

064001

TITLE

THE CORNWALL COAL COMPANY NO LIABILITY
Coal Exploration Kempton - Annual Report No. 1

PERIOD:

(Year Ended 23.8.1992)

LICENCE:

No. 11/91

LOCATION:

KEMPTON - MELTON MOWBRAY, TASMANIA

CONSULTING
GEOLOGISTS:

McElroy Bryan Geological Services Pty Ltd.
156 Mowbray Road, Willoughby, NSW 2068

AUTHOR:

Dr. J. H. Bryan
(Address as above - PH 02 958 1455)

CONTACT PERSONS
IN LICENCE COMPANY

C.E. Peck (003 31 9301) Commercial Manager
R.C.L. Mellows (003 74 2115) Mine Superintendent

OBJECTIVES:

The Cornwall Coal Company No Liability applied for Exploration Licence 11/91 on 12 July, 1991 with the object of determining the possible extent of a low ash coal seam intersected in Mount Vernon DDH No. 1 by the Department of Mines in 1983. The occurrence was reported in "Unpublished Report 1983/33" C.A. Bacon.

92-3378

064B

TITLE THE CORNWALL COAL COMPANY NO LIABILITY
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92-3378

MIP 11/91

MF 012515

| MINES | |
|--------------------|----------|
| File Ref. | EW 11/91 |
| 19 AUG 1992 | |
| Doc. Ref. | |
| Action Officer | Initials |
| Covering letter on | |
| File | File 36 |
| Resubmit to | Date |

OPEN FILE

AMG REFERENCE POINTS ADDED

1. Title & Exploration Objectives
2. Table of Contents
3. List of Figures & Maps
4. Tenement Information
5. Summary of Previous Exploration
6. Summary of Work Completed During Report Period
7. Details of Regional Surveys
8. Details of Specific Surveys
9. Conclusions and recommendations
10. Proposed future Exploration
11. Bibliographic References
12. Appendices
13. Map Supplement

LISTS OF FIGURES AND MAPS

1. Exploration Licence 11/91 1: 100,000
Reference LTIS Sheet 8312 Denwent
LTIS Sheet 8313 Lake Sorell
2. Kempton Coal Prospecting Area - Geological Map
(McElroy Bryan Geological Services Dec. 1991)
3. Area for relinquishment (34km²) renewal 23/8/92

Property - Access:

Exploration Licence 11/91 as originally granted - covered an area of 86 square kilometres in the Kempton-Melton Mowbray region of Southern Tasmania.

The Licence was marked out to enable investigation of a significant coal intersection in a Department of Mines borehole Mount Vernon No. 1.

Title searches have revealed that the majority of land in the licence is privately owned and that the titles are mainly very old "general law".

The consequence of this is that ownership of any coal is expected to generally vest with the landowner with a few minor exceptions.

Searches were confined to properties in the immediate vicinity of the borehole of interest.

These were:-

| | Owner or Occupier | |
|----------------|-------------------|---------------------------------------------------------|
| "Mount Vernon" | | Mr David Taylor Address - Mount Vernon |
| "Belgrove" | " | Mr Ellison Hawker Address - Belgrove |
| "The Follies" | " | Mr Rodney Jones Address - Redside, Melton Mowbray |
| "Lovely Banks" | " | Mr. Gerald McShane |
| "Kelvin Grove" | " | " Address - Lovely Banks |
| "Tranquility" | " | D.E. & K.E. White Tranquility |

Agreements

Compensation agreements in place and registered with Department of Mines in respect of
"Mount Vernon"
"Belgrove"

SUMMARY OF PREVIOUS EXPLORATION

064006

Refer to reports No. 1 & No. 2 McElroy Bryan Geological Services.

Refer to Unpublished Report 1983/33 C A Bacon.

- 6.1 Consultation with Department of Mines Geological Survey and water boring staff and review of data on Mt Vernon DDH No. 1 drilled by Department of Mines.
- 6.2 Review of mapping (provided by Mines Department) of shallow holes drilled by C.R.A. and regional geology with particular attention to faulting.
- 6.3 Consultation with private landowners.
- 6.4 Drilling of three rotary drill holes on Mount Vernon property and correlation of data obtained.
- 6.5 Surface reconnaissance to identify possible extent of rock types encountered around Mt. Vernon DDH1 and CC MVRDH3.
- 6.6 Logging of boreholes.
- 6.7 Report No. 1 as below - Dr J H Bryan

Kempton drilling Programme - Report No.1 by Dr J H Bryan

1. Mt. Vernon DDH1 was located at the centre of a small (2km²) but significant gravity low. This DMMR Drill Hole encountered a low ash (14.5%) coal seam 2.3m thick at 204.79m. The purpose of recent drilling programme was to attempt to find that coal seam at much shallower depths.
2. Triassic strata in the vicinity of Melton Mowbray dip at 5° - 10° to the south west towards the gravity low, and if faulting was not present the coal seam may have been close to the surface some 3kms east Melton Mowbray. One proposed drill site was east of the Midlands Highway on "The Follies" or "Stockman". While at the DMMR core Library a DMMR fully cored drill hole (Kempton DDH1), which had been drilled in this area was located, but which had not been included in the various information provided by DMMR geologists. The Kempton DDH1 hole intersected middle or lower triassic strata before encountering dolerite about 170m. This deeper hole plus 7 shallow water bores and CRA drill holes with no coal, diminished the chances of finding the upper triassic lithic sandstone coal sequence east of the Midlands Highway.
3. Cornwall Coal Mt. Vernon RDH1 (CCMVRDH1) was terminated at 100m in a mudstone sequence that was not similar to that above the coal in Mt. Vernon DDH1. Some coaly and carbonaceous sediments near the top of that hole indicate that those two drill holes are separated by a fault. The coal at 200m is inferred to be a down faulted block to the north of CCMVRDH1.
4. Mapping by the DMMR (Oatlands and Brighton 1:50,000 sheets) shows a major fault to the west of Mt. Vernon DDH1 with the upthrown block to the west. The coal bearing sequence may have been nearer the surface in this block west of the fault. The fine grained quartz rich sandstones and siltstones with interbedded mudstones and claystones were unlike those in the coal bearing sequence and the hole was terminated at 50m. At this time it appears as though the fault has a displacement exceeding 350m and the drilled strata are considered to be below the coal measures, and the coal sequence therefore has been eroded off this area.
5. Drill Hole CCMRVDH3, locate only 800m away from Mt. Vernon DDH1, encountered coal measures and lithic sandstone indicating a reasonably flat dip of the coal measures in this area. Thus the 2.3m low ash coal seam could have been expected at about 200m if the drill hole (CCMVRDH3) had proceeded to that depth. The hole was terminated at 94m and was geophysically logged because of poor sample return in the hole due to water. three coaly intervals occur in the top of 60m of that hole, but all are less than 1m thick.

NIL

DETAILS OF SPECIFIC SURVEYS

1. Surface reconnaissance as necessary of Jordan River Valley on properties "Belgrove", "Mount Vernon", between "Brooks Marsh" and Bothwell Road. (Map reference - Kempton 5029 - Tasmap Series.
2. Ditto of "Slaters Hill", "Belmont Hill", Valley of "Mosquito Creek", "Curzon Hill", west of Jordan River and Melton Mowbray.

Report No. 2 by McElroy Bryan Geological Services (Dr. J H Bryan).

The following additional comments and notes relate to the drilling undertaken by The Cornwall Coal Company No Liability in November 1991.

1. The thin coaly interval in CCMVRDH1 at 11.3m may be near the base of the coal measures. The strata below were not the same as those encountered in CCMVRDH3 and Mt. Vernon DDH1, although with open hole drilling such comparisons are not so reliable.
2. The coaly interval at 50.4m in CCMVRDH3 seems to correlate well with the interval at 59.85m in Mt. Vernon DDH1, indicating a very flat dip between these holes.
3. The map shows a down faulted block of coal measures covering about 8km². The sandstone outcrops north of Mt. Vernon DDH1, towards the Bothwell road, suggest that the area is flat up to where Fault F3 is shown on the map. That fault and the others are all inferred to be present on the basis of the geology as interpreted from the frilling and field observations. Further drilling, north of MV1 on the map, would almost certainly intersect coal measures, and possibly the 2.3m thick low ash seam at about 200m.
4. To the north of EL 11/91 a series of water bores has delineated a very narrow down faulted graben (less than 1km wide) with coal measures and it seems that several structures of this type exist in this region. With displacements on the faults that appear to exceed 200m of the structural setting around Melton Mowbray is unlikely to be favourable for coal mining. The ever present Jurassic dolerites are also likely to create problems in any part of this region.

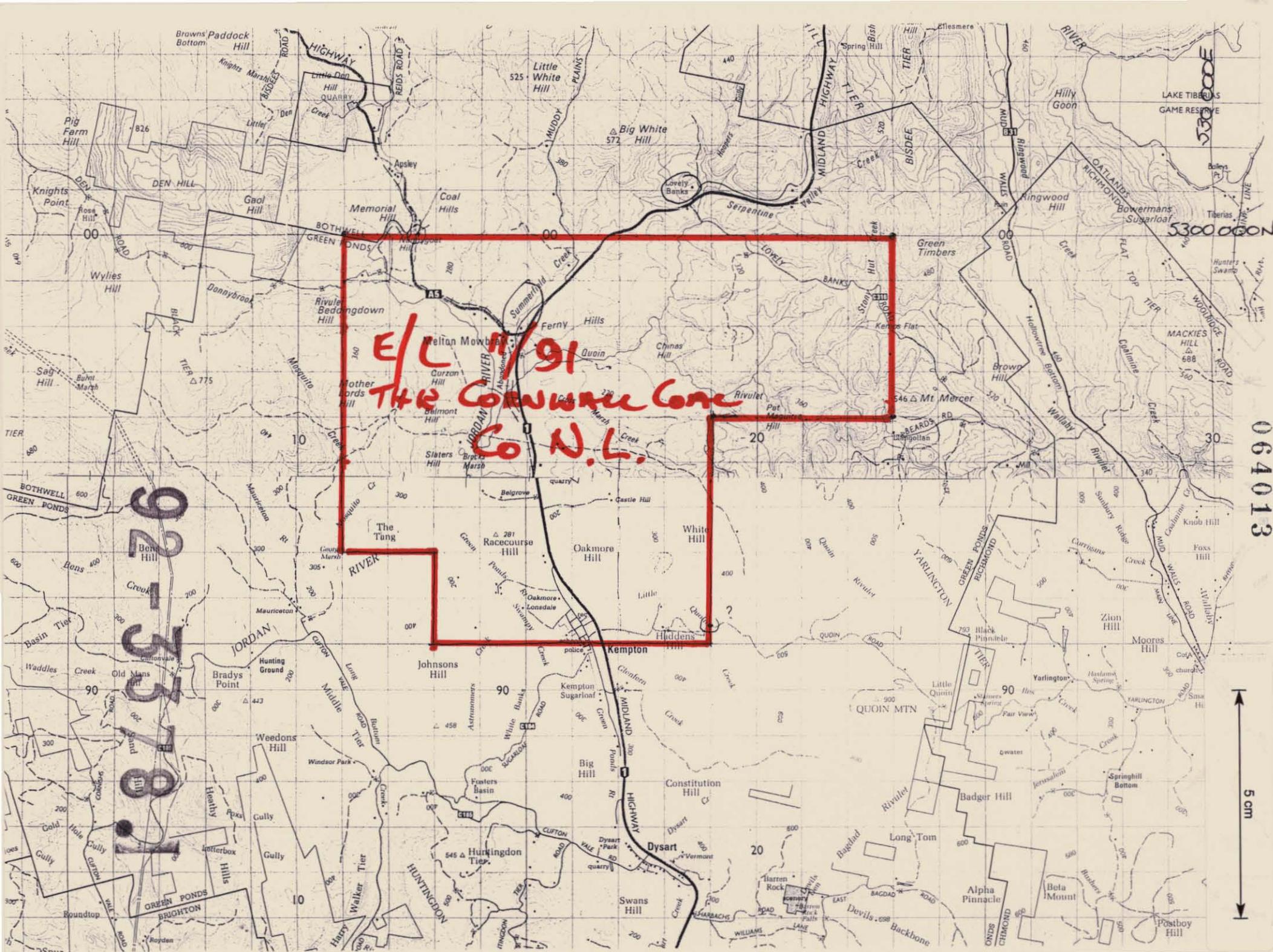
1. Review of this region's potential for similar grabens with potential for coal measures (refer report No.2 para - 9).
2. Consideration and possible drilling are of one deep full cored hole at the northern end of the inferred downfaulted block - towards the Bothwell road.

