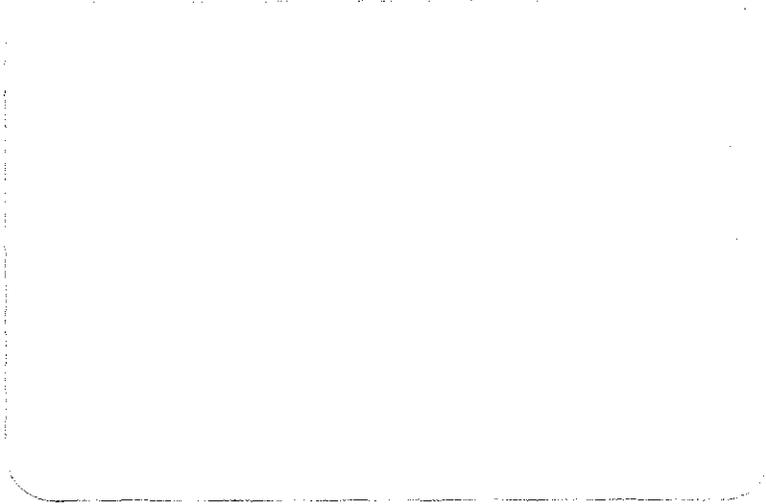


99-4292

HAREFIELD PROJECT-RL8709
GEOLOGICAL DATA REPORT
CORNWALL COAL CO NL



MINERAL RESOURCES		
FILE NO. RL8709 PT1		
15 MAR 1989		
APPROVED		
APPROVED BY	DATE	INITIALS
See folio	137	

McElroy Bryan Geological Services Pty Ltd

680 Willoughby Rd, Willoughby 2068 Sydney, Australia Phone: (02) 9958 1455

Consulting geological services to the mining industry since 1970



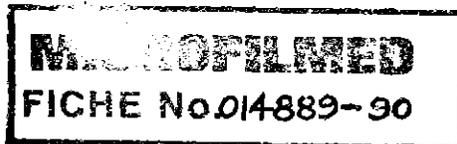


Consulting Geologists

McElroy Bryan Geological Services Pty Limited

HAREFIELD PROJECT
Retention Licence 879; Tasmania
GEOLOGICAL DATA REPORT

FEBRUARY 1999



Report prepared for
CORNWALL COAL CO. N.L.

by

McElroy Bryan Geological Services Pty Ltd

J H Bryan



HAREFIELD DATA PACKAGE

R.L. 879; TASMANIA

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I. DRILL LOGS - DDH's A to M

In December 1998 a total of 12 shallow diamond core holes were drilled to the north west of Lightwood Rivulet in Retention Licence 879. HQT coring commenced immediately below the scree. The deepest hole was 28.8m as the drilling targeted the shallow areas of Seams E3 and DE, identified in earlier drilling by Shell.

CORNWALL COAL HAREFIELD "A"

Location: Harefield

Logged by: J. Bryan

AMG Co-ordinates: 595443.8E

Drilled by: Stacpoole Drilling

5391352.6N

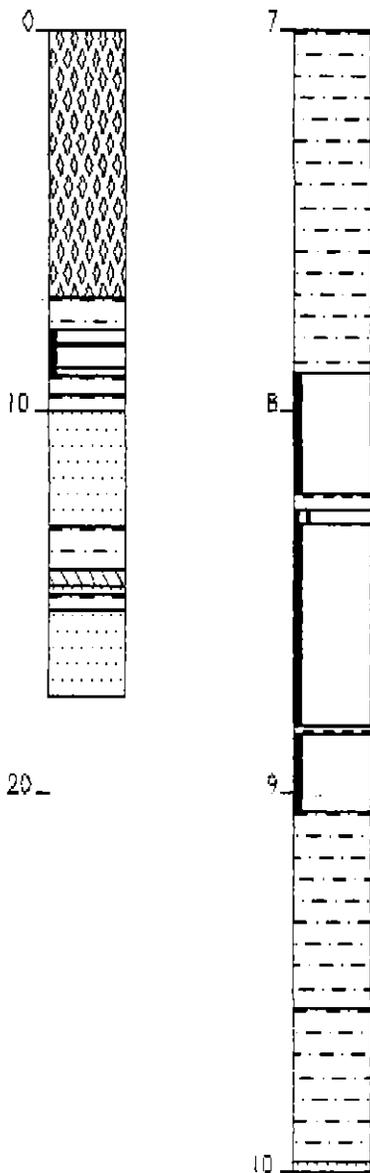
Collar R.L.: 290.28m

Commenced: Dec. 1998

Total Depth: 17.5m

Completed: Dec. 1998

	Estimated Thickness (m)	Estimated Depth to Base of Stratum (m)	Remarks
SCREE (NON CORED)	7.00	7.00	
MUDSTONE, grey, partly weathered	0.90	7.90	HQ Core
COAL, dull	0.32	8.22)
CLAYSTONE, hard, tuffaceous	0.04	8.26	) E3 Seam
COAL, stony	0.04	8.30	) 1.15m
COAL, dull	0.53	8.83)
CLAYSTONE, grey/brown, hard	0.02	8.85)
COAL, dull	0.20	9.05)
MUDSTONE, black to dark grey/brown	0.52	9.57	
MUDSTONE, brown to grey	0.40	9.97	
SANDSTONE, grey, medium, quartz/lithic massive towards base	3.08	13.05	
MUDSTONE, grey, hard	1.15	14.20	
MUDSTONE, black	0.40	14.60	
SANDSTONE, brown, lithic	0.20	14.80	
MUDSTONE, dark grey	0.45	15.25	
SANDSTONE, brown, lithic	2.25	17.50	T.D. 17.50m



<ul style="list-style-type: none">  CARBONACEOUS MU  SANDSTONE  COAL Stony  CLAYSTONE  COAL Dull  MUDSTONE  GRAVEL 	CORNWALL COAL HAREFIELD
	CORNWALL COAL "A"
	DATE DRILLED: DEC 98
	GEOLOGY BY: MBGS
	LOGGED BY: JH-BRYAN
PROLOG	

565007

CORNWALL COAL HAREFIELD "B"

Location: Harefield

Logged by: J. Bryan

AMG Co-ordinates: 595584.3E

Drilled by: Stacpoole Drilling

5391494.5N

Collar R.L.: 283.63m

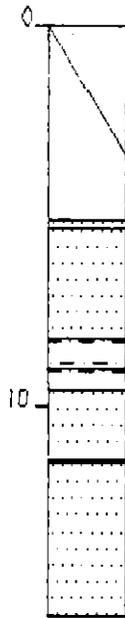
Commenced: Dec. 1998

Total Depth: 15.50m

Completed: Dec. 1998

	Estimated Thickness (m)	Estimated Depth to Base of Stratum (m)	Remarks
SCREE (NON CORED)	5.10	5.10	
SANDSTONE, grey/brown, partly weathered	0.20	5.30	HQ CORE
SANDSTONE, grey, quartz/lithic, hard, massive	2.93	8.23	
MUDSTONE, grey/green, hard	0.76	8.99	
MUDSTONE, dark grey, laminated	0.58	9.57	
SANDSTONE, brown/grey, medium to fine	1.81	11.38	
MUDSTONE, grey/brown	0.10	11.48	
SANDSTONE, grey/green, massive	4.02	15.50	T.D. 15.50m

565008



20

-  MUDSTONE
-  SANDSTONE
-  NO RECOVERY

CORNWALL COAL HAREFIELD

CORNWALL COAL "B"

DATE DRILLED: DEC 98

GEOLOGY BY: MBGS

LOGGED BY: JH-BRYAN

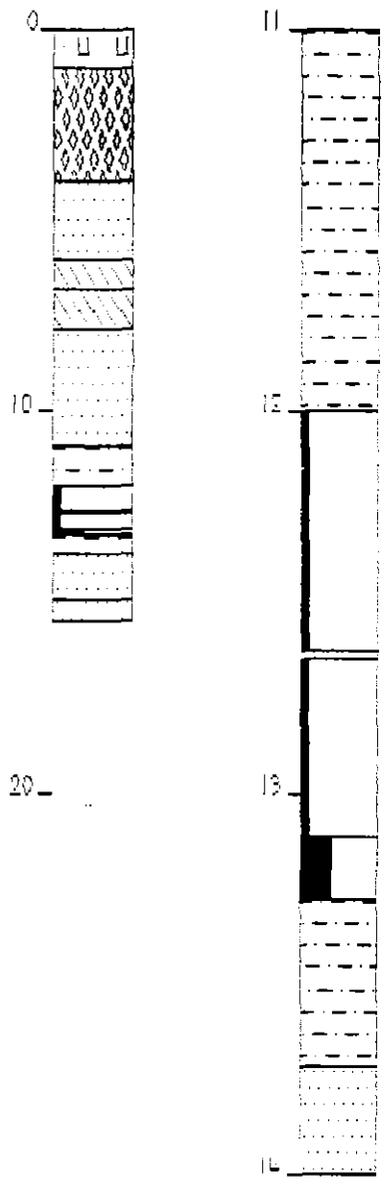
PROLOG

CORNWALL COAL HAREFIELD "C"

Location:	Harefield	Logged by:	J. Bryan
AMG Co-ordinates:	595667.2E	Drilled by:	Stacpoole Drilling
	5391315.4N		
Collar R.L.:	287.25m	Commenced:	Dec. 1998
Total Depth:	15.50m	Completed:	Dec. 1998

	Estimated Thickness (m)	Estimated Depth to Base of Stratum (m)	Remarks
SCREE/SOIL (non core)	4.00	4.00	
SANDSTONE, grey, lithic, massive	2.03	6.03	HQ Core
MUDSTONE, black, carbonaceous, (weak strata)	0.77	6.80	
MUDSTONE, dark brown, carbonaceous, (weak strata)	1.10	7.90	
SANDSTONE, grey, hard, massive, moderately strong to weak when thinly bedded	3.00	10.90	
MUDSTONE, grey/green, weak and relatively soft, thinly bedded	1.10	12.00	
COAL, dull (core broken)	0.63	12.63)
CLAYSTONE, brown, carbonaceous	0.02	12.65	) E3 Seam
COAL, dull	0.47	13.12	) 1.28m
COAL, dull with bright bands	0.16	13.28)
MUDSTONE, black to dark brown, hard	0.44	13.72	
SANDSTONE, grey/brown with numerous brown mudstone partings	1.20	14.92	
SANDSTONE, grey, lithic, hard, medium massive	0.58	15.50	T.D. 15.50m

565010

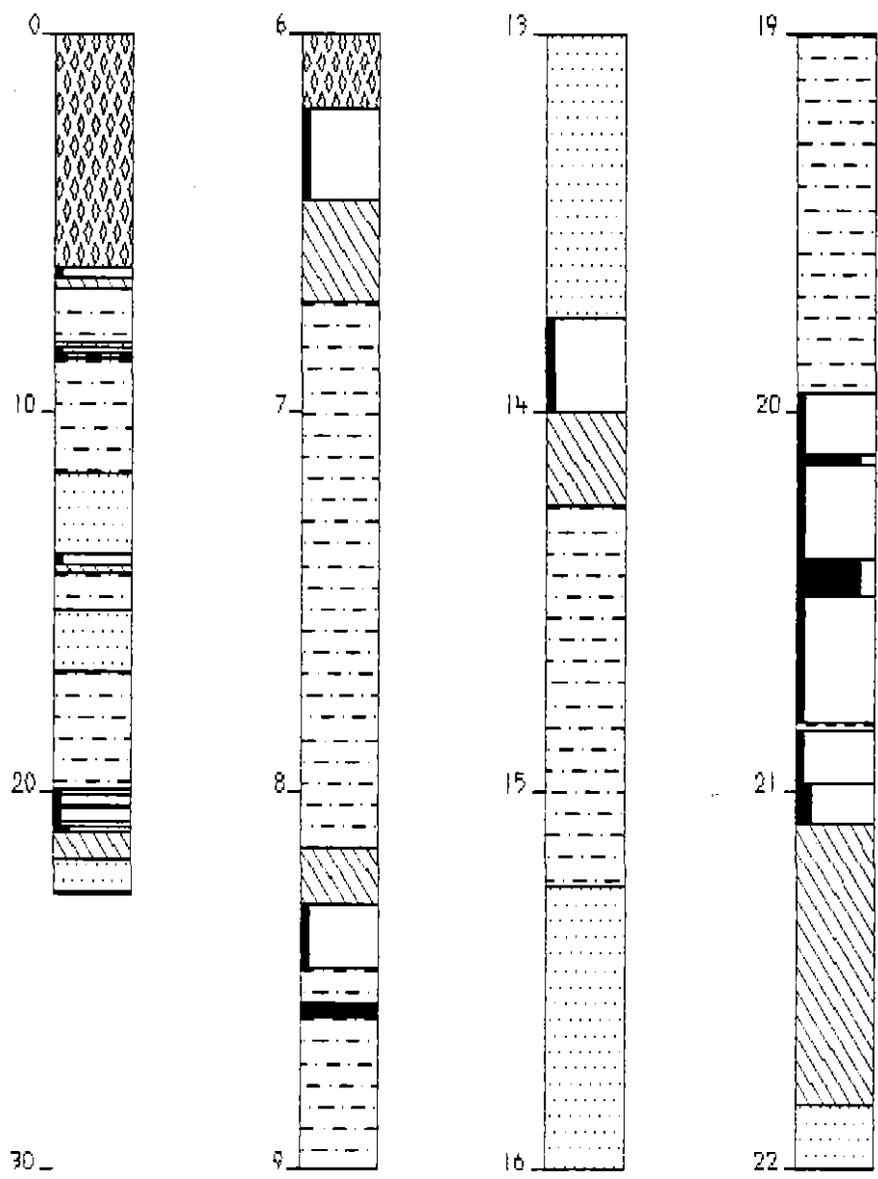


<ul style="list-style-type: none">  COAL Bull num  COAL Bull  MUDSTONE  CARBONACEOUS MU  SANDSTONE  GRAVEL  SOIL 	CORNWALL COAL HAREFIELD
	CORNWALL COAL "2"
	DATE DRILLED: DEC 98
	GEOLOGY BY: MBGS
	LOGGED BY: JH BRYAN
PROLOG	

CORNWALL COAL HAREFIELD "D"

Location:	Harefield	Logged by:	J. Bryan
AMG Co-ordinates:	595620.2E 5390976.7N	Drilled by:	Stacpoole Drilling
Collar R.L.:	293.40	Commenced:	Dec. 1998
Total Depth:	22.75m	Completed:	Dec. 1998

	Estimated Thickness (m)	Estimated Depth to Base of Stratum (m)	Remarks
SCREE (NON CORED)	6.20	6.20	
COAL, dull to stony	0.24	6.44	) DE1 Seam
CLAYSTONE, black, coaly	0.27	6.71	) 0.49m
MUDSTONE, black/dark grey, laminated, relatively weak	1.44	8.15	HQ Core
CLAYSTONE, black, coaly	0.15	8.30	) DE2 Seam
COAL, dull	0.17	8.47	) 0.32m
MUDSTONE, grey, hard	0.09	8.56	
COAL, bright	0.04	8.60	
MUDSTONE, green/grey, hard but relatively weak	2.99	11.59	
SANDSTONE, grey, lithic, massive, hard	2.16	13.75	
COAL, dull to stony	0.25	14.00	E2 Seam
MUDSTONE, black, carbonaceous	0.25	14.25	
MUDSTONE, grey, laminated	1.00	15.25	
SANDSTONE, grey, lithic, hard	1.57	16.82	
MUDSTONE, grey/green, relatively weak	3.13	19.95	
COAL, dull to stony	0.16	20.11)
COAL, bright minor dull	0.03	20.14	) E3
COAL, dull	0.25	20.39	) Seam
COAL, bright minor dull	0.10	20.49	) 1.14m
COAL, dull	0.33	20.82)
CLAYSTONE, grey, ? tuffaceous	0.02	20.84)
COAL, dull	0.14	20.98)
COAL, dull minor bright	0.11	21.09)
MUDSTONE, black to dark grey, carbonaceous	0.74	21.83	
SANDSTONE, grey with numerous carbonaceous partings	0.79	22.62	
SANDSTONE, grey, lithic, massive	0.13	22.75	T.D.



