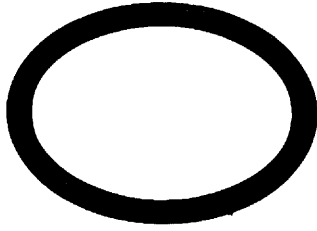


DEPT. NAT. RES & ENV



PE902438



W/895. BARRACOUTA-5. W.C.R. Vol. 1.

ESSO EXPLORATION AND PRODUCTION
AUSTRALIA INC.

**WELL COMPLETION REPORT
BARRACOUTA-5**

0 2 AUG 1985 VOLUME 1

W895

OIL and GAS DIVISION

**GIPPSLAND BASIN
VICTORIA**

ESSO AUSTRALIA LIMITED

Compiled by: M.W.SLOAN

MAY.1985

BARRACOUTA-5
WELL COMPLETION REPORT
VOLUME 1
BASIC DATA

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ESSO AUSTRALIA LTD

COMPLETION REPORT

WELL : BARRACOUTA-5

LOCATION : Latitude : 38° 18' 03.53" S
Longitude : 147° 39' 36.04" E
X = 557,710mE
Y = 5,760,569mN
Map Projection: AMG Zone 55
Geographical Location: Bass Strait, Victoria
Field: Barracouta

PERMIT : VIC/L1

ELEVATION : 21mKB

WATER DEPTH : 45m

TOTAL DEPTH : 1770 MDKB

PLUG BACK TYPE : Cement Plug

REASONS FOR PLUGGING BACK : Plug and Abandon

MOVE IN : 21st January, 1985

SPUDED : 22nd January, 1985

REACHED T.D. : 3rd February, 1985

RIG RELEASED : 10th February, 1985

OPERATOR : Esso Exploration and Production Australia Inc.

PERMITTEE OR LICENCEE : B.H.P. Petroleum Pty. Ltd.

ESSO INTEREST : 50%

OTHER INTEREST : 50%

CONTRACTOR : South Seas Drilling Company

RIG NAME : Southern Cross

EQUIPMENT TYPE : Semi Submersible

TOTAL RIG DAYS : 21

DRILLING AFE NO. : 235003

TYPE COMPLETION : Plug and Abandonment

WELL CLASSIFICATION : Before Drilling
After Drilling

25131/37

ESSO AUSTRALIA LTD

BARRACOUTA-5

SEQUENTIAL OPERATIONS

MOVING/MOORING

The Southern Cross departed the Tuna Soil Boring location at 2015 hours January 20, 1985 and arrived at the Barracouta-5 location at 0830 hours January 21, 1985. The 36 nautical mile tow was completed in 12.25 hours at an average speed of 2.9 knots using the Atlas Dampier as the tow boat.

Anchor No. 8 was dropped by the rig and the remaining anchors were run by the workboats Lady Sally, Torrens Tide and Atlas Dampier. Due to the close proximity of the Barracouta gas pipeline, the Flinders Tide monitored the setting of Anchor Nos 1,2 and 7. An RCV was used to ensure that none of these anchors were within the 200m restricted zone adjacent to the pipeline.

Anchor No. 8 had to be relocated after a check by the RCV indicated that the anchor was within the restricted zone. All anchors were pretensioned to 200 kips.

Final rig location was:

Latitude:	38° 18' 03.53"S
Longitude:	147° 39' 36.04"E
X:	557,710mE
Y:	5,760,569mN

AMG Zone 55, Universal Transverse Mercator Projection, Australia Geodetic Datum.

The rig was located 4m at 284° from the called location and approximately 60 kms at 210° from Lakes Entrance.

DRILL 26" HOLE FOR 20" CONDUCTOR

The drilling template was run and landed at a seafloor depth of 66m RKB. The 26" hole was drilled to 201m using seawater and high viscosity gel slugs to clean the hole. At TD the hole was displaced with high viscosity mud and a wiper trip was made to the seafloor.

The 18-3/4" wellhead/pile joint and 20" casing were run and cemented with the casing shoe at 186m RKB. The BOP stack and riser were run and the casing and collet connector tested against the shear rams to 500 psi.

DRILL 17-1/2" HOLE FOR 13-3/8" CASING

After running in the hole with a 17-1/2" bottom hole assembly (BHA), cement was tagged high at 124m. The reason for the excess cement inside the casing is unknown at this time. The problem reoccurred on Perch-2 and details will be documented in the Perch-2 Final Well Report. The cement and casing shoe were drilled out and the 17-1/2" bit drilled to the kick off point at 240m where a survey of 1-1/2° was recorded.

The well was kicked off using a 9-5/8" Dyna-Drill with at 2-1/2° bent sub. A Teleco MWD tool, equipped with a computerized directional sensor (CDS), was used to monitor hole direction. The CDS tool was used instead of an electro-magnetic sensor (EMS) tool because it provided faster and more frequent readouts of tool face orientation during kickoff. Since tool face readings are provided at 20 second intervals, the CDS tool has a fast enough response time to be effective in monitoring well path corrections. The kick off assembly drilled to 643m on an azimuth of 025° and an inclination of 032°.

Due to the potential for dropping angle through the Gippsland Limestone, an angle building instead of an angle holding assembly was picked up. The CDS tool was replaced with an EMS tool because no back up CDS tool was available while several back up EMS tools were available in Sale. Drilling resumed to 795m on an azimuth of 026° where the inclination built up to 038° instead of holding at 032°. A multi-shot survey was run to check the Teleco reading.

After running one suite of electric logs and making a wiper trip, 13-3/8" casing was run to 779.5m. The casing was cemented and the plug was bumped with 1500 psi. After washing the wellhead, the 13-3/8" seal assembly was set and tested to 200/5000 psi. The BOP rams and valves were tested to 200/5000 psi and the annular preventers were tested to 200/3500 psi.

DRILL 12-1/4" HOLE TO 1770m

The cement inside the 13-3/8" casing, float equipment and 6m of new hole were drilled and a Phase II PIT was run to 1500 psi without leak off indicating an EMW of 20.7 ppg.

After changing over to a freshwater/gel/polymer mud system, drilling continued to 1146m with a "hold angle" bottom hole assembly. The freshwater mud was used in order to evaluate the salinity differences between the connate water in the top of Latrobe gas sand and the drive water below the oil/water contact. Flowline plugging occurred at 1056m, 1130m and 1141m due to the interaction between the reactive clays in the Lakes Entrance and the freshwater mud. The mud weight was increased to 11.0 ppg at 1146m in order to penetrate the Latrobe gas sand with a 300 psi safety margin. Flowline plugging again occurred at 1197m and 1200m. The bit was pulled to core at 1205m. The Teleco tool was used to monitor hole inclination and azimuth while drilling the 12-1/4" hole to the top of the Latrobe formation.

Two plastic liner cores were cut from 1205-1225m. After reaming the corehole, drilling continued to 1465m where three intermediate logs, two RFT's and one CST were run. RFT pretest data indicated a maximum pore pressure of 9.01 ppg EMW at 1050m TVD. Since this pressure was less than the predicted pore pressure of 9.5 ppg EMW, it was deemed safe to reduce the mud weight to 10.5 ppg and drill to TD without setting 9-5/8" casing.

The mud weight was reduced to 10.5 ppg and, after making a short wiper trip, drilling resumed to the revised TD of 1770m MD with a seawater/gel/polymer mud. The TD was deepened because the hole inclination of 38° was higher than the planned 32° inclination, resulting in a longer well path to reach the required TVD of 1521m.

Two electric logs were run. An attempt to run a RFT was terminated when the RFT tool would not pass below 1080m. During a wiper trip, a multishot survey was taken from TD to the 13-3/8" casing shoe. The survey indicated that the final bottom hole position had a closure of 781m at 027° from the wellhead at a TVD of 1530m RKB. Following a velocity survey and an EPT-CAL-SP-GR logging run, an attempt was made to run a second SP log, but it would not pass below 1170m. Another wiper trip was required and a maximum of 40 kips overpull was observed at 1295m and 1198m.

While attempting to measure formation pressures with a RFT at 1578m, the wire line stuck at approximately 1345m. The wireline was cut and stripped over. After recovering the RFT tool, another wiper trip was made. Two RFT samples were obtained, a 30 shot CST was run and an SP Log was taken from 1450m to 1150m prior to plugging the well. RFT pressure data confirmed initial predictions that Barracouta-5 was "normally" pressured.

PLUG AND ABANDONMENT

A 320 sack cement plug was set from 1695m to 1560m followed by a second 270 sack plug from 1380m to 1265m.

A third 450 sack plug was then set from 1265m to 1150m. After reverse circulating and waiting on cement (WOC) for seven hours, the plug was tagged at 1265m with 10 kips.

Another 450 sack plug was set from 1265m to 1150m. After WOC for 12 hours, the cement was tagged at 1093m with 15 kips.

A 325 sack cement plug was set from 830m to 780m. After six hours WOC, an attempt to tag the plug failed to locate the cement top. The cement plug was reset with 375 sacks from 830m to 780m. After WOC for seven hours, the plug was tagged with 15 kips at 692m and pressure tested to 1250 psi. (Details of abandonment problems are detailed in Special Engineering Report No.1).

After making a gauge ring/junk basket run to 650m, a 13-3/8" EZSV bridge plug was run and set at 641m. The 13-3/8" casing was cut at 174m with a Pengo cutter. After retrieving the wear blushing, the casing was recovered using a casing spear.

A 500 sack cement plug was set from 204m to 97m. After WOC for 5 hours, the plug was tested against the blind rams to 500 psi.

The BOP and riser were pulled and the casing was cut 10m below the mudline at 76m with a 20" mechanical casing cutter. The 20" casing could not be explosively cut since the hull to explosive charge depth was less than the 61m depth criteria required by South Seas Drilling. The 18-3/4" wellhead running tool was made up into the wellhead and the drilling template, 4 post guidebase and pile joint were recovered.

PULL ANCHORS

The rig was deballasted to the towing draft of 7m and all anchors were pulled and secured in 10.5 hours.

The Southern Cross was taken under tow by the Atlas Dampier and departed Barracouta-5 at 1900 hours February 10, 1985, enroute to the Perch-2 location.

CEMENT DATA

WELL BARRACOUTA-5

DATE 1985	DEPTH METRES	TYPE JOB	TYPE CEMENT	AMOUNT	ADDITIVES	REMARKS
JAN 22	186.25	20" PRIMARY LEAD SLURRY	CLASS "G"	750 SX	2.2% GEL W/FRESH- WATER	AVG SLURRY WT 13.3 PPG
		TAIL SLURRY	CLASS "G"	350 SX	NEAT W/SEA- WATER	AVG SLURRY WT 15.8 PPG FLOAT HELD
JAN 24	779.5	13-3/8" PRIMARY	CLASS "G"	1095 SX	NEAT W/SEA- WATER	AVG SLURRY WT 15.8 PPG BUMPED PLUG W/ 1500 PSI
FEB 07	1695 - 1560	P&A PLUG #1	CLASS "G"	320 SX	NEAT W/FRESH- WATER	AVG SLURRY WT 15.8 PPG
FEB 07	1380 - 1265	P&A PLUG #2	CLASS "G"	270 SX	NEAT W/FRESH- WATER	AVG SLURRY WT 15.8 PPG
FEB 07	1265 - 1150	P&A PLUG #3	CLASS "G"	450 SX	NEAT W/FRESH- WATER	AVG SLURRY WT 15.8 PPG PLUG NOT LOCATED
FEB 07	1264 - 1093	P&A PLUG #3A	CLASS "G"	450SX	NEAT W/FRESH- WATER	AVG SLURRY WT 15.8 PPG TAGGED HIGH W/ 15 KIPS
FEB 08	830 - 780	P&A PLUG #4	CLASS "G"	325 SX	NEAT W/SEA- WATER	AVG SLURRY WT 15.8 PPG PLUG NOT LOCATED
FEB 08	830 - 692	P&A PLUG #4A	CLASS "G"	375 SX	NEAT W/SEA- WATER	AVG SLURRY WT 15.9 PPG TAGGED W/15 KIPS TESTED TO 1250 PSI
FEB 09	204 - 97	P&A PLUG #5	CLASS "G"	510 SX	NEAT W/SEA- WATER	AVG SLURRY WT 15.8 PPG TESTED TO 500 PSI BRIDGE PLUG SET AT 641 m