Drilling of this hole will be subject to reaching a satisfactory compensation and access agreement with another private landholder, who was approached at the time of negotiating access to the adjoining Mount Vernon property (where drilling occurred) and who seemed reluctant to allow access at that time.

His attitude at present is unknown and is unpredictable.

Because of the title situation, access might prove impracticable.

- 10.1 "Unpublished Report 1983/33" - C. A. Bacon
- 10.2 Melton Mowbray / Oatlands Gravity Map DMMR
- Provisional



AMG REFERENCE POINTS ADDED

064013

1:100 000

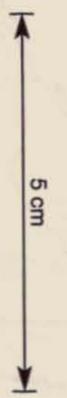
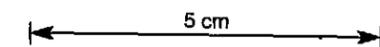
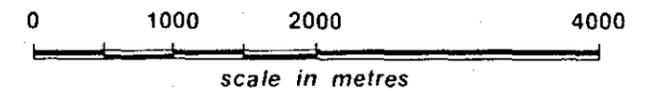
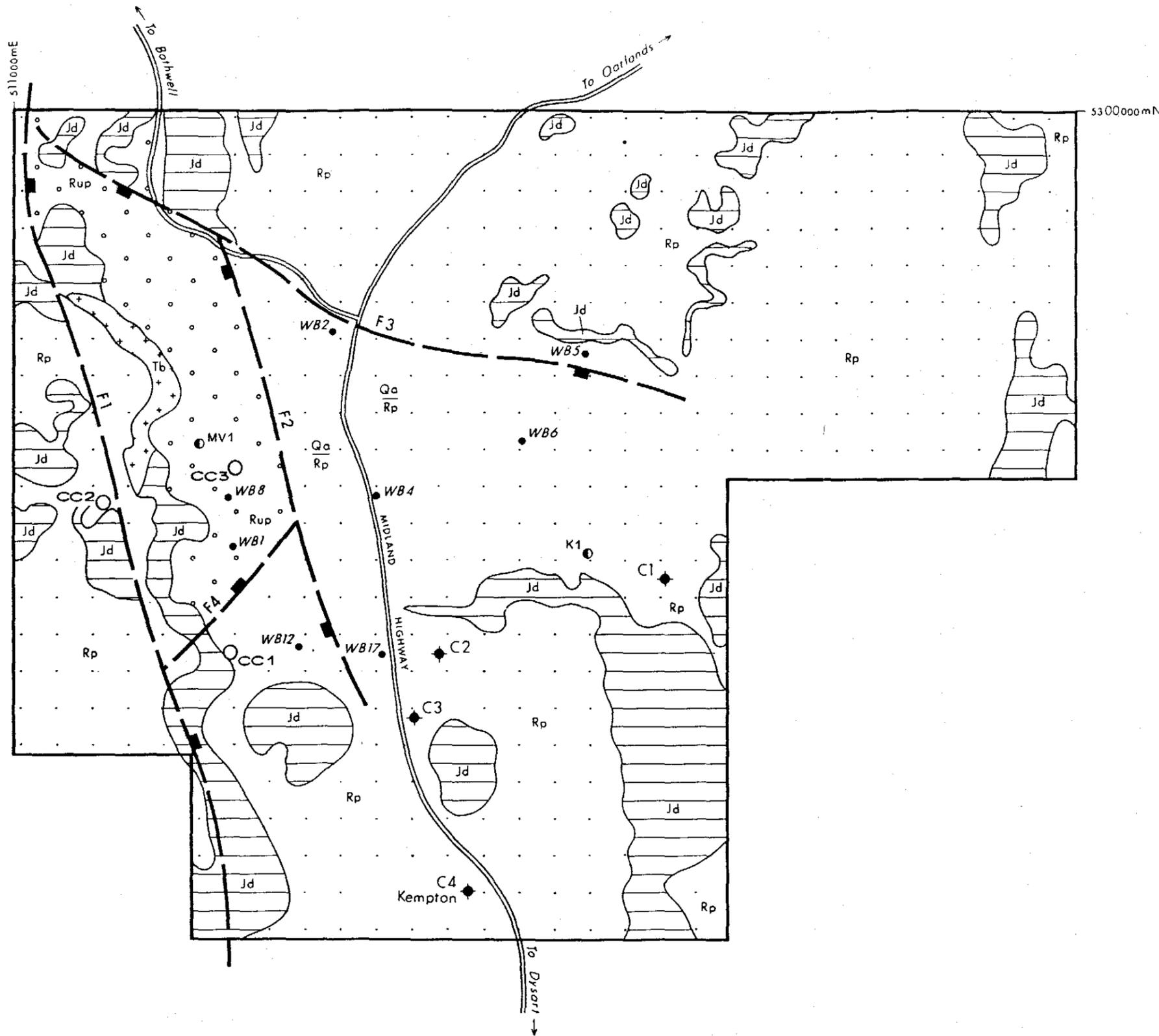


Fig. 1

| | | |
|------------|-----|-------------------------------------------------|
| QUATERNARY | Qa | Alluvium, scree |
| TERTIARY | Tb | Basalt |
| JURASSIC | Jd | Dolerite |
| TRIASSIC | Rup | Upper Coal Measures, lithic sandstone, mudstone |
| | Rp | Quartz, sandstone, mudstone, shale, siltstone |

- ◆ CRA drill hole
- Department of Mines drill hole
- Cornwall Coal drill hole
- Water bore
- Fault; position inferred

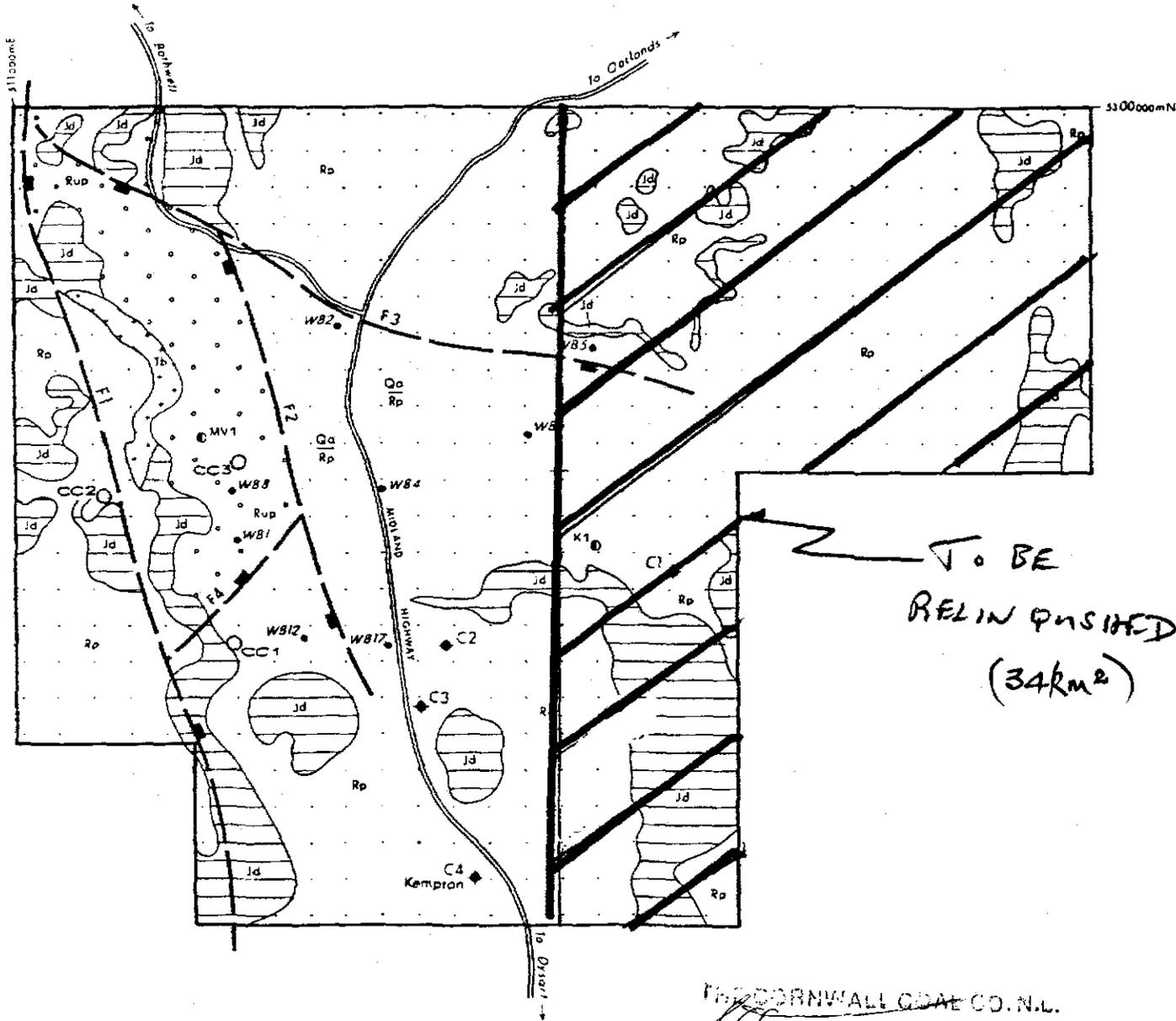


| |
|----------------------------------------------------------------------|
| CORNWALL COAL COMPANY N.L. |
| Exploration Licence 11/91, Tasmania Kempton Coal Prospecting Area |
| GEOLOGICAL MAP |
| Prepared by McElroy Bryan Geological Services |
| Date: December, 1991 Scale 1:50,000 |

92-3378.

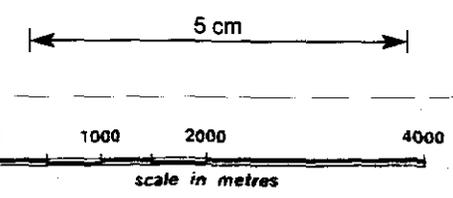
FIG. 3

064016



- QUATERNARY Gq Alluvium, scree
- TERTIARY Tb Basalt
- JURASSIC Jd Dolerite
- TRIASSIC Rpo Upper Coal Measures, lentic sandstone, mudstone
- Rp Quartz, sandstone, mudstone shale, siltstone
- CRA drill hole
- Department of Mines drill hole
- Cornwall Coal drill hole
- Water bore
- Fault; position inferred

TO BE
RELINQUISHED FROM E/L 11/91.
(34km²)



THE CORNWALL COAL CO. N.L.
[Signature]
22.07.92

| | |
|----------------------------------------------|----------------|
| CORNWALL COAL COMPANY N.L. | |
| Exploration Licence 11/91, Tasmania | |
| Kempton Coal Prospecting Area | |
| GEOLOGICAL MAP | |
| Prepared by McEroy Bryan Geological Services | |
| Date: December, 1991 | Scale 1:50,000 |

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APPENDICES

064017

APPENDIX A

Drill logs and Graphic Sections
Cornwall Coal Mount Vernon RDH1
Cornwall Coal Mount Vernon RDH2
Cornwall Coal Mount Vernon RDH3
Kempton Mount Vernon DDH1

APPENDIX B

Geological Map - Kempton Prospecting Area.