-  COAL Dull minor
-  CLAYSTONE
-  COAL Bright min
-  SANDSTONE
-  COAL Bright
-  MUDSTONE
-  CARBONACEOUS MU
-  COAL Dull
-  GRAVEL

CORNWALL COAL HAREFIELD

CORNWALL COAL "D"

DATE DRILLED: DEC 98

GEOLOGY BY: MBGS

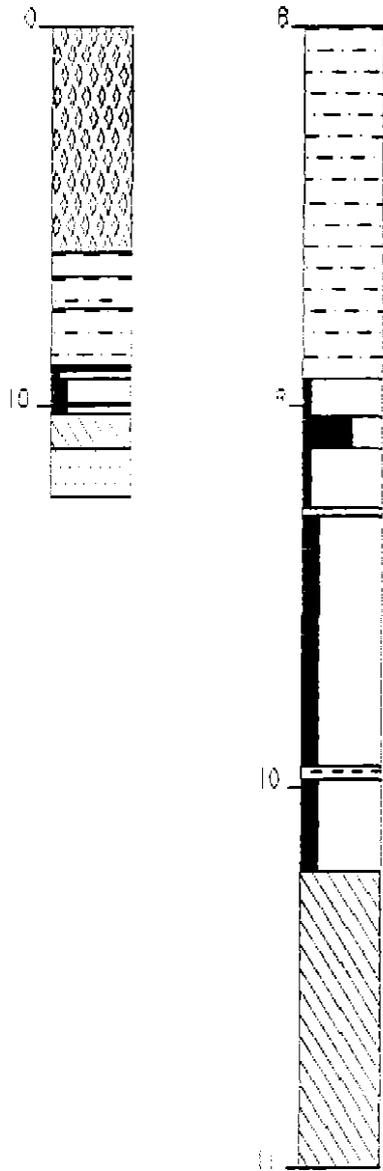
LOGGED BY: JH BRYAN

PROLOG

CORNWALL COAL HAREFIELD "E"

Location:	Harefield	Logged by:	J. Bryan
AMG Co-ordinates:	595811.0E 5391503.4	Drilled by:	Stacpoole Drilling
Collar R.L.:	285.70	Commenced:	Dec. 1998
Total Depth:	12.40m	Completed:	Dec. 1998

	Estimated Thickness (m)	Estimated Depth to Base of Stratum (m)	Remarks
NON CORE 0-6.0m; SCREE	6.00	6.00	
MUDSTONE, mid-grey, laminated, weak	0.60	6.60	HQ Core
MUDSTONE, grey/brown, becoming sandy towards base	0.85	7.45	
MUDSTONE, grey, relatively weak	1.48	8.93	
COAL, dull (core broken)	0.10	9.03)
COAL, dull and bright	0.08	9.11	) E3 Seam
COAL, dull	0.16	9.27	) 8.93-10.22
CLAYSTONE, black, carbonaceous	0.02	9.29	) (1.29m)
COAL, dull with minor bright	0.66	9.95)
CLAYSTONE, grey, ?tuffaceous	0.03	9.98)
COAL, dull minor bright	0.24	10.22)
MUDSTONE, black to mid grey, carbonaceous	0.91	11.13	
SANDSTONE, grey, lithic, massive	1.27	12.40	T.D. 12.40m



-  SANDSTONE
-  CLAYSTONE
-  COAL Dull minor
-  CARBONACEOUS MU
-  COAL Dull and b
-  COAL Dull
-  MUDSTONE
-  GRAVEL

CORNWALL COAL HAREFIELD

CORNWALL COAL "E"

DATE DRILLED: DEC 98

GEOLOGY BY: MBS

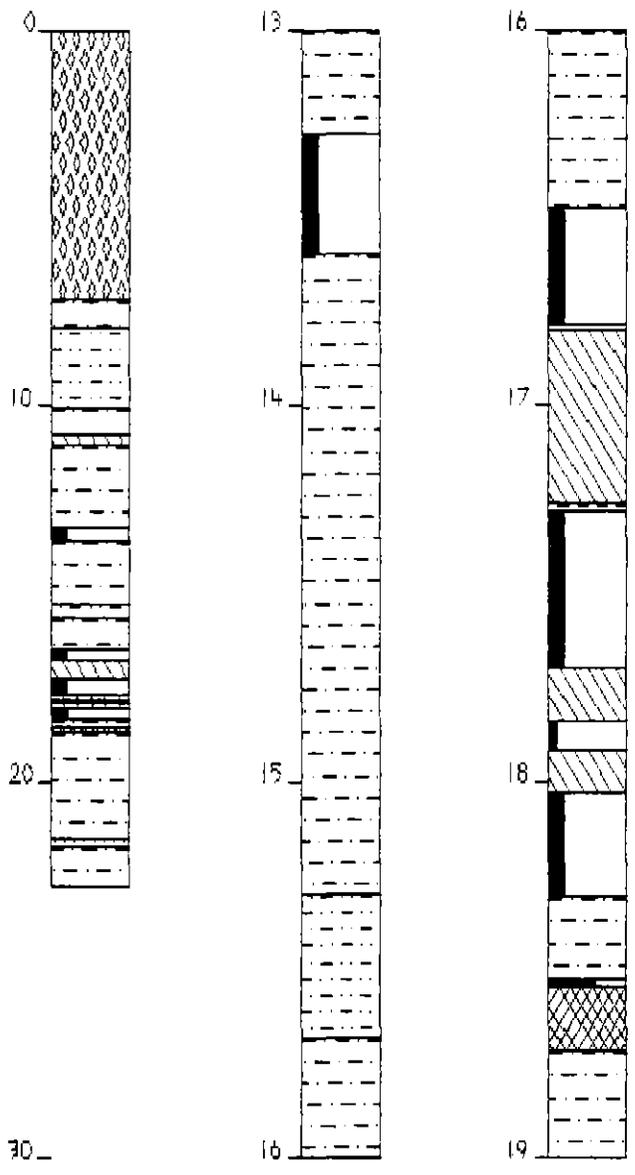
LOGGED BY: JH-BRYAN

PROLOG

CORNWALL COAL HAREFIELD "F"

Location:	Harefield	Logged by:	J. Bryan
AMG Co-ordinates:	595963.9E 5391113.4N	Drilled by:	Stacpoole Drilling
Collar R.L.:	293.12	Commenced:	Dec 1998
Total Depth:	22.80m	Completed:	Dec 1998

	Estimated Thickness (m)	Estimated Depth to Base of Stratum (m)	Remarks
SCREE (NON CORE)	7.20	7.20	
MUDSTONE, grey./green, weathered at top	0.78	7.98	HQ Core
SILTSTONE, grey, hard, moderately strong	2.12	10.10	
MUDSTONE, grey/green, weak	0.70	10.80	
MUDSTONE, dark grey, carbonaceous	0.25	11.05	
MUDSTONE, mid grey, micaceous, becoming sandy towards base, relatively weak	2.23	13.28	
COAL, dull minor bright, core broken	0.32	13.60	Core loss 0.16m
MUDSTONE, grey to grey/green, relatively weak	1.70	15.30	
SILTSTONE, grey, hard, massive	0.38	15.68	
MUDSTONE, grey to grey green, weak	0.80	16.48	
COAL, dull minor bright	0.31	16.79)
CLAYSTONE, grey, hard, ?tuffaceous	0.01	16.80	) 16.48-18.31
MUDSTONE, black coaly and coal stony	0.46	17.26	) DE SEAM
CLAYSTONE, mid grey, hard	0.02	17.28	) 1.83m
COAL, dull minor bright	0.42	17.70)
MUDSTONE, black, carbonaceous	0.14	17.84)
COAL, dull	0.08	17.92)
MUDSTONE, brown to black, coaly	0.11	18.03)
COAL, dull minor bright, with minor claystone bands	0.28	18.31)
MUDSTONE, grey, slickensided, weak	0.22	18.53	
COAL, bright and dull	0.02	18.55	
CORE LOSS (? in mudstone or coal unit above)	0.17	18.72	
MUDSTONE, green/grey, weak	2.78	21.50	
SANDSTONE, grey, lithic	0.22	21.72	
MUDSTONE, grey, sandy at top, laminated, relatively weak	1.08	22.80	T.D. 22.80m

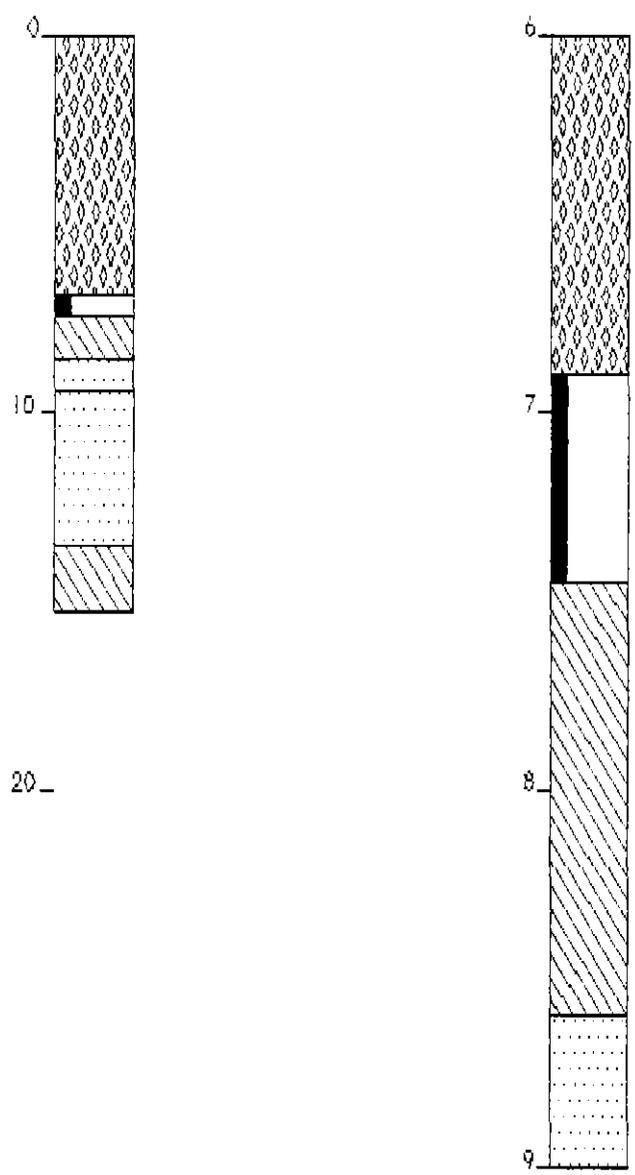


<ul style="list-style-type: none"> CORE LOSS COAL Dull and b COAL Dull CLAYSTONE COAL Dull minor CARBONACEOUS MU SILTSTONE MUDSTONE GRAVEL SANDSTONE 	CORNWALL COAL HAREFIELD
	CORNWALL COAL "F"
	DATE DRILLED: DEC 98
	GEOLOGY BY: MBCS
	LOGGED BY: JH-BRYAN
PROLOG	

CORNWALL COAL HAREFIELD "G"

Location:	Harefield	Logged by:	J. Bryan
AMG Co-ordinates:	595927.7E	Drilled by:	Stacpoole Drilling
	5391740.4N		
Collar R.L.:	281.22m	Commenced:	Dec. 98
Total Depth:	15.30m	Completed:	Dec. 98

	Estimated Thickness (m)	Estimated Depth to Base of Stratum (m)	Remarks
(NON CORE) SCREE	6.90	6.90	Base of E3 Seam
COAL, dull minor bright, core broken	0.55	7.45	(not sampled)
MUDSTONE, dark grey carbonaceous	1.15	8.60	HQ Core
SANDSTONE, grey, lithic, with abundant carbonaceous partings, moderately weak	0.80	9.40	
SANDSTONE, grey, lithic, massive	4.16	13.56	
MUDSTONE, black, carbonaceous, moderately weak	1.74	15.30	T.D. 15.30M

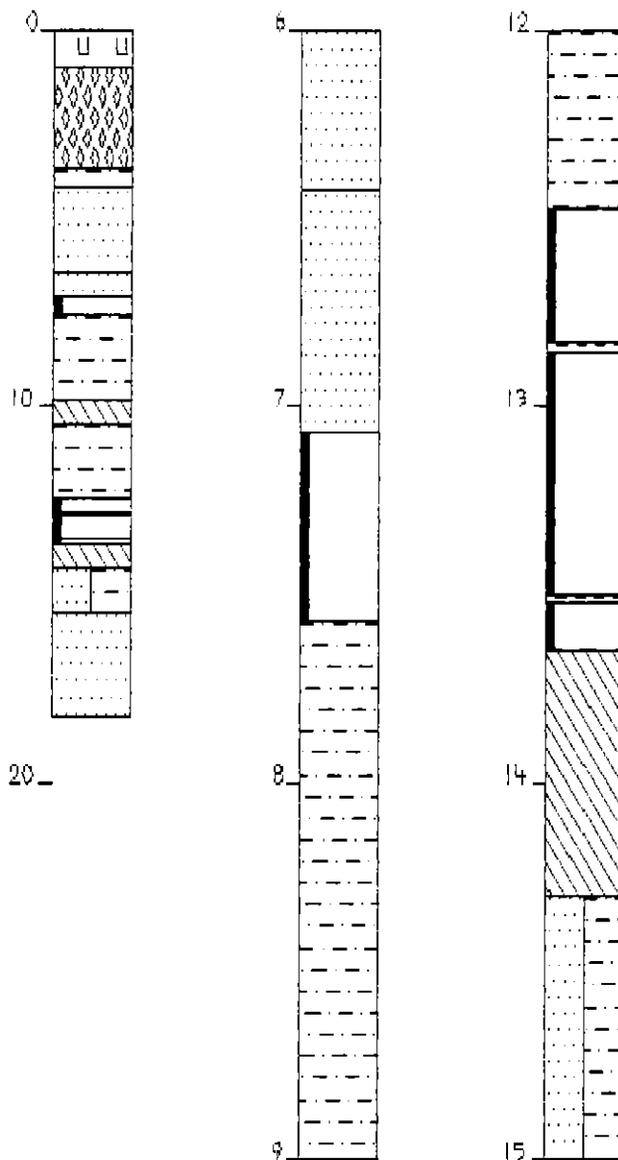


<p>  SANDSTONE  CARBONACEOUS MU  COAL Dull minor  GRAVEL </p>	CORNWALL COAL HAREFIELD
	CORNWALL COAL "G"
	DATE DRILLED: DEC 98
	GEOLOGY BY: MBGS
	LOGGED BY: JH-BRYAN
PROLOG	

CORNWALL COAL HAREFIELD "H"

Location:	Harefield	Logged by:	J. Bryan
AMG Co-ordinates:	595996.4E	Drilled by:	Stacpoole Drilling
	5391564.6		
Collar R.L.:	284.57	Commenced:	Dec. 1998
Total Depth:	15.30m	Completed:	Dec. 1998

	Estimated Thickness (m)	Estimated Depth to Base of Stratum (m)	Remarks
SCREE & SOIL (NON CORE)	3.70	3.70	
MUDSTONE, brown, weathered	0.53	4.23	HQ Core
SANDSTONE, brown, partly weathered, soft in part	2.20	6.43	
SANDSTONE, grey, lithic, hard	0.64	7.07	
COAL, dull to stony, slightly weathered, core broken	0.50	7.57	E2 Seam
MUDSTONE, grey/green, weak, laminated	2.27	9.84	
MUDSTONE, carbonaceous	0.65	10.49	
MUDSTONE, grey to green/grey, common sandy phases	1.99	12.48	
COAL, dull - core broken	0.35	12.83)
CLAYSTONE, dark grey, hard	0.03	12.86	) E3 Seam
COAL, dull, core broken	0.64	13.50	) 12.48 - 13.65
CLAYSTONE, grey, ?tuffaceous	0.02	13.52	) 1.17m,
COAL, dull	0.13	13.65)
MUDSTONE, black, carbonaceous	0.65	14.30	
SANDSTONE & MUDSTONE INTERBEDDED	1.20	15.50	
*SANDSTONE, grey, lithic, massive	2.80	18.30	T.D.



-  CLAYSTONE
-  CARBONACEOUS MU
-  COAL Dull
-  SANDSTONE
-  MUDSTONE
-  GRAVEL
-  SOIL

CORNWALL COAL HAREFIELD

CORNWALL COAL "H"

DATE DRILLED: DEC 98

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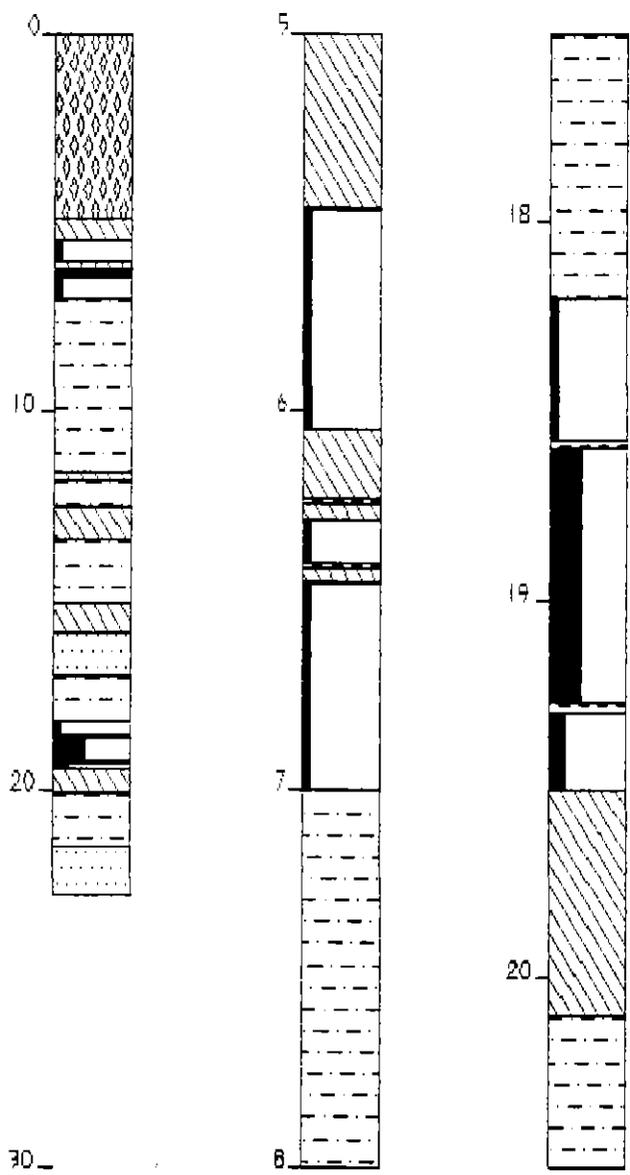
LOGGED BY: JH-BRYAN

PROLOG

CORNWALL COAL HAREFIELD "J"

Location:	Harefield	Logged by:	J. Bryan
AMG Co-ordinates:	596075.6E	Drilled by:	Stacpoole Drilling
	5391369.7N		
Collar R.L.:	287.34	Commenced:	Dec. 98
Total Depth:	22.80m	Completed:	Dec. 98

