse gravel with some coal and occasional cobbles of brick.
3.50-5.00	3	(Dense) brown with red brown iron staining clayey silty very sandy angular to sub-angular fine to coarse gravel of sandstone with some cobbles and some boulders.

Samples and Tests

Depth (m)	Type	Results
1.00	M	
1.00	ORG	
2.00	M	
2.00	ORG	
4.00	M	
4.00	ORG	
5.00	M	
5.00	ORG	

Date of Excavation 11/01/96
Equipment Tracked Excavator
Stability Unstable in stratum 2

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 105.41 m OD
Coordinates 318113.46 mE
189359.23 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

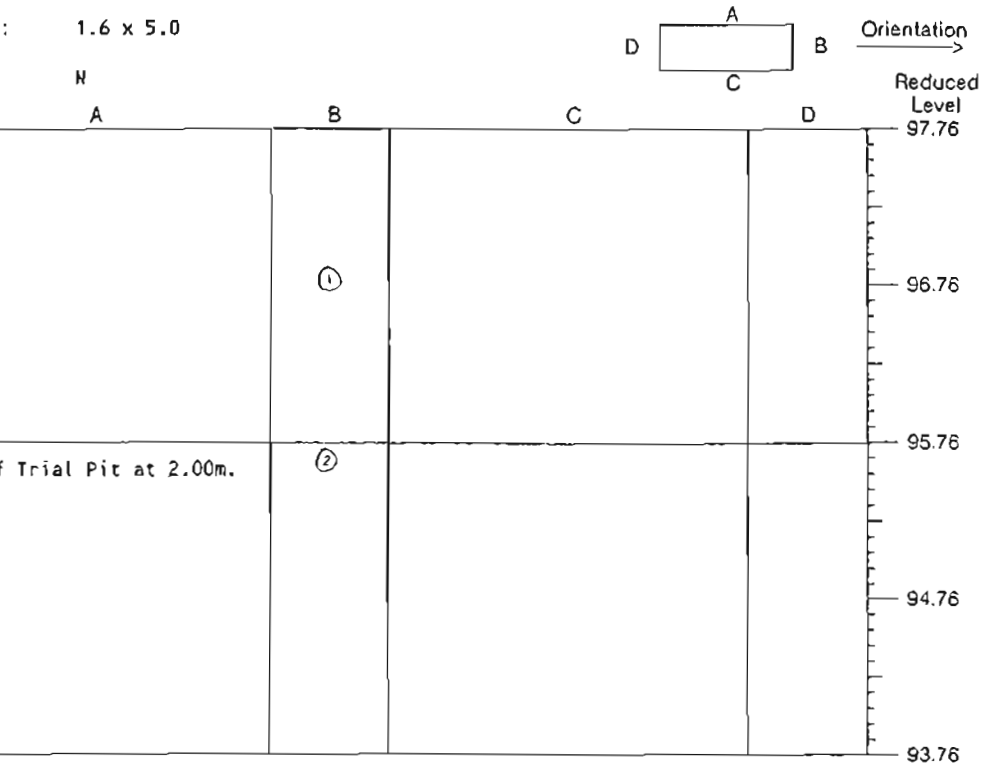
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP72

Dimensions : 1.6 x 5.0

Orientation : N



Strata

Depth (m)	No.	Description
0.00-2.00	1	MADE GROUND: (Medium dense) brown silty clayey sandy angular to sub-rounded fine to coarse gravel of sandstone with some cobbles, bricks and occasional boulders.
2.00	2	MADE GROUND: Concrete platform.

Samples and Tests

Depth (m)	Type	Results
0.10	M	
2.00	M	

Date of Excavation 16/01/96
Equipment Tracked Excavator
Stability Spalling

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 97.76 m OD
Coordinates 318137.25 mE
189287.95 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

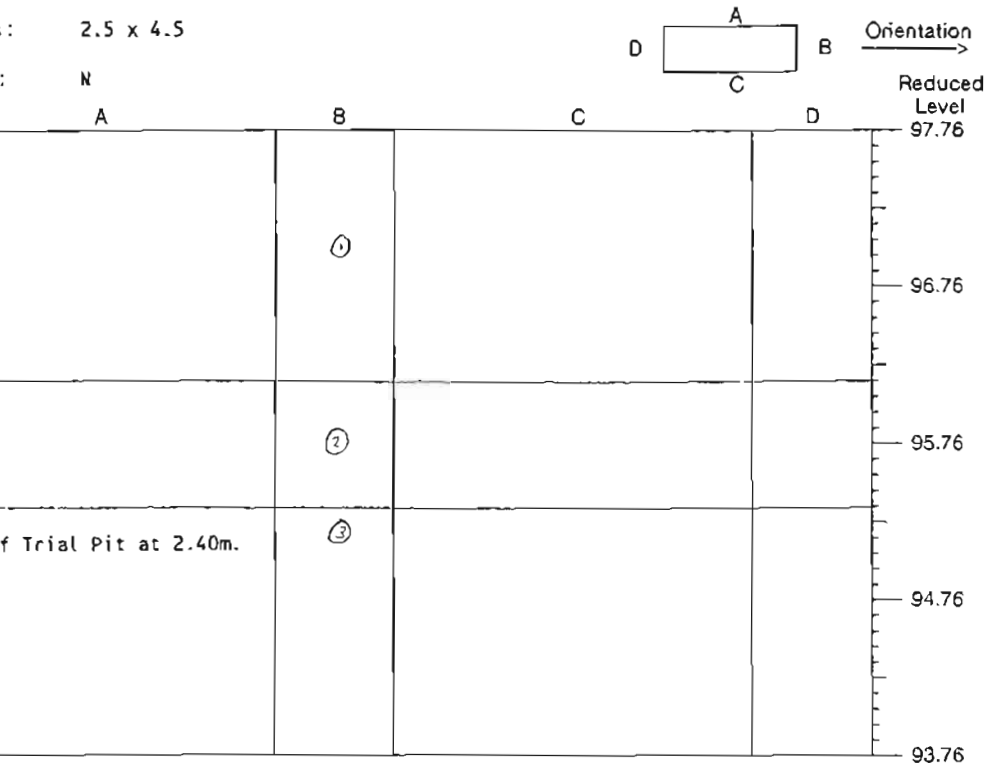
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP73

Dimensions : 2.5 x 4.5

Orientation : N



Strata			Samples and Tests		
Depth (m)	No.	Description	Depth (m)	Type	Results
0.00-1.60	1	MADE GROUND: (Medium dense) brown silty clayey sandy angular to sub-rounded fine to coarse gravel of sandstone with some cobbles, bricks and some boulders and occasional pieces of timber.			
1.60-2.40	2	MADE GROUND: (Loose to medium dense) dark grey silty fine to coarse sandy ash with some angular to sub-angular fine to coarse gravel occasional cobbles of brick and occasional pieces of timber.	2.00 2.00	M ORG	
2.40	3	MADE GROUND: Concrete obstruction.			

Date of Excavation 16/01/96
Equipment Tracked Excavator
Stability Unstable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 97.76 m OD
Coordinates 318137.25 mE
189287.95 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

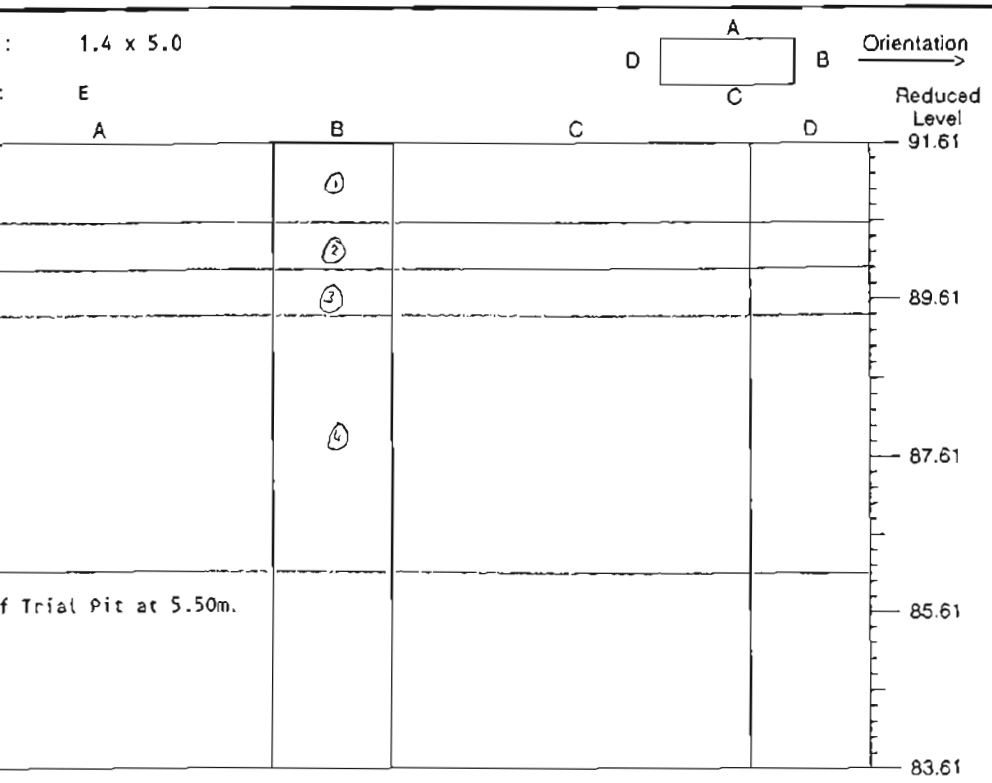
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP73A

Dimensions : 1.4 x 5.0

Orientation : E



Strata

Depth (m)	No.	Description
0.00-1.00	1	MADE GROUND: (Medium dense to dense) dark grey silty sandy angular fine to coarse gravel of slag with some cobbles and much sand sized ash.
1.00-1.60	2	MADE GROUND: (Medium dense to dense) orange brown clayey silty very sandy angular to sub-rounded fine to coarse gravel of sandstone with some cobbles. (Reworked Glacial Sand and Gravel).
1.60-2.20	3	MADE GROUND: (Dense) angular flat cobbles and boulders of sandstone with some bricks.
2.20-5.50	4	(Dense) orange brown mottled grey clayey very silty very sandy angular to sub-angular fine to coarse GRAVEL of sandstone with some cobbles. (Glacial Sand and Gravel).

Samples and Tests

Depth (m)	Type	Results
0.50	M	
0.50	ORG	
1.20	M	
3.50	M	
5.50	M	

Date of Excavation 16/01/96
Equipment Tracked Excavator
Stability Some spalling

Groundwater
No. Struck Behaviour
Slight seepage at 2.40m

Ground Level 91.61 m OD
Coordinates 318162.89 mE
189261.03 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

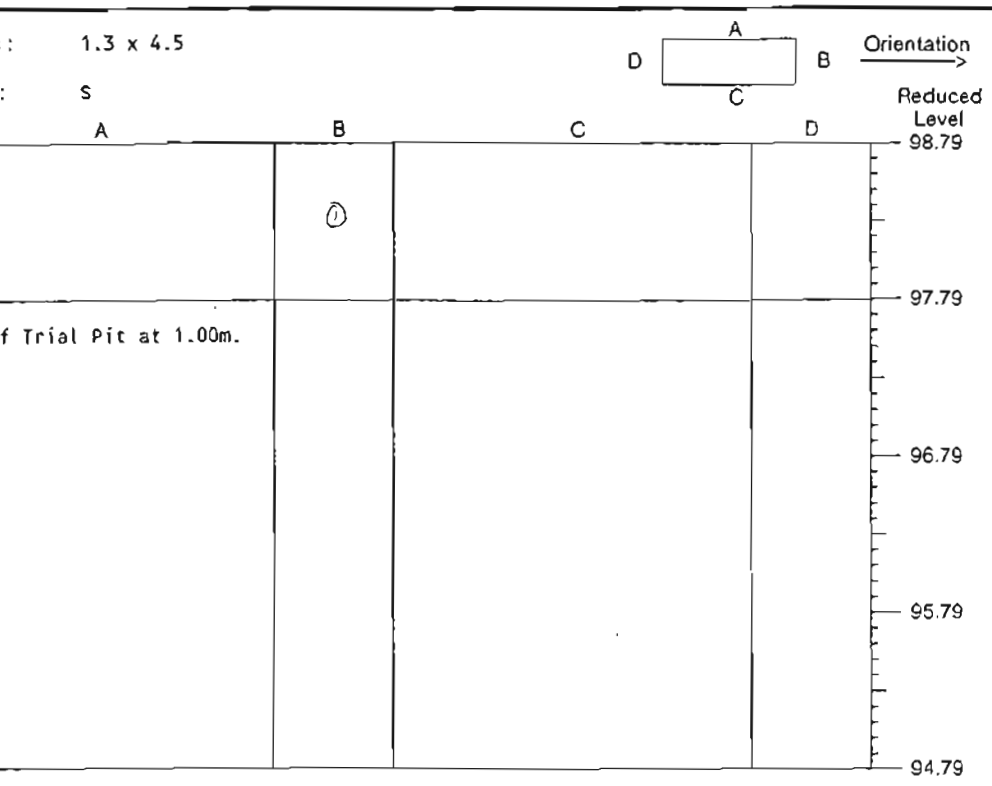
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP74

Dimensions : 1.3 x 4.5

Orientation : S



Strata			Samples and Tests		
Depth (m)	No.	Description	Depth (m)	Type	Results
0.00-1.00	1	MADE GROUND: (Medium dense to dense) brown silty clayey sandy angular to sub-rounded fine to coarse gravel of sandstone with some cobbles occasional boulders and many pieces of broken reinforced concrete and metal cable.	0.10	M	

Date of Excavation 16/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 98.79 m OD
Coordinates 318153.56 mE
189296.23 mN

Logged by PCB
Checked by

Remarks Trial pit abandoned due to obstruction.

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

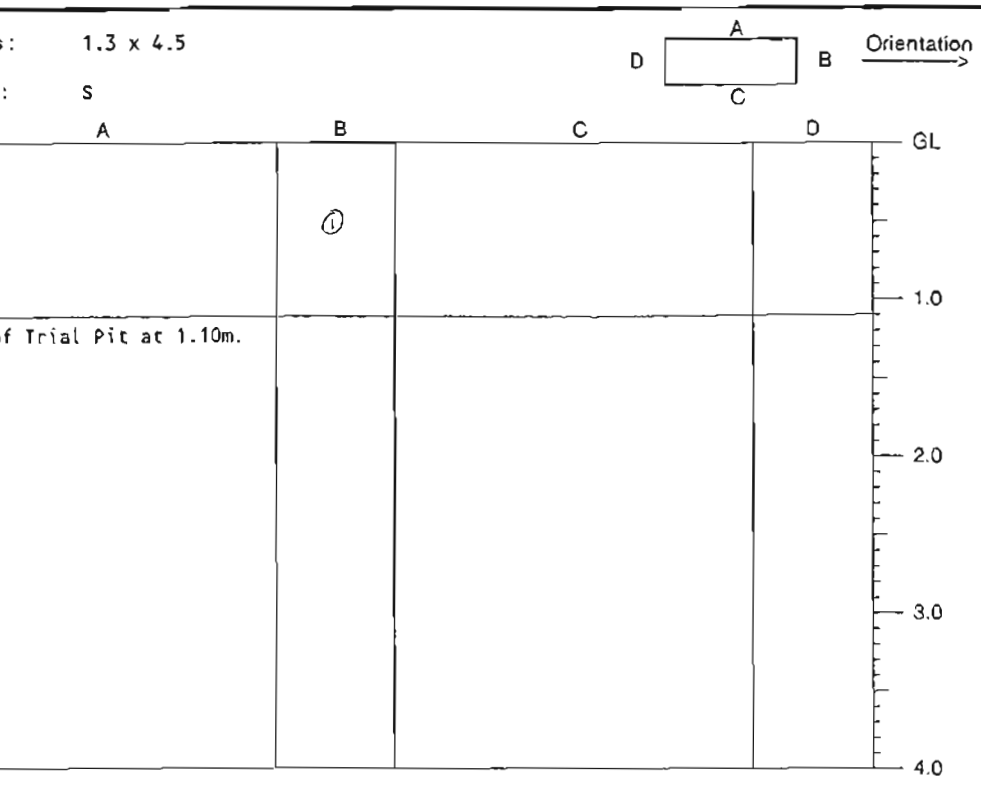
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP75

Dimensions : 1.3 x 4.5

Orientation : S



Strata

Depth (m)	No.	Description
0.00-1.10	1	MADE GROUND: (Medium dense to dense) brown silty clayey sandy angular to sub-rounded fine to coarse gravel of sandstone with some cobbles many boulders of concrete.
0.50-1.10	2	MADE GROUND: (Medium dense) dark grey silty fine to coarse sandy ash with a little angular to sub-angular fine to coarse gravel of slag.

Samples and Tests

Depth (m)	Type	Results
0.50	M	
0.50	ORG	

Date of Excavation 16/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

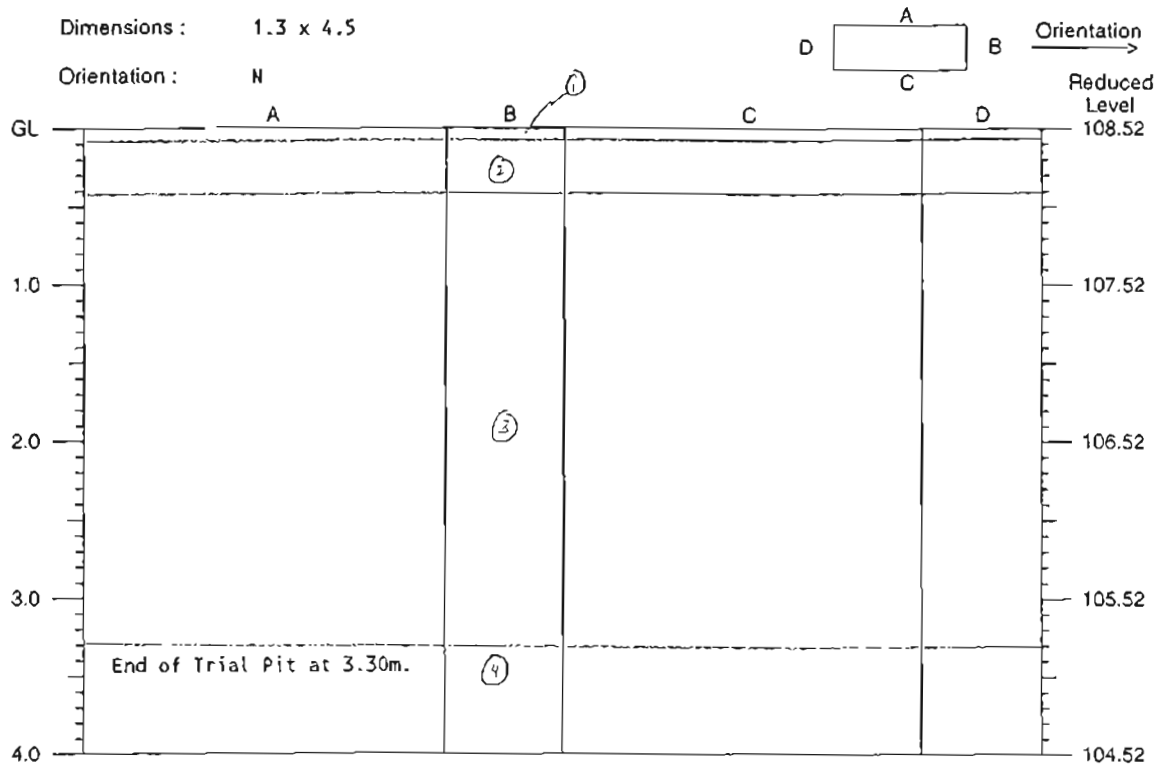
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP75A

Dimensions : 1.3 x 4.5

Orientation : N



Strata

Depth (m)	No.	Description
0.00-0.05	1	MADE GROUND: (Medium dense) brown grey silty fine to coarse sand with a little angular to sub-angular fine to coarse gravel and many rootlets.
0.05-0.40	2	(Medium dense) orange brown sandy SILT with a little angular to sub-angular fine to coarse gravel of sandstone.
0.40-3.30	3	(Medium dense to dense) light brown silty sandy angular fine to coarse GRAVEL of sandstone with some cobbles.
3.30	4	Sandstone BEDROCK.

Samples and Tests

Depth (m)	Type	Results
0.10	M	
1.00	M	
1.00	ORG	
3.00	M	

Date of Excavation 17/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 108.52 m OD
Coordinates 318169.95 mE
189380.58 mN

Logged by PCB
Checked by

Remarks VOC monitored at 1.00m (0ppm).

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

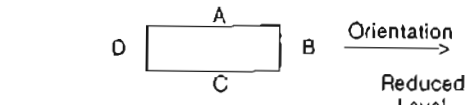
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

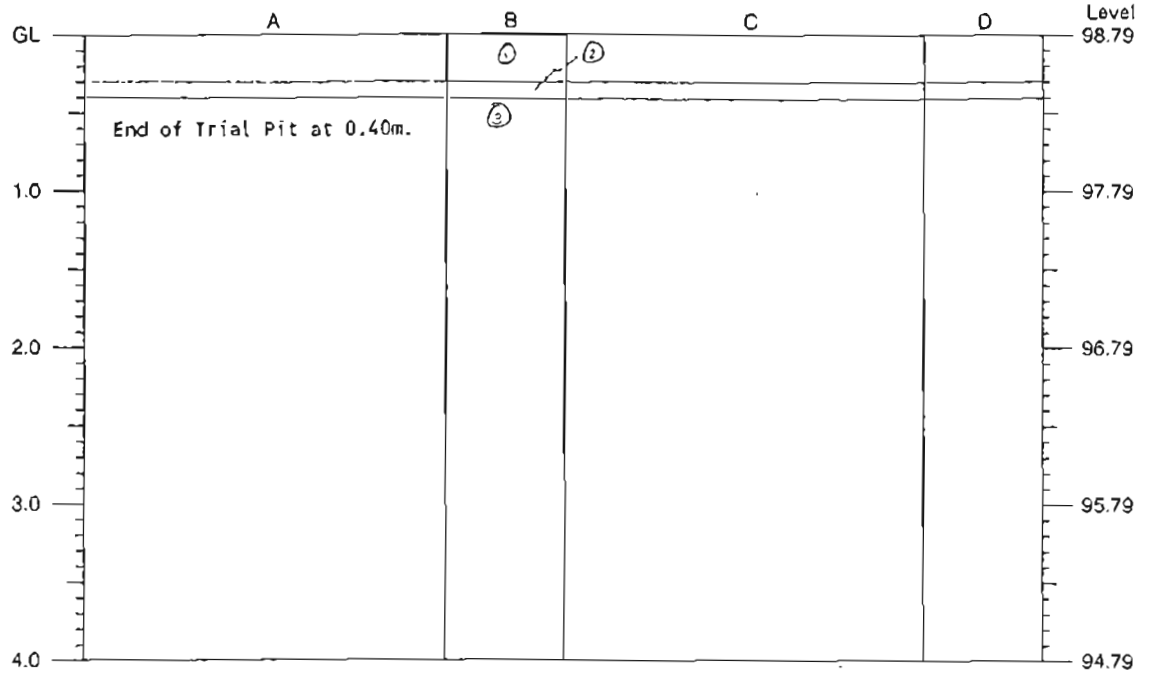
Contract 155218

Trial Pit TP76

Dimensions : 1.2 x 4.0

Orientation : SE





Strata

Depth (m)	No.	Description
0.00-0.30	1	MADE GROUND: (Medium dense) light brown slightly clayey very silty very sandy angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles and occasional bricks.
0.30-0.40	2	MADE GROUND: (Dense) dark grey with metallic sheen silty sandy angular to sub-angular fine to coarse gravel of (solidifed tar/bitumen) with some cobbles and a hydrocarbon odour.
0.40	3	MADE GROUND: (Concrete).

