



WELLINGTON PARK NO. 2 WELL

COMPLETION REPORT

by

Woodside Oil N.L.

June 1970

2nd copy.

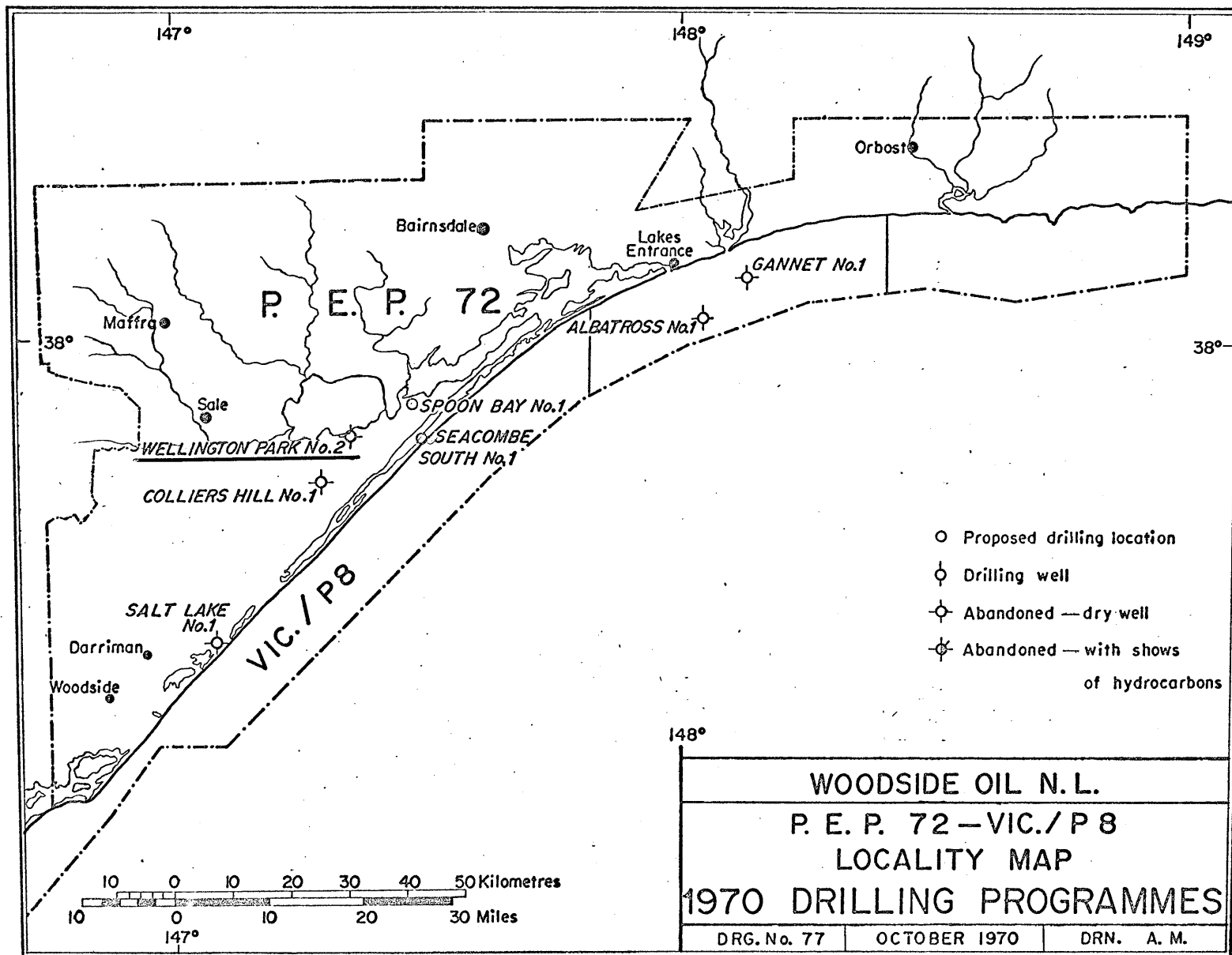
WELLINGTON PARK NO. 2 WELL

COMPLETION REPORT

by

Woodside Oil N.L.

June 1970



WOODSIDE OIL N. L.
P. E. P. 72 - VIC./P8
LOCALITY MAP
1970 DRILLING PROGRAMMES

| | | |
|-------------|--------------|------------|
| DRG. No. 77 | OCTOBER 1970 | DRN. A. M. |
|-------------|--------------|------------|

WELLINGTON PARK NO. 2 WELL

Contents

| | |
|---------------------|----|
| Summary | 1 |
| General Data | 2 |
| Drilling Data | 3 |
| Logging and Testing | 6 |
| Regional Geology | 7 |
| Stratigraphy | 7 |
| Results of Drilling | 10 |
| Bibliography | 11 |

Figures

- 1 Surveyor Locality Map
- 2 Feature Survey Map of Area

Enclosures

1. Composite log
2. Well Correlation diagram
3. Mud Log (6 pages) inserted by DNRE 25/08/99.

Appendices

- 1 Notes accompanying the surveying of well
- 2 Water analysis
- 3 Cuttings description
- 4 Sidewall core description
- 5 Drill Stem Test Report

WELLINGTON PARK NO. 2

SUMMARY

Wellington Park No. 2 well was spudded on 16th March, 1970, and reached a total depth of 4127 feet on 1st April, 1970. The well encountered the following sequence:

| | <u>Well Depth</u> |
|------------------------------------|-------------------|
| Post Gippsland Limestone sediments | 0 - 635' |
| Gippsland Limestone | 635 - 2014' |
| Lakes Entrance Formation | 2014 - 2356' |
| Latrobe Valley Coal Measures | 2356 - 3585' |
| Strzelecki Group | 3585 - 4127' (TD) |

No oil or gas was encountered during drilling except for very minor dull staining and fluorescence in dolomitic sandstone at the base of the Lakes Entrance Formation. The well was plugged and abandoned.

During drilling one drill-stem was attempted over the interval 2335 to 2374 feet. The test was unsuccessful as the packed failed to seat.

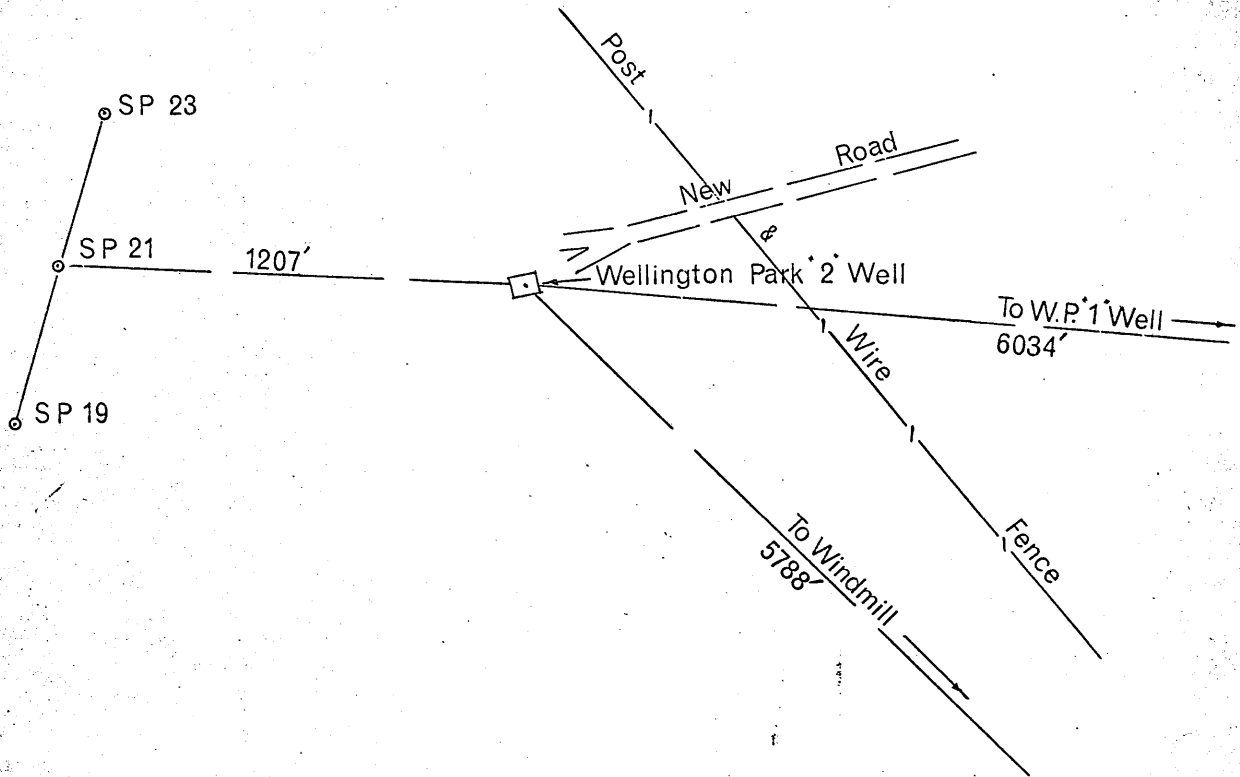
A series of sidewall cores were taken to assist in the lithological interpretation of the well section and for possible palynological examination.

1. GENERAL DATA

- (A) Well name and number: Wellington Park No.2
- (B) Location:
(Figures 1 & 2) Latitude: 38° 08' 08" S
Longitude: 147° 20' 55" E
Datum: Australian Geodetic Datum
Parish: Dulungalong
See Appendix 1.
- (C) Names of Tenement Holders: Woodside Oil N.L. (Operator)
Australian Oil & Gas Corp.Ltd.,
Continental Oil Co. of Aust.Ltd.,
B.O.C. of Australia Ltd.,
Planet Exploration Co. Pty..Ltd.,
- (D) Petroleum Tenement: Petroleum Exploration Permit No.
72 issued by the State of
Victoria.
- (E) Total Depth: 4127 feet.
- (F) Date drilling began: 16th March, 1970.
- (G) Date drilling ended: 1st April, 1970.
- (H) Date well completed: 3rd April, 1970.
- (I) Date rig released: 7th April, 1970.
- (J) Drilling time to T.D.: 17 days.
- (K) Elevation: Ground level: 4.95 feet a.s.l.
Rotary Table: 16.68 feet a.s.l.
Kelly Bushing: 18.01 feet a.s.l.
Datum: Williamstown Datum
- (L) Status: Plugged and abandoned.

WOODSIDE OIL N.L.
GIPPSLAND OIL RIG LOCATION SKETCH.

LOCATION:- WELLINGTON PARK '2' WELL



GEOGRAPHICALS:- LATITUDE 38°08'08" LONGITUDE 147°20'55"

AVG Coordinates N 5,779,064.40 E 530,542.59
 (Metres) A Zone 55

REDUCED LEVELS:- Ground Level 4.95
 Rotor Table 16.68
 Kelly Bushing 18.01

LEVEL DATUM:- Williamstown

CADASTRAL DESCRIPTION:- Crown Allotment 23 Sec. B
 Parish of Dulungalong
 County of Buln Buln

| | | | |
|--------------|--------|-------------|--------------------|
| Surveyed By | J.A.S. | Approved | <i>[Signature]</i> |
| Calculations | J.A.S. | Date | 2/4/70 |
| Drawn | J.A.S. | Drawing No. | 112/1 |

ENGINEERING SURVEYS (AUSTRALIA) PTY. LIMITED
 166 - 168 Albert Road, South Melbourne.

PE906605

This is an enclosure indicator page.
The enclosure PE906605 is enclosed within the
container PE905915 at this location in this
document.

The enclosure PE906605 has the following characteristics:

ITEM_BARCODE = PE906605
CONTAINER_BARCODE = PE905915
NAME = Feature Survey Map
BASIN = GIPPSLAND BASIN
PERMIT = PEP/72
TYPE = WELL
SUBTYPE = MAP
DESCRIPTION = Feature Survey Map (figure 2 from WCR)
for Wellington Park-2
REMARKS =
DATE_CREATED = 2/04/70
DATE_RECEIVED = 17/03/86
W_NO = W579
WELL_NAME = WELLINGTON PARK-2
CONTRACTOR = WOODSIDE OIL NL
CLIENT_OP_CO = WOODSIDE OIL NL

(Inserted by DNRE - Vic Govt Mines Dept)

2. DRILLING DATA

(a) Contractor: Woodside Oil N.L.'s drilling rig and equipment were operated by Richten Bawden Drilling Pty. Ltd.'s drilling crew.

(b) Drilling Plant:

Make: Brewster

Type: N4

Rated capacity with 3½" drill pipe: 7500'

Rated capacity with 4½" drill pipe: 6000'

Motors: G.M. 6/71

(c) Mast:

Make: Lic. C. Moore

Type: Cantilever

Capacity: 386,000

(d) Pumps - Two:

Make: Oilwell

Type: P214

Size: 7¼ x 14

Motors: G.M. 6/71

(e) Blowout preventer equipment:

(i) Make: Cameron

Size: 12"

Series: Series 900

(ii) Make: Regan 10"

Series: Series 900

(f) Hole sizes and depths:

| | | |
|-------|---------|------|
| KB | - 30' | 26" |
| 30' | - 240' | 17½" |
| 240' | - 1805' | 12¼" |
| 1805' | - 4127' | 8¾" |

(g) Casing and Cementing Details:

| | | | |
|-----------------|-----------|---------------------------------|---|
| Size | 20" | 13⅜" ✓ | 9⅝" ✓ |
| Weight | Conductor | 48 lbs. | 36 lbs. |
| Grade | | H40 | J55 |
| Range | | R2 | R2 |
| Setting Depth | KB-30' | 230' ✓ | 1804' ✓ |
| Type Collar | Welded | S.T.C. | S.T.C. |
| Depth Collar | - | Nil | 1774' |
| Type Shoe | - | Float Shoe | Float Shoe |
| Cement Plug | - | Top Plug | Bottom & Top Plug |
| Depth Shoe | | 230 | 1804 |
| Centralizers | | Nil | Nil |
| Quantity Cement | 20 bags | 227 | 350 |
| Premix | | | 40 bbls. Mix water 2½% Zeogel. 150 Bags Neat Cement around shoe |
| Cemented to: | | Surface | Cement cut mud return 300' |
| Method used | | Poured from Halliburton Surface | Halliburton Cement Truck |

(i) Drilling fluid:

- (i) Type - Salt water - Zeogel and Saltgel, Lignosulphnate system of drilling fluid used throughout the well.
- (ii) Treatment: Unical, Milcon, caustic soda, and zeogel were used to treat the mud.

(iii) Mud material and chemical consumption:

| | | | | |
|------------|------|-------|---------|-------|
| Zeogel | 558 | x | 50 lbs. | Saxs. |
| Supercol | 310 | x | 50 lbs. | Saxs. |
| Unical | 205 | x | 50 lbs. | Saxs. |
| Caustic | 3640 | lbs. | | |
| Cellucol | 1661 | lbs. | | |
| Soda Ash | 280 | lbs. | | |
| Barytes | 100 | x | 112 | Saxs |
| Distillate | 2811 | gals. | | |

(iv) Average Weight Analysis:

| Week | Depth Ft. | Weight lbs./U.S. gal. | Visc. Secs/ 946 cc. | W.L. c.c. | F.C. ins. | pH. |
|------|--------------|-----------------------------|---------------------------|--------------|--------------|-----|
| 1 | 1805 | 9.7 | 45 | 20+ | 3/32+ | 9.5 |
| 2 | 2780 | 9.5 | 54 | 12 | 3/3 | 9.9 |
| 3 | 3864 | 9.9 | 60 | 6.7 | 2/32 | 9.6 |

(j) Water Supply:

LOCAL SWAMP WATER - with 24,000 p.p.m. chloride. (Appendix 2)
Water was pumped from the large swamp located between this well and the previously drilled Wellington Park No.1 Well.

(k) Perforations and Shooting: Nil

(l) Plug back and cementation jobs:

Abandonment plugs were set in the well:-

13' - 63'
 1750' - 1850'
 2250' - 2350'
 3650' - 3750'

(m) Side-tracking hole: Nil.

(n) Deviation:

| | | | |
|------|------------------------|------|------------------------|
| 96 | $\frac{1}{2}^{\circ}$ | 1362 | 1° |
| 185 | $\frac{1}{2}^{\circ}$ | 1460 | 1° |
| 240 | $\frac{1}{2}^{\circ}$ | 1580 | 1° |
| 345 | 1° | 1670 | 1° |
| 466 | 1° | 2163 | $1\frac{1}{4}^{\circ}$ |
| 576 | $1\frac{1}{4}^{\circ}$ | 2300 | $1\frac{1}{4}^{\circ}$ |
| 669 | 1° | 2840 | $1\frac{1}{2}^{\circ}$ |
| 788 | 1° | 3090 | $1\frac{1}{2}^{\circ}$ |
| 880 | 1° | 3570 | $1\frac{1}{2}^{\circ}$ |
| 1131 | 2° | 3870 | 2° |
| 1252 | $2\frac{3}{4}^{\circ}$ | 4127 | $1\frac{1}{2}^{\circ}$ |

(0) Fishing Operations

One fishing operation was necessary during the drilling of this well.

The 12 $\frac{1}{4}$ " hole was drilled to a depth of 1805 feet where it was intended to circulate the hole, run a wiper trip, log the hole, and run 9 $\frac{5}{8}$ " casing.