APPENDIX C

Expenditure Report.

LKWPS1/EL1191

92 - 3378.



APPENDIX B

DRILL HOLES IN EL 11/91

| DRILL HOLE | TOTAL DEPTH (m) | STRATA INTERSECTED AND/OR COMMENTS |
|------------|-----------------|----------------------------------------------------------------------------------------------------------------------|
| WB1 | 66 | Coaly sediments reported at 11m |
| WB2 | 60 | Dry hole; no coal |
| WB4 | 72 | No coal |
| WB5 | 78 | No coal |
| WB6 | 132 | No coal |
| WB8 | 102 | Upper Triassic Coal Measures |
| WB12 | 90 | No coal |
| WB17 | 102 | No coal |
| C1 | 43 | No coal |
| C2 | 21.3 | No coal |
| C3 | 30.5 | No coal |
| C4 | 27.4 | No coal |
| MV1 | | Kempton, Mt Vernon DDH1 - see Appendix A |
| K1 | | Kempton DDH1 250m cored drill hole in Triassic Upper Permian Super-Group units Rs and Rm, below the coal measures |
| CC1 | 100) | See Appendix A |
| CC2 | 50) | for logs of Cornwall Coal |
| CC3 | 94) | Mt Vernon RDH's 1,2 and 3 |

92-3378.

TASMANIA DEPARTMENT OF RESOURCES AND ENERGY
 DIVISION OF MINES AND MINERAL RESOURCES

ANNUAL
INTERIM REPORT ON MINERAL EXPLORATION *APPENDIX C*

RETURN for the ~~six~~ ^{YEAR} months ending *30* *JUNE 1992*

PART 1. DETAILS OF LICENCE

Licence No. *1191* Location *KEMPTON*
 Licensee *THE CORNWALL COAL COMPANY NO LIABILITY*
 Operator/ Manager *RCH MULLONS*

Note: A separate form is required for each licence

Part 2. EXPENDITURE STATEMENT

| Item (see explanatory notes overleaf) | Current (\$) | Cumulative total since issue (\$) |
|--------------------------------------------------------------------------|---------------------|-----------------------------------|
| Geology (including consultants, petrology) | <i>5727</i> | <i>5727</i> |
| Geochemistry (including consultants, sampling, analysis costs) | | |
| Geophysics (including consultants, data processing) | | |
| Drilling (all direct drilling costs) | <i>10534</i> | <i>10534</i> |
| TOTAL METRES DRILLED <i>244</i> | | |
| Feasibility studies (including ore reserves, mineral processing, mining) | | |
| Rehabilitation | | |
| Other exploration expenditure (e.g. gridding, surveying) | | |
| Administrative overheads (including licence fees) | <i>6308</i> | <i>6308</i> |
| TOTAL EXPENDITURE | <i>22569</i> | <i>22569</i> |

PART 3. EXPLORATION PROGRESS REPORT* (attach additional sheet if necessary)

PART 4. DETAILS ON ENVIRONMENTAL IMPACT AND REHABILITATION ACTIVITIES* (attach additional sheet if required)

064019

*If no exploration was undertaken during the six months a 'nil' Return must be completed

THE DECLARATION OVERLEAF MUST BE COMPLETED

92-3378.



APPENDIX A

Drill Logs and Graphic Sections

Cornwall Coal Mt Vernon RDH1

Cornwall Coal Mt Vernon RDH2

Cornwall Coal Mt Vernon RDH3

Kempton Mt Vernon DDH1

064021

CORNWALL COAL MT. VERNON, RDH 1Map: Kempton 1:25,000AMG Co-ordinates: 515500E
5294100NCollar Height: 176m approx.Logged by: J. H. BRYANTotal Depth: 100.0mDrilled by: StacpooleCored Interval: ---Commenced: 12.11.91Geophysical Logs: ---Completed: 13.11.91Date Logged: ---

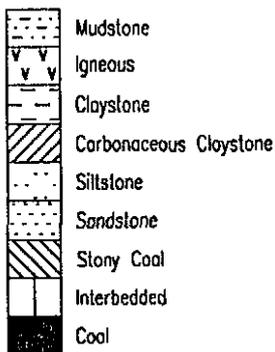
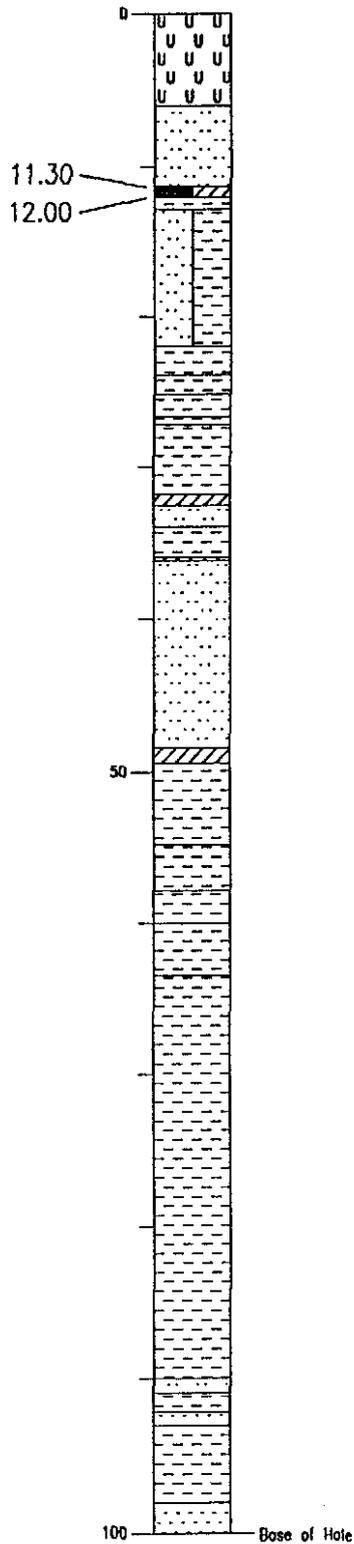
| | <u>Estimated Thickness (m)</u> | <u>Estimated Depth of Base of Stratum (m)</u> | <u>Remarks</u> |
|------------------------------------------------------------|----------------------------------------|---------------------------------------------------------------|----------------------|
| SOIL, SAND, SCREE | 6.0 | 6.0 | 6" hammer to 6.0m |
| SILTSTONE 60%/40%, fine grained Sandstone, grey, lithic | 5.3 | 11.3 | |
| <u>COAL</u> and CARBONACEOUS CLAYSTONE | 0.7 | 12.0 | Sample MVR1 |
| CLAYSTONE, grey/brown | 0.8 | 12.8 | |
| SILTSTONE 50%/50% CLAYSTONE, grey | 9.2 | 22.0 | |
| CLAYSTONE, grey/brown, carbonaceous | 1.9 | 23.9 | |
| CLAYSTONE, grey/brown | 1.3 | 25.2 | |
| CLAYSTONE, grey, soft | 1.5 | 26.7 | |
| MUDSTONE, green/grey | 0.5 | 27.2 | |
| CLAYSTONE, grey | 4.6 | 31.8 | |
| CLAYSTONE, black/brown, carbonaceous | 0.7 | 32.5 | 4½" hammer to 50m |
| SILTSTONE, grey | 1.4 | 33.9 | Dry to here |

MT VERNON RDH 1

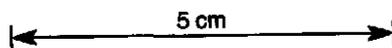
| | <u>Estimated Thickness (m)</u> | <u>Estimated Depth to Base of Stratum (m)</u> | <u>Remarks</u> |
|------------------------------------------------------------------------------------------------------------------|----------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------|
| CLAYSTONE, grey/brown | 2.7 | 36.6 | |
| CLAYSTONE, black, carbonaceous | 0.2 | 36.8 | |
| SILTSTONE, grey/CLAYSTONE grey brown INTERBEDDED, Mudstone, grey brown to grey | 12.3 | 49.1 | Becomes damp at 49.0m |
| CLAYSTONE, coaly, black | 0.5 | 49.6 | Dry again |
| MUDSTONE, grey | 5.4 | 55.0 | |
| MUDSTONE, grey/brown | 3.0 | 58.0 | |
| MUDSTONE, grey | 2.0 | 60.0 | |
| MUDSTONE, grey/brown with minor siltstone | 3.5 | 63.5 | *Wet at 64m |
| MUDSTONE, grey, wet | 26.5 | 90.0 | |
| SILTSTONE, mid grey, hard | 1.0 | 91.0 | Water flow 150gals/hr |
| MUDSTONE, grey | 1.2 | 92.2 | max. |
| SANDSTONE, grey, lithic, pebbly | 0.9 | 93.1 | |
| MUDSTONE, grey | 4.9 | 98.0 | |
| SANDSTONE, grey, lithic with carbonaceous claystone interbeds; occasional pebbles, minor mudstone bands | 2.0 | 100.0 | TOTAL DEPTH Hole commenced 12.30pm Tues. Completed 12.30pm Wed. |

STRATIGRAPHIC SECTION

064023



SCALE 1:500



CORNWALL COAL
GRAPHIC SECTION
MOUNT VERNON RDH 1
 Prepared by
 McELROY BRYAN GEOLOGICAL SERVICES PTY LTD
 Drawn by: JHB Date: 11/91 Page 1 of 1

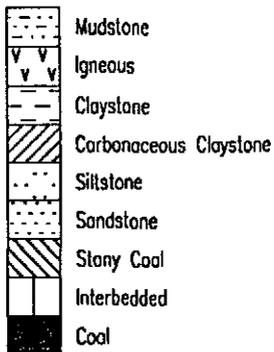
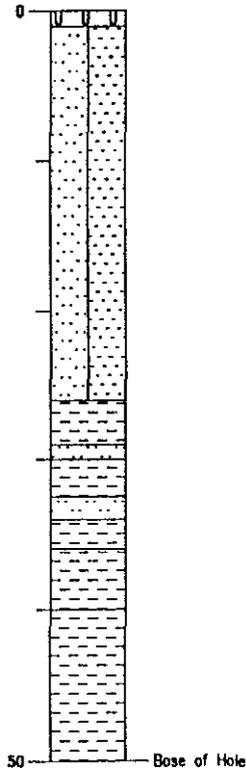
064024

CORNWALL COAL MT. VERNON, RDH 2Map: Kempton 1:25,000AMG Co-ordinates: 51200E
5295800NCollar Height: 310m approx.Logged by: J. H. BRYANTotal Depth: 50.0mDrilled by: Stacpoole DrillingCored Interval: ---Commenced: 13.11.91Geophysical Logs: ---Completed: 14.11.91Date Logged: ---

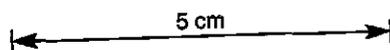
| | <u>Estimated Thickness (m)</u> | <u>Estimated Depth of Base of Stratum (m)</u> | <u>Remarks</u> |
|-------------------------------------------------------------------------------------------------------------------|----------------------------------------|---------------------------------------------------------------|--------------------------------------------------------------------|
| SOIL, SAND, | 1.0 | 1.0 | 6" hammer to 6.0m |
| SILTSTONE/SANDSTONE; yellow/brown; weakly cemented, fine grained, some clayey matrix, slightly weathered | 25.0 | 26.0 | Collared in sandstone mapped as Rp Partially weathered |
| MUDSTONE, grey, silty | 3.0 | 29.0 | to 26.0m |
| SILTSTONE, grey/brown with clayey matrix | 1.0 | 30.0 | |
| MUDSTONE, grey/brown | 2.5 | 32.5 | 4½" hammer to 50m |
| SILTSTONE, yellow/brown | 1.5 | 34.0 | |
| MUDSTONE, dark grey and brown | 2.0 | 36.0 | |
| MUDSTONE, grey at top, becoming yellow/brown | 4.0 | 40.0 | Hole dry to 50m |
| MUDSTONE, dark grey, tending to claystone; finely laminated | 1.00 | 50.0 | |