Samples and Tests

Depth (m)	Type	Results
0.10	M	
0.30	M	
0.30	ORG	

Date of Excavation 17/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 98.79 m OD
Coordinates 318201.64 mE
189311.37 mN

Logged by PCB
Checked by

Remarks VOC monitored at 0.30m (41ppm). Position moved 10.00m east. TP77A strata and depths identical. No samples taken, no water 1.2m x 2.5m.

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

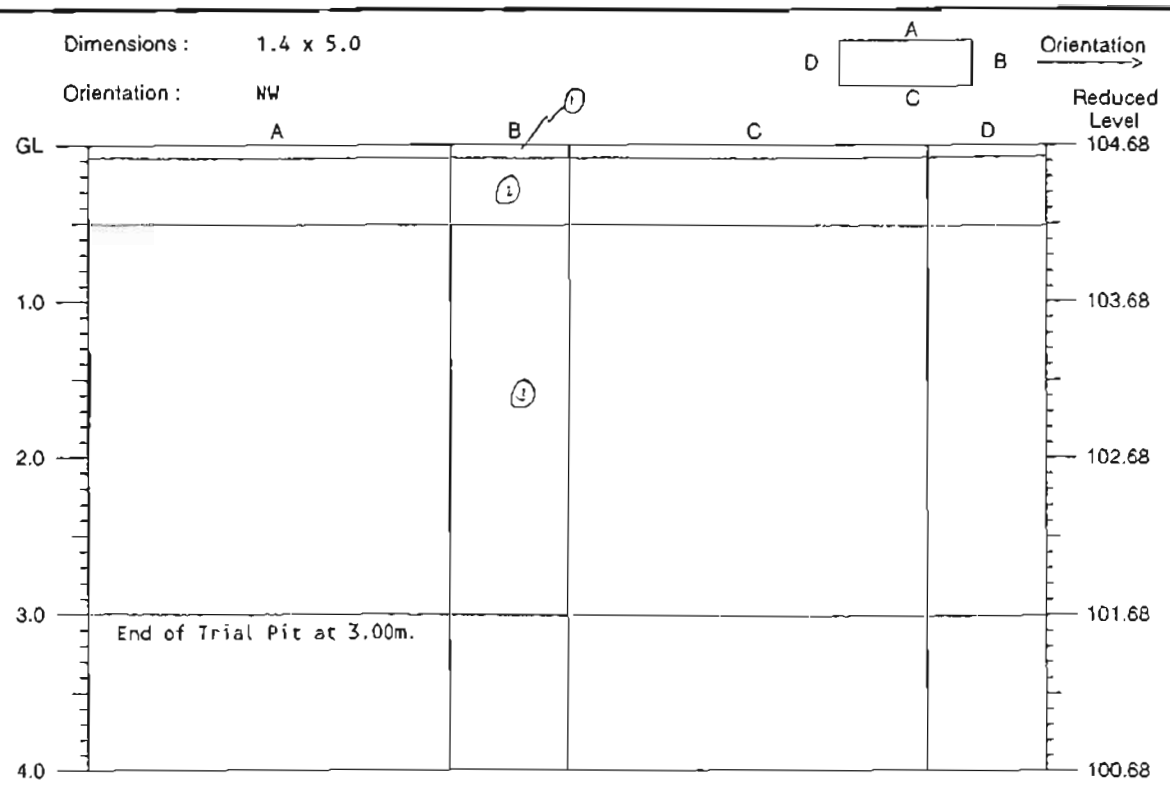
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP77

Dimensions : 1.4 x 5.0

Orientation : NW



Strata

Depth (m)	No.	Description
0.00-0.05	1	MADE GROUND: (Medium dense) dark grey silty fine to coarse sand with some sand sized ash a little angular to sub-angular fine to coarse gravel and many rootlets.
0.05-0.50	2	(Loose to medium dense) orange brown very sandy SILT with some angular to sub-angular fine to coarse gravel of sandstone.
0.50-3.00	3	(Very dense) light brown silty very sandy angular to sub-rounded fine to coarse GRAVEL of sandstone with occasional cobbles and some boulders. (Glacial Sand and Gravel).

Samples and Tests

Depth (m)	Type	Results
0.10	M	
1.00	M	
1.00	ORG	
3.00	M	

Date of Excavation 17/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 104.68 m OD
Coordinates 318219.50 mE
189336.95 mN

Logged by PCB
Checked by

Remarks VOC monitored at 1.00m (0ppm).

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

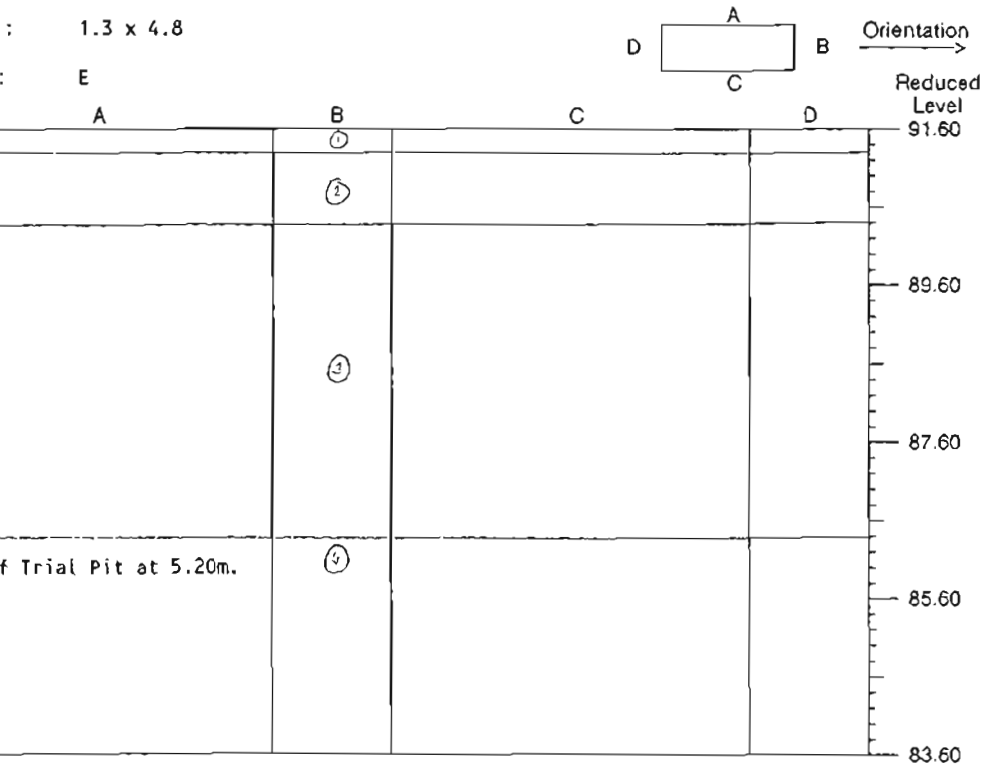
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP78

Dimensions : 1.3 x 4.8

Orientation : E



Strata

Depth (m)	No.	Description
0.00-0.30	1	MADE GROUND: (Loose to medium dense) black very silty fine to coarse sandy ash with a little angular to sub-angular fine gravel and occasional roots.
0.30-1.20	2	MADE GROUND: (Medium dense to dense) dark grey brown silty very sandy very ashy angular to sub-angular fine to coarse gravel of slag, sandstone and brick fragments with some cobbles and occasional boulders.
1.20-5.20	3	(Medium dense becoming dense below 3.50m) orange brown very silty very sandy angular to sub-rounded fine to coarse GRAVEL of sandstone with occasional cobbles and occasional boulders. .... with many angular to sub-rounded boulders of sandstone below 4.50m.
5.20	4	Sandstone bedrock at 5.20m.

Samples and Tests

Depth (m)	Type	Results
0.10	M	
0.50	ORG	
1.80	M	
3.80	M	
5.20	M	

Date of Excavation 16/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 91.60 m OD
Coordinates 318225.08 mE
189264.31 mN

Logged by PCB
Checked by

Remarks

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

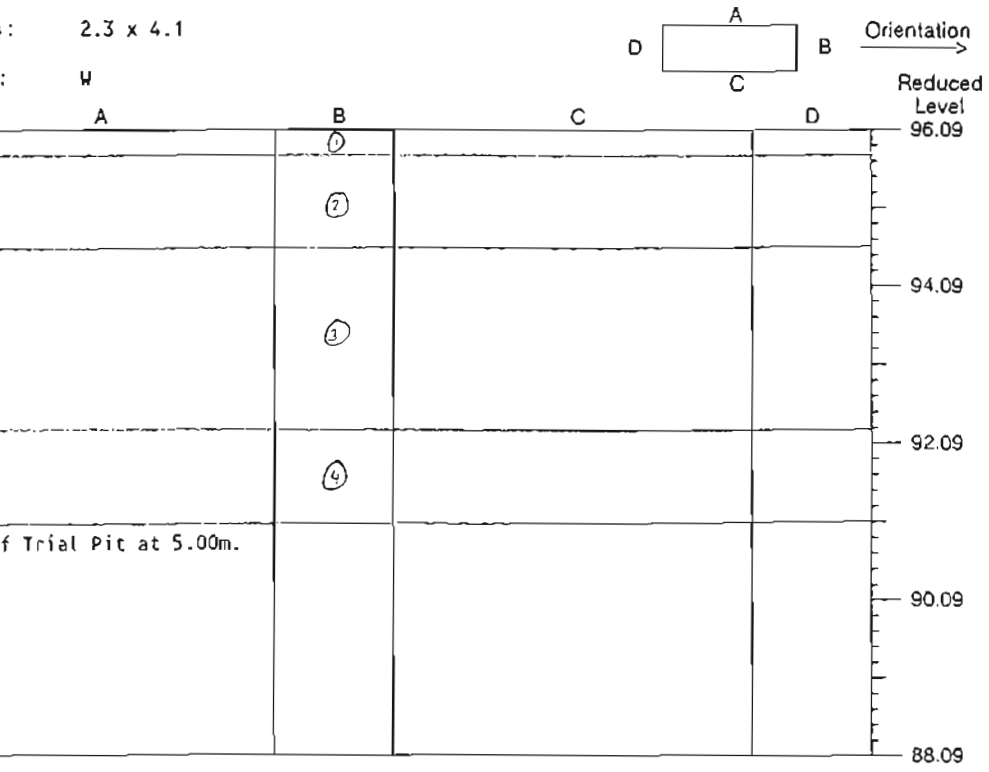
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP79

Dimensions : 2.3 x 4.1

Orientation : W



Strata

Depth (m)	No.	Description
0.00-0.30	1	MADE GROUND: (Medium dense) dark grey silty fine to coarse sandy ash with many cobbles of brick.
0.30-1.50	2	MADE GROUND: (Medium dense) light brown very silty fine to coarse sand with some angular to sub-rounded fine to coarse gravel of sandstone with some cobbles, bricks and occasional boulders.
1.50-3.80	3	MADE GROUND: (Medium dense) grey silty very sandy very ashy angular to sub-angular fine to coarse gravel with some cobbles, bricks and many boulders of concrete.
3.80-5.00	4	(Loose) soft fine to medium orange brown clayey sandy SILT with some angular to sub-rounded fine to coarse gravel of sandstone with occasional cobbles. (Glacial Sand and Gravel). .... becoming very gravelly below 4.50m.

Samples and Tests

Depth (m)	Type	Results
0.10	M	
0.10	ORG	
1.00	M	
2.00	M	
4.00	M	
5.00	M	

Date of Excavation 16/01/96
Equipment Tracked Excavator
Stability Unstable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 96.09 m OD
Coordinates 318290.33 mE
189272.48 mN

Logged by PCB
Checked by

Remarks VOC monitored at 0.10m (3.4ppm), 2.00m (3.6ppm). First position uncovered concrete under thin cover of grass, weeds and colliery spoil (0.10m).

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

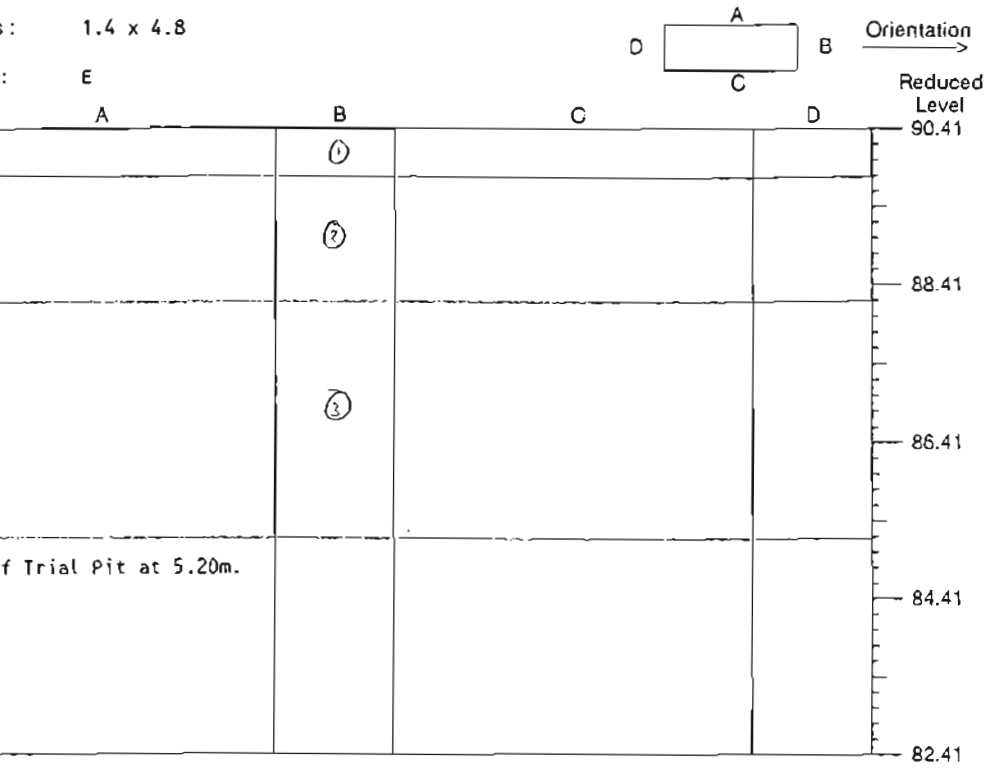
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP80

Dimensions : 1.4 x 4.8

Orientation : E



Strata

Depth (m)	No.	Description
0.00-0.60	1	MADE GROUND: (Medium dense) dark grey silty very sandy fine to medium gravel of coal and coke with much sand sized ash and occasional cobbles of brick.
0.60-2.20	2	MADE GROUND: (Medium dense to dense) grey brown slightly silty sandy angular fine to coarse gravel of mudstone with many cobbles and some boulders.
2.20-5.20	3	(Medium dense/soft firm) orange brown slightly clayey sandy SILT with much angular to sub-rounded fine to coarse gravel of sandstone with some cobbles.

Samples and Tests

Depth (m)	Type	Results
0.10	M	
0.50	ORG	
1.00	M	
3.00	M	
4.50	M	

Date of Excavation 16/01/96
Equipment Tracked Excavator
Stability Stable

Groundwater
No. Struck Behaviour
Not encountered during excavation

Ground Level 90.41 m OD
Coordinates 318290.33 mE
189236.65 mN

Logged by PCB
Checked by

Remarks VOC monitored at 0.50m (1.8ppm).

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

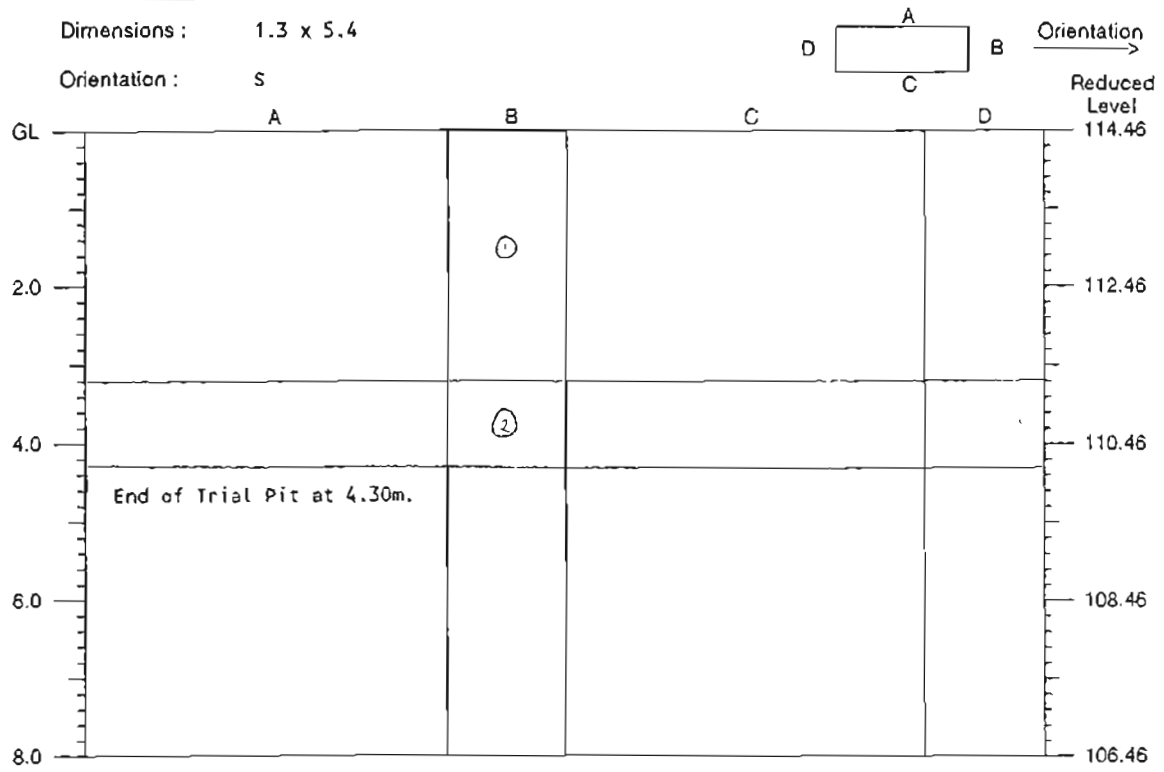
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP81

Dimensions : 1.3 x 5.4

Orientation : S



Strata

Depth (m)	No.	Description
0.00-3.20	1	MADE GROUND: (Medium dense) grey very silty very sandy angular to sub-angular fine to coarse gravel with some cobbles much sand sized ash some pieces of timber, metal, paint pots, polythene plastic and a strong hydrocarbon odour and rare pieces of white spent oxide (lime derived).
3.20-4.30	2	Possible MADE GROUND: (Reworked Glacial Sand and Gravel) (dense) brown slightly clayey very silty very sandy angular to sub-angular fine to coarse GRAVEL of sandstone with some cobbles.

Samples and Tests

Depth (m)	Type	Results
1.00	M	
1.30	M	
1.30	ORG	
3.20	M	
3.20	ORG	
4.30	M	
4.30	M	

Date of Excavation 12/01/96
Equipment Tracked Excavator
Stability Some spalling

Groundwater
No. Struck Behaviour
Seepages at 1.60m

Ground Level 114.46 m OD
Coordinates 317979.50 mE
189395.50 mN

Logged by PCB
Checked by

Remarks VOC monitored at 1.30m (85ppm), 3.20m (50ppm), 4.30m (20ppm).

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

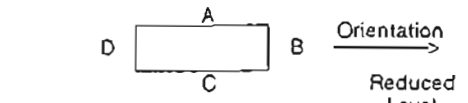
Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

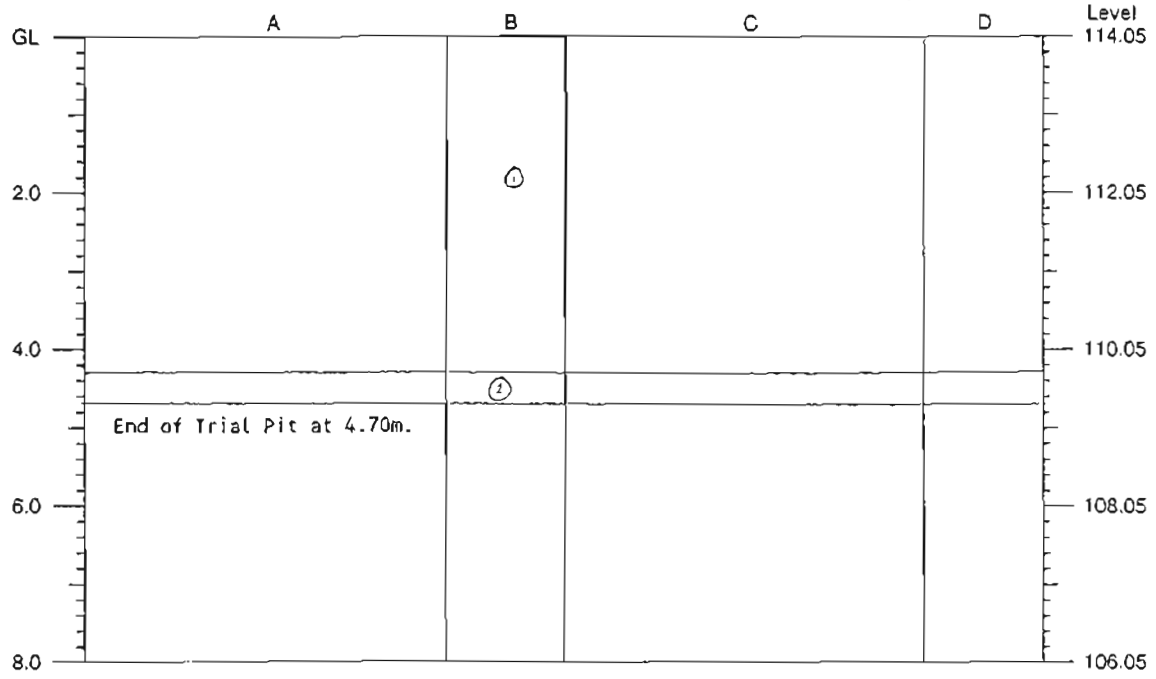
Contract 155218

Trial Pit TP82

Dimensions : 2.5 x 5.5

Orientation : E





Strata

Depth (m)	No.	Description
0.00-4.30	1	MADE GROUND: (Medium dense) dark grey very silty very sandy angular to sub-angular fine to coarse gravel of coke and coal with much sand sized coal derived ash with a slight hydrocarbon odour plus occasional plastic containers, polythene plastic and rare pieces of metal and timber, occasional cobbles of brick and a light bulb.
4.30-4.70	2	(Firm) orange brown very silty slightly sandy CLAY with a little angular to sub-angular fine to coarse gravel of sandstone.