After circulating the hole for 2 hours the wiper trip began and it was during this wiper trip, at a depth of 1625 feet, that the hole appeared to have bridged. Circulation of the mud was started and the bit was washed and worked through tight spots up the hole to a depth of 1128 feet where it stuck. An attempt to free the bit was made by spotting distillate and working the drill pipe, but without success.

The next stage of this fishing operation was an attempt to jar the bit free. For this operation the drill pipe was backed off, with the help of Schlumberger string shot service, at the top of the first single of drill pipe about the drill collars. This left a fish in the hole made up of one joint of 4 $\frac{1}{2}$ " drill pipe, six 8" drill collars, one 12 $\frac{1}{4}$ " stabilizer and the 12 $\frac{1}{4}$ " bit.

After backing off the hole was cleaned and the mud conditioned before engaging the fish with Tristate's special drill collar spear assembly and Bowen jars. Five and a half hours of jarring did not free the fish. The fish was disengaged so as to use a washover string.

This washover string consisted of nine joints of 9" R-2 alloy steel washover pipe and Tristate's special drill collar spear attachment. The fish was washed over for 214 feet to the top of the stabilizer. While milling the stabilizer the fish became loose and dropped to the bottom of the hole.

The hole was then cleaned and the top of the fish located at 1556 feet before Tristate's special drill collar spear assembly and jars were run. This equipment successfully engaged and removed the fish.

3. LOGGING AND TESTING

(A) Ditch cuttings

Representative samples were collected at the shale shaker every 30 feet from 240' to 990'. From 990' to 4127' samples were taken every 10 feet. These samples were washed, dried and examined. Sample descriptions are given in Appendix 3.

(B) Coring

No conventional cores were cut, but 17 sidewall cores were attempted and 16 recovered.

Details of these cores are given in Appendix 4.

(C) Electrical and other logs

Schlumberger Seaco Inco. ran the following logs:-

(1) Induction Electrical log.

Run 1: 232' - 1802'
Run 2: 1802' - 4124'

(2) Borehole Compensated Sonic/Gamma Ray Log

Run 1: 232' - 1792'
Run 2: 1802' - 4124'

(3) Continuous Dipmeter Survey

Run 1: 1802' - 4126'

(D) Drilling Time

Drilling time was recorded by a "Geolograph" mounted on the derrick floor. The penetration rate is plotted on the composite log (Enclosure 1)

(E) Gas Log

Gas detecting equipment, including gas chromatography, was supplied, operated and maintained by Data Analysis Pty. Ltd. at the well site. The equipment was operated from a depth of 232 feet to total depth.

(F) Testing

One drill stem test was attempted over the interval 2335 feet to 2374 feet. This test was a misrun because the packer seat failed immediately the tool was opened. Details are given in Appendix 5.

(G) Velocity Survey

A velocity survey was not conducted.

REGIONAL GEOLOGY

An outline of the regional geology of that part of the Gippsland Basin in which the Wellington Park No. 2 well was drilled is given in the Colliers Hill Well Completion Report on page 8.

STRATIGRAPHY

The sequence found in the Wellington Park No. 2 well was as follows:-

| <u>Age</u> | <u>Formation</u> | <u>Depth Top</u> |
|--------------------------|------------------------------|-------------------|
| U. Pliocene - Recent | Post Jemmy's Point | 0' |
| L. Pliocene - U. Miocene | Jemmy's Point & Tambo River | 325' |
| M. Miocene - L. Miocene | Gippsland Limestone | 635' |
| Oligocene | Lakes Entrance | 2014' |
| Eocene | Latrobe Valley Coal Measures | 2356' |
| L. Cretaceous | Strzelecki Group | 3585' |
| | | Total Depth 4127' |

The recognition of the rock units given in the Stratigraphic Table is based on sidewall cores, cuttings and wire-line log characters. These characters were correlated with the Wellington Park No. 1 well and other wells drilled in the area. The ages assigned to the rock units are those generally accepted for these units in the Gippsland Basin. (Hocking 1965 and Jenkin 1968).

Post Jemmy's Point Formation (0' - 325')

Samples and logs are available for the bottom 100 feet of this interval. The samples collected consisted of loose, coarse to very coarse quartz sand with some coal. This coal suggests that at least some of the Boisdale Beds were encountered.

Jemmy's Point and Tambo River Formation (325' - 635')

These units consist of marine sediments of Lower Pliocene to Upper Miocene age in the Gippsland Basin. The top of this unit was selected at the first appearance of marine fossils in the well. No attempt was made to divide this unit into its 2 components.

The cuttings and wire-line log characters have been used to divide this section into the following lithological units:-

| | |
|-------------|--|
| 325' - 440' | <u>Fossiliferous sandstone</u> made up of coarse quartz and lithic grains. |
| 440' - 474' | <u>Siltstone</u> , speckled, medium and light grey, soft and friable, sandy and fossiliferous. |
| 474' - 570' | <u>Sandstone</u> , pale grey, very fine to fine grained, quartzose with kaolinized feldspars and lithic grains, fossiliferous and tight. |
| 570' - 635' | <u>Marly limestone</u> , grey, sandy, silty, fossiliferous |

Gippsland Limestone (635' - 2014')

The top of the Gippsland limestone has been selected at the first appearance of calcarenite in the cuttings together with detailed correlation of the sonic logs between this well and the previously drilled Wellington Park No. 1 well.

The lithology of this unit consists of calcarenite, marls, and limestones. These lithologies grade into each other in places as well as being interbedded. The unit has been divided into four units:-

- | | |
|---------------|---|
| 635' - 742' | <u>Calcarenite</u> , grey, marly, sandy, silty, lithic and fossiliferous. |
| 742' - 1522' | <u>Marl</u> , grey, light grey, blue and brown grey, moderately soft to firm, silty, sandy and fossiliferous. Minor interbedded limestone and marl occur. |
| 1522' - 1885' | <u>Calcarenite</u> , medium to light grey, massive, moderately soft to firm, silty, sandy and fossiliferous. Grades to limestone and marl. Occasionally a quartz pebble is present. |
| 1885' - 2014' | <u>Clayey marl</u> , light to medium grey, moderately soft, silty. |

Lakes Entrance Formation (2014' - 2356')

The marl of the Lakes Entrance Formation differs from the marl of the overlying Gippsland Limestone by being more clayey. This lithological difference is not seen in the cuttings, except rarely; but is sufficient to give a small change in electrical log profile and this change has been used to select the top of this formation. This change is not so pronounced as the prominent "break" which occurs within the Lakes Entrance Formation at a depth of 2177'

The Lakes Entrance Formation has been subdivided into an upper marly unit and a lower sandy unit (Hocking and Taylor, 1964).

The marly unit contains two lithologies, an upper marl and a lower calcareous mudstone:-

- | | |
|---------------|--|
| 2014' - 2177' | <u>Marl</u> , medium grey and light grey to green grey, soft, silty, clayey and glauconitic. |
| 2177' - 2340' | <u>Calcareous Mudstone</u> , light medium grey and green grey, soft, silty, glauconitic and sandy towards the base, grades into glauconitic sandstone. |

A thin dolomite bed is taken to mark the top of the 'sandy unit' (Hocking 1965). The dolomite is seen in cuttings and as a sharp peak on the resistivity curves. In the Wellington Park No. 2 well it is five feet thick:-

- | | |
|---------------|---|
| 2340' - 2345' | <u>Dolomite</u> , fine grained, arenaceous. |
|---------------|---|

Below the dolomite bed is 10 feet of glauconitic sandstone

- | | |
|---------------|---|
| 2345' - 2355' | <u>Glauconitic Sandstone</u> , very fine grained. |
|---------------|---|

LATROBE VALLEY COAL MEASURES (2356' - 3585')

This unit, consisting of sand, silt, clay and coal represents the first non-marine sediments encountered in the well below 325 feet. The contact of this unit with the overlying Lakes Entrance Formation is not a sand-on-sand contact as in the previously drilled Wellington Park No. 1 well, but it is a sand-on-coal contact; the sand being the basal glauconitic sand of the Lakes Entrance Formation (as seen in sidewall core from 2355 feet) and the coal being a coal from the top coal seam of the Latrobe Valley Coal Measures in this area (as seen in sidewall core from 2383 feet.)

2356' - 3585' Coal, Sandstone, Siltstone, Clay and Shale.

Coal, brown, lignitic, soft, occasionally silty and shaly.

Sandstone, unconsolidated, medium to granule size grains, with minor grey to brown cherty lithics, subangular to subrounded, no matrix except for fine pyritic dusting, rare calcite, dolomite.

Siltstone, Clay, and Shale, all dark brown, soft, lignitic and tending to grade to brown coal.

Strzelecki Group (3585' - 4127' T.D.)

The top of the Strzelecki Group has been selected from the Induction Electrical log, Gamma Ray log and cuttings. The generally reduced resistivity values and increased gamma ray values indicate a change of lithology and a study of the cuttings show a change of lithology to feldspathic sandstones, mudstones and siltstone which are characteristic of the Strzelecki Group which is regarded as economic basement in this part of the Gippsland Basin. Correlation to Wellington Park No. 1 well confirms this interpretation.

RESULTS OBTAINED FROM DRILLING

The study of the results obtained from drilling are considered under three headings.

1. "H" to "K" interval.
2. Correlation to Wellington Park No. 1.
3. Hydrocarbons.

1. "H" to "K" Interval

Before the drilling of Wellington Park No. 2 well the seismic survey results indicated two horizons. The upper horizon ("H") was considered to represent the top of the Latrobe Valley Coal Measures and the lower horizon ("K") was regarded as the top of the first coal seam. Between these two horizons sand was thought to be present, as occurred in Wellington Park No. 1 well.

The section encountered at Wellington Park No. 2 well was almost identical to that of Wellington Park No. 1 well with one important exception. Wellington Park No. 2 did not have a sand above the first coal.

A velocity survey was not run in Wellington Park No. 2 well; thus it is difficult to identify accurately the seismic horizons on the well. However, by analogy with Colliers Hill No. 1 well and inspection of the sonic log it would appear possible for the "H" horizon to represent a depth of 2177 feet and the "K" horizon to represent a depth of 2356 feet.

2. Correlation to Wellington Park No. 1 well

The correlation between the two wells drilled on the Wellington Park structure is illustrated as Enclosure 2. This demonstrates that Wellington Park No. 2 well was drilled higher on the structure than Wellington Park No. 1 well and so adequately tested the structure for any hydrocarbon accumulation.

3. Hydrocarbons

No hydrocarbons were encountered in the well apart from a slight amount of fluorescence in the basal tight sands of the Lakes Entrance Formation. This represents a trace of residual hydrocarbon which is occasionally encountered in Gippsland.

BIBLIOGRAPHY

Esso Exploration Australia Inc. 1966. Esso Gippsland Shelf
No. 1 well.

Petrol Search Subs. Act Pub. 76:74 pp.

Hocking J.B. 1965. Characteristics of the Tertiary Formation of
Southern and South-Eastern Gippsland.

Geol. Surv. Vict. (unpub. Report).

Hocking J.B. & Taylor D.J. 1964. Initial Marine Transgression in
the Gippsland Basin, Victoria.

A.P.E.A. Journal for 1964: 125-132

Jenkin J.J. 1968. The Geomorphology and Upper Cainozoic Geology
of South-East Gippsland, Victoria.

Geol. Surv. Vict. Memoir 27:147 pp.

Richards K.A. & Hopkins B.M. 1969. Exploration in the Gippsland,
Bass and Otway Basins Australia. (unpub.)

Wallis W.E., 1967, Offshore Petroleum Exploration Gippsland and
Bass Basin - South East Asia.

Proc. 7th Wld. Petrol. Congr. 2:783-791

Weeks L.G., & Hopkins B.M. 1967. Geology and Exploration of
Bass Strait Basins, Australia.

Amer. Assoc. Petrol. Geol. Bull. 51(5):742-760

Woodside (Lakes Entrance) Oil Company N.L. 1966 Wellington Park
No. 1 Well.

Petrol. Search Subs. Act Pub. 71: 9 pp.

WELL LOCATION

The well location was surveyed by Engineering Surveys (Australia) Pty. Ltd. of South Melbourne. At the same time the Wellington Park No. 2 location was tied in to Wellington Park No. 1 well and seismic surveys in the area as well as other features. The results of this work is seen on figures 1 and 2.

The co-ordinates for the well are based on the Australian Geodetic Datum and not the Sydney Observatory Datum.

On the Schlumberger logs are the preliminary co-ordinates based on the Sydney Observatory Datum.

RECEIVED

21 MAY 1970



ADDRESS ALL COMMUNICATIONS

CHIEF CHEMIST

TELEPHONE: 63 0321

GMG:MS

An. PM, 25/2

Ans'd MINES DEPARTMENT
 CHEMICAL BRANCH
 5 PARLIAMENT PLACE
 MELBOURNE, VIC. 3002

19th May, 1970

Report on Sample No. 281/70

U.W.R.S.

Sample : Mud make up water
 Locality : ~~Perth~~ Gippsland
 Sender : Woodside Oil N.L.
 151 Flinders Street,
MELBOURNE.

Particulars:

| | | |
|----------------------|---------------------------------|------------------------------|
| Bore | | <u>Att. Mr. A. Marimuthu</u> |
| Plant | Mud make up water | |
| Sample | - | |
| Date | 24.2.70 | |
| Depth (feet) | - | |
| Aquifer level (feet) | - | |
| Static level (feet) | - | |
| Drawdown (feet) | - | |
| Aquifer type | - | |
| Yield (gph) | - | |
| Test type | - | |
| Bore cased to (feet) | - | |
| Position | Wellington Park No.2, Gippsland | |
| Owner | - | |
| Address | - | |
| Remarks | - | |
| Label No. | - | |

Results:

Parts per million

| | |
|--------------------------|--------|
| Total solids in solution | 49,708 |
|--------------------------|--------|

| | |
|---------------|--------|
| Chloride (Cl) | 24,510 |
|---------------|--------|

| | |
|------------------------------|-----|
| Carbonate (CO ₃) | Nil |
|------------------------------|-----|

| | |
|---------------------------------|-----|
| Bicarbonate (HCO ₃) | Nil |
|---------------------------------|-----|

| | |
|-----------------------------|-------|
| Sulphate (SO ₄) | 4,680 |
|-----------------------------|-------|

| | |
|----------------------------|-----|
| Nitrate (NO ₃) | Nil |
|----------------------------|-----|

| | |
|--------------|-----|
| Calcium (Ca) | 764 |
|--------------|-----|

| | |
|----------------|-------|
| Magnesium (Mg) | 1,870 |
|----------------|-------|

| | |
|-------------|--------|
| Sodium (Na) | 13,680 |
|-------------|--------|

| | |
|---------------|-----|
| Potassium (K) | 432 |
|---------------|-----|

| | |
|-----------------|-----|
| Iron-Total (Fe) | 4.9 |
|-----------------|-----|

| | |
|-------------------|-----|
| Iron-Soluble (Fe) | 1.2 |
|-------------------|-----|

| | |
|------------------------------|-----|
| Silicate (SiO ₃) | Nil |
|------------------------------|-----|

| | |
|--|-------|
| Total hardness (as CaCO ₃) | 9,605 |
|--|-------|

| | |
|----|-----|
| pH | 4.1 |
|----|-----|

| | |
|----------------------------------|----------------------|
| Electrical Conductivity at 25°C. | 60,871 micromhos/cm. |
|----------------------------------|----------------------|

| | |
|-------------------------------|-----------|
| Specific Resistance at 21 °C. | 17 ohmcm. |
|-------------------------------|-----------|

Chief Chemist
 Mines Department

WOODSIDE OIL N.L.