	Estimated Thickness (m)	Estimated Depth to Base of Stratum (m)	Remarks
SCREE (NON CORE)	4.90	4.90	
MUDSTONE, mid grey to black, carbonaceous	0.56	5.46	HQ Core
CLAYSTONE, grey/brown, ?tuffaceous	0.01	5.47)
COAL, dull to stony, minor bright bands	0.58	6.05	) DE Seam
MUDSTONE, dark grey, carbonaceous	0.18	6.23	) 5.47-7.00
CLAYSTONE, light grey, ?tuffaceous	0.02	6.25	) 1.53m
MUDSTONE, dark grey, carbonaceous	0.04	6.29)
COAL, dull to stony	0.11	6.40)
CLAYSTONE, light grey, tuffaceous	0.02	6.42)
CLAYSTONE, black, carbonaceous	0.03	6.45)
CLAYSTONE, light grey, tuffaceous	0.01	6.46)
COAL, dull to stony (core broken)	0.54	7.00)
MUDSTONE, grey, weak, soft in part, laminated	4.64	11.64	
MUDSTONE, black, carbonaceous	0.22	11.86	
MUDSTONE, mid grey	0.66	12.52	
MUDSTONE, black, carbonaceous, weak	0.90	13.42	
MUDSTONE, grey, laminated, weak	1.68	15.10	
MUDSTONE, black, carbonaceous weak	0.75	15.85	
SANDSTONE, grey, lithic, hard, strong	1.13	16.98	
MUDSTONE, grey, relatively weak	1.22	18.20	
COAL, dull to stony	0.38	18.58)
CLAYSTONE, mid grey, hard	0.02	18.60	) E3 Seam
COAL, dull with numerous bright bands	0.67	19.27	) 18.20-19.50
CLAYSTONE, light grey, tuffaceous	0.03	19.30	) 1.30m
COAL, dull minor bright	0.20	19.50)
MUDSTONE, black to dark grey, carbonaceous, laminated	0.60	20.10	
MUDSTONE, grey with carbonaceous partings (interbedded) sandy phases	1.45	21.55	
SANDSTONE, grey, lithic, strong	1.25	22.80	TD



- COAL Dull minor
- COAL Dull num:
- SANDSTONE
- MUDSTONE
- COAL Dull
- CLAYSTONE
- CARBONACEOUS MU
- GRAVEL

CORNWALL COAL HAREFIELD

CORNWALL COAL "J"

DATE DRILLED: DEC 98

GEOLOGY BY: MBCS

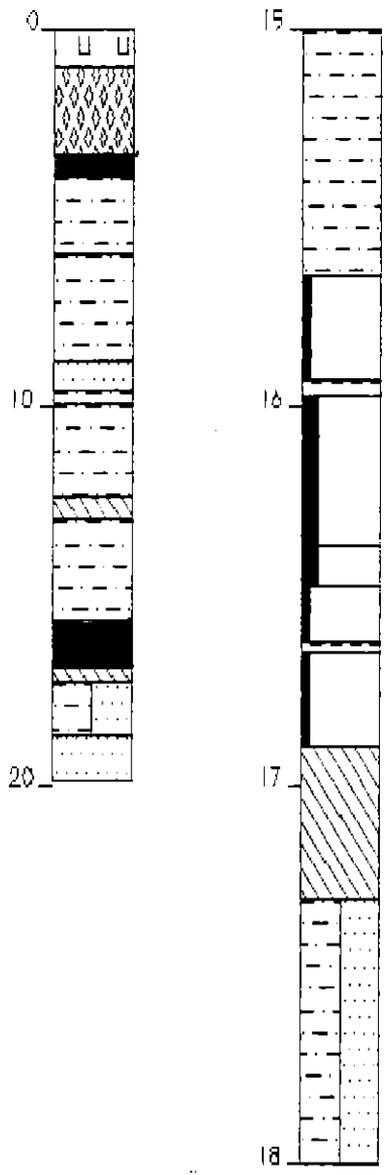
LOGGED BY: J.H. BRYAN

PROLOG

CORNWALL COAL HAREFIELD "K"

Location:	Harefield	Logged by:	J. Bryan
AMG Co-ordinates:	596191.8E	Drilled by:	Stacpoole Drilling
	5391639.1N		
Collar R.L.:	282.33m	Commenced:	Dec. 98
Total Depth:	22.80m	Completed:	Dec. 98

	Estimated Thickness (m)	Estimated Depth to Base of Stratum (m)	Remarks
SOIL & SCREE (NON CORE)	3.30	3.30	
COAL, weathered, sooty	0.60	3.90	Base of DE seam
MUDSTONE, grey to brown, partly weathered	2.10	6.00	HQ Core
MUDSTONE, grey, relatively weak	2.80	8.80	
SANDSTONE, grey, medium to fine, lithic	0.75	9.55	
MUDSTONE, black interbedded with brown claystone, weak	0.40	9.95	
MUDSTONE, grey to grey/green, laminated, weak strata	2.45	12.40	
MUDSTONE, dark grey, carbonaceous, laminated, weak (20 fpm)	0.60	13.00	
MUDSTONE, grey/brown, massive, hard and strong for 0.5m - becoming laminated and relatively weak	2.65	15.65	
COAL, dull to stony (core broken)	0.28	15.93)
CLAYSTONE, mid to light grey	0.04	15.97)
COAL, dull minor bright	0.40	16.37	) E3 Seam
COAL, dull minor bright	0.10	16.47	) 15.65-16.90
COAL, dull	0.15	16.62	) 1.25m
CLAYSTONE, light grey	0.03	16.65)
COAL, dull (core broken)	0.25	16.90)
MUDSTONE, black, carbonaceous	0.40	17.30	
MUDSTONE & SANDSTONE INTERBEDDED - some carbonaceous partings	1.40	18.70	
SANDSTONE, grey, lithic, massive	1.20	19.90	T.D.



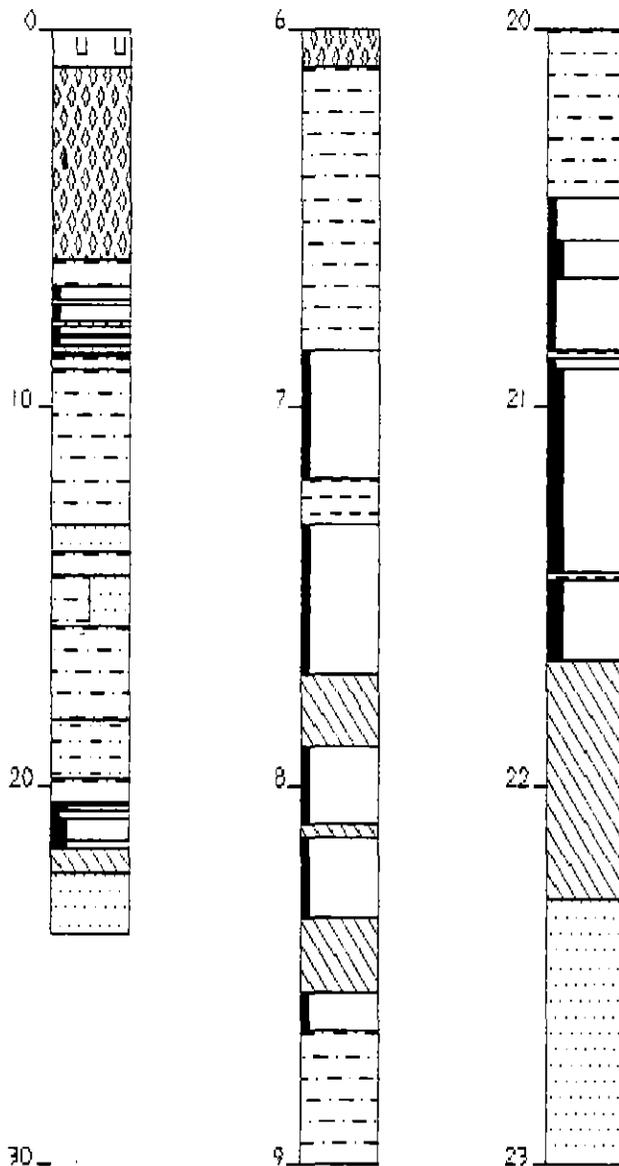
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	CORNWALL COAL "K"
	DATE DRILLED: DEC 98
	GEOLOGY BY: MBGS
	LOGGED BY: JH-BRYAN
	PROLOG

CORNWALL COAL HAREFIELD "L"

Location:	Harefield	Logged by:	J. Bryan
AMG Co-ordinates:	596368.5E	Drilled by:	Stacpoole Drilling
	5391697.9N		
Collar R.L.:	281.57m	Commenced:	Dec. 98
Total Depth:	22.80m	Completed:	Dec. 98

	Estimated Thickness (m)	Estimated Depth to Base of Stratum (m)	Remarks
SCREE & SOIL	6.10	6.10	
MUDSTONE, grey/brown, slightly weathered, weak	0.75	6.85	HQ Core
COAL, dull, slightly weathered	0.34	7.19)
CLAYSTONE, dark grey, hard	0.12	7.31)
COAL, dull to stony, hard	0.40	7.71	) DE Seam
CLAYSTONE, dark grey, carbonaceous	0.19	7.90	) 6.85-8.65
COAL, dull	0.20	8.10	) 1.80m
CLAYSTONE, black, carbonaceous	0.04	8.14)
COAL, dull	0.21	8.35)
CLAYSTONE, coaly	0.20	8.55)
COAL, dull	0.10	8.65)
MUDSTONE, grey, soft with carbonaceous interbeds	0.35	9.00	
MUDSTONE, grey, laminated, relatively weak	4.10	13.10	
SANDSTONE, grey, lithic, hard	0.70	13.80	
MUDSTONE, black with claystone interbeds, some coaly intervals up to 0.04m thick	0.65	14.45	
MUDSTONE & SANDSTONE interbedded, grey, hard	1.35	15.80	
MUDSTONE, green/grey laminated, carbonaceous in part, relatively weak	2.50	18.30	
SILTSTONE, grey, hard, relatively strong	1.55	19.85	
MUDSTONE, grey, laminated moderate strength	0.60	20.45	
COAL, dull	0.11	20.56)
COAL, dull minor bright	0.10	20.66	) E3 Seam
COAL, dull	0.19	20.85	) 20.45-21.67

CORNWALL COAL HAREFIELD "L" CONT'D			
CLAYSTONE, grey/brown, hard	0.02	20.87	) 1.22m
COAL, dull to stony	0.03	20.90)
COAL, dull minor bright	0.54	21.44	) E3 Seam
CLAYSTONE, grey, tuffaceous	0.02	21.46	) (cont'd)
COAL, dull minor bright	0.21	21.67)
MUDSTONE, black, carbonaceous	0.63	22.30	
SANDSTONE, grey, lithic, hard with carbonaceous partings (strong)	1.60	23.90	T.D.



-  COAL Dull minor
-  SILTSTONE
-  SANDSTONE
-  CARBONACEOUS MU
-  CLAYSTONE
-  COAL Dull
-  MUDSTONE
-  GRAVEL
-  SOIL

CORNWALL COAL HAREFIELD

CORNWALL COAL "L"

DATE DRILLED: DEC 98

GEOLOGY BY: MBGS

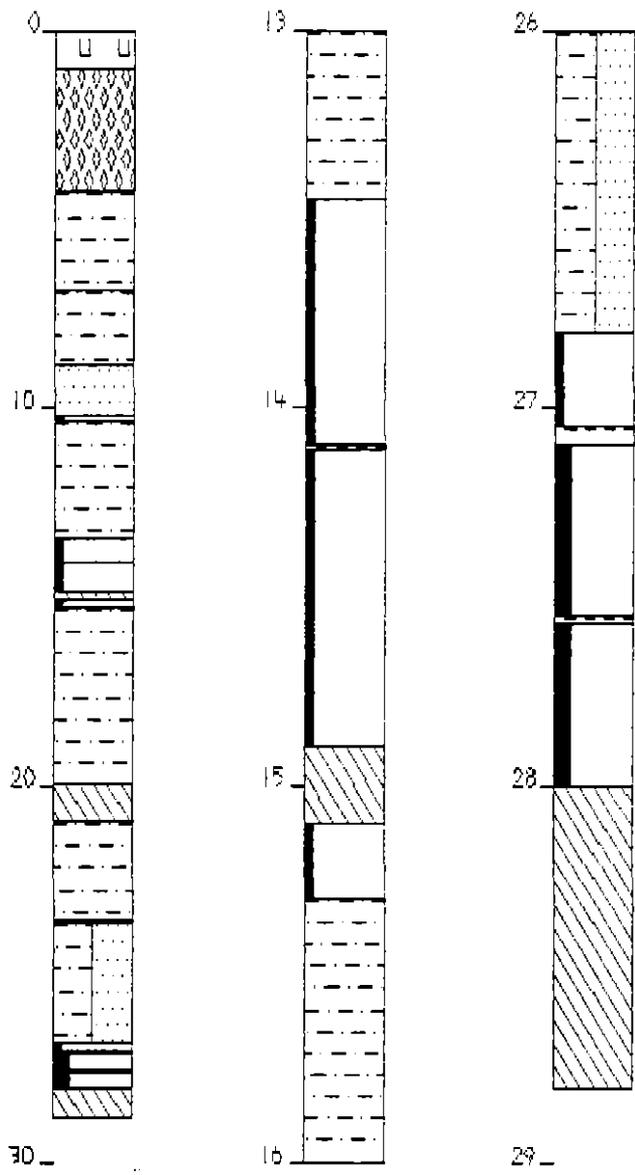
LOGGED BY: JH-BRYAN

PROLOG

CORNWALL COAL HAREFIELD "M"

Location:	Harefield	Logged by:	J. Bryan
AMG Co-ordinates:	596447.6E 5391520.6N	Drilled by:	Stacpoole Drilling
Collar R.L.:	283.44m	Commenced:	Dec. 98
Total Depth:	28.80m	Completed:	Dec. 98

	Estimated Thickness (m)	Estimated Depth to Base of Stratum (m)	Remarks
SCREEN & SOIL (non core)	4.30	4.30	
MUDSTONE, brown, slightly weathered, weak strata	2.60	6.90	HQ Core
MUDSTONE, grey, relatively weak	2.00	8.90	
SANDSTONE, grey to grey/brown (very slightly weathered)	1.30	10.20	
COAL, dull	0.13	10.33	
MUDSTONE, grey	3.12	13.45	
COAL, dull to stony - grading to coaly claystone	0.65	14.10))
CLAYSTONE, mid grey	0.01	14.11	) DE Seam
COAL, dull to stony (core loss 0.40m)	0.79	14.90	) 13.45 - 15.30
CLAYSTONE, black, coaly	0.20	15.10	) 1.85m
COAL, dull to stony	0.20	15.30)
MUDSTONE, grey, relatively weak, grading to siltstone grey/green	4.65	19.95	
MUDSTONE, black, carbonaceous	1.02	20.97	
MUDSTONE, grey to grey/green laminated, relatively weak, carbonaceous in part	2.58	23.55	
COAL, dull to stony	0.10	23.65	
MUDSTONE/SANDSTONE interbedded, grey, hard in parts, but overall relatively weak with 5 to 15 fractures per metre	3.15	26.80	
COAL, dull to stony	0.25	27.05)
CLAYSTONE, mid grey, hard	0.05	27.10	) E3 Seam
COAL, dull minor bright	0.45	27.55	) 1.20m
CLAYSTONE, grey, hard	0.02	27.57)
COAL, dull with minor bright	0.23	28.00)
MUDSTONE, mid to dark grey, carbonaceous	0.80	28.80	T.D.



<ul style="list-style-type: none">  COAL Dull minor  CARBONACEOUS MU  CLAYSTONE  COAL Dull  SANDSTONE  MUDSTONE  GRAVEL  SOIL 	<p>CORNWALL COAL "M"</p>
	<p>DATE DRILLED: DEC 98</p>
	<p>GEOLOGY BY: MBGS</p>
	<p>LOGGED BY: JH BRYAN</p>
	<p>PROLOG</p>

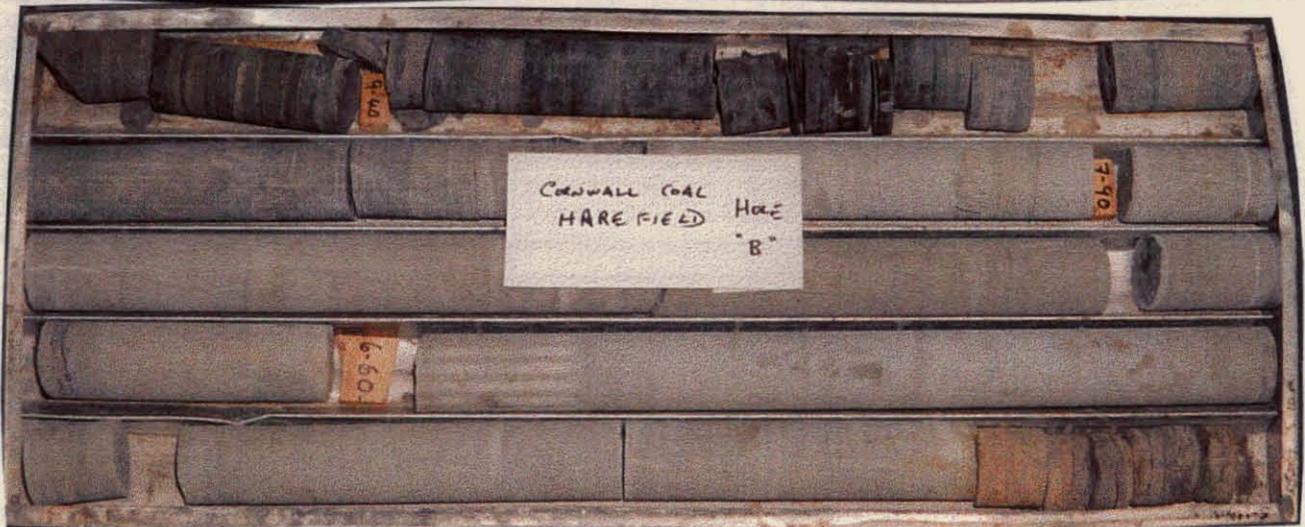
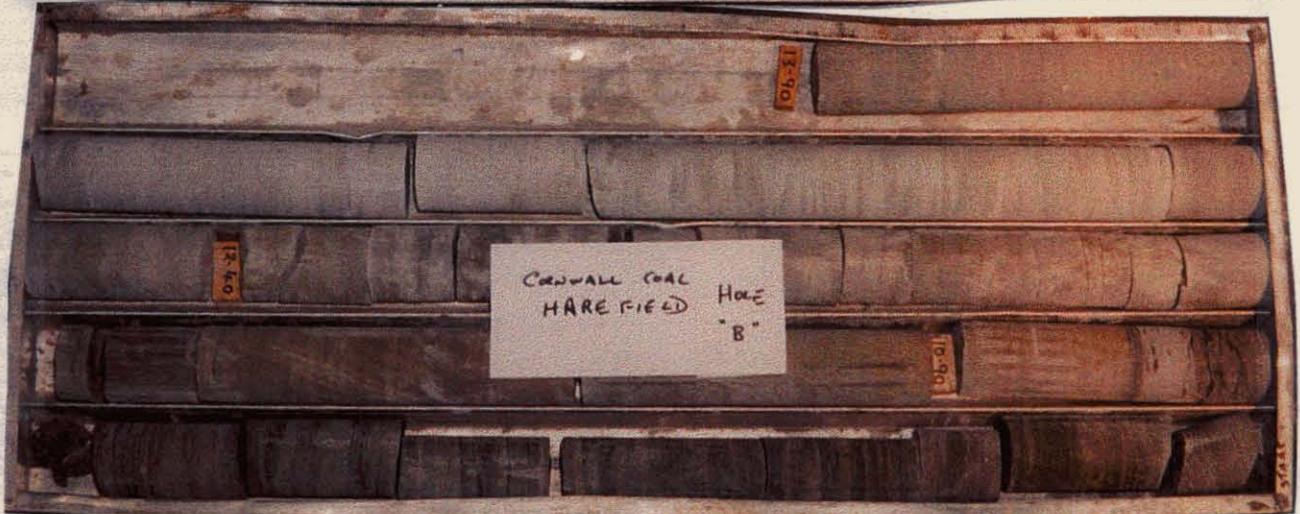
2. CORE PHOTOGRAPHS - DDH's A to M

The core from all holes was photographed after logging and before sampling. The core is retained in Fingal.



