



OIL and GAS DIVISION

1608

SPOON BAY NO. 1

COMPLETION REPORT

by

Woodside Oil N.L.

February 1971

Page 1 of 45 + 2 ENCLOSURE
2T Comp. Well Log.

W608

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SPOON BAY NO. 1 WELL

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7. Extraneous material.

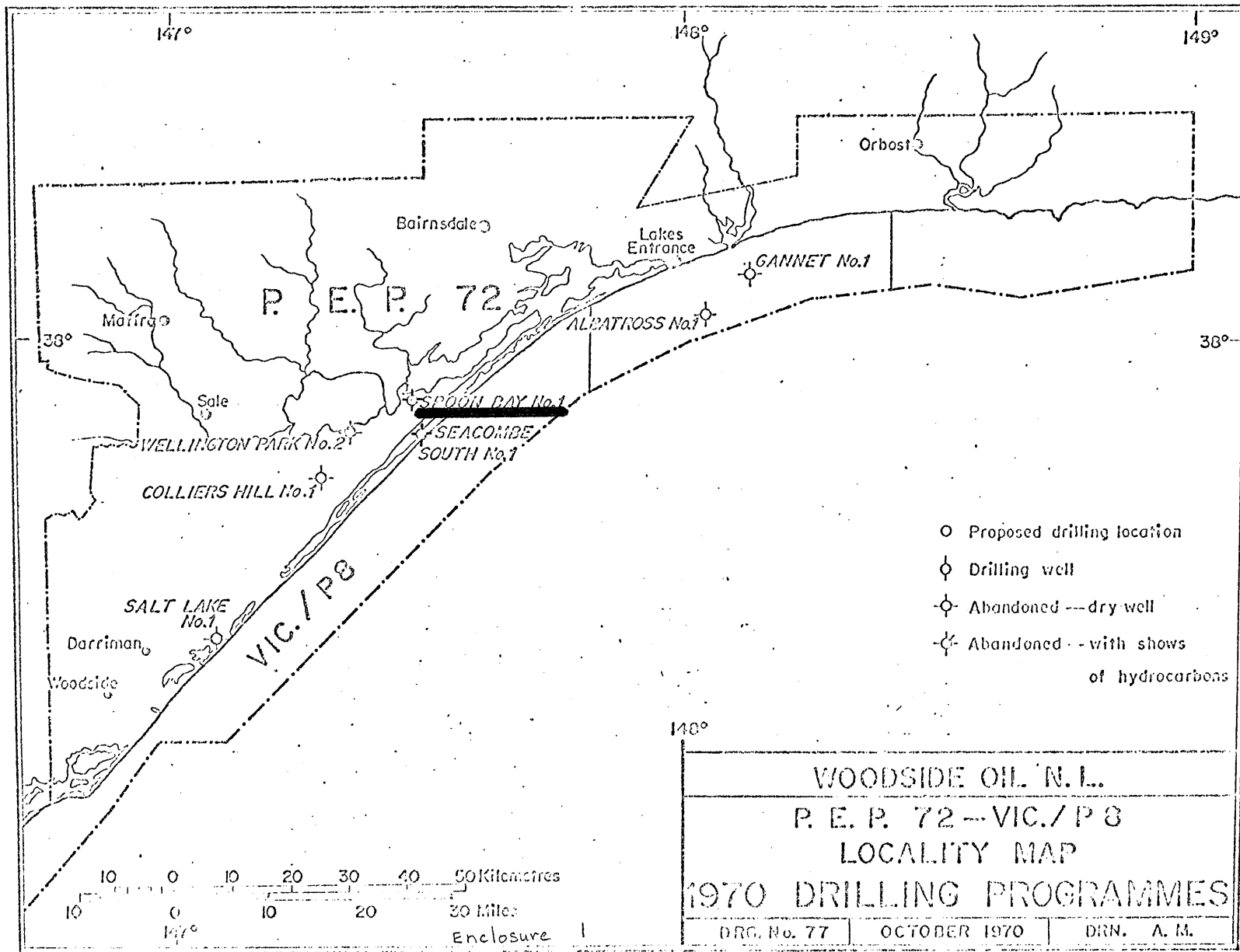
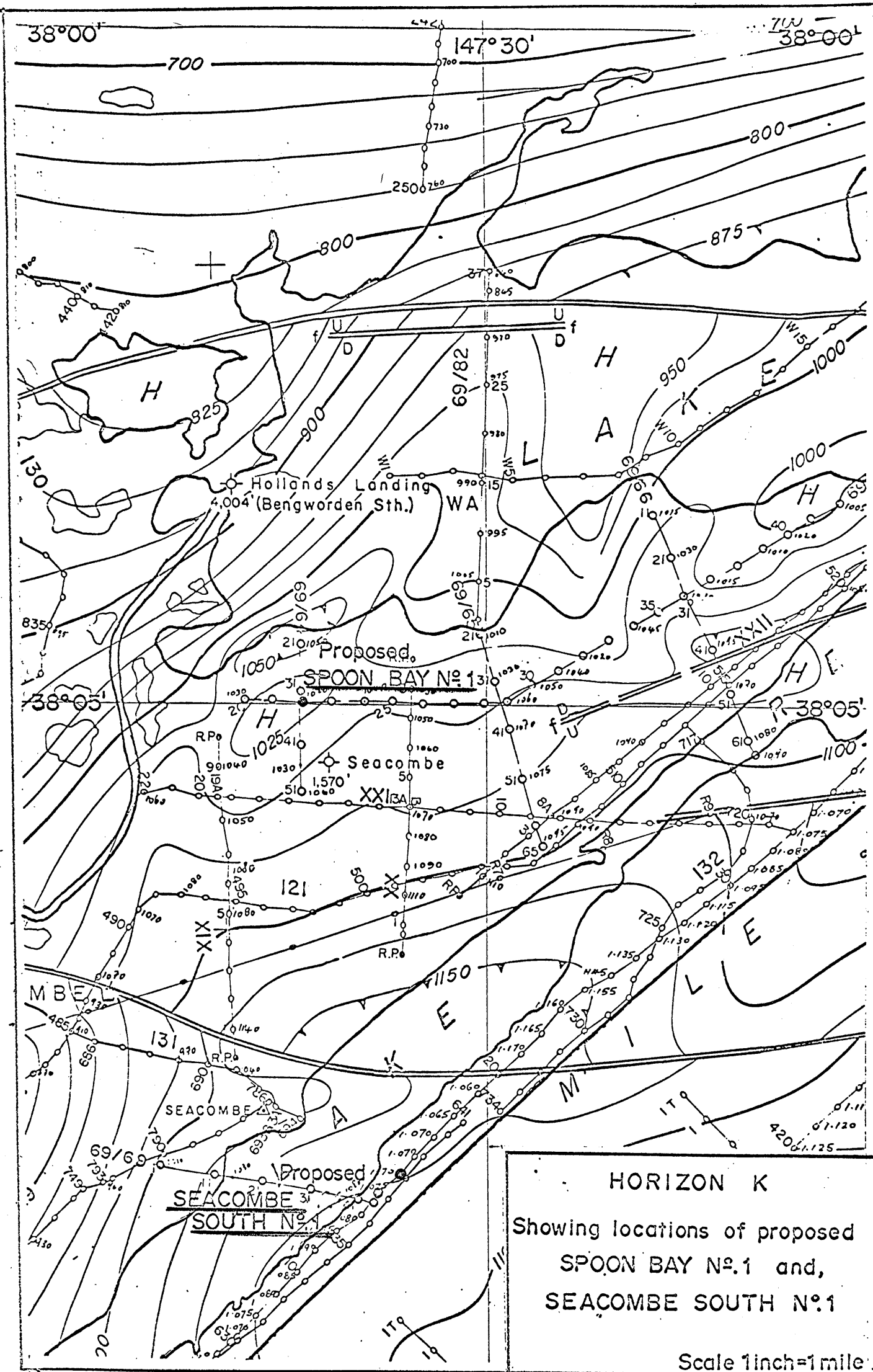


FIGURE 1



SUMMARY

Spoon Bay No. 1 well was spudded on 10th October 1970 and reached a total depth of 4594 feet on 27th October 1970.

The well encountered the following sequence:-

	<u>Well Depth</u>
Post Pliocene and Quaternary sediments	0' - 345'
Jemmy's Point Formation	345' - 555'
Tambo River Formation	555' - 850'
Gippsland Limestone	850' - 3205'
Lakes Entrance Formation	3205' - 3372'
Latrobe Valley Coal Measures	3372' - 4282'
Weathered Strzelecki Group?	4282' - 4400'
Strzelecki Group	4400' - 4594' (T.D.)

No hydrocarbon shows were encountered during drilling, and the well was plugged and abandoned.

A core was cut at the interval 2149 - 2169 feet to compare the lithology with the predicted "G" horizon at 2150 feet.

A series of sidewall cores were recovered from the well to help the interpretation of the logs and for possible palynological examination.

1. GENERAL DATA

- (A) Well name and number: Spoon Bay No. 1.
- (B) Location (see appendix 1): Lat. 38° 04' 56.19" S
 Long. 147° 27' 57.23" E
 Datum: Australian Geodetic Datum
 Parish: Seacombe
- (C) Names of Tenement Holders: Woodside Oil N.L. (Operator)
 Australian Oil and 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 72
 issued by the State of Victoria
- (E) Total Depth: 4594 feet.
- (F) Date drilling began: 10th October 1970.
- (G) Date reached T.D.: 27th October 1970.
- (H) Date well plugged: 28th October 1970.
- (I) Date rig released: 29th October 1970.
- (J) Drilling time to T.D.: 18 days.
- (K) Time spent testing: Nil.
- (L) Rig up and down: 5 days.
- (M) Elevation: Ground level: 17.94 feet
 Kelly Bushing: 30.69 feet
 Rotary table: 28.36 feet
 Datum: Williamstown
- (N) Status: Dry and abandoned.

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2. DRILLING DATA

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

(B) Drilling Plant:

Make: Brewster
Type: N4
Rated capacity with 3 1/2" drill pipe: 7500'
Rated capacity with 4 1/2" drill pipe: 6000'
Motors: G.M. 6/71

(C) Mast:

Make: Lee C. Moore
Type: Cantilever
Capacity: 386,000 lbs.

(D) Pumps - Two:

Make: Oilwell
Type: P214
Size: 7 1/4" x 14"
Motors: G.M. 6/71

(E) Blowout preventer equipment:

(i) Make: Cameron (ii) Make: Regan 10"
Size: 12" Series: 900
Series: 900

(F) Hole Sizes and Depths:

26" to 47'
17 1/2" to 345'
12 1/4" to 2681'
8 3/4" to 4594'

(G) Casing and Cementing Details:

Size	20"	13 3/8"	9 5/8"
Weight	Conductor	48 lbs.	36 lbs.
Grade	Pipe	H40	J55
Range		2	2
Setting Depth	46'	325'	2678'
Type of Collar		S.T.C.	S.T.C.
Depth Collar		-	2616'
Type Shoe		Float Shoe	Guide Shoe
Cement Plug		Top Cement Plug	Top and Bottom Plug
Depth Shoe		325	2678
Centralizers		Nil	4
Qty. Cement	100 sacks	400 sacks	360 sacks
Method used	Halliburton	Halliburton	Halliburton

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(H) Drilling Fluid:

(i) Type:

A Freshwater - Bentonite - Lignosulphonate system of drilling mud was generally used throughout the well.

From 0' to 210' a freshwater conventional mud with minor treatment was used. From 210' to T.D. a Milwhite lignosulphonate system was used with regular treatments of unicol, milcon, caustic soda, supercol and cellucol.

(ii) Average Properties:

Week	Depth Feet	Weight lbs. U.S. Gall.	Visc. Secs/946 cc	W.L. c.c.	FC ins.	pH.
1	345	9.5	56	9	3/32	9.5
2	2600	9.8	52	8	2/32	9.5
3	4594	10.00	43	5.5	2/32	9.7

(iii) Treatment:

	<u>lbs.</u>		<u>lbs.</u>
Acquagel	12,950	Cellucol	12,265
Volclay	21,726	Soda Ash	933
Supercol	15,050	Barytes	5,000
Unicol	4,650	Cekol CMC	400
Milcon	1,550	Micatex	100
Caustic Soda	980	Ca Cl ²	1,120

(I) Water Supply: A water well was drilled about 2 miles from the rig to a depth of 112 feet. The bore was cased and yielded 4,800 gallons per hour.

(J) Perforations and Shooting: Nil.

(K) Plug back and cementation jobs: Nil.

Abandonment plugs were set as follows:

4425' - 4275'	-	Tagged at 4296'
3425' - 3325'	-	Tagged at 3380'
2778' - 2578'	-	Tagged at 2269'
50' - 0'		

(L) Fishing Operation: Nil.

(M) Side-tracking hole: Nil.