WELLINGTON PARK No.2

| <u>Depth Interval</u> | <u>%</u> | <u>Lithologic Description</u> | <u>Porosity</u> | <u>Remarks</u> |
|-----------------------|----------|--|-----------------|--|
| 240-270' | 100 | <u>SAND</u> - loose, coarse to very coarse-grained and pebbly, sub-rounded, clear, milky quartz, grey, green-grey and brown quartzitic grains, trace biotite. Trace pyrite cement. No shows. | Excellent. | Water wet. |
| 270-300 | 95 | <u>SAND</u> - loose, coarse to very coarse-grained quartz, sub-angular to subrounded and poorly sorted, as above. Abundant biotite (some chloritized). | Excellent. | |
| | 5 | <u>COAL</u> - soft, lignitic, dull, shaly. | | |
| 300-330 | 75 | <u>SAND</u> - loose, coarse quartz, as above. | | |
| | 20 | <u>LIMESTONE</u> - fossil fragments, light brown, moderately hard. | Excellent. | |
| | 5 | <u>COAL</u> - as above, pyritic. | | |
| 330-360 | 70 | <u>SAND</u> - as above, pebbly, with abundant cherty quartzite grains. | Excellent. | |
| | 30 | <u>LIMESTONE</u> - calcarenite, as above. Trace <u>COAL</u> , as above. | | |
| 360-390 | 85 | <u>SAND</u> - medium to coarse to very coarse-grained, but not as pebbly as above, and with abundant yellow quartz. Otherwise as above. | | Less pebbly, more yellow. |
| | 15 | <u>LIMESTONE</u> - calcarenite, as above. | | |
| 390-420 | 70 | <u>SAND</u> - as above, yellowish, but also pebbly and poorly sorted. Pyritic. | | |
| | 15 | <u>Fossil fragments</u> - as above, light brown. | | |
| | 15 | <u>CLAY</u> - grey, silty, washes out of samples. | | |
| 420-450 | 20 | <u>SAND</u> - as above, loose, coarse quartz and chert, quartzite, some phyllite and schist fragments. | Excellent. | |
| | 20 | <u>SILTSTONE</u> - medium and light grey speckled, soft, friable, sandy and grading to very fine-grained sandstone. Apparently forms matrix for much of the fossil material. | | Section change at about 440 feet to very fine-grained sandstone. |
| | 60 | <u>Fossil fragments</u> - light brown, as above. | | |

| <u>Depth Interval</u> | <u>%</u> | <u>Lithologic Description</u> | <u>Porosity</u> | <u>Remarks</u> |
|-----------------------|----------|---|-----------------|----------------|
| 450-480' | 80 | <u>SANDSTONE</u> - light to medium grey, very fine to fine-grained and silty, moderately firm, friable, consists of quartz, white kaolinized feldspars, green and grey cherty lithics, and black mafic minerals and fragments (volcanic?) with a grey clay cement. Tight. No shows. | Tight. | |
| | 20 | <u>LIMESTONE</u> - as above. | | |
| 480-510 | 85 | <u>SANDSTONE</u> - fine-grained, tight, speckled, as above, strongly calcareous. | Tight. | |
| | 10 | - quartz and chert fragments, medium to coarse grains, partly ferruginised. | | |
| | 5 | <u>Fossil fragments</u> . | | |
| 510-540 | 80 | <u>SANDSTONE</u> - pale grey, generally unconsolidated, medium to coarse-grained aggregates. Abundant cloudy to milky white quartz grains, sub-rounded to rounded, poorly sorted, fair to poor porosity. Strongly calcareous. Abundant dark green to black lithic inclusions. | | |
| | 20 | <u>Fossil fragments</u> - very fragmentary, corals and gastropods mainly. | | |
| 540-570 | 60 | <u>SANDSTONE</u> - pale grey, colourless, rare cloudy to slightly yellow, rounded to subrounded quartz grains, poorly sorted, kaolinized in part, variably ferruginous, strongly calcareous, lithic inclusions, clay admixtures, poor porosity. | | |
| | 40 | <u>Fossil content</u> - comprised of coral remains, DITRUPA worm casts, gastropods, molluscs and Echinoderms. | | |
| 570-600 | 50 | <u>CALCARENITE</u> - white, tight, occasional mafic grains, often containing coral material. | | |
| | 10 | <u>LIMESTONE</u> - white, massive. | | |
| | 40 | <u>Fossil fragments</u> -- mainly coralline. | | |
| 600-630 | 5 | <u>SANDSTONE</u> - very fine-grained, speckled with lithic, fragments, tight. | | |
| | 60 | <u>LIMESTONE</u> - sandy, white to pale grey, medium-grained, high percentage of fossil content, tight. | | |
| | 35 | <u>Fossil fragments</u> - DITRUPA and coral fragments. | | |
| 630-660 | 70 | <u>LIMESTONE</u> - coralline, to some extent, skeletal limestone, abundant fossil fragments (Lamellibranches and Echinoderms) | | |
| | 30 | <u>CALCARENITE</u> - clayey in part, also marly. | | |

| <u>Depth Interval</u> | <u>%</u> | <u>Lithologic Description</u> |
|-----------------------|----------|--|
| 682 feet | | TRACE OF CRYSTALLINE LIMESTONE - RARE LARGE CHIPS EVIDENT. PROBABLE TOP OF GIPPSLAND LIMESTONE. |
| 660-690 | 10 | Crystalline <u>LIMESTONE</u> - massive, white, colourless to pale grey, hard. |
| | 70 | Skeletal and coralline <u>LIMESTONE</u> - intergranular porosity. |
| | 20 | <u>CALCARENITE</u> - marly in part, with clay admixtures. |
| 690-720 | 80 | <u>CALCARENITE</u> - pale grey, colourless, often massive, hard, vuggy porosity--good to fair. |
| | 20 | <u>CLAY-MARL</u> - bluish-grey, strongly argillaceous, soft, plastic, silty in part. <u>Fossil fragments</u> - random spicules. |
| 720-750 | 80 | <u>CALCARENITE</u> - as above, but grey to bluish-grey. Abundant fossil fragments. |
| | 20 | <u>CLAY-MARL</u> - as above. |
| 750-780 | 80 | <u>MARL</u> - bluish-grey, soft, silty in part, clayey in part, fossiliferous, forams. |
| | 20 | <u>CALCARENITE</u> - as above. |
| 780-810 | 90 | <u>MARL</u> - as above, as bluish-grey ooze. |
| | 10 | <u>CALCARENITE</u> - as above, but could be cavings. |
| 810-840 | 50 | <u>MARL</u> - grey, unconsolidated, clayey, with fine calcareous fragments--often as shell material. |
| | 30 | <u>CALCARENITE</u> - white, tight, high percentage of coral-like material, fine-grained. |
| | 20 | <u>LIMESTONE</u> - white, massive. |
| 840-870 | 90 | <u>MARL</u> - medium grey, weak, fine-grained, with silty, clayey matrix, occasional glauconite grains. |
| | 5 | <u>CALCARENITE</u> - white, tight, as above. |
| | 5 | <u>Fossil fragments</u> - mainly coral. |
| 870-900 | 80 | <u>MARL</u> - pale grey, moderately firm, occasional glauconitic grains. |
| | 20 | <u>Fossil fragments</u> - corals and forams. |
| | Tr. | <u>COAL</u> . |
| 900-930 | 90 | <u>MARL</u> - pale grey, firm, fine-grained, with frequent small coal fragments and occasional glauconite. Reacts moderately strong with acid. |
| | 10 | <u>Fossil fragments</u> - mainly coralline. |
| 930-960 | 90 | <u>MARL</u> - as above, pale grey, moderately firm, without coal flecks, clayey, occasional glauconite. |
| | 5 | <u>LIMESTONE</u> - mostly from narrow veins within the marl. |
| | 5 | <u>Fossil fragments</u> - mainly coralline. |
| 960-990 | 90 | <u>MARL</u> - pale grey, firm with occasional glauconite, rare coal, with some limestone veinlets. |
| | 10 | <u>LIMESTONE</u> - (from veins) and fossil fragments (mainly coral). |

| <u>Depth Interval</u> | <u>z</u> | <u>Lithologic Description</u> |
|-----------------------|----------|---|
| 990-1000 | 80 | <u>MARL</u> - as above, varies from weak to firm. |
| | 10 | <u>LIMESTONE</u> - as above. |
| | 10 | <u>Fossil fragments</u> - as above. |
| 1000-010 | 70 | <u>MARL</u> - medium and pale grey, firm, silty, glauconitic, slightly carbonaceous, calcareous. |
| | 15 | <u>LIMESTONE</u> - white, finely crystalline, hard, brittle, apparently in lenses in MARL. |
| | 15 | <u>Fossil fragments</u> - shells, bryzoa, corals. |
| 1010-020 | 80 | <u>MARL</u> - as above, pale grey, firm, silty. |
| | 10 | <u>LIMESTONE</u> - as above, white, fine-grained. |
| | 10 | <u>Fossil fragments</u> - as above. |
| 1020-030 | 90 | <u>MARL</u> - glauconitic, sandy and silty, carbonaceous, as above. |
| | 5 | <u>LIMESTONE</u> - as above. |
| | 5 | <u>Fossil fragments</u> - as above, forams, corals, bryzoa. |
| 1030-040 | 70 | <u>MARL</u> - light to medium grey, firm, blocky, friable, silty and sandy, and grading to calcareous siltstone. Glauconitic, carbonaceous, as above. |
| | 30 | <u>LIMESTONE</u> - light brown, light grey, white, fine crystalline, sandy, silty, fossiliferous and grades to marl. |
| | Tr. | <u>Fossil fragments</u> - as above. |
| 1040-050 | 80 | <u>MARL</u> - light to medium grey, as above. Much washes out of samples. |
| | 20 | <u>LIMESTONE</u> - as above. |
| 1050-060 | 90 | <u>MARL</u> - as above, light brown-grey, carbonaceous and slightly glauconitic. |
| | 10 | <u>LIMESTONE</u> - as above, finely crystalline and silty and fossiliferous. |
| 1060-070 | 90 | <u>MARL</u> - silty, sandy, carbonaceous, light to medium brown-grey, as above, moderately firm. |
| | 10 | <u>LIMESTONE</u> - as above. |
| 1070-080 | 100 | <u>MARL</u> - medium and light brown-grey, as above, moderately firm, speckled, silty. |
| 1080-090 | 100 | <u>MARL</u> - as above, medium and light brown-grey, silty. |
| 1090-100 | 100 | <u>MARL</u> - as above, light brown-grey, silty, carbonaceous. |
| 1100-110 | 90 | <u>MARL</u> - light brown-grey, speckled, sandy, as above. |
| | 10 | <u>Fossil fragments</u> - bryzoa, forams, shells. |
| 1110-120 | 95 | <u>MARL</u> - light brown-grey, as above, firm and friable, sandy and calcareous. |
| | 5 | <u>Fossil fragments</u> - as above. |
| 1120-130 | 85 | <u>MARL</u> - light brown-grey, silty, as above, carbonaceous. |
| | 10 | <u>LIMESTONE</u> - fine crystalline, silty, shaly. |
| | 5 | <u>Fossil fragments</u> - as above. |

| <u>Depth Interval</u> | <u>%</u> | <u>Lithologic Description</u> |
|-----------------------|----------|---|
| 1130-140 | 80 | <u>MARL</u> - light brown-grey, firm, sandy, friable, calcareous, carbonaceous, slightly glauconitic, fossiliferous. |
| | 10 | <u>LIMESTONE</u> - fine crystalline, white and light brown, sandy, fossiliferous. |
| | 10 | <u>Fossil fragments</u> - forams, bryzoa, corals, shells (apparently in marl). |
| 1140-150 | 50 | <u>MARL</u> - light brown-grey, calcareous, sandy, grades to limestone. |
| | 35 | <u>LIMESTONE</u> - light brown-grey to white crystalline, silty and sandy, fossiliferous, moderately hard. |
| | 15 | <u>Fossil fragments</u> - as above, in limestone and marl. Sample is generally less shaly than all of the above samples. |
| 1150-160 | 70 | <u>MARL</u> - light brown-grey, as above, carbonaceous. |
| | 15 | <u>LIMESTONE</u> - as above. |
| | 15 | <u>Fossil fragments</u> - as above. |
| 1160-170 | 90 | <u>MARL</u> - light brown-grey, moderately soft to firm, silty, calcareous, as above. |
| | 5 | <u>LIMESTONE</u> - fine crystalline, light brown, sandy, as above. |
| | 5 | <u>Fossil fragments</u> - as above. |
| 1170-180 | 80 | <u>MARL</u> - light grey, as above. |
| | 10 | <u>LIMESTONE</u> - as above. |
| | 10 | <u>Fossil fragments</u> - as above. |
| 1180-190 | 95 | <u>MARL</u> - as above. |
| | 5 | <u>LIMESTONE</u> - as above, including fossiliferous fragments. |
| 1190-200 | 85 | <u>MARL</u> - light grey, as above. Trace carbonaceous and glauconitic. |
| | 10 | <u>LIMESTONE</u> - light brown and white, as above. |
| | 5 | <u>Fossil fragments</u> - as above. |
| 1200-210 | 90 | <u>MARL</u> - light brown-grey, silty, as above. |
| | 5 | <u>LIMESTONE</u> - as above. |
| | 5 | <u>Fossil fragments</u> - as above. |
| 1210-220 | 90 | <u>MARL</u> - light grey, silty, glauconitic. |
| | 5 | <u>LIMESTONE</u> - as above. |
| | 5 | <u>Fossil fragments</u> - as above. |
| 1220-230 | 95 | <u>MARL</u> - light grey, as above, glauconitic, trace carbonaceous. |
| | 5 | <u>LIMESTONE</u> - as above, including fossil fragments. |
| 1230-240 | 90 | <u>MARL</u> - light brown-grey, moderately firm, silty and sandy, calcareous and slightly glauconitic, trace carbonaceous material. |
| | 5 | <u>LIMESTONE</u> - white and light brown crystalline, moderately firm, silty and marly. |
| | 5 | <u>Fossil fragments</u> - forams, bryzoa, corals, shells. |

| <u>Depth Interval</u> | <u>%</u> | <u>Lithologic Descriptions</u> |
|-----------------------|----------|---|
| 1240-250 | 80 | <u>MARL</u> - light brown-grey, as above. |
| | 15 | <u>LIMESTONE</u> - white, light brown, fossiliferous, as above. |
| | 5 | <u>Fossil fragments</u> - as above. |
| 1250-260 | 85 | <u>MARL</u> - as above, trace glauconite. |
| | 10 | <u>LIMESTONE</u> - as above. |
| | 5 | <u>Fossil fragments</u> - as above. |
| 2160-270 | 95 | <u>MARL</u> - as above, glauconitic. |
| | 5 | <u>Fossil fragments</u> - as above. |
| 1270-280 | 85 | <u>MARL</u> - as above. |
| | 10 | <u>LIMESTONE</u> - as above. |
| | 5 | <u>Fossil fragments</u> - as above. |
| 1280-290 | 95 | <u>MARL</u> - as above, light grey, glauconitic. |
| | 5 | <u>LIMESTONE</u> - as above, silty and marly. |
| 1290-300 | 85 | <u>MARL</u> - as above. |
| | 10 | <u>LIMESTONE</u> - as above. |
| | 5 | <u>Fossil fragments</u> - as above. |
| 1300-310 | 85 | <u>MARL</u> - as above. |
| | 10 | <u>LIMESTONE</u> - as above. |
| | 5 | <u>Fossil fragments</u> - as above. |
| 1310-320 | 90 | <u>MARL</u> - as above, light grey, glauconitic. |
| | 5 | <u>LIMESTONE</u> - as above. |
| | 5 | <u>Fossil fragments</u> - as above. |
| 1320-330 | 95 | <u>MARL</u> - as above. |
| | 5 | <u>LIMESTONE</u> - as above. |
| 1330-340 | 95 | <u>MARL</u> - as above, glauconitic and carbonaceous. |
| | 5 | <u>LIMESTONE</u> - as above. |
| 1340-350 | 90 | <u>MARL</u> - as above. |
| | 5 | <u>LIMESTONE</u> - as above. |
| | 5 | <u>Fossil fragments</u> - as above. |
| 1350-360 | 95 | <u>MARL</u> - light brown-grey, silty, moderately soft to firm, blocky, carbonaceous, slightly glauconitic, liny. |
| | 5 | <u>LIMESTONE</u> - light brown, moderately hard, finely crystalline, silty. Fossiliferous. |
| 1360-370 | 95 | <u>MARL</u> - as above. |
| | 5 | <u>LIMESTONE</u> - as above. |
| 1370-380 | 100 | <u>MARL</u> - as above. |
| 1380-390 | 100 | <u>MARL</u> - as above. |
| 1390-400 | 100 | <u>MARL</u> - as above. |
| 1400-410 | 100 | <u>MARL</u> - as above. |
| 1410-420 | 100 | <u>MARL</u> - as above. |
| 1420-430 | 100 | <u>MARL</u> - as above. |
| 1430-440 | 90 | <u>MARL</u> - as above but lending to bluish grey. |
| | 10 | <u>CALCARENITE</u> - as above with abundant fossil fragments. |

| <u>Depth Interval</u> | <u>%</u> | <u>Lithologic Descriptions</u> |
|-----------------------|----------|--|
| 1440-450 | 90 | <u>MARL</u> - as above. |
| | 10 | <u>CALCARENITE</u> - pale grey to colourless, silty in part, carbonaceous in part, with variable dark green of black lithic inclusions. Trace vuggy porosity. |
| 1450-460 | 70 | <u>MARL</u> - as above. |
| | 30 | <u>CALCARENITE</u> - as above, variably glauconitic, rare crystalline limestone. |
| 1460-470 | 60 | <u>MARL</u> - as above. |
| | 40 | <u>CALCARENITE</u> - as above. |
| 1470-480 | 80 | <u>MARL</u> - as above. |
| | 20 | <u>CALCARENITE</u> - tending to skeletal limestone. |
| 1480-490 | 60 | <u>MARL</u> - as above. |
| | 40 | <u>CALCARENITE</u> - as above. |
| 1490-500 | 60 | <u>MARL</u> - as above. |
| | 40 | <u>CALCARENITE</u> - as above. |
| 1500-510 | 50 | <u>MARL</u> - bluish grey, soft, strongly argillaceous, often sticky, some clayey lumps. |
| | 50 | <u>CALCARENITE</u> - grey to slightly grey, silty in part, carbonaceous in part, with dark green lithic inclusions together with very thin crystalline limestone (cloudy to pale grey). Abundant fossil fragments and glauconite grains. |
| 1510-520 | 30 | <u>MARL</u> - as above. |
| | 70 | <u>CALCARENITE</u> - as above. |
| 1520-530 | 10 | <u>MARL</u> - as above with occasional bryzoal and coral fragments. |
| | 90 | <u>CALCARENITE</u> - as above with occasional bryzoal and coral fragments. |
| 1530-540 | 30 | <u>MARL</u> - bluish grey, lumps of clay embedded within. |
| | 70 | <u>CALCARENITE</u> - pale grey, as above. |
| 1540-550 | 50 | <u>MARL</u> - as above. |
| | 50 | <u>CALCARENITE</u> - pale grey, generally more carbonaceous, occasional fossil fragments. |
| 1550-560 | 40 | <u>MARL</u> - as above. |
| | 60 | <u>CALCARENITE</u> - as above. |
| 1560-570 | 40 | <u>MARL</u> - as above. |
| | 60 | <u>CALCARENITE</u> - as above. |
| 1570-580 | 40 | <u>MARL</u> - as above. |
| | 60 | <u>CALCARENITE</u> - as above, but with rare pale yellow, coarse, subrounded quartz. |
| 1580-590 | 50 | <u>MARL</u> - as above with rare quartz grains. |
| | 50 | <u>CALCARENITE</u> - as above with rare quartz grains. |
| 1590-600 | 50 | <u>MARL</u> - as above but strongly carbonaceous with rare, clear subangular, medium-grained quartz. |
| | 50 | <u>CALCARENITE</u> - as above but strongly carbonaceous with rare, clear subangular, medium-grained quartz. |