Samples and Tests

Depth (m)	Type	Results
1.20	M	
1.20	ORG	
2.80	M	
2.80	ORG	

Date of Excavation 12/01/96
Equipment Tracked Excavator
Stability Unstable

Groundwater
No. Struck Behaviour
Slight seepage of tar at 1.40m

Ground Level 114.05 m OD
Coordinates 317960.74 mE
189385.31 mN

Logged by PCB
Checked by

Remarks VOC monitored at 1.20m (100ppm), 2.80m (25ppm).

See key sheet and appendices for explanations.

Form 2/0

Trial Pit Record

Exploration Associates

Project
Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Trial Pit TP83

ENCLOSURE B

In Situ Monitoring

Standpipe Readings	SWL 1
Gas Monitoring	GML 1-6

Installation Details

Borehole No.	1R	6A	1	2	4	10	12			
Type	S	S	S	S	S	S	S			
Date Installed	16/01/96	11/01/96	09/04/96	22/01/96	15/01/96	22/01/96	17/01/96			
Depth to Base (m)	30.00	9.80	10.40	30.00	30.00	30.00	20.00			
Ground Level m OD	90.68	94.16	90.68	81.95	93.37	106.86				

Date/Time	Depth to Water (m)									
10/01/96			7.15							
11/01/96			7.05							
12/01/96		8.86	7.00							
13/01/96		9.10	7.12							
15/01/96		9.15	7.30							
16/01/96		9.21	7.36		27.50					
17/01/96	-	-	-		-					
18/01/96	28.45	DRY	7.45		26.75		7.65			
19/01/96	-	-	-		-		-			
22/01/96	27.90	DRY	7.54	20.70	26.48	22.97	7.30			
26/01/96	-	-	-	DRY	-	-	-			
14/02/96	28.50	-	6.80	20.30	25.38	-	-			

Remarks Type: P - Piezometer, S - Standpipe, G - Gas Standpipe, H - Hydraulic, R - Remote Readout (Pneumatic, vib. wire, etc.)

Form 50/1

Water Level Readings	Project: Bedwas Colliery Reclamation Scheme, Rhymney Valley District Council	Contract: 155218
Exploration Associates		SWL/1

Borehole	Depth of Installation (m)	Explosive Gases/CH_4 (%)	CO_2 (%)	O_2 (%)	CH_4 (% LEL)	VOC (ppm)
1	3.00	0	-	21.5	0	0
	9.50	0	-	21.8	0	0
	10.40	0	-	22.0	0	0

Remarks: * Monitoring carried out during drilling

Borehole	Depth of Installation (m)	Explosive Gases/CH_4 (%)	CO_2 (%)	O_2 (%)	CH_4 (% LEL)	VOC (ppm)
2	1.50	0	-	21.2	0	0
	1.50	0	-	21.8	0	0
	6.80	0	-	21.6	0	0
	6.80	0	-	21.7	0	0

Remarks: * Monitoring carried out during drilling

Borehole	Depth of Installation (m)	Explosive Gases/CH_4 (%)	CO_2 (%)	O_2 (%)	CH_4 (% LEL)	VOC (ppm)
3	4.00	0.1	-	22.1	0	0
	5.80	0	-	22.0	0	0
	6.50	0	-	21.5	0	0
	8.50	0.1	-	22.0	0	60

Remarks: * Monitoring carried out during drilling

Borehole	Depth of Installation (m)	Explosive Gases/CH_4 (%)	CO_2 (%)	O_2 (%)	CH_4 (% LEL)	VOC (ppm)
4	5.00	0	-	21.5	0	3
	5.20	0	-	22.5	0	0
	5.75	0	-	22.0	0	0

Remarks: * Monitoring carried out during drilling

Borehole	Depth of Installation (m)	Explosive Gases/CH_4 (%)	CO_2 (%)	O_2 (%)	CH_4 (% LEL)	VOC (ppm)
5	1.00	0	-	21.4	0	0
	4.00	0	-	21.6	0	0
	11.00	0	-	21.4	0	0
	15.00	0	-	21.6	0	0

Remarks: * Monitoring carried out during drilling

Borehole	Depth of Installation (m)	Explosive Gases/CH_4 (%)	CO_2 (%)	O_2 (%)	CH_4 (% LEL)	VOC (ppm)
6	6.60	0	-	21.5	0	0

Remarks: * Monitoring carried out during drilling

Borehole	Depth of Installation (m)	Explosive Gases/CH_4 (%)	CO_2 (%)	O_2 (%)	CH_4 (% LEL)	VOC (ppm)
6A	5.50	0	-	22.2	0	0
	9.80	0	-	22.4	0	0

Remarks: * Monitoring carried out during drilling

Borehole	Depth of Installation (m)	Explosive Gases/CH_4 (%)	CO_2 (%)	O_2 (%)	CH_4 (% LEL)	VOC (ppm)
8	1.50	0	0	21.5	0	0
	4.50	0	0	20.5	0	0
Remarks:	* Monitoring carried out during drilling					

Borehole	Depth of Installation (m)	Explosive Gases/CH_4 (%)	CO_2 (%)	O_2 (%)	CH_4 (% LEL)	VOC (ppm)
9	0.50	0	-	21.0	0	0
	4.50	0	-	21.2	0	0
Remarks:	* Monitoring carried out during drilling					

Borehole	Depth of Installation (m)	Explosive Gases/CH_4 (%)	CO_2 (%)	O_2 (%)	CH_4 (% LEL)	VOC (ppm)
10	1.00	0	-	21.7	0	0
	5.00	0	-	22.4	0	0
	8.50	0	-	22.0	0	0
Remarks:	* Monitoring carried out during drilling					

Borehole	Depth of Installation (m)	Explosive Gases/CH_4 (%)	CO_2 (%)	O_2 (%)	CH_4 (% LEL)	VOC (ppm)
11	1.00	0	-	21.5	0	0
	4.75	0	-	21.5	0	0
Remarks:	* Monitoring carried out during drilling					

Date: 12/1/96	Meteorological & Site Conditions									
Time: 2.00pm	State of ground:		Dry		Moist	*	Wet			
Operator: AF	Wind:		Calm		Light	*	Mod.		Strong	
	Wind Direction:									
	Cloud Cover:		None		Slight	*	Cloudy		Overcast	
	Precipitation:		None	*	Slight		Mod.		Heavy	
	Barometric pressure (mbars):					Air Temp °C:				

Instrumentation Details:							
Equipment Used	GI Infra Red Gas Analyser		GMI Landsurveyor	*	GMI CO_2 Portable		
	Others (specify):						

Borehole/ Installation	Depth of Installation (m)	Explosive Gases/CH_4 (%)	CO_2 (%)	O_2 (%)	CH_4 (% LEL)	H_2S (%)	VOC (ppm)
1	10.40	0	0	20.8	0	0	0
6A	9.80	0	0	21.0	0	0	0

Remarks:

Gas Monitoring Record	Project Bedwas Colliery Reclamation Scheme Rhymney Valley District Council	Contract 155218
Exploration Associates		Figure GM 4

Date: 16/1/96	Meteorological & Site Conditions								
Time: 3.00pm	State of ground:		Dry		Moist	*	Wet		
Operator: AF	Wind:		Calm		Light	*	Mod.		Strong
	Wind Direction:								
	Cloud Cover:		None		Slight	*	Cloudy		Overcast
	Precipitation:		None		Slight	*	Mod.		Heavy
	Barometric pressure (mbars):					Air Temp °C:			

Instrumentation Details:	

Equipment Used	GI Infra Red Gas Analyser		GMI Landsurveyor	*	GMI CO_2 Portable	
	Others (specify):					

Borehole/ Installation	Depth of Installation (m)	Explosive Gases/CH_4 (%)	CO_2 (%)	O_2 (%)	CH_4 (% LEL)	H_2S (%)	VOC (ppm)
1	10.40	0	0	21.2	0	0	0
6A	9.80	0	0	21.1	0	0	0
4	30.00	0	0	20.1	0	0	5

Remarks:

Gas Monitoring Record	Project	Contract
Exploration Associates	Bedwas Colliery Reclamation Scheme Rhymney Valley District Council	155218
		Figure GM 5

Date: 22/1/96	Meteorological & Site Conditions								
Time: 11.00am	State of ground:		Dry		Moist.	*	Wet		
Operator: PB	Wind:		Calm		Light	*	Mod.		Strong
	Wind Direction:								
	Cloud Cover:		None		Slight	*	Cloudy		Overcast
	Precipitation:		None		Slight	*	Mod.		Heavy
	Barometric pressure (mbars):					Air Temp °C:			

Instrumentation Details:	

Equipment Used	GI Infra Red Gas Analyser		GMI Landsurveyor	*	GMI CO_2 Portable	
	Others (specify):					

Borehole/ Installation	Depth of Installation (m)	Explosive Gases/CH_4 (%)	CO_2 (%)	O_2 (%)	CH_4 (% LEL)	H_2S (%)	VOC (ppm)
1	10.40	0	0	20.9	0	0	0
6A	9.80	0	0	21.4	0	0	0
4	30.00	0	0	20.6	0	0	25
1R	30.00	0	0	20.7	0	0	0
12	20.00	0	0	21.0	0	0	0
10	30.00	0	0	20.7	0	0	0
2	30.00	0	0	20.5	0	0	0

Remarks:

Gas Monitoring Record	Project	Contract
	Bedwas Colliery Reclamation Scheme Rhymney Valley District Council	155218
Exploration Associates		Figure GM 6

ENCLOSURE C

Laboratory Test Results

KEY TO SYMBOLS ON LABORATORY TEST RESULTS SHEETS

U	Undisturbed Sample
P	Piston Sample
B	Bulk Sample - Disturbed
D	Jar Sample - Disturbed { M : Small Disturbed Sample (Metal Analysis)
W	Water Sample { ORG : Small Disturbed Sample (Organic Hydrocarbon Analysis)
pH	Acidity/Alkalinity Index
SO_3	Total Sulphate Content (acid) - Soluble Sulphate
NP	Non Plastic
I_p	Plasticity Index
$\underline{\%}$	% of material in sample passing 425 micron sieve
w_L	Liquid Limit
w_p	Plastic Limit
w	Water Content
γ_b	Bulk Density
U	Undrained Triaxial
CU	Consolidated Undrained Triaxial
CD	Consolidated Drained Triaxial
T	Single Stage Triaxial
M	Multistage Triaxial
100/40	Sample Diameter (mm)
REM	Remoulded Triaxial Test Specimen
LVT	Laboratory Vane Test
DSB	Drained Shear Box
RSB	Residual Shear Box
σ_3	Cell Pressure
σ_1-σ_3	Deviator Stress
c	Cohesion
c'	Effective Cohesion Incercept
ϕ	Angle of Shearing Resistance - Degrees
ϕ'	Effective Angle of Shearing Resistance
m_v	Coefficient of Volume Decrease
c_v	Coefficient of Consolidation
γ_d	Dry Density
Opt	Optimum
Std	Standard Compaction
Hvy	Heavy Compaction
CBR	California Bearing Ratio
*	Failed under 1st Load
**	Failed under 2nd Load
#	Untestable
##	Excessive Strain
+	Calcareous Reaction
¶	CBR Remoulded with 2.5kg rammer
§	CBR Remoulded with 4.5kg rammer
●	CBR Undisturbed Sample
●●	CBR Remoulded to 5% air voids at Natural Moisture Content
VT	Hand Vane Test
Cl	Chloride Content
S.G.	Particle Density
Sat m.c.	Saturation Moisture Content
p'o	Effective Overburden Pressure

LABORATORY SYMBOLS	Project Bedwas Colliery Reclamation Scheme Rhymney Valley District Council	Contract 155218
Exploration Associates		Figure

Samples				Classification					Strength			Other Tests
Hole	Depth	Type	Description	<425 I_P	Prep w_L	w_P	Water %	γ_{b_3} Mg/m	Test	σ_3 kPa	C kPa	
1	1.00	B	MADE GROUND: Dark grey clayey very silty very sandy gravel									Particle Size Analysis
1	5.80	D	Soft to firm sandy very clayey SILT with some gravel and occasional cobbles	52% 14	WASHED 34	20	24					
1	7.00	B	Soft to firm sandy very clayey SILT with some gravel and occasional cobbles	52%	WASHED 21	NP	13					Particle Size Analysis
1	8.20	B	Brown silty sandy fine to coarse GRAVEL									Particle Size Analysis
3	1.00	B	Grey brown very clayey very silty fine to coarse SAND and GRAVEL with some cobbles									Particle Size Analysis
3	7.00	B	Firm to stiff grey sandy very clayey SILT with occasional gravel	96% 18	WASHED 43	25	21					Particle Size Analysis
4	3.00	B	Firm grey brown sandy very clayey SILT with some fine to coarse gravel									Particle Size Analysis
5	1.00	B	MADE GROUND: Dark grey very silty very sandy fine to coarse gravel and some cobbles									Calorific Value=4212cal/g
5	3.00	B	MADE GROUND: Dark grey very silty very sandy fine to coarse gravel with some cobbles									LOI= 43.39%

Remarks

Form 10/2

Laboratory - Results Summary

Exploration Associates

Project

Bedwas Colliery Reclamation Scheme
Rhymney Valley District Council

Contract 155218

Sheet L1

Samples				Classification					Strength			Other Tests
Hole	Depth	Type	Description	<425 I_P	Prep w_L	w_P	Water %	γ_{b_3} Mg/m	Test	σ_3 kPa	C kPa	
5	5.00	B	MADE GROUND: Dark grey very silty very sandy fine to coarse gravel and some cobbles									Calorific Value=2967cal/g
5	7.00	B	MADE GROUND: Dark grey very silty very sandy fine to coarse gravel with some cobbles									LOI= 40.94%
9	0.10	B	Orange brown very clayey silty very sandy fine to coarse GRAVEL									Particle Size Analysis
10	6.00	B	Brown silty very sandy fine to coarse GRAVEL									Particle Size Analysis

Remarks

Form 10/2

Laboratory - Results Summary

Exploration Associates

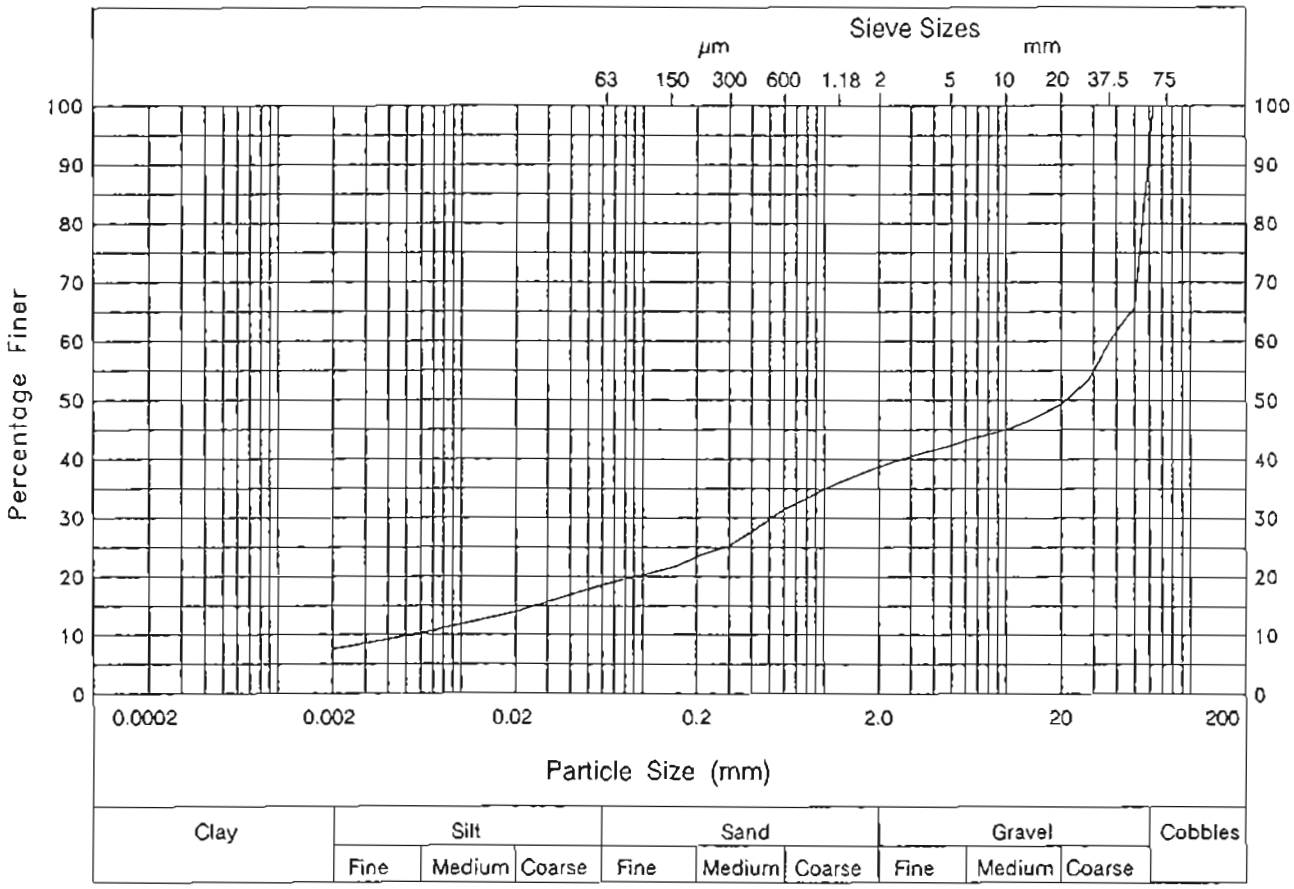
Project

Bedwas Colliery Reclamation Scheme

Rhymney Valley District Council

Contract 155218

Sheet L1

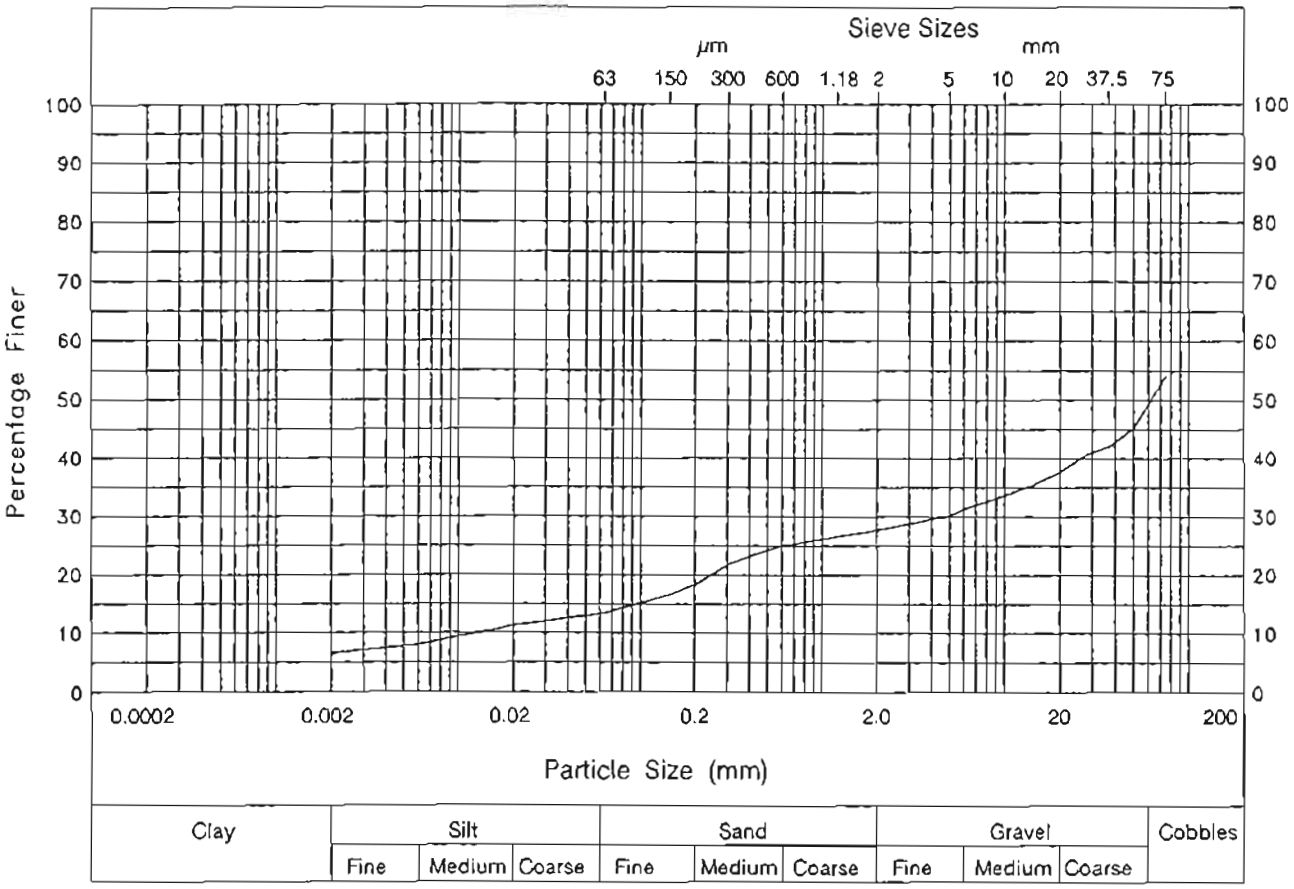


Particle Size	% Passing	Particle Size	% Passing
63 mm	100	1.18 mm	36
50 mm	66	600 µm	31
37.5 mm	61	425 µm	28
28 mm	53	300 µm	25
20 mm	49	212 µm	24
14 mm	47	150 µm	22
10 mm	45	63 µm	19
6.3 mm	43	20 µm	14
5 mm	42	6 µm	10
3.35 mm	41	2 µm	8
2 mm	39		

Hole 1	Test Performed: WET Sedimentation sample pretreated using hydrogen peroxide
Depth 1.00	
Type B	