WELL: BARRACOUTA-5

SAMPLES, CONVENTIONAL CORES, SIDEWALL CORES

<u>INTERVAL</u>	<u>TYPE</u>
201-1770m	Cuttings samples - 5 sets of washed and oven dried cuttings, 1 set of bagged and air dried cuttings. Sampled from 201 - 680m at 10m intervals. Sampled from 680 - 1205m at 5m intervals. Sampled from 1225 - 1770m at 5m intervals.
1205-1215m	Plastic sleeve Core No. 1 recovered 88.9% (8.89m).
1215-1224.6m	Plastic sleeve Core No. 2 recovered 100% (9.6m).
1468-1731m	Sidewall Cores Suite 3, Run 2, Shot 30, recovered 27.
201-1770m	Unwashed geochemical samples every 15m.
1000-1770m	Washed, air dried fission track samples every 30m.
25131/38	

WELL: BARRACOUTA-5

WIRELINE LOGS AND SURVEYS

<u>Type and Scale</u>	<u>From</u>	<u>To</u>
<u>Suite 1</u>		
BHC-GR 1:200 1:500	786.5	182.0m
<u>Suite 2</u>		
BHC-GR 1:200 1:500	1465.0	779.0m
LDTC-CNL-GR LDTC-CNTH-GR 1:200 1:500	1466.0	1150.0m
DLTE-MSFL-GR 1:200 1:500	1462.0	779.0m
EPT-GR 1:200 1:500	1466.0	1150.0m
CST (SHOOTING RECORD) RUN 1		
AMS (CREATED ON DLTE-MSFL-GR RUN) 1:200	1466.0	1150.0m
AMS (CREATED ON LDTC-CNL-GR RUN) 1:200	1466.0	1150.0m
RFT-GR (PRESSURE RECORD) RUN 1 RFT-HP (PRESSURE RECORD) RUN 1		
<u>Suite 3</u>		
BHC-GR 1:200 1:500	1774.0	1380.0m
LDTC-CNTH-GR 1:200 1:500	1759.0	1375.0m
DLL-MSFL-GR DLTE-MSFL-GR 1:200 1:500	1771.0	1375.0m
EPT-GR 1:200 1:500	1769.0	1380.0m
CST-GR RUN 2	1731.0	1468.0m
SP-GR 1:200	1445.0	1150.0m
AMS-GR 1:200	1757.0	1375.0m
RFT-GR (PRESSURE RECORD) RUN 4 RFT-HP (PRESSURE RECORD) RUN 4		
RFT-GR (SAMPLE RECORD) RUNS 5, 6 & 7		
WST SHOT 2 LEVELS		
<u>Suite 4</u>		
BRIDGE PLUG 1:200		644.0m
JB 1:200	650.0	550.0m
PENGO 1:200		175.0m

SUMMARY OF WIRELINE FORMATION TEST PROGRAMME - BARRACOUTA-5

TEST SEAT	DEPTH (METRES) K.B.	CHAMBER	RECOVERY (LITRES)					HEWLETT-PACKARD FORMATION PRESSURE		HEWLETT-PACKARD HYDROSTATIC PRESSURE		REMARKS	
			OIL	COND.	GAS	WATER FILTRATE	OTHERS	MPaa	Psia	MPaa	Psia		
		Litres	Litres	Litres m ³	Litres	Litres							
1	1	1403.0	Pretest						11.94	1731.5	15.95	2313.9	Valid) Bad RFT gauge
1	2	1347.0	Pretest						11.43	1657.4	15.36	2227.4	Valid) readings
1	3	1403.0	Pretest						11.94	1731.9	15.94	2312.6	Valid
2	4	1347.0	Pretest						11.45	1660.0	15.30	2219.3	Valid
2	5	1337.0	Pretest						11.43	1657.6	15.19	2203.0	Valid
2	6	1329.0	Pretest						11.27	1635.1	15.10	2189.4	Valid
2	7	1326.0	Pretest						11.27	1634.5	15.05	2183.4	Valid
2	8	1314.0	Pretest						11.26	1632.5	14.91	2163.0	Valid
2	9	1303.3	Pretest						11.25	1631.3	14.80	2145.9	Valid
2	10	1288.0	Pretest						11.24	1629.8	14.64	2122.9	Valid
2	11	1255.0	Pretest						11.21	1626.4	14.31	2075.4	Valid
2	12	1233.0	Pretest						11.27	1634.6	14.07	2040.0	Valid
2	13	1222.5	Pretest						11.18	1622.1	13.96	2025.0	Valid
2	14	1216.0	Pretest						11.18	1621.6	13.89	2015.0	Valid
3	15	Tight hole at 1080m											No measurement made
4	16	1686.0	Pretest								17.65	2560.0	Sea failure, test invalid.
4	17	1687.0	Pretest								17.64	2559.0	No seal.
4	18	1690.0	Pretest								17.69	2566.0	No seal.
4	19	1684.0	Pretest						14.21	2060.8	17.62	2554.0	Valid (Shaly sand).
4	20	1686.0	Pretest						14.22	2063.0	17.62	2556.6	Valid

SUMMARY OF WIRELINE FORMATION TEST PROGRAMME - BARRACOUTA-5

TEST SEAT	DEPTH (METRES) K.B.	CHAMBER	RECOVERY (LITRES)					HEWLETT-PACKARD FORMATION PRESSURE		HEWLETT-PACKARD HYDROSTATIC PRESSURE		REMARKS	
			OIL	COND.	GAS	WATER FILTRATE	OTHERS	MPaa	Psia	MPaa	Psia		
		Litres	Litres	Litres	m ³	Litres	Litres						
4	21	1650.0	Pretest						13.93	2020.1	17.27	2505.0	Valid
4	22	1635.0	Pretest						13.81	2002.6	17.12	2483.0	Valid
4	23	1631.2	Pretest						13.78	1998.7	17.07	2477.0	Valid
4	24	1597.0	Pretest						13.48	1955.7	16.75	2429.0	Valid
4	25	1593.0	Pretest						13.45	1951.1	16.72	2425.0	Valid
4	26	1578.5	Pretest								16.57	2403.7	Invalid test
4	27	1578.5	Pretest						13.33	1933.7	16.57	2404.0	Valid
5	28	1631.5	22.7	19.9		0.18	1.1						Valid pretest. RFT gauge only run for samples.
			10.4	8.8		0.07	0						
6	29	1623.0	22.7	20.8		0.06	1.0						Valid pretest sample taken Sample preserved
			10.4										
7	30	1623.0											No Seal
7	31	1623.0											No Seal
7	32	1593.0											No Seal
7	33	1593.3	22.7	20.75		0.04	1.25						Valid pretest sample taken Sample preserved.
			10.4										

RFT PRESSURE DATA

WELL: BARRACOUTA-5

GEOLOGIST/ENGINEER: P.PRIEST/P.FELL

DATE: 31/1/85 (Run 1) 1/1/85 (Run 2)

RFT No. Run/Seat	Depth m MDKB m TVDSS (TVDKG) KB=21		Initial Hydrostatic HP / RFT gauge psia / psig	Time Set	Minimum Flowing Pressure psia (Pretest)	Formation Pressure HP / RFT gauge psia / psig	Temp °C	Time Retract	Final Hydrostatic HP psia	Comments (Include Probe type)
RFT Type			ppg			ppg			ppg	
1/1 PT	1403.0	1206.0	2313.9/2362 11.2 ppg	14:32:45	1727	1731.5/1783 8.4 ppg	69.1	14:38:53	2312.8/2363 11.2 ppg	Valid pretest) Bad RFT gauge readings. Incorrect calibration data entered L
1/2 PT	1347.0	1159	2227.4/2278 11.3 ppg	14:52:19	-	1657.4/1712 8.4 ppg	68.6	15:00:50	-	As above L
1/3 PT	1403.0	1206	2312.6/2292 11.2 ppg	15:10:59	1703	1731.9/1712 8.4 ppg	69.3	15:13:42	2311.3/2289 11.2 ppg	Valid L
2/4 PT	1347.0	1160	2219.3/2199 11.2 ppg	0:24:03	1659.4	1660.0/1646 8.4 ppg	51.3	0:28:07	2215.7/2199 11.2 ppg	Valid L
2/5 PT	1337.0	1150	2203/2187 11.2 ppg	0:36:27	1589.3	1657.6/1644 8.4 ppg	51.9	0:40:49	2200.6/2184 11.2 ppg	Valid L
2/6 PT	1329.0	1139	2189.4/2177 11.3 ppg	0:48:30	1601.1	1635.1/1624 8.4 ppg	51.6	0:54:50	2187.6/2173 11.3 ppg	Valid L
2/7 PT	1326.0	1138	2183.4/2171 11.2 ppg	1:03:24	1632.8	1634.5/1625 8.4 ppg	51.9	1:06:57	2182/2169 11.2 ppg	Valid L

RFT PRESSURE DATA

WELL: BARRACOUTA-5

GEOLOGIST/ENGINEER: P.PRIEST/P.FELL

DATE: 31/1/85 (Run 1) 1/1/85 (Run 2)

RFT No. Run/Seat	Depth m MDKB m TVDSS (TVDKG) KB=21		Initial Hydrostatic HP / RFT gauge psia / psig	Time Set	Minimum Flowing Pressure psia (Pretest)	Formation Pressure HP / RFT gauge psia / psig	Temp °C	Time Retract	Final Hydrostatic HP psia	Comments (include Probe type)	
RFT Type			ppg			ppg			ppg		
2/8 PT	1314.0	1134	2163/2154	1:16:48	1630.1	1632.5/1623	52.8	1:20:06	2163/2150	Valid 11.2 ppg	L
2/9 PT	1303.3	1125	2145.9/2137	1:30:44	1425.0	1631.3/1622	53.6	1:34:35	2146/2136	Valid 11.2 ppg	L
2/10 PT	1288.0	1108	2122.9/2115	1:44:06	1627.1	1629.8/1623	53.8	1:49:48	2123.5/2115	Valid 11.2 ppg	L
2/11 PT	1255.0	1082	2075.4/2067	02:01:23	1625.5	1626.4/1620	53.7	02:05:49	2073/2066	Valid 11.0 ppg	L
2/12 PT	1233.0	1069	2040/2034	02:15:59	374.0	1634.6/1626	53.6	02:38:36	2040/2028	Valid Pretest 11.0 ppg	L
2/13 PT	1222.5	1058	2025/2014	2:48:28	1435.0	1622.1/1614	53.9	02:52:09	2026.0/2014	Valid 11.0 ppg	L
2/14 PT	1216.0	1050	2015.0/2003	2:58:08	945.0	1621.6/1614	53.8	03:07:43	2013/2004	Valid 11.0 ppg	L

PT = Pretest
Spt = Sample

L = Long nose probe
M = Martineau probe

RFT PRESSURE DATA

WELL: BARRACOUTA-5

GEOLOGIST/ENGINEER: P.PRIEST/D. WRIGHT

DATE: 5/2/85

RFT No. Run/Seat	Depth		Initial Hydrostatic		Time	Minimum	Formation Pressure		Temp	Time	Final Hydrostatic	Comments
	m MDKB	m TVDSS	HP	/ RFT gauge	Set	Flowing	HP	/ RFT gauge	°C	Retract	HP	(include Probe type)
	(TVDKG) KB=21		psia / psig			Pressure	psia / psig				psia	
	RFT					(Pretest)						
	Type		ppg				ppg				ppg	
3/15	PT	TIGHT HOLE AT 1080 M										No measurement made
4/16	PT	1686.0	1434.5	2560/2541	03:15						3500/3541	Seal failure
				10.5 ppg							10.3 ppg	L
4/17	PT	1687.0	1435.5	2559/2540	03:25					03:27		Normal
				10.4 ppg								L
4/18	PT	1690.0	1438.5	2566/2550	03:34							No seal
				10.5 ppg								L
4/19	PT	1684.0	1432.5	2556/2537	03:42:10	2046	2060.8/2045		68.0	03:48:36	2554.6/2538	Test in shaly sand
				10.4 ppg			8.4 ppg				10.4 ppg	Valid pretest
												L
4/20	PT	1686.0	1434.5	2556.6/2537	03:54:57	1970.8	2063.0/2048		68.4	03:59:01	2558/2540	Valid pretest
				10.4 ppg			8.4 ppg				10.4 ppg	L
4/21	PT	1650.0	1403	2505/2487	04:05:30	1983.2	2020.1/2004		68.2	04:09:23	2505.4/2489	Valid pretest
				10.5 ppg			8.4 ppg				10.5 ppg	L