STRATIGRAPHIC SECTION

064025



SCALE 1:500



CORNWALL COAL
GRAPHIC SECTION
MOUNT VERNON RDH 2
 Prepared by
 McELROY BRYAN GEOLOGICAL SERVICES PTY LTD
 Drawn by: JHB Date: 11/91 Page 1 of 1

CORNWALL COAL MT. VERNON, RDH 3Map: Kempton 1:25,000AMG Co-ordinates: 513450E
5296080NCollar Height: 200mLogged by: J. H. BRYANTotal Depth: 94.0mDrilled by: Stacpoole DrillingCored Interval: ---Commenced: 14.11.91Geophysical Logs: Density, Caliper,
Natural Gamma, NeutronCompleted: 15.11.91Date Logged: 18.11.91

| | <u>Estimated Thickness (m)</u> | <u>Estimated Depth of Base of Stratum (m)</u> | <u>Remarks</u> |
|-----------------------------------------------------------------------------|----------------------------------------|---------------------------------------------------------------|-------------------------------------|
| SANDSTONE, yellow, weathered, quartzose,, with minor mudstone bands | 6.1 | 6.1 | 6" hammer to 6.0m |
| MUDSTONE, dark grey, carbonaceous, weathered | 0.8 | 6.9 | 4½" hammer from 6.0m to 94.0m |
| SILTSTONE, yellow/buff | 5.4 | 12.3 | |
| MUDSTONE, grey | 2.1 | 14.4 | |
| SANDSTONE, grey, quartz/lithic, fine grained (salt & pepper sandstone | 9.2 | 23.5 | |
| SILTSTONE, white/grey, quartz/lithic, hard | 3.2 | 26.7 | |
| MUDSTONE, grey/brown and grey | 10.6 | 37.3 | |
| CLAYSTONE, coaly, black | 0.4 | 37.7 | SAMPLE Note: Water |
| MUDSTONE, grey/brown to grey | 7.3 | 45.0 | 43.5m - about |
| CLAYSTONE, coaly, black | 0.3 | 45.3 | 60 litres/hr |

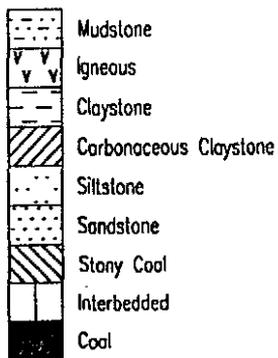
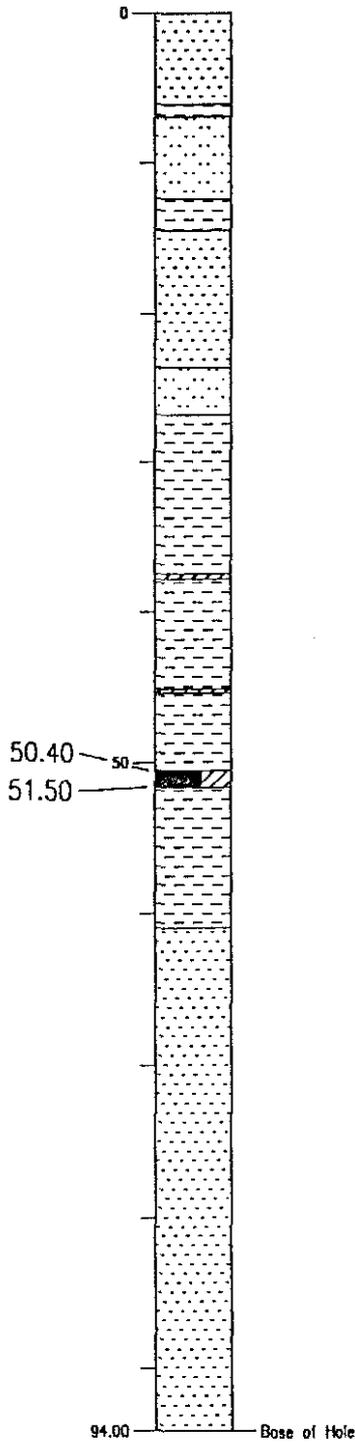
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CORNWALL COAL MOUNT VERNON CCMVRDH3

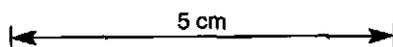
| | <u>Estimated Thickness (m)</u> | <u>Estimated Depth to Base of Stratum (m)</u> | <u>Remarks</u> |
|-----------------------------------------------------------------|----------------------------------------|---------------------------------------------------------------|----------------|
| MUDSTONE, grey/brown to grey | 5.1 | 50.4 | |
| <u>COAL</u> , dull and Claystone carbonaceous | 1.1 | 51.5 | SAMPLE |
| MUDSTONE, grey/brown interbedded with lithic Sandstone, grey | 9.3 | 60.8 | |
| SANDSTONE, grey, quartz/lithic, hard | 33.2 | 94.0 | TOTAL DEPTH |

STRATIGRAPHIC SECTION

064028



SCALE 1:500



CORNWALL COAL
GRAPHIC SECTION
MOUNT VERNON RDH 3
 Prepared by
 McELROY BRYAN GEOLOGICAL SERVICES PTY LTD
 Drawn by: JHB Date: 11/91 Page 1 of 1

KEMPTON MT. VERNON, DDH 1Logged by: J.H. BRYANMap: Kempton 1:25,000Drilled by: DMMRAMG Co-ordinates: 513024ECommenced: October 1982

5296375N

Completed: October 1982Collar Height: 220mTotal Depth: 500.0MCored Interval: 10 - 500mGeophysical Logs: NIL

| | <u>Estimated Thickness (m)</u> | <u>Estimated Depth of Base of Stratum (m)</u> | <u>Remarks</u> |
|--------------------------------------------------------------------------------------------------|----------------------------------------|---------------------------------------------------------------|---------------------------|
| SOIL, scree, clay and sand | 10.0 | 10.0 | |
| SANDSTONE, grey lithic, massive, slightly weathered | 7.47 | 17.47 | Core loss in sandstone |
| MUDSTONE, grey, laminated | 2.02 | 19.49 | Dip 7° |
| MUDSTONE, black, carbonaceous | 1.01 | 20.50 | |
| MUDSTONE, grey to green/grey, occasional carbonaceous phases | 3.10 | 23.60 | |
| SILTSTONE, grey with carbonaceous wisps and partings - grading to lithic sandstone at base | 2.79 | 26.39 | |
| SANDSTONE, grey, lithic, fine to medium with some carbonaceous partings and coaly bands | 10.41 | 36.80 | |
| SANDSTONE, as above with occasional mudstone clasts towards base | 1.90 | 38.70 | |
| MUDSTONE, grey to green/grey | 0.32 | 39.02 | |

MT VERNON DDH 1

| | <u>Estimated Thickness (m)</u> | <u>Estimated Depth to Base of Stratum (m)</u> | <u>Remarks</u> |
|----------------------------------------------------------------------------------------------------------------|----------------------------------------|---------------------------------------------------------------|----------------|
| SANDSTONE, fine to medium grained, lithic, massive, carbonaceous wisps and blebs increasing towards base | 18.83 | 57.85 | |
| MUDSTONE, grey and CARBONACEOUS CLAYSTONE INTERBEDDED - coaly in part | 0.35 | 58.20 | |
| SANDSTONE, grey, fine grained to medium grained, lithic, massive | 1.65 | 59.85 | |
| <u>COAL</u> , dull | 0.24 | 60.09 | |
| CLAYSTONE, carbonaceous | 0.40 | 60.49 | |
| MUDSTONE, grey/brown to grey/green | 6.53 | 67.02 | |
| SANDSTONE, grey, medium grained, lithic | 1.13 | 68.15 | |
| MUDSTONE, grey/green | 3.10 | 71.25 | |
| SANDSTONE, grey, medium grained, lithic | 10.75 | 82.00 | |
| MUDSTONE, grey | 0.94 | 82.94 | |
| SANDSTONE, grey, fine grained to medium grained, lithic, massive | 38.45 | 121.39 | |
| MUDSTONE, grey | 0.21 | 121.60 | |
| SANDSTONE, grey, medium grained, | 0.14 | 121.74 | |

MT VERNON DDH 1

| | <u>Estimated</u> <u>Thickness</u> <u>(m)</u> | <u>Estimated</u> <u>Depth to</u> <u>Base of</u> <u>Stratum</u> <u>(m)</u> | <u>Remarks</u> |
|--------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|---------------------------------------------------------------------------------------|----------------|
| MUDSTONE, grey to green/grey, laminated in part | 2.30 | 124.04 | |
| SANDSTONE, grey, fine to medium grained, lithic | 10.34 | 134.38 | |
| MUDSTONE, grey/green to dark grey | 3.26 | 137.51 | |
| Sandy, laminated grey mudstone; clayey; core broken | 0.19 | 137.70) | C. Bacon |
| | |) | Log from |
| | |) | unpublished |
| Shaly carbonaceous mudstone | 0.07 | 137.77) | report |
| | |) | 1983/33 |
| Dull coal, no bright bands; muddy; verging on being classed as carbonaceous mudstone although has low SG; core broken | 0.19 | 137.96) | |
| | |) | |
| | |) | |
| | |) | |
| Dull coal, as above, core slightly broken; many subvertical fissures filled with calcite | 0.095 | 138.055) | |
| | |) | |
| | |) | |
| Sandy mudstone band with sharp top bottom contacts | 0.005 | 138.06) | |
| | |) | |
| | |) | |
| Dull coal, 5-10% bright bands (Dmb); GBC | 0.24 | 138.30) | |
| | |) | |
| | |) | |
| Mudstone, grey, broken, clayey, minor FLSS laminae; interval of FLSS (fine- grained lithic sandstone) from 139.75- 139.85m. | 1.70 | 140.00) | |
| | |) | |
| | |) | |
| | |) | |

MT VERNON DDH 1

| | <u>Estimated</u> <u>Thickness</u> <u>(m)</u> | <u>Estimated</u> <u>Depth to</u> <u>Base of</u> <u>Stratum</u> <u>(m)</u> | <u>Remarks</u> |
|-------------------------------------------------------------------------------------|----------------------------------------------------|---------------------------------------------------------------------------------------|-----------------|
| SANDSTONE, grey, medium grained, lithic, massive | 18.00 | 158.00 | |
| FMLSS (fine to medium-grained lithic sandstone); grey; GBC | 1.15 | 159.15) | C. Bacon Log |
| | |) | |
| Mudstone, carbonaceous, dark grey, GBC | 0.02 | 159.17) | |
| | |) | |
| Shaly mudstone, core broken. | 0.08 | 159.25) | |
| | |) | |
| Dull coal with minor bright bands (Dmb); core badly broken; crumbled in parts | 0.13 | 159.51) | |
| | |) | |
| Mudstone, carbonaceous; dark grey; core broken | 0.18 | 159.75) | |
| | |) | |
| Dull coal, minor bright bands (Dmb); core broken and crumbled. GBC. | 0.16 | 159.97) | |
| | |) | |
| Grey mudstone, sandy, core broken. | 0.59 | 160.64) | |
| | |) | |
| FLSS, core broken | 0.36 | 161.00) | |
| SANDSTONE, grey, fine to medium grained, lithic | 8.00 | 169.00 | |
| NOT LOGGED | 34.00 | 203.00 | |
| Fine to medium-grained lithic sandstone, sharp bottom contact (SBC). | 1.30 | 204.30) | C. Bacon Log |
| | |) | |

92 - 3378.