(N) Deviation:

1° at 300 feet	1/2° at 2360 feet
1 1/4° at 900 feet	1 1/4° at 3185 feet
3/4° at 1336 feet	1 1/4° at 3929 feet
1 1/2° at 1758 feet	3/4° at 4355 feet
1° at 2149 feet	

3. LOGGING AND TESTING(A) Ditch cuttings

Representative samples were collected at the shale shaker every 10 feet. These samples were washed, dried and examined. The descriptions are given in Appendix 2.

(B) Coring

(i) One conventional core was cut at the interval 2149 - 2169. Recovered 14'6" (72.5%) of the core. The core description is given in Appendix 3.

(ii) Fourteen sidewall cores were attempted, and 13 recovered. Details of these cores are given in Appendix 4.

(C) Electrical and other logs

Schlumberger Seaco Inc. ran the following logs:

(1) Induction Electrical log:

Run 1: 337' - 2689'
Run 2: 2673' - 4593'

(2) Borehole Compensated Sonic/Gamma Ray log:

Run 1: 326' - 2669' (Gamma Ray 200' - 5042')
Run 2: 2678' - 4585'

(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 300 feet to total depth. The results of this logging are plotted on the Composite log (Enclosure 1).

(F) Testing: Nil.

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REGIONAL GEOLOGY

The general geology of the Gippsland Basin, in which Spoon Bay No. 1 is located, is discussed in the Colliers Hill Well Completion Report, on page 7.

STRATIGRAPHY

The lithological sequence encountered at Spoon Bay No. 1 is classified as follows:-

<u>Age</u>	<u>Formation</u>	<u>Well Depth</u>	<u>Thickness</u>
Upper Pliocene and Quaternary sediments	Post Jemmy's Point	0'	345'
Lower Pliocene	Jemmy's Point	345'	210'
Upper Miocene	Tambo River	555'	295'
Lower Miocene	Gippsland Limestone	850'	2355'
Oligocene	Lakes Entrance	3205'	167'
Eocene	Latrobe Valley Coal Measures	3372'	910'
Lower Cretaceous	Weathered Strzelecki Group	4282'	118'
Lower Cretaceous	Strzelecki Group	4400'	195' +
Total Depth		4594'	

The recognition of the rock units given in the Stratigraphic Table is based on conventional cores, sidewall cores, cuttings and wire-line log characters. These characters were correlated with the Wellington Park Nos. 1 and 2, Bengworden South No. 1, Colliers Hill No. 1 and Seacombe South No. 1 wells. The ages assigned to the rock units are those generally accepted to those units in the Gippsland Basin (Hocking 1967 and Jenkin 1968).

Post Jemmy's Point Formation (0 - 345)

The first sample was taken at 30'. The unit is represented by loose sand, minor amounts of bluish grey clay with clastic admixtures ranging in sizes from pebbles to boulders.

The sand comprises abundant grey to colourless, coarse to very coarse grained, subrounded to rounded and moderately well sorted quartz grains. Pieces of black coal or peat, flakes of black mica, and pink and yellow weathered feldspars are also present. The occurrence of gravelly material with marls, silty material and peat suggests that at least some of the Boisdale beds were encountered.

Jemmy's Point Formation (345 - 555)

This unit consists of marine sediments of Lower Pliocene age. The lithology consists of a fossiliferous sandstone, poorly consolidated with abundant fossils, including molluscs, echinoids, bryozoans, forams and corals. The top of the formation is selected at the first appearance of marine fossils and wireline log characteristics.

Tambo River Formation (555 - 850)

This unit is typified by calcareous marls, sandy in part, with a varied faunal assemblage ranging from Pelecypods, Bryozoans and the calcareous worm tube Ditruva.

Gippsland Limestone (850 - 3205)

The top of the formation is selected at the first appearance of limestone seen in the cuttings. The lithology consists of crystalline limestone, coquina, calcarenite and marls. Elsewhere the sequence contains marly limestone interbeds, often very clayey and, in part, containing varying proportions of loose glauconite.

The coquinal limestone comprises a variety of sponge spicules, coral stems, bryozoans and pelecypods. This sub-unit is characterized by good porosity, often of a vuggy nature.

Towards the base of the Gippsland Limestone, there is an increase in the marl content. The marls present are generally grey, strongly pyritic in places, and contain abundant discrete grains of glauconite, disseminated throughout the matrix.

Lakes Entrance Formation (3205 - 3372)

This rock unit is typified by grey to bluish grey fossiliferous marls, almost similar to the marls of the Gippsland Limestone. The marls of the Lakes Entrance Formation differ by being less sandy in places, with a corresponding increase in clay components.

The top of the unit would be selected at about 3075 feet if following Hocking's 1965 work. However, since that time the wells drilled have shown a more characteristic wire-line log character. This character is seen on the Sonic log & I.E.S. log at 3205 feet.

Towards the base of the unit the marls grade to interbeds containing calcareous mudstone. The base of the unit is characterised by the presence of at least two thin beds of dolomite. The dolomite unit is pale brown to pale grey, crystalline, and partly arenaceous. These thin dolomite beds show up as prominent peaks on the resistivity and sonic logs.

The dolomite streaks are found interbedded in glauconitic sandstone. This sub-unit consists dominantly of pale grey unconsolidated sandstone comprising abundant loose, medium to coarse-grained, subrounded to rounded quartzose, strongly glauconitic with an excellent porosity.

Latrobe Valley Coal Measures (3372 - 4282)

This unit consists of sands, silts, clays and coal, and represents the first non-marine sediments encountered in the well below 345 feet. At the contact of this unit with the overlying Lakes Entrance Formation is a sand-on-sand contact, reliance for its selection was put on the wire-line logs and a top selected at 3372 feet.

Details of the lithology of the various beds are given on the composite log (Enclosure 1).

Weathered Strzelecki Group? (4282 - 4400)

The interval 4282' - 4400' in this well can be interpreted in three ways:

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- (1) Latrobe Valley Coal Measures
- (2) "Golden Beach Formation" or equivalent
- (3) Strzelecki Group - weathered

The lithology consists of the following units:

4282 - 4340	<u>Mudstone</u> - as on composite log
4340 - 4400	<u>Claystone</u> - as on composite log

In deciding to call this unit Weathered Strzelecki reliance was put on the wireline characters which on the Induction log showed resistivity midway between the LVCM and the underlying Strzelecki Group, and on the Sonic-Gamma ray log showed readings closer to the Strzelecki Group than to the LVCM.

The possibility that the unit could represent the "Golden Beach" Formation would seem, on first sight, to be a proper designation. However, until palynological examination of the sidewall cores is undertaken, there will be no real answer.

It was considered that the data at present available suggest a closer match with the Strzelecki Group rather than the "Golden Beach" Formation and so, for this report, the interval 4282' - 4400' has been called "Weathered Strzelecki?"

Strzelecki Group (4400 - 4594 T.D.)

The top of this unit is clearly shown by the resistivity characteristics of the Induction Log, and is supported to a lesser extent on the Sonic-Gamma Ray log.

The lithology consists of massive feldspathic sandstone with interbeds containing mudstone, siltstone and claystone.

The sandstone is generally pale grey to greenish grey with abundant very fine to fine-grained, subrounded, well-sorted quartz grains. It is feldspathic with a kaolinitic matrix, calcareous in patches, green to dark brown lithics, and containing very little porosity.

The siltstone is pale grey grading to a dark grey in places, occasionally very sandy and very micromicaceous.

The claystone ranges in colour from pale brown to pale green, firm, occasionally sandy, micromicaceous with a rare kaolinitic matrix.

This unit is recognized as the economic basement of the basin and can be correlated with the occurrence in the other wells drilled in the area.

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RESULTS FROM DRILLING

The Spoon Bay well was drilled to explore for the "Golden Beach" Formation in a location where the unit could be encountered when it pinches out or could show thickening. This latter idea was based on an interpretation of the top of the Strzelecki Group at about 7250 feet.

The results of the well have indicated that the "Golden Beach" Formation, if it is present, is only 113 feet thin and is mudstone and claystone. The top of the Strzelecki being encountered at either 4282' or 4400' has confirmed that the seismic results below the top of the LVCM are virtually useless and no reliance should be placed on them.

No hydrocarbon shows occurred in this well.

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

Ingram F.T. 1963. Merriman No. 1, Final Well Report.

Arco Ltd./Woodside (Lakes Entrance) Oil Co. N.L. (unpub.)

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.)

Thomas D.E. & Baragwanath W., 1949. Geology of the Brown Coals of Victoria, part 1.

Min. Geol. J. of Vict. 3(6):28-55

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.

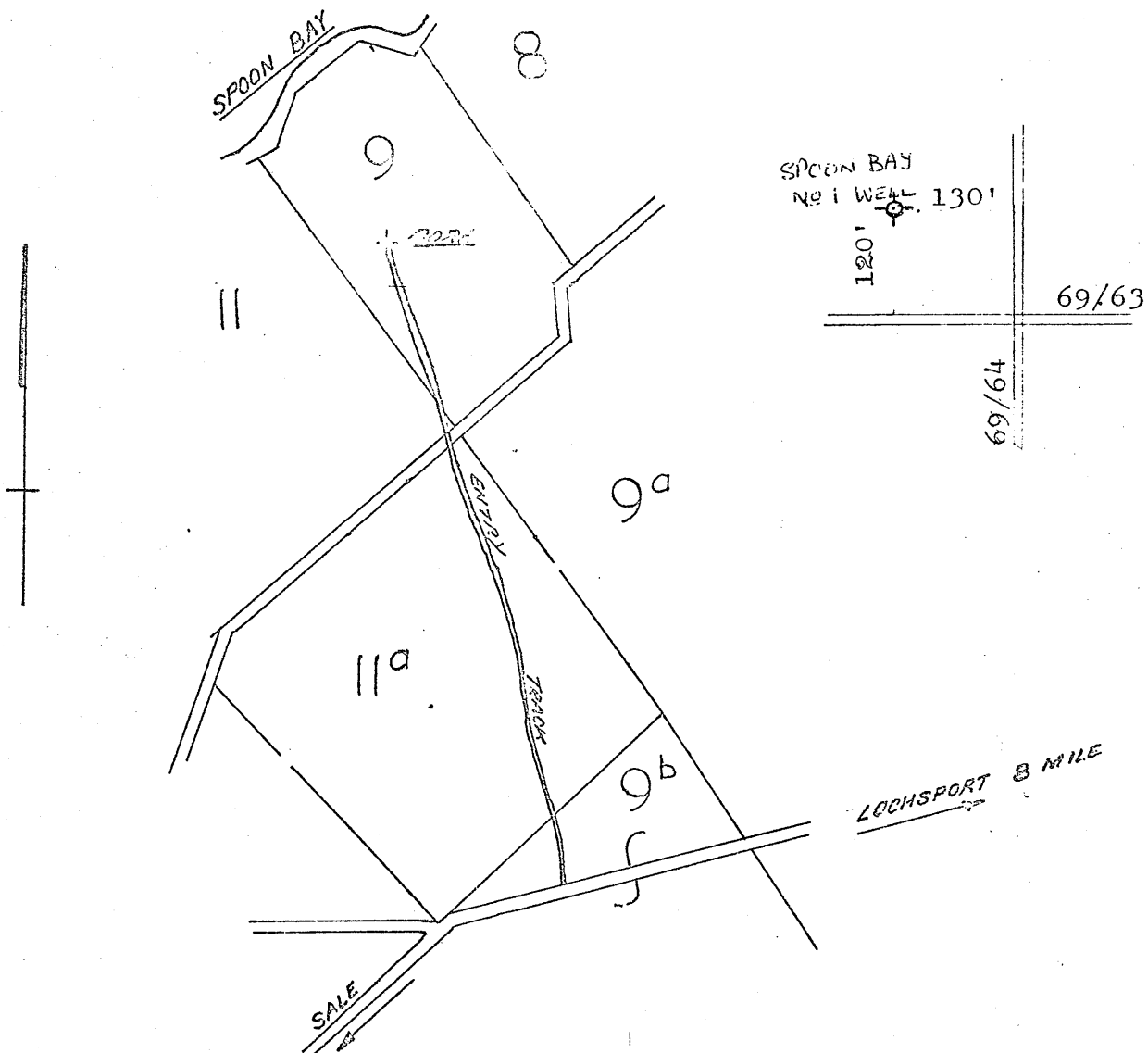
Amer. Assoc. Petrol. Geol. Bull. 51(5):742-760

Woodside (Lakes Entrance) Oil Company N.L. 1961 Wellington Park No. 1 Well.