| <u>Depth Interval</u> | <u>%</u> | <u>Lithologic Descriptions.</u> |
|-----------------------|----------|---|
| 1600-610 | 30 | <u>MARL</u> - as above with abundant fossil fragments. |
| | 70 | <u>CALCARENITE</u> - as above with abundant fossil fragments. |
| 1610-620 | 30 | <u>MARL</u> - as above. |
| | 70 | <u>CALCARENITE</u> - as above. |
| 1620-630 | 20 | <u>MARL</u> - as above. |
| | 80 | <u>CALCARENITE</u> - as above. |
| 1630-640 | 20 | <u>MARL</u> - bluish grey, soft, strongly argillaceous, silty in part. |
| | 80 | <u>CALCARENITE</u> - grey, pale grey to colourless with abundant fossil fragments, dominantly forams and other skeletal remains. |
| 1640-650 | 20 | <u>MARL</u> - as above. |
| | 80 | <u>CALCARENITE</u> - as above. |
| 1650-660 | 30 | <u>MARL</u> - as above. |
| | 70 | <u>CALCARENITE</u> - as above. |
| 1660-670 | 25 | <u>MARL</u> - as above. |
| | 75 | <u>CALCARENITE</u> - as above, with rare coarse, rounded to subrounded quartz grains, often ferruginised, abundant forams and gastropods. |
| 1670-680 | 25 | <u>MARL</u> - as above. |
| | 75 | <u>CALCARENITE</u> - as above. |
| 1680-690 | 40 | <u>MARL</u> - as above. |
| | 60 | <u>CALCARENITE</u> - as above, with occasional crystalline limestone and rare quartz grains. |
| 1690-700 | 30 | <u>MARL</u> - as above. |
| | 70 | <u>CALCARENITE</u> - as above. |
| 1700-710 | 30 | <u>MARL</u> - as above. |
| | 70 | <u>CALCARENITE</u> - as above. |
| 1710-720 | 30 | <u>MARL</u> - as above. |
| | 70 | <u>CALCARENITE</u> - as above. |
| 1720-730 | 40 | <u>MARL</u> - as above. |
| | 60 | <u>CALCARENITE</u> - as above. |
| 1730-740 | 50 | <u>MARL</u> - bluish grey, silty in part, soft, lumps of greyish clay. |
| | 50 | <u>CALCARENITE</u> - pale grey to grey, silty in part, strongly calcareous, fossil fragments throughout. Rare loose quartz. |
| 1740-750 | 50 | <u>MARL</u> - as above. |
| | 50 | <u>CALCARENITE</u> - as above. |
| 1750-760 | 50 | <u>MARL</u> - bluish grey, sticky, together with lumps of dark grey clay. |
| | 50 | <u>CALCARENITE</u> - grey to pale grey, occasionally strongly siliceous, strongly calcareous, abundant skeletal fragments, often with dark green, black lithical inclusions also embedded glauconite grains (green). Rare loose quartz and crystalline limestone. |

| <u>Depth</u> <u>Interval</u> | <u>ft</u> | <u>Lithologic Descriptions.</u> |
|---------------------------------|-----------|---|
| 1760-770 | 50 | <u>MARL</u> - as above. |
| | 50 | <u>CALCARENITE</u> - as above. |
| 1770-780 | 60 | <u>MARL</u> - pale grey, trace brown-grey, moderately soft, sandy, as above. |
| | 40 | <u>CALCARENITE</u> - as above, sandy, siliceous in part. |
| 1780-790 | 40 | <u>MARL</u> - grey, moderately firm, blocky, slightly sandy and glauconitic, as above. |
| | 60 | <u>CALCARENITE</u> - light brown-grey, moderately hard, generally marly, strongly calcareous, consists of sand and silt sized quartz and calcareous fossil fragments, trace glauconitic and carbonaceous specks, matrix marly and limy. |
| 1790-800 | 40 | <u>MARL</u> - as above. |
| | 60 | <u>CALCARENITE</u> - as above. |
| 1800-805 | 40 | <u>MARL</u> - as above, medium grey, moderately firm, blocky, silty. |
| | 50 | <u>CALCARENITE</u> - as above, sandy. |
| | 10 | <u>LIMESTONE</u> - light brown, fine crystalline, hard and brittle. |
| 1805 | | 9½" CASING POINT. |

| <u>Depth Interval</u> | <u>%</u> | <u>Lithologic Description</u> |
|-----------------------|----------|--|
| 1805-810 | 10 | <u>SAND</u> - quartz, coarse grains and pebble fragments, white and clear quartz. Grains subrounded. |
| | 40 | <u>CALCARENITE</u> - grey, moderately soft, sandy and containing abundant fossil detritus in a marly/silty matrix. Trace glauconite. |
| | 40 | <u>MARL</u> - grey, moderately soft, silty and clayey, grades to calcarenite. |
| | 10 | <u>LIMESTONE</u> - light grey, finely crystalline, moderately hard, sandy. Tight with no shows. |
| 1810-820 | 90 | <u>LIMESTONE</u> - white, light brown, some light grey, moderately soft and chalky to moderately hard crystalline. Slightly sandy, trace fossil material. Generally finely crystalline, tight. Trace glauconite. No shows. |
| | 10 | <u>MARL</u> - grey, moderately soft, silty, as above. |
| 1820-830 | 85 | <u>LIMESTONE</u> - as above, sandy and silty. Tight. No shows. |
| | 15 | <u>MARL</u> - as above, sandy. |
| 1830-840 | 95 | <u>LIMESTONE</u> - buff, light brown, as above, finely sandy and silty, grading to calcisiltite. Trace black grains and glauconite. Tight with no shows. |
| | 5 | <u>MARL</u> - as above. |
| 1840-850 | 90 | <u>LIMESTONE</u> - as above, sandy, glauconitic. |
| | 10 | <u>MARL</u> - as above, silty, moderately firm. |
| 1850-860 | 100 | <u>LIMESTONE</u> - light brown, buff, moderately hard, sandy and silty, trace glauconite, trace of fossils, generally as above. Tight. No shows. |
| | Tr. | <u>MARL</u> - as above. |
| 1860-870 | 80 | <u>LIMESTONE</u> - buff, white, light brown-grey, moderately firm, silty, as above. |
| | 20 | <u>MARL</u> - green-grey and grey, moderately soft. Grades to calcareous clay in part. Glauconitic. |
| 1870-880 | 60 | <u>LIMESTONE</u> - buff, light brown-white, moderately firm, brittle, sandy, finely crystalline, slightly glauconitic. Tight. No shows. Trace fossil fragments (forams, corals). |
| | 40 | <u>MARL</u> - medium grey, silty, sandy, moderately soft, grades to clay in part. Trace glauconite. |
| 1880-890 | 50 | <u>LIMESTONE</u> - buff, as above. |
| | 50 | <u>CALCARENITE</u> - richly fossiliferous, medium grey, moderately soft, silty, marly and grading to marl. Trace pyrite, glauconite. |
| 1890-900 | 10 | <u>LIMESTONE</u> - buff, as above, silty. |
| | 40 | <u>MARL</u> - light to medium grey, silty, moderately firm to moderately soft, as above. |
| | 50 | <u>MUDSTONE</u> - light green-grey and grey, moderately soft, blocky, silty, trace of fossils, slightly to strongly calcareous and grades to marl. |

| <u>Depth</u> <u>Interval</u> | <u>z</u> | <u>Lithologic Description</u> |
|---------------------------------|----------|---|
| 1900-910 | 30 | <u>LIMESTONE</u> - buff, light brown, as above, slightly oolitic, slightly glauconitic, fossiliferous. |
| | 40 | <u>MARL</u> - grey, as above. |
| | 30 | <u>MUDSTONE</u> - as above, silty and calcareous. |
| 1910-920 | 60 | <u>LIMESTONE</u> - white, light grey and buff, moderately firm, chalky and finely crystalline, silty, fossiliferous, tight. No shows. |
| | 30 | <u>MARL</u> - medium and light grey, as above. Trace glauconite. |
| | 10 | <u>MUDSTONE</u> - as above. |
| 1920-930 | 60 | <u>LIMESTONE</u> - as above. |
| | 30 | <u>MARL</u> - as above. |
| | 10 | <u>MUDSTONE</u> - as above. |
| 1930-940 | 50 | <u>LIMESTONE</u> - light brown, grey, silty, as above. |
| | 40 | <u>MARL</u> - medium grey, slightly glauconitic, as above. |
| | 10 | <u>MUDSTONE</u> - as above. |
| 1940-950 | 60 | <u>LIMESTONE</u> - light brown, light grey, slightly silty and muddy, fossiliferous, as above. |
| | 30 | <u>MARL</u> - light grey, medium grey, silty, clayey, as above. |
| | 10 | <u>MUDSTONE</u> - light green-grey, as above. |
| 1950-960 | 30 | <u>LIMESTONE</u> - white, light brown, light grey, moderately soft to moderately firm, silty, slightly glauconitic grading to marl. Fossiliferous. Tight. No shows. |
| | 50 | <u>MARL</u> - light to medium grey, moderately soft, massive, slightly fossiliferous and glauconitic. Silty. Grades to Mudstone. |
| | 20 | <u>MUDSTONE</u> - medium grey, green-grey, massive, silty, moderately soft. Grades to marl. |
| 1960-970 | 30 | <u>LIMESTONE</u> - as above. |
| | 40 | <u>MARL</u> - as above, fossiliferous. |
| | 30 | <u>MUDSTONE</u> - as above. |
| 1970-980 | 30 | <u>LIMESTONE</u> - as above. |
| | 30 | <u>MARL</u> - as above. |
| | 40 | <u>MUDSTONE</u> - as above. |
| 1980-990 | 20 | <u>LIMESTONE</u> - white, light brown, moderately firm, finely crystalline, as above. |
| | 30 | <u>MARL</u> - medium grey, as above. |
| | 50 | <u>MUDSTONE</u> - green-grey and grey, as above. |
| 1990-2000 | 30 | <u>MARL</u> - as above, trace pyrite. |
| | 30 | <u>LIMESTONE</u> - as above. |
| | 40 | <u>MUDSTONE</u> - as above, silty. |
| 2000-010 | 60 | <u>LIMESTONE</u> - as above, white, slightly silty and sandy. |
| | 15 | <u>MARL</u> - medium grey, as above, trace glauconite. |
| | 25 | <u>MUDSTONE</u> - as above, soft, slightly fossiliferous and calcareous. |

| <u>Depth Interval</u> | <u>z</u> | <u>Lithologic Description</u> |
|-----------------------|----------|---|
| 2010-020 | 30 | <u>LIMESTONE</u> - as above. |
| | 30 | <u>MARL</u> - as above. |
| | 40 | <u>MUDSTONE</u> - as above, fossiliferous. |
| 2020-030 | 10 | <u>LIMESTONE</u> - as above, light brown and white, finely crystalline. |
| | 90 | <u>MUDSTONE</u> - light green to grey, moderately soft, slightly calcareous, as above. |
| 2030-040 | 10 | <u>LIMESTONE</u> - as above. |
| | 10 | <u>MARL</u> - as above. |
| | 80 | <u>MUDSTONE</u> - as above, light green to grey. |
| 2040-050 | 20 | <u>LIMESTONE</u> - buff and light grey, moderately hard, finely crystalline, sandy, slightly fossiliferous. Tight with no shows. |
| | 10 | <u>MARL</u> - as above, grey, silty. |
| | 70 | <u>MUDSTONE</u> - medium grey, green-grey, soft and massive, silty, calcareous, slightly fossiliferous. |
| 2050-060 | 100 | <u>MUDSTONE</u> - light green-grey and grey, soft and blocky, as above. |
| | Tr. | <u>LIMESTONE</u> and <u>MARL</u> , as above. |
| 2060-070 | 20 | <u>LIMESTONE</u> - white and light grey, buff, richly fossiliferous, as above. |
| | 80 | <u>MUDSTONE</u> - light green-grey, moderately soft, blocky, calcareous, silty, as above. |
| 2070-080 | 10 | <u>LIMESTONE</u> - white, mainly fossil remnants. |
| | 10 | <u>CALCARENITE</u> - pale buff brown, hard, very fine-grained, tight, occasional glauconite. In some cuttings, has large tabular zeolites or decomposed feldspar. |
| | 5 | <u>QUARTZ</u> grains, medium-grained. |
| | 75 | <u>MUDSTONE</u> - mainly pale green, weak, moderately calcareous, but also as pale buff-brown, silty. |
| 2080-090 | 5 | <u>LIMESTONE</u> - white, mainly as fossil fragments. |
| | 5 | <u>QUARTZ</u> grains, colourless, fine to medium-grained. |
| | 90 | <u>MUDSTONE</u> - interbedded green and grey, as above, with some white and massive, blocky mudstone, highly calcareous and firm to moderately hard (about 10%). |
| 2090-100 | 10 | <u>LIMESTONE</u> - about half as massive white limestone and half as coralline material. |
| | 10 | <u>SILTSTONE</u> - brown, calcareous, soft. |
| | 80 | <u>MUDSTONE</u> - pale grey-green, clean, soft, as above, and white-grey, silty, as above. |
| 2100-110 | 10 | <u>SILTSTONE</u> - buff brown, soft, slightly calcareous matrix. |
| | 85 | <u>MUDSTONE</u> - very pale grey, very soft, highly calcareous showing pronounced fissility, becoming shaley. |
| | 5 | <u>FOSSIL FRAGMENTS</u> and limestone particles. |

| <u>Depth Interval</u> | <u>%</u> | <u>Lithologic Description</u> |
|-----------------------|----------|---|
| 2110-120 | 10 | <u>LIMESTONE</u> and <u>FOSSIL FRAGMENTS</u> - as above. |
| | 5 | <u>SILTSTONE</u> - brown, soft, as above. |
| | 85 | <u>MUDSTONE</u> - mixture of very pale green, as earlier described, very pale grey, fissile, tending to shaley and massive, pale grey, silty mudstone - about equal of each. All are soft and very calcareous. |
| 2120-130 | 10 | <u>LIMESTONE</u> - white, massive. |
| | 80 | <u>MUDSTONE</u> - mixture of pale grey-green, pale grey, fissile, creamy and massive. All are soft and very calcareous. |
| | 10 | <u>SILTSTONE</u> - brown, silty, firm to hard. |
| 2130-140 | 5 | <u>LIMESTONE</u> - mainly as <u>fossil remains</u> . |
| | 5 | <u>SILTSTONE</u> - brown, speckled, firm to hard. |
| | 5 | <u>DOLOMITE</u> - pale buff-brown, firm to hard, finely granular. |
| | 85 | <u>MUDSTONE</u> - mixture of pale, green and pale grey, blocky to sub-fissile, occasional glauconite. |
| 2140-150 | 5 | <u>LIMESTONE</u> - mainly as <u>fossil fragments</u> . |
| | 5 | <u>DOLOMITE</u> - pale buff-brown, hard. |
| | 90 | <u>MUDSTONE</u> - mainly as pale green, clean, blocky and calcareous, but also as pale grey, and about 10% as brown, moderately firm, silty. |
| 2150-160 | 5 | <u>LIMESTONE</u> - mainly as fossil material. |
| | 5 | <u>DOLOMITE</u> - as above, resembles very fine-grained calcarenite. |
| | 90 | <u>MUDSTONE</u> - mainly pale green, with pale grey, as above, some quartz grains, medium size, and occasional glauconite. |
| 2160-170 | 5 | <u>LIMESTONE</u> - white, massive, at times argillaceous, granular. |
| | 5 | <u>FOSSIL FRAGMENTS</u> - forams and corals. |
| | 5 | <u>FERRUGINOUS</u> , fine-grained, flakey material, at times with black surface resembling coal. |
| | 85 | <u>MUDSTONE</u> - mainly pale green but some buff coloured, silty, all soft. At times highly glauconitic, especially in the pale grey, silty mudstone. Highly calcareous. About 10% is white mudstone containing calcite grains. |
| | Tr. | Quartz grains. |
| 2170-180 | 5 | <u>FOSSIL MATERIAL</u> - coralline. |
| | Tr. | <u>CALCARENITE</u> - fine-grained, sandy, with calcareous matrix, moderately hard, pale brown. |
| | 95 | <u>MUDSTONE</u> - mostly pale green, soft with fossil material, highly calcareous, some 10% is brown, quite silty, firm, some 20% is white, firm and silty. |
| 2180-190 | 5 | <u>FOSSIL FRAGMENTS</u> - as above. |
| | 5 | <u>LIMESTONE</u> - argillaceous matrix to fossiliferous material. |
| | 5 | <u>DOLOMITE</u> - pale, buff colour, moderate reaction to acid. |
| | 10 | <u>SILTSTONE</u> - close to mudstone, white and pale grey, soft, pale grey material is glauconitic, highly calcareous. Also some pale brown, speckled siltstone-mudstone, not calcareous. Grey siltstone is occasionally glauconitic. |
| | 75 | <u>MUDSTONE</u> - pale green and grey, as above. |