Form 25/3

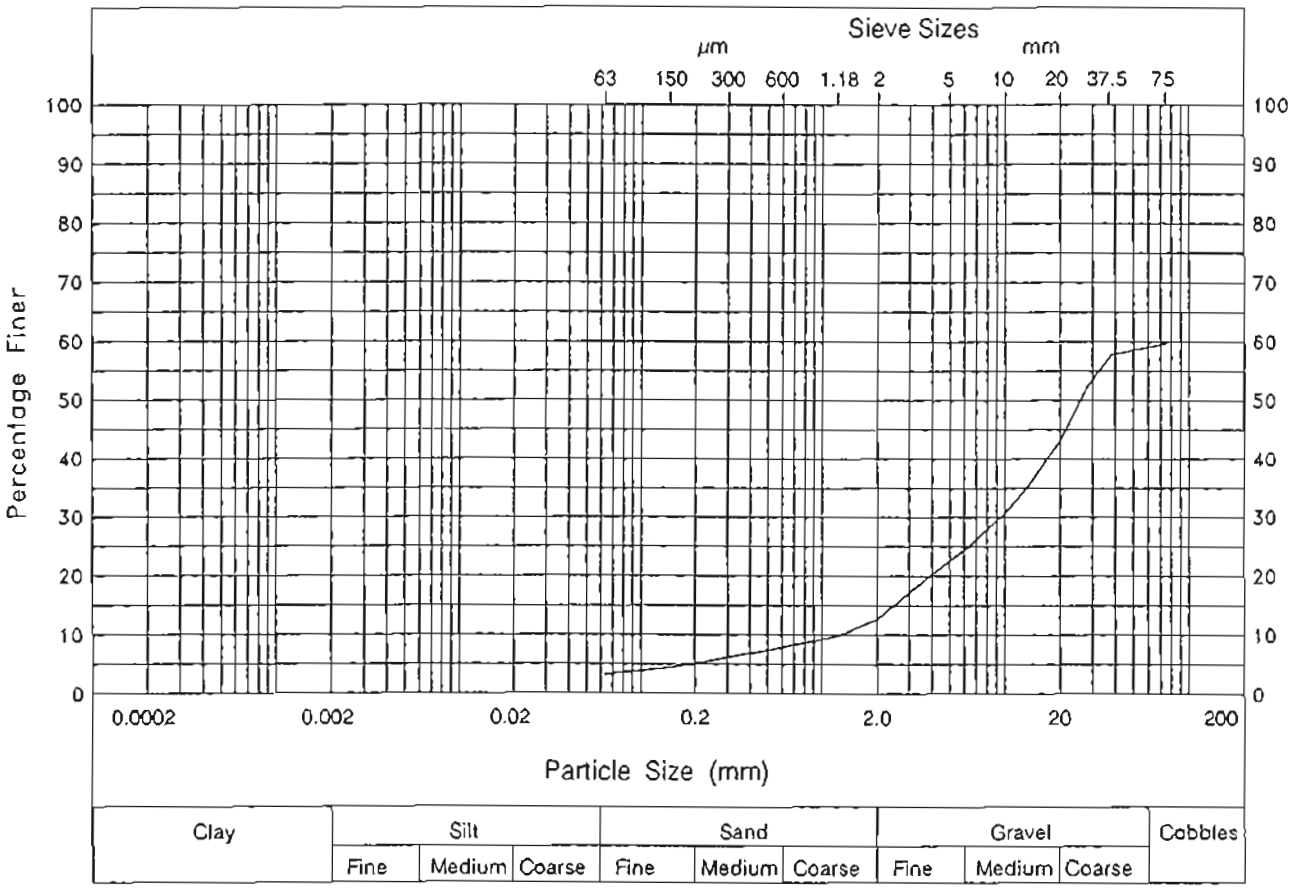
Laboratory - Particle Size Plot	Project Bedwas Colliery Reclamation Scheme Rhymney Valley District Council	Contract 155218
Exploration Associates		Sheet L2/1



Particle Size	% Passing	Particle Size	% Passing
75 mm	54	1.18 mm	27
50 mm	45	600 µm	25
37.5 mm	42	425 µm	24
28 mm	41	300 µm	22
20 mm	38	212 µm	19
14 mm	35	150 µm	17
10 mm	34	63 µm	13
6.3 mm	32	20 µm	11
5 mm	30	6 µm	8
3.35 mm	29	2 µm	7
2 mm	28		
Hole 1	Test Performed: WET Sedimentation sample pretreated using hydrogen peroxide		
Depth 7.00			
Type B			

Form 25/3

Laboratory - Particle Size Plot	Project Bedwas Colliery Reclamation Scheme Rhymney Valley District Council	Contract 155218
Exploration Associates		Sheet L2/2

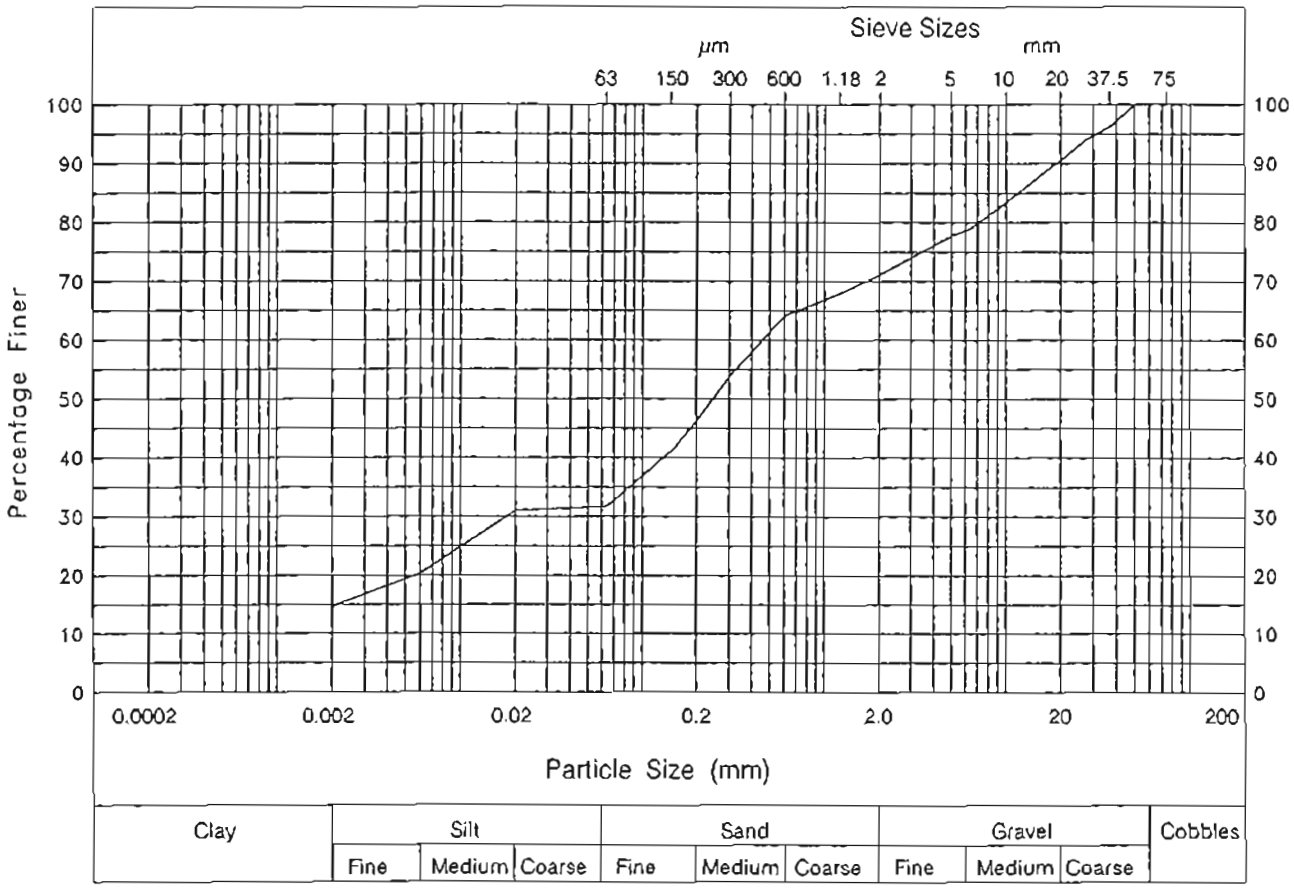


Particle Size	% Passing	Particle Size	% Passing
75 mm	60	2 mm	13
37.5 mm	58	1.18 mm	10
28 mm	52	600 µm	8
20 mm	43	425 µm	7
14 mm	36	300 µm	6
10 mm	31	212 µm	5
6.3 mm	25	150 µm	4
5 mm	23	63 µm	3
3.35 mm	18		

Hole 1	Test Performed: WET
Depth 8.20	
Type B	

Form 25/3

Laboratory - Particle Size Plot	Project Bedwas Colliery Reclamation Scheme Rhymney Valley District Council	Contract 155218
Exploration Associates		Sheet L2/3

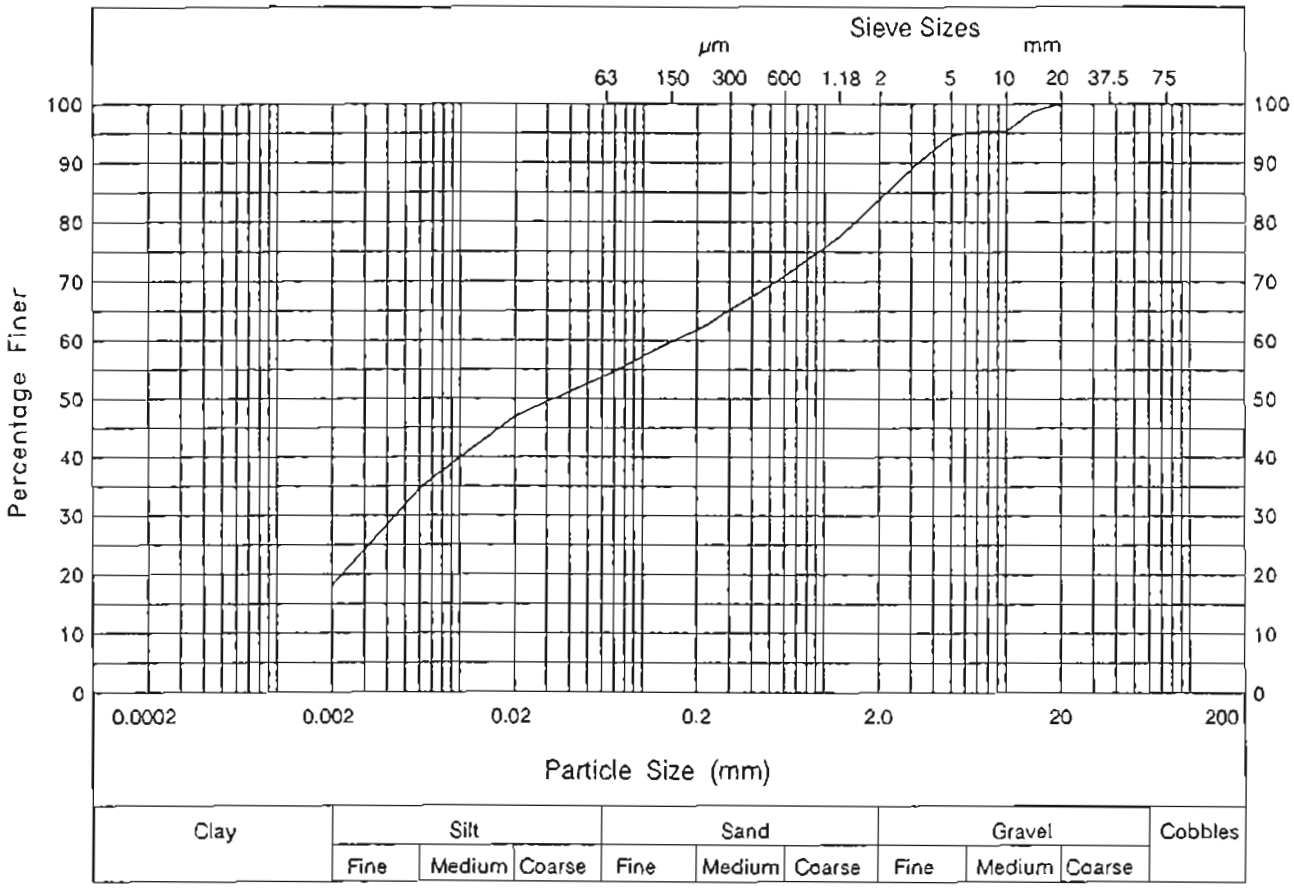


Particle Size	% Passing	Particle Size	% Passing
50 mm	100	1.18 mm	68
37.5 mm	96	600 µm	64
28 mm	94	425 µm	59
20 mm	90	300 µm	54
14 mm	87	212 µm	47
10 mm	83	150 µm	42
6.3 mm	79	63 µm	32
5 mm	78	20 µm	31
3.35 mm	75	6 µm	20
2 mm	71	2 µm	15

Hole 3	Test Performed: WET Sedimentation sample pretreated using hydrogen peroxide
Depth 1.00	
Type B	

Form 25/3

Laboratory - Particle Size Plot	Project Bedwas Colliery Reclamation Scheme Rhymney Valley District Council	Contract 155218
Exploration Associates		Sheet L2/4

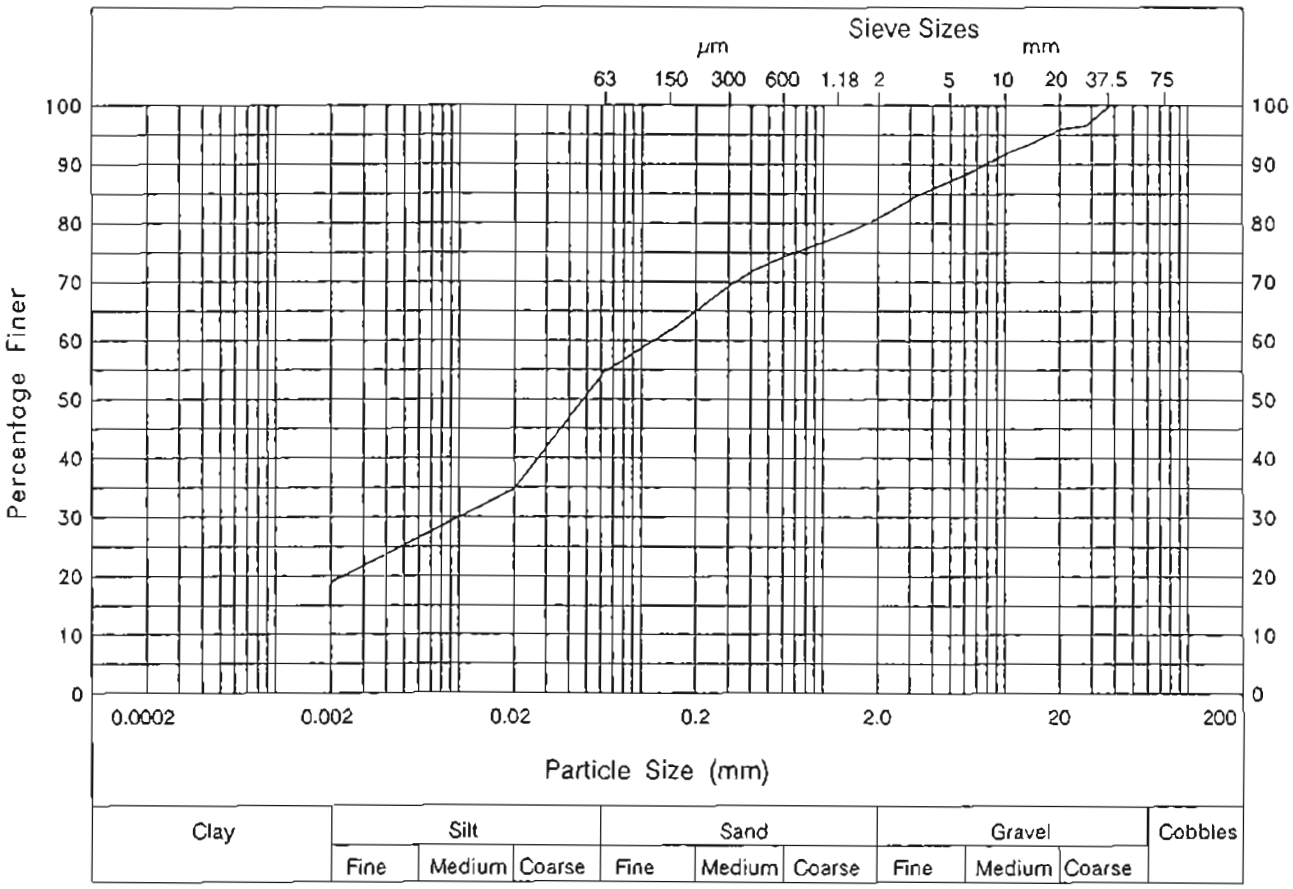


Particle Size	% Passing	Particle Size	% Passing
20 mm	100	425 µm	68
14 mm	99	300 µm	65
10 mm	95	212 µm	62
6.3 mm	95	150 µm	60
5 mm	95	63 µm	54
3.35 mm	90	20 µm	47
2 mm	84	6 µm	35
1.18 mm	77	2 µm	18
600 µm	71		

Hole 3	Test Performed: WET Sedimentation sample pretreated using hydrogen peroxide
Depth 7.00	
Type B	

Form 25/3

Laboratory - Particle Size Plot	Project Bedwas Colliery Reclamation Scheme Rhymney Valley District Council	Contract 155218
Exploration Associates		Sheet L2/5

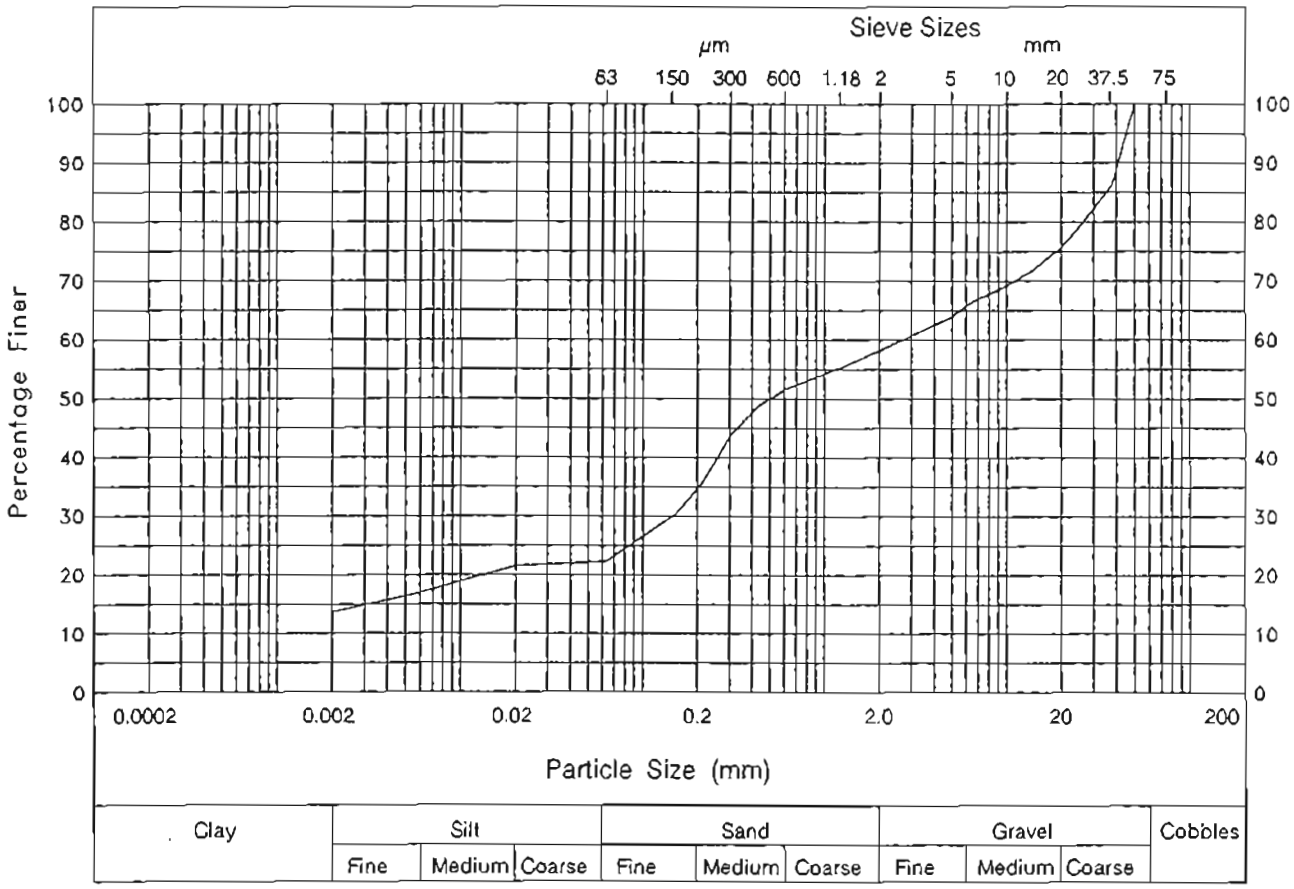


Particle Size	% Passing	Particle Size	% Passing
37.5 mm	100	600 µm	74
28 mm	97	425 µm	72
20 mm	96	300 µm	69
14 mm	94	212 µm	66
10 mm	92	150 µm	62
6.3 mm	88	63 µm	55
5 mm	87	20 µm	35
3.35 mm	85	6 µm	26
2 mm	81	2 µm	19
1.18 mm	78		

Hole 4	Test Performed: WET Sedimentation sample pretreated using hydrogen peroxide
Depth 3.00	
Type B	

Form 25/3

Laboratory - Particle Size Plot	Project Bedwas Colliery Reclamation Scheme Rhymney Valley District Council	Contract 155218
Exploration Associates		Sheet L2/6