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

WOODSIDE OIL N.L.
GIPPSLAND OIL RIG LOCATION SKETCH

LOCATION: Spoon Bay Bore No. 1



AMG GEOGRAPHICALS: LATITUDE $38^{\circ}04'56.19''$
LONGITUDE $147^{\circ}27'57.23''$

AMG CO-ORDINATES: N 5784939.11 E 540858.64
(Metres A Zone 55)

ATM GEOGRAPHICALS: LATITUDE $38^{\circ}04'57.47''$ LONGITUDE $147^{\circ}28'03.51''$

ATM CO-ORDINATES: N 303476.79 E 540826.39
(Yards Zone 7)

REDUCED LEVELS: Ground Level 17.94
Rotor Table 30.09
Kelly Bushing 30.69

LEVEL DATUM: Williamstown

CADASTRAL DESCRIPTION: Crown Allotment 9
Parish of Seacombe
County of Buln Buln

Surveyed by	P. Boase	Approved	P.F. Gardner
Calculations	A.J. May	Date	23rd October 1970
Drawn	A.J. May	Drawing No.	168/1

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

WOODSIDE OIL N.L.

SPOON BAY I

SPOON BAY NO. 1DRILL CUTTINGS SAMPLE DESCRIPTIONS

<u>Feet</u>	<u>Lithologic Description</u>
0 - 30	Not collected.
30 - 50	<u>Drift sand</u> , random mica and ferromagnesian minerals. Coarse to medium grained, quartz, unconsolidated.
50 - 80	<u>Drift sand</u> , with increase in clastic materials ranging in size from pebbles to boulders. Unconsolidated, occasional bluish-grey lumps of clay.
80 - 170	100% <u>Sandy clay</u> with prominent lumps of bluish-grey, minor black coal fragments.
170 - 230	100% <u>'Clean' sand</u> , coarse to medium grained, well sorted, good porosity.
230 - 260	100% <u>Sand</u> , unconsolidated, comprising milky white, grey quartz, coarse to very fine grained, moderate sorting, occasional feldspars, flakes green mica grains, green siltstone, ferruginous grains, good porosity.
260 - 290	As above.
290 - 320	90% <u>Sand</u> , predominantly grey to colourless, coarse to medium grained, round to subrounded, some flaky black coal, greenish black mica, gypsum, occasionally limonite. 10% <u>Dark green clay admixtures</u> .
320 - 345	100% <u>Sandstone</u> , light grey to colourless, quartz, rarely with lithic fragments, coarse to medium grained, poorly sorted, angular to subrounded, poorly cemented, with minor carbonaceous and micaceous flakes.
345 - 450	Samples not collected, shale shaker not operating.
450 - 460	60% <u>Sandstone</u> , white, pale yellow, brown quartz, coarse grained, angular to subangular, poorly sorted, poorly cemented, micaceous. 30% <u>Siltstone</u> , light grey, with numerous black flecks of carbonaceous matter. 10% <u>Coal</u> , and carbonaceous matter.
460 - 470	Drilling too fast to collect sample.
470 - 480	60% <u>Sandstone</u> , as above, fossiliferous, pyritic, very poorly sorted. 30% <u>Siltstone</u> , as above. 10% <u>Coal</u> , black, vitreous.

SPoon BAY I

<u>Feet</u>	
480 - 490	No samples collected.
490 - 500	70% <u>Sandstone</u> , as above, very poorly sorted - bimodal, fossiliferous - pelecypods, bryozoa, foraminifera. 20% <u>Siltstone</u> , as above. 10% <u>Coal</u> , as above.
500 - 510	60% <u>Sandstone</u> , as above. 20% <u>Siltstone</u> , as above. 20% <u>Coal</u> , as above.
510 - 520	60% <u>Sandstone</u> , as above, very fossiliferous. 20% <u>Siltstone</u> , as above. 20% <u>Coal</u> , as above.
520 - 530	10% <u>Sandstone</u> . 90% <u>Fossiliferous marl</u> . Trace carbonaceous matter.
530 - 540	10% <u>Sandstone</u> . 80% <u>Fossiliferous marl</u> . 10% <u>Fossiliferous clay</u> .
540 - 550	70% <u>Fossiliferous marl</u> . 30% <u>Clay</u> , medium grey, slightly sandy.
550 - 560	70% <u>Fossiliferous marl</u> . 10% <u>Sandstone</u> . 10% <u>Clay</u> . 10% <u>Coal</u> and carbonaceous matter.
560 - 570	70% <u>Fossiliferous marl</u> with foraminifera, bivalved pelecypods. 20% <u>Sandstone</u> , very fine grained, quartzose, angular, poorly sorted, micaceous. 10% <u>Coal</u> .
570 - 580	50% <u>Very fossiliferous marl</u> or <u>clay</u> . 40% <u>Sandstone</u> , as above. 10% <u>Coal</u> or carbonaceous matter.
580 - 590	80% <u>Fossiliferous clay</u> . 10% <u>Sandstone</u> , poorly sorted, angular, quartzose. 10% <u>Coal</u> or carbonaceous matter.
590 - 600	80% <u>Fossiliferous clay</u> , fossils, pelecypods. 20% <u>Coal</u> or carbonaceous matter. Trace Sand.
600 - 610	90% <u>Sandstone</u> , very fine grained, grey, dominantly of finely comminuted shells to 50% and 50% quartz. 10% <u>Clay</u> . Trace carbonaceous matter.
610 - 620	60% <u>Sandstone</u> , as above, very fine grained. 40% <u>Coquina</u> of shell fragments, all broken up, coarse to very coarse grained.
620 - 630	60% <u>Clay</u> , very fossiliferous. 40% <u>Sandstone</u> , very fine grained, as above. Trace coal or carbonaceous matter.

- 630 - 640 50% Sandstone, very fine grained, poorly consolidated.
30% Clay.
20% Fossil fragments, predominantly gastropods.
Trace flakes of mica, chips of coal.
- 640 - 650 40% Sandstone, as above.
40% Clay - silt.
20% Fossil fragments - shelly grit.
- 650 - 660 40% Sandstone.
40% Clay - silt.
20% Fossil fragments.) as above.
- 660 - 670 40% Sandstone.
40% Clay - silt.
20% Fossil fragments.) as above.
- 670 - 680 50% Sandstone, pale grey, unconsolidated, poorly sorted.
30% Clay.
20% Fossil fragments, gastropods and lamelli-branches.
- 680 - 690 100% Marl, dark grey, oozy.
Sample collected is not representative of the formation. However there has been a change in the lithology, i.e. into the Gippsland Limestone.
- 690 - 700 100% Marl, as above.
- 700 - 710 100% Marl, grey.
Trace fossiliferous sand-cavings.
- 710 - 720 100% Marl, as above.
- 720 - 730 100% Marl, as above.
- 730 - 740 100% Marl, as above.
- 740 - 750 100% Marl, as above.
- 750 - 760 100% Marl, as above.
- 760 - 770 100% Marl, as above.
- 770 - 780 100% Marl, as above.
- 780 - 790 100% Marl, as above.
- 790 - 800 100% Marl, as above.
- 800 - 810 50% Marl, dark grey, soft, fossiliferous.
25% Limestone, white colourless, fragmentary, finely crystalline.
25% Mudstone, occasionally milky white quartzose, subrounded to rounded, poorly sorted.
Fossil fragments - gastropods predominantly also coral pieces.
- 810 - 820 40% Marl.
40% Limestone.
20% Fossil.) as above.

- 820 - 830 50% Limestone.
 30% Marl.
 10% Fossil fragments.
 10% Sandstone. } as above.
- 830 - 840 30% Limestone, milky white to grey, fragmented
 crystalline.
 30% Sandstone, consolidated, pale grey, slightly
 calcareous, black lithics.
 20% Fossil fragments.
 20% Marls. } as above.
 Trace mica, weathered pink feldspars.
- 840 - 850 100% Marl, bluish grey or green, sandy in part,
 together with dark grey clay admixtures, with
 occasional fossils.
 Trace glauconitic grains and flakes of greenish-
 black mica.
- 850 - 860 100% Marl, as above.
- 860 - 870 100% Marl, as above, some fossil fragments.
- 870 - 880 100% Marl, as above, sandy in part with
 fossiliferous fragments.
- 880 - 890 100% Marl, as above.
- 890 - 900 100% Marl, as above.
- 900 - 910 100% Marl, as above.
- 910 - 920 100% Marl, light to medium grey, slightly sandy,
 slightly to rarely fossiliferous, micaceous, with
 some calcareous flakes, some lithic grains.
- 920 - 930 100% Coquina of comminuted pelecypods, bryozoa,
 foraminifera, traces of pyrite.
 Bryozoa mainly branching forms, forams -
 benthonic.
- 930 - 940 80% Fossils - comminuted.
 20% Siltstone, made up of fossil fragments and
 flecks of carbonaceous matter.
 Traces of sand, coarse to very fine grained,
 angular to very angular.
- 940 - 950 90% Fossil fragments.
 10% Siltstone, as above.
 Traces of coal.
- 950 - 960 90% Fossil fragments.
 10% Siltstone, as above.
 Trace sand, poorly sorted, fine grained.
- 960 - 970 90% Fossils, as above.
 10% Siltstone, as above.
- 970 - 980 100% Coquina, as above.
- 980 - 990 90% Coquina - fragmented fossils.
 10% Siltstone, grading to very fine sandstone.
- 990 - 1000 100% Coquina.

- 5 -
SPOON BAY I.

1000 - 1010	100% <u>Coquina</u> .
1010 - 1020	100% <u>Coquina</u> .
1020 - 1030	100% <u>Coquina</u> .
1030 - 1040	60% <u>Limestone</u> , very fine grained, carbonate grains. 40% <u>Coquina</u> .
1040 - 1050	70% <u>Limestone</u> , as above. 30% <u>Coquina</u> .
1050 - 1060	80% <u>Limestone</u> , as above, glauconitic. 20% <u>Fossil fragments</u> .
1060 - 1070	80% <u>Limestone</u> , as above. 20% <u>Fossils</u> .
1070 - 1080	80% <u>Limestone</u> , as above, fine grained, carbonate grains. 20% <u>Fossils</u> .
1080 - 1090	100% <u>Limestone</u> (40% fossils, 60% sand-sized grains, glauconitic).
1090 - 1100	100% <u>Limestone</u> , as above.
1100 - 1110	100% <u>Limestone</u> (40% fossils, 60% carbonate grains as fine sand).
1110 - 1120	100% <u>Limestone</u> , as above.
1120 - 1130	100% <u>Limestone</u> (90% sand-sized carbonate grains, 10% fossil).
1130 - 1140	100% <u>Limestone</u> , as above.
1140 - 1150	100% <u>Limestone</u> , as above.
1150 - 1160	100% <u>Limestone</u> , as above.
1160 - 1170	100% <u>Limestone</u> , as above, pyritic.
1170 - 1180	80% <u>Limestone</u> , colourless, pale grey, crystalline, vuggy, random sucrosic fractions. Also remnants of coralline fragments. Abundant fossiliferous remains notably Gastropods. 20% <u>Marl</u> , bluish-green, sticky, sandy in part. Occasional lumps of dark grey clay.
1180 - 1190	50% <u>Limestone</u> } 50% <u>Marl</u> } as above.
1190 - 1200	90% <u>Marl</u> , bluish-grey, soft, puggy with occasional lumps of dark grey clay. 10% <u>Limestone</u> , as above.
1200 - 1210	100% <u>Marl</u> , as above. Occasional fossil fragments and crystalline limestone chips.
1210 - 1220	100% <u>Marl</u> , as above.
1220 - 1230	100% <u>Marl</u> , as above.

- 1230 - 1240 75% Marl, as above.
25% Limestone, fossils, coralline fragments,
rare crystalline fractions.
- 1240 - 1250 75% Marl, as above.
25% Limestone, as above.
- 1250 - 1260 75% Marl, as above.
25% Limestone, as above.
- 1260 - 1270 50% Marl, bluish grey, sticky, sandy in part.
50% Limestone, crystalline fragments,
predominantly coralline fractions. Remnants of
gastropods and lamellibranchs, forams. Trace
carbonaceous fragments, cavings. Also iron or
limonite stained chips. Occasional pyrite
grains filling vesicles.
- 1270 - 1280 75% Marl.
25% Limestone, as above with limonite stained
fractions more common (brown to dark red).
- 1280 - 1290 90% Marl } as above.
10% Limestone }
- 1290 - 1300 90% Marl } as above.
10% Limestone }
- 1300 - 1310 90% Marl, as above.
10% Limestone, as above, dark brown chips still
predominant.
- 1310 - 1320 100% Marl, as above, sandy in part.
- 1320 - 1330 100% Marl, as above, sandy in part, with reddish
brown discoloration of return mud. Occasional
reddish brown coated chips (limestone), moderately
hard.
- 1330 - 1340 90% Marl, dark grey, greenish grey, sticky, sandy
in part.
10% Limestone, strongly calcareous, pale grey
fragments with green lithic inclusions. Occasional
grains of glauconite, small chips coralline lime-
stone, also abundant forams (lepidocyclinae?).
- 1340 - 1350 80% Marl } as above.
20% Limestone }
- 1350 - 1360 75% Marl } as above, with discrete grains
25% Limestone } of glauconite, also
foraminifera.
Occasional pyritic growths within vesicles and
cavities within the limestone fragments.
- 1360 - 1370 75% Marl, grey, dark grey, sandy in part.
25% Limestone, as above, slightly pyritic,
glauconitic.
- 1370 - 1380 50% Marl. } as above.
50% Limestone. }
Slow rate of penetration suggests limestone as
hard bands.