| <u>Depth Interval</u> | <u>%</u> | <u>Lithologic Descriptions</u> |
|-----------------------|----------|--|
| 2190-200 | 5 | <u>FOSSIL FRAGMENTS</u> - as above. |
| | 5 | <u>DOLOMITE</u> - pale brown, finely granular. |
| | 10 | <u>SILTSTONE</u> - pale brown, firm, non-calcareous, speckled appearance. |
| | 80 | <u>MUDSTONE</u> - pale grey and pale green, occasional glauconite. Soft, blocky. |
| 2200-210 | 5 | <u>DOLOMITE</u> - pale buff-grey, finely granular, hard. |
| | 5 | <u>FOSSIL FRAGMENTS</u> - as above. |
| | 10 | <u>SILTSTONE</u> - pale grey and soft, to buff brown and firm. Brown siltstone is speckled with dark brown grains. |
| | 80 | <u>MUDSTONE</u> - pale green to pale grey, calcareous, as above. Rare glauconite. |
| 2210-220 | 30 | <u>SILTSTONE</u> - pale grey, soft, occasional glauconite, glauconitic siltstone is moderately calcitic. |
| | 70 | <u>MUDSTONE</u> - pale green and pale grey, highly calcitic, occasional glauconite. |
| | Tr. | <u>FOSSIL FRAGMENTS</u> - as above. |
| 2220-230 | Tr. | <u>CALCARENITE</u> - pale buff brown to white, very fine-grained with calcareous matrix. |
| | 20 | <u>SILTSTONE</u> - buff-brown colour, non-calcareous, occasional glauconite, blocky, fracturing, soft. |
| | 80 | <u>MUDSTONE</u> - grey and pale green, soft, highly calcareous. |
| | Tr. | <u>FOSSIL FRAGMENTS</u> - as above. |
| 2230-240 | Tr. | <u>CALCARENITE</u> - as above. |
| | Tr. | <u>FOSSIL FRAGMENTS</u> - (brachiopods, etc.) |
| | 20 | <u>SILTSTONE</u> - uniform brown with occasional glauconite, soft to moderately hard. |
| | 15 | <u>CALCILUTITE</u> ? - fine-grained, white, moderately hard, richly calcareous material. |
| | 65 | <u>MUDSTONE</u> - pale green and grey, as above. |
| 2240-250 | 5 | <u>CALCITE</u> - and fossil fragments. |
| | 20 | <u>SILTSTONE</u> - pale brown, soft to moderately hard, occasional glauconite, blocky, fractures, moderately to strongly calcareous. |
| | 60 | <u>MUDSTONE</u> - pale green and grey, etc., as above. |
| | 15 | <u>CALCILUTITE</u> - white, soft, strongly calcareous, very fine-grained. |
| 2250-260 | 20 | <u>SILTSTONE</u> - fine-grained (very), brown, soft, speckled, at times strongly glauconitic, strongly calcitic. |
| | 10 | <u>CALCILUTITE</u> - white, very soft, very fine-grained, argillaceous appearance, strongly calcitic, strongly glauconitic at times. |
| | 70 | <u>MUDSTONE</u> - very pale green and pale grey, soft, blocky fracture, often silty, very calcareous. At times glauconitic. |

| <u>Depth Interval</u> | <u>%</u> | <u>Lithologic Descriptions</u> |
|-----------------------|----------|---|
| 2260-270 | Tr. | <u>SANDSTONE</u> - hard, buff coloured, poorly sorted, contains clear quartz, well cemented, no porosity, moderately calcareous. |
| | 20 | <u>SILTSTONE</u> - very fine-grained, brown, slightly calcareous, soft, occasional glauconite. |
| | 10 | <u>CALCILUTITE</u> - at times granular, is white, soft, often strongly glauconitic, might be described as a calcic siltstone. |
| | 70 | <u>MUDSTONE</u> - pale grey and grey-green, soft, as above. |
| 2270-280 | 10 | <u>SAND</u> - coarse loose white and grey subrounded quartz. Common loose glauconite pebbles. Both quartz and glauconite pebbles probably floaters in mudstone. |
| | 10 | <u>SILTSTONE</u> - light brown, soft and moderately friable, sandy, calcareous and grading to silty limestone. Pyritic and glauconitic. |
| | 10 | <u>LIMESTONE</u> - white and buff crystalline, fine-grained, silty and soft, fossiliferous and glauconitic. |
| | 70 | <u>MUDSTONE</u> - medium and light grey, some green-grey, soft, massive, calcareous, glauconitic. |
| 2280-290 | 10 | <u>LIMESTONE</u> - white and buff, as above. |
| | 80 | <u>MUDSTONE</u> - light grey and brown-grey, as above. |
| | 10 | <u>SILTSTONE</u> - grey, light brown, calcareous, sandy, glauconitic, as above. |
| 2290-300 | 10 | <u>SANDSTONE</u> - loose quartz, as above, up to pebble size, dominantly white and grey quartz, some clear. Also glauconite nodules. |
| | 20 | <u>SILTSTONE</u> - light grey and buff, moderately soft, blocky, sandy, calcareous and grades to silty limestone. Pyritic and glauconitic. |
| | 60 | <u>MUDSTONE</u> - light grey and brown-grey to green-grey, soft, blocky, calcareous and fossiliferous, as above. |
| | 10 | <u>LIMESTONE</u> - forams, bryzoa, some shells. Minor silty, brown crystalline, as above. |
| | | |
| 2300-310 | 20 | <u>SANDSTONE</u> - quartz grains and abundant glauconite, as above. Probably loose grains and nodules in mudstone. |
| | 80 | <u>MUDSTONE</u> - light grey-brown, glauconitic, soft, as above. |
| 2310-320 | 10 | <u>SANDSTONE</u> - as above, glauconitic. |
| | 10 | <u>SILTSTONE</u> - light brown, moderately soft, friable, calcareous, slightly glauconitic, as above. |
| | 80 | <u>MUDSTONE</u> - light brown and green-grey, moderately soft, blocky, fossiliferous, silty, moderately to strongly calcareous and grading to marl. |
| 2320-330 | 20 | <u>SANDSTONE</u> - as above, glauconitic.) |
| | 20 | <u>SILTSTONE</u> - as above, pyritic. } Abundant glauconite. |
| | 60 | <u>MUDSTONE</u> - as above, glauconitic and fossiliferous. |

| <u>Depth Interval</u> | <u>%</u> | <u>Lithologic Description</u> |
|-----------------------|----------|--|
| 2330-340 | Tr. | <u>SANDSTONE</u> - quartz and glauconite, as above. |
| | 20 | <u>SILTSTONE</u> - brown, dolomitic, moderately firm, friable, slightly glauconitic. |
| | 80 | <u>MUDSTONE</u> - green, brown-grey and grey, as above, fossiliferous and glauconitic. |
| 2340-350 | 40 | <u>SANDSTONE</u> - light brown, very fine-grained and fine-grained, dolomitic, moderately firm, friable, grades to siltstone. Glauconitic. Tight. Dull gold fluorescence, weak cut in CCl ₄ . |
| | 60 | <u>MUDSTONE</u> - green-grey and grey-brown, as above, soft, blocky, silty, fossiliferous and glauconitic. |
| 2350-360 | 40 | <u>SANDSTONE</u> - light brown-grey, glauconitic, very fine and fine-grained, coarse glauconite and quartz floaters. Mostly loose grained, some fluorescence and cut as above. |
| | 20 | <u>SILTSTONE</u> - light brown-grey, soft, muddy, calcareous and grades to limestone. |
| | 40 | <u>MUDSTONE</u> - as above, green-grey and brown-grey, soft and blocky, glauconitic and pyritic. |
| 2360-370 | 20 | <u>SAND</u> - very coarse, loose, fair sorted, clean, clear and white quartz. Should have excellent porosity. No shows. |
| | 80 | <u>COAL</u> - brown, soft, lignitic, dul and shaley. |
| 2370-380 | 10 | <u>MARL</u> - very pale green and creamy white, at times silty and glauconitic, soft, and moderately to strongly calcareous, blocky. |
| | 90 | <u>COAL</u> - brown, soft to firm, lignitic, as above. |
| 2380-390 | 5 | <u>MARL</u> - as above. |
| | 5 | <u>SAND</u> - quartz coarse, loose, fair sorted, clean, clear and white, rounded. |
| | 90 | <u>COAL</u> - brown, as above. |
| 2390-400 | Tr. | <u>SAND</u> - as above. |
| | 100 | <u>COAL</u> - as above. |
| 2400-410 | 20 | <u>SAND</u> - medium grain size, clear quartz, rounded to subrounded, free grains. |
| | 5 | <u>SILTSTONE</u> - dark brown, with lignite inclusions, soft. |
| | 20 | <u>MARL</u> - pale green and cream, blocky, soft, occasionally with glauconite. |
| | 55 | <u>COAL</u> - brown, etc., as above. |
| 2410-420 | 30 | <u>SAND</u> - coarse-grained, clear quartz, rounded, medium sorted. |
| | 70 | <u>COAL</u> - brown, as above. |
| 2420-430 | 50 | <u>SAND</u> - clear quartz, coarse-grained, well sorted, rounded. |
| | 50 | <u>COAL</u> - brown, as above. |
| 2430-440 | 5 | <u>SAND</u> - medium to coarse-grained, as above. |
| | 95 | <u>COAL</u> - brown, as above. |

| <u>Depth Interval</u> | <u>%</u> | <u>Lithologic Descriptions</u> |
|-----------------------|----------|--|
| 2440-450 | 50 | <u>SAND</u> - clean quartz, medium-grained, subrounded, medium sorted. |
| | 50 | <u>COAL</u> - brown, as above. |
| 2450-460 | 50 | <u>SAND</u> - clean quartz, medium-grained, subrounded, well sorted. |
| | 50 | <u>COAL</u> - as above. |
| 2460-470 | 95 | <u>SAND</u> - medium to coarse-grained, clean quartz, moderately to well rounded, medium sorted. No matrix - quite clean and uncemented. |
| | 5 | <u>COAL</u> - as above. |
| 2470-480 | 95 | <u>SAND</u> - medium to coarse-grained, subrounded, poor to medium sorting, clean, uncemented, no matrix. |
| | 5 | <u>COAL</u> - as above. |
| 2480-490 | 95 | <u>SAND</u> - medium-grained, rounded, well sorted, clean, as above. |
| | 5 | <u>COAL</u> - as above. |
| 2490-500 | 80 | <u>SAND</u> - clean, quartzose, medium-grain size, subangular, well sorted. |
| | 20 | <u>COAL</u> - as above. |
| 2500-510 | 100 | <u>SAND</u> - quartzose, clean, uncemented, subangular, medium grain size, well sorted. |
| | Tr. | <u>COAL</u> - black, firm to hard, dull. |
| 2510-520 | 100 | <u>SAND</u> - clean, as above. Coarse-grained, subangular, well sorted. |
| | Tr. | <u>COAL</u> - brown and black, dull. |
| 2520-530 | Tr. | <u>SAND</u> - medium-grained, free quartz, angular. |
| | 95 | <u>MARL</u> - pale green and blocky, also white, silty and glauconitic - may all be cavings. |
| | 5 | <u>COAL</u> - dull brown-black and soft. |
| 2530-540 | 80 | <u>MARL</u> - possibly cavings? Occasional coral fragments, marl similar to above. |
| | 20 | <u>COAL</u> - as above. |
| | Tr. | <u>SAND</u> - medium grain size, subrounded. |
| 2540-550 | 30 | <u>SAND</u> - clean, clear quartz, medium to coarse-grained, subrounded, poorly sorted. |
| | 40 | <u>MARL</u> - as above, possibly cavings. |
| | 30 | <u>COAL</u> - dark brown-black, as above. |
| 2550-560 | 70 | <u>SAND</u> - clean, clear quartz, medium-grained, subangular to subrounded, well sorted. |
| | 20 | <u>MARL</u> - mainly pale green, also white, silty, glauconitic, possibly cavings. |
| | 10 | <u>COAL</u> - as above. |
| 2560-570 | 100 | <u>SAND</u> - clean quartz, medium to coarse-grained, subangular, medium to well sorted. |
| | Tr. | <u>COAL</u> - as above. |

| <u>Depth Interval</u> | <u>%</u> | <u>Lithologic Descriptions</u> |
|-----------------------|----------|--|
| 2570-580 | 100 | <u>SAND</u> - clean quartz, medium-grained, angular, medium to well sorted. |
| | Tr. | <u>MARL</u> - cavings? as above. |
| | Tr. | <u>COAL</u> - as above. |
| 2580-590 | 90 | <u>SAND</u> - clean quartz, medium-grained, subangular, well sorted. |
| | 10 | <u>MARL</u> - as above, cavings? |
| | Tr. | <u>COAL</u> - as above. |
| 2590-600 | 90 | <u>SAND</u> - fine to medium-grained to coarse, subangular to subrounded, poorly sorted. |
| | 5 | <u>MARL</u> - as above - cavings? |
| | 5 | <u>COAL</u> - as above. |
| 2600-610 | 100 | <u>SAND</u> - clean quartzose, medium to coarse grain size, subangular, poor to fair sorting. |
| 2610-620 | 100 | <u>SAND</u> - as above, but medium grain size and well sorted. |
| 2620-630 | 100 | <u>SAND</u> - medium to coarse to very coarse-grained, loose, clean, subrounded, fair sorted quartz - clear and white, minor grey volcanic grains. Minor matrix of brown lignitic clays, excellent porosity. No shows. |
| 2630-640 | 100 | <u>SAND</u> - as above, dominantly medium to coarse-grained loose quartz. Excellent porosity. No shows. |
| 2640-650 | 100 | <u>SAND</u> - as above, coarse loose quartz. |
| 2650-660 | 100 | <u>SAND</u> - loose, clean, medium to coarse-grained quartz, as above. Very common fine pyrite dusting on quartz grains. |
| 2660-670 | 100 | <u>SAND</u> - loose, medium to coarse-grained quartz, as above. Fair sorted and subrounded, as above with fine pyrite dusting. |
| 2670-680 | 100 | <u>SAND</u> - loose quartz, as above, less pyritic. Trace of brown coal. |
| 2680-690 | 95 | <u>SAND</u> - loose, clean, subrounded, medium to coarse-grained and very coarse-grained quartz and minor grey volcanic and quartzite grains. Excellent porosity. No shows. |
| | 5 | <u>COAL</u> - brown, lignitic, shaley, soft, dull. |
| 2690-700 | 100 | <u>SAND</u> - loose, clean, coarse-grained and very coarse-grained, white and clear, subangular and subrounded quartz, minor grey lithics. Some medium-grained. |
| 2700-710 | 100 | <u>SAND</u> - as above, loose, medium to coarse-grained and very coarse-grained quartz. |
| 2710-720 | 100 | <u>SAND</u> - as above, loose clean quartz. No shows. |

| <u>Depth Interval</u> | <u>%</u> | <u>Lithologic Descriptions</u> |
|-----------------------|----------|---|
| 2720-730 | 100 | <u>SAND</u> - as above. Trace lignitic coal. |
| 2730-740 | 100 | <u>SAND</u> - as above, loose, clean medium to very coarse-grained quartz and lithics. Excellent porosity. No shows. |
| 2740-750 | 100 | <u>SAND</u> - loose, clean, medium to very coarse-grained, subangular to subrounded, dominantly of clear and white quartz, very minor light brown and dark grey lithic grains. No cement. Excellent porosity. No shows. |
| 2750-760 | 100 | <u>SAND</u> - loose, clean, medium to very coarse-grained quartz, as above. Trace of lignitic coal. |
| 2760-770 | 100 | <u>SAND</u> - loose, clean sand, as above. |
| 2770-780 | 100 | <u>SAND</u> - loose, clean, coarse quartz sand, as above. |
| 2780-790 | 100 | <u>SAND</u> - loose, clean quartz, as above. |
| 2790-800 | 100 | <u>SAND</u> - loose, clean, medium to very coarse-grained quartz sand, as above. Excellent porosity. No shows. Trace of lignitic coal, as above. |
| 2800-810 | 100 | <u>SAND</u> - loose, clean quartz, as above - except that it is dominantly medium and coarse-grained with less very coarse-grained. No shows. Excellent porosity. |
| 2810-820 | 100 | <u>SAND</u> - loose, clean quartz, as above. Trace coal, as above. |
| 2820-830 | 100 | <u>SAND</u> - loose, clean quartz, as above. |
| 2830-840 | 60 | <u>SAND</u> - loose, clean quartz, medium to very coarse-grained and highly porous, as above. No shows. |
| | 20 | <u>CLAY</u> - brown, soft, lignitic and grading to coal. |
| | 20 | <u>COAL</u> - soft, brown, shaley. |
| 2840-850 | 20 | <u>SAND</u> - as above. |
| | 20 | <u>SILTSTONE</u> - brown, moderately soft, shaley and coally. Grades to shale in part. |
| | 60 | <u>COAL</u> - soft brown, silty and shaley and grades to shale. |
| 2850-860 | 10 | <u>SAND</u> - as above. |
| | 20 | <u>SILTSTONE</u> - as above. |
| | 20 | <u>SHALE</u> - brown, silty and grades to siltstone. |
| | 50 | <u>COAL</u> - brown, soft, lignitic. |
| 2860-870 | 20 | <u>SILTSTONE</u> - moderately soft, medium brown, blocky, lignitic. |
| | 80 | <u>COAL</u> - dark brown, grading to very low grade black, moderately hard, some angular fragments. |
| 2870-880 | 25 | <u>SAND</u> - clean quartz, medium-grained, subangular, well sorted. |
| | 25 | <u>SILTSTONE</u> - medium brown, lignitic, as above. |
| | 25 | <u>MARL</u> - pale green, possibly cavings. |
| | 25 | <u>COAL</u> - as above. |