RFT PRESSURE DATA

WELL: BARRACOUTA-5

GEOLOGIST/ENGINEER: P.PRIEST/D. WRIGHT

DATE: 5/2/85

RFT No. Run/Seat	Depth		Initial Hydrostatic		Time	Minimum	Formation Pressure		Temp	Time	Final Hydrostatic		Comments
	m MDKB	m TVDSS	HP	/ RFT gauge	Set	Flowing	HP	/ RFT gauge	°C	Retract	HP		(include Probe type)
	(TVDKG)	KB=21	psia	/ psig		Pressure	psia	/ psig			psia		
	RFT					(Pretest)							
	Type						ppg				ppg		
4/22 PT	1635.0	1390	2483/2467		04:15:10	1966	2002.6/1987		68	04:19:02	2483.81/2463		Valid pretest
			10.5 ppg				8.4 ppg				10.5 ppg		L
4/23 PT	1631.2	1387	2477/2460		04:24:40	1991	1998.7/1983		67.7	04:29:05	2478.4/2460		Valid pretest
			10.5 ppg				8.4 ppg				10.5 ppg		L
4/24 PT	1597.0	1358.5	2429/2412		04:35:50	1953	1955.7/1940		68	04:40:00	2429.1/2412		Valid pretest
			10.5 ppg				8.4 ppg				10.5 ppg		L
4/25 PT	1593.0	1355	2425/2408		04:45:35	1943	1951.1/1936		68.2	04:49:59	2422.7/2407		Valid pretest
			10.5 ppg				8.4 ppg				10.5 ppg		L
4/26 PT	1578.5	1342.54	2403.7/2387		04:55	1852.9							
			10.2 ppg										L
4/27 PT	1578.5	1342.54	2404/2388		05:04	1656	1933.7/1919		68.2	05:09	2406.7/2389		Valid pretest
			10.2 ppg				8.3 ppg				10.2 ppg		M
5/28 SPT	1631.5	1387.07	-/2530		06:18	1829	-/1988		68.4	06:45	*		Valid pretest
			10.5 ppg				8.4 ppg				10.5 ppg		RFT gauge only run M
6/29 SPT	1623.0	1379.86	-/2516		10:11	1954	-/1977		71.4	10:40	-/2522		Valid pretest
			10.5 ppg				8.5 ppg				10.5 ppg		RFT gauge only M

RFT PRESSURE DATA

WELL: BARRACOUTA-5

GEOLOGIST/ENGINEER: P.PRIEST/D. WRIGHT

DATE: 5/2/85

RFT No. Run/Seat	Depth		Initial Hydrostatic		Time	Minimum	Formation Pressure	Temp	Time	Final Hydrostatic	Comments
	m MDKB	m TVDSS	HP	/ RFT gauge	Set	Flowing	HP / RFT gauge	°C	Retract	HP	(include Probe type)
	(TVDKG) KB=21		psia / psig			Pressure	psia / psig			psia	
	RFT					(Pretest)					
	Type						ppg			ppg	
7/30 PT	1623.0	1379.86	-/2511		13:48				13:50		No seal RFT gauge only M
				10.5 ppg							
7/31 PT	1623.0	1379.86	-/2510		13:51				13:53		No seal M
				10.5 ppg							
7/32 SPT	1593.0	1354.62	-/2465		13:57				13:58		No seal M
				10.5 ppg							
7/33 SPT	1593.3	1354.87	-/2465		14:01	1911	-/1936	73.9	14:27	-/2466	Valid pretest and seal M
				10.5 ppg			8.4 ppg			10.5 ppg	

PT = Pretest

SPT = Sample

L = Long nose probe

M = Martineau probe

* Final Hydrostatic Pressure not recorded due to premature retraction of tool.

RFT SAMPLE TEST REPORT

Well : Barracouta-5

OBSERVER : D.J. Wright

DATE : 6/2/85

RUN NO. : 5/28

	CHAMBER 1 (22.7 lit)	CHAMBER 2 (10.4 lit)
SEAT NO.	5728	5728
DEPTH	1631.5m	1631.5m
A. RECORDING TIMES		
Tool Set	0618	-
Pretest Open	0619	-
Time Open	-	-
Chamber Open	0623	0635
Chamber Full	0631	0640
Fill Time	8 min	5 min
Start Build Up	0631	0640
Finish Build Up	0634	0643
Build Up Time	3	3
Seal Chamber	0634	0643
Tool Retract	-	0645
Total Time	-	27 mins.
B. SAMPLE PRESSURES		
IHP	2530 psig	
ISIP	1988 psig	
Initial Flowing Press.	1280 psig	1797 psig
Final Flowing Press.	1457 psig	1751 psig
Sampling Press Range	177 psig	34 psig
FSIP	1993 psig	1992 psig
FHP	-	2536 psig
C. TEMPERATURE		
Depth Tool Reached	1675 m	m
Max. Rec. Temp	70.4 deg C	deg C
Time Circ. Stopped	0015 hrs	
Time since Circ.	6hr 3 mins	hrs
D. SAMPLE RECOVERY		
Surface Pressure	40.0 psig	20 psig
Amt Gas	6.50 cu ft	2.51 cu ft
Amt Oil	19.9 lit	8.8 lit
Amt Water	1.1 lit	0 lit
Amt Others	lit	lit
E. SAMPLE PROPERTIES		
Gas Composition		
C1	41933 ppm	209664 ppm
C2	10778 ppm	66821 ppm
C3	22016 ppm	105677 ppm
1C4/nC4	14157 ppm	46919 ppm
C5	1270 ppm	8317 ppm
C6+	tr ppm	674 ppm
CO2/H2S	10%/tr ppm	12%/tr
Oil Properties	59.8 deg API @ 60 deg F	55.3 deg API @ 60 deg F
Colour	light brown	light brown
Fluorescence	bright white	bright white
GOR		
Water Properties		
Resistivity	1.054 @ 20.6 deg C.	
Cl-titrated	7500 ppm	ppm
Tritium	603 DPM	DPM
Est. Water Type		
Mud Filtrate Properties		
Resistivity	1.052 @ 21.1 deg C	1.052 @ 21.1 deg C.
NaCl equivalent	ppm	
Cl-titrated/tritium	9600 ppm/1132(av) DPM	9600ppm/1132(av) DPM
General Calibration		
Mud Weight	10.5 lb/gallon	10.5 lb/gallon
Calc. Hydrostatic	2518 (from m. weight)	2518
RFT chokesize	1 x 30/1000	1 x 20/1000
REMARKS		

RFT SAMPLE TEST REPORT

Well : Barracouta-5

OBSERVER : D.J. Wright

DATE : 6/2/85

RUN NO. : 6/29

	CHAMBER 1 (22.7 lit)	CHAMBER 2 (10.4 lit)
SEAT NO.	6/29	6/29
DEPTH	1623m	1623m
A. RECORDING TIMES		
Tool Set	1011	
Pretest Open	1011	
Time Open	8 min	
Chamber Open 1020 (1st time)	1022 (2nd time)	1030
Chamber Full	1028	1036
Fill Time	6 min	6 min
Start Build Up	1028	1036
Finish Build Up	1029	1037
Build Up Time	30 sec	30 sec
Seal Chamber	1030	1038
Tool Retract	-	1040
Total Time	-	29 mins.
B. SAMPLE PRESSURES		
IHP	2516 psig	
ISIP	1971 psig	
Initial Flowing Press.	1955 psig	1972 psig
Final Flowing Press.	1955 psig	1968 psig
Sampling Press Range	1954-1976 psig	1967-1972 psig
FSIP	1976 psig	1976 psig
FHP	-	2522 psig
C. TEMPERATURE		
Depth Tool Reached	1675 m	m
Max. Rec. Temp	71.4 deg C	71.7 deg C
Time Circ. Stopped	0015 hrs	
Time since Circ.	9hr 56mins	hrs
D. SAMPLE RECOVERY		
Surface Pressure	50.0 psig	SAMPLE PRESERVED psig
Amt Gas	2.06 cu ft	cu ft
Amt Oil	20.8 lit	lit
Amt Water	1.0 lit	lit
Amt Others Emulsion	lit	lit
E. SAMPLE PROPERTIES		
Gas Composition		
C1	176117 ppm	ppm
C2	49577 ppm	ppm
C3	110960 ppm	ppm
1C4/nC4	77660 ppm	ppm
C5	9869 ppm	ppm
C6+	1026 ppm	ppm
CO2/H2S	11%/tr ppm	
Oil Properties	59.1 deg API @ 60 deg F	
Colour	light Brown	
Fluorescence	bright blue white	
GOR		
Water Properties		
Resistivity	0.365 @ 21.5 deg C	
Cl-titrated	7500 ppm	ppm
Tritium	282 DPM	ppm
pH	7.3	
Est. Water Type	Formation Water/Filtrate	
Mud Filtrate Properties		
Resistivity	1.052 @ deg C 21.1	
NaCl equivalent	ppm	
Cl-titrated/tritium	9600 ppm/1132 DPM	ppm
General Calibration		
Mud Weight	8.5 lb/gallon	8.5 lb/gallon
Calc. Hydrostatic	ppg	ppg
RFT chokesize	1 x 30/1000	1 x 20/1000
REMARKS	* = readings affected by oil in sample	Preserved

RFT SAMPLE TEST REPORT

Well : Barracouta-5

OBSERVER : D.J. Wright

DATE : 6/2/85

RUN NO. : 7/33

	CHAMBER 1 (22.7 lit)	CHAMBER 2 (10.4 lit)
SEAT NO.	7/33	7/33
DEPTH	1623m	1623m
A. RECORDING TIMES		
Tool Set	1401	-
Pretest Open	1401	-
Time Open	-	-
Chamber Open	1405	1416
Chamber Full	1412	1423
Fill Time	7 min	7 min
Start Build Up	1412	1402
Finish Build Up	1412.5	1402
Build Up Time	30 sec	
Seal Chamber	1415	1425
Tool Retract	-	1427
Total Time	-	26 mins.
B. SAMPLE PRESSURES		
IHP	2465 psig	
ISIP	1936 psig	
Initial Flowing Press.	370 psig	1807 psig
Final Flowing Press.	1397 psig	1700 psig
Sampling Press Range	370-1937 psig	1700-1937 psig
FSIP	1937 psig	1936 psig
FHP	-	2466 psig
C. TEMPERATURE		
Depth Tool Reached	1675 m	m
Max. Rec. Temp	73.9 deg C	75.6 deg C
Time Circ. Stopped	0015 hrs	
Time since Circ.	6hr 3 mins	hrs
D. SAMPLE RECOVERY		
Surface Pressure	40.0 psig	SAMPLE PRESERVED psig
Amt Gas	1.33 cu ft	cu ft
Amt Oil	20.75 lit	lit
Amt Mud	1.25 lit	lit
Amt Others	lit	lit
E. SAMPLE PROPERTIES		
Gas Composition		
C1	251596 ppm	ppm
C2	51732 ppm	ppm
C3	72217 ppm	ppm
1C4/nC4	22650 ppm	ppm
C5	18945 ppm	ppm
C6+	3744 ppm	ppm
CO2/H2S	tr/tr ppm	
Oil Properties	57.5 deg API @ 60 deg F	
Colour	light Brown	
Fluorescence	bright milky white	
GOR		
Water Properties		
Resistivity	0.459 @ 22 deg C	
Cl-titrated	7500 ppm	ppm
Tritium	32 DPM	ppm
pH	8.3	
Est. Water Type	Formation	
Mud Filtrate Properties		
Resistivity	1.052 @ deg C 21.1	
NaCl equivalent	ppm	
Cl-titrated/tritium	9600 ppm/1132 DPM	ppm
General Calibration		
Mud Weight	8.5 lb/gallon	8.5 lb/gallon
Calc. Hydrostatic	ppg	ppg
RFT chokesize	1 x 30/1000	1 x 20/1000
REMARKS		Sample Preserved

TEMPERATURE RECORD - BARRACOUTA-5

LOGGING RUN	THERMOMETER DEPTH (m)	MAX. RECORDED TEMPERATURE (C°)	CIRCULATION TIME (t _k) (hours)	TIME AFTER CIRCULATION STOPPED (t)	HORNER TEMPERATURE (C°)	GEOHERMAL GRADIENT (C°/km)
<u>Suite 1</u>						
BHC-GR	786.5	54.4	0.45	4.10		
<u>Suite 2</u>						
DLTE-MSFL-GR	1462.0	63.0	0.45	4.50	76.5	55.26
LDTC-CNL-GR	1466.0	69.4	0.45	8.48		
BHC-GR	1465.0	70.0	0.45	11.00		
<u>Suite 3</u>						
DLTE-MSFL-GR	1771.0	73.3	1.0	6.35	100.0	61.33
BHC-GR	1774.0	83.3	1.0	10.30		
EPT-GR (AFTER WIPER TRIP 1)	1769.0	86.1	4.45	12.40		
SP-GR (AFTER FISHING AND WIPER TRIP 2)	1445.0	63.0	2.45	20.30		