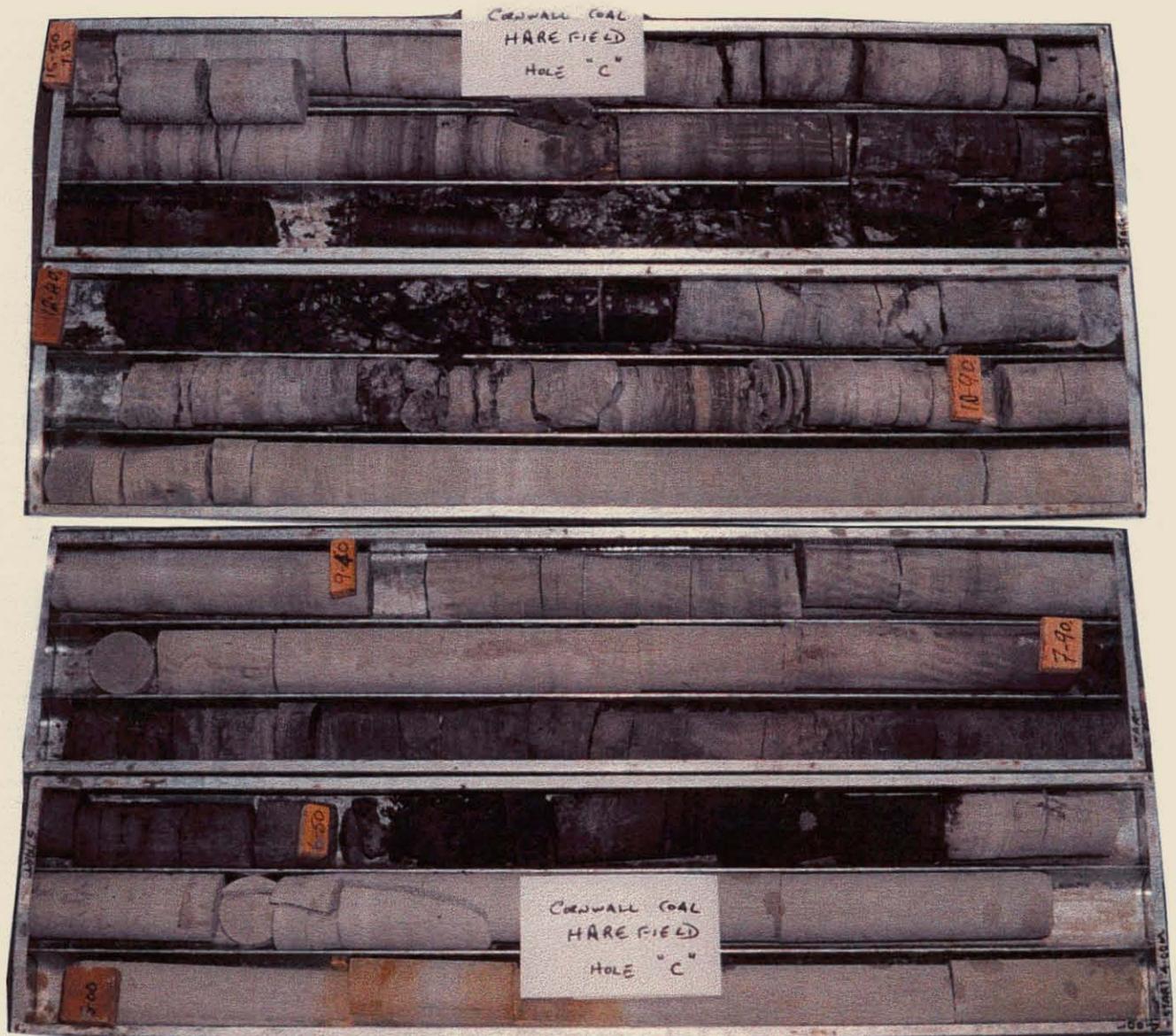
HAREFIELD HOLE "A" CORE PHOTOS

565032



HAREFIELD HOLE "B" CORE PHOTOS

565033

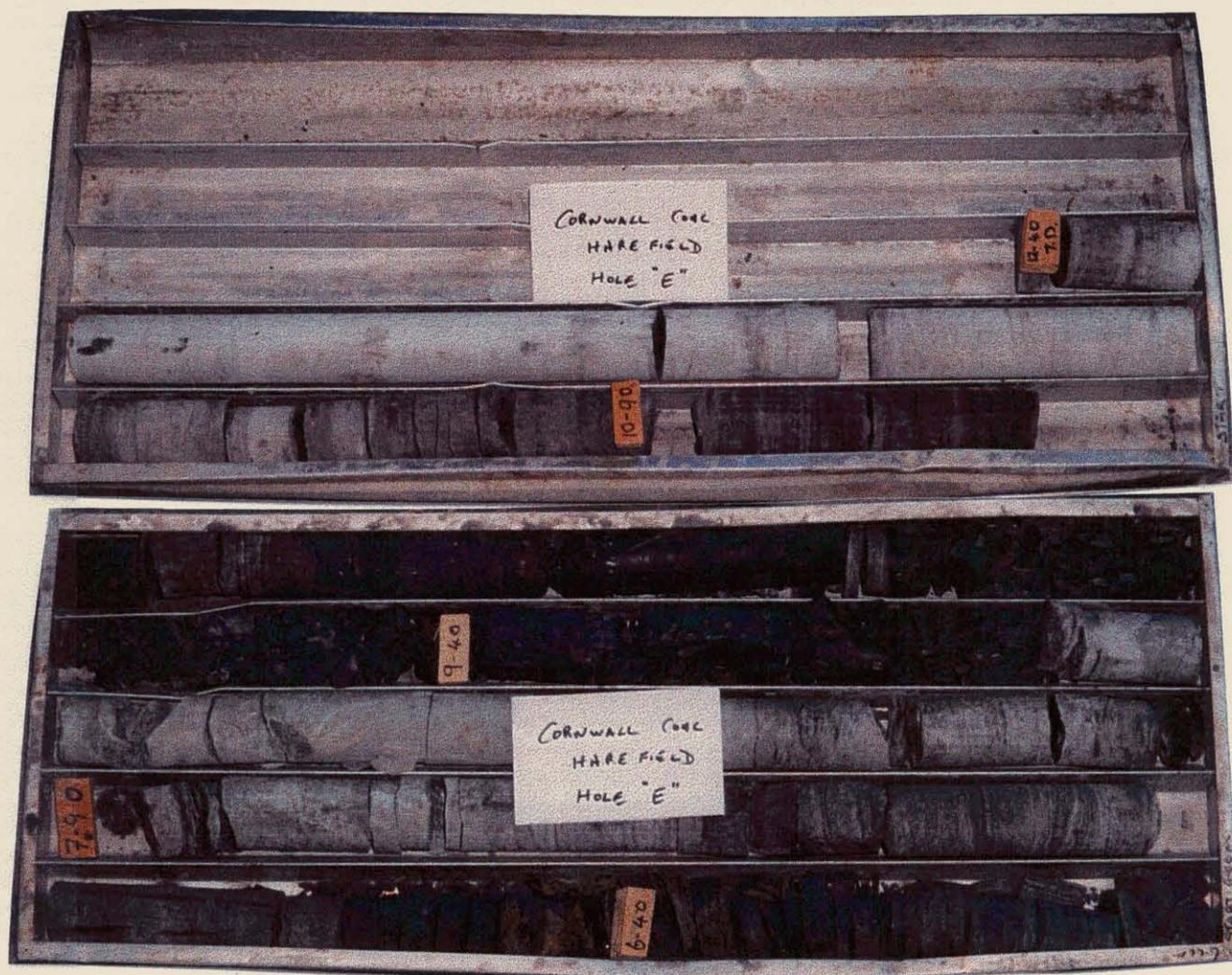


HAREFIELD HOLE "C" CORE PHOTOS

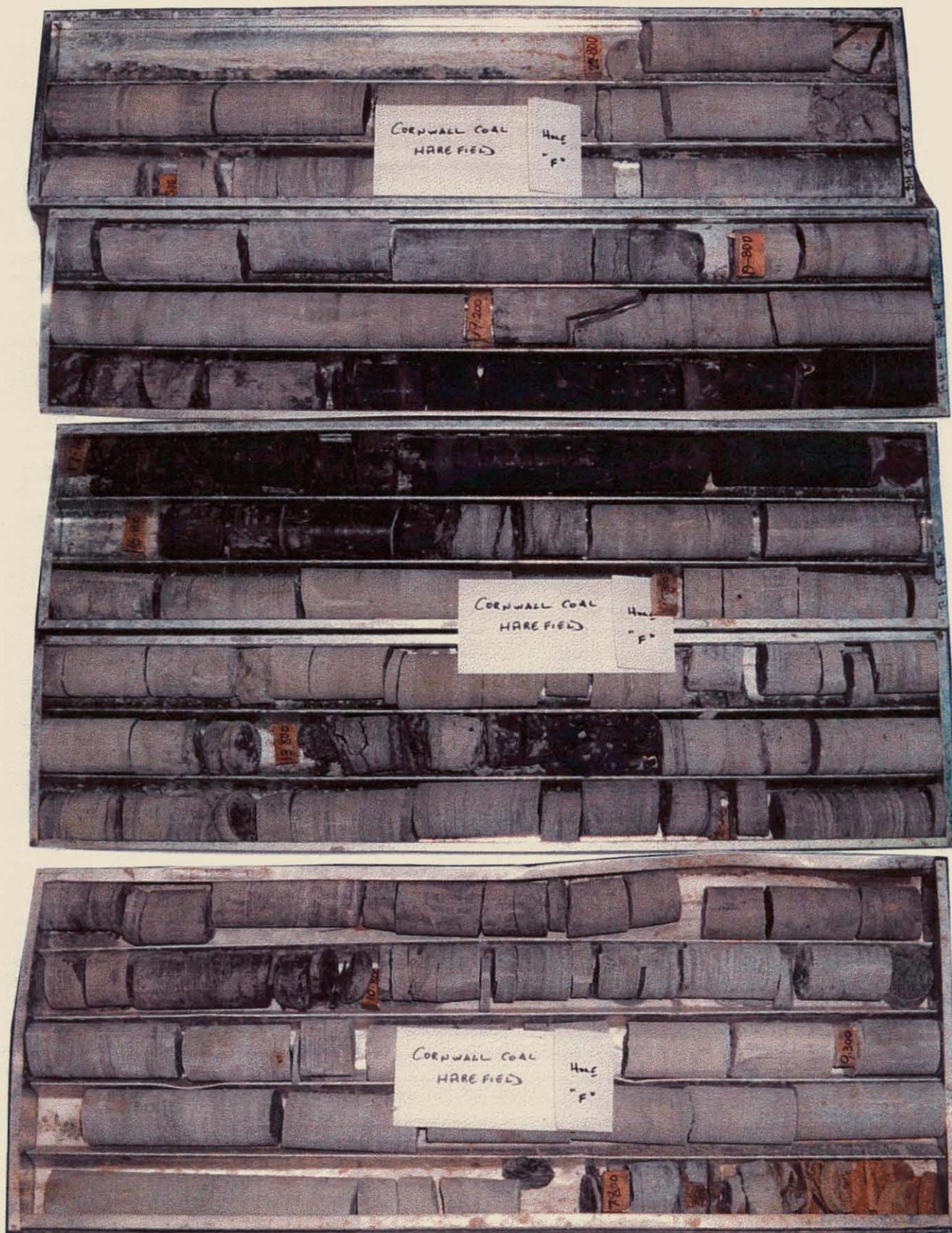
565034



HAREFIELD HOLE "D" CORE PHOTOS



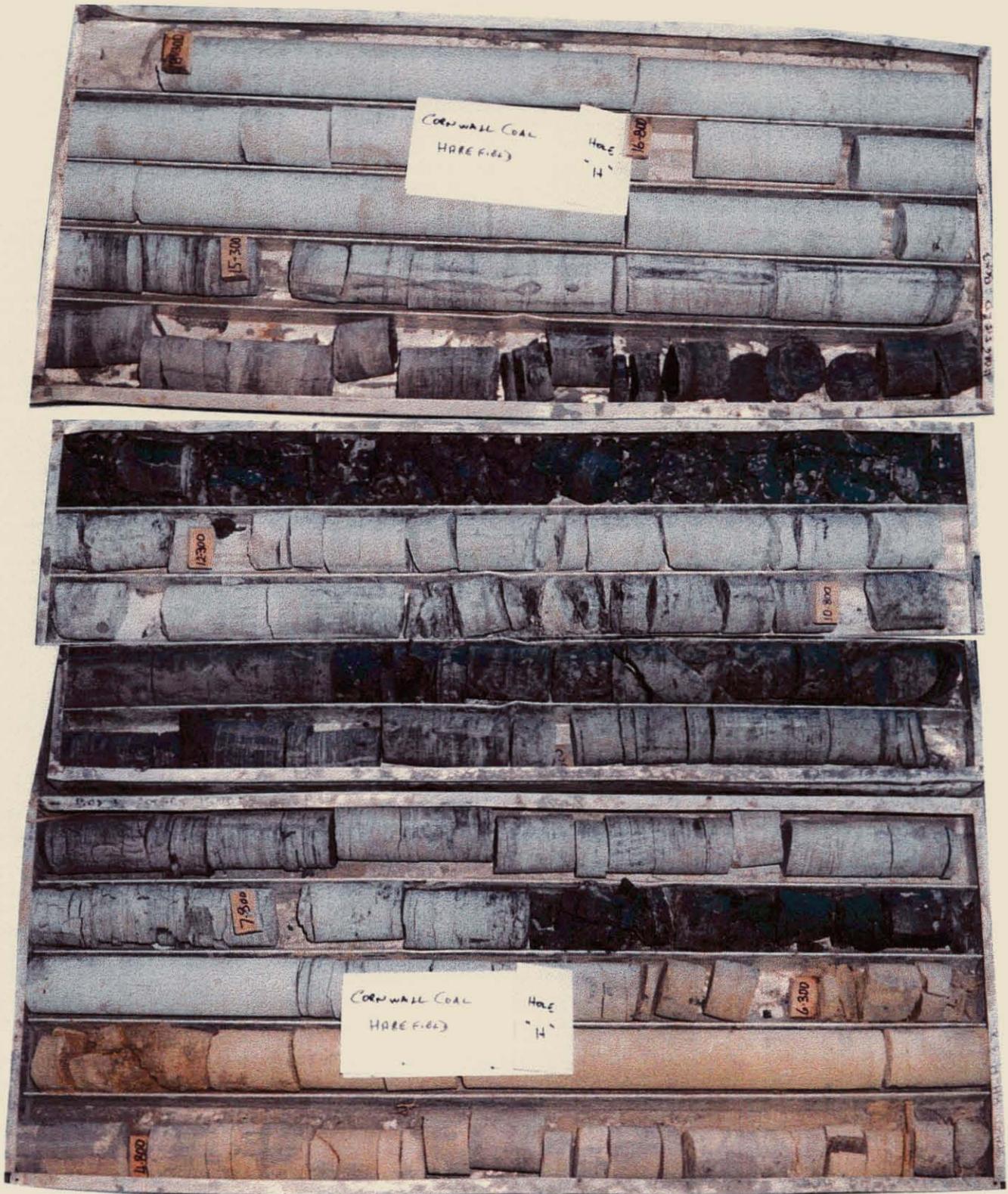
HAREFIELD HOLE "E" CORE PHOTOS



HAREFIELD HOLE "F" CORE PHOTOS

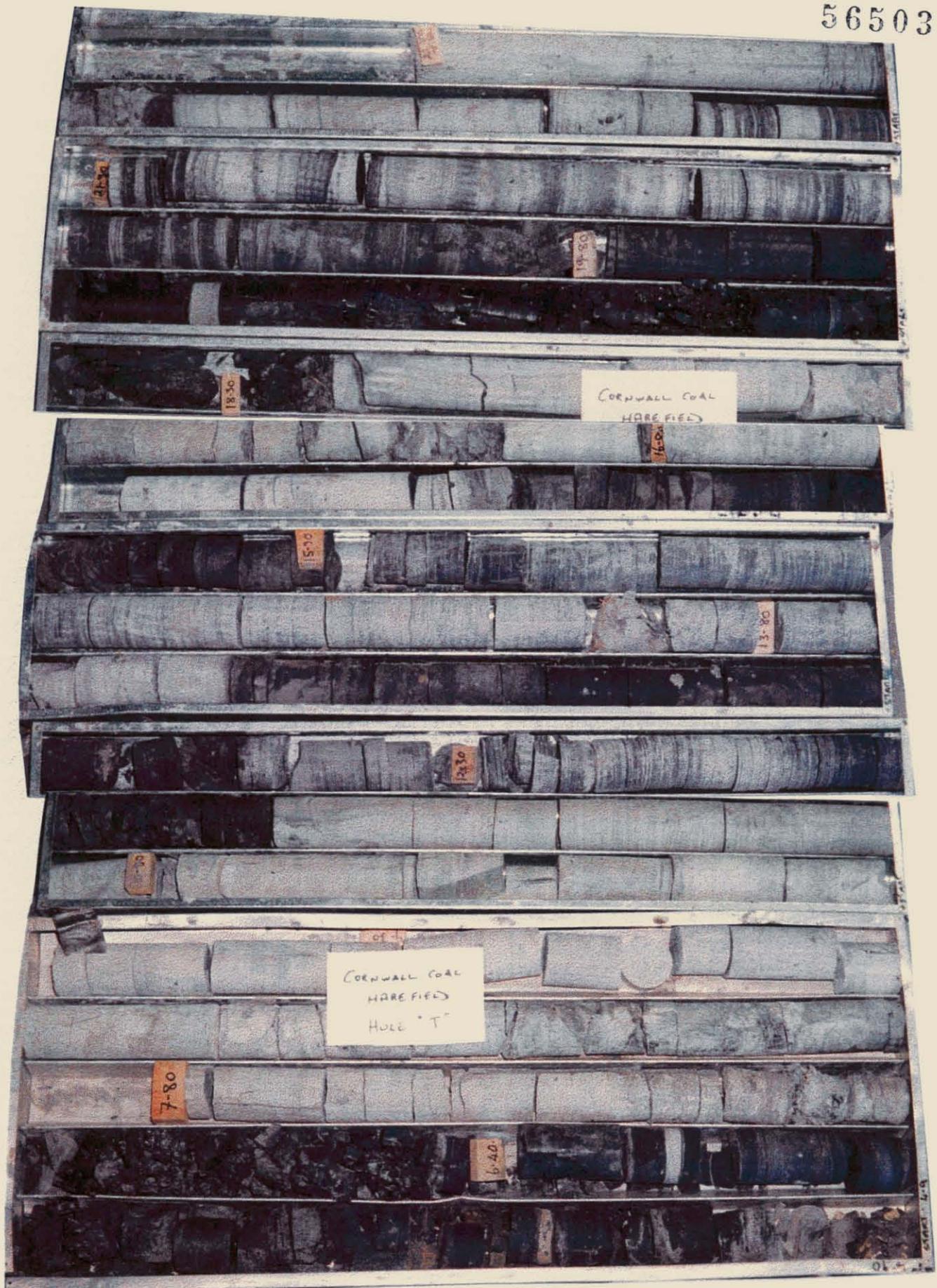


HAREFIELD HOLE "G" CORE PHOTOS



HAREFIELD HOLE "H" CORE PHOTOS

565039



HAREFIELD HOLE "J" CORE PHOTOS

19.2



HAREFIELD HOLE "K" CORE PHOTOS



HAREFIELD HOLE "L" CORE PHOTOS



HAREFIELD HOLE "M" CORE PHOTOS



Appendix 1

3. COAL ANALYSES - DDH's A to M

The coal seams were sampled by John Bryan and forwarded to the CCI Laboratory in Wollongong, NSW. The complete laboratory report is included in this data package.

565045

Appx-1



24 GLASTONBURY AVENUE UNANDERRA NSW 2526 AUSTRALIA
TEL (02) 4272 4224 FAX (02) 4272 4190
E-MAIL cciw@ozemail.com.au

CLIENT : CORNWALL COAL COMPANY

DESCRIPTION : CORNWALL COAL BORE CORE SAMPLES
HAREFIELD PROJECT

REPORTED TO : Mr Bob Mellows
Cornwall Coal Company
PO Box 402
FINGAL TAS 7214

C.C. : Mr John Bryan

REFERENCE NUMBER : W4581

SAMPLED BY : McElroy Bryan Geological Services Pty Ltd

DATE RECEIVED : 18th January, 1999

REPORT STATUS : Final

DATE REPORTED : 8th February, 1999



P Howes
MANAGER



CLIENT : CORNWALL COAL COMPANY **REF :** W4581

DESCRIPTION : CORNWALL COAL BORE CORE SAMPLES
HAREFIELD PROJECT

REPORTED TO : Mr Bob Mellows

INTRODUCTION

Cornwall coal bore core samples were delivered to the C.C.I. Unanderra laboratory on 18th January, 1999.

The samples were analysed in accordance with instructions from Mr John Bryan.

This is the final report, provisional results were faxed on 29th January, 3rd and 8th February, 1999.

TEST PROCEDURE

1. The samples were weighed.
2. Specified samples, drill hole D, DE1 seam and DE2 seam were prepared for Raw coal analysis.
3. The remaining cores were hand knapped to pass 12.5mm.
4. The E2 seam, E3 seams and E3 lower seam - 12.5 mm material were subjected to float sink analysis at relative densities : 1.50, 1.60 and 1.70.
Yield and ash was determined on each fraction.
5. The DE seams - 12.5 mm material were subjected to float sink analysis at relative densities : 1.60, 1.70, 1.80 and 1.90.
Yield and ash was determined on each fraction.
6. A raw coal composite was calculated and prepared for proximate analysis and relative density for each of the cores.

WASHED PRODUCTS

A simulated product was required for specified samples.

The **E3 seam** samples simulated product was prepared using cumulative F 1.70 proportionally calculated with the relative density results and the measurements supplied.

NOTE : Hole F, E3 seam sample was not used in the simulated product as requested by Mr. Bryan.

The **DE seam** samples simulated product was prepared using cumulative F 1.80 proportionally calculated with the relative density results and the measurements supplied.

The simulated products were analysed for proximate analysis, total sulphur, specific energy, ash fusion temperatures and ash analysis.

All analyses were performed in accordance with Australian Standards.



CLIENT : CORNWALL COAL COMPANY

REF : W4581

DESCRIPTION : CORNWALL COAL BORE CORE SAMPLES
HAREFIELD PROJECT

REPORTED TO : Mr Bob Mellows

HOLE D : DE1 SEAM (0.49 m).

As received : 1639 gm

RAW COAL ANALYSIS

Sample Number	:	6887	
Relative density	:	1.69	
Moisture *	(Air dried basis)	5.8	%
Ash	(Air dried basis)	38.5	%
Volatile Matter	(Air dried basis)	21.4	%

HOLE D : DE2 SEAM (0.32 m).

As received : 1452 gm

RAW COAL ANALYSIS

Sample Number	:	6888	
Relative density	:	1.74	
Moisture *	(Air dried basis)	5.6	%
Ash	(Air dried basis)	41.0	%
Volatile Matter	(Air dried basis)	18.0	%

HOLE D : E2 SEAM (0.25 m).

As received : 981 gm

RAW COAL ANALYSIS

Sample Number	:	7151	
Relative density	:	1.62	
Moisture *	(Air dried basis)	6.2	%
Ash	(Air dried basis)	33.5	%
Volatile Matter	(Air dried basis)	20.0	%

* Represents moisture in the analysis sample.

Analysed in accordance with AS1038 part 3 and part 21.2.



CLIENT : CORNWALL COAL COMPANY
DESCRIPTION : CORNWALL COAL BORE CORE SAMPLES
 HAREFIELD PROJECT
REPORTED TO : Mr Bob Mellows

REF : W4581

HOLE A : E3 SEAM (1.15 m).

As received : 3397 gm

RAW COAL ANALYSIS

Sample Number : 7152
 Relative density : 1.55
 Moisture * (Air dried basis) : 3.8 %
 Ash (Air dried basis) : 27.2 %
 Volatile Matter (Air dried basis) : 24.4 %

FLOAT SINK ANALYSIS

Size Fraction : - 12.5 mm.

Proportion of Total Sample : 100.0 %

Relative Density Fraction	Fraction Mass %	Ash % (a.d.)	Cumulative Mass %	Ash % (a.d.)	Sample Number
F1.50	65.3	13.8	65.3	13.8	6980
S1.50 - F1.60	11.8	29.3	77.1	16.2	6981
S1.60 - F1.70	4.3	38.2	81.4	17.3	6982
S1.70	18.6	70.7	100.0	27.3	6983

Analysed in accordance with AS1038 parts 3 and 21.2 and AS4156 part 1.



CLIENT : CORNWALL COAL COMPANY **REF :** W4581
DESCRIPTION : CORNWALL COAL BORE CORE SAMPLES
 HAREFIELD PROJECT
REPORTED TO : Mr Bob Mellows

HOLE C : E3 SEAM (1.28 m).

As received : 4146 gm

RAW COAL ANALYSIS

Sample Number : 7153
 Relative density : 1.49
 Moisture * (Air dried basis) : 4.2 %
 Ash (Air dried basis) : 21.0 %
 Volatile Matter (Air dried basis) : 25.8 %

FLOAT SINK ANALYSIS

Size Fraction : - 12.5 mm.