MT VERNON DDH 1

| | <u>Estimated Thickness (m)</u> | <u>Estimated Depth to Base of Stratum (m)</u> | <u>Remarks</u> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|---------------------------------------------------------------|-------------------------|
| Grey mudstone with wisp carbonaceous laminae; carbonaceous over basal 50mm | 0.41 | 204.71) | C. Bacon Log (cont.) |
| | |) | |
| | |) | |
| Dull coal, no bright bands; muddy; verging on carbonaceous mudstone. | 0.08 | 204.79) | |
| | |) | |
| Bright coal | 0.002 | 204.792) | |
| | |) | |
| Dull coal, shiny; verging on carbonaceous mudstone as above; light (low SG). | 0.045 | 204.837) | |
| | |) | |
| | |) | |
| Carbonaceous mudstone | 0.033 | 204.87) | |
| | |) | |
| Dull coal, no bright bands; mud laminae common at 45° to core axis, grey in colour, broken over top 90mm and broken into crumbs from 30-120 mm above base of unit, gradational bottom contact (GBC). Beige mudstone chips in broken basal 90 mm; this means one mudstone band missing from core. | 0.34 | 205.60) | |
| | |) | |
| | |) | |
| | |) | |
| | |) | |
| | |) | |
| Dull coal, no bright bands | 0.12 | 205.72) | |
| | |) | |
| Bright coal with vertical wisps of calcite | 0.003 | 205.723) | |
| | |) | |
| | |) | |
| Dull coal. GBC. | 0.123 | 205.846) | |

92-3378.

MT VERNON DDH 1

| | <u>Estimated Thickness (m)</u> | <u>Estimated Depth to Base of Stratum (m)</u> | <u>Remarks</u> |
|---------------------------------------------------------------------------------------------------------------------------|----------------------------------------|---------------------------------------------------------------|-------------------------|
| Dull coal with minor grey mudstone bands interlaminated with coal; bands 5mm wide. GBC | 0.054 | 205.846)))) | C. Bacon Log (cont.) |
| Dull coal, no bright bands. GBC. | 0.040 | 205.940)) | |
| Dull coal, slickenside at 45° to core axis at top of unit; calcite 2 mm thick on slickenside; minor bright bands | 0.105 | 206.045))))) | |
| Dull coal, minor bright bands, 1% | 0.190 | 206.235)) | |
| Bright coal, vertical wisps of calcite | 0.005 | 206.240))) | |
| Dull coal, minor bright bands, 1% | 0.060 | 206.300)) | |
| Bright coal | 0.001 | 206.301)) | |
| Dull coal, minor bright bands, 1% | 0.010 | 206.311)) | |
| Bright coal | 0.002 | 206.313)) | |
| Dull coal, minor bright bands; wispy calcite streaks throughout unit | 0.045 | 206.358))) | |
| Dull and bright coal, interlaminated 50:50. | 0.007 | 206.365))) | |
| Dull coal, wispy subvertical calcite | 0.170 | 206.535) | |

92-3378.

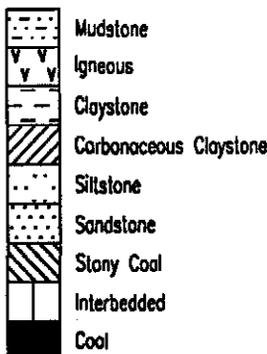
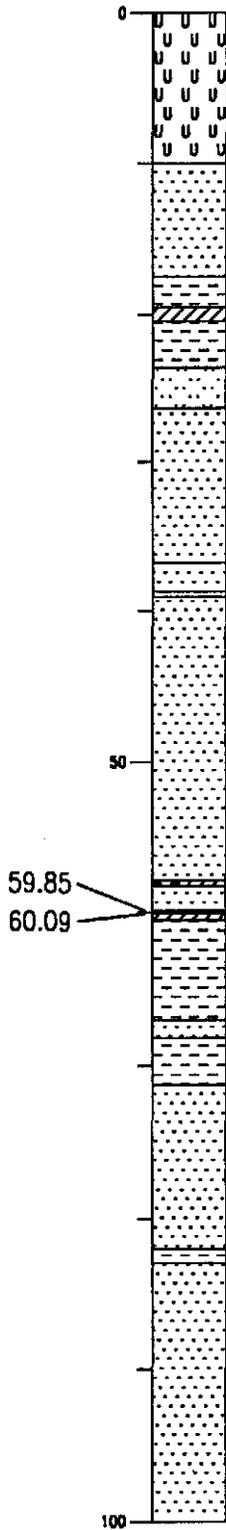
MT VERNON DDH 1

| | <u>Estimated Thickness (m)</u> | <u>Estimated Depth to Base of Stratum (m)</u> | <u>Remarks</u> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|---------------------------------------------------------------|-------------------------|
| Dull coal, minor bright bands (Dmb), subvertical poorly developed cleat with calcite on cleat faces | 0.013 | 206.548) | C. Bacon Log (cont.) |
| | |) | |
| | |) | |
| Dull coal with small clay pellets 1 mm in diameter throughout | 0.010 | 206.558) | |
| | |) | |
| | |) | |
| Interlaminated dull and bright coal (Db) with subvertical cleat | 0.070 | 206.628) | |
| | |) | |
| | |) | |
| Dull coal with minor bright bands (Dmb) and grey mudstone streaks; core broken at base. | 0.145 | 206.773) | |
| | |) | |
| | |) | |
| Bright coal | 0.007 | 206.780) | |
| | |) | |
| Dull coal with minor bright bands (Dmb); core broken over basal 60mm | 0.175 | 206.955) | |
| | |) | |
| | |) | |
| Shale, brown, cracked, clayey | 0.070 | 207.025) | |
| | |) | |
| Dull coal, slightly broken, pyrite grains (0.01 mm in diameter) on fractures in coal. | 0.065 | 207.090) | |
| | |) | |
| | |) | |
| Mudstone, wispy convoluted laminae over top 400 mm; laminated; some rheomorphic slumping from 208.06- 208.08 m; small scale cross bedding; work burrow from 208.68-208.72 m. | 1.92 | 209.01) | |
| | |) | |
| | |) | |
| | |) | |
| NOT LOGGED | 290.99 | 500.00 | TOTAL DEPTH 500m |

92 - 3378 .

STRATIGRAPHIC SECTION

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5 cm

SCALE 1:500

CORNWALL COAL

GRAPHIC SECTION

KEMPTON DDH 1

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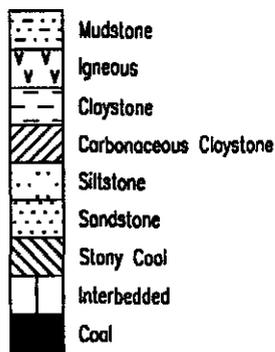
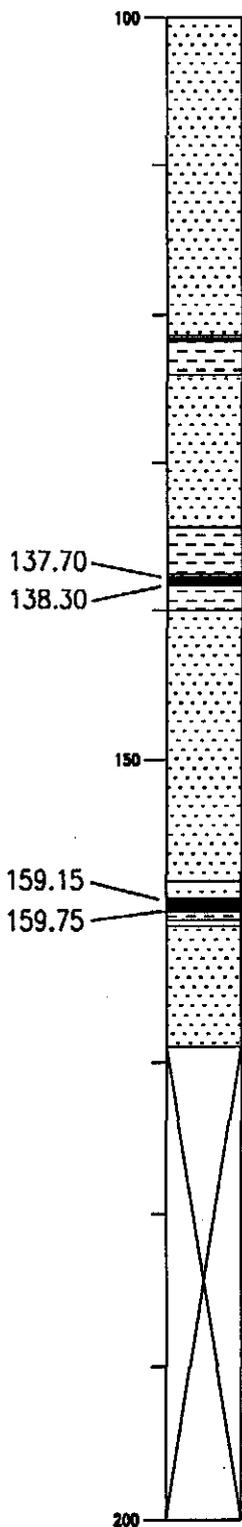
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Drawn by: JHS Date: 11/01 Page 1 of 3

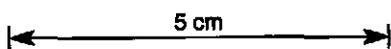
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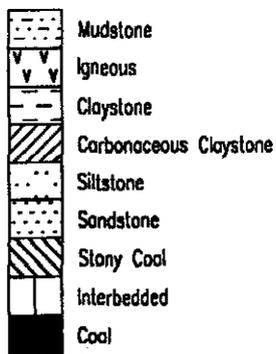
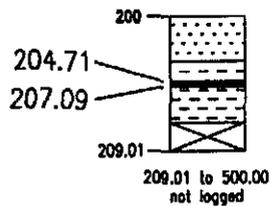
CORNWALL COAL
GRAPHIC SECTION
 KEMPTON DDH 1

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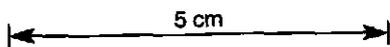
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CORNWALL COAL
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KEMPTON DDH 1

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92 - 3378 .

EXPLORATION LICENCE 11/91 - KEMPTON

REPORT FOR PERIOD TO 31 MARCH 1992

The Cornwall Coal Company No Liability applied for Exploration Licence 11/91 on 12 July, 1991 with the object of determining the possible extent of a low ash coal seam intersected in Mount Vernon DDH No. 1 by the Department of Mines in 1983. The occurrence was reported in "Unpublished Report 1983/33" - C. A. Bacon.

The more important aspects of the exploration programme which followed granting of this licence on 23 August, 1991 were:

Kempton Drilling Programme - Report No. 1 by Dr. J H Bryan

1. Mt. Vernon DDH1 was located at the centre of a small (2km²), but significant gravity low. This DMMR drill hole encountered a low ash (14.5%) coal seam 2.3m thick at 204.79m. The purpose of the recent drilling programme was to attempt to find that coal seam at much shallower depths.
2. Triassic strata in the vicinity of Melton-Mowbray dip at 5° - 10° to the south west towards the gravity low, and if faulting was not present the coal seam may have been close to the surface some 3kms. east of Melton Mowbray. One proposed drill site was east of the Midlands Highway on "The Follies" or "Stockman". While at the DMMR core Library a DMMR fully cored drill hole (Kempton DDH1), which had been drilled in this area was located, but which had not been included in the various information provided by DMMR geologists. The Kempton DDH1 hole intersected middle or lower triassic strata before encountering dolerite at about 170m. This deeper hole, plus 7 shallow water bores and CRA drill holes with no coal, diminished the chances of finding the upper triassic lithic sandstone/coal sequence east of the Midlands Highway.
3. Cornwall Coal Mt. Vernon RDH1 (CCMVRDH1) was terminated at 100m in a mudstone sequence that was not similar to that above the coal in Mt. Vernon DDH1. Some coaly and carbonaceous sediments near the top of that hole indicate that those two drill holes are separated by a fault. The coal at 200m is inferred to be in a down faulted block to the north of CCMVRDH1.
4. Mapping by the DMMR (Oatlands and Brighton 1:50,000 sheets) shows a major fault to the west of Mt. Vernon DDH1 with the upthrown block to the west. The coal bearing sequence may have been nearer the surface in this block and CCMVRDH2 was drilled to ascertain the nature of the Triassic strata west of the fault. The fine grained quartz rich sandstones and siltstones with interbedded mudstones and claystones were unlike those in the coal bearing sequence and the hole was terminated at 50m. At this time it appears as though the fault has a displacement exceeding 350m and the drilled strata are considered to be below the coal measures, and the coal sequence therefore has been eroded off in this area.
5. Drill Hole CCMVRDH3, located only 800m away from Mt. Vernon DDH1, encountered coal measures and lithic sandstone indicating a reasonably flat dip of the coal measures in this area. Thus the 2.3m low ash coal seam could have been expected at about 200m if the drill hole (CCMVRDH3) had proceeded to that depth. The hole was terminated at 94m and was geophysically logged because of poor sample return in the hole due to water. Three coaly intervals occur in the top 60m of that hole, but all are less than 1m thick.