25131/39

FIGURES

LOCALITY MAP BARRACOUTA-5

SCALE 1:250 000

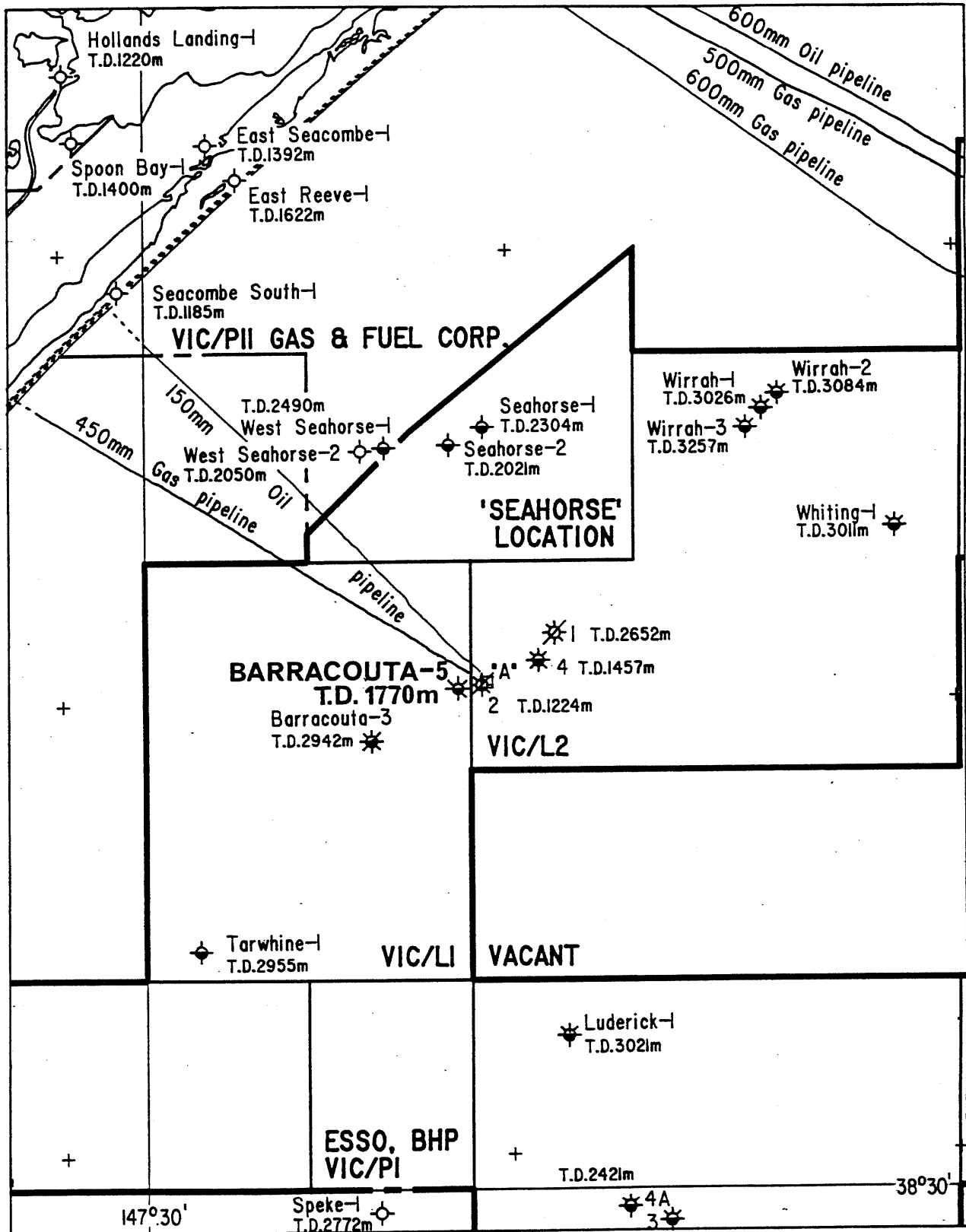


Figure 1

WELL PROGRESS CURVE

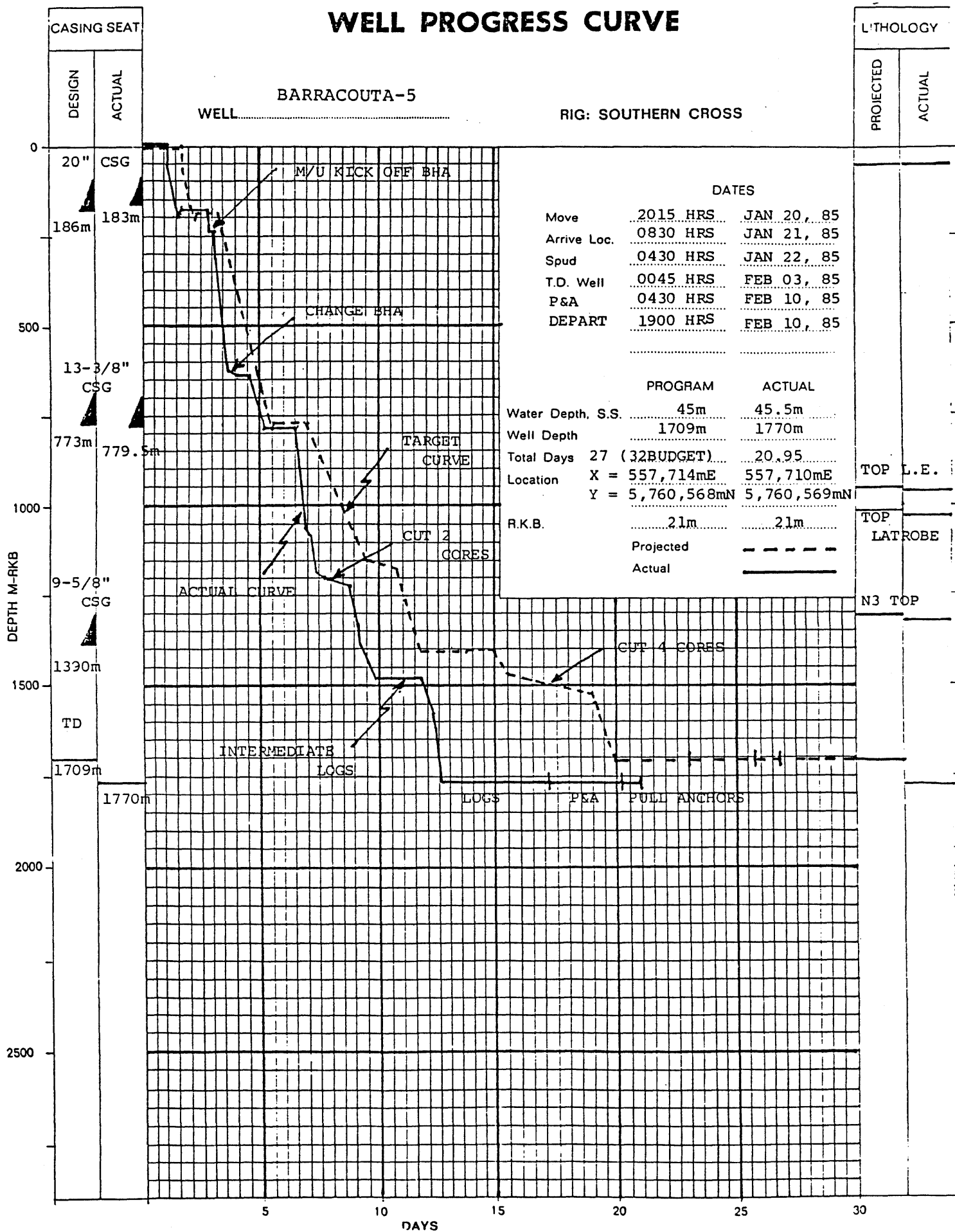


FIGURE 2

BARRACOUTA-5
WELLBORE SCHEMATIC

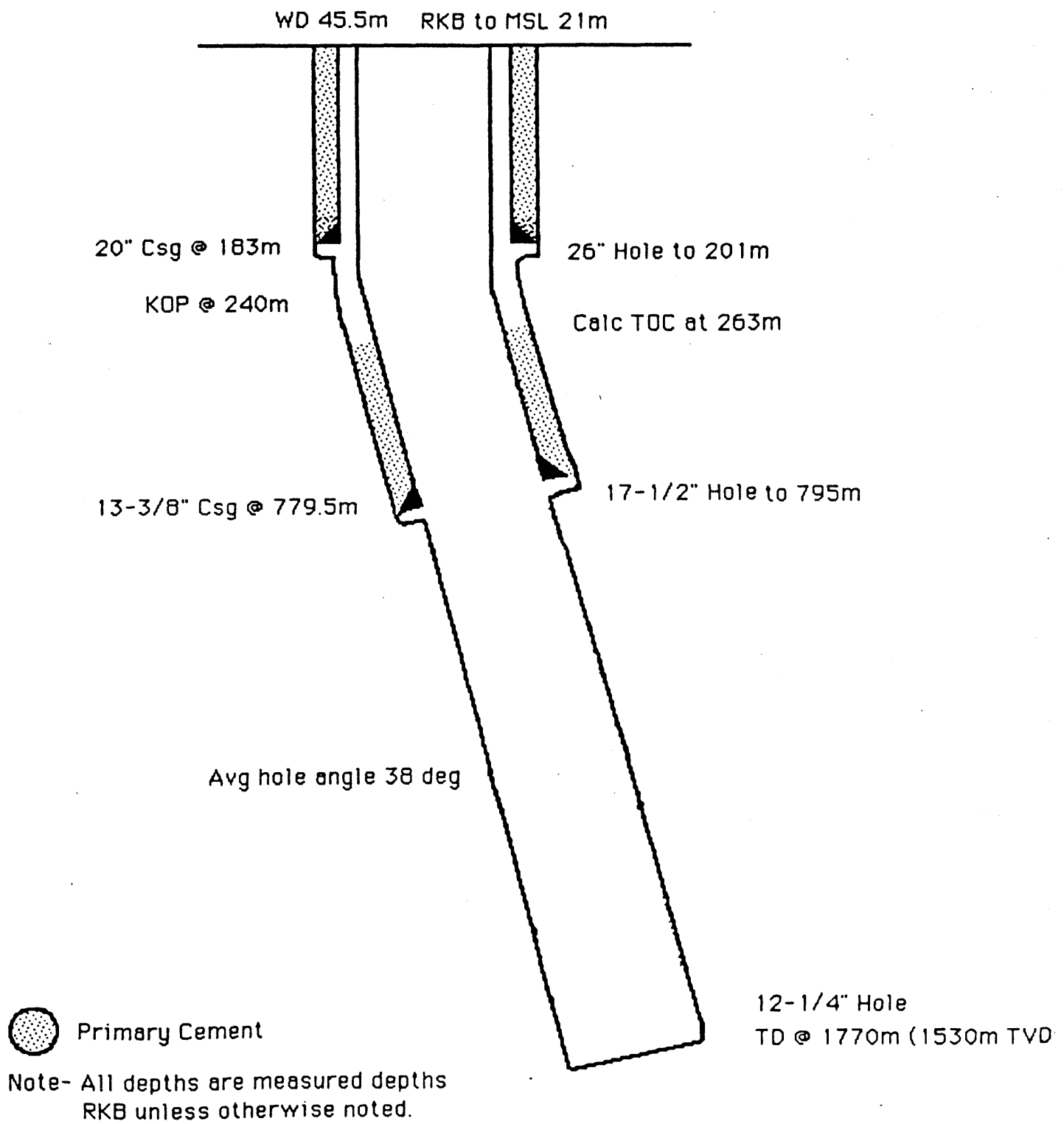
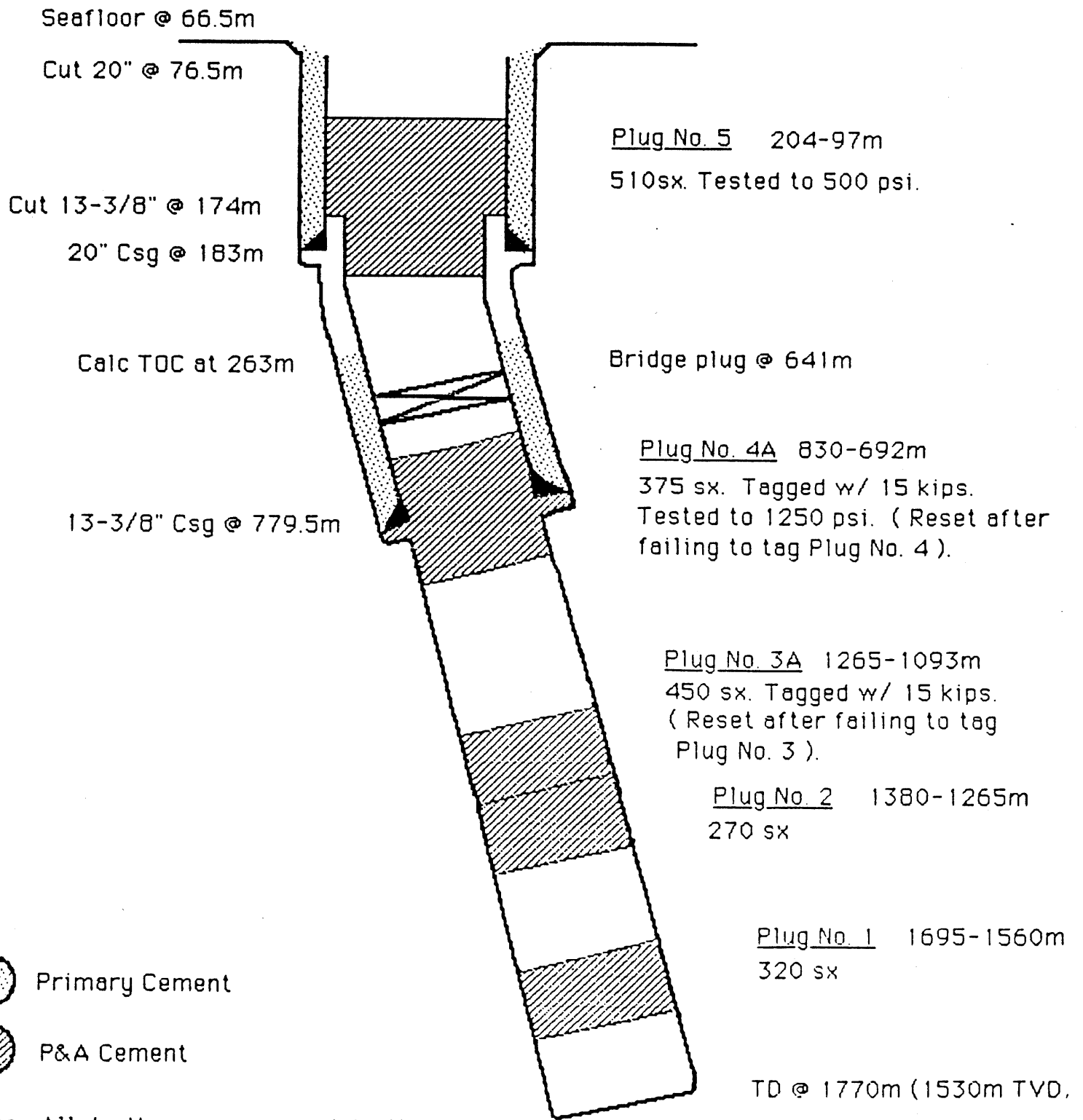