Proportion of Total Sample : 100.0 %

Relative Density Fraction	Fraction Mass %	Ash % (a.d.)	Cumulative Mass %	Ash % (a.d.)	Sample Number
F1.50	75.4	13.4	75.4	13.4	6984
S1.50 - F1.60	10.0	28.1	85.4	15.1	6985
S1.60 - F1.70	3.5	36.1	88.9	15.9	6986
S1.70	11.1	62.0	100.0	21.1	6987

Analysed in accordance with AS1038 parts 3 and 21.2 and AS4156 part 1.



CLIENT : CORNWALL COAL COMPANY
DESCRIPTION : CORNWALL COAL BORE CORE SAMPLES
 HAREFIELD PROJECT
REPORTED TO : Mr Bob Mellows

REF : W4581

HOLE D : E3 SEAM (1.14 m).

As received : 4589 gm

RAW COAL ANALYSIS

Sample Number : 7154
 Relative density : 1.51
 Moisture * (Air dried basis) : 4.2 %
 Ash (Air dried basis) : 23.6 %
 Volatile Matter (Air dried basis) : 25.1 %

FLOAT SINK ANALYSIS

Size Fraction : - 12.5 mm.

Proportion of Total Sample : 100.0 %

Relative Density Fraction	Fraction Mass %	Ash % (a.d.)	Cumulative Mass %	Ash % (a.d.)	Sample Number
F1.50	68.0	14.0	68.0	14.0	6988
S1.50 - F1.60	13.5	28.0	81.5	16.3	6989
S1.60 - F1.70	5.1	37.8	86.6	17.6	6990
S1.70	13.4	62.4	100.0	23.6	6991

Analysed in accordance with AS1038 parts 3 and 21.2 and AS4156 part 1.



CLIENT : CORNWALL COAL COMPANY
DESCRIPTION : CORNWALL COAL BORE CORE SAMPLES
 HAREFIELD PROJECT
REPORTED TO : Mr Bob Mellows

REF : W4581

HOLE E : E3 SEAM (1.29 m).

As received : 3966 gm

RAW COAL ANALYSIS

Sample Number : 7155
 Relative density : 1.50
 Moisture * (Air dried basis) : 4.2 %
 Ash (Air dried basis) : 23.4 %
 Volatile Matter (Air dried basis) : 25.2 %

FLOAT SINK ANALYSIS

Size Fraction : - 12.5 mm.

Proportion of Total Sample : 100.0 %

Relative Density Fraction	Fraction Mass %	Ash % (a.d.)	Cumulative Mass %	Ash % (a.d.)	Sample Number
F1.50	69.8	14.5	69.8	14.5	6992
S1.50 - F1.60	13.2	28.8	83.0	16.8	6993
S1.60 - F1.70	5.3	38.8	88.3	18.1	6994
S1.70	11.7	63.2	100.0	23.4	6995

Analysed in accordance with AS1038 parts 3 and 21.2 and AS4156 part 1.



CLIENT : CORNWALL COAL COMPANY
 DESCRIPTION : CORNWALL COAL BORE CORE SAMPLES
 HAREFIELD PROJECT
 REPORTED TO : Mr Bob Mellows

REF : W4581

DE1 SEAM (1.22 m).

As received : 5513 gm

RAW COAL ANALYSIS

Sample Number : 7156
 Relative density : 1.79
 Moisture * (Air dried basis) : 4.7 %
 Ash (Air dried basis) : 47.3 %
 Volatile Matter (Air dried basis) : 18.3 %

FLOAT SINK ANALYSIS

Size Fraction : - 12.5 mm.

Proportion of Total Sample : 100.0 %

Relative Density Fraction	Fraction Mass %	Ash % (a.d.)	Cumulative Mass %	Ash % (a.d.)	Sample Number
F1.50	20.3	13.9	20.3	13.9	6996
S1.50 - F1.60	10.0	27.6	30.3	18.4	6997
S1.60 - F1.70	9.2	37.2	39.5	22.8	6998
S1.70	60.5	63.0	100.0	47.1	6999

Analysed in accordance with AS1038 parts 3 and 21.2 and AS4156 part 1.



CLIENT : CORNWALL COAL COMPANY
DESCRIPTION : CORNWALL COAL BORE CORE SAMPLES
 HAREFIELD PROJECT
REPORTED TO : Mr Bob Mellows

REF : W4581

DE2 Seam (0.61 m).

As received : 3048 gm

RAW COAL ANALYSIS

Sample Number : 7157
 Relative density : 1.91
 Moisture * (Air dried basis) : 4.4 %
 Ash (Air dried basis) : 56.3 %
 Volatile Matter (Air dried basis) : 15.9 %

FLOAT SINK ANALYSIS

Size Fraction : - 12.5 mm.

Proportion of Total Sample : 100.0 %

Relative Density Fraction	Fraction Mass %	Ash % (a.d.)	Cumulative Mass %	Ash % (a.d.)	Sample Number
F1.50	4.6	19.4	4.6	19.4	7000
S1.50 - F1.60	8.3	27.3	12.9	24.5	7001
S1.60 - F1.70	13.2	34.6	26.1	29.6	7002
S1.70	73.9	65.6	100.0	56.2	7003

Analysed in accordance with AS1038 parts 3 and 21.2 and AS4156 part 1.



CLIENT : CORNWALL COAL COMPANY
DESCRIPTION : CORNWALL COAL BORE CORE SAMPLES
HAREFIELD PROJECT
REPORTED TO : Mr Bob Mellows

REF : W4581

HOLE H : E2 SEAM (0.50 m).

As received : 1573 gm

RAW COAL ANALYSIS

Sample Number : 7158
Relative density : 1.76
Moisture * (Air dried basis) : 6.3 %
Ash (Air dried basis) : 47.4 %
Volatile Matter (Air dried basis) : 16.6 %

FLOAT SINK ANALYSIS

Size Fraction : - 12.5 mm.

Proportion of Total Sample : 100.0 %

Relative Density Fraction	Fraction Mass %	Ash % (a.d.)	Cumulative Mass %	Ash % (a.d.)	Sample Number
F1.50	1.7	20.2	1.7	20.2	7036
S1.50 - F1.60	3.6	26.8	5.3	24.7	7037
S1.60 - F1.70	27.8	38.7	33.1	36.5	7038
S1.70	66.9	52.6	100.0	47.3	7039

Analysed in accordance with AS1038 parts 3 and 21.2 and AS4156 part 1.



CLIENT : CORNWALL COAL COMPANY
DESCRIPTION : CORNWALL COAL BORE CORE SAMPLES
 HAREFIELD PROJECT
REPORTED TO : Mr Bob Mellows

REF : W4581

HOLE H: E3 SEAM (1.17 m).

As received : 2933 gm

RAW COAL ANALYSIS

Sample Number	:	7159	
Relative density	:	1.56	
Moisture *	(Air dried basis)	:	4.2 %
Ash	(Air dried basis)	:	27.3 %
Volatile Matter	(Air dried basis)	:	23.5 %

FLOAT SINK ANALYSIS

Size Fraction : - 12.5 mm.

Proportion of Total Sample : 100.0 %

Relative Density Fraction	Fraction Mass %	Ash % (a.d.)	Cumulative Mass %	Ash % (a.d.)	Sample Number
F1.50	63.7	14.7	63.7	14.7	7040
S1.50 - F1.60	12.9	27.6	76.6	16.9	7041
S1.60 - F1.70	3.0	35.9	79.6	17.6	7042
S1.70	20.4	64.4	100.0	27.1	7043

Analysed in accordance with AS1038 parts 3 and 21.2 and AS4156 part 1.



CLIENT : CORNWALL COAL COMPANY **REF :** W4581
DESCRIPTION : CORNWALL COAL BORE CORE SAMPLES
 HAREFIELD PROJECT
REPORTED TO : Mr Bob Mellows

HOLE J: E3 SEAM (1.30 m).

As received : 4211 gm

RAW COAL ANALYSIS

Sample Number : 7160
 Relative density : 1.53
 Moisture * (Air dried basis) : 4.2 %
 Ash (Air dried basis) : 24.6 %
 Volatile Matter (Air dried basis) : 26.2 %

FLOAT SINK ANALYSIS

Size Fraction : - 12.5 mm.