| <u>Depth Interval</u> | <u>ft</u> | <u>Lithologic Descriptions</u> |
|-----------------------|-----------|---|
| 2880-890 | 70 | <u>SAND</u> - clean quartz, fine to medium-grained, subangular to subrounded, poorly sorted. |
| | 25 | <u>MARL</u> - as above. |
| | 5 | <u>COAL</u> - as above. |
| 2890-900 | 60 | <u>SAND</u> - as above. |
| | 20 | <u>MARL</u> - as above. |
| | 20 | <u>SILTSTONE</u> - medium brown, lignitic, blocky, soft. |
| 2900-910 | 5 | <u>SAND</u> - clean quartz, medium to coarse-grained, subangular to subrounded, medium sorting. |
| | 5 | <u>SILTSTONE</u> - pale brown, moderately hard, blocky. |
| | 90 | <u>COAL</u> - brown, dull, very silty, firm to hard, blocky. |
| 2910-920 | Tr. | <u>SAND</u> - as above. |
| | Tr. | <u>SILTSTONE</u> - as above. |
| | 100 | <u>COAL</u> - as above. |
| 2920-930 | Tr. | <u>SAND</u> - coarse, subrounded, clean quartz. |
| | 5 | <u>SILTSTONE</u> - pale brown, firm, blocky. |
| | 15 | <u>SILTSTONE</u> - dark brown, lignitic, grades into brown coal. |
| | 80 | <u>COAL</u> - brown, as above. |
| 2930-940 | 30 | <u>SAND</u> - clean quartz, fine to coarse-grained, very poorly sorted, subangular. |
| | 10 | <u>SILTSTONE</u> - pale brown, blocky, micaceous, at times dark brown, lignitic, with thin brown coal bands. |
| | 10 | <u>MARL</u> - white and pale green, possibly cavings. |
| | 50 | <u>COAL</u> - brown and black (similar to oil shale? - concordal fractures), firm. |
| 2940-950 | 10 | <u>SAND</u> - clean, white and colourless quartz, medium grain size, well sorted, angular. |
| | 5 | <u>SILTSTONE</u> - pale brown, with some sandy grains, and also dark brown, lignitic, verging into brown coal. |
| | 85 | <u>COAL</u> - brown, irregular, blocky. |
| 2950-960 | Tr. | <u>SAND</u> - as above, medium-grained and well sorted. |
| | 100 | <u>COAL</u> - brown, as above. |
| 2960-970 | Tr. | <u>SAND</u> - as above. |
| | 100 | <u>COAL</u> - brown, as above. |
| 2970-980 | 10. | <u>SAND</u> - fine to medium-grained, clean quartz. |
| | 5 | <u>SILTSTONE</u> - medium buff brown, blocky, clean soft. |
| | 15 | <u>MARL</u> - pale green and white, silty, may be cavings. |
| | 70 | <u>COAL</u> - brown and also black - similar to oil shale, about 15% shaley material. |
| 2980-990 | 100 | <u>COAL</u> - brown, as above, but about 10% is black, dull, hard and sublaminated - oil shale? |
| 2990-3000 | 5 | <u>SAND</u> - medium to fine to coarse-grained, angular. |
| | 5 | <u>SANDSTONE</u> - white, very fine-grained, well sorted, clean quartz grains, scattered glauconite, hard, mildly calcareous. |
| | 90 | <u>COAL</u> - as above, brown and some black. |

| <u>Depth Interval</u> | <u>%</u> | <u>Lithologic Descriptions</u> |
|-----------------------|----------|---|
| 3000-010 | 100 | <u>COAL</u> - brown lignitic, soft, dull and shaley. Trace of loose quartz sand, coarse-grained. |
| 3010-020 | 30 | <u>SAND</u> - medium and coarse-grained, loose, clean quartz, minor green and grey lithics, subrounded to subangular. No matrix. Excellent porosity, No shows. |
| | 30 | <u>SILTSTONE</u> - brown, soft, shaley and lignitic. |
| | 40 | <u>COAL</u> - lignitic, as above. |
| 3020-030 | 70 | <u>SAND</u> - loose, medium and coarse quartz, as above. No shows. |
| | 10 | <u>SILTSTONE</u> - as above. |
| | 20 | <u>COAL</u> - lignitic, as above. |
| 3030-040 | 60 | <u>SAND</u> - as above, no shows. |
| | 10 | <u>SILTSTONE</u> - light and dark brown, as above, calcareous and lignitic. Some dolomitic. |
| | 30 | <u>COAL</u> - lignitic, as above. |
| 3040-050 | 50 | <u>SAND</u> - as above, Trace pyritic dusting and aggregates. |
| | 10 | <u>SILTSTONE</u> - as above. |
| | 40 | <u>COAL</u> - as above. |
| 3050-060 | 70 | <u>SANDSTONE</u> - pale brown, very fine-grained with minor medium and coarse quartz. Hard and brittle, siliceous and dolomitic. Tight. Traces of cream fluorescence. No cut. (Dolomite fluorescence). |
| | 10 | <u>SILTSTONE</u> - as above. |
| | 20 | <u>COAL</u> - as above. |
| 3060-070 | 10 | <u>SAND</u> - loose, medium to coarse-grained quartz and dolomitic sand, as above. |
| | 90 | <u>COAL</u> - brown, lignitic, shaley, as above. |
| 3070-080 | 10 | <u>SAND</u> - loose, medium to coarse-grained quartz, as above, and very fine to fine-grained, dolomitic, as above. |
| | 90 | <u>COAL</u> - as above, lignitic. |
| 3080-090 | 100 | <u>COAL</u> - lignitic, soft, brown, shaley, as above. |
| | Tr. | <u>SAND</u> - as above. |
| 3090-100 | 80 | <u>SANDSTONE</u> - about 40% loose quartz sand grains and 40% as very fine to fine-grained dolomitic and siliceous light brown, as above. No shows. |
| | 20 | <u>COAL</u> - as above. |
| 3100-110 | 90 | <u>SAND</u> - loose, coarse quartz, medium to coarse-grained, fair sorted, as above. |
| | 10 | <u>COAL</u> - lignitic, as above. |
| 3110-120 | 50 | <u>SANDSTONE</u> - light brown, fine to medium-grained, hard and moderately hard, slightly friable, quartzose, dolomitic, siliceous. Detritals, subangular to subrounded quartz. Matrix silica and dolomite, tight to trace poor porosity. Dolomite fluorescence, no cut. |
| | 10 | <u>SILTSTONE</u> - dark brown to black, moderately firm, blocky, carbonaceous and lignitic, slightly calcareous. |
| | 40 | <u>COAL</u> - lignite, soft, brown to black, as above, shaley. |

| <u>Depth Interval</u> | <u>%</u> | <u>Lithologic Descriptions</u> |
|-----------------------|----------|---|
| 3120-130 | 40 | <u>SAND</u> - loose coarse and medium-grained quartz, as above. |
| | 10 | <u>SILTSTONE</u> - dark brown, as above. |
| | 50 | <u>COAL</u> - black, dark brown, soft, lignitic, as above. |
| 3130-140 | 80 | <u>SAND</u> - coarse, loose clean, well sorted quartz, as above. |
| | 20 | <u>COAL</u> - lignitic, as above. |
| 3140-150 | 90 | <u>SAND</u> - coarse and very coarse-grained loose quartz, some pebbles, as above. |
| | 10 | <u>COAL</u> - lignitic, as above. |
| 3150-160 | 80 | <u>SAND</u> - coarse, clean, loose quartz, medium sorting, angular. |
| | Tr. | <u>SANDSTONE</u> - white, fine-grained quartzose, well cemented, white non-calcitic matrix. Tight, well sorted. |
| | 20 | <u>COAL</u> - mainly dull black, firm, blocky, angular. |
| 3160-170 | 15 | <u>SAND</u> - clean, loose quartz, medium to coarse to very coarse, angular, medium sorting. |
| | 5 | <u>SANDSTONE</u> - medium-grained quartz, very siliceous, very hard, low proportion of matrix, well sorted. |
| | 85 | <u>COAL</u> - brown, uneven, blocky, firm. |
| 3170-180 | 20 | <u>SAND</u> - clean quartz, medium to very coarse-grained, subangular, moderately to poorly sorted. |
| | Tr. | <u>SANDSTONE</u> - fine to medium-grained, quartzose, very hard, siliceous cement, low proportion of matrix. |
| | Tr. | <u>SILTSTONE</u> - brown, as above. |
| | 20 | <u>MARL</u> - pale green - cavings? |
| | 60 | <u>COAL</u> - dull brown to black, firm. |
| 3180-190 | Tr. | <u>SAND</u> - free quartz, medium to coarse-grained. |
| | 5 | <u>SILTSTONE</u> - brown, soft, lignitic, blocky. |
| | 35 | <u>MARL</u> - white, and pale green, soft. |
| | 60 | <u>COAL</u> - mostly dull brown, irregular, blocky, but about 30% is dull black, angular, blocky. |
| 3190-200 | 5 | <u>SAND</u> and fine-grained, siliceous <u>SANDSTONE</u> , as above. |
| | 15 | <u>MARL</u> - as above. |
| | 80 | <u>COAL</u> - as above. |
| 3200-210 | 100 | <u>COAL</u> - as above. |
| 3210-220 | 20 | <u>SAND</u> - clean quartz, coarse, subangular to sub-rounded, well sorted. |
| | Tr. | <u>SANDSTONE</u> - fine-grained, tight, siliceous, as above. |
| | 10 | <u>MARL</u> - pale green - cavings? |
| | 70 | <u>COAL</u> - brown, firm, blocky, crumbly, as above. |
| 3220-230 | 30 | <u>SAND</u> - medium to coarse-grained, loose quartz, subangular to subrounded, moderately to poorly sorted. |
| | 20 | <u>SANDSTONE</u> - medium-grained, quartzose, medium sorting, very hard, siliceous cement, low porosity. |
| | 10 | <u>SILTSTONE</u> - pale buff colour, firm, clean, speckled with a few mafics - some as previous siltstones. |
| | 40 | <u>COAL</u> - brown, as above. |

| <u>Depth Interval</u> | <u>%</u> | <u>Lithologic Descriptions</u> |
|-----------------------|----------|---|
| 3230-240 | 20 | <u>SAND</u> - medium-grained, clean quartz, subangular, medium sorting. |
| | 15 | <u>SILTSTONE</u> - pale brown, as above. |
| | 15 | <u>MARL</u> - as above. |
| | 50 | <u>COAL</u> - brown, as above. |
| | Tr. | <u>SANDSTONE</u> - fine-grained, siliceous, as above, fluorescent. |
| 3240-250 | 20 | <u>SAND</u> - medium-grained quartz, angular, well sorted. |
| | 5 | <u>SANDSTONE</u> - fine-grained, well sorted, buff brown, hard, siliceous cement? - like quartzite. |
| | 10 | <u>SILTSTONE</u> - buff brown, as above. |
| | 10 | <u>MARL</u> - cavings? |
| | 55 | <u>COAL</u> - brown, dull black, as above. |
| 3250-260 | 60 | <u>SAND</u> - clean quartz, well sorted, angular, coarse grain size. |
| | Tr. | <u>SANDSTONE</u> - fine to medium-grained, hard, quartzose, siliceous cement, fluorescent. |
| | Tr. | <u>SILTSTONE</u> - pale brown, as above. |
| | 20 | <u>MARL</u> - cavings? |
| | 20 | <u>COAL</u> - brown and black, cavings? |
| 3260-270 | 60 | <u>SAND</u> - as above. |
| | 10 | <u>SILTSTONE</u> - pale buff brown, as above. |
| | 15 | <u>MARL</u> - as above, cavings? |
| | 15 | <u>COAL</u> - brown, as above - cavings?, a few scattered fluorescent specks. |
| 3270-280 | 80 | <u>SAND</u> - coarse, clean quartz, subangular, well sorted. |
| | 10 | <u>MARL</u> - cavings? |
| | 10 | <u>COAL</u> - brown - cavings? |
| 3280-290 | 60 | <u>SAND</u> - coarse quartz, as above, but subrounded. |
| | 20 | <u>MARL</u> - as above. |
| | 20 | <u>COAL</u> - as above. |
| 3290-300 | 20 | <u>SAND</u> - medium to coarse, well sorted, angular. |
| | 10 | <u>DOLOMITE</u> - creamy coloured, massive, hard, contains pyrite at times? |
| | 40 | <u>MARL</u> - cavings? |
| | 30 | <u>COAL</u> - brown, as above. |
| 3300-3100 | 30 | <u>SAND</u> - as above. |
| | 10 | <u>DOLOMITE</u> - pale grey, finely crystalline. |
| | 30 | <u>MARL</u> - cavings? |
| | 30 | <u>COAL</u> - brown, as above. |
| 3310-320 | 30 | <u>SAND</u> - coarse-grained, angular, well sorted. |
| | 10 | <u>DOLOMITE</u> - pale grey, blocky, elongate fracture, hard. |
| | 30 | <u>MARL</u> - pale green and grey, silty at times. |
| | 30 | <u>COAL</u> - brown, as above. |
| 3320-330 | 70 | <u>SAND</u> - coarse-grained, clean quartz, angular, well sorted. |
| | 20 | <u>MARL</u> - as above. |
| | 10 | <u>COAL</u> - black, as above, soft, blocky, angular, |

| <u>Depth Interval</u> | <u>%</u> | <u>Lithologic Descriptions</u> |
|-----------------------|----------|---|
| 3330-340 | 70 | <u>SAND</u> - coarse-grained, clear quartz, angular, well sorted. |
| | Tr. | <u>SANDSTONE</u> - fine-grained, hard, siliceous. |
| | 15 | <u>MARL</u> - pale green and glauconitic and also white, silty. |
| | 15 | <u>COAL</u> --brown, dull and also black, dull, with flakey fracture. |
| 3340-350 | 80 | <u>SAND</u> - coarse, clean sand, well sorted, subangular. |
| | Tr. | <u>SANDSTONE</u> - fine-grained, hard, siliceous. |
| | 5 | <u>MARL</u> - pale green, as above. |
| | 15 | <u>COAL</u> - brown and black, firm, blocky, angular cleavage. |
| 3350-360 | 80 | <u>SANDSTONE</u> - pale grey to colourless, strongly siliceous, together with colourless to milky white subrounded to subangular quartz grains, fairly well sorted, poor porosity. Strongly calcareous. |
| | 20 | <u>SILTSTONE</u> - cream and pale green, relatively soft, with random dark brown, black, lithic inclusions. |
| | Tr. | Pyrite aggregates, dolomite, coal. |
| 3360-370 | 90 | <u>SANDSTONE</u> - as above. |
| | 10 | <u>SILTSTONE</u> - as above. |
| 3370-380 | 80 | <u>SANDSTONE</u> - as above, but with dominantly clear, subrounded to angular quartz grains, often intensively siliceous, very abrasive in places. |
| | 20 | <u>SILTSTONE</u> - dark brown and pale green aggregates, sandy in part, kaolinized in part with abundant dark green lithic inclusions. Partly glauconitic, pyritic to some extent, Abundant coal cavings. |
| 3386 | | P.O.O.H. FOR BIT CHANGE. |
| 3380-390 | 40 | <u>SAND</u> - loose, clean clear and white, medium to coarse-grained quartz, subangular to subrounded. Excellent porosity. No shows. |
| | 60 | <u>COAL</u> - lignitic (cavings?) |
| 3390-400 | 100 | <u>COAL</u> - lignitic, soft, brown, dull. |
| 3400-410 | 70 | <u>SAND</u> - loose, coarse quartz sand, as above. No shows. |
| | 30 | <u>COAL</u> - brown, lignitic, as above. |
| 3410-420 | 90 | <u>SAND</u> - loose, coarse quartz, as above. |
| | 10 | <u>COAL</u> - lignitic, as above. |
| 3420-430 | 90 | <u>SAND</u> - loose quartz, dominantly coarse and very coarse-grained, some medium-grained, subangular to subrounded, clear and white. No cement. Excellent porosity. No shows. |
| | 10 | <u>COAL</u> - brown, soft, shaley, lignitic. |
| 3430-440 | 100 | <u>SAND</u> - as above. |
| | Tr. | <u>COAL</u> - cavings. |