FIGURE 3

BARRACOUTA-5 ABANDONMENT SCHEMATIC



Note- All depths are measured depths
RKB unless otherwise noted.

FIGURE 4

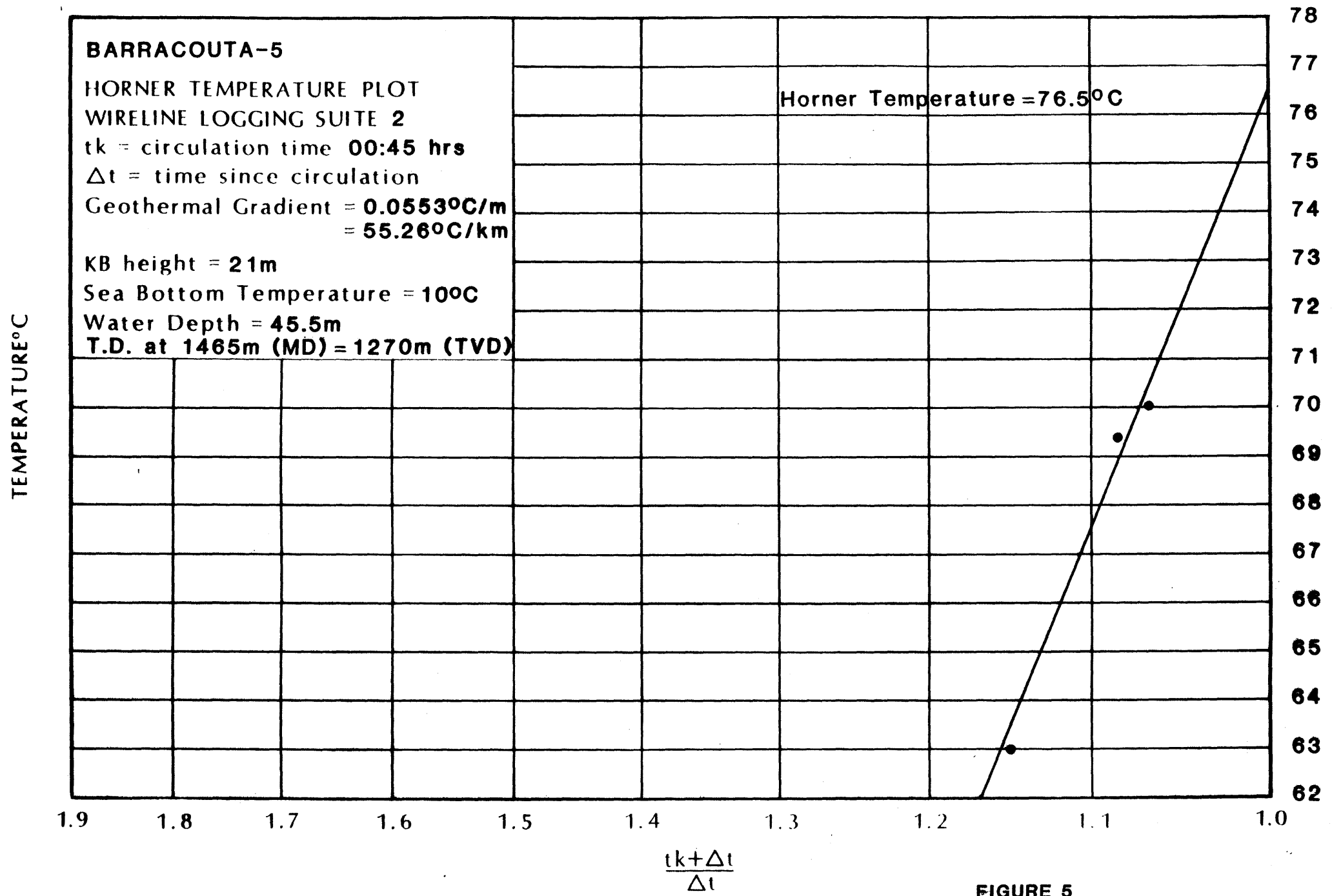


FIGURE 5

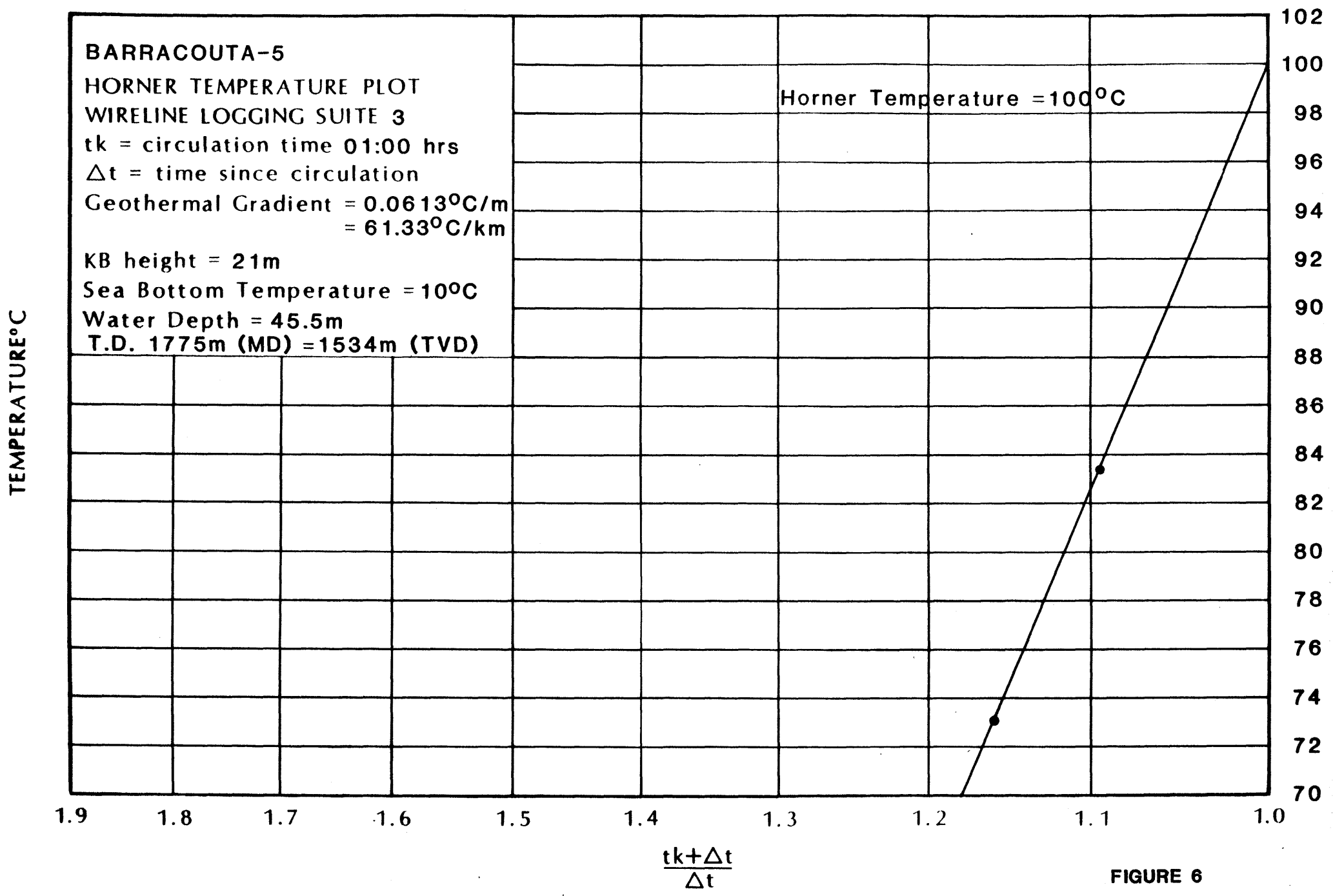


FIGURE 6

APPENDIX

1

APPENDIX 1

BARRACOUTA-5

Lithology Descriptions

<u>Depth</u>	<u>%</u>	<u>Descriptions</u>
		BEGAN DRILLING 17-1/2" HOLE @ 201.5m
202 - 210m	80	LIMESTONE: Calcarenite: medium light grey, firm, fine to medium sized carbonate grains, carbonate cement; fossiliferous - common bryozoans.
	20	CEMENT.
210 - 220m	90	LIMESTONE: Calcarenite: medium light grey, firm, fine to medium sized carbonate grains, poorly sorted, carbonate cement; fossiliferous - common bryozoans.
	10	CEMENT.
220 - 230m	100	LIMESTONE: Calcarenite: moderately well sorted, otherwise as above.
	trace	CEMENT.
230 - 239.4m	100	LIMESTONE: Calcarenite: gastropod?, otherwise as above.
	trace	CEMENT.
		At 239.4m, pulled out of hole to pick up dynadrill. RIH.
		BEGAN DRILLING AT 240m.
240 - 250m	90	LIMESTONE: Calcarenite: medium grained, moderately well sorted, otherwise as above.
	10	CEMENT.
250 - 260m	100	LIMESTONE: Calcarenite: medium to coarse grained, otherwise as above.
	trace	CEMENT.
260 - 270m	100	LIMESTONE: Calcarenite: coarse grained.
270 - 280m	100	LIMESTONE: Calcarenite: medium to coarse carbonate fragments, poorly sorted, otherwise as above.
280 - 290m	100	LIMESTONE: Calcarenite: medium to coarse grained carbonate fragments, poorly sorted; rare gastropods, otherwise as above.
290 - 300m	100	LIMESTONE: Calcarenite: medium to coarse grained carbonate fragments, otherwise as above.
300 - 310m	100	LIMESTONE: Calcarenite: medium to coarse grained carbonate fragments set in a very fine grained matrix; echinoid fragment?, otherwise as above.
310 - 320m	100	LIMESTONE: Calcarenite: medium to coarse grained set in silty matrix (carbonate), otherwise as above.
320 - 330m	100	LIMESTONE: Calcarenite: medium to coarse grained in a carbonate silty matrix, otherwise as above.