1380 - 1390	50% <u>Marl.</u> 50% <u>Limestone.</u>)	as above. Occasionally sandy, glauconitic, fossiliferous, trace pyrite.
1390 - 1400	100% <u>Fossiliferous marl</u> with glauconitic foraminifera, bryozoa. Slightly sandy.	
1400 - 1410	100% <u>Fossiliferous marl</u> (20% fossils) as above.	
1410 - 1420	100% <u>Fossiliferous marl</u> , as above.	
1420 - 1430	100% <u>Marl</u> , fossiliferous, fine grained, fossil fragments with about 20% whole fossils.	
1430 - 1440	100% <u>Marl</u> , as above.	
1440 - 1450	100% <u>Marl</u> , fossiliferous.	
1450 - 1460	100% <u>Fossiliferous marl</u> .	
1460 - 1470	100% <u>Fossiliferous marl</u> .	
1470 - 1480	100% <u>Fossiliferous marl</u> .	
1480 - 1490	100% <u>Fossiliferous marl</u> , glauconitic.	
1490 - 1500	100% <u>Fossiliferous marl</u> , glauconitic.	
1500 - 1510	100% <u>Fossiliferous marl</u> , as above.	
1510 - 1520	90% <u>Limestone</u> , fossiliferous. 10% <u>Marl</u> , as above.	
1520 - 1530	75% <u>Limestone.</u>) 25% <u>Marl.</u>)	as above, strongly fossiliferous.
1530 - 1540	75% <u>Limestone.</u>) 25% <u>Marl.</u>)	as above.
1540 - 1550	50% <u>Limestone.</u>) 50% <u>Marl.</u>)	as above.
1550 - 1560	50% <u>Limestone.</u>) 50% <u>Marl.</u>)	as above.
1560 - 1570	50% <u>Limestone.</u>) 50% <u>Marl.</u>)	as above.
1570 - 1580	75% <u>Marl</u> , dark grey, very soft, sandy in part. 25% <u>Limestone</u> , pale grey, colourless, coralline with gastropods, lamellibranchs, vesicular, cavities common, occasional glauconite and lithics.	
1580 - 1590	75% <u>Marl.</u>) 25% <u>Limestone.</u>)	as above, increasingly silty.
1590 - 1600	50% <u>Limestone.</u>) 50% <u>Marl.</u>)	as above.
1600 - 1610	50% <u>Limestone.</u>) 50% <u>Marl.</u>)	as above.

1610 - 1620	50% <u>Limestone</u> . 50% <u>Marl</u> .	} as above.
1620 - 1630	75% <u>Marl</u> . 25% <u>Limestone</u> .	} as above.
1630 - 1640	75% <u>Marl</u> . 25% <u>Limestone</u> .	} as above.
1640 - 1650	100% <u>Marl</u> , increasingly clayey.	
1650 - 1660	100% <u>Marl</u> , as above.	
1660 - 1670	100% <u>Marl</u> , as above.	
1670 - 1680	100% <u>Marl</u> , as above, occasionally sandy, glauconitic. Also limestone admixtures.	
1680 - 1690	100% <u>Marl</u> , as above.	
1690 - 1700	100% <u>Marl</u> , as above.	
1700 - 1710	100% <u>Marl</u> , as above.	
1710 - 1720	100% <u>Marl</u> , with occasional fossiliferous limestone.	
1720 - 1730	75% <u>Marl</u> , as above. Sandy in part, glauconitic. 25% <u>Limestone</u> , grey, vuggy porosity.	
1730 - 1740	50% <u>Marl</u> . 50% <u>Limestone</u> .	} as above, the reddish discoloration of mud is changing to bluish grey.
1740 - 1750	75% <u>Limestone</u> . 25% <u>Marl</u> .	} as above.
1750 - 1760	90% <u>Limestone</u> , fossiliferous, pale grey, occasional crystalline fractions, abundant foraminifera and corals. Some vuggy porosity. Occasional sandy components, and glauconitic grains. 10% <u>Marl</u> , as above.	
1760 - 1770	90% <u>Limestone</u> . 10% <u>Marl</u> .	} as above with occasional glauconitic grains as replacement minerals in coral structures. Abundant forams, gastropods and bryozoans.
1770 - 1780	90% <u>Limestone</u> , as above. 10% <u>Marl</u> .	
1780 - 1790	80% <u>Limestone</u> , as above. 20% <u>Marl</u> .	
1790 - 1800	60% <u>Marl</u> , as above. 40% <u>Limestone</u> , as above.	
1800 - 1810	50% <u>Limestone</u> , as above. 50% <u>Marl</u> , as above.	
1810 - 1820	80% <u>Marl</u> . 20% <u>Limestone</u> .	

1820 - 1830	80% <u>Marl</u> , as above, with carbonaceous flecks. 20% <u>Limestone</u> , as above.
1830 - 1840	80% <u>Marl</u> . 20% <u>Limestone</u> .
1840 - 1850	90% <u>Marl</u> . 10% <u>Limestone</u> .
1850 - 1860	80% <u>Marl</u> . 20% <u>Limestone</u> .
1860 - 1870	80% <u>Limestone</u> . 20% <u>Marl</u> .
1870 - 1880	70% <u>Limestone</u> . 30% <u>Marl</u> .
1880 - 1890	70% <u>Limestone</u> . 30% <u>Marl</u> .
1890 - 1900	90% <u>Limestone</u> , fossiliferous, glauconitic. 10% <u>Marl</u> .
1900 - 1910	100% <u>Limestone</u> , fossiliferous.
1910 - 1920	60% <u>Limestone</u> . 40% <u>Marl</u> .
1920 - 1930	80% <u>Limestone</u> . 20% <u>Marl</u> .
1930 - 1940	50% <u>Limestone</u> . 50% <u>Marl</u> .
1940 - 1950	100% <u>Limestone</u> , light grey, composed of very fine grained carbonate particles with 10% fossils, mostly broken.
1950 - 1960	100% <u>Limestone</u> , as above.
1960 - 1970	100% <u>Limestone</u> , as above.
1970 - 1980	100% <u>Limestone</u> , as above.
1980 - 1990	70% <u>Limestone</u> , as above. 30% <u>Marl</u> , light brown, sticky.
1990 - 2000	100% <u>Limestone</u> , as above.
2000 - 2010	100% <u>Limestone</u> with small amount of light grey-brown marl.
2010 - 2020	80% <u>Limestone</u> . 20% <u>Marl</u> .
2020 - 2030	90% <u>Limestone</u> , two varieties: (a) colourless, crystalline fragmented, (b) pale grey fossiliferous mostly coral remains, abundant foraminiferal fauna, gastropods, bryozoans, glauconitic. 10% <u>Marl</u> , reddish brown, sticky, occasionally sandy.

- 2030 - 2040 90% Limestone as above, strongly fossiliferous, abundant spicules and stems of corals.
10% Marl, as above.
- 2040 - 2050 90% Limestone } as above.
10% Marl }
- 2050 - 2060 90% Limestone } as above, with occasional
10% Marl } carbonaceous specks and blebs.
- 2060 - 2070 75% Limestone, pale grey, dark grey to colourless. Often crystalline, strongly fossiliferous, abundant forams, corals, and bryozoans. Rare black blebs
25% Marl, bluish-grey, with occasional lumps of clay, rarely sandy.
- 2080 - 2090 75% Limestone } as above.
25% Marl }
- 2090 - 2100 90% Limestone } as above.
10% Marl }
- 2100 - 2110 100% Limestone, as above, with some marl.
- 2110 - 2120 100% Limestone, as above.
- 2120 - 2130 100% Limestone, as above.
- 2130 - 2140 90% Limestone, strongly fossiliferous. Occasional specks of black coal, often glauconitic. Slightly sandy.
10% Marl.
- 2140 - 2149 75% Limestone, as above, rarely glauconitic.
25% Marl, clayey in part, often sandy.
- 2149 - 2169 Core No. 1 cut, 20'. Recovered 14½' (72.5%).
- 2169 - 2180 50% Marl, clayey in places, bluish grey.
40% Limestone, grey, dark grey, strongly fossiliferous.
10% Gravel, milky white, colourless, fragmented quartzose, exhibiting roundness.
Trace glauconitic grains, specks of coal (black).
- 2180 - 2190 60% Limestone } as above.
30% Marl }
10% Gravel }
- 2190 - 2200 60% Limestone } as above.
30% Marl }
10% Gravel }
- 2200 - 2210 60% Limestone, grey to pale grey, abundant fossiliferous fragments, forams, corals and glauconitic in places.
30% Marl, grey to bluish grey, with lumps of blue clay, sandy in part.
10% Gravel, milky white, colourless, fragmented, rounded to subrounded.
Traces of specks of coal (black).

2210 - 2220	50% <u>Marl.</u> 40% <u>Limestone.</u> 10% <u>Gravel</u> , as above, occasional pyrite as infills exposed on walls of fragmented pieces.	} as above.
2220 - 2230	50% <u>Limestone.</u> 40% <u>Marl.</u> 10% <u>Gravel.</u>	} as above.
2230 - 2240	50% <u>Limestone.</u> 25% <u>Marl.</u> 25% <u>Gravel</u> , ranging in size, very coarse, granule to pebble sized, rounded to subrounded.	
2240 - 2250	50% <u>Limestone.</u> 25% <u>Marl.</u> 25% <u>Gravel.</u>	} as above, occasional iron staining above fractured planes, some microcrystalline pyrite as concretions.
2250 - 2260	50% <u>Marl.</u> 40% <u>Limestone.</u> 10% <u>Gravel.</u>	} as above, lumps of clay (nodules) washed away.
2260 - 2270	75% <u>Marl.</u> 25% <u>Limestone.</u>	} as above, lumps of greenish blue clay.
2270 - 2280	75% <u>Marl.</u> 25% <u>Limestone.</u>	} as above.
2280 - 2290	90% <u>Marl.</u> 10% <u>Limestone.</u>	} as above.
2290 - 2300	90% <u>Marl.</u> 10% <u>Limestone.</u>	} as above.
2300 - 2310	90% <u>Marl.</u> 10% <u>Limestone.</u>	} as above.
2310 - 2320	75% <u>Marl</u> , greenish blue, lumps of clay. 25% <u>Limestone</u> , grey, dark grey, fossiliferous, abundant forams.	
2320 - 2330	50% <u>Marl.</u> 50% <u>Limestone.</u>	} as above.
2320 - 2340	50% <u>Marl.</u> 50% <u>Limestone.</u>	} as above.
2340 - 2350	50% <u>Limestone.</u> 40% <u>Marl.</u> 10% <u>Gravel.</u>	} as above, rare pebbles, granules
2350 - 2360	50% <u>Marl.</u> 45% <u>Limestone.</u> 5% <u>Gravel</u> , milky white, fragmented.	} as above.
2360 - 2370	70% <u>Marl.</u> 25% <u>Limestone.</u> 5% <u>Gravel</u> , milky white, pink, rare pebbles.	} as above.
2370 - 2380	60% <u>Marl.</u> 30% <u>Limestone.</u> 10% <u>Gravel</u> , quartz pebbles and granules, up to 8 mm in diameter.	

- 2380 - 2390 60% Marl, light grey-brown, sticky.
40% Limestone, fossiliferous.
- 2390 - 2400 60% Marl, slightly sandy, as above.
40% Limestone, as above.
- 2400 - 2410 60% Marl.
40% Limestone.
- 2410 - 2420 80% Marl, slightly sandy, as above.
20% Limestone, fossiliferous.
- 2420 - 2430 80% Marl, with 10-20% sand, very fine grained.
20% Limestone, as above.
- 2430 - 2440 70% Marl, as above.
20% Limestone, as above.
10% Siltstone, light green, fossiliferous,
pyritic.
- 2440 - 2450 80% Marl.
20% Sandstone, quartzose, subrounded to rounded,
poorly sorted grains, coarse to granule sized.
- 2450 - 2460 70% Marl.
30% Sandstone, as above.
- 2460 - 2470 80% Marl.
20% Sandstone, as above.
- 2470 - 2480 80% Marl, fossiliferous.
20% Sandstone, as above.
- 2480 - 2490 90% Marl.
10% Sandstone, fine to medium grained.
- 2490 - 2500 90% Marl, fossiliferous.
10% Sandstone, as above.
- 2500 - 2510 80% Marl, fossiliferous.
20% Sandstone, as above.
- 2510 - 2520 90% Marl.
10% Sandstone, very, fine grained, glauconitic.
- 2520 - 2530 90% Marl.
10% Sandstone, as above.
- 2530 - 2550 80% Marl, fossiliferous.
20% Sandstone, as above.
- 2550 - 2560 80% Marl, as above, fossiliferous.
20% Limestone, as above.
Trace Sandstone, pyritic.
- 2560 - 2570 80% Marl, as above.
20% Limestone, as above.
- 2570 - 2580 80% Marl.
20% Limestone.
- 2580 - 2590 90% Marl.
10% Limestone, soft, light grey, fossiliferous,
glauconitic, slightly sandy in patches.