| <u>Depth Interval</u> | <u>%</u> | <u>Lithologic Descriptions</u> |
|-----------------------|----------|--|
| 3440-450 | 100 | <u>SAND</u> - as above, ranging to very coarse-grained and granule size quartz. Trace grey quartzite. No shows. |
| | Tr. | <u>COAL</u> - as above, cavings. |
| 3450-460 | 80 | <u>SAND</u> - as above, coarse, loose quartz. |
| | 20 | <u>COAL</u> - lignitic, as above. |
| 3460-470 | 90 | <u>SAND</u> - as above, trace pyrite cement. |
| | 10 | <u>COAL</u> - lignitic, as above. |
| | Tr. | Brown siltstone, hard, friable, blocky. |
| 3470-480 | 90 | <u>SAND</u> - as above. |
| | 10 | <u>COAL</u> - as above. |
| 3480-490 | 90 | <u>SAND</u> - loose, coarse and very coarse-grained quartz, as above. No shows. Excellent porosity. |
| | 10 | <u>COAL</u> - as above. Abundant cavings in sample. |
| 3490-500 | 30 | <u>SAND</u> - as above. |
| | 20 | <u>SILTSTONE</u> - hard, brittle, pale brown, massive, siliceous, non-calcareous. Grades to shale. Coally faces in blocks. |
| | 50 | <u>COAL</u> - brown, as above. |
| 3500-510 | 40 | <u>SAND</u> - as above. |
| | 60 | <u>COAL</u> - as above. Trace siltstone and shale, as above, but soft also. |
| 3510-520 | 70 | <u>SAND</u> - loose, coarse quartz, as above. |
| | 10 | <u>SILTSTONE</u> - light brown, hard, as above. |
| | 10 | <u>SHALE</u> - light brown, moderately soft to moderately hard, silty and siliceous, as above. |
| | 10 | <u>COAL</u> - as above. |
| 3520-530 | 100 | <u>SAND</u> - loose, coarse quartz, as above. |
| | Tr. | <u>SILTSTONE</u> - as above. |
| | Tr. | <u>COAL</u> - as above. |
| 3530-540 | 70 | <u>SAND</u> - quartz, loose and clean, clear and white, medium and coarse to very coarse-grained, sub-angular to subrounded, as above. Excellent porosity. No shows. |
| | 30 | <u>COAL</u> - brown, soft, lignitic, shaley. |
| 3540-550 | 100 | <u>SAND</u> - as above. |
| | Tr. | <u>SHALE</u> - buff, moderately soft to hard, siliceous, as above. |
| 3550-560 | 100 | <u>SAND</u> - loose, clear, clean quartz sand, as above. Subangular to subrounded. |
| | Tr. | <u>COAL</u> - as above. |
| | Tr. | <u>SHALE</u> - as above. |
| 3560-570 | 100 | <u>SAND</u> - loose, clear quartz, coarse-grained, as above. |
| | Tr. | <u>COAL</u> - as above. |

| <u>Depth Interval</u> | <u>%</u> | <u>Lithologic Description</u> |
|-----------------------|----------|---|
| 3570-580 | 100 | <u>SANDSTONE</u> - colourless to pale grey, coarse to very coarse, subangular to angular quartz grains, generally the grains appear to be "milled". Pyrite growths apparent. Fair porosity, non calcareous. Abundant fine to medium-grained quartz - result of grinding action of worn bit. Trace of siltstone, coal. |
| 3580-590 | 100 | <u>SANDSTONE</u> - two types evident: (10%) a. Pale grey, fine to medium-grained, siliceous aggregate. Poor porosity. (90%) b. Milky white, very coarse to coarse quartz grains, subangular to angular, crystalline, fair to no porosity. Trace pale grey to light brown <u>claystone</u> , sandy in part with dark brown, black, lithic inclusions and rare flakes of mica. |
| 3590-600 | 60 | <u>SAND</u> - coarse to very coarse-grained, angular, poorly sorted. At times grains are covered with pyrite. |
| | Tr. | <u>SANDSTONE</u> - fine-grained, very hard, siliceous. |
| | 40 | <u>COAL</u> - black, angular, blocky. |
| 3600-610 | 25 | <u>SAND</u> - extremely coarse (2mm. diameter), subangular, well sorted, at times cemented by pyrites - high proportion of pyrite, with less coarse sand. |
| | 45 | <u>SAND</u> - medium-grained, quartzitic, pale grey, brownish and greenish, very hard. |
| | 5 | <u>SANDSTONE</u> - medium-grained, angular, quartzitic grains cemented by high proportion of white kaolinitic matrix. |
| | 5 | <u>SILTSTONE</u> - pale brown, soft to hard. |
| | 20 | <u>COAL</u> - as above. |
| 3610-620 | 25 | <u>SAND</u> - coarse, as above. |
| | 45 | <u>SAND</u> - fine, as above. |
| | 5 | <u>SANDSTONE</u> - as above. |
| | 25 | <u>COAL</u> - as above. |
| 3620-630 | 100 | <u>SAND</u> - fine, well sorted - about 50% is clear quartz, rest is brown and grey, quartzitic in appearance. |
| 3630-640 | 80 | <u>SAND</u> - fine, as above. |
| | 10 | <u>SANDSTONE</u> - fine-grained, lithic, hard, contains angular grains, low percentage of white. ?Kaolinitic matrix. Tight. |
| | 10 | <u>SILTSTONE</u> - pale grey, buff, soft, some glauconite, massive and blocky. Also pale green. |
| 3640-650 | 90 | <u>SAND</u> - as above. |
| | 10 | <u>SILTSTONE</u> - pale green and brown, as above. |
| 3650-660 | 40 | <u>SAND</u> - mainly fine to medium-grained, angular, but some very coarse sand, poorly sorted, often pale green. |
| | 10 | <u>SANDSTONE</u> - fine to medium-grained, high proportion of lithic fragments - angular grains, hard, poorly sorted, low proportion of matrix. |
| | 50 | <u>SILTSTONE</u> - pale grey to buff coloured, firm, speckled, black with biotite? |

| <u>Depth Interval</u> | <u>z</u> | <u>Lithologic Descriptions</u> |
|-----------------------|----------|---|
| 3660-670 | 40 | <u>SAND</u> - fine to coarse, as above. |
| | 20 | <u>SANDSTONE</u> - fine-grained, high proportion of lithics, angular grains, well sorted, low proportion of cement (white), but hard. |
| | 40 | <u>SILTSTONE</u> - pale green and pale brown, firm, at times lignitic. At times approaches very fine sandstone. |
| | Tr. | <u>MUDSTONE</u> - pale grey, hard. |
| 3670-680 | 30 | <u>SANDSTONE</u> - grey and pale grey, strongly siliceous, very feldspathic, carbonaceous. |
| | 20 | <u>SAND</u> - milky white to colourless, very coarse to coarse-grained quartz, occasionally ferruginised. Overall porosity very poor. Trace glauconite. |
| | 40 | <u>SILTSTONE</u> - as above. |
| | 10 | <u>MUDSTONE</u> - as above. |
| 3680-690 | 75 | <u>SANDSTONE</u> - dark grey, fine to very fine-grained, intensely siliceous, strongly kaolinitic in part, micromicaceous, feldspathic, strongly calcareous, good sorting, poor porosity. Abundant milky white quartz, very coarse to coarse-grained, subangular to angular, strongly carbonaceous. |
| | 25 | <u>MUDSTONE</u> - grey, bluish grey, micromicaceous, strongly argillaceous, sandy in part. |
| | Tr. | Weathered feldspar, flint, and coal. |
| 3690-700 | 60 | <u>SANDSTONE</u> - as above, but strongly feldspathic. No porosity. |
| | 30 | <u>MUDSTONE</u> - strongly micromicaceous. |
| | 10 | <u>SILTSTONE</u> - SAMPLE VERY CLAYEY. |
| 3700-710 | 60 | <u>SANDSTONE</u> - strongly feldspathic, strongly kaolinitic with pronounced carbonaceous streaks and plant fragments, also abundant dark green, black, lithic inclusions. Very strongly calcareous. |
| | 20 | <u>MUDSTONE</u> - as above. |
| | 20 | <u>SILTSTONE</u> - pale green fractions more prominent. |
| 3710-720 | 50 | <u>SANDSTONE</u> - as above, strongly carbonaceous, plant fragments. |
| | 20 | <u>MUDSTONE</u> - as above with carbonaceous streaks, very strongly micromicaceous, soft, sandy in part. |
| | 30 | <u>SILTSTONE</u> - pale green, pale brown, slightly micromicaceous, slightly sandy. Sample very clayey. |
| 3720-730 | | Sample very intensely clayey. However, it contains a high proportion of fine to very fine-grained quartz, not recoverable in the vessel for proper determination of the various components. |
| | 100 | <u>MUDSTONE</u> - as above. |
| 3730-740 | 50 | <u>SANDSTONE</u> - pale green, pale grey, strongly feldspathic, micromicaceous, carbonaceous inclusions, weathered matrix, strongly kaolinitic, partly ferruginised. Minor amounts milky white to colourless, subangular, subrounded quartz grains, very coarse to coarse. |
| | 25 | <u>MUDSTONE</u> - brown, grey, micromicaceous, sandy in part, carbonaceous. |
| | 25 | <u>SILTSTONE</u> - pale green, grey, slightly sandy, micromicaceous. |

| <u>Depth</u> <u>Interval</u> | <u>z</u> | <u>Lithologic Descriptions</u> |
|---------------------------------|----------|---|
| 3740-750 | 75 | <u>MUDSTONE</u> - as above. Sample very clayey, bluish grey. |
| | 25 | <u>SANDSTONE</u> - with minor amounts of loose quartz grains (fine to very fine). |
| 3750-760 | | Sample intensely clayey. However, some fine to very fine-grained quartz is evident. |
| | 90 | <u>MUDSTONE</u> - as above. |
| | 10 | <u>SANDSTONE</u> - as above. |
| 3760-770 | 90 | <u>MUDSTONE</u> - as above. |
| | 10 | <u>SANDSTONE</u> - as above. |
| 3770-780 | 100 | <u>MUDSTONE</u> - very clayey, very little solids. |
| 3780-790 | 80 | <u>MUDSTONE</u> - medium grey, clayey, bentonitic(?), expands and hydrates on contact with water. Almost all dispersed on reaching surface, and washes out if samples are to be washed clean. |
| | 20 | <u>SAND</u> - loose grains of fine quartz, trace of feldspar and lithics. |
| 3790-800 | 80 | <u>MUDSTONE</u> - medium grey, shaley, clayey, as above. |
| | 20 | <u>SAND</u> - loose grains, as above, and chips of fine-grained lithic and feldspathic sandstone. Tight. No shows. |
| | Tr. | <u>COAL</u> - brown to black, flakes dominant, appear as bedding laminae. |
| 3800-810 | 90 | <u>MUDSTONE</u> - as above, grey, micaceous, fissile and shaley. |
| | 10 | <u>SANDSTONE</u> - as above, arkosic. |
| 3810-820 | 90 | <u>MUDSTONE</u> - as above. |
| | 10 | <u>SANDSTONE</u> - as above. |
| 3820-830 | 90 | <u>MUDSTONE</u> - as above, soft, washes out of samples. |
| | 10 | <u>SANDSTONE</u> - as above. |
| 3830-840 | 90 | <u>MUDSTONE</u> - as above. |
| | 10 | <u>SANDSTONE</u> - as above, lithic. |
| 3840-850 | 90 | <u>MUDSTONE</u> - as above. |
| | 10 | <u>SANDSTONE</u> - as above, lithic and feldspathic. |
| 3850-860 | 80 | <u>MUDSTONE</u> - as above, soft and washes out of samples. |
| | 20 | <u>SANDSTONE</u> - as above, strongly lithic and feldspathic, fine-grained. |
| 3860-870 | 60 | <u>MUDSTONE</u> - pale grey, moderately soft, blocky to slightly fissile, slightly micaceous, carbonaceous. Hydrates with water and washes out of samples. |
| | 40 | <u>SAND</u> - fine-grained, moderately hard, friable, well sorted, consisting of subrounded quartz and abundant grey, rare green and red-brown lithic grains. White kaolinized feldspars common. No shows. Tight. |

| <u>Depth</u> <u>Interval</u> | <u>z</u> | <u>Lithologic Descriptions</u> |
|---------------------------------|----------|---|
| 3870-880 | 70 | <u>MUDSTONE</u> - as above, with shaley laminations. Carbonaceous and silty in part. Washes out of samples. |
| | 30 | <u>SANDSTONE</u> - as above, lithic and feldspathic. |
| 3880-890 | 60 | <u>MUDSTONE</u> - as above, shaley. |
| | 10 | <u>SILTSTONE</u> - grey, carbonaceous, shaley, moderately firm, blocky. |
| | 30 | <u>SANDSTONE</u> - as above. |
| 3890-900 | 80 | <u>MUDSTONE</u> - pale grey, soft, massive, carbonaceous fragments and streaks, plant remains. |
| | 10 | <u>SILTSTONE</u> - dark grey, pale grey, kaolinized in places. |
| | 10 | <u>SANDSTONE</u> - loose, very fine to fine-grained quartz, some lithics, kaolinized matrix. |
| 3900-910 | 80 | <u>MUDSTONE</u> - as above. |
| | 10 | <u>SILTSTONE</u> - as above. |
| | 10 | <u>SANDSTONE</u> - as above. |
| 3910-920 | 75 | <u>MUDSTONE</u> - as above, but samples very clayey. |
| | 20 | <u>SILTSTONE</u> - " " " " " " |
| | 5 | <u>SANDSTONE</u> " " " " " " |
| 3920-930 | 70 | <u>MUDSTONE</u> - as above, sample very clayey. |
| | 20 | <u>SILTSTONE</u> " " " " " " |
| | 10 | <u>SANDSTONE</u> " " " " " " |
| 3930-940 | 60 | <u>MUDSTONE</u> - as above. |
| | 20 | <u>SILTSTONE</u> - as above. |
| | 20 | <u>SANDSTONE</u> - as above. |
| 3940-950 | 60 | <u>MUDSTONE</u> - intensely argillaceous, approaching steel grey to dark grey in colour, prominent carbonaceous streaks, strongly kaolinized in places. |
| | 20 | <u>SILTSTONE</u> - greenish-grey, sticky. |
| | 20 | <u>SANDSTONE</u> - very fine-grained quartz. |
| 3950-960 | 70 | <u>MUDSTONE</u> - as above, with loose flakes of mica evident. |
| | 20 | <u>SILTSTONE</u> - as above, with loose flakes of mica evident. |
| | 10 | <u>SANDSTONE</u> - as above, with loose flakes of mica evident. |
| 3960-970 | 60 | <u>MUDSTONE</u> - steel grey, dark grey, blocky, soft, sandy in part, abundant carbonaceous streaks, randomly kaolinized, intensely argillaceous. |
| | 20 | <u>SILTSTONE</u> - dark grey, strongly argillaceous, pyritic in part, carbonaceous in part. |
| | 20 | <u>SANDSTONE</u> - pale brown, brown, medium to fine-grained, compact, kaolinized in places, micaceous, feldspathic. Also large amounts loose, fine-grained, angular quartz grains. Trace feldspars (weathered fragments, dolomitic). |
| 3970-980 | 60 | <u>MUDSTONE</u> - as above, not seen in cuttings as most has been disintegrated and washed away. |
| | 10 | <u>SILTSTONE</u> - medium grey, soft, as above. |
| | 30 | <u>SANDSTONE</u> - constitutes most of observed cuttings, soft to firm, mostly loose state in cuttings, fine to very fine-grained, rich in lithics, good to poor sorting, high to low proportion of white, kaolinitic matrix. |

| <u>Depth Interval</u> | <u>%</u> | <u>Lithologic Descriptions</u> |
|-----------------------|----------|---|
| 3980-990 | 20 | <u>SANDSTONE</u> - fine to medium-grained, hard, well sorted, angular grains, high proportion of kaolinitic cement, high proportion of lithics, tight. |
| | 60 | <u>SILTSTONE</u> - pale grey and pale green, micaceous at times, speckled, often lightly lignitic, often grain size approaches very fine-grained sandstone, firm. |
| | 20 | <u>MUDSTONE</u> - medium, steely grey, firm to very firm. |
| 3990-4000 | 20 | <u>SANDSTONE</u> - fine-grained, very lithic, well sorted, tight, firm, low proportion of cement, some red-brownish, quartzose, siliceous cement, very hard, tight. |
| | 60 | <u>SILTSTONE</u> - as above, ranging into fine-grained sandstone. |
| | 20 | <u>MUDSTONE</u> - as above. |
| 4000-010 | 50 | <u>SANDSTONE</u> - as above, soft to firm, sometimes hard, crumbly, and is generally present as free grains. |
| | 30 | <u>SILTSTONE</u> - as above, soft, sometimes lignitic, and grades up to very fine-grained sandstone. |
| | 20 | <u>MUDSTONE</u> - as above, firm. |
| 4010-020 | 50 | <u>SANDSTONE</u> - as above. |
| | 30 | <u>SILTSTONE</u> - as above. |
| | 20 | <u>MUDSTONE</u> - as above. |
| 4020-030 | 50 | <u>SANDSTONE</u> - as above. |
| | 30 | <u>SILTSTONE</u> - as above. |
| | 20 | <u>MUDSTONE</u> - as above. |
| 4030-040 | 50 | <u>SANDSTONE</u> - very fine to medium-grained, very lithic, angular grains, well sorted, tight, at times seen to be interbedded with hard sandstone. |
| | 25 | <u>SILTSTONE</u> - as above. |
| | 25 | <u>MUDSTONE</u> - as above. |
| 4040-050 | 50 | <u>SANDSTONE</u> - fine to medium-grained, about 50% is loose. Soft to hard, lithic, high proportion of kaolinitic cement. |
| | 35 | <u>SILTSTONE</u> - as above. |
| | 15 | <u>MUDSTONE</u> - as above. |
| 4050-060 | 60 | <u>SANDSTONE</u> - as above, about 60% is loose. |
| | 20 | <u>SILTSTONE</u> - as above. |
| | 20 | <u>MUDSTONE</u> - as above. |
| 4060-070 | 75 | <u>SANDSTONE</u> - pale grey, greenish-grey, strongly kaolinitic, strongly feldspathic, profoundly carbonaceous, with abundant fine to very fine-grained, loose quartzose, abundantly micaceous, dark green lithic inclusions, partly ferruginised. |
| | 20 | <u>SILTSTONE</u> - pale grey, sandy in part, micromicaceous in part. |
| | 5 | <u>MUDSTONE</u> - dark grey, steel grey, sandy in part, soft, abundant carbonaceous streaks, intensely argillaceous. |