Report No. 2 by Mc Elroy Bryan Geological Services (Dr. J H Bryan)

The following additional comments and notes relate to the drilling undertaken by The Cornwall Coal Company No Liability in November 1991.

6. The thin coaly interval in CCMVRDH1 at 11.3m may be near the base of the coal measures. The strata below were not the same as those encountered in CCMVRDH3 and Mt Vernon DDH1, although with open hole drilling such comparisons are not so reliable.
7. The coaly interval at 50.4m in CCMVRDH3 seems to correlate well with the interval at 59.85m in Mt Vernon DDH1, indicating a very flat dip between these holes.
8. The map shows a down faulted block of coal measures covering about 8km². The sandstone outcrops north of Mt Vernon DDH1, towards the Bothwell Road, suggest that the area is flat up to where Fault F3 is shown on the map. That fault and the others are all inferred to be present on the basis of the geology as interpreted from the drilling and field observations. Further drilling, north of MV1 on the map, would almost certainly intersect coal measures, and possibly the 2.3m thick low ash seam at about 200m.
9. To the north of EL 11/91 a series of water bores has delineated a very narrow down faulted graben (less than 1km wide) with coal measures and it seems that several structures of this type exist in this region. With displacements on the faults that appear to exceed 200m the structural setting around Melton-Mowbray is unlikely to be favourable for coal mining. The ever present Jurassic dolerites are also likely to create problems in any part of this region.

Appendices

Appendix A (as detailed)

Appendix B (as detailed)

Geological map Kempton Coal Prospecting Area

Expenditure Report

/cornwall/EL1191rep

APPENDIX A

Drill Logs and Graphic Sections

Cornwall Coal Mt Vernon RDH1

Cornwall Coal Mt Vernon RDH2

Cornwall Coal Mt Vernon RDH3

Kempton Mt Vernon DDH1

APPENDIX B

DRILL HOLES IN EL 11/91

| DRILL HOLE | TOTAL DEPTH (m) | STRATA INTERSECTED AND/OR COMMENTS |
|------------|-----------------|------------------------------------------------------------------------------------------------------------------------|
| WB1 | 66 | Coaly sediments reported at 11m |
| WB2 | 60 | Dry hole; no coal |
| WB4 | 72 | No coal |
| WB5 | 78 | No coal |
| WB6 | 132 | No coal |
| WB8 | 102 | Upper Triassic Coal Measures |
| WB12 | 90 | No coal |
| WB17 | 102 | No coal |
| C1 | 43 | No coal |
| C2 | 21.3 | No coal |
| C3 | 30.5 | No coal |
| C4 | 27.4 | No coal |
| MV1 | | Kempton, Mt Vernon DDH1 - see Appendix A |
| K1 | | Kempton DDH1 250m cored drill hole in Triassic Upper Parmeener Super-Group units Rs and Rm, below the coal measures |
| CC1 | 100) | See Appendix A |
| CC2 | 50) | for logs of Cornwall Coal |
| CC3 | 94) | Mt Vernon RDH's 1,2 and 3 |

064043

CORNWALL COAL MT. VERNON, RDH 1Map: Kempton 1:25,000AMG Co-ordinates: 515500E
5294100NCollar Height: 176m approx.Logged by: J. H. BRYANTotal Depth: 100.0mDrilled by: StacpooleCored Interval: ---Commenced: 12.11.91Geophysical Logs: ---Completed: 13.11.91Date Logged: ---

| | <u>Estimated Thickness (m)</u> | <u>Estimated Depth of Base of Stratum (m)</u> | <u>Remarks</u> |
|------------------------------------------------------------|----------------------------------------|---------------------------------------------------------------|----------------------|
| SOIL, SAND, SCREE | 6.0 | 6.0 | 6" hammer to 6.0m |
| SILTSTONE 60%/40%, fine grained Sandstone, grey, lithic | 5.3 | 11.3 | |
| <u>COAL</u> and CARBONACEOUS CLAYSTONE | 0.7 | 12.0 | Sample MVR1 |
| CLAYSTONE, grey/brown | 0.8 | 12.8 | |
| SILTSTONE 50%/50% CLAYSTONE, grey | 9.2 | 22.0 | |
| CLAYSTONE, grey/brown, carbonaceous | 1.9 | 23.9 | |
| CLAYSTONE, grey/brown | 1.3 | 25.2 | |
| CLAYSTONE, grey, soft | 1.5 | 26.7 | |
| MUDSTONE, green/grey | 0.5 | 27.2 | |
| CLAYSTONE, grey | 4.6 | 31.8 | |
| CLAYSTONE, black/brown, carbonaceous | 0.7 | 32.5 | 4½" hammer to 50m |
| SILTSTONE, grey | 1.4 | 33.9 | Dry to here |

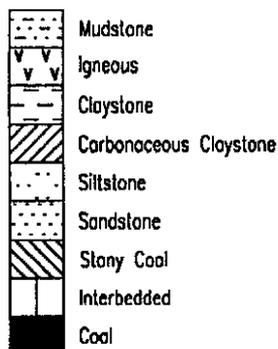
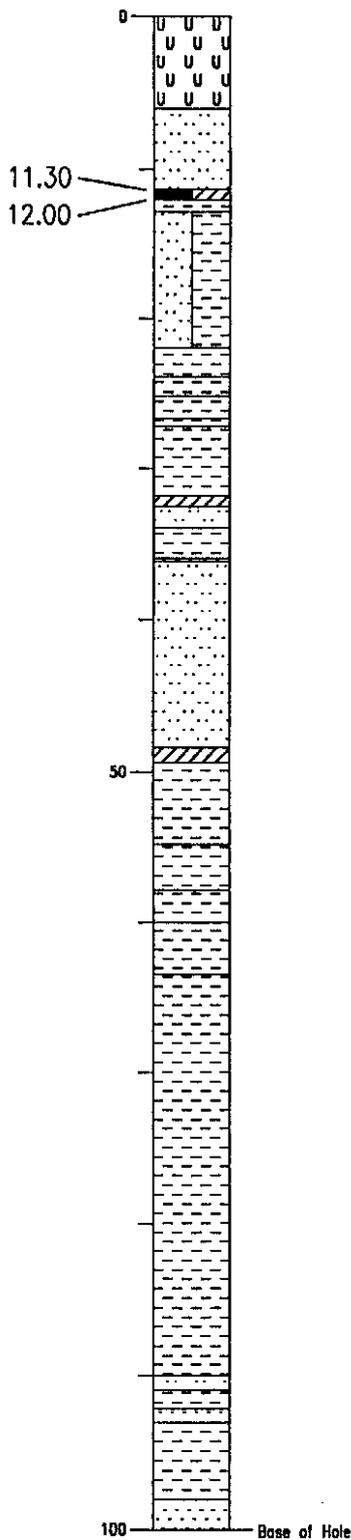
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MT VERNON RDH 1

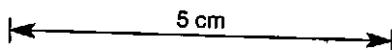
| | <u>Estimated Thickness (m)</u> | <u>Estimated Depth to Base of Stratum (m)</u> | <u>Remarks</u> |
|------------------------------------------------------------------------------------------------------------------|----------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------|
| CLAYSTONE, grey/brown | 2.7 | 36.6 | |
| CLAYSTONE, black, carbonaceous | 0.2 | 36.8 | |
| SILTSTONE, grey/CLAYSTONE grey brown INTERBEDDED, Mudstone, grey brown to grey | 12.3 | 49.1 | Becomes damp at 49.0m |
| CLAYSTONE, coaly, black | 0.5 | 49.6 | Dry again |
| MUDSTONE, grey | 5.4 | 55.0 | |
| MUDSTONE, grey/brown | 3.0 | 58.0 | |
| MUDSTONE, grey | 2.0 | 60.0 | |
| MUDSTONE, grey/brown with minor siltstone | 3.5 | 63.5 | *Wet at 64m |
| MUDSTONE, grey, wet | 26.5 | 90.0 | |
| SILTSTONE, mid grey, hard | 1.0 | 91.0 | Water flow 150gals/hr |
| MUDSTONE, grey | 1.2 | 92.2 | max. |
| SANDSTONE, grey, lithic, pebbly | 0.9 | 93.1 | |
| MUDSTONE, grey | 4.9 | 98.0 | |
| SANDSTONE, grey, lithic with carbonaceous claystone interbeds; occasional pebbles, minor mudstone bands | 2.0 | 100.0 | TOTAL DEPTH Hole commenced 12.30pm Tues. Completed 12.30pm Wed. |

STRATIGRAPHIC SECTION

064045



SCALE 1:500



CORNWALL COAL
GRAPHIC SECTION
MOUNT VERNON RDH 1
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CORNWALL COAL MT. VERNON, RDH 2

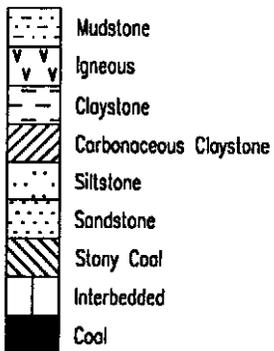
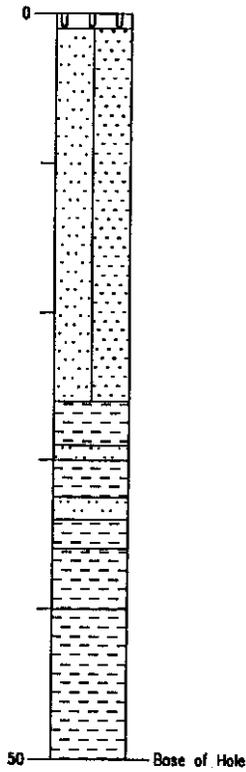
064046

Map: Kempton 1:25,000AMG Co-ordinates: 51200E
5295800NCollar Height: 310m approx.Logged by: J. H. BRYANTotal Depth: 50.0mDrilled by: Stacpoole DrillingCored Interval: ---Commenced: 13.11.91Geophysical Logs: ---Completed: 14.11.91Date Logged: ---

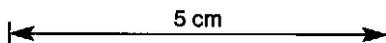
| | <u>Estimated Thickness (m)</u> | <u>Estimated Depth of Base of Stratum (m)</u> | <u>Remarks</u> |
|-------------------------------------------------------------------------------------------------------------------|----------------------------------------|---------------------------------------------------------------|--------------------------------------------------------------------------------|
| SOIL, SAND, | 1.0 | 1.0 | 6" hammer to 6.0m |
| SILTSTONE/SANDSTONE; yellow/brown; weakly cemented, fine grained, some clayey matrix, slightly weathered | 25.0 | 26.0 | Collared in sandstone mapped as Rp Partially weathered to 26.0m |
| MUDSTONE, grey, silty | 3.0 | 29.0 | |
| SILTSTONE, grey/brown with clayey matrix | 1.0 | 30.0 | |
| MUDSTONE, grey/brown | 2.5 | 32.5 | 4½" hammer to 50m |
| SILTSTONE, yellow/brown | 1.5 | 34.0 | |
| MUDSTONE, dark grey and brown | 2.0 | 36.0 | |
| MUDSTONE, grey at top, becoming yellow/brown | 4.0 | 40.0 | Hole dry to 50m |
| MUDSTONE, dark grey, tending to claystone; finely laminated | 1.00 | 50.0 | |