2590 - 2600	75% <u>Marl</u> . 25% <u>Limestone</u> . Occasional pyrite, microcrystalline, quartzose.		
2600 - 2610	60% <u>Marl</u> , strongly argillaceous in places. 40% <u>Limestone</u> , crystalline with pyrite veins, hard, very calcareous in places.		
2610 - 2620	60% <u>Marl</u> , bluish green, excessively clayey and lumpy in places. 40% <u>Limestone</u> , dark grey, pale grey, very strongly calcareous, rare pyrite veinlets. Occasional forams and corals, glauconitic.		
2620 - 2630	60% <u>Marl</u> . 40% <u>Limestone</u> .	}	as above.
2630 - 2640	75% <u>Marl</u> . 25% <u>Limestone</u> .		
2640 - 2650	75% <u>Marl</u> . 25% <u>Limestone</u> .	}	as above.
2650 - 2660	90% <u>Marl</u> . 10% <u>Limestone</u> .		
2660 - 2670	90% <u>Marl</u> . 10% <u>Limestone</u> .	}	as above.
2670 - 2680	90% <u>Marl</u> . 10% <u>Limestone</u> .		
2680 - 2830	No Returns - Collars still in 9 $\frac{1}{8}$ casing. Very small bulk sample obtained over several hours, placed in sample bag 2830'. 100% <u>Siltstone</u> , light grey, with white grains (fossils?). Bedding not apparent, slightly pyritic with rare quartz grains of fine sand- size, calcareous. Trace coal, quartz sand (pyritic grains). <u>Is</u> Mudstone on Ginsburg classification.		
2830 - 2840	No returns.		
2840 - 2850	Mudstone (Ginsburg classification) or calcareous siltstone.		
2860 - 2870	No returns.		
2870 - 2880	100% <u>Mudstone</u> , (Ginsburg), siltstone grading to shale, glauconitic, fossiliferous, soft.		
2880 - 2890	100% <u>Mudstone</u> , (Ginsburg), shale, with patches of calcite with inclusions of glauconite. Occasional sand grains.		
2890 - 2900	100% <u>Mudstone</u> (shale), as above, pyritic.		
2900 - 2910	100% <u>Mudstone</u> " " " "		
2910 - 2920	100% <u>Mudstone</u> " " " "		

- 2920 - 2930 100% Mudstone (Ginsburg), shale, calcareous, pyritic, fossiliferous, slightly sandy.
- 2930 - 2940 100% Mudstone (Ginsburg), shale grading to silt and possibly also very fine sand, pyritic, fossiliferous, calcareous, soft, glauconitic.
- 2940 - 2950 100% Mudstone (Ginsburg), shale, light grey, grading to very fine sand in places. Glauconitic, fossiliferous, pyritic.
- 2950 - 2960 No returns.
- 2960 - 2970 90% Fossiliferous mudstone (marl), light grey, clayey, calcareous, glauconitic, pyritic.
10% Sandstone, light grey, very fine grained.
- 2970 - 2980 90% Fossiliferous mudstone, as above.
10% Sandstone, as above.
Trace of dolomite, brown, finely crystalline.
- 2980 - 2990 100% Fossiliferous mudstone, (marl), very clayey. This marl is possibly the result of the shale being ground up by the drill-collars and could be the "No returns" formation material.
- 2990 - 3000 100% Fossiliferous mudstone (marl), light grey, pyritic, glauconitic, with very fine quartz sand.
- 3000 - 3010 100% Fossiliferous mudstone (marl), as above.
- 3010 - 3020 100% Fossiliferous mudstone (marl), slightly sandy, glauconitic, pyritic.
- 3020 - 3030 100% Fossiliferous mudstone (marl), as above,
10% fossils.
- 3030 - 3040 100% Fossiliferous mudstone (marl), as above,
10% fossils.
- 3040 - 3050 100% Fossiliferous mudstone (marl), as above,
10% fossils.
- 3050 - 3060 100% Fossiliferous mudstone (marl), as above,
10% fossils.
- 3060 - 3070 100% Fossiliferous mudstone (marl), as above,
10% fossils.
- 3070 - 3080 100% Fossiliferous mudstone (marl), as above
10% fossils.
- 3080 - 3090 100% Fossiliferous mudstone (marl), as above
10% fossils.
- 3090 - 3100 100% Fossiliferous mudstone, light grey, light grey-green, slightly sandy, slightly silty, glauconitic.
- 3100 - 3110 100% Mudstone, with 10% siltstone, fossiliferous (about 5%), glauconitic with rare quartz sand grains.

- 3110 - 3120 100% Mudstone (marl), as above.
- 3120 - 3130 100% Mudstone (marl) with 90% clay (calcareous) and 10% chips, light grey, light green, bright green, white and light brown, overall pale green, silty in places, with fossil fragments.
- 3130 - 3140 100% Mudstone (marl), as above.
- 3140 - 3150 100% Mudstone (marl), as above.
- 3150 - 3160 100% Mudstone (marl), as above.
- 3160 - 3170 100% Mudstone (marl), as above.
- 3170 - 3180 100% Mudstone (marl), as above, glauconitic, pyritic.
- 3180 - 3190 Fossils: forams - uniserial, biserial, straight, and coiled forms. Bryozoa - branding.
- 3190 - 3200 No Returns due to trip to recover survey tool.
- 3200 - 3210 No Returns.
- 3210 - 3220 100% Fossiliferous mudstone (marl), light green grey, sticky with foraminifera and bryozoa. Glauconitic.
- 3220 - 3230 100% Mudstone (marl), rarely fossiliferous, light green, light brown, light grey, glauconitic, pyritic.
- 3230 - 3240 100% Mudstone (marl), rarely fossiliferous, light green, light brown, light grey, glauconitic, pyritic.
- 3240 - 3250 100% Claystone?, less carbonate than clay matter, pale green to dark green, grey, glauconitic.
- 3250 - 3260 100% Fossiliferous mudstone, pale green with with numerous fossils, richly glauconitic in patches (10%).
- 3260 - 3270 100% Mudstone, as above, glauconitic with admixed very fine grained sand - angular, poorly sorted, grading to siltstone in places.
- 3270 - 3280 100% Mudstone, as above, with very fine and fine grained quartz sand, occasionally medium sized quartz grains (A thoroughly washed sample with clay removed yields 80% mudstone, 20% siltstone, both calcareous, fossiliferous, glauconitic, occasional grains of very fine grained quartz sand present also.)
- 3280 - 3290 100% Mudstone, fossiliferous, glauconitic, finely sandy, pyritic.
- 3290 - 3300 100% Mudstone, glauconitic (+ 1%) sandy quartz grains, light brown, white, colourless.

3300 - 3310	100% <u>Mudstone</u> , as above.
3310 - 3320	100% <u>Mudstone</u> , as above.
3320 - 3330	80% <u>Mudstone</u> , as above. 20% <u>Siltstone</u> , light brown, quartzose, pyritic.
3330 - 3340	80% <u>Mudstone</u> , as above. 10% <u>Siltstone</u> . 10% <u>Sandstone</u> , very fine grained, light brown, subrounded, well sorted.
3340 - 3350	90% <u>Mudstone</u> , as above. 10% <u>Sandstone</u> , as above.
3350 - 3360	100% <u>Mudstone</u> , as above. Trace sandstone.
3360 - 3370	100% <u>Mudstone</u> , as above.
3370 - 3380	100% <u>Mudstone</u> , as above. Trace sand, fine grained, rounded to subrounded, poorly sorted, unconsolidated.
3380 - 3390	70% <u>Sandstone</u> , unconsolidated, slightly glauconitic, pyritic, light grey, white, clear, subrounded to rounded, occasionally subangular, fine to granule sized grains, very poorly sorted. Porosity probably good. 30% <u>Mudstone</u> , as above. Drilling break of 20 feet. No gas or fluorescence.
3390 - 3400	60% <u>Coal</u> , brown, soft, dull lustre, pyritic. 40% <u>Sandstone</u> , as above, no glauconite. Trace of mudstone, as above.
3400 - 3410	50% <u>Mudstone</u> , as above. 50% <u>Coal</u> , as above. Trace of sand, as above.
3410 - 3420	80% <u>Sandstone</u> , light grey to white, quartzose, medium to coarse grained, angular to subrounded, poorly sorted, unconsolidated. 10% <u>Coal</u> , as above. 10% <u>Mudstone</u> , calcareous, as above.
3420 - 3430	80% <u>Sandstone</u> , as above. 10% <u>Coal</u> , as above. 10% <u>Mudstone</u> , as above.
3430 - 3440	80% <u>Sandstone</u> , as above, with rare glauconite grains. 10% <u>Coal</u> , as above. 10% <u>Mudstone</u> , pale green, soft, calcareous.
3440 - 3450	80% <u>Mudstone</u> , 10% <u>Sandstone</u> , as above. 10% <u>Coal</u> , as above.
3450 - 3460	50% <u>Mudstone</u> , as above. 45% <u>Sandstone</u> , as above (kaolinitic cement in places) 5% <u>Coal</u> , as above.

- 3460 - 3470 90% Sandstone, as above.
10% Mudstone, as above.
Trace coal.
- 3470 - 3480 90% Sandstone, as above.
10% Coal, as above.
Trace mudstone, as above.
- 3480 - 3490 100% Coal.
- 3490 - 3500 95% Sandstone, subangular to subrounded, fair
sorting.
5% Coal.
Trace mudstone.
- 3500 - 3510 70% Coal, as above.
30% Sandstone, as above.
Trace mudstone.
- 3510 - 3520 90% Sandstone, as above, quartz, angular to
subangular, fair sorting.
10% Coal.
Trace mudstone.
- 3520 - 3530 95% Sandstone, as above.
5% Coal.
Trace mudstone, green, calcareous.
- 3530 - 3540 90% Sandstone, as above.
5% Coal.
5% Mudstone.
- 3540 - 3550 85% Sandstone.
10% Coal.
5% Mudstone.
- 3550 - 3560 70% Sandstone, coarse to very coarse, subangular
to angular. Occasional rounded grain. 95% quartz
clear to milky.
Trace kaolinite cement. Porosity probably good.
Trace pyrite.
20% Coal, brown and black.
10% Mudstone, green-grey, slightly calcareous.
Trace of grey-green siltstone.
- 3560 - 3570 80% Sandstone, as above.
10% Coal, as above.
10% Mudstone, as above.
- 3750 - 3530 50% Sandstone, 100% quartz. Fair to well sorted,
subangular.
50% Coal, carbonaceous shale, brown with thin
beds of coal.
- 3580 - 3590 100% Sandstone, poor to fair sorting. Trace
lithics. Inclusions in quartz.
Trace mudstone.
- 3590 - 3600 95% Sandstone, as above.
5% Coal and Mudstone.

3600 - 3610	60% <u>Mudstone</u> , grey-green-brown, calcareous. Traces of glauconite and pyrite. 40% <u>Sandstone</u> , as above.	
3610 - 3620	60% <u>Mudstone</u> , as above. 30% <u>Sandstone</u> , as above. 10% <u>Coal</u> , as above.	
3620 - 3630	70% <u>Mudstone</u> , as above. 30% <u>Sandstone</u> , as above. Trace coal, as above.	
3630 - 3640	90% <u>Coal</u> , brown and black. 10% <u>Sandstone</u> , as above.	
3640 - 3650	95% <u>Sandstone</u> , medium to coarse, poor to fair sorting. 5% <u>Coal</u> .	
3650 - 3660	70% <u>Sandstone</u> . 30% <u>Coal</u> , brown and black. Trace mudstone, as above.	
3660 - 3670	50% <u>Mudstone</u> , pale green, strongly argillaceous, with occasional lithic patches, kaolinitic in part, occasionally glauconitic, very calcareous. 25% <u>Sandstone</u> , predominantly colourless, sub-angular to angular, very fine to fine grained. 25% <u>Siltstone</u> , pale brown, sandy in part, occasional glauconite grains embedded within the siltstone matrix, strongly calcareous, moderately hard. Trace coal, occasional specks only.	
3670 - 3680	40% <u>Mudstone</u> . 25% <u>Sandstone</u> . 25% <u>Siltstone</u> . 10% <u>Coal</u> .	} as above with occasional pyrite and glauconite.
3680 - 3690	40% <u>Mudstone</u> . 25% <u>Siltstone</u> . 25% <u>Sandstone</u> . 10% <u>Coal</u> .	} as above, with occasional pyrite, glauconite and limonitic fractions.
3690 - 3700	40% <u>Mudstone</u> . 25% <u>Sandstone</u> . 25% <u>Siltstone</u> . 10% <u>Coal</u> .	} as above.
3700 - 3710	50% <u>Mudstone</u> . 25% <u>Siltstone</u> . 20% <u>Sandstone</u> . 5% <u>Coal</u> .	} as above.
3710 - 3720	50% <u>Mudstone</u> . 20% <u>Sandstone</u> . 25% <u>Siltstone</u> . 5% <u>Coal</u> .	} as above.
3720 - 3730	40% <u>Mudstone</u> . 25% <u>Sandstone</u> . 25% <u>Siltstone</u> . 10% <u>Coal</u> .	} as above.