330 - 340m	100	LIMESTONE: Calcarenite: medium to coarse grained, very poorly sorted; bryozoans and rare forams (pelagic), otherwise as above.
	trace	CLAYSTONE: dispersed throughout sample.
340 - 350m	100	LIMESTONE: Calcarenite: very light grey to medium light grey, firm to moderately hard, fine to medium carbonate grains; predominantly carbonate cement; minor (approximately 10%) cuttings have argillaceous matrix - these cuttings are friable to firm, moderately fossiliferous - bryozoans and occasional forams.
350 - 360m	100	LIMESTONE: Calcarenite: only occasionally argillaceous; predominantly carbonate cement, otherwise as above.
360 - 370m	100	LIMESTONE: Calcarenite: as above, with occasional carbonaceous fragments.
370 - 380m	100	LIMESTONE: Calcarenite: trace argillaceous cuttings, otherwise as above.
380 - 390m	100	LIMESTONE: Calcarenite: occasional glauconite inclusions, otherwise as above.
390 - 400m	100	LIMESTONE: Calcarenite: medium light grey, firm to moderately hard, occasionally soft, very fine to fine carbonate grains, carbonate cement, argillaceous in parts; occasional bryozoans, forams, occasional glauconite and carbonaceous inclusions.
400 - 410m	100	LIMESTONE: Calcarenite: as above.
410 - 415m	100	LIMESTONE: Calcarenite: grading to Calcsiltite in parts.
415 - 420m	100	LIMESTONE: Calcarenite: as above, with argillaceous matrix in parts; rare fossils.
420 - 425m	100	LIMESTONE: Calcarenite: light grey to medium dark grey in parts, predominantly moderately hard, fine to coarse carbonate grains, subangular cuttings; common dark bryozoan fragments, occasional glauconite inclusions.
425 - 430m	100	LIMESTONE: Calcarenite: as above.
430 - 435m	100	LIMESTONE: Calcarenite: occasional forams, otherwise as above.
435 - 440m	100	LIMESTONE: Calcarenite: as above, with very common bryozoan and occasional coral fragments?.
440 - 445m	100	LIMESTONE: Calcarenite: very light grey to medium grey; abundant bryozoan fragments, occasional forams, corals?, otherwise as above.
445 - 450m	100	LIMESTONE: Calcarenite: as above, fine to coarse grained.
450 - 455m	100	LIMESTONE: Calcarenite: very fossiliferous, as above.

455 - 460m	100	LIMESTONE: Calcarenite: as above.
460 - 465m	100	LIMESTONE: Calcarenite: as above, also very light grey, finely crystalline in parts; fossiliferous as above.
465 - 470m	100	LIMESTONE: as above.
470 - 475m	100	LIMESTONE: Calcarenite: as above, grading to Calcilutite, very light grey to medium light grey, firm to predominantly moderately hard, subangular cuttings; abundant bryozoan fragments, occasional forams, occasional glauconite and pyrite inclusions.
475 - 480m	100	LIMESTONE: Calcarenite: grading to Calcilutite as above.
480 - 485m	100	LIMESTONE: as above.
485 - 490m	100	LIMESTONE: predominantly Calcilutite, abundant fossils, minor fine grained Calcarenite.
490 - 495m	100	LIMESTONE: Calcarenite and Calcilutite (50% each), as above.
495 - 500m	100	LIMESTONE: Calcarenite and Calcilutite: as above, with occasional shell fragments.
500 - 505m	100	LIMESTONE: predominantly Calcilutite with minor Calcarenite as above, with common bryozoans and forams.
505 - 510m	100	LIMESTONE: Calcarenite and Calcilutite as above: predominantly Calcarenite - medium light to medium grey, firm to predominantly hard, fine to coarse carbonate grains, subangular cuttings, carbonate cement; common bryozoans and forams, occasional glauconite inclusions.
510 - 515m	100	LIMESTONE: predominantly Calcarenite as above; also Calcilutite as above.
515 - 520m	100	LIMESTONE: Calcarenite & minor Calcilutite: medium light to medium grey, firm to hard, medium to coarse carbonate grains, subangular cuttings; carbonate cement; common bryozoans, occasional forams and rare echinoid plates, rare glauconite.
520 - 525m	100	LIMESTONE: Calcarenite & minor Calcilutite: as above, except light to medium grey, moderately hard, some pelagic and benthonic forams.
525 - 530m	100	LIMESTONE: Calcarenite & minor Calcilutite: as above, except rare pyrite grains, light coloured bryozoans more dominant than dark, pelagic forams, moderately hard.
530 - 535m	100	LIMESTONE: Calcarenite: as above, except rare forams, no glauconite.

535 - 540m	100	LIMESTONE: Predominantly Calcisiltite, minor Calcarenite: medium light grey to medium dark grey, firm to moderately hard, medium to coarse grained carbonate fragments, subangular grains, moderately sorted; carbonate cement; common bryozoans, occasional forams, rare glauconite and pyrite.
540 - 545m	100	LIMESTONE: Calcarenite and Calcisiltite in equal proportions: no glauconite or pyrite, otherwise as above.
545 - 550m	100	LIMESTONE: Predominantly Calcilutite, minor Calcarenite: firm to moderately hard, otherwise as above.
550 - 555m	100	LIMESTONE: Calcilutite and Calcarenite: medium dark grey, no glauconite or pyrite, otherwise as above
555 - 560m	100	LIMESTONE: Calcilutite and Calcarenite: pelagic and benthonic forams; carbonate matrix, no glauconite or pyrite, otherwise as above.
560 - 565m	100	LIMESTONE: Calcilutite: moderately hard; common bryozoans and forams; no pyrite, otherwise as above.
565 - 570m	100	LIMESTONE: Predominantly Calcilutite with minor Calcarenite: moderately hard, no glauconite, otherwise as above.
570 - 575m	100	LIMESTONE: Calcarenite & Calcilutite: moderately hard; common bryozoans and forams; no glauconite, otherwise as above.
575 - 580m	100	LIMESTONE: Calcarenite & Calcilutite: medium dark grey, firm to hard, medium to coarse grained, subangular, poor to moderate sorting, carbonate cement; common bryozoans and forams.
580 - 585m	80	LIMESTONE: Calcarenite: medium grey, firm, coarse to very coarse carbonate grains, subangular to angular, moderate sorting, carbonate cement.
	20	QUARTZ ARENITE: transparent to white, coarse grained, rounded to very well rounded, well sorted, silica cement.
585 - 590m	40	LIMESTONE: Calcarenite: as above.
	30	QUARTZ ARENITE: moderate to well sorted, otherwise as above.
	30	LIMESTONE: white bryozoans, firm, coarse to very coarse, subangular, carbonate cement, rare glauconite.
590 - 595m	50	QUARTZ ARENITE: as above.
	40	LIMESTONE: white bryozoans, firm, coarse to very coarse, subangular, carbonate cement, rare glauconite.
	10	LIMESTONE: Calcarenite: medium to coarse grained, otherwise as above.

595 - 600m	50	QUARTZ ARENITE: as above.
	50	LIMESTONE: white bryozoans, firm, coarse to very coarse, subangular, carbonate cement, occasional forams, rare glauconite.
600 - 605m	60	QUARTZ ARENITE: subrounded to rounded, otherwise as above.
	40	LIMESTONE: medium to coarse grained, poor sorting, otherwise as above.
605 - 610m	60	QUARTZ ARENITE: as above.
	40	LIMESTONE: as above.
610 - 615m	60	LIMESTONE: as above, with rare shell fragments.
	40	QUARTZ ARENITE: medium to coarse grained, moderate sorting, otherwise as above.
615 - 620m	60	LIMESTONE: coarse to very coarse grained, otherwise as above.
	40	QUARTZ ARENITE: as above.
620 - 625m	60	QUARTZ ARENITE: coarse grained, otherwise as above.
	40	LIMESTONE: coarse grained, otherwise as above.
625 - 630m	60	QUARTZ ARENITE: fine to coarse grained, otherwise as above.
	40	LIMESTONE: poor sorting, otherwise as above.
630 - 635m	60	QUARTZ ARENITE: medium to coarse grained.
	40	LIMESTONE: occasional light brown bryozoan fragments, otherwise as above.
635 - 640m	60	QUARTZ ARENITE: medium to coarse grained, otherwise as above.
	40	LIMESTONE: occasional light brown bryozoan fragments and forams.
		PULLED OUT OF HOLE TO CHANGE BHA. RIH.
640 - 650m	50	QUARTZ ARENITE: coarse to very coarse grained, otherwise as above.
	50	LIMESTONE: Calcarenite & Calcilutite: white to medium grey, firm to moderately hard, subangular to angular, poor sorting, calcite cement, glauconite, white fragments are possibly bryozoans.
650 - 660m	50	QUARTZ ARENITE: as above.
	50	LIMESTONE: Predominantly Calcarenite with minor Calcilutite: occasional forams, otherwise as above.
660 - 670m	70	LIMESTONE: Calcarenite & minor Calcilutite: moderately hard, rare shell fragments, otherwise as above.
	30	QUARTZ ARENITE: coarse grained, otherwise as above.

670 - 680m	80	LIMESTONE: Predominantly Calcisiltite with minor Calcarenite: light to medium dark grey, moderately hard, fine to coarse grained, poor sorting, calcite cement, glauconite; bryozoan fragments and occasional forams.
	20	QUARTZ ARENITE: translucent quartz, very hard, medium to coarse grained, moderate sorting, silica cement.
680 - 685m	90	LIMESTONE: as above, except medium to coarse grained.
	10	QUARTZ ARENITE: subangular to rounded, otherwise as above.
685 - 690m	90	LIMESTONE: light grey to medium grey, firm to moderately hard, clay to very coarse grained, predominantly subrounded to rounded carbonate grains, also subangular shell fragments, very poorly sorted, matrix is silty Calcilutite/Calcisiltite, contains shell fragments, occasional tiny brachiopods, forams, bryozoan fragments, and common coarse to very coarse, well rounded quartz grains; poor visible porosity.
	10	SANDSTONE: translucent, coarse to very coarse grained, well rounded loose quartz grains; these have most probably been broken from the limestone above by the bit.
690 - 695m	95	LIMESTONE: as above. except subangular to angular grains; occasional crinoids.
	5	SANDSTONE: quartz grains are subangular to well rounded, otherwise as above.
695 - 700m	95	LIMESTONE: as above, except subangular to angular grains; occasional crinoids.
	5	SANDSTONE: quartz grains are subangular to well rounded, medium to very coarse, poorly sorted, otherwise as above.
700 - 705m	95	LIMESTONE: as above, except subangular to angular; rare glauconite.
	5	SANDSTONE: as above.
705 - 710m	95	LIMESTONE: framework grains (mainly carbonate fragments, some quartz) set in a Calcisiltite matrix; light grey to medium dark grey, firm to moderately hard, framework grains range from fine sand to very coarse, subangular to rounded quartz, subangular to angular carbonate grains, very poorly sorted, immature; minor glauconite.
		NOTE: Silty residue left after HCl treatment of matrix, occasional bryozoans and shell fragments.
	5	SANDSTONE: as above.
710 - 715m	95	LIMESTONE: as above, except occasional shell fragments and one whole brachiopod and several forams.
	5	SANDSTONE: as above.

715 - 720m	95	LIMESTONE: as above, except occasional forams, common bryozoans and rare shell fragments, rare glauconite.
	5	SANDSTONE: as above.
720 - 725m	95	LIMESTONE: Predominantly Calcilutite with minor Calcarenite matrix supported grains: matrix is essentially Calcisiltite; grain descriptions as above; occasional forams, shell fragments, bryozoan fragments common, rare glauconite.
	5	SANDSTONE: as above.
725 - 730m	95	LIMESTONE: light grey to medium dark grey, firm to moderately hard, framework grains range from fine sand to very coarse, poorly sorted, immature; framework grains set in a Calcisiltite matrix; some noncarbonate residue after treatment of matrix with HCl; framework grains are quartz and carbonates (dominant); bryozoans common, occasional forams and shell fragments.
	5	SANDSTONE: Quartz Arenite: as above.
730 - 735m	95	LIMESTONE: as above.
	5	SANDSTONE: as above.
735 - 740m	90	LIMESTONE: as above, except occasional bryozoans.
	10	SANDSTONE: as above.
740 - 745m	90	LIMESTONE: as above.
	10	SANDSTONE: as above.
745 - 750m	90	LIMESTONE: as above, except mainly medium grey.
	10	SANDSTONE: as above.
750 - 755m	90	LIMESTONE: as above, except dominantly firm, rare glauconite.
	10	SANDSTONE: as above.
755 - 760m	95	LIMESTONE: as above, except dominantly medium grey, absence of shelly fragments and forams, also dominantly firm: pyritic.
	5	SANDSTONE: as above.
760 - 765m	100 trace	LIMESTONE: as above.
		SANDSTONE: as above.
765 - 770m	100 trace	LIMESTONE: as above.
		SANDSTONE: as above.