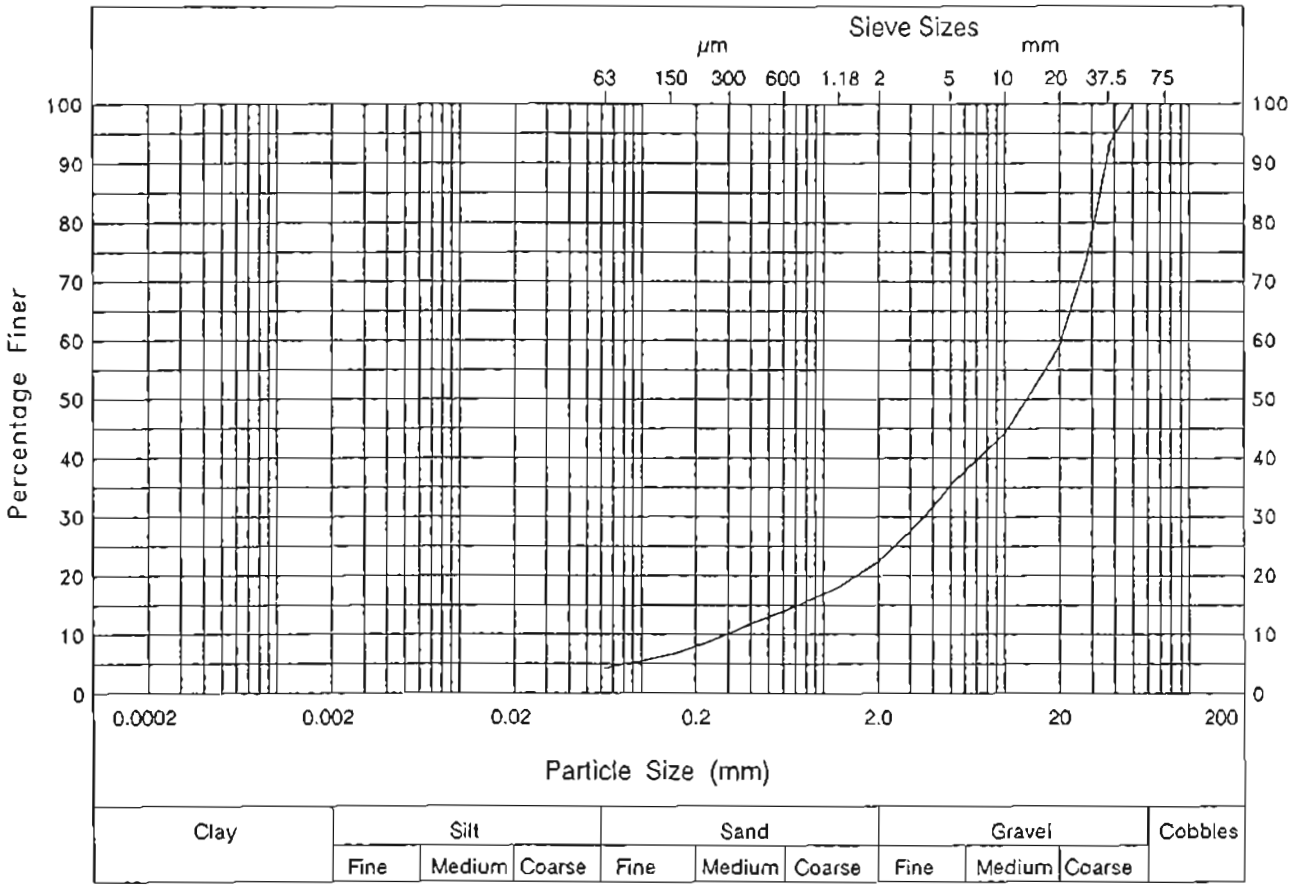


Particle Size	% Passing	Particle Size	% Passing
50 mm	100	1.18 mm	55
37.5 mm	86	600 µm	52
28 mm	81	425 µm	49
20 mm	76	300 µm	44
14 mm	72	212 µm	36
10 mm	69	150 µm	30
6.3 mm	66	63 µm	22
5 mm	64	20 µm	22
3.35 mm	61	6 µm	17
2 mm	58	2 µm	14

Hole 9	Test Performed: WET Sedimentation sample pretreated using hydrogen peroxide
Depth 0.10	
Type B	

Form 25/3

Laboratory - Particle Size Plot	Project Bedwas Colliery Reclamation Scheme Rhymney Valley District Council	Contract 155218
Exploration Associates		Sheet L2/7



Particle Size	% Passing	Particle Size	% Passing
50 mm	100	2 mm	22
37.5 mm	93	1.18 mm	18
28 mm	74	600 µm	14
20 mm	59	425 µm	12
14 mm	51	300 µm	10
10 mm	44	212 µm	8
6.3 mm	38	150 µm	7
5 mm	35	63 µm	4
3.35 mm	29		

Hole 10	Test Performed: WET
Depth 6.00	
Type 8	

Form 25/3

Laboratory - Particle Size Plot	Project: Bedwas Colliery Reclamation Scheme, Rhymney Valley District Council	Contract 155218
Exploration Associates		Sheet L2/8

Analytical Test Report
For

EXPLORATION ASSOCIATES LIMITED
BEDWAS COLLIERY (PART 1)

Report No.: R96/0025

Copies To:
Mr J Grainger
File

NAMAS
TESTING
No. 0618

What's so special about a NAMAS report or certificate?
- NAMAS is the acronym for National Accreditation of Measurement and Sampling.
- Accreditation of NAMAS testing is granted by the United Kingdom Accreditation Service (UKAS).
- It's your assurance that the work has been carried out to the highest standards.
- The laboratory issuing the test report has been stringently assessed by independent experts.
- You are assured that the agreed or specified methods and procedures have been followed.
- Measurements are traceable to national and international standards.

Comments:
Tests marked † in this report are not included in the NAMAS Accreditation Schedule for the testing laboratory. However, with the continuing development of our QC protocols, these tests will be included in the near future.
Any opinions and interpretations expressed herein are outside the scope of the testing laboratory's NAMAS Accreditation.
Coefficient of Variation (CV_T) is better than 15%

ANALYTE	METHOD OF DETECTION	LIMIT OF DETECTION
Metals	AAS/AA-Hydride	0.1 mg/kg (or better)
PAH/coal tar	HPLC-UV	10 mg/kg
Phenols	HPLC-UV	1.0 mg/kg
Cyanide	HPLC-PAD	25 mg/kg
Thiocyanate	Colorimetry	10 mg/kg
Sulphate	Turbidity	100 mg/kg (total)
Sulphide	Colorimetry	0.1 mg/kg
TPH	Infra-red	1 mg/kg
VOCs	GC-FID	0.1 mg/kg

Dichlorobenzene identified by retention time only. Other unidentified compounds were found in the same region of the chromatograph. Further investigation would be required to confirm the identity of the peaks.

Date submitted for analysis : 11/01/96

Your Job/Order Number : 151825

Analyst(s) : HTL AGP JS RH RLG SM

A Smith 26/1/96

Results approved by: A Bondswell (Technical Director)

Signature : A. Bondswell

Report date : 26 January 1996

Summary Of Results
Exploration Associates Limited - Bedwas Colliery (Part 1)

ANALYTES	UNITS	TP29 0.50m	TP29 2.00m	TP29 3.00m	TP29 4.00m	TP29 5.00m	TP29 6.00m	TP36 1.00m	TP36 2.30m	TP36 4.30m	TP36 5.40m	TP46 1.20m	TP46 2.30m	
		S9600286	S9600287	S9600288	S9600289	S9600290	S9600291	S9600292	S9600293	S9600294	S9600295	S9600296	S9600297	
Arsenic	mg/kg	17.6	#	#	#	#	#	#	#	#	#	26.2	#	
Cadmium	mg/kg	<0.1	#	#	#	#	#	#	#	#	#	<0.1	#	
Chromium	mg/kg	12.2	#	#	#	#	#	#	#	#	#	19.7	18.9	
Lead	mg/kg	41.9	#	#	#	#	#	#	#	#	#	28.2	#	
Mercury	mg/kg	<0.1	#	#	#	#	#	#	#	#	#	<0.1	#	†
Copper	mg/kg	48.1	#	#	#	#	#	#	#	#	#	63.8	#	
Nickel	mg/kg	29.6	#	#	#	#	#	#	#	#	#	32.1	#	
Zinc	mg/kg	76.5	#	#	#	#	#	#	#	#	#	122.8	86.6	
Cyanide (total)	mg/kg	<25	#	#	#	#	#	#	#	#	#	#	#	†
PAH/coal tar	mg/kg	45	<10	#	#	<10	#	338	<10	<10	#	#	36	†
Cyanide (complex)	mg/kg	#	#	#	#	#	#	#	#	#	#	<25	<25	†
Sulphide	mg/kg	#	#	#	#	#	#	#	#	#	#	2.1	3.8	†
Phenols (total)	mg/kg	#	#	#	#	#	#	#	#	#	#	#	<1.0	†

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Exploration Associates Limited - Bedwas Colliery (Part 1)

ANALYTES	UNITS	TP46 3.10m	TP46 4.60m	TP46 6.00m	TP40 0.80m	TP40 1.50m	TP40 3.30m	TP40 3.50m	TP40 4.80m	TP40 5.90m	TP31 3.30m	TP31 3.50m	TP31 5.30m	
		S9600298	S9600299	S9600300	S9600301	S9600302	S9600303	S9600304	S9600305	S9600306	S9600307	S9600308	S9600309	
PAH/coal tar	mg/kg	#	<10	#	#	11350	#	102	#	<10	#	14	#	†
Phenols (total)	mg/kg	#	<1.0	#	#	<1.0	#	<1.0	#	<1.0	#	#	#	†
Cyanide (total)	mg/kg	#	#	#	<25	#	#	#	#	#	#	#	#	†
Arsenic	mg/kg	#	#	#	9.3	#	#	#	#	#	#	#	#	
Cadmium	mg/kg	#	#	#	<0.1	#	#	#	#	#	#	#	#	
Lead	mg/kg	#	#	#	24.0	#	#	#	#	#	#	#	#	
Sulphide	mg/kg	#	#	#	4.1	#	#	#	#	#	#	#	#	†
Trans-1,2-Dichloroethene	mg/kg	#	#	#	#	#	#	<0.1	#	<0.1	#	<0.1	#	
Chloroform	mg/kg	#	#	#	#	#	#	<0.1	#	<0.1	#	<0.1	#	
1,1,1-Trichloroethane	mg/kg	#	#	#	#	#	#	<0.1	#	<0.1	#	<0.1	#	
Carbon Tetrachloride	mg/kg	#	#	#	#	#	#	<0.1	#	<0.1	#	<0.1	#	
Benzene	mg/kg	#	#	#	#	#	#	<0.1	#	<0.1	#	<0.1	#	
1,2-Dichloroethane	mg/kg	#	#	#	#	#	#	<0.1	#	<0.1	#	<0.1	#	
Trichloroethene (TCE)	mg/kg	#	#	#	#	#	#	<0.1	#	<0.1	#	<0.1	#	
1,2-Dichloropropane	mg/kg	#	#	#	#	#	#	<0.1	#	<0.1	#	<0.1	#	
Toluene	mg/kg	#	#	#	#	#	#	<0.1	#	<0.1	#	1.4	#	
1,1-Dichloropropane	mg/kg	#	#	#	#	#	#	<0.1	#	<0.1	#	<0.1	#	
1,1,2-Trichloroethane	mg/kg	#	#	#	#	#	#	<0.1	#	<0.1	#	<0.1	#	
Tetrachloroethane (PCE)	mg/kg	#	#	#	#	#	#	<0.1	#	<0.1	#	<0.1	#	
Tetrachloroethene	mg/kg	#	#	#	#	#	#	<0.1	#	<0.1	#	<0.1	#	

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Exploration Associates Limited - Bedwas Colliery (Part 1)

ANALYTES	UNITS	TP46 3.10m	TP46 4.60m	TP46 6.00m	TP40 0.80m	TP40 1.50m	TP40 3.30m	TP40 3.50m	TP40 4.80m	TP40 5.90m	TP31 3.30m	TP31 3.50m	TP31 5.30m
		S9600298	S9600299	S9600300	S9600301	S9600302	S9600303	S9600304	S9600305	S9600306	S9600307	S9600308	S9600309
Dibromochloromethane	mg/kg	#	#	#	#	#	#	<0.1	#	<0.1	#	<0.1	#
Ethyl Benzene	mg/kg	#	#	#	#	#	#	<0.1	#	<0.1	#	<0.1	#
Chlorobenzene	mg/kg	#	#	#	#	#	#	<0.1	#	<0.1	#	<0.1	#
Xylenes	mg/kg	#	#	#	#	#	#	<0.1	#	<0.1	#	<0.1	#
Bromoform	mg/kg	#	#	#	#	#	#	<0.1	#	<0.1	#	<0.1	#
1,1,2,2-Tetrachloroethane	mg/kg	#	#	#	#	#	#	<0.1	#	<0.1	#	<0.1	#
1,3-Dichlorobenzene	mg/kg	#	#	#	#	#	#	<0.1	#	<0.1	#	<0.1	#
1,4-Dichlorobenzene	mg/kg	#	#	#	#	#	#	<0.1	#	<0.1	#	1.6	#
1,2-Dichlorobenzene	mg/kg	#	#	#	#	#	#	<0.1	#	<0.1	#	0.2	#

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Exploration Associates Limited - Bedwas Colliery (Part 1)

ANALYTES	UNITS	TP31 5.90m	TP39 2.50m	TP39 2.70m	TP39 6.00m	TP35 1.60m	TP35 3.80m	TP35 4.60m	TP35 5.60m	TP32 1.70m	TP32 3.50m	TP32 4.00m	TP32 5.80m
		S9600310	S9600311	S9600312	S9600313	S9600314	S9600315	S9600316	S9600317	S9600318	S9600319	S9600320	S9600321
PAH/coal tar	mg/kg	14	#	102500	4370	5000	65	#	3170	90	22	#	<10 †
Trans-1,2-Dichloroethene	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	<0.1
Chloroform	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	<0.1
1,1,1-Trichloroethane	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	<0.1
Carbon Tetrachloride	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	<0.1
Benzene	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	<0.1
1,2-Dichloroethane	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	<0.1
Trichloroethene (TCE)	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	<0.1
1,2-Dichloropropane	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	<0.1
Toluene	mg/kg	<0.1	#	#	#	#	#	#	#	#	1.7	#	<0.1
1,1-Dichloropropane	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	<0.1
1,1,2-Trichloroethane	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	<0.1
Tetrachloroethane (PCE)	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	<0.1
Tetrachloroethene	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	<0.1
Dibromochloromethane	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	<0.1
Ethyl Benzene	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	<0.1
Chlorobenzene	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	<0.1
Xylenes	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	<0.1
Bromoform	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	<0.1
1,1,2,2-Tetrachloroethane	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	<0.1

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Exploration Associates Limited - Bedwas Colliery (Part 1)

ANALYTES	UNITS	TP31 5.90m	TP39 2.50m	TP39 2.70m	TP39 6.00m	TP35 1.60m	TP35 3.80m	TP35 4.60m	TP35 5.60m	TP32 1.70m	TP32 3.50m	TP32 4.00m	TP32 5.80m	
		S9600310	S9600311	S9600312	S9600313	S9600314	S9600315	S9600316	S9600317	S9600318	S9600319	S9600320	S9600321	
1,3-Dichlorobenzene	mg/kg	<0.1	#	#	#	#	#	#	#	#	<0.1	#	<0.1	
1,4-Dichlorobenzene	mg/kg	<0.1	#	#	#	#	#	#	#	#	0.8	#	1.2	
1,2-Dichlorobenzene	mg/kg	<0.1	#	#	#	#	#	#	#	#	0.4	#	<0.1	
Phenols (total)	mg/kg	#	#	789.0	108.6	<1.0	<1.0	#	<1.0	<1.0	<1.0	#	<1.0	†
Arsenic	mg/kg	#	#	#	#	8.4	#	#	#	#	#	#	#	
Cadmium	mg/kg	#	#	#	#	0.2	#	#	#	#	#	#	#	
Chromium	mg/kg	#	#	#	#	17.5	#	#	#	#	#	#	#	
Lead	mg/kg	#	#	#	#	101.7	#	#	#	#	#	#	#	
Mercury	mg/kg	#	#	#	#	2.2	#	#	#	#	#	#	#	†
Copper	mg/kg	#	#	#	#	137.3	#	#	#	#	#	#	#	
Nickel	mg/kg	#	#	#	#	30.8	#	#	#	#	#	#	#	
Zinc	mg/kg	#	#	#	#	211.0	#	#	#	#	#	#	#	
Cyanide (total)	mg/kg	#	#	#	#	<25	#	#	#	#	#	#	#	†

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Exploration Associates Limited - Bedwas Colliery (Part 1)

ANALYTES	UNITS	TP34 1.70m	TP34 3.80m	TP34 5.50m	TP44 1.20m	TP44 1.50m	TP44 3.50m	TP44 4.00m	TP43 1.00m	TP43 4.00m	TP43 5.50m	BH3 4.00m	BH3 5.00m	
		S9600322	S9600323	S9600324	S9600325	S9600326	S9600327	S9600328	S9600329	S9600330	S9600331	S9600332	S9600333	
Cyanide (total)	mg/kg	<25	#	#	#	#	#	#	#	#	#	#	<25	†
Sulphide	mg/kg	6.4	#	#	#	#	#	#	#	#	#	#	14.5	†
Thiocyanate	mg/kg	<10	#	#	#	#	#	#	#	#	#	#	#	†
PAH/coal tar	mg/kg	35700	3405	#	195	#	1805	#	6950	#	188	#	125	†
Phenols (total)	mg/kg	254.1	#	#	<1.0	#	<1.0	#	<1.0	#	<1.0	#	<1.0	†
Trans-1,2-Dichloroethene	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	<0.1	
Chloroform	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	<0.1	
1,1,1-Trichloroethane	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	<0.1	
Carbon Tetrachloride	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	<0.1	
Benzene	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	<0.1	
1,2-Dichloroethane	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	<0.1	
Trichloroethene (TCE)	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	<0.1	
1,2-Dichloropropane	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	<0.1	
Toluene	mg/kg	#	2.6	0.5	#	#	#	#	#	#	#	#	<0.1	
1,1-Dichloropropane	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	<0.1	
1,1,2-Trichloroethane	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	<0.1	
Tetrachloroethane (PCE)	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	<0.1	
Tetrachloroethene	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	<0.1	
Dibromochloromethane	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	<0.1	
Ethyl Benzene	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	<0.1	

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Exploration Associates Limited - Bedwas Colliery (Part 1)

ANALYTES	UNITS	TP34 1.70m	TP34 3.80m	TP34 5.50m	TP44 1.20m	TP44 1.50m	TP44 3.50m	TP44 4.00m	TP43 1.00m	TP43 4.00m	TP43 5.50m	BH3 4.00m	BH3 5.00m
		S9600322	S9600323	S9600324	S9600325	S9600326	S9600327	S9600328	S9600329	S9600330	S9600331	S9600332	S9600333
Chlorobenzene	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	<0.1
Xylenes	mg/kg	#	<0.1	0.3	#	#	#	#	#	#	#	#	<0.1
Bromoform	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	<0.1
1,1,2,2-Tetrachloroethane	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	<0.1
1,3-Dichlorobenzene	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	<0.1
1,4-Dichlorobenzene	mg/kg	#	0.4	2.6	#	#	#	#	#	#	#	#	<0.1
1,2-Dichlorobenzene	mg/kg	#	<0.1	0.5	#	#	#	#	#	#	#	#	<0.1

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Exploration Associates Limited - Bedwas Colliery (Part 1)

ANALYTES	UNITS	BH3 6.00m	BH3 7.00m	TP42 0.70m	TP42 2.60m	TP42 4.00m	TP37 0.50m	TP37 3.40m	TP50 0.80m	TP50A 1.60m	TP47A 1.10m	TP47A 3.00m	TP47A 4.60m	
		S9600334	S9600335	S9600336	S9600337	S9600338	S9600339	S9600340	S9600341	S9600342	S9600343	S9600344	S9600345	
Cyanide (total)	mg/kg	#	<25	<25	#	#	#	#	<25	#	<25	#	#	†
Sulphide	mg/kg	#	9.3	#	#	#	#	#	3.8	#	#	#	#	†
PAH/coal tar	mg/kg	#	14	41	6450	955	#	269	#	1980	#	#	#	†
Phenols (total)	mg/kg	#	<1.0	#	<1.0	1.3	#	<1.0	#	<1.0	#	<1.0	#	†
Trans-1,2-Dichloroethene	mg/kg	#	<0.1	#	<0.1	<0.1	#	<0.1	#	#	#	<0.1	#	
Chloroform	mg/kg	#	<0.1	#	<0.1	<0.1	#	<0.1	#	#	#	<0.1	#	
1,1,1-Trichloroethane	mg/kg	#	<0.1	#	<0.1	<0.1	#	<0.1	#	#	#	<0.1	#	
Carbon Tetrachloride	mg/kg	#	<0.1	#	<0.1	<0.1	#	<0.1	#	#	#	<0.1	#	
Benzene	mg/kg	#	<0.1	#	<0.1	<0.1	#	<0.1	#	#	#	<0.1	#	
1,2-Dichloroethane	mg/kg	#	<0.1	#	<0.1	<0.1	#	<0.1	#	#	#	<0.1	#	
Trichloroethene (TCE)	mg/kg	#	<0.1	#	<0.1	<0.1	#	<0.1	#	#	#	<0.1	#	
1,2-Dichloropropane	mg/kg	#	<0.1	#	<0.1	<0.1	#	<0.1	#	#	#	<0.1	#	
Toluene	mg/kg	#	0.3	#	<0.1	1.1	#	1.9	#	#	#	<0.1	#	
1,1-Dichloropropane	mg/kg	#	<0.1	#	<0.1	<0.1	#	<0.1	#	#	#	<0.1	#	
1,1,2-Trichloroethane	mg/kg	#	<0.1	#	<0.1	<0.1	#	<0.1	#	#	#	<0.1	#	
Tetrachloroethane (PCE)	mg/kg	#	<0.1	#	<0.1	<0.1	#	<0.1	#	#	#	<0.1	#	
Tetrachloroethene	mg/kg	#	<0.1	#	<0.1	<0.1	#	<0.1	#	#	#	<0.1	#	
Dibromochloromethane	mg/kg	#	<0.1	#	<0.1	<0.1	#	<0.1	#	#	#	<0.1	#	
Ethyl Benzene	mg/kg	#	0.4	#	<0.1	<0.1	#	<0.1	#	#	#	<0.1	#	
Chlorobenzene	mg/kg	#	<0.1	#	<0.1	<0.1	#	<0.1	#	#	#	<0.1	#	

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Exploration Associates Limited - Bedwas Colliery (Part 1)

ANALYTES	UNITS	BH3 6.00m	BH3 7.00m	TP42 0.70m	TP42 2.60m	TP42 4.00m	TP37 0.50m	TP37 3.40m	TP50 0.80m	TP50A 1.60m	TP47A 1.10m	TP47A 3.00m	TP47A 4.60m
		S9600334	S9600335	S9600336	S9600337	S9600338	S9600339	S9600340	S9600341	S9600342	S9600343	S9600344	S9600345
Xylenes	mg/kg	#	3.1	#	0.1	<0.1	#	<0.1	#	#	#	<0.1	#
Bromoform	mg/kg	#	<0.1	#	<0.1	<0.1	#	<0.1	#	#	#	<0.1	#
1,1,2,2-Tetrachloroethane	mg/kg	#	<0.1	#	<0.1	<0.1	#	<0.1	#	#	#	<0.1	#
1,3-Dichlorobenzene	mg/kg	#	0.8	#	<0.1	<0.1	#	<0.1	#	#	#	<0.1	#
1,4-Dichlorobenzene	mg/kg	#	2.7	#	1.6	3.1	#	<0.1	#	#	#	<0.1	#
1,2-Dichlorobenzene	mg/kg	#	1.5	#	1.5	<0.1	#	<0.1	#	#	#	<0.1	#
Arsenic	mg/kg	#	#	57.7	#	#	#	#	#	#	18.5	#	#
Cadmium	mg/kg	#	#	<0.1	#	#	#	#	#	#	0.2	#	#
Chromium	mg/kg	#	#	41.5	#	#	#	#	#	#	21.2	#	#
Lead	mg/kg	#	#	13.7	#	#	#	#	#	#	137.8	#	#
Mercury	mg/kg	#	#	<0.1	#	#	#	#	#	#	24.9	#	#
Copper	mg/kg	#	#	64.1	#	#	#	#	#	#	63.9	#	#
Nickel	mg/kg	#	#	27.1	#	#	#	#	#	#	33.2	#	#
Zinc	mg/kg	#	#	42.4	#	#	#	#	#	#	304.5	#	#
Total Petroleum Hydrocarbons	mg/kg	#	#	#	#	#	#	#	#	#	#	27	#