- 3730 - 3740 40% Mudstone. }
 25% Sandstone. } as above with
 25% Siltstone. } occasional pyrite and
 10% Coal. } glauconite grains.

- 3740 - 3750 75% Mudstone, pale green, lumpy, very strongly
 argillaceous, calcareous, occasional glauconite
 embedded in it. Sample very clayey.
 15% Siltstone, as above, occasionally sandy.
 10% Sandstone, pale grey, fine grained, well
 sorted, moderate to poor porosity.
 Occasional coal fragments. Sample very clayey.

- 3750 - 3760 75% Mudstone, grey, bluish grey, washed down
 to nodule sizes, occasionally micromicaceous, sandy
 in part, rare carbonaceous streaks. Calcareous.
 20% Siltstone, pale green to pale brown, sandy
 in part, occasionally micromicaceous, sample very
 clayey.
 5% Sandstone, as above.
 Trace pyrite grains, glauconite, specks of coal.

- 3760 - 3770 60% Mudstone, calcareous, as above.
 30% Siltstone.
 10% Sandstone.
 Trace of coal.

- 3770 - 3780 80% Mudstone, calcareous, fossiliferous, as
 above.
 10% Siltstone, as above.
 10% Coal, as above.
 Trace sandstone.

- 3780 - 3790 60% Mudstone, as above.
 40% Siltstone, very fine grained, light grey,
 soft.
 Trace sand.

- 3790 - 3800 85% Mudstone, light grey, green, brown, soft,
 fossiliferous, slightly sandy.
 15% Siltstone, pale brown, soft, slightly sandy,
 glauconitic, pyritic, fossiliferous.
 Trace coal and sand.

- 3800 - 3810 70% Mudstone.
 20% Siltstone.
 10% Sandstone.

- 3810 - 3820 70% Mudstone.
 10% Claystone.
 20% Siltstone.
 Trace coal and sand.

- 3820 - 3830 80% Mudstone, as above.
 20% Siltstone, as above, glauconitic, pyritic.
 Trace sandstone, as above, claystone, as above,
 and coal.

- 3830 - 3840 60% Siltstone, as above.
 20% Mudstone, as above.
 10% Claystone, as above.
 10% Sandstone, as above.
 Trace coal.

3840 - 3850	100% <u>Coal</u> , brown, soft, with calcareous veins ? ("K" Horizon?)	
3850 - 3860	100% <u>Coal</u> , as above, traces of calcite.	
3860 - 3870	100% <u>Coal</u> , as above. Trace of gas.	
3870 - 3880	100% <u>Coal</u> , as above.	} Traces of gas throughout.
3880 - 3890	100% <u>Coal</u> , as above.	
3890 - 3900	100% <u>Coal</u> , as above.	
3900 - 3910	100% <u>Coal</u> , as above. Trace calcareous green claystone.	
3910 - 3920	100% <u>Coal</u> , as above.	
3920 - 3930	60% <u>Coal</u> , as above. 40% <u>Claystone</u> , pale green, soft. Trace of sand.	
3930 - 3940	100% <u>Coal</u> , as above. Trace of claystone.	
3940 - 3950	100% <u>Coal</u> , as above. Trace of claystone.	
3950 - 3960	100% <u>Coal</u> , as above. Trace claystone.	
3960 - 3970	90% <u>Coal</u> , as above. 10% <u>Claystone</u> , light green, soft.	
3970 - 3980	100% <u>Coal</u> , as above. Trace claystone.	
3980 - 3990	40% <u>Claystone</u> , as above. 30% <u>Mudstone</u> , light grey-tan, calcareous. 30% <u>Coal</u> , as above.	
3990 - 4000	50% <u>Coal</u> , brown and black. 25% <u>Claystone</u> , as above. Trace of glauconite. 25% <u>Mudstone</u> , as above.	
4000 - 4010	95% <u>Coal</u> , brown carbonaceous claystone and black coal. 5% <u>Mudstone</u> , as above.	
4010 - 4020	80% <u>Coal</u> , as above. 20% <u>Claystone</u> , pale green, calcareous.	
4020 - 4030	90% <u>Coal</u> , brown, soft, dull lustre. 10% <u>Claystone</u> , pale green, soft, calcareous.	
4030 - 4040	80% <u>Claystone</u> , as above. 20% <u>Coal</u> , as above.	
4040 - 4050	80% <u>Claystone</u> , as above. 10% <u>Sandstone</u> , light grey, quartzose, rounded to subrounded, coarse to very coarse grained, with granules, poorly cemented. 10% <u>Coal</u> , as above.	

- 4050 - 4060 90% Sandstone, as above.
10% Coal, as above.
- 4060 - 4070 90% Coal, as above.
10% Claystone.
Trace sandstone.
- 4070 - 4080 100% Coal, as above.
- 4080 - 4090 100% Coal, as above, traces of sand.
- 4090 - 4100 100% Coal, as above, traces of very fine sand.
- 4100 - 4110 70% Sand, light grey, clear, quartzose, angular to very angular, medium grained, poorly sorted, apparently unconsolidated.
30% Coal, as above.
Trace claystone and mudstone.
- 4110 - 4120 80% Coal, as above.
20% Sandstone, as above.
- 4120 - 4130 90% Coal, as above.
10% Sandstone, as above.
- 4130 - 4140 100% Coal, as above.
Trace sandstone, as above, claystone (slightly calcareous).
- 4140 - 4150 50% Coal, dark brown, black, dull, lignitic, soft, blocky.
25% Sandstone, pale grey, colourless, comprising clear quartzose, abundant loose medium to fine grained, subangular, angular, well sorted, poor to fair porosity.
25% Claystone, greenish grey, micromicaceous, found as chips, kaolinitic patches.
Traces siltstone, reddish brown, micromicaceous, sandy in part.
- 4150 - 4160 40% Coal.
25% Claystone.
25% Siltstone.
10% Sandstone, very clear, some slightly cloudy, angular, medium to fine grained. } as above.
- 4160 - 4173 40% Coal, dark brown, black, lignitic, very silty, firm to hard, blocky.
25% Claystone, greenish grey, micromicaceous. Found as flakes, kaolinitic patches, sandy in part, strongly calcareous.
25% Siltstone, pale brown, often hard, brittle, massive, slightly calcareous, somewhat grading to shale in places.
10% Sandstone, comprising loose clearless quartz, angular to subangular, fine to very fine grained, abrasive, poor porosity, some glauconite. No gas kicks.
- 4173 - 4204 CIRCULATED SAMPLE.
90% Sandstone, comprising abundant loose quartz, pale grey, colourless, and milky white varieties, coarse to very coarse, often granule sized, somewhat abrasive, subangular, angular, poor porosity.
10% Coal, as above mostly as small flakes or chips.
Trace siltstone, claystone and grey shale, pyrite.

- 4204 - 4210 75% Sandstone, as above, with abundant coarse to very coarse, loose quartz, angular to subangular, poor porosity. No fluorescence or gas kicks.
25% Coal, as above.
- 4210 - 4220 75% Sandstone, as above, very abrasive. No effective porosity. No fluorescence or gas kicks.
25% Coal, splintery fractions.
Trace siltstone, claystone.
- 4220 - 4230 50% Coal, as above, as small chips, flakes.
50% Sandstone, pale grey, colourless, well cemented, very abrasive, angular, medium to very coarse.
Trace claystone, occasional glauconite grains (cavings?)
- 4230 - 4240 50% Coal, dominantly black, brittle.
50% Sandstone, as above.
Trace claystone (mudstone) siltstone.
- 4240 - 4250 75% Coal.)
15% Siltstone.) as above.
10% Sandstone, poor porosity.
- 4250 - 4260 75% Coal.)
15% Siltstone.) as above.
10% Sandstone.)
- 4260 - 4270 40% Siltstone, pale brown, to light grey, soft, clayey, pyritic, fossiliferous.
30% Coal, black, vitreous, soft.
30% Sandstone, clear, white quartz, angular quartz, medium to fine grained, poorly sorted, unconsolidated, glauconitic, pyritic.
- 4270 - 4280 60% Claystone to siltstone, light grey, pale green-grey, soft.
30% Coal, as above.
10% Sandstone, light grey, very fine grained, poorly sorted, angular, weakly cemented.
- 4280 - 4290 80% Siltstone/claystone, as above, multicoloured.
20% Coal, black, brown.
Trace of sand.
- 4290 - 4300 70% Claystone, light grey, speckled, soft.
20% Coal.
10% Siltstone, light grey with glauconitic grains.
- 4300 - 4310 60% Claystone, as above, calcareous.
20% Siltstone, as above, calcareous.
20% Coal.
Trace of sandstone, as above.
- 4310 - 4320 70% Siltstone, light grey, speckled, soft, laminated.
20% Claystone, light grey, green, soft.
10% Coal, as above, pyritic, cavings.

- 4320 - 4330 70% Siltstone, as above.
 20% Claystone, as above.
 10% Coal, (cavings).
 Trace sandstone with kaolinitic matrix.
- 4330 - 4340 80% Siltstone, as above.
 10% Claystone, as above.
 10% Coal, as above.
 Trace of sand.
- 4340 - 4350 50% Claystone, as above.
 40% Siltstone, as above.
 10% Coal (cavings).
 Trace of sand.
- 4350 - 4360 70% Siltstone, as above.
 30% Claystone, as above.
 Trace of coal. Trace of sandstone - glauconitic,
 kaolinitic.
- 4360 - 4370 80% Siltstone, as above, glauconitic, pyritic,
 light grey, dark brown with white flecks.
 10% Claystone, as above.
 10% Coal (cavings).
 Trace of sand.
- 4370 - 4376 60% Siltstone, as above.
 20% Claystone, as above.
 10% Coal, as above.
 10% Sand, quartzose, with lithic grains, mica,
 angular to subangular, poorly sorted,
 moderately hard, tight, with grey clay matrix?
 Possibly arkosic. Together with clear and
 white angular quartz grains, poorly sorted, and
 unconsolidated.
- (Sample bag is labelled as 4380').
- 4376 - 4390 50% Sandstone, grey, pale grey, very fine
 grained, occasional loose colourless quartz.
 25% Mudstone, brown strongly micromicaceous.
 25% Claystone, pale green, micromicaceous in
 parts. Occasionally sandy, rare kaolinitic
 pockets.
 Trace coal (cavings), pyrite grains and
 glauconite.
- 4390 - 4400 50% Sandstone, as above.)
 25% Mudstone (calcareous).) as above with
 25% Claystone (calcareous).) pyrite aggregates.
- 4400 - 4410 50% Sandstone, micromicaceous, with coal streaks
 somewhat kaolinitic in places and lithic
 inclusions. Tight, no porosity.
 40% Mudstone, brown, grey, micromicaceous,
 occasionally sandy, occasionally carbonaceous,
 strongly argillaceous.
 10% Claystone, pale green, pale brown, firm,
 occasionally lignitic, slightly sandy.
- 4410 - 4420 60% Sandstone.)
 20% Siltstone.) as above. Sample clayey,
 20% Mudstone.) occasionally coal, cavings
 (large chips).