COMMENT: Many of the cuttings when thrown in HCl, react violently but still leaves a silty framework (almost spongelike) when the reaction is complete. This has been observed in many previous samples.

770 - 775m	100	LIMESTONE: Calcisiltite/Calcilutite with minor Calcarenite: light grey to dominantly medium dark grey, firm to moderately hard, clastic grains ranging from fine sand to coarse quartz and carbonate fragments (dominant), Calcisiltite/Calcilutite matrix, subangular to subrounded, very poor sorting; immature, bryozoan fragments and occasional forams. The cuttings when treated with HCl do not dissolve completely. A "sponge-like" framework of silt always remains.
	trace	SANDSTONE: as above.
775 - 780m	100	LIMESTONE: rare shell fragments, otherwise as above.
	trace	SANDSTONE: as above.
780 - 785m	100	LIMESTONE: rare shell fragments and forams, otherwise as above.
	trace	SANDSTONE: as above.
785 - 790m	95	LIMESTONE: rare shell fragments, occasional forams, otherwise as above.
	5	SANDSTONE: as above.
790 - 795m	100	LIMESTONE: as above.
	trace	SANDSTONE: as above.
		Pulled out of hole, ran BHC-GR, wiper trip. Ran 13-3/8" casing. Drilled ahead to 801m. Ran PIT.
795 - 800m	90	CEMENT.
	10	LIMESTONE: as above.
	trace	SANDSTONE: loose quartz fragments.
800 - 805m	60	CEMENT.
	30	LIMESTONE: Calcilutite: medium light grey, moderately hard, subangular cuttings, calcareous; occasional fossil fragments (mainly bryozoans); occasional small carbonaceous inclusions.
	10	SILTSTONE: medium grey to medium dark grey, firm, subrounded cuttings, <u>very</u> calcareous.
805 - 810m	60	SANDSTONE: 2 types: predominantly 80% Type 1) Loose quartz grains, translucent to clear, medium to coarse grained, subrounded to very well rounded, predominantly rounded to well rounded, moderately well sorted. 20% Type 2) quartzose aggregates, translucent, friable, medium grained, rounded, well sorted, calcareous cement; very good visible porosity; no shows.
	40	LIMESTONE: Calcilutite: light grey to medium light grey, moderately hard, subrounded cuttings, medium quartz grain inclusions; occasional fossil fragments - predominantly bryozoans, also forams, crinoids?; occasional glauconite inclusions.
	trace	SILTSTONE: very calcareous as above.

810 - 815m	70	SANDSTONE: 90% Type 1) loose quartz, as above. 10% Type 2) quartz aggregates, as above.
	30	LIMESTONE: Calcilutite: as above, and grading to Calcisiltite in parts.
815 - 820m	70	SANDSTONE: 2 types: predominantly 90% Type 1) loose quartz grains and fragments as above. 10% Type 2) quartzose aggregates, well cemented - calcareous cement with poor porosity in parts, otherwise as above.
	30	LIMESTONE: Calcilutite/Calcisiltite: as above, becoming white with abundant fossil fragments - predominantly milky white bryozoans.
820 - 825m	50	SANDSTONE: predominantly loose quartz, clear to translucent, medium to coarse grained, subrounded to well rounded, moderately well sorted; trace aggregates as above.
	50	LIMESTONE: Calcilutite: white to very light grey, firm, subangular cuttings; occasionally medium grey, moderately hard, as above; fossiliferous - abundant bryozoan fragments, occasional forams.
825 - 830m	50	LIMESTONE: Calcilutite: white to very light grey, as above.
	50	SANDSTONE: loose quartz, as above.
830 - 840m	60	SANDSTONE: loose quartz: fine to coarse grained, predominantly fine to medium grained, subrounded to well rounded, predominantly subrounded to rounded, otherwise as above.
	40	LIMESTONE: Calcilutite: as above.
840 - 850m	50	SANDSTONE: loose quartz: predominantly medium to coarse grained, otherwise as above.
	50	LIMESTONE: Calcilutite: as above.
850 - 860m	60	SANDSTONE: loose quartz grains: predominantly medium to coarse grained, otherwise as above.
	40	LIMESTONE: Calcilutite: as above.
860 - 870m	70	SANDSTONE: loose quartz: clear to translucent, medium to very coarse grained, predominantly medium to coarse grained, subrounded to well rounded, moderately well sorted.
	30	LIMESTONE: Calcilutite: as above.
870 - 880m	60	SANDSTONE: loose quartz, as above.
	40	LIMESTONE: Calcilutite: white to light brown in parts, otherwise as above.
880 - 890m	80	LIMESTONE: Calcilutite: as above.
	20	SANDSTONE: loose quartz grains, as above.
890 - 900m	70	LIMESTONE: Calcilutite: as above.
	30	SANDSTONE: loose quartz, as above.
900 - 910m	60	LIMESTONE: Calcilutite: as above.
	40	SANDSTONE: subangular to rounded quartz grains, otherwise as above.

910 - 920m	60 40	SANDSTONE: loose quartz, as above. LIMESTONE: white to light brown, otherwise as above.
920 - 930m	80 20	SANDSTONE: loose quartz, as above. LIMESTONE: Calcarenite: as above.
930 - 940m	60 40	SANDSTONE: loose quartz, as above. LIMESTONE: Calcarenite: white to light brown grains, as above.
940 - 950m	70 30	SANDSTONE: loose quartz, as above. LIMESTONE: Calcarenite: rare pyrite, as above.
950 - 960m	60 40	SANDSTONE: quartzose, translucent grains, medium to coarse grained, angular to well rounded, poor sorting, silica? cement, pyrite. LIMESTONE: Calcarenite with minor Calcisiltite: white to light brown (medium grey Calcisiltite cuttings), moderately hard, angular to subangular, poor sorting, calcite? cement.
960 - 970m	70 30	SANDSTONE: as above. LIMESTONE: Calcarenite (80%), Calcilutite (20%): rare forams, as above.
970 - 980m	60 40	SANDSTONE: as above. LIMESTONE: Calcarenite (60%), Calcilutite (40%): rare pyritic; Calcilutite is quite silty, otherwise as above.
980 - 990m	70 30	LIMESTONE: Calcisiltite (70%) - medium light grey to medium dark grey, siliceous in part, firm, glauconitic in part (rare). Calcarenite (30%) - white to light brown, moderately hard, medium to very coarse grained, angular to subangular, poor sorting; bryozoan fragments common. SANDSTONE: as above.
990 - 1000m	80 20	LIMESTONE: Calcisiltite (60%), Calcarenite (20%), as above. SANDSTONE: as above.
1000 - 1010m	90 10	LIMESTONE: Calcisiltite (80%), Calcarenite (10%), rare forams, as above; glauconite. SANDSTONE: as above.
1010 - 1020m	80 10 10	CALCAREOUS SILTSTONE: medium light grey to medium grey, firm to soft, grades to calcareous claystone in parts, subangular to subrounded cuttings, very calcareous; occasional forams, occasional glauconite inclusions. SANDSTONE: loose quartz grains: clear to translucent, medium to very coarse grained, predominantly medium to coarse, subrounded to very well rounded, predominantly subrounded to rounded, moderately well sorted. LIMESTONE: Calcisiltite/Calcilutite: as above.
1020 - 1030m	70 30 trace	CALCAREOUS SILTSTONE: as above. LIMESTONE: Calcisiltite/Calcilutite: as above. SANDSTONE: loose quartz, as above.

1030 - 1040	80	SANDSTONE: loose quartz grains: clear to translucent, fine to very coarse grained, predominantly medium to coarse grained, rounded to very well rounded, poorly sorted.
	10	LIMESTONE: Calcisiltite/Calcilutite: as above.
	10	CALCAREOUS SILTSTONE: green-grey in parts, otherwise as above.
1040 - 1050m	90	CALCAREOUS SILTSTONE: occasionally moderately hard, otherwise as above.
	10	SANDSTONE: loose quartz grains, as above.
	trace	LIMESTONE: Calcilutite/Calcisiltite: as above.
1050 - 1055m	90	CALCAREOUS SILTSTONE: <u>very</u> glauconitic in parts, forams, otherwise as above.
	10	SANDSTONE: loose quartz grains: predominantly medium to coarse grained.
	trace	LIMESTONE: Calcilutite/Calcisiltite: as above.
		FLOW BLOCKAGE - stopped drilling, cleared flowline.
1060m Grab Sample	95	CALCAREOUS SILTSTONE: glauconitic in part, forams, otherwise as above.
	5	SANDSTONE: loose quartz grains: medium to coarse grained, subangular to rounded, as above.
		CORELAB depth line broke - missed sample 1065m. (Controlled drilling below 1060m).
1065 - 1070m	95	CALCAREOUS SILTSTONE: as above.
	5	SANDSTONE: loose quartz: dominantly medium to coarse grained, dominantly subrounded to rounded, otherwise as above.
1070 - 1075m	90	CALCAREOUS SILTSTONE: as above, with common forams.
	10	SANDSTONE: loose quartz, as above.
1075 - 1080m	100	CALCAREOUS SILTSTONE: predominantly medium light grey to green-grey etc as above, with trace medium to medium dark grey, firm to moderately hard and only slightly calcareous; forams common.
	trace	SANDSTONE: loose quartz, as above.
		N.B. Insufficient sample over shakers for fission track samples.
1080 - 1085m	100	CALCAREOUS SILTSTONE: medium light grey to medium grey, also green-grey, firm, subangular cuttings calcareous, occasional glauconite inclusions, common forams.
1085 - 1090m	100	CALCAREOUS SILTSTONE: as above.
1090 - 1095m	100	CALCAREOUS SILTSTONE: as above.
	trace	SANDSTONE: loose quartz grains: clear to translucent, medium to very coarse grained, subrounded to very well rounded, predominantly rounded to well rounded, moderately well sorted.
1095 - 1100m	100	CALCAREOUS SILTSTONE: as above.
	trace	SANDSTONE: loose quartz: as above.
	trace	GLAUCONITE: dark green, rounded cuttings.

1100 - 1105m	100 trace trace	CALCAREOUS SILTSTONE: as above. SANDSTONE: loose quartz, as above. GLAUCONITE: as above.
1105 - 1110m	100 trace trace	CALCAREOUS SILTSTONE: as above, with common forams. SANDSTONE: loose quartz: as above. GLAUCONITE: as above.
1110 - 1115m	100 trace trace	CALCAREOUS SILTSTONE: as above, abundant forams. SANDSTONE: loose quartz, as above. GLAUCONITE: as above.
1115 - 1120m	100 trace trace	CALCAREOUS SILTSTONE: as above. SANDSTONE: loose quartz, as above. GLAUCONITE: as above.
1120 - 1125m	100 trace trace	CALCAREOUS SILTSTONE: as above, with abundant forams. SANDSTONE: loose quartz grains: medium to coarse grained, otherwise as above. GLAUCONITE: as above.
1125 - 1130m	100 trace rare	CALCAREOUS SILTSTONE: as above. SANDSTONE: loose quartz: as above. GLAUCONITE: as above.
1130 - 1135m	100 trace rare	CALCAREOUS SILTSTONE: as above. SANDSTONE: loose quartz, as above. GLAUCONITE: as above.
		Stopped drilling at 1146m to bring Mud Water and Mud Volume up to 11.0 ppg.
1135 - 1140m	100 trace rare	CALCAREOUS SILTSTONE: light grey to medium grey, also greenish grey, soft to firm, subangular cuttings, blocky to platy cuttings, very calcareous; occasional glauconite inclusions, common forams, grades to calcareous claystone in parts; water sensitive. SANDSTONE: loose quartz: clear to translucent, medium to coarse grained, subangular to well rounded, predominantly subrounded to rounded, moderately well sorted. GLAUCONITE: dark green, well rounded cuttings.
1140 - 1145m	100 trace rare	CALCAREOUS SILTSTONE: as above. SANDSTONE: loose quartz grains, as above. GLAUCONITE: as above.
1145 - 1150m	95 5	CALCAREOUS SILTSTONE: as above. SANDSTONE: loose quartz grains: predominantly medium to coarse grained as above, also occasional very coarse grains, otherwise as above.
1150 - 1155m	95 5	CALCAREOUS SILTSTONE: as above. SANDSTONE: loose quartz grains, as above.
1155 - 1160m	90 10	CALCAREOUS SILTSTONE: as above, becoming more glauconitic in part. SANDSTONE: loose quartz grains, as above.