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Exploration Associates Limited - Bedwas Colliery (Part 1)

ANALYTES	UNITS	TP57 1.00m	TP58 1.20m	BH4 1.00m	BH4 2.00m	BH4 3.00m	BH4 4.00m	BH4 5.00m	BH8 1.00m	BH8 2.00m	BH8 3.00m	BH8 4.00m	BH2 1.00m	
		S9600346	S9600347	S9600348	S9600349	S9600350	S9600351	S9600352	S9600353	S9600354	S9600355	S9600356	S9600357	
PAH/coal tar	mg/kg	#	1050	#	#	203	#	510	370	#	31	#	344	†
Phenols (total)	mg/kg	#	<1.0	#	#	<1.0	#	<1.0	<1.0	#	<1.0	#	<1.0	†
Arsenic	mg/kg	#	#	10.7	#	5.3	#	6.6	29.8	#	13.6	#	#	
Cadmium	mg/kg	#	#	<0.1	#	<0.1	#	<0.1	0.1	#	<0.1	#	#	
Chromium	mg/kg	#	#	25.0	#	24.3	#	20.7	24.9	#	17.2	#	#	
Lead	mg/kg	#	#	24.1	#	13.3	#	6.8	89.3	#	37.6	#	#	
Mercury	mg/kg	#	#	0.6	#	0.1	#	0.1	0.6	#	<0.1	#	#	†
Copper	mg/kg	#	#	44.5	#	25.6	#	14.1	89.5	#	49.7	#	#	
Nickel	mg/kg	#	#	28.8	#	36.8	#	22.3	46.5	#	34.0	#	#	
Zinc	mg/kg	#	#	78.2	#	80.4	#	54.6	247.9	#	125.3	#	#	
Cyanide (total)	mg/kg	#	#	<25	#	<25	#	<25	<25	#	<25	#	#	†
Sulphate (acid sol.)	mg/kg	#	#	873	#	485	#	388	631	#	776	#	#	†
Total Petroleum Hydrocarbons	mg/kg	#	#	#	#	5	#	#	#	#	#	#	148	

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Exploration Associates Limited - Bedwas Colliery (Part 1)

ANALYTES	UNITS	BH9 5.00m												
		S9600358												
PAH/coal tar	mg/kg	<10	#	#	#	#	#	#	#	#	#	#	#	†
Total Petroleum Hydrocarbons	mg/kg	<1	#	#	#	#	#	#	#	#	#	#	#	
Phenols (total)	mg/kg	<1.0	#	#	#	#	#	#	#	#	#	#	#	†

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Exploration Associates Limited - Bedwas Colliery (Part 1)

ANALYTES	UNITS	TP50A 1.6m water	TP47A 3.4m water	BH4 5.0m water	Stream near TP58 water	TP46 water	TP44 4.0m water	TP43 4.0m water	BH3 5.8m water				
		S9600365	S9600367	S9600368	S9600369	S9600370	S9600371	S9600372	S9600373				
pH	N/A	7.4	6.9	6.5	7.1	7.0	7.0	7.2	6.8	#	#	#	#
Phenols (total)	mg/l	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	#	#	#	# †
Cyanide (total)	mg/l	<2.0	<2.0	<2.0	<2.0	#	#	<2.0	<2.0	#	#	#	# †
Sulphide	mg/l	0.04	0.26	0.06	0.04	0.22	0.23	0.32	0.04	#	#	#	# †
Trans-1,2-Dichloroethene	mg/l	<0.01	<0.01	#	<0.01	#	#	#	#	#	#	#	#
Chloroform	mg/l	<0.01	<0.01	#	<0.01	#	#	#	#	#	#	#	#
1,1,1-Trichloroethane	mg/l	<0.01	<0.01	#	<0.01	#	#	#	#	#	#	#	#
Carbon Tetrachloride	mg/l	<0.01	<0.01	#	<0.01	#	#	#	#	#	#	#	#
Benzene	mg/l	<0.01	<0.01	#	<0.01	#	#	#	#	#	#	#	#
1,2-Dichloroethane	mg/l	<0.01	<0.01	#	<0.01	#	#	#	#	#	#	#	#
Trichloroethene (TCE)	mg/l	<0.01	<0.01	#	<0.01	#	#	#	#	#	#	#	#
1,2-Dichloropropane	mg/l	<0.01	<0.01	#	<0.01	#	#	#	#	#	#	#	#
Toluene	mg/l	0.30	<0.01	#	0.10	#	#	#	#	#	#	#	#
1,1-Dichloropropane	mg/l	<0.01	<0.01	#	<0.01	#	#	#	#	#	#	#	#
1,1,2-Trichloroethane	mg/l	<0.01	<0.01	#	<0.01	#	#	#	#	#	#	#	#
Tetrachloroethane (PCE)	mg/l	<0.01	<0.01	#	<0.01	#	#	#	#	#	#	#	#
Tetrachloroethene	mg/l	<0.01	<0.01	#	<0.01	#	#	#	#	#	#	#	#
Dibromochloromethane	mg/l	<0.01	<0.01	#	<0.01	#	#	#	#	#	#	#	#
Ethyl Benzene	mg/l	<0.01	<0.01	#	<0.01	#	#	#	#	#	#	#	#
Chlorobenzene	mg/l	<0.01	<0.01	#	<0.01	#	#	#	#	#	#	#	#

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Exploration Associates Limited - Bedwas Colliery (Part 1)

ANALYTES	UNITS	TP50A 1.6m water	TP47A 3.4m water	BH4 5.0m water	Stream near TP58 water	TP46 water	TP44 4.0m water	TP43 4.0m water	BH3 5.8m water				
		S9600365	S9600367	S9600368	S9600369	S9600370	S9600371	S9600372	S9600373				
Xylenes	mg/l	0.17	<0.01	#	<0.01	#	#	#	#	#	#	#	#
Bromoform	mg/l	<0.01	<0.01	#	<0.01	#	#	#	#	#	#	#	#
1,1,2,2-Tetrachloroethane	mg/l	<0.01	<0.01	#	<0.01	#	#	#	#	#	#	#	#
1,3-Dichlorobenzene	mg/l	<0.01	<0.01	#	<0.01	#	#	#	#	#	#	#	#
1,4-Dichlorobenzene	mg/l	<0.01	<0.01	#	<0.01	#	#	#	#	#	#	#	#
1,2-Dichlorobenzene	mg/l	<0.01	<0.01	#	<0.01	#	#	#	#	#	#	#	#
PAH	mg/l	<1.0	#	2.6	<1.0	<1.0	<1.0	<1.0	<1.0	#	#	#	# †
Arsenic	mg/l	<0.01	#	0.01	<0.01	#	#	#	#	#	#	#	#
Cadmium	mg/l	<0.01	#	<0.01	<0.01	#	#	#	#	#	#	#	#
Chromium	mg/l	<0.01	#	0.01	0.03	#	#	#	#	#	#	#	#
Lead	mg/l	<0.01	#	0.10	0.02	#	#	#	#	#	#	#	#
Mercury	mg/l	<0.01	#	<0.01	<0.01	#	#	#	#	#	#	#	# †

Results for soil samples expressed as dry weight
: Analyte not requested

Analytical Test Report
For

EXPLORATION ASSOCIATES LIMITED
BEDWAS COLLIERY (PART 2)

Report No.: R96/0037

Copies To:
Mr J Grainger
File

NAMAS
TESTING
No. 0618

What's so special about a NAMAS report or certificate?
- NAMAS is the acronym for National Accreditation of Measurement and Sampling.
- Accreditation of NAMAS testing is granted by the United Kingdom Accreditation Service (UKAS).
- It's your assurance that the work has been carried out to the highest standards.
- The laboratory issuing the test report has been stringently assessed by independent experts.
- You are assured that the agreed or specified methods and procedures have been followed.
- Measurements are traceable to national and international standards.

Comments:
Tests marked † in this report are not included in the NAMAS Accreditation Schedule for the testing laboratory. However, with the continuing development of our QC protocols, these tests will be included in the near future.
Any opinions and interpretations expressed herein are outside the scope of the testing laboratory's NAMAS Accreditation.
Coefficient of Variation (CV_T) is better than 15%

ANALYTE	METHOD OF DETECTION	LIMIT OF DETECTION
Metals	AAS/AA-Hydride	0.1 mg/kg (or better)
PAH/coal tar	HPLC-UV	10 mg/kg (total)
Phenols	HPLC-UV	1.0 mg/kg
Cyanide	HPLC-PAD	25 mg/kg
Sulphate	Turbidity	100 mg/kg (total)
Sulphide	Colorimetry	0.01 mg/l
pH	pH-Meter	N/A
TPH	Infra-red	1 mg/kg
VOCs	GC-FID	0.1 mg/kg

Date submitted for analysis : 12/01/96

Your Job/Order Number : 151825

A Smith 13/2/96

Analyst(s) : HTL RLG AGP RH JS

Results approved by: A Bondswell (Technical Director)

Signature : A Bondswell

Report date : 13 February 1996

Summary Of Results
Exploration Associates Limited - Bedwas Colliery (Part 2)

ANALYTES	UNITS	TP61 1.3m	TP61 2.3m	TP62 1.8m	TP62 2.1m	TP66 1.8m	TP65 2.5m	TP69 1.2m	TP69 2.9m	TP69 4.1m	TP64 1.5m	TP64 3.3m	TP64 4.8m	
		S9600406	S9600407	S9600408	S9600409	S9600410	S9600411	S9600412	S9600413	S9600414	S9600415	S9600416	S9600417	
Arsenic	mg/kg	18.3	#	#	#	#	#	17.9	#	#	25.0	#	#	
Cadmium	mg/kg	0.4	#	#	#	#	#	3.4	#	#	<0.1	#	#	
Chromium (total)	mg/kg	23.1	#	#	#	#	#	20.9	#	#	18.1	#	#	
Lead	mg/kg	163.2	#	#	#	#	#	204.2	#	#	69.6	#	#	
Mercury	mg/kg	2.2	#	#	#	#	#	0.6	#	#	<0.1	#	#	†
Copper	mg/kg	68.5	#	#	#	#	#	117.6	#	#	131.3	#	#	
Nickel	mg/kg	43.3	#	#	#	#	#	29.8	#	#	43.6	#	#	
Zinc	mg/kg	408.1	#	#	#	#	#	354.9	#	#	53.1	#	#	
Sulphate (acid sol.)	mg/kg	1310	#	#	#	#	#	1746	#	#	2959	#	#	†
Cyanide (total)	mg/kg	<25	#	#	#	#	#	<25	#	#	<25	#	#	†
PAH/coal tar	mg/kg	18300	#	#	136.0	800.0	56000	#	#	#	43900	#	#	†
Total Petroleum Hydrocarbons	mg/kg	353	#	#	#	476	2740	<1	#	#	#	44	#	
Phenols (total)	mg/kg	18.9	#	#	9.9	73.5	252.9	#	<1.0	#	#	#	#	†
Trans-1,2-Dichloroethene	mg/kg	#	<0.1	#	#	#	#	#	<0.1	<0.1	#	<0.1	#	
Chloroform	mg/kg	#	<0.1	#	#	#	#	#	<0.1	<0.1	#	<0.1	#	
1,1,1-Trichloroethane	mg/kg	#	<0.1	#	#	#	#	#	<0.1	<0.1	#	<0.1	#	
Carbon Tetrachloride	mg/kg	#	<0.1	#	#	#	#	#	<0.1	<0.1	#	<0.1	#	
Benzene	mg/kg	#	<0.1	#	#	#	#	#	<0.1	<0.1	#	<0.1	#	
1,2-Dichloroethane	mg/kg	#	<0.1	#	#	#	#	#	<0.1	<0.1	#	<0.1	#	
Trichloroethene (TCE)	mg/kg	#	<0.1	#	#	#	#	#	<0.1	<0.1	#	<0.1	#	

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Exploration Associates Limited - Bedwas Colliery (Part 2)

ANALYTES	UNITS	TP61 1.3m	TP61 2.3m	TP62 1.8m	TP62 2.1m	TP66 1.8m	TP65 2.5m	TP69 1.2m	TP69 2.9m	TP69 4.1m	TP64 1.5m	TP64 3.3m	TP64 4.8m
		S9600406	S9600407	S9600408	S9600409	S9600410	S9600411	S9600412	S9600413	S9600414	S9600415	S9600416	S9600417
1,2-Dichloropropane	mg/kg	#	<0.1	#	#	#	#	#	<0.1	<0.1	#	<0.1	#
Toluene	mg/kg	#	<0.1	#	#	#	#	#	1.0	<0.1	#	<0.1	#
1,1-Dichloropropane	mg/kg	#	<0.1	#	#	#	#	#	<0.1	<0.1	#	<0.1	#
1,1,2-Trichloroethane	mg/kg	#	<0.1	#	#	#	#	#	<0.1	<0.1	#	<0.1	#
Tetrachloroethane (PCE)	mg/kg	#	<0.1	#	#	#	#	#	<0.1	<0.1	#	<0.1	#
Tetrachloroethene	mg/kg	#	<0.1	#	#	#	#	#	<0.1	<0.1	#	<0.1	#
Dibromochloromethane	mg/kg	#	<0.1	#	#	#	#	#	<0.1	<0.1	#	<0.1	#
Ethyl Benzene	mg/kg	#	1.8	#	#	#	#	#	<0.1	<0.1	#	<0.1	#
Chlorobenzene	mg/kg	#	<0.1	#	#	#	#	#	<0.1	<0.1	#	<0.1	#
Xylenes	mg/kg	#	6.2	#	#	#	#	#	<0.1	<0.1	#	<0.1	#
Bromoform	mg/kg	#	<0.1	#	#	#	#	#	<0.1	<0.1	#	<0.1	#
1,1,2,2-Tetrachloroethane	mg/kg	#	<0.1	#	#	#	#	#	<0.1	<0.1	#	<0.1	#
1,3-Dichlorobenzene	mg/kg	#	<0.1	#	#	#	#	#	<0.1	<0.1	#	<0.1	#
1,4-Dichlorobenzene	mg/kg	#	<0.1	#	#	#	#	#	<0.1	<0.1	#	<0.1	#
1,2-Dichlorobenzene	mg/kg	#	<0.1	#	#	#	#	#	<0.1	<0.1	#	<0.1	#

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Exploration Associates Limited - Bedwas Colliery (Part 2)

ANALYTES	UNITS	TP64 5.9m	TP50 1.2m	TP60 2.9m	TP60 3.4m	TP60 5.5m	TP68 1.1m	TP68 3.5m	TP68 5.1m	TP51 0.7m	TP51 4.1m	TP51 5.7m	
		S9600418	S9600419	S9600420	S9600421	S9600422	S9600423	S9600424	S9600425	S9600426	S9600427	S9600428	
Total Petroleum Hydrocarbons	mg/kg	440	#	#	660	#	#	#	<1	#	#	#	#
Trans-1,2-Dichloroethene	mg/kg	<0.1	#	#	#	#	#	#	#	#	#	#	#
Chloroform	mg/kg	<0.1	#	#	#	#	#	#	#	#	#	#	#
1,1,1-Trichloroethane	mg/kg	<0.1	#	#	#	#	#	#	#	#	#	#	#
Carbon Tetrachloride	mg/kg	<0.1	#	#	#	#	#	#	#	#	#	#	#
Benzene	mg/kg	<0.1	#	#	#	#	#	#	#	#	#	#	#
1,2-Dichloroethane	mg/kg	<0.1	#	#	#	#	#	#	#	#	#	#	#
Trichloroethene (TCE)	mg/kg	<0.1	#	#	#	#	#	#	#	#	#	#	#
1,2-Dichloropropane	mg/kg	<0.1	#	#	#	#	#	#	#	#	#	#	#
Toluene	mg/kg	<0.1	#	#	#	#	#	#	#	#	#	#	#
1,1-Dichloropropane	mg/kg	<0.1	#	#	#	#	#	#	#	#	#	#	#
1,1,2-Trichloroethane	mg/kg	<0.1	#	#	#	#	#	#	#	#	#	#	#
Tetrachloroethane (PCE)	mg/kg	<0.1	#	#	#	#	#	#	#	#	#	#	#
Tetrachloroethene	mg/kg	<0.1	#	#	#	#	#	#	#	#	#	#	#
Dibromochloromethane	mg/kg	<0.1	#	#	#	#	#	#	#	#	#	#	#
Ethyl Benzene	mg/kg	<0.1	#	#	#	#	#	#	#	#	#	#	#
Chlorobenzene	mg/kg	<0.1	#	#	#	#	#	#	#	#	#	#	#
Xylenes	mg/kg	<0.1	#	#	#	#	#	#	#	#	#	#	#
Bromoform	mg/kg	<0.1	#	#	#	#	#	#	#	#	#	#	#
1,1,2,2-Tetrachloroethane	mg/kg	<0.1	#	#	#	#	#	#	#	#	#	#	#

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Exploration Associates Limited - Bedwas Colliery (Part 2)

ANALYTES	UNITS	TP64 5.9m	TP60 1.2m	TP60 2.9m	TP60 3.4m	TP60 5.5m	TP68 1.1m	TP68 3.5m	TP68 5.1m	TP51 0.7m	TP51 4.1m	TP51 5.7m		
		S9600418	S9600419	S9600420	S9600421	S9600422	S9600423	S9600424	S9600425	S9600426	S9600427	S9600428		
1,3-Dichlorobenzene	mg/kg	<0.1	#	#	#	#	#	#	#	#	#	#	#	
1,4-Dichlorobenzene	mg/kg	<0.1	#	#	#	#	#	#	#	#	#	#	#	
1,2-Dichlorobenzene	mg/kg	<0.1	#	#	#	#	#	#	#	#	#	#	#	
Phenols (total)	mg/kg	#	#	#	<1.0	<1.0	<1.0	#	<1.0	<1.0	#	<1.0	#	†
PAH/coal tar	mg/kg	#	#	#	#	#	187.5	#	#	407.0	#	#	#	†

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Exploration Associates Limited - Bedwas Colliery (Part 2)

ANALYTES	UNITS	TP62 2.1m water	TP61 2.3m water	TP64 5.9m water									
		S9600432	S9600433	S9600434									
pH	N/A	7.1	8.2	6.6	#	#	#	#	#	#	#	#	#
Sulphide	mg/l	0.06	0.40	0.04	#	#	#	#	#	#	#	#	# †
Cyanide (total)	mg/l	<2.0	<2.0	<2.0	#	#	#	#	#	#	#	#	# †
Phenols (total)	mg/l	<1.0	#	1.4	#	#	#	#	#	#	#	#	# †
PAH	mg/l	<1.0	#	#	#	#	#	#	#	#	#	#	# †
Trans-1,2-Dichloroethene	mg/l	#	#	<0.01	#	#	#	#	#	#	#	#	#
Chloroform	mg/l	#	#	<0.01	#	#	#	#	#	#	#	#	#
1,1,1-Trichloroethane	mg/l	#	#	<0.01	#	#	#	#	#	#	#	#	#
Carbon Tetrachloride	mg/l	#	#	<0.01	#	#	#	#	#	#	#	#	#
Benzene	mg/l	#	#	<0.01	#	#	#	#	#	#	#	#	#
1,2-Dichloroethane	mg/l	#	#	<0.01	#	#	#	#	#	#	#	#	#
Trichloroethene (TCE)	mg/l	#	#	<0.01	#	#	#	#	#	#	#	#	#
1,2-Dichloropropane	mg/l	#	#	<0.01	#	#	#	#	#	#	#	#	#
Toluene	mg/l	#	#	<0.01	#	#	#	#	#	#	#	#	#
1,1-Dichloropropane	mg/l	#	#	<0.01	#	#	#	#	#	#	#	#	#
1,1,2-Trichloroethane	mg/l	#	#	<0.01	#	#	#	#	#	#	#	#	#
Tetrachloroethane (PCE)	mg/l	#	#	<0.01	#	#	#	#	#	#	#	#	#
Tetrachloroethene	mg/l	#	#	<0.01	#	#	#	#	#	#	#	#	#
Dibromochloromethane	mg/l	#	#	<0.01	#	#	#	#	#	#	#	#	#
Ethyl Benzene	mg/l	#	#	<0.01	#	#	#	#	#	#	#	#	#

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Exploration Associates Limited - Bedwas Colliery (Part 2)

ANALYTES	UNITS	TP62 2.1m water	TP61 2.3m water	TP64 5.9m water									
		S9600432	S9600433	S9600434									
Chlorobenzene	mg/l	#	#	<0.01	#	#	#	#	#	#	#	#	#
Xylenes	mg/l	#	#	<0.01	#	#	#	#	#	#	#	#	#
Bromoform	mg/l	#	#	<0.01	#	#	#	#	#	#	#	#	#
1,1,2,2-Tetrachloroethane	mg/l	#	#	<0.01	#	#	#	#	#	#	#	#	#
1,3-Dichlorobenzene	mg/l	#	#	<0.01	#	#	#	#	#	#	#	#	#
1,4-Dichlorobenzene	mg/l	#	#	<0.01	#	#	#	#	#	#	#	#	#
1,2-Dichlorobenzene	mg/l	#	#	<0.01	#	#	#	#	#	#	#	#	#

Results for soil samples expressed as dry weight
: Analyte not requested

Analytical Test Report
For

EXPLORATION ASSOCIATES LIMITED
BEDWAS COLLIERY (PART 3)

Report No.: R96/0076

Copies To:
Mr J Grainger
File

NAMAS
TESTING
No. 0618

What's so special about a NAMAS report or certificate?
- NAMAS is the acronym for National Accreditation of Measurement and Sampling.
- Accreditation of NAMAS testing is granted by the United Kingdom Accreditation Service (UKAS).
- It's your assurance that the work has been carried out to the highest standards.
- The laboratory issuing the test report has been stringently assessed by independent experts.
- You are assured that the agreed or specified methods and procedures have been followed.
- Measurements are traceable to national and international standards.