Proportion of Total Sample : 100.0 %

Relative Density Fraction	Fraction Mass %	Ash % (a.d.)	Cumulative Mass %	Ash % (a.d.)	Sample Number
F1.50	70.3	13.6	70.3	13.6	7044
S1.50 - F1.60	6.8	27.6	77.1	14.8	7045
S1.60 - F1.70	7.0	36.3	84.1	16.6	7046
S1.70	15.9	65.8	100.0	24.4	7047

Analysed in accordance with AS1038 parts 3 and 21.2 and AS4156 part 1.



CLIENT : CORNWALL COAL COMPANY **REF :** W4581
DESCRIPTION : CORNWALL COAL BORE CORE SAMPLES
 HAREFIELD PROJECT
REPORTED TO : Mr Bob Mellows

HOLE K: E3 SEAM (1.25 m).

As received : 3737 gm

RAW COAL ANALYSIS

Sample Number : 7161
 Relative density : 1.49
 Moisture * (Air dried basis) : 3.5 %
 Ash (Air dried basis) : 24.6 %
 Volatile Matter (Air dried basis) : 27.6 %

FLOAT SINK ANALYSIS

Size Fraction : - 12.5 mm.

Proportion of Total Sample : 100.0 %

Relative Density Fraction	Fraction Mass %	Ash % (a.d.)	Cumulative Mass %	Ash % (a.d.)	Sample Number
F1.50	71.1	12.8	71.1	12.8	7048
S1.50 - F1.60	7.4	29.2	78.5	14.3	7049
S1.60 - F1.70	3.0	37.5	81.5	15.2	7050
S1.70	18.5	65.2	100.0	24.4	7051

Analysed in accordance with AS1038 parts 3 and 21.2 and AS4156 part 1.



CLIENT : CORNWALL COAL COMPANY
DESCRIPTION : CORNWALL COAL BORE CORE SAMPLES
 HAREFIELD PROJECT
REPORTED TO : Mr Bob Mellows

REF: W4581

HOLE L: E3 SEAM (1.22 m).

As received : 4565 gm

RAW COAL ANALYSIS

Sample Number	:	7162	
Relative density	:	1.51	
Moisture *	(Air dried basis)	:	3.6 %
Ash	(Air dried basis)	:	23.4 %
Volatile Matter	(Air dried basis)	:	26.2 %

FLOAT SINK ANALYSIS

Size Fraction : - 12.5 mm.

Proportion of Total Sample : 100.0 %

Relative Density Fraction	Fraction Mass %	Ash % (a.d.)	Cumulative Mass %	Ash % (a.d.)	Sample Number
F1.50	70.7	14.4	70.7	14.4	7052
S1.50 - F1.60	9.3	30.8	80.0	16.3	7053
S1.60 - F1.70	7.2	38.4	87.2	18.1	7054
S1.70	12.8	58.6	100.0	23.3	7055

Analysed in accordance with AS1038 parts 3 and 21.2 and AS4156 part 1.



CLIENT : CORNWALL COAL COMPANY
DESCRIPTION : CORNWALL COAL BORE CORE SAMPLES
 HAREFIELD PROJECT
REPORTED TO : Mr Bob Mellows

REF : W4581

HOLE M: E3 SEAM (1.20 m).

As received : 2947 gm

RAW COAL ANALYSIS

Sample Number : 7163
 Relative density : 1.53
 Moisture * (Air dried basis) : 3.6 %
 Ash (Air dried basis) : 22.6 %
 Volatile Matter (Air dried basis) : 27.2 %

FLOAT SINK ANALYSIS

Size Fraction : - 12.5 mm.

Proportion of Total Sample : 100.0 %

Relative Density Fraction	Fraction Mass %	Ash % (a.d.)	Cumulative Mass %	Ash % (a.d.)	Sample Number
F1.50	75.8	13.7	75.8	13.7	7056
S1.50 - F1.60	8.8	27.8	84.6	15.2	7057
S1.60 - F1.70	1.0	37.0	85.6	15.4	7058
S1.70	14.4	63.6	100.0	22.4	7059

Analysed in accordance with AS1038 parts 3 and 21.2 and AS4156 part 1.



CLIENT : CORNWALL COAL COMPANY
DESCRIPTION : CORNWALL COAL BORE CORE SAMPLES
 HAREFIELD PROJECT
REPORTED TO : Mr Bob Mellows

REF : W4581

HOLE J: DE SEAM (1.53 m).

As received : 5651 gm

RAW COAL ANALYSIS

Sample Number : 7164
 Relative density : 1.73
 Moisture * (Air dried basis) : 3.6 %
 Ash (Air dried basis) : 39.5 %
 Volatile Matter (Air dried basis) : 19.2 %

FLOAT SINK ANALYSIS

Size Fraction : - 12.5 mm.

Proportion of Total Sample : 100.0 %

Relative Density Fraction	Fraction Mass %	Ash % (a.d.)	Cumulative Mass %	Ash % (a.d.)	Sample Number
F1.60	40.6	17.4	40.6	17.4	7072
S1.60 - F1.70	12.2	35.8	52.8	21.7	7073
S1.70 - F1.80	12.6	43.0	65.4	25.8	7074
S1.80 - F1.90	5.2	49.8	70.6	27.5	7075
S1.90	29.4	68.6	100.0	39.6	7076

Analysed in accordance with AS1038 parts 3 and 21.2 and AS4156 part 1.



CLIENT : CORNWALL COAL COMPANY
DESCRIPTION : CORNWALL COAL BORE CORE SAMPLES
 HAREFIELD PROJECT
REPORTED TO : Mr Bob Mellows

REF : W4581

HOLE L: DE SEAM (1.80 m).

As received : 6877 gm

RAW COAL ANALYSIS

Sample Number : 7165
 Relative density : 1.72
 Moisture * (Air dried basis) : 4.2 %
 Ash (Air dried basis) : 40.0 %
 Volatile Matter (Air dried basis) : 20.4 %

FLOAT SINK ANALYSIS

Size Fraction : - 12.5 mm.

Proportion of Total Sample : 100.0 %

Relative Density Fraction	Fraction Mass %	Ash % (a.d.)	Cumulative Mass %	Ash % (a.d.)	Sample Number
F1.60	39.4	19.8	39.4	19.8	7077
S1.60 - F1.70	16.0	37.1	55.4	24.8	7078
S1.70 - F1.80	11.2	45.2	66.6	28.2	7079
S1.80 - F1.90	7.1	52.2	73.7	30.5	7080
S1.90	26.3	66.9	100.0	40.1	7081

Analysed in accordance with AS1038 parts 3 and 21.2 and AS4156 part 1.



CLIENT : CORNWALL COAL COMPANY
DESCRIPTION : CORNWALL COAL BORE CORE SAMPLES
 HAREFIELD PROJECT
REPORTED TO : Mr Bob Mellows

REF : W4581

HOLE M: DE SEAM (1.85 m).

As received : 5397 gm

RAW COAL ANALYSIS

Sample Number	:	7166
Relative density	:	1.72
Moisture *	(Air dried basis)	: 4.6 %
Ash	(Air dried basis)	: 40.1 %
Volatile Matter	(Air dried basis)	: 18.6 %

FLOAT SINK ANALYSIS

Size Fraction : - 12.5 mm.

Proportion of Total Sample : 100.0 %

Relative Density Fraction	Fraction Mass %	Ash % (a.d.)	Cumulative Mass %	Ash % (a.d.)	Sample Number
F1.60	35.0	19.6	35.0	19.6	7082
S1.60 - F1.70	17.6	36.4	52.6	25.2	7083
S1.70 - F1.80	13.2	44.4	65.8	29.1	7084
S1.80 - F1.90	11.2	52.6	77.0	32.5	7085
S1.90	23.0	65.8	100.0	40.2	7086

Analysed in accordance with AS1038 parts 3 and 21.2 and AS4156 part 1.



CLIENT : CORNWALL COAL COMPANY

REF W4581

DESCRIPTION : CORNWALL COAL BORE CORE SAMPLES
HAREFIELD PROJECT

REPORTED TO : Mr Bob Mellows

E3 SEAM WASHED PRODUCT

HOLE A : E3 SEAM (1.15 m).
HOLE C : E3 SEAM (1.28 m).
HOLE D : E3 SEAM (1.14 m).
HOLE E : E3 SEAM (1.29 m).
HOLE H : E3 SEAM (1.17 m).
HOLE J : E3 SEAM (1.30 m).
HOLE K : E3 SEAM (1.25 m).
HOLE L : E3 SEAM (1.22 m).
HOLE M : E3 SEAM (1.20 m).

The **E3 seam** samples simulated product was prepared using cumulative F 1.70 proportionally calculated with the relative density results and the measurements supplied.

Sample Number	:	7279
Yield (Calculated)	(Air dried basis) :	84.8 %
Moisture *	(Air dried basis) :	3.4 %
Ash	(Air dried basis) :	17.0 %
Volatile Matter	(Air dried basis) :	27.5 %
Total Sulphur	(Air dried basis) :	0.48 %
Specific Energy	(Air dried basis) :	26.15 MJ/kg
Specific Energy	(Dry ash free basis) :	32.86 MJ/kg
Gross Calorific Value	(Air dried basis) :	6247 kcal / kg
Gross Calorific Value	(Dry ash free basis) :	7848 kcal / kg

* Represents moisture in the analysis sample.



CLIENT : CORNWALL COAL COMPANY
DESCRIPTION : CORNWALL COAL BORE CORE SAMPLES
 HAREFIELD PROJECT
REPORTED TO : Mr Bob Mellows

REF W4581

E3 SEAM WASHED PRODUCT

Sample No. : 7279

ASH ANALYSIS (dry basis)

SiO ₂	:	62.4	%
Al ₂ O ₃	:	31.2	%
Fe ₂ O ₃	:	2.4	%
CaO	:	0.79	%
MgO	:	0.66	%
TiO ₂	:	0.98	%
Na ₂ O	:	0.10	%
K ₂ O	:	0.46	%
Mn ₃ O ₄	:	< 0.02	%
SO ₃	:	0.14	%
P ₂ O ₅	:	0.04	%
SrO	:	0.02	%
BaO	:	0.04	%

Analysis performed by X- Ray Fluorescence according to method NQ 798 at BHP Newcastle. Reference number : N5770.

ASH FUSION TEMPERATURES
 (REDUCING ATMOSPHERE)

Deformation	° C	1600
Spherical	° C	+ 1600
Hemispherical	° C	+ 1600
Flow	° C	+ 1600

Date analysed : 04.02.99

Ash fusion performed at C.C.I. Newcastle reference number N5770.



CLIENT : CORNWALL COAL COMPANY

REF W4581

DESCRIPTION : CORNWALL COAL BORE CORE SAMPLES
HAREFIELD PROJECT

REPORTED TO : Mr Bob Mellows

DE SEAM WASHED PRODUCT

HOLE J : DE SEAM (1.53 m).
HOLE L : DE SEAM (1.80 m).
HOLE M : DE SEAM (1.85 m).

The **DE seam** samples simulated product was prepared using cumulative F 1.80 proportionally calculated with the relative density results and the measurements supplied.

Sample Number	:	7280
Yield (Calculated)	(Air dried basis)	: 66.0 %
Moisture *	(Air dried basis)	: 4.0 %
Ash	(Air dried basis)	: 27.7 %
Volatile Matter	(Air dried basis)	: 21.1 %
Total Sulphur	(Air dried basis)	: 0.40 %
Specific Energy	(Air dried basis)	: 21.44 MJ/kg
Specific Energy	(Dry ash free basis)	: 31.39 MJ/kg
Gross Calorific Value	(Air dried basis)	: 5121 kcal / kg
Gross Calorific Value	(Dry ash free basis)	: 7498 kcal / kg

* Represents moisture in the analysis sample.



CLIENT : CORNWALL COAL COMPANY
DESCRIPTION : CORNWALL COAL BORE CORE SAMPLES
 HAREFIELD PROJECT
REPORTED TO : Mr Bob Mellows

REF W4581

DE SEAM WASHED PRODUCT

Sample No. : 7280

ASH ANALYSIS (dry basis)

SiO ₂	:	60.6	%
Al ₂ O ₃	:	32.6	%
Fe ₂ O ₃	:	1.8	%
CaO	:	0.73	%
MgO	:	0.73	%
TiO ₂	:	1.5	%
Na ₂ O	:	0.05	%
K ₂ O	:	0.44	%
Mn ₃ O ₄	:	0.02	%
SO ₃	:	0.34	%
P ₂ O ₅	:	0.05	%
SrO	:	< 0.02	%
BaO	:	0.03	%

Analysis performed by X-Ray Fluorescence according to method NQ 798 at BHP Newcastle. Reference number : N5770.

ASH FUSION TEMPERATURES

(REDUCING ATMOSPHERE)

Deformation	° C	1580
Spherical	° C	+ 1600
Hemispherical	° C	+ 1600
Flow	° C	+ 1600
Date analysed :		04.02.99

Ash fusion performed at C.C.I. Newcastle reference number N5770.



4. TABULATED DRILL HOLE DATA AND COAL QUALITY DATA

These tables include results obtained from Shell drill holes, completed in the early 1980's, together with the Cornwall Coal drill holes completed in December 1998.



TABLE HARI

**DRILL HOLE SUMMARY
HAREFIELD PROJECT
CORNWALL COAL CO. N.L.
THICKNESS AND STRUCTURE
E3 SEAM**

DRILL HOLE	SEAM TOP (m)	SEAM BASE (m)	THICKNESS (m)	COLLAR R.L. (m)	SEAM TOP R.L. (m)
Harefield A	7.90	9.05	1.15	290.28	282.38
Harefield B	-	-	-	283.65	-
Harefield C	12.00	13.28	1.28	287.25	275.25
Harefield D	19.95	21.09	1.14	293.40	273.45
Harefield E	8.93	10.22	1.29	285.70	276.77
Harefield G	*6.25	7.45	*1.20	281.22	*274.97
Harefield H	12.48	13.65	1.17	284.57	272.09
Harefield J	18.20	19.50	1.30	287.34	269.14
Harefield K	15.65	16.90	1.25	282.33	266.68
Harefield L	20.45	21.67	1.22	281.57	261.12
Harefield M	26.80	28.00	1.20	283.44	256.64

* Estimated Value

**TABLE HAR2**

**DRILL HOLE SUMMARY
HAREFIELD PROJECT
CORNWALL COAL CO. N.L.
THICKNESS AND STRUCTURE
E3 SEAM**

DRILL HOLE	SEAM TOP (m)	SEAM BASE (m)	THICKNESS (m)	COLLAR R.L. (m)	SEAM TOP R.L. (m)
GY58	9.00	10.20	1.20	270.75	261.75
GY90	23.08	24.01	0.93	267.86	244.78
GY131	6.96	8.16	1.20	257.50	250.54
GY133	24.08	25.06	0.98	266.90	242.82
GY139	13.72	14.88	1.16	265.30	251.58
GY140	31.28	32.36	1.08	272.7	241.42
GY144	30.40	31.48	1.08	275.5	245.10
GY152	2.12	3.52	1.40	268.5	266.38
GY153	14.81	16.09	1.28	271.4	256.59
GY154	24.88	26.12	1.24	277.5	252.62
GY156	14.04	15.28	1.24	277.1	263.06
GY158	6.80	7.96	1.16	280.0	273.20
GY159	16.04	17.36	1.32	289.9	273.86
GY160	23.48	24.80	1.32	285.9	262.42
GY161	3.30	4.50	1.20	281.3	278.00
GY163	3.60	4.80	1.20	287	283
GY165	15.40	16.52	1.12	289	274
GY169	9.86	11.06	1.20	286.2	276.34
GY170	32.64	33.76	1.12	304	271
GY171	20.92	22.20	1.28	280	259
GY172	29.24	30.48	1.24	265.9	236.66

TABLE HAR3

**DRILL HOLE SUMMARY
HAREFIELD PROJECT
CORNWALL COAL CO. N.L.
THICKNESS AND STRUCTURE
DE SEAM**

DRILL HOLE	SEAM TOP (m)	SEAM BASE (m)	THICKNESS (m)	COLLAR R.L. (m)	SEAM TOP R.L. (m)
Harefield D	6.20	8.47	2.27	293.40	287.20
Harefield F	16.48	18.31	1.83	293.12	276.64
Harefield J	5.47	7.00	1.53	287.34	281.87
Harefield L	6.85	8.65	1.80	281.57	272.92
Harefield M	13.45	15.30	1.85	283.44	269.99
GY90	8.16	9.86	1.70	267.86	259.70
GY133	7.38	7.87	⁽¹⁾ 0.49	266.9	259.52
GY133	7.38	9.26	1.88	266.9	259.52
GY140	19.06	19.68	⁽¹⁾ 0.62	272.7	253.64
GY140	19.06	20.66	1.60	272.7	253.64
GY144	17.62	19.42	1.80	275.5	257.88
GY154	11.54	12.72	⁽¹⁾ 1.18	277.5	265.96
GY154	11.54	13.52	1.98	277.5	265.96
GY160	9.64	11.32	1.68	285.9	276.26
GY165	*3.60	5.20	*1.60	289	285

(1) DE Seam (Top Ply)

* Approximate only



TABLE HAR4

**COAL QUALITY DATA
HAREFIELD PROJECT
CORNWALL COAL CO. N.L.
E3 SEAM - 1998 DRILL HOLES**

	TOP/BASE (m)			RAW ASH	F1.70	
					YIELD	ASH
HOLE A	7.90	9.05	1.15	27.2	81.4	17.3
HOLE C	12.0	13.28	1.28	21.0	88.9	15.9
HOLE D	19.95	21.09	1.14	23.6	86.6	17.6
HOLE E	8.93	10.22	1.29	23.4	88.3	18.1
HOLE H	12.48	13.65	1.17	27.3	79.6	17.6
HOLE J	18.20	19.50	1.30	24.6	84.1	16.6
HOLE K	15.65	16.90	1.25	24.6	81.5	15.2
HOLE L	20.45	21.67	1.22	23.4	87.2	18.1
HOLE M	26.80	28.00	1.20	22.6	85.6	15.4