| <u>Depth</u> <u>Interval</u> | <u>ft</u> | <u>Lithologic Descriptions</u> |
|---------------------------------|-----------|--|
| 4070-080 | 75 | <u>SANDSTONE</u> - as above, strongly calcareous, strongly kaolinitic. |
| | 20 | <u>SILTSTONE</u> - as above. |
| | 5 | <u>MUDSTONE</u> - as above. Trace weathered feldspar, minor dolomitic fragments. |
| 4080-090 | 70 | <u>SANDSTONE</u> - as above,) Samples tending to |
| | 20 | <u>SILTSTONE</u> - as above.) contain more clay than |
| | 10 | <u>MUDSTONE</u> - as above.) those above. Trace pyrite. |
| 4090-100 | 50 | <u>SANDSTONE</u> - pale grey, strongly kaolinitic, strongly feldspathic, micaceous, weathered matrix, pyritic in part, abundant fine to very fine-grained, sub-angular, loose quartz grains. Weathered feldspar, dark green, black inclusions. |
| | 25 | <u>SILTSTONE</u> - occasionally micaceous, sandy in part. |
| | 25 | <u>MUDSTONE</u> - dark grey, with carbonaceous streaks and impregnations, micromicaceous. Trace unidentifiable pink particles (ferruginised feldspars?). Trace glauconitic grains randomly disseminated. Coal blebs. |
| 4100-110 | 50 | <u>SANDSTONE</u> - as above.) With traces of gypsum. |
| | 25 | <u>SILTSTONE</u> - as above.) This interval strongly |
| | 25 | <u>MUDSTONE</u> - as above.) carbonaceous. |
| 4110-120 | 40 | <u>SANDSTONE</u> - as above.) |
| | 30 | <u>SILTSTONE</u> - as above.) Abundant coal (cavings?) |
| | 30 | <u>MUDSTONE</u> - as above.) |
| 4120-130 | 40 | <u>SANDSTONE</u> - as above, strongly micromicaceous. |
| | 30 | <u>SILTSTONE</u> - as above. |
| | 30 | <u>MUDSTONE</u> - as above. Sample becoming increasingly more clayey. Abundant coal (cavings?) |
| | | TOTAL DEPTH 4128 Feet (Driller) |

Predicted Section — WELLINGTON PARK No. 2

| DEPTH IN FEET (S.S.L.) | OBJECTIVES | | SEISMIC REFLECTORS | GROSS LITHO- LOGY | FORMATION | LITHOLOGIC SUMMARY | CASING TESTS | CORES | LOGS |
|------------------------------|----------------|--------------|-----------------------|---|---|--|-------------------|-------|------|
| | Second -ary | Prim -ary | | | | | | | |
| 500' | | | | POST GIPPSLAND LIMESTONE SEDIMENTS | POST GIPPSLAND LIMESTONE SEDIMENTS | Sand and clay Traces lignite Sand with fossils Sandy marl and sand | 9 5/8" to 1800ft. | Run 1 | |
| 1000' | | | | GIPPSLAND LIMESTONE | GIPPSLAND LIMESTONE | Limestone and marl | | | |
| 1500' | | | | "G" (1800') | | Marl | | | |
| 2000' | | | | LAKES ENTRANCE FORMATION | LAKES ENTRANCE FORMATION | Calcareous shale Glaucconitic sand | | | |
| 2500' | | X | | "H" (2325') | | Sand | ↑ | | |
| | | | | "K" (2500') | | Coaly | ↑ | | |
| 3000' | | | | LATROBE VALLEY COAL MEASURES | LATROBE VALLEY COAL MEASURES | Sand Coaly | ↑ | | |
| 3500' | | | | "L" (3350') | | | ↑ | | |
| 4000' | | X | | GOLDEN BEACH FORMATION | GOLDEN BEACH FORMATION | Sandstone claystone and mudstone | ↑ | | |
| 4500' | | | | "S" (4375') | | | ↑ | | |
| | | | | STRZELECKI GROUP | STRZELECKI GROUP | "Arkose," mudstone, siltstone, coal | ↑ | | |
| 5000' | | | | T. D. 4,750ft. | T. D. 4,750ft. | | | | |

Run 1

Run 2

← Sidewall
cores

← Conventional
core ?

SIDEWALL CORE DESCRIPTIONSWELLINGTON PARK NO. 2

1. 3790' MUDSTONE
Grey to light grey, soft, blocky, slightly sandy, micromicaceous, strongly argillaceous and strongly calcareous.
2. 3674' SILTSTONE
Pale grey to grey, strongly argillaceous in places, slightly sandy, with minor clear, fine to very fine subrounded quartz grains. Slightly carbonaceous with occasional dark brown to black lithic inclusions.
3. 3590' SANDSTONE
Pale green with occasional clear medium to fine grained quartz, feldspathic, kaolinitic in places, slight ferruginised. Strongly carbonaceous.
4. 3530' MUDSTONE
Pale brown, soft, blocky, strongly argillaceous sandy in part, strongly carbonaceous with numerous coal streaks and plant remains.
5. 3503' MUDSTONE
Brown to brownish grey, soft, strongly argillaceous, slightly calcareous with an $\frac{1}{2}$ " band of black coal interbedded in the mudstone.
6. 3390' MUDSTONE
Pale grey to brownish grey, soft, blocky, friable, strongly argillaceous, occasionally carbonaceous.
7. 2486' SANDSTONE
Pale grey, poorly consolidated with abundant milky white and colourless medium to very coarse (occasionally granule sized), subrounded to well rounded quartz grains. Slightly calcareous. Excellent porosity, no fluorescence.
8. 2474' SANDSTONE
Pale grey to grey, poorly consolidated with minor milky white and colourless, medium grained, subrounded to rounded quartz grains. Slightly calcareous, carbonaceous in part. Good porosity, no fluorescence.
9. 2424' SANDSTONE
Brown to dark brown (staining of the matrix probably due to lignitic impregnation). Composed of dominantly clear, medium to coarse grained, subrounded quartz. Slightly calcareous and occasionally argillaceous.

10. 2392'

COAL

Black to brownish black, soft, friable, blocky lignitic, earthy, slightly argillaceous occasionally pyritic.

11. 2383'

COAL

Black to brownish black, soft, blocky, friable, slightly sand, not as pyritic as sample 10, slightly argillaceous.

12. 2355'

SANDSTONE

Pale grey to greenish, grey, poorly consolidated with minor clear, medium grained, subrounded to subangular quartz, moderately well sorted, strongly glauconitic with dark brown to black lithics. Slightly argillaceous and randomly calcareous.

Good porosity. No fluorescence.

13. 2350'

MARL

Grey to dark grey, soft, strongly argillaceous sandy in part, slightly kaolinitic with impregnations of dark green glauconitic grains.

14. 2346'

MARL

Grey to dark grey, soft, strongly argillaceous, strongly calcareous, with abundant glauconitic grains together with growths of pyrites, possibly as replacement of macro- and microfossils.

On a freshly broken surface, an end-on view of a foram (possibly a Cibicides) is visible.

15.

NO RECOVERY.

16. 2180'

MARL

Greenish grey, soft, slightly argillaceous, strongly calcareous, sandy in part, slightly pyritic in part, strongly fossiliferous but not to the same extent as sample 17.

17. 2130'

MARL

Bluish grey, soft, blocky, strongly calcareous, containing abundant fossil fragments, dominantly Gastropods.

Sample descriptions by A. Marimuthu.

RHMCC:MS
8: JUNE: 70

DRILL STEM TEST REPORT

Company: WOODSIDE OIL N.L.

Date: 28: MARCH: 70

Area: WELLINGTON PARK Well: NO. 2.

R.T. Elevation: 18.01

Test No.: 1.

Interval: 2335' - 2374'

Formation: L.V.C.M.

Tester, Size and Type:
5" HYDRO SPRING

Packer, Size and Type: 8"
7 3/4"

OPEN HOLE

Rubber, O.D. 7 3/4" AND 8"

B.H. Choke Size: .75"

Drill Pipe, Size: 4 1/2"

Full Hole, I.D.: 8 3/4"

Pilot Hole, I.D.: -

Casing, I.D.: 8.921"

Anchor, O.D. and I.D.:

5" - 2.37"

Sump Volume:

Water Cushion:

NIL

Disk Valve, Depth:

Tester Valve, Depth: 2314'

Air Chamber Volume: -

Pressure) 2269

Range: 3000 psi.

No.: 2.

Gauges:) 2270

Clocks 12 hr.

(Anchor
(Perforations: 35'

Mud Weight: 8.9 P.P.G.

Filtrate Salinity:

Annulus Drop:

DIARY OF TEST —

Started In: 4.00 am

On Bottom: 7.00 am

Valve Opened: 7.05 am

Valve Closed:

Disk Broken:

Valve Opened:

Gas to Surface:

Oil to Surface:

Valve Shut:

Pulled Packer: 7.18 am

Out of Hole: 10.00 am

Initial Shut In Time:

Flowing Time:

Final Shut In Time:

SURFACE PRODUCTION —

Air or Gas,
cu. ft./day

(Time:
(
(Rate:

Oil,
bbls./day

(Time:
(Rate:

PIPE RECOVERY —

Oil:

Water:

Mud:

TOTAL PRODUCTION — Gas:

Oil

Water:

PRESSURE RECORD (Corrected Pressures) —

Depth

M.P.

I.S.I.P.

F.F.P.

F.S.I.P.

Temp.

Top Gauge:

Bottom Gauge:

SAMPLES —

Sampling Point

Type of Fluid

Sp.G.

Salinity

MIS RUN.

UNABLE TO GET PACKER SEAT. - TWO ATTEMPTS WERE MADE TO SET PACKER.

PE604532

This is an enclosure indicator page.
The enclosure PE604532 is enclosed within the
container PE905915 at this location in this
document.

The enclosure PE604532 has the following characteristics:

ITEM_BARCODE = PE604532
CONTAINER_BARCODE = PE905915
NAME = Mud Log
BASIN = GIPPSLAND
PERMIT = PEP/72
TYPE = WELL
SUBTYPE = MUD_LOG
DESCRIPTION = Mud Log, page 6 of 6, (enclosure from
WCR) for Wellington Park-2
REMARKS = This Mud Log also has lithological
descriptions alongside
DATE_CREATED =
DATE_RECEIVED =
W_NO = W579
WELL_NAME = WELLINGTON PARK-2
CONTRACTOR =
CLIENT_OP_CO = WOODSIDE OIL NL

(Inserted by DNRE - Vic Govt Mines Dept)

PE604533

This is an enclosure indicator page.
The enclosure PE604533 is enclosed within the
container PE905915 at this location in this
document.

The enclosure PE604533 has the following characteristics:

ITEM_BARCODE = PE604533
CONTAINER_BARCODE = PE905915
NAME = Mud Log
BASIN = GIPPSLAND
PERMIT = PEP/72
TYPE = WELL
SUBTYPE = MUD_LOG
DESCRIPTION = Mud Log, page 2 of 6, (enclosure from
WCR) for Wellington Park-2
REMARKS = This Mud Log also has lithological
descriptions alongside
DATE_CREATED =
DATE_RECEIVED =
W_NO = W579
WELL_NAME = WELLINGTON PARK-2
CONTRACTOR =
CLIENT_OP_CO = WOODSIDE OIL NL

(Inserted by DNRE - Vic Govt Mines Dept)

PE604534

This is an enclosure indicator page.
The enclosure PE604534 is enclosed within the
container PE905915 at this location in this
document.

The enclosure PE604534 has the following characteristics:

ITEM_BARCODE = PE604534
CONTAINER_BARCODE = PE905915
NAME = Mud Log
BASIN = GIPPSLAND
PERMIT = PEP/72
TYPE = WELL
SUBTYPE = MUD_LOG
DESCRIPTION = Mud Log, page 3 of 6, (enclosure from
WCR) for Wellington Park-2
REMARKS = This Mud Log also has lithological
descriptions alongside
DATE_CREATED =
DATE_RECEIVED =
W_NO = W579
WELL_NAME = WELLINGTON PARK-2
CONTRACTOR =
CLIENT_OP_CO = WOODSIDE OIL NL

(Inserted by DNRE - Vic Govt Mines Dept)

PE604535

This is an enclosure indicator page.
The enclosure PE604535 is enclosed within the
container PE905915 at this location in this
document.

The enclosure PE604535 has the following characteristics:

ITEM_BARCODE = PE604535
CONTAINER_BARCODE = PE905915
NAME = Mud Log
BASIN = GIPPSLAND
PERMIT = PEP/72
TYPE = WELL
SUBTYPE = MUD_LOG
DESCRIPTION = Mud Log, page 4 of 6, (enclosure from
WCR) for Wellington Park-2
REMARKS = This Mud Log also has lithological
descriptions alongside
DATE_CREATED =
DATE_RECEIVED =
W_NO = W579
WELL_NAME = WELLINGTON PARK-2
CONTRACTOR =
CLIENT_OP_CO = WOODSIDE OIL NL

(Inserted by DNRE - Vic Govt Mines Dept)

PE604536

This is an enclosure indicator page.
The enclosure PE604536 is enclosed within the
container PE905915 at this location in this
document.

The enclosure PE604536 has the following characteristics:

ITEM_BARCODE = PE604536
CONTAINER_BARCODE = PE905915
NAME = Mud Log
BASIN = GIPPSLAND
PERMIT = PEP/72
TYPE = WELL
SUBTYPE = MUD_LOG
DESCRIPTION = Mud Log, page 5 of 6, (enclosure from
WCR) for Wellington Park-2
REMARKS = This Mud Log also has lithological
descriptions alongside
DATE_CREATED =
DATE_RECEIVED =
W_NO = W579
WELL_NAME = WELLINGTON PARK-2
CONTRACTOR =
CLIENT_OP_CO = WOODSIDE OIL NL

(Inserted by DNRE - Vic Govt Mines Dept)

PE604537

This is an enclosure indicator page.
The enclosure PE604537 is enclosed within the
container PE905915 at this location in this
document.

The enclosure PE604537 has the following characteristics:

ITEM_BARCODE = PE604537
CONTAINER_BARCODE = PE905915
NAME = Mud Log
BASIN = GIPPSLAND
PERMIT = PEP/72
TYPE = WELL
SUBTYPE = MUD_LOG
DESCRIPTION = Mud Log, page 6 of 6, (enclosure from
WCR) for Wellington Park-2
REMARKS = This Mud Log also has lithological
descriptions alongside
DATE_CREATED =
DATE_RECEIVED =
W_NO = W579
WELL_NAME = WELLINGTON PARK-2
CONTRACTOR =
CLIENT_OP_CO = WOODSIDE OIL NL

(Inserted by DNRE - Vic Govt Mines Dept)

PE604685

This is an enclosure indicator page.
The enclosure PE604685 is enclosed within the
container PE905915 at this location in this
document.

The enclosure PE604685 has the following characteristics:

ITEM_BARCODE = PE604685
CONTAINER_BARCODE = PE905915
 NAME = Composite Well Log
 BASIN = GIPPSLAND BASIN
 PERMIT = PEP/72
 TYPE = WELL
 SUBTYPE = COMPOSITE_LOG
 DESCRIPTION = Composite Log (enclosure 1 of WCR) for
 Wellington Park-2
 REMARKS =
 DATE_CREATED = 2/04/70
 DATE_RECEIVED = 17/03/86
 W_NO = W579
 WELL_NAME = WELLINGTON PARK-2
 CONTRACTOR = WOODSIDE OIL NL
 CLIENT_OP_CO = WOODSIDE OIL NL

(Inserted by DNRE - Vic Govt Mines Dept)

PE906606

This is an enclosure indicator page.
The enclosure PE906606 is enclosed within the
container PE905915 at this location in this
document.

The enclosure PE906606 has the following characteristics:

ITEM_BARCODE = PE906606
CONTAINER_BARCODE = PE905915
NAME = Well Correlation Diagram
BASIN = GIPPSLAND BASIN
PERMIT = PEP/72
TYPE = WELL
SUBTYPE = CROSS_SECTION
DESCRIPTION = Well Correlation Diagram (enclosure 2
of WCR) for Wellington Park-2
REMARKS =
DATE_CREATED = 30/06/70
DATE_RECEIVED = 17/03/86
W_NO = W579
WELL_NAME = WELLINGTON PARK-2
CONTRACTOR = WOODSIDE OIL NL
CLIENT_OP_CO = WOODSIDE OIL NL

(Inserted by DNRE - Vic Govt Mines Dept)