Comments:
Tests marked † in this report are not included in the NAMAS Accreditation Schedule for the testing laboratory. However, with the continuing development of our QC protocols, these tests will be included in the near future.
Any opinions and interpretations expressed herein are outside the scope of the testing laboratory's NAMAS Accreditation.
Coefficient of Variation (CV_T) is better than 15%

ANALYTE	METHOD OF DETECTION	LIMIT OF DETECTION
Metals	ICP	0.1 mg/kg (or better)
PAH/coal tar	HPLC-UV	10 mg/kg (total)
Phenols	HPLC-UV	1.0 mg/kg
Cyanide	HPLC-PAD	25 mg/kg (total)
Sulphate	Turbidity	100 mg/kg (total)
Sulphide	Colorimetry	0.1 mg/kg
pH	pH-Meter	N/A
TPH	Infra-red	1 mg/kg
VOCs	GC-MS	0.1 mg/kg
PCBs	GC-MS	0.1 mg/kg (total)

Date submitted for analysis : 19/01/96

Your Job/Order Number : 151825

Analyst(s) : RH RLG CAT HTL PGS CBA

A Smith 20/1/96

Results approved by: A Bondswell (Technical Director)

Signature : A. Bondswell

Report date : 20 February 1996

Summary Of Results
Exploration Associates Limited - Bedwas Colliery (Part 3)

ANALYTES	UNITS	TP70 2.3m	TP70 2.6m	TP71 1.2m	TP71 2.8m	TP71 4.0m	TP56A 1.7m	TP56A 2.9m	TP56A 3.9m	TP53 2.0m	TP53 3.5m	TP53 4.3m	TP67 2.1m	
		S9600791	S9600792	S9600793	S9600795	S9600796	S9600797	S9600798	S9600799	S9600800	S9600801	S9600802	S9600803	
Trans-1,2-Dichloroethene	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	#	†
Chloroform	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	#	†
1,1,1-Trichloroethane	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	#	†
Carbon Tetrachloride	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	#	†
Benzene	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	#	†
1,2-Dichloroethane	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	#	†
Trichloroethene (TCE)	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	#	†
1,2-Dichloropropane	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	#	†
Toluene	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	#	†
1,1-Dichloropropane	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	#	†
1,1,2-Trichloroethane	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	#	†
Tetrachloroethane (PCE)	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	#	†
Tetrachloroethene	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	#	†
Dibromochloromethane	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	#	†
Ethyl Benzene	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	#	†
Chlorobenzene	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	#	†
Xylenes	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	#	†
Bromoform	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	#	†
1,1,2,2-Tetrachloroethane	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	#	†
1,3-Dichlorobenzene	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	#	†

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Exploration Associates Limited - Bedwas Colliery (Part 3)

ANALYTES	UNITS	TP70 2.3m	TP70 2.6m	TP71 1.2m	TP71 2.8m	TP71 4.0m	TP56A 1.7m	TP56A 2.9m	TP56A 3.9m	TP53 2.0m	TP53 3.5m	TP53 4.3m	TP67 2.1m	
		S9600791	S9600792	S9600793	S9600795	S9600796	S9600797	S9600798	S9600799	S9600800	S9600801	S9600802	S9600803	
1,4-Dichlorobenzene	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	#	†
1,2-Dichlorobenzene	mg/kg	#	<0.1	<0.1	#	#	#	#	#	#	#	#	#	†
pH	N/A	#	#	6.7	#	#	7.6	#	#	#	#	#	#	
Sulphate	mg/kg	#	#	1067	#	#	#	#	#	#	#	#	#	†
Cyanide (total)	mg/kg	#	#	<25	#	#	<25	#	<25	#	#	#	#	†
TPH	mg/kg	#	#	2701	#	163	#	2171	605	#	1100	5	#	
Phenols (total)	mg/kg	#	#	<1.0	#	<1.0	#	<1.0	#	#	<1.0	#	#	†
Sulphide	mg/kg	#	#	#	#	#	<0.1	#	<0.1	#	#	#	#	†
PAH/coal tar	mg/kg	#	#	#	#	#	#	298	#	#	#	#	#	†

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Exploration Associates Limited - Bedwas Colliery (Part 3)

ANALYTES	UNITS	TP67 3.4m	TP67 5.0m	TP72 1.0m	TP72 2.0m	TP72 4.0m	TP72 5.0m	TP55 1.2m	TP55 2.8m	TP55 4.0m	TP55 5.7m	TP49 1.5m	TP49 3.5m	
		S9600804	S9600805	S9600806	S9600807	S9600808	S9600809	S9600810	S9600811	S9600812	S9600813	S9600814	S9600815	
pH	N/A	#	#	#	3.2	#	#	#	#	#	#	#	#	
Sulphate	mg/kg	#	#	#	2813	#	#	1552	#	#	#	#	#	†
Cyanide (total)	mg/kg	#	#	#	<25	#	#	<25	#	<25	#	#	#	†
PAH/coal tar	mg/kg	#	#	#	<10	#	#	4000	#	#	#	#	#	†
Phenols (total)	mg/kg	#	#	#	<1.0	#	<1.0	<1.0	#	#	<1.0	#	#	†
Trans-1,2-Dichloroethene	mg/kg	#	#	#	#	#	#	#	<0.1	#	#	#	#	†
Chloroform	mg/kg	#	#	#	#	#	#	#	<0.1	#	#	#	#	†
1,1,1-Trichloroethane	mg/kg	#	#	#	#	#	#	#	<0.1	#	#	#	#	†
Carbon Tetrachloride	mg/kg	#	#	#	#	#	#	#	<0.1	#	#	#	#	†
Benzene	mg/kg	#	#	#	#	#	#	#	<0.1	#	#	#	#	†
1,2-Dichloroethane	mg/kg	#	#	#	#	#	#	#	<0.1	#	#	#	#	†
Trichloroethene (TCE)	mg/kg	#	#	#	#	#	#	#	<0.1	#	#	#	#	†
1,2-Dichloropropane	mg/kg	#	#	#	#	#	#	#	<0.1	#	#	#	#	†
Toluene	mg/kg	#	#	#	#	#	#	#	<0.1	#	#	#	#	†
1,1-Dichloropropane	mg/kg	#	#	#	#	#	#	#	<0.1	#	#	#	#	†
1,1,2-Trichloroethane	mg/kg	#	#	#	#	#	#	#	<0.1	#	#	#	#	†
Tetrachloroethane (PCE)	mg/kg	#	#	#	#	#	#	#	<0.1	#	#	#	#	†
Tetrachloroethene	mg/kg	#	#	#	#	#	#	#	<0.1	#	#	#	#	†
Dibromochloromethane	mg/kg	#	#	#	#	#	#	#	<0.1	#	#	#	#	†
Ethyl Benzene	mg/kg	#	#	#	#	#	#	#	<0.1	#	#	#	#	†

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Exploration Associates Limited - Bedwas Colliery (Part 3)

ANALYTES	UNITS	TP67 3.4m	TP67 5.0m	TP72 1.0m	TP72 2.0m	TP72 4.0m	TP72 5.0m	TP55 1.2m	TP55 2.8m	TP55 4.0m	TP55 5.7m	TP49 1.5m	TP49 3.5m	
		S9600804	S9600805	S9600806	S9600807	S9600808	S9600809	S9600810	S9600811	S9600812	S9600813	S9600814	S9600815	
Chlorobenzene	mg/kg	#	#	#	#	#	#	#	<0.1	#	#	#	#	†
Xylenes	mg/kg	#	#	#	#	#	#	#	<0.1	#	#	#	#	†
Bromoform	mg/kg	#	#	#	#	#	#	#	<0.1	#	#	#	#	†
1,1,2,2-Tetrachloroethane	mg/kg	#	#	#	#	#	#	#	<0.1	#	#	#	#	†
1,3-Dichlorobenzene	mg/kg	#	#	#	#	#	#	#	<0.1	#	#	#	#	†
1,4-Dichlorobenzene	mg/kg	#	#	#	#	#	#	#	<0.1	#	#	#	#	†
1,2-Dichlorobenzene	mg/kg	#	#	#	#	#	#	#	<0.1	#	#	#	#	†
Arsenic	mg/kg	#	#	#	#	#	#	#	#	11.0	#	#	#	
Cadmium	mg/kg	#	#	#	#	#	#	#	#	<0.1	#	#	#	
Chromium (total)	mg/kg	#	#	#	#	#	#	#	#	9.9	#	#	#	
Lead	mg/kg	#	#	#	#	#	#	#	#	64.1	#	#	#	
Mercury	mg/kg	#	#	#	#	#	#	#	#	0.1	#	#	#	

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Exploration Associates Limited - Bedwas Colliery (Part 3)

ANALYTES	UNITS	TP49 4.2m	TP45 1.2m	TP45 3.1m	TP33 1.7m	TP33 3.4m	TP54 1.0m	TP54 2.6m	TP54 4.3m	TP25 0.5m	TP25 2.0m	TP25 2.8m	TP25 4.5m	
		S9600816	S9600817	S9600818	S9600820	S9600821	S9600822	S9600823	S9600824	S9600825	S9600826	S9600827	S9600828	
PAH/coal tar	mg/kg	#	#	<10	#	#	<10	#	#	#	#	1335	#	†
Phenols (total)	mg/kg	#	#	<1.0	#	#	<1.0	#	<1.0	#	#	<1.0	<1.0	†
Sulphate	mg/kg	#	#	#	#	#	1116	#	#	#	1455	#	#	†
Cyanide (total)	mg/kg	#	#	#	#	#	<25	#	#	#	<25	#	#	†
Arsenic	mg/kg	#	#	#	#	#	14.9	#	#	#	8.5	#	#	
Cadmium	mg/kg	#	#	#	#	#	<0.1	#	#	#	<0.1	#	#	
Chromium (total)	mg/kg	#	#	#	#	#	10.9	#	#	#	12.7	#	#	
Lead	mg/kg	#	#	#	#	#	36.3	#	#	#	79.1	#	#	
Mercury	mg/kg	#	#	#	#	#	0.9	#	#	#	1.0	#	#	
pH	N/A	#	#	#	#	#	#	#	#	#	8.2	#	#	
Calorific Value	kJ/kg	#	#	#	#	#	#	#	#	#	11570	#	#	†

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Exploration Associates Limited - Bedwas Colliery (Part 3)

ANALYTES	UNITS	TP24 1.5m	TP24 3.3m	BH9 1.0m	BH9 2.0m	BH9 3.0m	BH9 4.0m							
		S9600829	S9600831	S9600832	S9600834	S9600835	S9600836							
PCBs	mg/kg	<0.1	#	#	#	#	#	#	#	#	#	#	#	†
Arsenic	mg/kg	#	#	5.0	#	5.7	#	#	#	#	#	#	#	
Cadmium	mg/kg	#	#	<0.1	#	<0.1	#	#	#	#	#	#	#	
Chromium (total)	mg/kg	#	#	15.5	#	21.3	#	#	#	#	#	#	#	
Lead	mg/kg	#	#	1.4	#	4.0	#	#	#	#	#	#	#	
Mercury	mg/kg	#	#	0.4	#	0.1	#	#	#	#	#	#	#	
Copper	mg/kg	#	#	9.5	#	12.2	#	#	#	#	#	#	#	
Nickel	mg/kg	#	#	20.1	#	33.7	#	#	#	#	#	#	#	
Zinc	mg/kg	#	#	50.9	#	71.4	#	#	#	#	#	#	#	
Cyanide (total)	mg/kg	#	#	<25	#	<25	#	#	#	#	#	#	#	†
Sulphate	mg/kg	#	#	922	#	728	#	#	#	#	#	#	#	†

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Exploration Associates Limited - Bedwas Colliery (Part 3)

ANALYTES	UNITS	TP70 1.8m	TP56A 3.7m	TP53 3.0m										
		S9600838	S9600840	S9600841										
pH	N/A	7.9	7.5	6.9	#	#	#	#	#	#	#	#	#	
Cyanide (total)	mg/l	<2.0	<2.0	<2.0	#	#	#	#	#	#	#	#	#	†
Sulphide	mg/l	0.03	<0.01	<0.01	#	#	#	#	#	#	#	#	#	†
Phenols (total)	mg/l	0.33	<0.01	<0.01	#	#	#	#	#	#	#	#	#	†

Results for soil samples expressed as dry weight
: Analyte not requested

Analytical Test Report
For

EXPLORATION ASSOCIATES LIMITED
BEDWAS COLLIERY (PART 4)

Report No.: R96/0077

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NAMAS
TESTING
No. 0618

What's so special about a NAMAS report or certificate?
- NAMAS is the acronym for National Accreditation of Measurement and Sampling.
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- Measurements are traceable to national and international standards.

Comments:
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Any opinions and interpretations expressed herein are outside the scope of the testing laboratory's NAMAS Accreditation.
Coefficient of Variation (CV_T) is better than 15%

ANALYTE	METHOD OF DETECTION	LIMIT OF DETECTION
Metals	AAS/AA-Hydride	0.1 mg/kg (or better)
PAH/coal tar	HPLC-UV	10 mg/kg
Phenols	HPLC-UV	1.0 mg/kg
Cyanide	HPLC-PAD	25 mg/kg (total)
Sulphate	Turbidity	100 mg/kg (total)
Sulphide	Colorimetry	0.1 mg/kg
pH	pH-Meter	N/A
VOCs	GC-MS	0.1 mg/kg

Date submitted for analysis : 19/01/96

Your Job/Order Number : 151825

A Smith 26/2/96

Analyst(s) : HTL RLG PGS NAD RH

Results approved by: A Bondswell (Technical Director)

Signature : A Bondswell

Report date : 26 February 1996

Summary Of Results
Exploration Associates Limited - Bedwas Colliery (Part 4)

ANALYTES	UNITS	TP16 1.2m	TP16 4.9m	TP26 1.0m	TP26 2.5m	TP26 5.3m	TP26 1.5	TP30 1.7m	TP30 4.6m	TP82 1.3m	TP82 1.0m	TP82 3.7m	TP82 4.3m	
		S9600843	S9600845	S9600846	S9600847	S9600848	S9600849	S9600850	S9600851	S9600852	S9600853	S9600855	S9600856	
Arsenic	mg/kg	7.3	6.8	#	#	#	#	#	#	#	<0.1	#	#	
Cadmium	mg/kg	<0.1	<0.1	#	#	#	#	#	#	#	0.8	#	#	
Chromium (total)	mg/kg	18.6	20.2	#	#	#	#	#	#	#	8.2	#	#	
Lead	mg/kg	4.5	12.7	#	#	#	#	#	#	#	4.6	#	#	
Mercury	mg/kg	0.1	0.1	#	#	#	#	#	#	#	0.1	#	#	
Copper	mg/kg	12.5	27.7	#	#	#	#	#	#	#	#	#	#	
Nickel	mg/kg	24.3	37.7	#	#	#	#	#	#	#	#	#	#	
Zinc	mg/kg	55.6	91.1	#	#	#	#	#	#	#	#	#	#	
pH	N/A	7.6	7.4	8.3	#	#	#	#	#	7.5	11.6	#	#	
Sulphate	mg/kg	922	728	1358	#	#	#	#	#	#	#	#	#	†
Cyanide (total)	mg/kg	<25	<25	<25	#	#	#	#	#	25.6	<25	#	#	†
Phenols (total)	mg/kg	#	#	#	#	<1.0	<1.0	#	#	21.6	#	#	<1.0	†
PAH/coal tar	mg/kg	#	#	#	#	#	<10	#	#	71100	#	#	496	†
Sulphide	mg/kg	#	#	#	#	#	#	#	#	6.0	166.3	#	#	†

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Exploration Associates Limited - Bedwas Colliery (Part 4)

ANALYTES	UNITS	TP23 1.5m	TP23 4.1m	TP27 0.5m	TP27 2.0m	TP27 3.0m	TP83 1.2m	TP83 2.8m	TP83 4.3m					
		S9600858	S9600859	S9600860	S9600861	S9600862	S9600863	S9600864	S9600866					
pH	N/A	#	#	#	7.1	#	#	#	#	#	#	#	#	
Sulphate	mg/kg	#	#	#	21049	#	#	#	#	#	#	#	#	†
Cyanide (total)	mg/kg	#	#	#	<25	#	#	#	#	#	#	#	#	†
Arsenic	mg/kg	#	#	#	21.3	#	#	#	#	#	#	#	#	
Cadmium	mg/kg	#	#	#	<0.1	#	#	#	#	#	#	#	#	
Chromium (total)	mg/kg	#	#	#	12.1	#	#	#	#	#	#	#	#	
Lead	mg/kg	#	#	#	58.8	#	#	#	#	#	#	#	#	
Mercury	mg/kg	#	#	#	1.6	#	#	#	#	#	#	#	#	
PAH/coal tar	mg/kg	#	#	#	#	<10	321	#	<10	#	#	#	#	†
Phenols (total)	mg/kg	#	#	#	#	<1.0	<1.0	#	<1.0	#	#	#	#	†
Trans-1,2-Dichloroethene	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	#	#	†
Chloroform	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	#	#	†
1,1,1-Trichloroethane	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	#	#	†
Carbon Tetrachloride	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	#	#	†
Benzene	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	#	#	†
1,2-Dichloroethane	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	#	#	†
Trichloroethene (TCE)	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	#	#	†
1,2-Dichloropropane	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	#	#	†
Toluene	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	#	#	†
1,1-Dichloropropane	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	#	#	†

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Exploration Associates Limited - Bedwas Colliery (Part 4)

ANALYTES	UNITS	TP23 1.5m	TP23 4.1m	TP27 0.5m	TP27 2.0m	TP27 3.0m	TP83 1.2m	TP83 2.8m	TP83 4.3m					
		S9600858	S9600859	S9600860	S9600861	S9600862	S9600863	S9600864	S9600866					
1,1,2-Trichloroethane	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	#	#	†
Tetrachloroethane (PCE)	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	#	#	†
Tetrachloroethene	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	#	#	†
Dibromochloromethane	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	#	#	†
Ethyl Benzene	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	#	#	†
Chlorobenzene	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	#	#	†
Xylenes	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	#	#	†
Bromoform	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	#	#	†
1,1,2,2-Tetrachloroethane	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	#	#	†
1,3-Dichlorobenzene	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	#	#	†
1,4-Dichlorobenzene	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	#	#	†
1,2-Dichlorobenzene	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	#	#	†

Results for soil samples expressed as dry weight
: Analyte not requested

Analytical Test Report
For

EXPLORATION ASSOCIATES LIMITED
BEDWAS COLLIERY, PART 5

Report No.: R96/0123

Copies To:
Mr J Grainger
File

NAMAS
TESTING
No. 0618

What's so special about a NAMAS report or certificate?
- NAMAS is the acronym for National Accreditation of Measurement and Sampling.
- Accreditation of NAMAS testing is granted by the United Kingdom Accreditation Service (UKAS).
- It's your assurance that the work has been carried out to the highest standards.
- The laboratory issuing the test report has been stringently assessed by independent experts.
- You are assured that the agreed or specified methods and procedures have been followed.
- Measurements are traceable to national and international standards.

Comments:
Tests marked † in this report are not included in the NAMAS Accreditation Schedule for the testing laboratory. However, with the continuing development of our QC protocols, these tests will be included in the near future.
Any opinions and interpretations expressed herein are outside the scope of the testing laboratory's NAMAS Accreditation.
Coefficient of Variation (CV_T) is better than 15%

ANALYTE	METHOD OF DETECTION	LIMIT OF DETECTION
Metals	ICP	0.1 mg/kg (or better)
PAH/Coal tar	HPLC-UV	10 mg/kg (total)
Phenols	Colorimetry	0.1 mg/kg
Sulphate	Turbidity	100 mg/kg (total)
pH	pH-Meter	N/A
VOCs	GC-MS	0.1 mg/kg
TPH	Infra-red	1 mg/kg
PAHs	GC-MS	0.01 mg/l

Date submitted for analysis : 30/01/96

Your Job/Order Number : 151825

A Smith 4/3/96

Analyst(s) : RLG CAT PGS HTL RH CBA

Results approved by: A Bondswell (Technical Director)

Signature : A Bondswell

Report date : 4 March 1996

Summary Of Results
Exploration Associates Limited - Bedwas Colliery, Part 5

ANALYTES	UNITS	TP6 1.0m	TP12 1.0m	TP5 2.0m	TP9 1.0m	TP22A 2.0m	TP38 2.5m	TP38 5.5m	TP80 0.1m	TP80 2.0m	TP80 5.0m	TP79 0.5m	TP79 1.8m	
		S9601306	S9601308	S9601309	S9601310	S9601311	S9601312	S9601313	S9601314	S9601315	S9601316	S9601317	S9601318	
PAH/coal tar	mg/kg	48	<10	<10	<10	<10	142	#	232	#	#	221	#	†
TPH	mg/kg	120	94	#	62	#	#	#	#	#	#	#	#	
Phenols (total)	mg/kg	1.3	1.9	<0.1	1.0	2.8	1.5	#	2.9	#	#	0.7	#	†
Calorific Value	kJ/kg	#	#	1410	#	#	#	3660	#	2200	#	#	#	†
pH	N/A	#	#	7.9	#	#	#	#	#	8.4	#	#	7.5	
Arsenic	mg/kg	#	#	8.7	#	87.2	13.7	17.2	#	9.2	5.2	#	7.0	†
Cadmium	mg/kg	#	#	1.2	#	<0.1	0.6	<0.1	#	0.4	<0.1	#	<0.1	†
Chromium (total)	mg/kg	#	#	13.0	#	15.4	14.0	14.9	#	16.3	17.0	#	16.9	†
Lead	mg/kg	#	#	59.6	#	106.4	62.1	42.7	#	130.7	28.3	#	26.4	†
Mercury	mg/kg	#	#	0.9	#	1.1	1.1	0.7	#	1.4	0.5	#	0.7	†
Sulphate (acid sol.)	mg/kg	#	#	#	#	#	#	#	#	970	#	#	#	†

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Exploration Associates Limited - Bedwas Colliery, Part 5

ANALYTES	UNITS	TP81 0.5m	TP73A 2.0m	TP8 2.0m	TP8 4.7m	TP77 0.3m	TP76 0.1m	TP76 1.0m	TP76 3.0m	TP14 2.5m	TP14 4.4m	TP11 0.5m	TP1 1.4m	
		S9601319	S9601320	S9601321	S9601323	S9601324	S9601325	S9601326	S9601327	S9601328	S9601329	S9601330	S9601331	
PAH/coal tar	mg/kg	141	<10	#	#	4750	#	22	#	10	#	38	#	†
Phenols (total)	mg/kg	2.4	3.2	#	#	5.2	#	2.0	#	2.0	#	3.6	#	†
Arsenic	mg/kg	#	24.2	11.3	10.2	21.8	5.8	#	5.4	13.0	13.4	#	11.9	†
Cadmium	mg/kg	#	0.8	1.4	0.4	2.0	0.1	#	0.2	0.2	0.2	#	<0.1	†
Chromium (total)	mg/kg	#	21.6	22.1	12.5	34.4	18.2	#	18.9	4.7	9.8	#	31.9	†
Lead	mg/kg	#	2844	58.4	57.4	389.6	26.3	#	39.2	35.3	45.9	#	31.7	†
Mercury	mg/kg	#	1.3	0.5	0.8	1.4	0.7	#	0.7	1.2	1.2	#	0.8	†
Copper	mg/kg	#	111.5	39.5	#	#	16.4	#	26.2	69.8	#	#	26.4	†
Nickel	mg/kg	#	30.7	43.2	#	#	20.6	#	42.3	39.3	#	#	40.1	†
Zinc	mg/kg	#	586.1	226.3	#	#	91.0	#	94.1	77.3	#	#	92.2	†
pH	N/A	#	7.4	8.0	#	#	4.6	#	6.2	8.6	#	#	7.3	
Sulphate (acid sol.)	mg/kg	#	1552	1407	#	#	#	#	#	1310	#	#	728	†
Calorific Value	kJ/kg	#	#	1380	#	3940	#	#	#	#	6040	#	#	†