TABLE HAR5

**COAL QUALITY DATA
HAREFIELD PROJECT
CORNWALL COAL CO. N.L.
E3 SEAM**

	TOP	BASE	THICKNESS	PROJECT CORE RECOVERY	RAW ASH	F1.70	
						YIELD	ASH
GY90	23.08	24.01	0.93	-	23.2	88.5	17.2
GY131	6.96	8.16	1.20	70	25.4	80.4	16.4
GY133	24.08	25.06	0.98	83	28.7	78.9	19.0
GY139	13.72	14.88	1.16	78	25.8	73.7	14.8
GY140	31.28	32.36	1.08	-	23.6	85.5	16.6
GY144	30.40	31.48	1.08	92	21.8	86.0	15.2
GY152	2.12	3.52	1.40	-	-	-	-
GY153	14.81	16.09	1.28	90	26.2	77.1	16.5
GY154	24.88	26.12	1.24	78	22.2	83.4	15.1
GY156	14.04	15.28	1.24	95	25.1	79.9	15.4
GY158	6.80	7.96	1.16	65	19.0	88.8	13.5
GY159	16.04	17.36	1.32	85	26.3	81.4	16.4
GY160	23.48	24.80	1.32	58	22.9	85.3	15.0
GY161	3.30	4.50	1.20	-	-	-	-
GY163	3.60	4.80	1.20	-	-	-	-
GY165	15.40	16.52	1.12	89	25.2	82.5	16.3
GY169	9.86	11.06	1.20	48	25.9	80.6	16.8
GY170	32.64	33.76	1.12	72	27.0	77.0	18.0
GY171	20.92	22.20	1.28	80	27.7	77.0	16.7
GY172	29.24	30.48	1.24	95	22.9	84.7	15.6



TABLE HAR6

**COAL QUALITY DATA
HAREFIELD PROJECT
CORNWALL COAL CO. N.L.
DE SEAM**

	TOP	BASE	(m)	RAW ASH	F1.70	
					YIELD	ASH
GY90	8.16	- 9.86	1.70	53.1	35.8	31.9
GY133	7.38	- 7.87	⁽¹⁾ 0.49	22.2	96.1	19.8
GY133	7.38	- 9.26	1.88	47.3	-	-
GY140	19.06	- 19.68	⁽¹⁾ 0.62	34.0	79.1	24.9
GY140	19.06	- 20.66	1.60	55.6	-	-
GY144	17.66	- 18.70	1.04	44.2	48.4	26.1
GY144	17.62	- 19.42	1.80	45.7	-	-
GY154	11.54	- 12.72	⁽¹⁾ 1.18	31.9	84.0	26.5
GY154	11.54	- 13.52	1.98	40.2	-	-
GY160	9.64	- 11.32	1.68	39.6	-	-
GY165	*3.60	- *5.20	*1.60	-	-	-
HOLE F	16.48	18.31	1.83	*50	*47	*26
HOLE J	5.47	7.00	1.53	39.5	70.6	27.5
HOLE L	6.85	8.65	1.80	40.0	66.6	28.2
HOLE M	13.45	15.30	1.85	40.1	65.8	29.1

⁽¹⁾ DEI SEAM (TOP PLY ONLY)

* APPROXIMATE ONLY

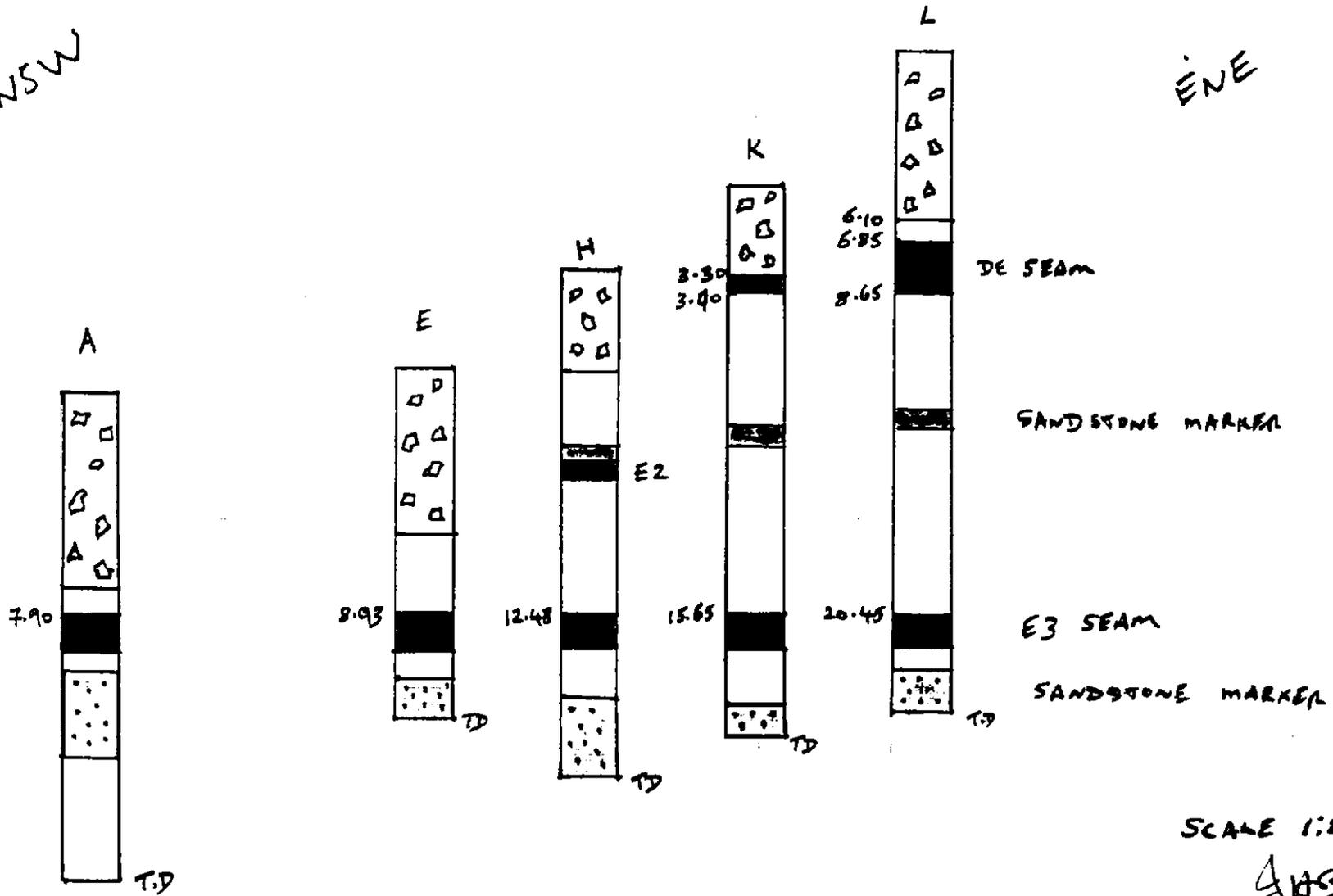
5. SEAM AND DRILL HOLE GRAPHICS

The attached graphics are useful for seam correlation purposes.

HAREFIELD PROJECT
SEAM CORRELATIONS

WSW

ENE



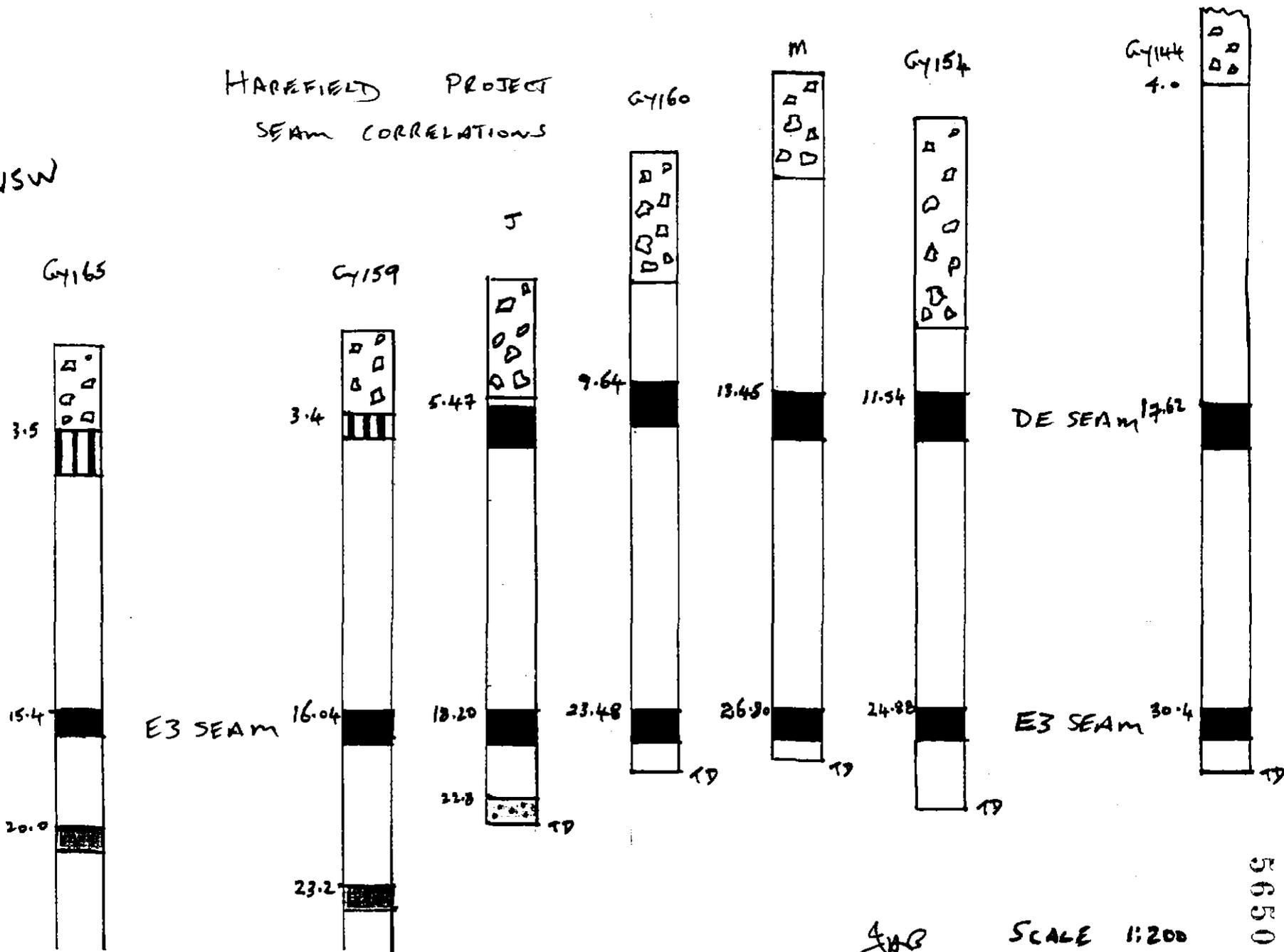
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SCALE 1:200

JAS

HAREFIELD PROJECT
SEAM CORRELATIONS

WSW



JAG

SCALE 1:200

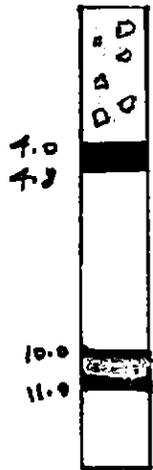
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HAREFIELD PROJECT
SEAM CORRELATIONS

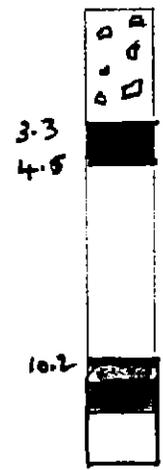
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ENE

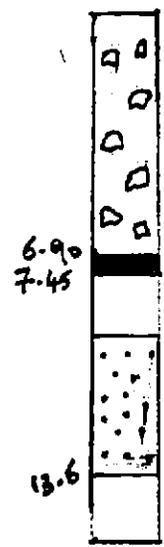
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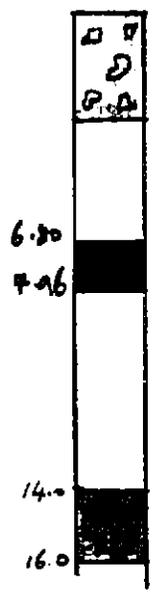
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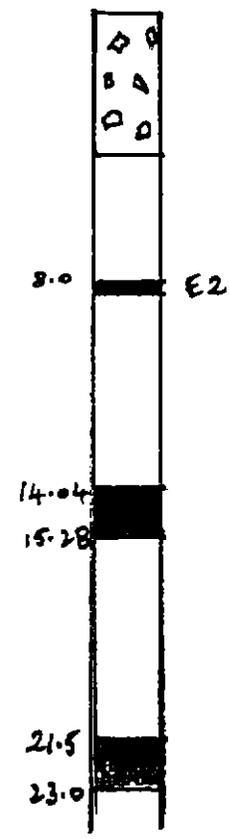


G4158



GAMMA MARKER

G4156



E2

G4153



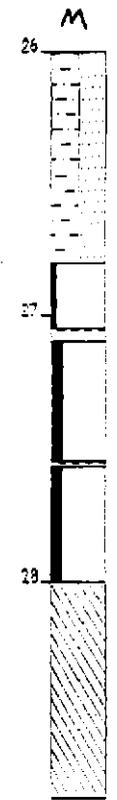
E2 SEAM

E3 SEAM

B65077

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JMS

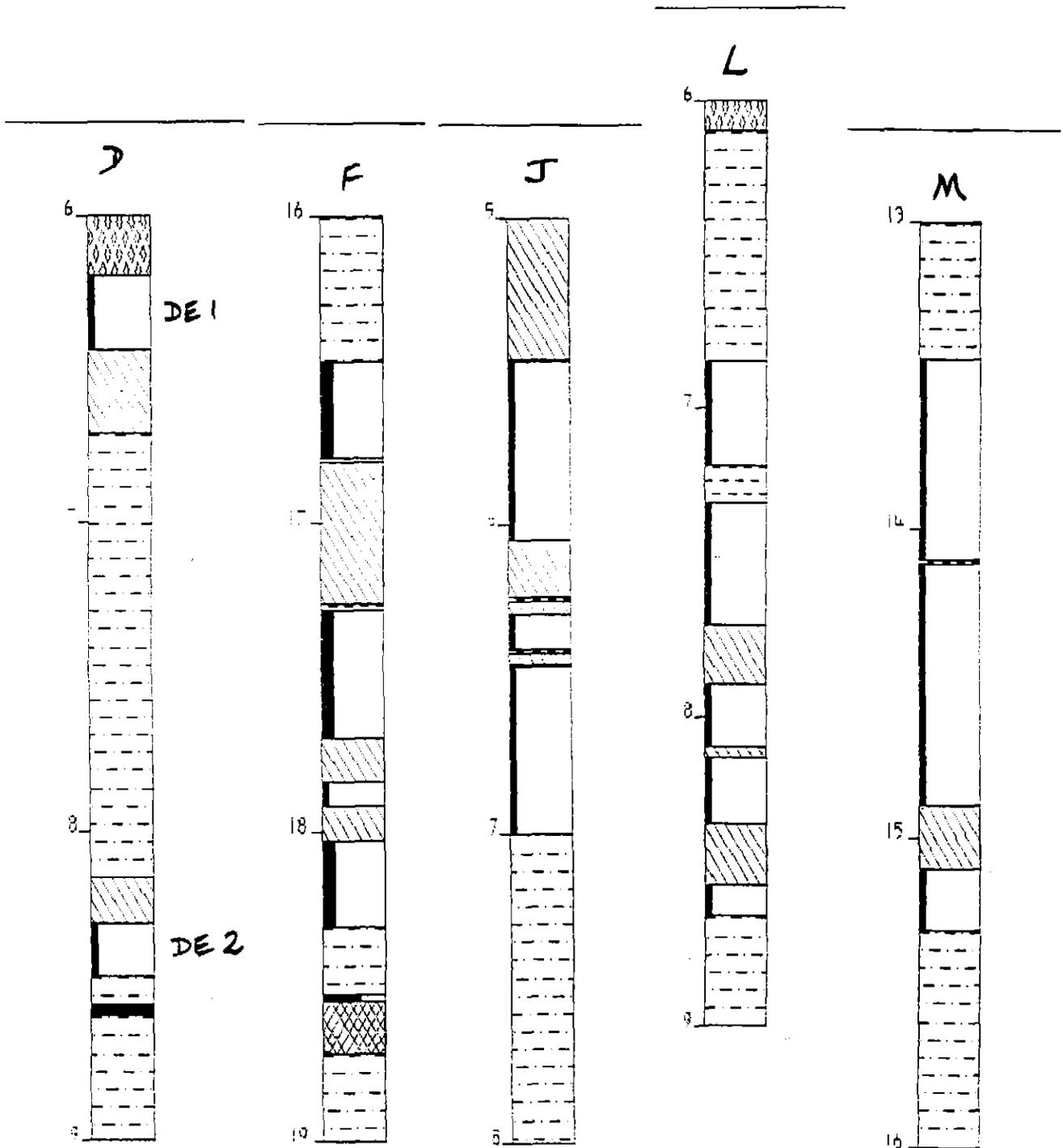
CORNWALL COAL CO. N.L.
 HAREFIELD PROJECT
 E3 SEAM - SEAM PROFILES
 1998 DRILL HOLES