STRATIGRAPHIC
SECTION

064047



SCALE 1:500



CORNWALL COAL
GRAPHIC SECTION
MOUNT VERNON RDH 2

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McELROY BRYAN GEOLOGICAL SERVICES PTY LTD
Drawn by: JHB Date: 11/91 Page 1 of 1

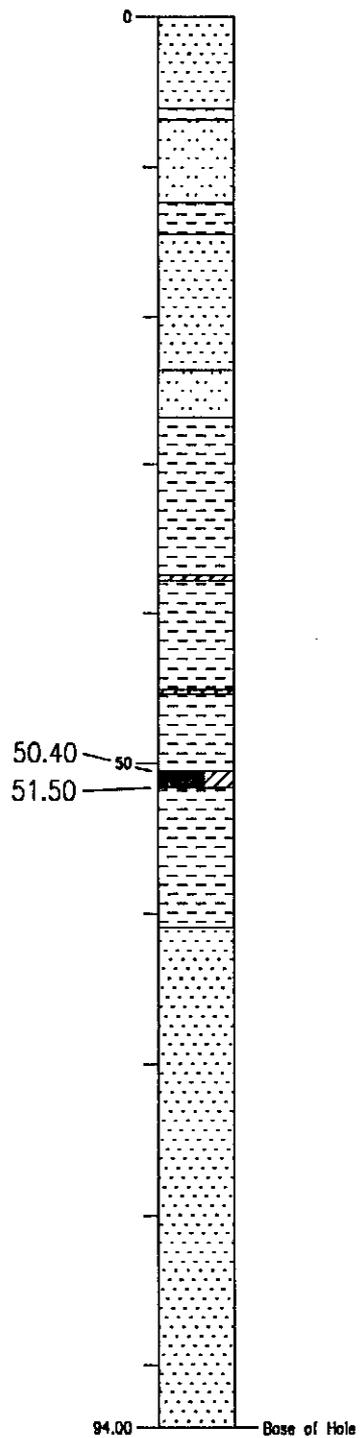
CORNWALL COAL MT. VERNON, RDH 3Map: Kempton 1:25,000AMG Co-ordinates: 513450E
5296080NCollar Height: 200m /Logged by: J. H. BRYANTotal Depth: 94.0mDrilled by: Stacpoole DrillingCored Interval: ---Commenced: 14.11.91Geophysical Logs: Density, Caliper,
Natural Gamma, NeutronCompleted: 15.11.91Date Logged: 18.11.91

| | <u>Estimated Thickness (m)</u> | <u>Estimated Depth of Base of Stratum (m)</u> | <u>Remarks</u> |
|-----------------------------------------------------------------------------|----------------------------------------|---------------------------------------------------------------|-------------------------------------|
| SANDSTONE, yellow, weathered, quartzose,, with minor mudstone bands | 6.1 | 6.1 | 6" hammer to 6.0m |
| MUDSTONE, dark grey, carbonaceous, weathered | 0.8 | 6.9 | 4½" hammer from 6.0m to 94.0m |
| SILTSTONE, yellow/buff | 5.4 | 12.3 | |
| MUDSTONE, grey | 2.1 | 14.4 | |
| SANDSTONE, grey, quartz/lithic, fine grained (salt & pepper sandstone | 9.2 | 23.5 | |
| SILTSTONE, white/grey, quartz/lithic, hard | 3.2 | 26.7 | |
| MUDSTONE, grey/brown and grey | 10.6 | 37.3 | |
| CLAYSTONE, coaly, black | 0.4 | 37.7 | SAMPLE Note: Water |
| MUDSTONE, grey/brown to grey | 7.3 | 45.0 | 43.5m - about |
| CLAYSTONE, coaly, black | 0.3 | 45.3 | 60 litres/hr |

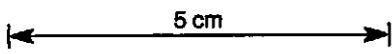
CORNWALL COAL MOUNT VERNON CCMVRDH3

| | <u>Estimated Thickness (m)</u> | <u>Estimated Depth to Base of Stratum (m)</u> | <u>Remarks</u> |
|-----------------------------------------------------------------|----------------------------------------|---------------------------------------------------------------|----------------|
| MUDSTONE, grey/brown to grey | 5.1 | 50.4 | |
| <u>COAL</u> , dull and Claystone carbonaceous | 1.1 | 51.5 | SAMPLE |
| MUDSTONE, grey/brown interbedded with lithic Sandstone, grey | 9.3 | 60.8 | |
| SANDSTONE, grey, quartz/lithic, hard | 33.2 | 94.0 | TOTAL DEPTH |

STRATIGRAPHIC SECTION



-  Mudstone
-  Igneous
-  Claystone
-  Carbonaceous Claystone
-  Siltstone
-  Sandstone
-  Stony Coal
-  Interbedded
-  Coal



SCALE 1:500

CORNWALL COAL
GRAPHIC SECTION
MOUNT VERNON RDH 3

Prepared by
 McELROY BRYAN GEOLOGICAL SERVICES PTY LTD
 Drawn by: JHB Date: 11/91 Page 1 of 1

KEMPTON MT. VERNON, DDH 1

| | |
|--------------------------------|----------------------------------|
| <u>Logged by:</u> J.H. BRYAN | <u>Map:</u> Kempton 1:25,000 |
| <u>Drilled by:</u> DMMR | <u>AMG Co-ordinates:</u> 513024E |
| <u>Commenced:</u> October 1982 | 5296375N |
| <u>Completed:</u> October 1982 | <u>Collar Height:</u> 220m |
| | <u>Total Depth:</u> 500.0M |
| | <u>Cored Interval:</u> 10 - 500m |
| | <u>Geophysical Logs:</u> NIL |

| | <u>Estimated Thickness (m)</u> | <u>Estimated Depth of Base of Stratum (m)</u> | <u>Remarks</u> |
|--------------------------------------------------------------------------------------------------|----------------------------------------|---------------------------------------------------------------|---------------------------|
| SOIL, scree, clay and sand | 10.0 | 10.0 | |
| SANDSTONE, grey lithic, massive, slightly weathered | 7.47 | 17.47 | Core loss in sandstone |
| MUDSTONE, grey, laminated | 2.02 | 19.49 | Dip 7° |
| MUDSTONE, black, carbonaceous | 1.01 | 20.50 | |
| MUDSTONE, grey to green/grey, occasional carbonaceous phases | 3.10 | 23.60 | |
| SILTSTONE, grey with carbonaceous wisps and partings - grading to lithic sandstone at base | 2.79 | 26.39 | |
| SANDSTONE, grey, lithic, fine to medium with some carbonaceous partings and coaly bands | 10.41 | 36.80 | |
| SANDSTONE, as above with occasional mudstone clasts towards base | 1.90 | 38.70 | |
| MUDSTONE, grey to green/grey | 0.32 | 39.02 | |

MT VERNON DDH 1

| | <u>Estimated Thickness (m)</u> | <u>Estimated Depth to Base of Stratum (m)</u> | <u>Remarks</u> |
|----------------------------------------------------------------------------------------------------------------|----------------------------------------|---------------------------------------------------------------|----------------|
| SANDSTONE, fine to medium grained, lithic, massive, carbonaceous wisps and blebs increasing towards base | 18.83 | 57.85 | |
| MUDSTONE, grey and CARBONACEOUS CLAYSTONE INTERBEDDED - coaly in part | 0.35 | 58.20 | |
| SANDSTONE, grey, fine grained to medium grained, lithic, massive | 1.65 | 59.85 | |
| <u>COAL</u> , dull | 0.24 | 60.09 | |
| CLAYSTONE, carbonaceous | 0.40 | 60.49 | |
| MUDSTONE, grey/brown to grey/green | 6.53 | 67.02 | |
| SANDSTONE, grey, medium grained, lithic | 1.13 | 68.15 | |
| MUDSTONE, grey/green | 3.10 | 71.25 | |
| SANDSTONE, grey, medium grained, lithic | 10.75 | 82.00 | |
| MUDSTONE, grey | 0.94 | 82.94 | |
| SANDSTONE, grey, fine grained to medium grained, lithic, massive | 38.45 | 121.39 | |
| MUDSTONE, grey | 0.21 | 121.60 | |
| SANDSTONE, grey, medium grained, | 0.14 | 121.74 | |

MT VERNON DDH 1

| | <u>Estimated Thickness (m)</u> | <u>Estimated Depth to Base of Stratum (m)</u> | <u>Remarks</u> |
|--------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|---------------------------------------------------------------|----------------------------------------------------------|
| MUDSTONE, grey to green/grey, laminated in part | 2.30 | 124.04 | |
| SANDSTONE, grey, fine to medium grained, lithic | 10.34 | 134.38 | |
| MUDSTONE, grey/green to dark grey | 3.26 | 137.51 | |
| Sandy, laminated grey mudstone; clayey; core broken | 0.19 | 137.70) | C. Bacon Log from unpublished report 1983/33 |
| Shaly carbonaceous mudstone | 0.07 | 137.77) | |
| Dull coal, no bright bands; muddy; verging on being classed as carbonaceous mudstone although has low SG; core broken | 0.19 | 137.96)))))) | |
| Dull coal, as above, core slightly broken; many subvertical fissures filled with calcite | 0.095 | 138.055)))) | |
| Sandy mudstone band with sharp top bottom contacts | 0.005 | 138.06))) | |
| Dull coal, 5-10% bright bands (Dmb); GBC | 0.24 | 138.30))) | |
| Mudstone, grey, broken, clayey, minor FLSS laminae; interval of FLSS (fine- grained lithic sandstone) from 139.75- 139.85m. | 1.70 | 140.00)))) | |

064054

MT VERNON DDH 1

| | <u>Estimated Thickness (m)</u> | <u>Estimated Depth to Base of Stratum (m)</u> | <u>Remarks</u> |
|-------------------------------------------------------------------------------------|----------------------------------------|---------------------------------------------------------------|-----------------|
| SANDSTONE, grey, medium grained, lithic, massive | 18.00 | 158.00 | |
| FMLSS (fine to medium-grained lithic sandstone); grey; GBC | 1.15 | 159.15) | C. Bacon Log |
| Mudstone, carbonaceous, dark grey, GBC | 0.02 | 159.17)) | |
| Shaly mudstone, core broken. | 0.08 | 159.25)) | |
| Dull coal with minor bright bands (Dmb); core badly broken; crumbled in parts | 0.13 | 159.51))) | |
| Mudstone, carbonaceous; dark grey; core broken | 0.18 | 159.75)) | |
| Dull coal, minor bright bands (Dmb); core broken and crumbled. GBC. | 0.16 | 159.97)) | |
| Grey mudstone, sandy, core broken. | 0.59 | 160.64)) | |
| FLSS, core broken | 0.36 | 161.00) | |
| SANDSTONE, grey, fine to medium grained, lithic | 8.00 | 169.00 | |
| NOT LOGGED | 34.00 | 203.00 | |
| Fine to medium-grained lithic sandstone, sharp bottom contact (SBC). | 1.30 | 204.30))) | C. Bacon Log |