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Exploration Associates Limited - Bedwas Colliery, Part 5

ANALYTES	UNITS	TP1 3.4m	TP2 3.0m	TP2 5.0m	TP4 1.5m	TP4 3.5m	TP7 1.0m	TP7 3.5m	TP19A 1.9m	TP20 1.4m	TP20 5.5m	TP20 3.4m	TP41 0.6m	
		S9601332	S9601333	S9601334	S9601335	S9601336	S9601337	S9601338	S9601339	S9601340	S9601341	S9601342	S9601343	
Arsenic	mg/kg	7.5	#	7.6	20.5	#	15.3	20.4	#	8.8	7.8	#	15.4	†
Cadmium	mg/kg	<0.1	#	0.1	0.2	#	0.2	0.3	#	0.1	<0.1	#	0.1	†
Chromium (total)	mg/kg	16.4	#	20.3	16.0	#	15.4	11.8	#	16.9	21.0	#	20.5	†
Lead	mg/kg	24.5	#	23.3	79.0	#	70.8	206.5	#	30.8	26.0	#	57.8	†
Mercury	mg/kg	0.6	#	0.6	0.7	#	1.4	1.7	#	1.2	0.4	#	0.4	†
PAH/coal tar	mg/kg	#	<10	#	#	54	630	#	1185	#	#	<10	#	†
Phenols (total)	mg/kg	#	3.5	#	#	4.5	4.2	#	3.9	#	#	3.7	#	†
Copper	mg/kg	#	#	23.5	#	#	72.5	#	#	#	#	#	35.0	†
Nickel	mg/kg	#	#	39.4	#	#	43.7	#	#	#	#	#	22.6	†
Zinc	mg/kg	#	#	87.8	#	#	123.4	#	#	#	#	#	117.2	†
pH	N/A	#	#	#	7.6	#	8.5	#	#	7.5	#	#	6.6	
Calorific Value	kJ/kg	#	#	#	5476	#	#	#	#	270	#	#	#	†
TPH	mg/kg	#	#	#	#	#	#	#	40	#	#	#	#	

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Exploration Associates Limited - Bedwas Colliery, Part 5

ANALYTES	UNITS	TP41 0.9m	TP59 0.6m	TP59 4.5m	TP63 1.1m	BH1 7.0m	BH1 10.0m	BH2 5.0m	BH10 3.0m	BH10 7.0m	BH10 5.0m	BH6A 6.8m	BH7 7.8m	
		S9601344	S9601345	S9601346	S9601347	S9601348	S9601349	S9601350	S9601351	S9601352	S9601353	S9601354	S9601355	
PAH/coal tar	mg/kg	<10	<10	#	83	<10	#	<10	#	#	<10	<10	#	†
Phenols (total)	mg/kg	6.3	3.6	#	4.6	5.5	#	3.8	#	#	4.2	4.4	#	†
Arsenic	mg/kg	#	4.2	3.4	#	#	5.6	#	16.2	6.4	#	#	12.0	†
Cadmium	mg/kg	#	<0.1	0.2	#	#	0.3	#	2.0	0.1	#	#	0.6	†
Chromium (total)	mg/kg	#	17.2	14.4	#	#	20.5	#	21.3	17.8	#	#	4.2	†
Lead	mg/kg	#	26.2	19.2	#	#	25.5	#	257.1	24.3	#	#	38.4	†
Mercury	mg/kg	#	0.2	<0.1	#	#	0.2	#	0.6	0.3	#	#	<0.1	†
pH	N/A	#	6.4	#	#	#	#	#	#	#	#	#	#	
Calorific Value	kJ/kg	#	#	<10	#	#	#	#	#	#	#	#	#	†
Trans-1,2-Dichloroethene	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	<0.1	<0.1	†
Chloroform	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	<0.1	<0.1	†
1,1,1-Trichloroethane	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	<0.1	<0.1	†
Carbon Tetrachloride	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	<0.1	<0.1	†
Benzene	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	<0.1	<0.1	†
1,2-Dichloroethane	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	<0.1	<0.1	†
Trichloroethene (TCE)	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	<0.1	<0.1	†
1,2-Dichloropropane	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	<0.1	<0.1	†
Toluene	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	<0.1	<0.1	†
1,1-Dichloropropane	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	<0.1	<0.1	†
1,1,2-Trichloroethane	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	<0.1	<0.1	†

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Exploration Associates Limited - Bedwas Colliery, Part 5

ANALYTES	UNITS	TP41 0.9m	TP59 0.6m	TP59 4.5m	TP63 1.1m	BH1 7.0m	BH1 10.0m	BH2 5.0m	BH10 3.0m	BH10 7.0m	BH10 5.0m	BH6A 6.8m	BH7 7.8m	
		S9601344	S9601345	S9601346	S9601347	S9601348	S9601349	S9601350	S9601351	S9601352	S9601353	S9601354	S9601355	
Tetrachloroethane (PCE)	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	<0.1	<0.1	†
Tetrachloroethene	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	<0.1	<0.1	†
Dibromochloromethane	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	<0.1	<0.1	†
Ethyl Benzene	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	<0.1	<0.1	†
Chlorobenzene	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	<0.1	<0.1	†
Xylenes	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	<0.1	<0.1	†
Bromoform	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	<0.1	<0.1	†
1,1,2,2-Tetrachloroethane	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	<0.1	<0.1	†
1,3-Dichlorobenzene	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	<0.1	<0.1	†
1,4-Dichlorobenzene	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	<0.1	<0.1	†
1,2-Dichlorobenzene	mg/kg	#	#	#	#	#	#	<0.1	#	#	#	<0.1	<0.1	†

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Exploration Associates Limited - Bedwas Colliery, Part 5

ANALYTES	UNITS	BH11 4.0m	BH11 5.0m	BH11 6.0m	BH5 3.0m	BH5 7.0m							
		S9601357	S9601358	S9601359	S9601360	S9601361							
Arsenic	mg/kg	5.4	#	17.0	4.6	18.2	#	#	#	#	#	#	# †
Cadmium	mg/kg	0.3	#	0.4	0.4	0.4	#	#	#	#	#	#	# †
Chromium (total)	mg/kg	13.0	#	7.1	10.5	7.6	#	#	#	#	#	#	# †
Lead	mg/kg	24.8	#	61.1	20.4	63.6	#	#	#	#	#	#	# †
Mercury	mg/kg	0.5	#	1.1	<0.1	<0.1	#	#	#	#	#	#	# †
PAH/coal tar	mg/kg	#	<10	#	#	1060	#	#	#	#	#	#	# †
Phenols (total)	mg/kg	#	4.6	#	#	4.5	#	#	#	#	#	#	# †

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Exploration Associates Limited - Bedwas Colliery, Part 5

ANALYTES	UNITS	BH12 7.3m	BH1R 27.40m	BH1 7.54m	BH4 26.48m	Brook at TP20	Quarry	BH10 22.97m					
		S9601363	S9601364	S9601366	S9601367	S9601368	S9601369	S9601406					
Arsenic	mg/l	<0.01	<0.01	#	#	#	#	<0.01	#	#	#	#	# †
Cadmium	mg/l	<0.01	<0.01	#	#	#	#	<0.01	#	#	#	#	# †
Chromium (total)	mg/l	<0.01	<0.01	#	#	#	#	<0.01	#	#	#	#	# †
Lead	mg/l	<0.01	<0.01	#	#	#	#	0.02	#	#	#	#	# †
Mercury	mg/l	<0.01	<0.01	#	#	#	#	<0.01	#	#	#	#	# †
Phenols (total)	mg/l	3.00	0.37	0.21	0.14	<0.01	0.02	<0.01	#	#	#	#	# †
pH	N/A	6.3	7.0	#	7.3	7.4	7.2	7.1	#	#	#	#	#
Trans-1,2-Dichloroethene	mg/l	<0.01	<0.01	<0.01	<0.01	#	#	<0.1	#	#	#	#	# †
Chloroform	mg/l	<0.01	<0.01	<0.01	<0.01	#	#	<0.1	#	#	#	#	# †
1,1,1-Trichloroethane	mg/l	<0.01	<0.01	<0.01	<0.01	#	#	<0.1	#	#	#	#	# †
Carbon Tetrachloride	mg/l	<0.01	<0.01	<0.01	<0.01	#	#	<0.1	#	#	#	#	# †
Benzene	mg/l	<0.01	<0.01	<0.01	<0.01	#	#	<0.1	#	#	#	#	# †
1,2-Dichloroethane	mg/l	<0.01	<0.01	<0.01	<0.01	#	#	<0.1	#	#	#	#	# †
Trichloroethene (TCE)	mg/l	<0.01	<0.01	<0.01	<0.01	#	#	<0.1	#	#	#	#	# †
1,2-Dichloropropane	mg/l	<0.01	<0.01	<0.01	<0.01	#	#	<0.1	#	#	#	#	# †
Toluene	mg/l	<0.01	<0.01	<0.01	<0.01	#	#	<0.1	#	#	#	#	# †
1,1-Dichloropropane	mg/l	<0.01	<0.01	<0.01	<0.01	#	#	<0.1	#	#	#	#	# †
1,1,2-Trichloroethane	mg/l	<0.01	<0.01	<0.01	<0.01	#	#	<0.1	#	#	#	#	# †
Tetrachloroethane (PCE)	mg/l	<0.01	<0.01	<0.01	<0.01	#	#	<0.1	#	#	#	#	# †
Tetrachloroethene	mg/l	<0.01	<0.01	<0.01	<0.01	#	#	<0.1	#	#	#	#	# †

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Exploration Associates Limited - Bedwas Colliery, Part 5

ANALYTES	UNITS	BH12 7.3m	BH1R 27.40m	BH1 7.54m	BH4 26.48m	Brook at TP20	Quarry	BH10 22.97m					
		S9601363	S9601364	S9601366	S9601367	S9601368	S9601369	S9601406					
Dibromochloromethane	mg/l	<0.01	<0.01	<0.01	<0.01	#	#	<0.1	#	#	#	#	# †
Ethyl Benzene	mg/l	<0.01	<0.01	<0.01	<0.01	#	#	<0.1	#	#	#	#	# †
Chlorobenzene	mg/l	<0.01	<0.01	<0.01	<0.01	#	#	<0.1	#	#	#	#	# †
Xylenes	mg/l	<0.01	<0.01	<0.01	<0.01	#	#	<0.1	#	#	#	#	# †
Bromoform	mg/l	<0.01	<0.01	<0.01	<0.01	#	#	<0.1	#	#	#	#	# †
1,1,2,2-Tetrachloroethane	mg/l	<0.01	<0.01	<0.01	<0.01	#	#	<0.1	#	#	#	#	# †
1,3-Dichlorobenzene	mg/l	<0.01	<0.01	<0.01	<0.01	#	#	<0.1	#	#	#	#	# †
1,4-Dichlorobenzene	mg/l	<0.01	<0.01	<0.01	<0.01	#	#	<0.1	#	#	#	#	# †
1,2-Dichlorobenzene	mg/l	<0.01	<0.01	<0.01	<0.01	#	#	<0.1	#	#	#	#	# †
TPH	mg/l	<0.01	<0.01	<0.01	<0.01	#	#	<0.01	#	#	#	#	#
TOC	%	#	<0.1	#	<0.1	<0.1	<0.1	#	#	#	#	#	# †
Acenaphthene	mg/l	#	<0.01	#	<0.01	#	#	<0.1	#	#	#	#	#
Acenaphthylene	mg/l	#	<0.01	#	<0.01	#	#	<0.1	#	#	#	#	#
Anthracene	mg/l	#	<0.01	#	<0.01	#	#	<0.1	#	#	#	#	#
Benz(a)anthracene	mg/l	#	<0.01	#	<0.01	#	#	<0.1	#	#	#	#	#
Benzo(b)fluoranthene	mg/l	#	<0.01	#	<0.01	#	#	<0.1	#	#	#	#	#
Benzo(k)fluoranthene	mg/l	#	<0.01	#	<0.01	#	#	<0.1	#	#	#	#	#
Benzo(g,h,i)perylene	mg/l	#	<0.01	#	<0.01	#	#	<0.1	#	#	#	#	#
Benzo(a)pyrene	mg/l	#	<0.01	#	<0.01	#	#	<0.1	#	#	#	#	#
Chrysene	mg/l	#	<0.01	#	<0.01	#	#	<0.1	#	#	#	#	#

Results for soil samples expressed as dry weight
: Analyte not requested

Summary Of Results
Exploration Associates Limited - Bedwas Colliery, Part 5

ANALYTES	UNITS	BH12 7.3m	BH1R 27.40m	BH1 7.54m	BH4 26.48m	Brook at TP20	Quarry	BH10 22.97m				
		S9601363	S9601364	S9601366	S9601367	S9601368	S9601369	S9601406				
Dibenz(a,h)anthracene	mg/l	#	<0.01	#	<0.01	#	#	<0.1	#	#	#	#	#
Fluoranthene	mg/l	#	<0.01	#	<0.01	#	#	<0.1	#	#	#	#	#
Fluorene	mg/l	#	<0.01	#	<0.01	#	#	<0.1	#	#	#	#	#
Indeno(1,2,3-cd)pyrene	mg/l	#	<0.01	#	<0.01	#	#	<0.1	#	#	#	#	#
Naphthalene	mg/l	#	<0.01	#	<0.01	#	#	<0.1	#	#	#	#	#
Phenanthrene	mg/l	#	<0.01	#	<0.01	#	#	<0.1	#	#	#	#	#
Pyrene	mg/l	#	<0.01	#	<0.01	#	#	<0.1	#	#	#	#	#

Results for soil samples expressed as dry weight
: Analyte not requested

Analytical Test Report
For

EXPLORATION ASSOCIATES LIMITED
BEDWAS COLLIERY (PART 6)

Report No.: R96/0215

Copies To:
Mr D McArthur
File

NAMAS
TESTING
No. 0618

What's so special about a NAMAS report or certificate?
- NAMAS is the acronym for National Accreditation of Measurement and Sampling.
- Accreditation of NAMAS testing is granted by the United Kingdom Accreditation Service (UKAS).
- It's your assurance that the work has been carried out to the highest standards.
- The laboratory issuing the test report has been stringently assessed by independent experts.
- You are assured that the agreed or specified methods and procedures have been followed.
- Measurements are traceable to national and international standards.

Comments:
Tests marked † in this report are not included in the NAMAS Accreditation Schedule for the testing laboratory. However, with the continuing development of our QC protocols, these tests will be included in the near future.
Any opinions and interpretations expressed herein are outside the scope of the testing laboratory's NAMAS Accreditation.
Coefficient of Variation (CV_T) is better than 15%

ANALYTE	METHOD OF DETECTION	LIMIT OF DETECTION
Metals	ICP	0.01 mg/l
PAHs	GC-MS	0.01 mg/l
VOCs	GC-MS	0.01 mg/l
Phenols	Colorimetry	0.01 mg/l
TOC	Colorimetry	0.1 %
pH	pH-Meter	N/A
TPH	Infra-red	0.01 mg/l

Date submitted for analysis : 15/02/96

Your Job/Order Number : 151825

A Smith 29/2/96

Analyst(s) : PGS RH CAT RLG HTL

Results approved by: A Bondswell (Technical Director)

Signature : A Bondswell

Report date : 29 February 1996

Summary Of Results
Exploration Associates Limited - Bedwas Colliery (Part 6)

ANALYTES	UNITS	BH1 14/2/96	BH2 14/2/96	BH4 14/2/96										
		S9602118	S9602119	S9602121										
Phenols (total)	mg/l	0.52	0.36	0.50	#	#	#	#	#	#	#	#	#	†
Acenaphthene	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	#	
Acenaphthylene	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	#	
Anthracene	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	#	
Benz(a)anthracene	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	#	
Benzo(b)fluoranthene	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	#	
Benzo(k)fluoranthene	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	#	
Benzo(g,h,i)perylene	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	#	
Benzo(a)pyrene	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	#	
Chrysene	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	#	
Dibenz(a,h)anthracene	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	#	
Fluoranthene	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	#	
Fluorene	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	#	
Indeno(1,2,3-cd)pyrene	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	#	
Naphthalene	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	#	
Phenanthrene	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	#	
Pyrene	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	#	
Trans-1,2-Dichloroethene	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	#	†
Chloroform	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	#	†
1,1,1-Trichloroethane	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	#	†

: Analyte not requested

Summary Of Results
Exploration Associates Limited - Bedwas Colliery (Part 6)

ANALYTES	UNITS	BH1 14/2/96	BH2 14/2/96	BH4 14/2/96									
		S9602118	S9602119	S9602121									
Carbon Tetrachloride	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	†
Benzene	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	†
1,2-Dichloroethane	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	†
Trichloroethene (TCE)	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	†
1,2-Dichloropropane	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	†
Toluene	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	†
1,1-Dichloropropane	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	†
1,1,2-Trichloroethane	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	†
Tetrachloroethane	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	†
Tetrachloroethene	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	†
Dibromochloromethane	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	†
Ethyl Benzene	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	†
Chlorobenzene	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	†
Xylenes	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	†
Bromoform	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	†
1,1,2,2-Tetrachloroethane	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	†
1,3-Dichlorobenzene	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	†
1,4-Dichlorobenzene	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	†
1,2-Dichlorobenzene	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	†
TPH	mg/l	<0.01	<0.01	<0.01	#	#	#	#	#	#	#	#	

: Analyte not requested

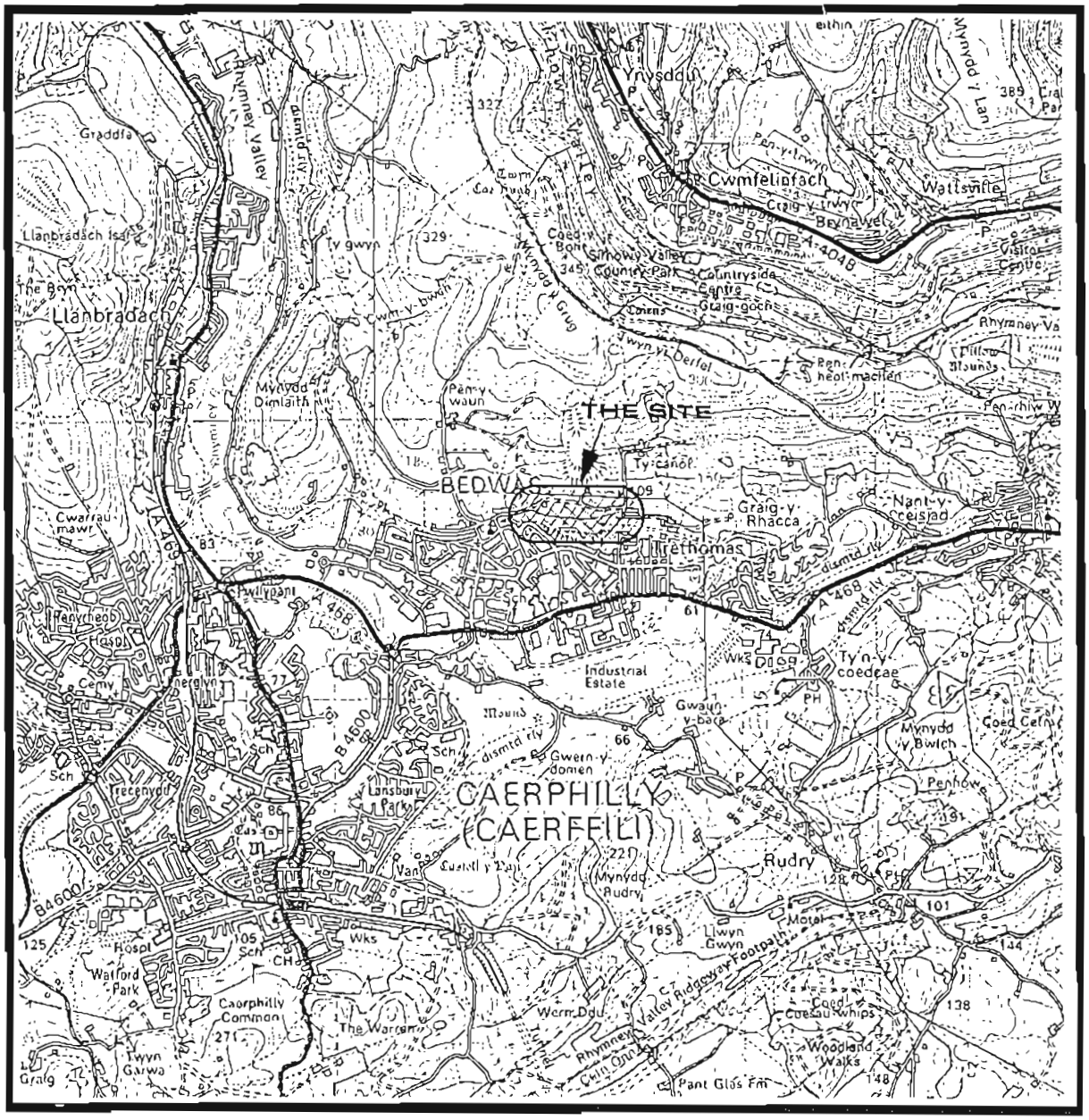
Summary Of Results
Exploration Associates Limited - Bedwas Colliery (Part 6)

ANALYTES	UNITS	BH1 14/2/96	BH2 14/2/96	BH4 14/2/96									
		S9602118	S9602119	S9602121									
pH	N/A	#	7.1	6.9	#	#	#	#	#	#	#	#	
TOC	%	#	<0.1	<0.1	#	#	#	#	#	#	#	#	†
Arsenic	mg/l	#	<0.01	#	#	#	#	#	#	#	#	#	†
Cadmium	mg/l	#	<0.01	#	#	#	#	#	#	#	#	#	†
Chromium (total)	mg/l	#	<0.01	#	#	#	#	#	#	#	#	#	†
Lead	mg/l	#	<0.01	#	#	#	#	#	#	#	#	#	†
Mercury	mg/l	#	<0.01	#	#	#	#	#	#	#	#	#	†

: Analyte not requested

ENCLOSURE D

Drawings



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Scale 1:50,000

Site Location Plan	Project Bedwas Colliery Reclamation Scheme Rhymney Valley District Council	Contract 155218
Exploration Associates		Drawing 1

APPENDIX

General Notes

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.

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March 1995