- 4420 - 4430 50% Sandstone, grey, pale grey, fine grained, well cemented, well sorted, lithic streaks, micromicaceous, occasionally kaolinitic. Poor to nil porosity.
30% Siltstone, buff coloured, pale brown, occasionally sandy, micromicaceous.
20% Mudstone, pale grey, hard, micromicaceous. Trace of calcite and pyrite.
- 4430 - 4440 50% Sandstone.
25% Siltstone.
25% Mudstone.) as above, slight increase in pale green siltstone.
- 4440 - 4450 50% Sandstone, as above, occasional loose clear quartzose, angular, subangular, medium to coarse grained.
25% Siltstone.
25% Mudstone.) as above.
Trace coal, probably cavings (large chips), weathered feldspars, rare glauconites.
- 4450 - 4460 40% Sandstone, as above with less amounts of loose quartz.
30% Siltstone, as above.) sample very clayey
30% Mudstone, as above.) with coal (cavings?)
- 4460 - 4470 70% Sandstone, abundant pale grey, grey varieties, fine to very fine grained, well sorted, kaolinitic matrix, carbonaceous streaks, biotitic or micaeous, occasional loose clay, clear, subangular quartz. Poor porosity.
20% Siltstone.
10% Mudstone.) as above.
Sample very clayey, abundant pyrite aggregates together with glauconite, coal. Trace pink to colourless fragments, calcite?
- 4470 - 4480 40% Sandstone.) Sample clayey.
30% Siltstone.) as above, with occasional loose fine grained quartzose
30% Mudstone, steel grey, strongly argillaceous, prominent carbonaceous streaks.
- 4480 - 4490 Sample very clayey. Wash recovered approx.:
75% Siltstone, mudstone admixture.
25% Sandstone, strongly micaceous, occasionally biotite?, pyrite.
- 4490 - 4500 Sample very clayey, dark grey, bluish grey, very little recovery. Coal blebs, sandstone, mudstone, siltstone, occasional glauconite in washed sample.
- 4500 - 4510 80% Clay, dark grey, sticky.
20% Sandstone, light grey, quartzose (60%), lithic (40%) grains, angular to very angular poorly sorted, moderately hard.
Lithic grains - mica, feldspar (now kaolinite), occasionally green, dark brown grains.
- 4510 - 4520 90% Clay, as above.
10% Mixture of siltstone, sandstone, claystone.
- 4520 - 4530 90% Clay, as above.
10% Sand, fine grained, quartzose and green lithic grains.

4530 - 4540	90% <u>Clay</u> , as above.
	10% <u>Sand</u> , as above.
4540 - 4550	90% <u>Clay</u> , as above.
	10% <u>Sand</u> , as above.
4550 - 4560	90% <u>Clay</u> , as above.
	10% <u>Sand</u> , as above.
4560 - 4567	90% <u>Clay</u> , as above.
	10% <u>Sand</u> , as above.

CORE DESCRIPTION SHEET ^{1 of 2} **SPOON BAY I.**

Company: WOODSIDE OIL N.L. Well : SPOON BAY NO. 1

Core No: 1 Formation : Gippsland Limestone

Interval : 2149' - 2169' Bit Type : Hughes/HF

Recovery: 14½ feet (72.5%) Bit Size : 7⅞"

Date : 18th October, 1970 Described By: A. Marimuthu

Coring Rate <small>ft/min</small>	Graphic	Shows & Porosity	Lithologic Description
2149	T O T O T		Top - 1'10" <u>SHELLY MARL.</u>
	T O T		Pale grey, firm, blocky fracture, slightly friable, abundant fossil fragments comprising 50% of the volume, made up largely of echinoid spines, coral stems and sponge spicules. Some fossils have been replaced by a pale grey to colourless crystalline limestone. Very strongly calcareous. No effective porosity, nil fluorescence.
2152	T O T	2'	
	T O T		1' 10" to 4' 2" <u>MARL</u> grading to <u>CALCILUFITE</u>
2154	O O	6'	Pale grey, dense, blocky fracture, slightly friable. Approx. 25% of the core volume comprises fossil remains, similar assemblage as preceding section. Some limestone replacement of the skeletal material is evident. Carbonaceous in part. Occasional dark green and green grains of glauconite disseminated throughout the core. No effective porosity, nil fluorescence.
2157	O O	8'	
2159	O O	10'	4'2" to 10'6" <u>MARLY LIMESTONE</u>
	T T T T		Dark grey, dense, slightly friable, blocky fracture, abundantly fossiliferous comprising less than 25% of core volume. Fossils include skeletal remains, coral stems and sponge spicules. Some very fine grained pyrite is disseminated, also as a replacement mineral. Occasional vuggy porosity, nil fluorescence. The crystalline limestone has been weathered to chalk in many places.
2162	T O T O T	14'	
	T T T T		10'6" to 12'6" <u>MARL</u>
2164		16'	Dark grey to grey, occasionally friable. Decrease in fossil fragments, down to approx. 10% of core volume. Relative increase in glauconitic content ranging in size from coarse to medium grained. Some vuggy porosity, nil fluorescence.
2165		18'	
			12'6" to 13'3" <u>SANDY MARL</u>
2168		20'	Dark grey to brownish grey, compact, strongly argillaceous, slightly sandy in places. Similar

This portion of the core was lost.

1 of 3.

SIDEWALL CORE DESCRIPTIONSSPOON BAY NO. 1SPOON BAY I

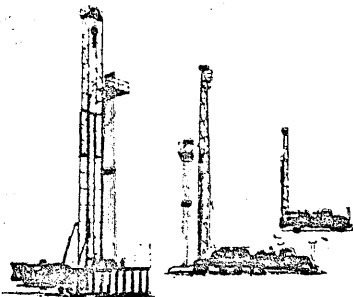
<u>Core No.</u>	<u>Depth</u>	<u>Lithology</u>	<u>Lithology</u>
14	3633'	<u>Sandstone</u>	Recovered 1½" Grey, dark grey, comprising abundant colourless, very fine to fine grained, subrounded, rounded quartz. Well sorted, occasional kaolinitic matrix, strongly carbonaceous with prominent coal specks. Good porosity, no fluorescence.
13	4191'	<u>Mudstone</u>	Recovered 1" Brown, pale brown, strongly argillaceous, some calcareous material is traceable along bedding planes, occasionally carbonaceous, rarely sandy. Non friable.
12	4250'	<u>Sandstone</u>	Recovered ½" Pale grey, comprising abundant loose, clear, cloudy quartz, medium to very coarse grained, subrounded to rounded, poorly sorted. Strongly carbonaceous with prominent coal bands and streaks. Slightly kaolinitic in places. Fair to moderately good porosity, no fluorescence.
11	4287'	<u>Mudstone</u>	Recovered 1½" Grey to pale brown, micromicaceous with prominent carbonaceous flecks and streaks, strongly argillaceous, non friable.
10	4325'	<u>Sandstone</u>	Recovered ½" Grey, dark grey, minor loose, cloudy, clear quartz, fine, very fine grained, subrounded to rounded, well sorted, strongly kaolinitic matrix together with prominent clusters of pyrite crystals. Poor porosity. No fluorescence.
9	4334'	<u>Sandstone</u>	Recovered ¾" Pale grey, together with minor amounts of loose, cloudy, colourless quartz, subrounded to rounded, well sorted, weak kaolinitic matrix variably carbonaceous, poor to fair porosity, nil fluorescence.

<u>Core No.</u>	<u>Depth</u>	<u>Lithology</u>	<u>Lithology</u>
8	4344'	<u>Sandstone</u>	Recovered 1" Grey to pale grey, together with minor amounts of loose, cloudy, clear quartz, fine to very fine grained, subangular to subrounded, well sorted, poorly cemented within a variably kaolinitic matrix, together with occasional brown micaceous aggregates disseminated throughout. Variably carbonaceous. Poor to fair porosity, no fluorescence.
7	4392'	<u>Sandstone</u>	Recovered $\frac{3}{4}$ " Pale grey, greenish grey, with minor loose, medium to fine grained, subrounded to subangular quartz, poorly sorted, kaolinitic matrix, slightly calcareous, strongly carbonaceous with prominent streaks of black and dark brown coal. Poor to fair porosity, no fluorescence.
6	4402'	<u>Mudstone</u>	Recovered $\frac{1}{2}$ " Dark grey, strongly argillaceous, occasionally micromicaceous, slightly sandy in places, non friable.
5	4405'	<u>Mudstone</u>	Recovered $\frac{3}{4}$ " Dark grey, strongly argillaceous, occasionally sandy, variably micromicaceous, non friable.
4	4409'	<u>Sandstone</u>	Recovered $\frac{1}{2}$ " Dark grey, strongly kaolinitic, occasionally calcareous, variably carbonaceous together with streaks of black and dark brown coal. Minor amounts of loose quartz dominantly colourless, cloudy, medium to very fine grained, subrounded, poorly sorted, poor to fair porosity, nil fluorescence.
3	4430'	<u>Mudstone</u>	Recovered $1\frac{1}{2}$ " Dark grey, strongly argillaceous, occasionally sandy, some calcareous patches, strongly carbonaceous together with abundant lithics disseminated throughout. Slightly friable.

<u>Core No.</u>	<u>Depth</u>	<u>Lithology</u>
2	4444'	<u>Sandstone</u> Recovered 1 $\frac{1}{4}$ " Pale grey, greenish grey together with abundant loose, cloudy, colourless quartz, medium to very fine grained, subrounded, strong kaolinitic matrix, some calcareous patches with varying amounts of black and dark green lithic inclusions. Poor porosity, no fluorescence.
1		No recovery.

Sample descriptions by A. MARIMUTHU.

TELEPHONES:
5608655-5608433
560 8733



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JMCL:MH:

23rd October, 1970.

Woodside Oil N.L.,
East Tower, Princes Gate,
151 Flinders Street,
MELBOURNE. 3000.

BORE REPORT.SITE - LOCKSPORT.

<u>Strata.</u>	<u>Depth</u>	<u>Total.</u>
Top soils	2ft.	2ft.
Fine sands	6	8
Course sands	17	25
Sands, med. to large gravels.	2	27
Sands (brown fine)	5	32
Clays	1	33
Sands (brown fine)	16	49
Sands (grey fine)	20	69
Blue clays (little water)	24	93
Brown, grey clays	7'6"	100'6"
Med. to large gravels	11'6"	<u>112ft.</u>

Static water level 14ft.

Bore pump tested at 4800 g.p.h.

W. L. SIDES & SON PTY. LTD.

John McLean
(John McLean)

Assistant Sales Manager.

DEPARTMENT OF CROWN LANDS AND SURVEY

TELEPHONE 651-2929

MR. Wigg

REFERENCE H034031
Bairnsdale

PLEASE ADDRESS ALL CORRESPONDENCE

TO THE SECRETARY FOR LANDS



STATE PUBLIC OFFICES

2 TREASURY PLACE

MELBOURNE VICTORIA 3002

THE DRILLING MANAGER
WOODSIDE OIL N.L.
EAST TOWER, PRINCES GATE
151 FLINDERS STREET
MELBOURNE 3000

28 February 1978

Dear Sir,

EXPLORATION WELLS SEACOMBE SOUTH NO.1 & SPOON BAY NO. 1
YOUR REFERENCE CWM/LH E2/97/11

I refer to the Department's letter of 15 October 1970 and wish to advise you that the above mentioned sites are now on land which was reserved for Public Purposes (Recreation and the Management and Conservation of Native Flora) on the 20 December 1977.

This area is now under the control of the National Parks Advisory Council, 240 Victoria Parade, Melbourne and any future correspondence should be to that Council.

Yours faithfully,

J Wilson
for C E Middleton
SECRETARY FOR LANDS

BdaS

2 MAR 1978

File/Well/Depth Increment & Status

Trace Units

Depth Range

Data Range

Missing Data Depth Ranges

BELLBIRD 1.TRACES

BELLBIRD 1

0.5000 f OPEN

CALI	IN	569.5000	2509.5000	4.91	8.03	No Data Gaps	
LAT	OHMM	600.5000	2505.5000	4.94	621.33		
LN	OHMM	600.5000	2503.5000	6.34	417.38		
SN	OHMM	600.0000	2505.5000	4.97	243.60		
SP	MV	600.5000	2508.5000	16.16	66.84		
Total Data :		9561.5000	f	Total Gaps :		0.0000	

DUCK_BAY_1.TRACES

DUCK BAY 1

0.5000 f OPEN

CALI	IN	408.0000	4238.0000	7.18	18.63	No Data Gaps	
BT	US/F	407.5000	4227.0000	51.68	284.94		
GR	GAPI	150.5000	4203.5000	4.97	135.48		
LAT	OHMM	429.0000	4235.5000	8.19	371.46		
LN	OHMM	411.5000	4237.5000	1.22	199.92		
SN	OHMM	410.5000	4240.0000	1.06	114.34		
SP	MV	411.5000	4244.5000	27.62	97.27		
Total Data :		26998.5000	f	Total Gaps :		0.0000	

DUTSON_DOWNS_1.TRACES

DUTSON DOWNS 1

0.5000 f OPEN

CALI	IN	357.5000	6112.5000	5.85	20.85	No Data Gaps	
BT	US/F	372.5000	6100.0000	51.68	222.53		
GR	GAPI	97.5000	6105.5000	3.80	186.13		
LAT	OHMM	396.0000	6123.5000	0.43	267.43		
LN	OHMM	379.5000	6123.5000	0.64	118.57		
NEUT	NAPI	97.5000	6115.0000	331.94	1493.82		
SN	OHMM	377.0000	6122.0000	1.04	65.93		
SP	MV	373.0000	6131.0000	21.25	119.86		
Total Data :		46482.5000	f	Total Gaps :		0.0000	