565079

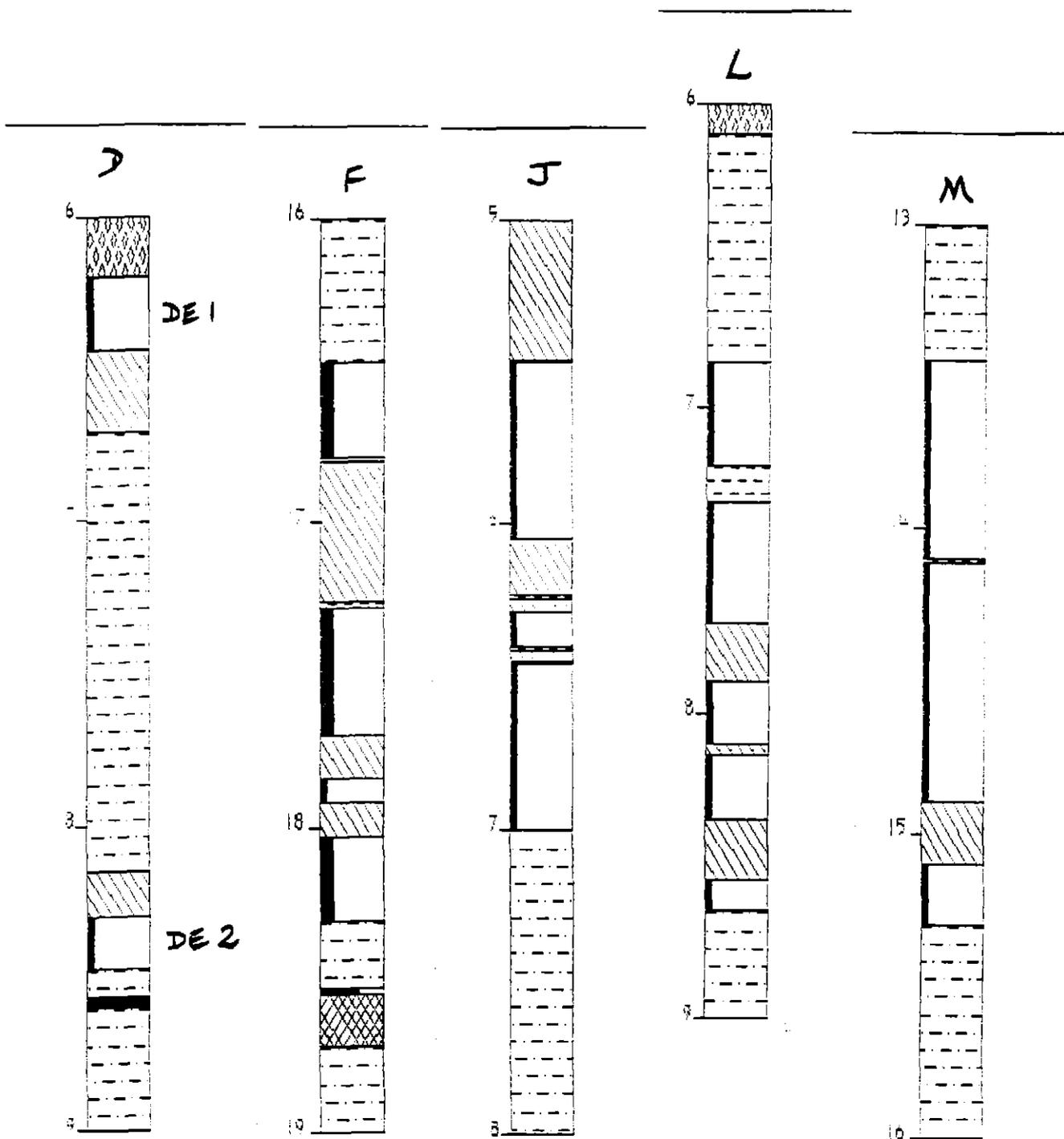
FEBRUARY 1999
 JHB.

CORNWALL COAL CO. N.L.
HAREFIELD PROJECT
DE SEAM - SEAM PROFILES
1998 DRILL HOLES



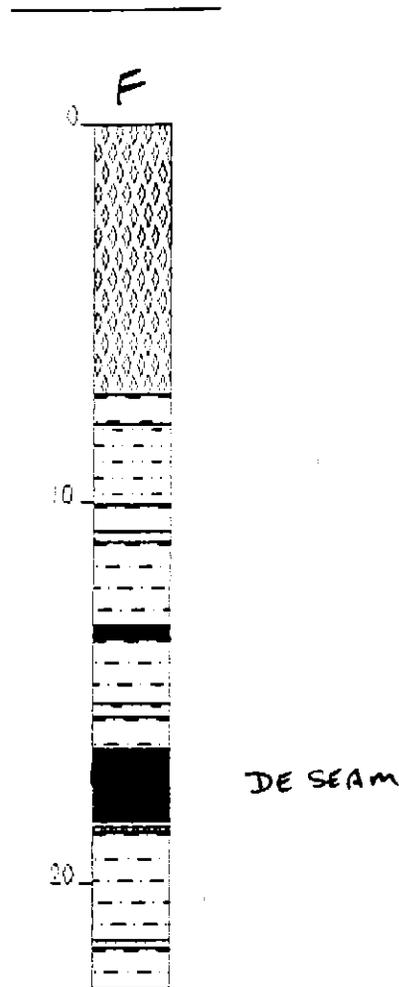
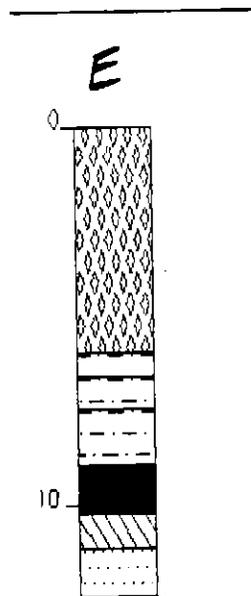
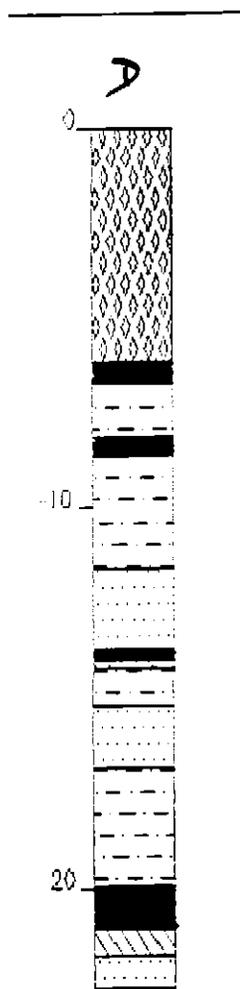
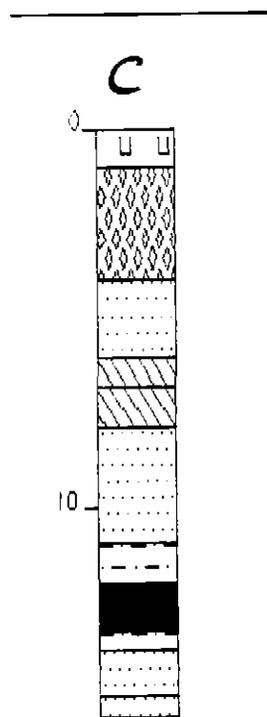
FEBRUARY 1999

CORNWALL COAL CO. N.L.
HAREFIELD PROJECT
DE SEAM - SEAM PROFILES
1998 DRILL HOLES



CORNWALL COAL CO. N.L.
HAREFIELD PROJECT

DRILL HOLE GRAPHICS



DE SEAM

E3 SEAM

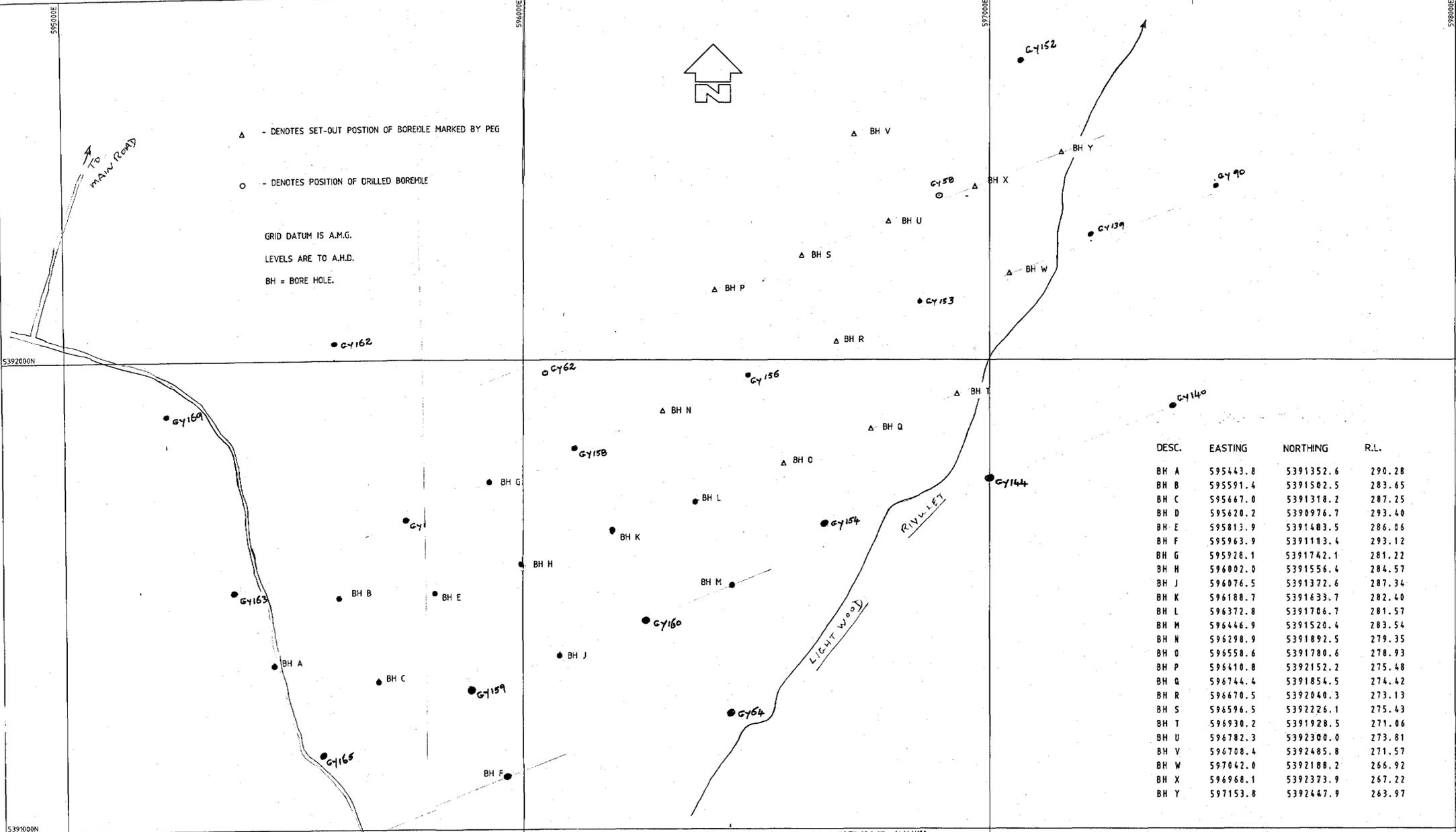


6. MAPS

The maps are based on survey plans provided by G.J.Walkem of Launceston.



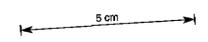
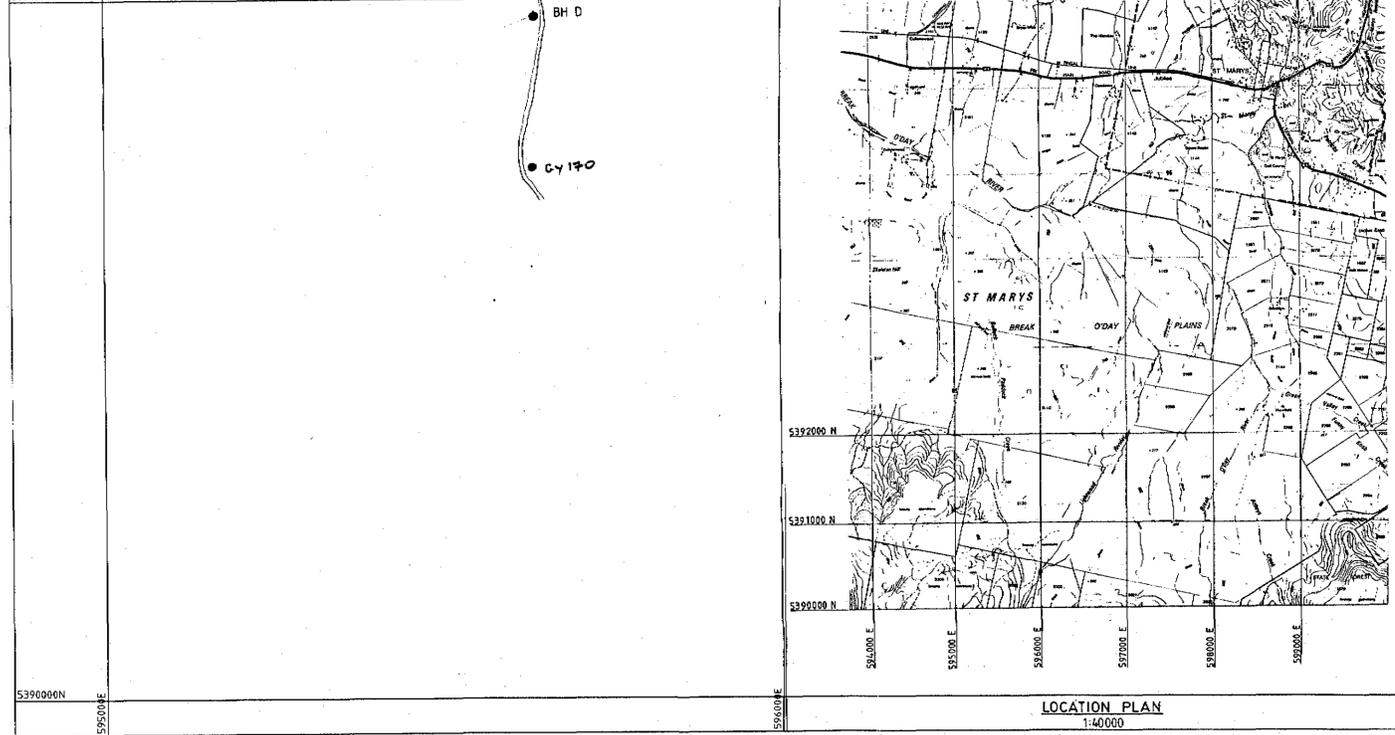
Δ - DENOTES SET-OUT POSITION OF BOREDILE MARKED BY PEG
 ○ - DENOTES POSITION OF DRILLED BOREHOLE
 GRID DATUM IS A.M.G.
 LEVELS ARE TO A.H.D.
 BH = BORE HOLE.



DESC.	EASTING	NORTHING	R.L.
BH A	595443.8	5391352.6	290.28
BH B	595591.4	5391502.5	283.65
BH C	595667.0	5391318.2	287.25
BH D	595620.2	5390976.7	293.40
BH E	595813.9	5391483.5	286.06
BH F	595963.9	5391113.4	293.12
BH G	595928.1	5391742.1	281.22
BH H	596002.0	5391556.4	284.57
BH J	596076.5	5391372.6	287.34
BH K	596188.7	5391633.7	282.40
BH L	596372.8	5391706.7	281.57
BH M	596446.9	5391520.4	283.54
BH N	596298.9	5391892.5	279.35
BH O	596558.6	5391780.6	278.93
BH P	596410.8	5392152.2	275.48
BH Q	596744.4	5391854.5	274.42
BH R	596670.5	5392040.3	273.13
BH S	596596.5	5392226.1	275.43
BH T	596930.2	5391928.5	271.06
BH U	596782.3	5392300.0	273.81
BH V	596708.4	5392485.8	271.57
BH W	597042.0	5392188.2	266.92
BH X	596968.1	5392373.9	267.22
BH Y	597153.8	5392447.9	263.97

ACTUAL DRILLED BORE HOLE LOCATIONS

DESC.	EASTING	NORTHING	R.L.
BH B	595584.3	5391494.5	283.63
BH C	595667.2	5391315.4	287.25
BH E	595811.0	5391503.4	285.70
BH G	595927.7	5391740.4	281.22
BH H	595996.4	5391564.6	284.57
BH J	596075.6	5391369.7	287.34
BH K	596191.8	5391639.1	282.33
BH L	596368.5	5391697.9	281.57
BH M	596447.6	5391520.6	283.44



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 HAREFIELD PROJECT
 DRILL HOLE LOCATION PLAN
 SCALE 1:5000

G. J. WALKEM & CO. SURVEYORS, PLANNERS & ENGINEERS		22 ELIZABETH ST. LAUNCESTON. PH. 63 312999 FAX 63 344409		CORNWALL COAL CO. HAREFIELD DEPOSIT ST.MARYS BORE HOLE LOCATIONS. (SET OUT & ACTUAL)	REF.No. 6744 -03 A B C D
D C B A No.	REVISION DATE	SCALE: 1:5000 DRAWN: R.J.D. G.L.E.	APPROVED: <i>[Signature]</i> DATE: 18.1.99		

99-4292

HAREFIELD PROJECT-RL8709
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565084

HAREFIELD PROJECT

SURFACE CONTOURS 1m INTERVALS

5 cm

△ - DENOTES SET-OUT POSITION OF BOREHOLE MARKED BY PEG

○ - DENOTES POSITION OF DRILLED BOREHOLE

GRID DATUM IS A.M.G.

LEVELS ARE TO A.H.D.

BH = BORE HOLE.

Scale 1:5000

JRS 05/02/99

ALLOW 5.0m OF SCREE
SUBCROP OF E3 SEAM

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HAREFIELD PROJECT

SURFACE CONTOURS PLAN

SCALE 1:5000