MT VERNON DDH 1

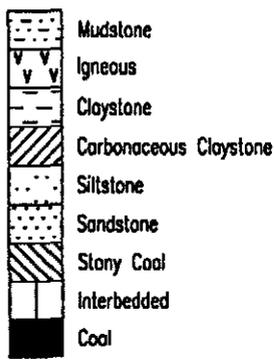
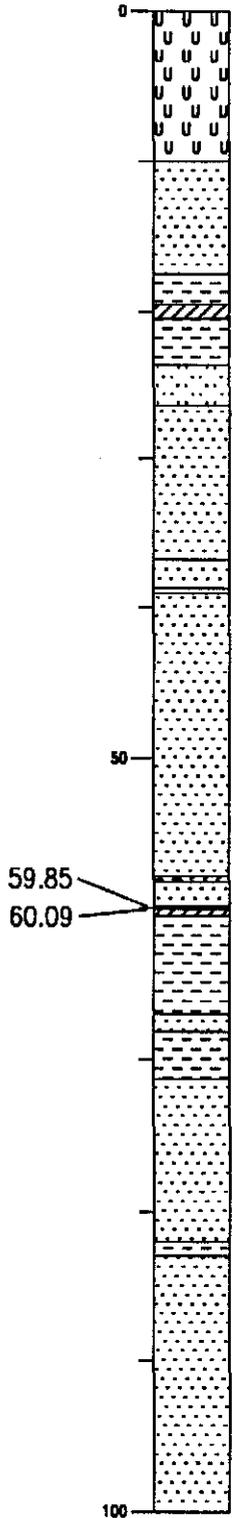
| | <u>Estimated Thickness (m)</u> | <u>Estimated Depth to Base of Stratum (m)</u> | <u>Remarks</u> |
|---------------------------------------------------------------------------------------------------------------------------|----------------------------------------|---------------------------------------------------------------|-------------------------|
| Dull coal with minor grey mudstone bands interlaminated with coal; bands 5mm wide. GBC | 0.054 | 205.846)))) | C. Bacon Log (cont.) |
| Dull coal, no bright bands. GBC. | 0.040 | 205.940)) | |
| Dull coal, slickenside at 45° to core axis at top of unit; calcite 2 mm thick on slickenside; minor bright bands | 0.105 | 206.045))))) | |
| Dull coal, minor bright bands, 1% | 0.190 | 206.235)) | |
| Bright coal, vertical wisps of calcite | 0.005 | 206.240))) | |
| Dull coal, minor bright bands, 1% | 0.060 | 206.300)) | |
| Bright coal | 0.001 | 206.301)) | |
| Dull coal, minor bright bands, 1% | 0.010 | 206.311)) | |
| Bright coal | 0.002 | 206.313)) | |
| Dull coal, minor bright bands; wispy calcite streaks throughout unit | 0.045 | 206.358))) | |
| Dull and bright coal, interlaminated 50:50. | 0.007 | 206.365))) | |
| Dull coal, wispy subvertical calcite | 0.170 | 206.535) | |

MT VERNON DDH 1

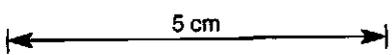
| | <u>Estimated Thickness (m)</u> | <u>Estimated Depth to Base of Stratum (m)</u> | <u>Remarks</u> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|---------------------------------------------------------------|-------------------------|
| Dull coal, minor bright bands (Dmb), subvertical poorly developed cleat with calcite on cleat faces | 0.013 | 206.548) | C. Bacon Log (cont.) |
| | |) | |
| | |) | |
| Dull coal with small clay pellets 1 mm in diameter throughout | 0.010 | 206.558) | |
| | |) | |
| | |) | |
| Interlaminated dull and bright coal (Db) with subvertical cleat | 0.070 | 206.628) | |
| | |) | |
| | |) | |
| Dull coal with minor bright bands (Dmb) and grey mudstone streaks; core broken at base. | 0.145 | 206.773) | |
| | |) | |
| | |) | |
| Bright coal | 0.007 | 206.780) | |
| | |) | |
| Dull coal with minor bright bands (Dmb); core broken over basal 60mm | 0.175 | 206.955) | |
| | |) | |
| | |) | |
| Shale, brown, cracked, clayey | 0.070 | 207.025) | |
| | |) | |
| Dull coal, slightly broken, pyrite grains (0.01 mm in diameter) on fractures in coal. | 0.065 | 207.090) | |
| | |) | |
| | |) | |
| Mudstone, wispy convoluted laminae over top 400 mm; laminated; some rheomorphic slumping from 208.06- 208.08 m; small scale cross bedding; work burrow from 208.68-208.72 m. | 1.92 | 209.01) | |
| | |) | |
| | |) | |
| | |) | |
| NOT LOGGED | 290.99 | 500.00 | TOTAL DEPTH 500m |

STRATIGRAPHIC SECTION

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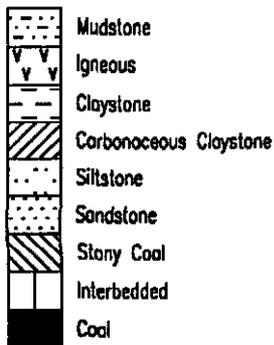
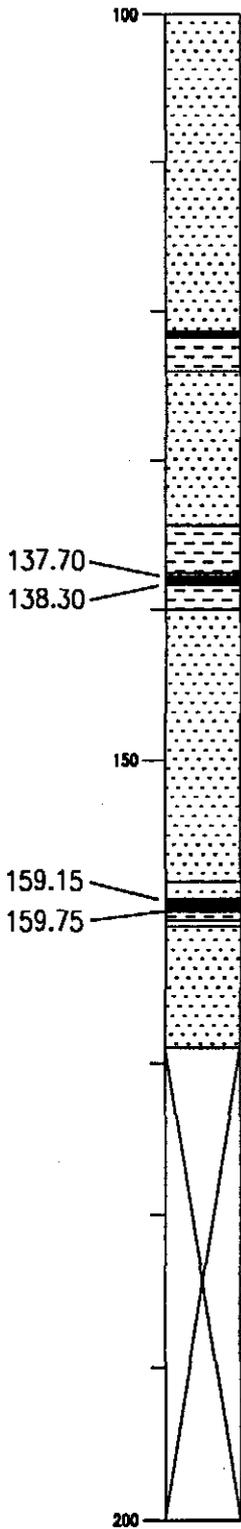
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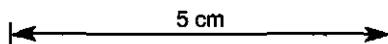
CORNWALL COAL
GRAPHIC SECTION
KEMPTON DDH 1
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STRATIGRAPHIC SECTION

064059

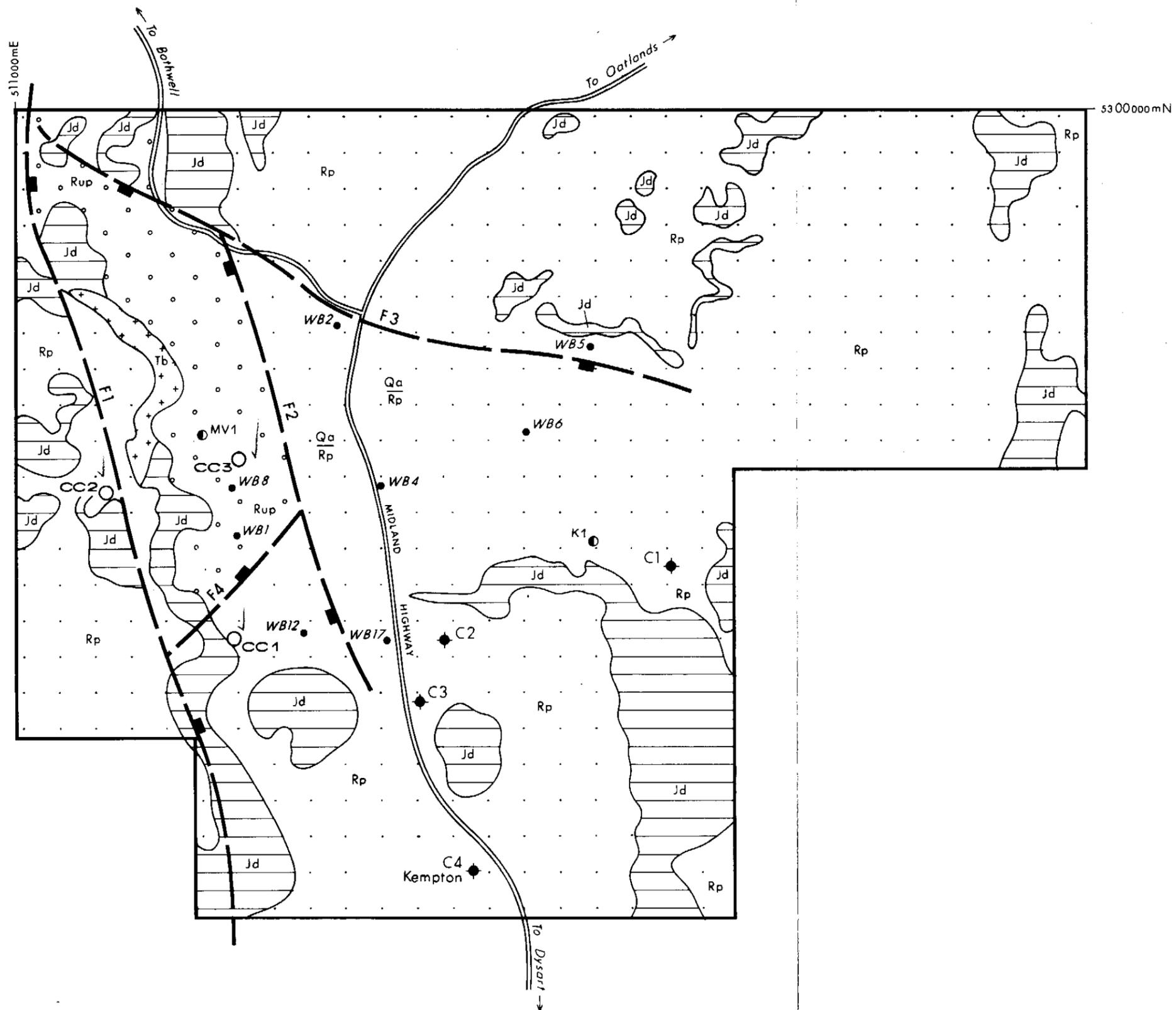


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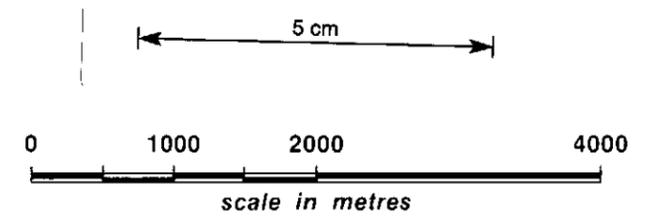


CORNWALL COAL
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KEMPTON DDH 1

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- | | | |
|------------|-----|-------------------------------------------------|
| QUATERNARY | Qa | Alluvium, scree |
| TERTIARY | Tb | Basalt |
| JURASSIC | Jd | Dolerite |
| TRIASSIC | Rup | Upper Coal Measures, lithic sandstone, mudstone |
| | Rp | Quartz, sandstone, mudstone, shale, siltstone |
-
- ◆ CRA drill hole
 - Department of Mines drill hole
 - Cornwall Coal drill hole
 - Water bore
 - Fault; position inferred



CORNWALL COAL COMPANY N.L.

Exploration Licence 11/91, Tasmania

Kempton Coal Prospecting Area

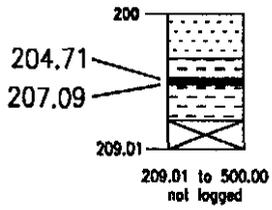
GEOLOGICAL MAP

92-3378

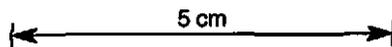
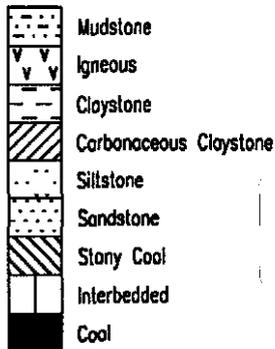
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STRATIGRAPHIC SECTION



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CORNWALL COAL
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KEMPTON DDH 1

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