NORTH_SEASPRAY_1.TRACES

NORTH SEASPRAY 1

0.5000 f OPEN

CALI	IN	506.0000	5007.0000	6.17	20.25	No Data Gaps	
BT	US/F	500.0000	5002.5000	37.75	210.47		
GR	GAPI	2903.0000	4442.0000	12.04	116.71		
LAT	OHMM	536.0000	5812.5000	8.16	465.76		
LN	OHMM	520.0000	4996.5000	1.08	287.25		
SN	OHMM	520.0000	5814.0000	0.87	96.41		
SP	MV	520.0000	5812.5000	0.73	61.39		
Total Data :		28482.0000	f	Total Gaps :		0.0000	

SOUTH_LONGFORD_1.TRACES

SOUTH LONGFORD 1

0.5000 f OPEN

CALI	IN	511.0000	2450.5000	5.65	9.46	No Data Gaps	
LAT	OHMM	542.5000	2452.5000	5.24	541.21		
LN	OHMM	526.0000	2451.5000	6.53	387.92		
SN	OHMM	521.0000	2453.5000	1.14	177.49		
SP	MV	515.0000	2457.0000	5.56	94.57		
Total Data :		9650.5000	f	Total Gaps :		0.0000	

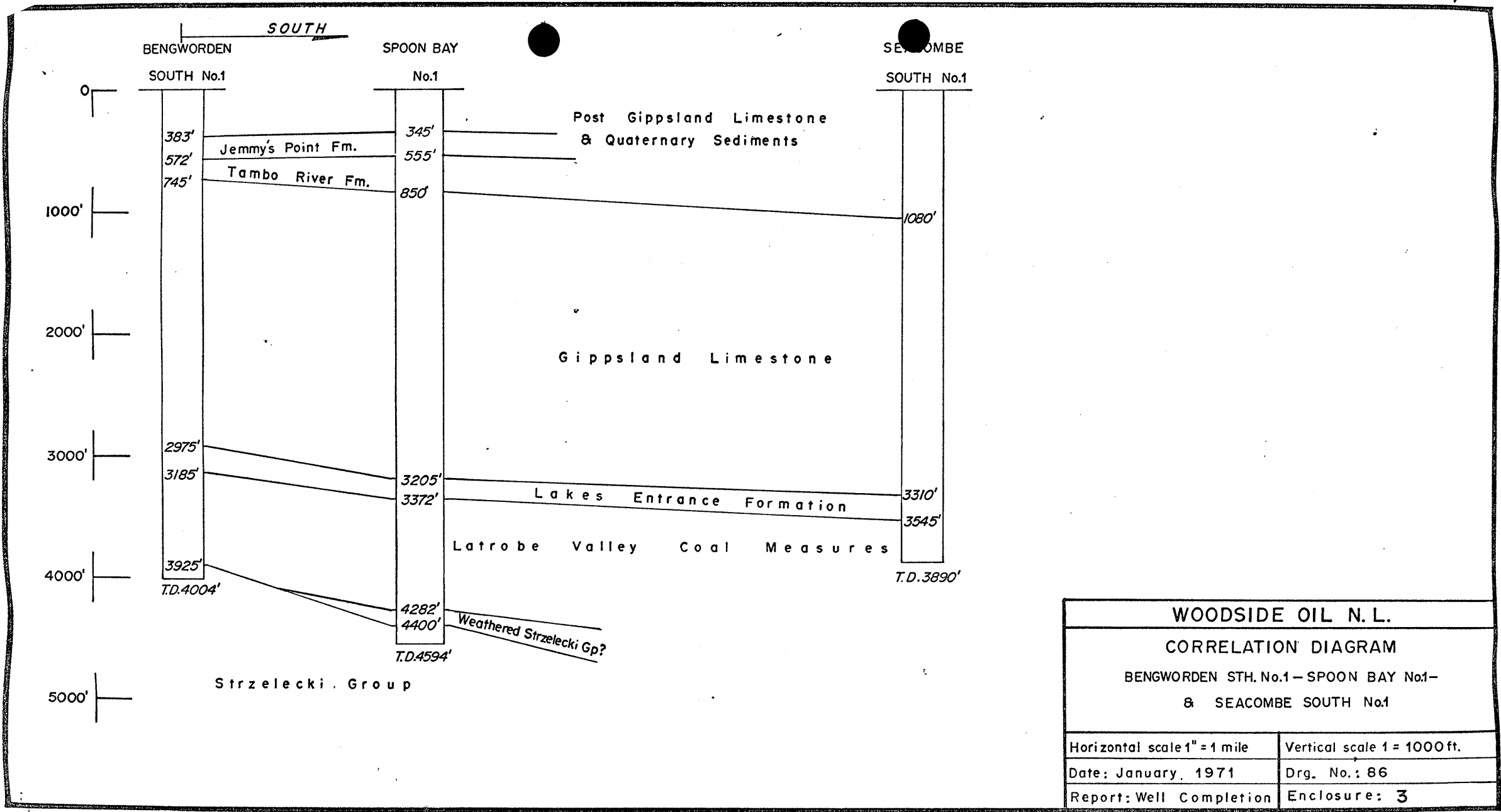
SPOON_BAY_1.TRACES

SPOON BAY 1

0.5000 f OPEN

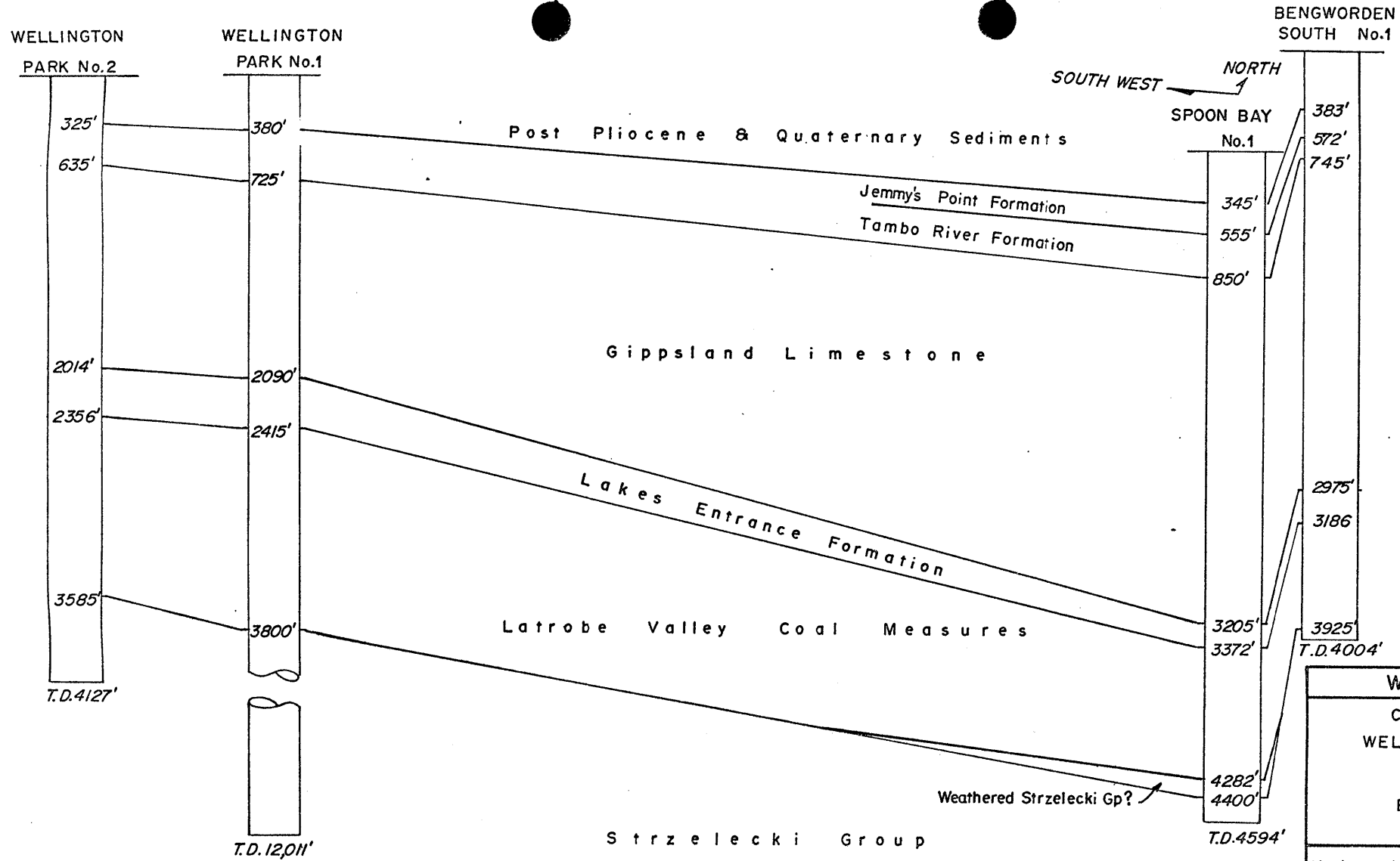
CALI	IN	324.5000	4600.0000	7.24	15.13	No Data Gaps	
BT	US/F	319.0000	4600.0000	53.87	205.52	2651.5000	2679.5000
GR	GAPI	20.5000	4600.0000	6.26	256.94	2667.0000	2679.0000
IND	OHMM	343.0000	4603.5000	0.83	73.85		
SN	OHMM	340.0000	4611.0000	1.07	99.75		
SP	MV	340.0000	4610.0000	-6.55	92.11		

SPOON BAY I



WOODSIDE OIL N. L.	
CORRELATION DIAGRAM	
BENGWORDEN STH.No.1 - SPOON BAY No.1 & SEACOMBE SOUTH No.1	
Horizontal scale 1" = 1 mile	Vertical scale 1" = 1000ft.
Date: January, 1971	Drg. No.: 86
Report: Well Completion	Enclosure: 3

SPoon BAY I



WOODSIDE OIL N.L.	
Correlation Diagram	
WELLINGTON PARK Nos.2 & 1-	
SPoon BAY No.1-	
BENGWORDEN STH. No.1	
Horiz. scale 1" = 1 mile	Vert. scale 1" = 1000 ft.
Date: January 1971	Drg. No.: 84
Report: Well-Completion	Enclosure: 2

PE601458

This is an enclosure indicator page.
The enclosure PE601458 is enclosed within the
container PE902797 at this location in this
document.

The enclosure PE601458 has the following characteristics:

ITEM_BARCODE = PE601458
CONTAINER_BARCODE = PE902797
NAME = Synthetic Seismogram
BASIN = GIPPSLAND
PERMIT =
TYPE = WELL
SUBTYPE = SYNTH_SEISMOGRAM
DESCRIPTION = Synthetic Seismogram
REMARKS =
DATE_CREATED = 1/12/70
DATE_RECEIVED =
W_NO = W608
WELL_NAME = Spoon Bay-1
CONTRACTOR = DATA ANALYSIS PTY LTD
CLIENT_OP_CO = Woodside Oil NL

(Inserted by DNRE - Vic Govt Mines Dept)

PE603660

This is an enclosure indicator page.
The enclosure PE603660 is enclosed within the
container PE902797 at this location in this
document.

The enclosure PE603660 has the following characteristics:

ITEM_BARCODE = PE603660
CONTAINER_BARCODE = PE902797
NAME = Composite Well Log
BASIN = GIPPSLAND
PERMIT = PEP72
TYPE = WELL
SUBTYPE = COMPOSITE_LOG
DESCRIPTION = Composite Well Log, sheet 1 of 2, for
Spoon Bay-1
REMARKS = Includes Mud Log data
DATE_CREATED = 31/01/71
DATE_RECEIVED =
W_NO = W608
WELL_NAME = SPOON BAY-1
CONTRACTOR =
CLIENT_OP_CO = WOODSIDE OIL NL

(Inserted by DNRE - Vic Govt Mines Dept)

PE601457

This is an enclosure indicator page.
The enclosure PE601457 is enclosed within the
container PE902797 at this location in this
document.

The enclosure PE601457 has the following characteristics:

ITEM_BARCODE = PE601457
CONTAINER_BARCODE = PE902797
NAME = Spoon Bay no 1 Well Composite Log
BASIN = GIPPSLAND
PERMIT =
TYPE = WELL
SUBTYPE = COMPOSITE_LOG
DESCRIPTION = Spoon Bay no 1, sheet 1of 2, Well
Composite Log
REMARKS =
DATE_CREATED = 1/01/71
DATE_RECEIVED =
W_NO = W608
WELL_NAME = Spoon Bay-1
CONTRACTOR = Woodside Oil
CLIENT_OP_CO = Woodside Oil NL

(Inserted by DNRE - Vic Govt Mines Dept)