1160 - 1165m	95 5	CALCAREOUS SILTSTONE: as above, common forams. SANDSTONE: loose quartz: clear to translucent, medium to coarse grained, subangular to very well rounded, predominantly subrounded to well rounded, moderately well sorted.
1165 - 1170m	100	CALCAREOUS SILTSTONE: becoming less calcareous (no longer very calcareous) in parts, otherwise as above, with common forams.
1170 - 1175m	100	CALCAREOUS SILTSTONE grading to SILTSTONE: becoming less calcareous in parts, otherwise as above; also grades to claystone in parts.
1175 - 1180m	100	CALCAREOUS SILTSTONE grading to SILTSTONE: less calcareous in parts, rare pyrite, otherwise as above; some claystone; occasional cutting are firm to moderately, less calcareous and more glauconitic.
1180 - 1185m	95 5 trace trace	SILTSTONE: Predominantly grading from Calcareous Siltstone above: glauconite more common, otherwise as above, with minor cuttings that are firm to moderately hard, glauconitic, calcareous/dolomitic. DOLomite: pale brown, moderately hard, predominantly subangular cuttings, glauconite inclusions. PYRITE: microcrystalline aggregates. GLAUCONITE: dark green, rounded cuttings.
		N.B: Blocked flowline problems continuing. (So some of the calcareous siltstone could well be a function of this and not representative of the section being drilled).
1185 - 1190m	100 trace rare trace	SILTSTONE: calcareous siltstone as above, with less calcareous, darker, more glauconitic cuttings as above. GLAUCONITE: as above. PYRITE: as above. DOLomite: as above.
1190 - 1195m	95 5 trace	SILTSTONE: 2 types: Type 1) calcareous siltstone as above (see note above). Type 2) light grey to medium dark grey, also often buff to pale brown, occasionally blue grey, soft to firm, blocky, rounded cuttings, calcareous in parts, abundant glauconite inclusions in parts, occasional forams. GLAUCONITE: dark green, rounded cuttings (probably from siltstone). PYRITE: as above.
1195 - 1200m	75 20 5 trace	SILTSTONE: 2 types: Type 1) calcareous siltstone as above. Minor Type 2) medium grey, green, pale brown, very soft to firm, predominantly very soft to soft, blocky rounded cuttings, non calcareous, very glauconitic. GLAUCONITE: as above. SANDSTONE: loose quartz grains, clear to translucent, medium to very coarse grained, subrounded to rounded, poorly sorted. PYRITE: as above.

			C.B.U. at 1204.9m (told driller at 1204m).
1200 - 1204.9m	95		SANDSTONE: loose quartz grains: clear to translucent, medium to very coarse grained, predominantly coarse to very coarse, subrounded to very well rounded, predominantly subrounded, well sorted; inferred very good visible porosity; no shows i.e. no fluorescence.
	5		SILTSTONE: Type (2) as above; however, good gas (190 units) show.
	trace		GLAUCONITE: as above.
			C.B.U. at 1204.9m. Cut Core No. 1 1205 - 1215m Cut Core No. 2 1215 - 1224.2m
1225 - 1230m	95		SANDSTONE: individual quartz grains, no aggregates, clear to translucent, coarse to very coarse, subangular, well sorted, trace dull, yellow fluorescence, no cut.
	5		SILTSTONE: dark reddish brown to brown, carbonaceous, friable.
	trace		COAL: Conchoidal Fracture: blocky, grades to carbonaceous siltstone.
	trace		PYRITE.
	trace		GLAUCONITE: dark green, rounded aggregates.
1230 - 1235m	90		SANDSTONE: generally as above, with occasional milky quartz grains, coarse to very coarse grained, subangular to angular, moderately well sorted; trace dull, yellow fluorescence.
	10		SILTSTONE: 2 types: Type 1) dark brown to black, carbonaceous, friable. Type 2) light grey, calcareous, often with glauconite inclusions, soft.
	trace		COAL: as above.
	trace		GLAUCONITE: as above.
1235 - 1240m	90		SANDSTONE: clear to milky white, subrounded, individual grains, no aggregates, moderately well sorted, otherwise as above; trace dull, yellow fluorescence.
	10		SILTSTONE: as above, very carbonaceous, grades to coal (conchoidal fracture - trace amounts).
	trace		COAL: as above.
	trace		GLAUCONITE: as above.
1240 - 1245m	80		SANDSTONE: clear to translucent, coarse to very coarse grained, predominantly very coarse, subangular to subrounded, moderate sorting, trace pyrite; good visible porosity; faint show.
	15		COAL: Conchoidal Fracture: blocky.
	5		CARBONACEOUS SHALE grading to SILTSTONE: greyish red to reddish brown, moderately hard.
	trace		GLAUCONITE and CALCISILTITE: probably from Lakes Entrance Limestone (up hole).
1245 - 1250m	95		SANDSTONE: clear to translucent, coarse to very coarse grained, angular to subrounded, poor sorting; no shows.
	5		COAL: as above.
	trace		GLAUCONITE and CALCISILTITE: as above.
	trace		SILTSTONE: as above.

1250 - 1255m	100 trace trace trace	SANDSTONE: as above. COAL: as above. GLAUCONITE and CALCISILTITE: as above. SILTSTONE: glauconitic, blue grey - probably from Gunard Formation (up hole).
1255 - 1260m	100 trace trace trace	SANDSTONE: clear to translucent, very coarse grained, subrounded to rounded, moderate sorting, rare pyrite; good visible porosity; no shows. COAL: as above. SILTSTONE: as above. GLAUCONITE: as above.
1260 - 1265m	100 trace trace trace	SANDSTONE: clear to translucent, medium to very coarse grained, coarse to very coarse grains dominant, subangular to subrounded, poor sorting, slightly pyritic; good visible porosity; no shows. COAL: as above. GLAUCONITE: as above. CALCISILTITE: as above.
1265 - 1270m	100 trace trace trace	SANDSTONE: clear to translucent, medium to very coarse grained, moderate sorting, loose quartz grains; no shows. COAL: as above. SILTSTONE: 2 types: Type 1) carbonaceous, as above, dark brown-black. Type 2) calcareous, light grey soft. GLAUCONITE: as above.
1270 - 1275m	60 30 10 trace trace	COAL: blocky as above, trace pyrite. SILTSTONE: dark brown-black, carbonaceous, blocky, firm to hard. SANDSTONE: as above, individual grains, no aggregates; no shows. GLAUCONITE: as above. CALCAREOUS SILTSTONE: light grey, as above.
1275 - 1280m	100 trace trace trace	SANDSTONE: clear to milky white, medium to very coarse grained, subangular to rounded, poor sorting, loose grains; no shows. GLAUCONITE: dark green, aggregates (well rounded). COAL: as above. PYRITE: aggregates, crystalline and microcrystalline.
1280 - 1285m	100 trace trace trace	SANDSTONE: clear to translucent, subangular to subrounded, coarse to very coarse grained, poor sorting, rare pyrite; good visible porosity; no shows. COAL: as above. GLAUCONITE: as above. SILTSTONE: carbonaceous, greyish red.
1285 - 1290m	100 trace trace trace trace	SANDSTONE: clear to translucent to occasionally milky, medium to very coarse grained, subangular to subrounded, poorly sorted, loose quartz grains; moderate to poor inferred visible porosity; no shows. COAL: as above GLAUCONITE: as above PYRITE : microcrystalline CALCAREOUS SILTSTONE: greenish grey, soft, glauconitic?

1290 - 1295m	100 trace trace trace trace trace	SANDSTONE: as above, glauconitic; no shows. CALCAREOUS SILTSTONE: light grey to greenish grey, very calcareous, as above. COAL: as above PYRITE: as above GLAUCONITE: as above BRYOZOAN: stems (cavings?)
1295 - 1300m	95 5 trace trace trace trace	SANDSTONE: clear to translucent to occasional milky white, medium to coarse grained, occasionally very coarse, moderate sorting, loose quartz grains, no aggregates; no shows. SHALE: carbonaceous, reddish brown but dominantly dark grey to black, firm. COAL: as above. GLAUCONITE: dark green, becoming very rare. CALCAREOUS SILTSTONE: light grey, as above. PYRITE: as above.
1300 - 1305m	95 5 trace trace trace trace	SANDSTONE: clear to translucent, occasionally milky, coarse grained, subangular, moderately to poorly sorted, loose quartz grains, no aggregates; poor inferred porosity; no shows. SILTSTONE: dark grey to occasionally reddish brown, carbonaceous and sometimes micaceous, soft to firm. COAL: black, blocky. CALCAREOUS SILTSTONE: light grey, very calcareous, soft. GLAUCONITE: dark green, well rounded. PYRITE: microcrystalline.
1305 - 1310m	100 trace trace trace trace trace	SANDSTONE: loose quartz grains: clear to translucent, subrounded, poorly sorted, medium to very coarse grained; no shows. SILTSTONE: brown to dark grey, carbonaceous, soft to firm, non calcareous. CALCAREOUS SILTSTONE: as above. COAL: as above. GLAUCONITE: as above. PYRITE: as above. CLAYSTONE: very light grey, very soft.
1310 - 1315m	100 trace trace trace trace	SANDSTONE: loose quartz grains, clear to translucent, medium to very coarse grained, subrounded, moderately to poorly sorted, no aggregates; no shows. SILTSTONE: dark grey to reddish brown, soft to firm, non calcareous, micaceous. CALCAREOUS SILTSTONE: as above. GLAUCONITE: as above. PYRITE: as above.
1315 - 1320m	95 5 trace trace	SANDSTONE: clear to milky white, medium to very coarse grained, subrounded to occasionally rounded, moderately to poorly sorted; good inferred visible porosity; no shows. SILTSTONE: dark grey-brown, firm, micaceous. CALCAREOUS SILTSTONE: as above. GLAUCONITE: as above.
1320 - 1325m	90 10	SANDSTONE: loose quartz grains, only occasionally milky, medium to granule sized grains, predominantly coarse to very coarse grained, subangular to rounded, predominantly subrounded, moderately well sorted; no shows. SILTSTONE: as above, and carbonaceous.

1325 - 1330m	95	SANDSTONE: loose quartz grains: medium to very coarse grained, predominantly medium to coarse grained, predominantly subangular; no shows.
	5	SILTSTONE: as above. [(approximately 5%) fluorescing (no cut) tiny, clear muscovite like particles].
1330 - 1335m	70	SANDSTONE: loose quartz grains: medium to granule size grains, otherwise as above; no shows.
	30	COAL: black to dark grey, firm, subangular cuttings, vitreous lustre and conchoidal fracture in parts, silty in parts.
	trace	N.B: There is probably a greater percentage of coal than is indicated in this fine fraction sample i.e. there were a lot more coarse coal cuttings. SILTSTONE: carbonaceous laminations, otherwise as above.
1335 - 1340m	80	SANDSTONE: loose quartz grains: predominantly medium to coarse grained, otherwise as above; no shows.
	20	SILTSTONE: as above.
	trace	COAL: as above.
1340 - 1345m	80	SANDSTONE: loose quartz grains: medium to very coarse grained, predominantly medium grained, subangular to subrounded, otherwise as above.
	20	COAL: predominantly dark grey, predominantly silty. (Approximate coal percentage).
1345 - 1350m	70	SANDSTONE: loose quartz grains: predominantly medium to coarse grained, predominantly subrounded, otherwise as above.
	30	SILTSTONE: medium dark grey to dark grey, firm to moderately hard in parts, blocky, subangular to subrounded cuttings, carbonaceous, grade to coal in parts.
1350 - 1355m	60	SANDSTONE: loose quartz grains: predominantly coarse grained, otherwise as above.
	40	SILTSTONE: as above, grading to coal.
1355 - 1360m	80	SANDSTONE: loose quartz grains: medium to very coarse grained, otherwise as above.
	20	SILTY COAL: grading to Coaly Siltstone: as above.
	trace trace	GLAUCONITE: green, well rounded cuttings. PYRITE: microcrystalline aggregates.
1360 - 1365m	90	SANDSTONE: loose quartz grains: clear to translucent, medium to very coarse grained, predominantly coarse grained, angular to subrounded, predominantly subrounded, moderately well sorted; no shows.
	10	CARBONACEOUS SILTSTONE: grading to coal as above.

1365 - 1370m	100	SANDSTONE: loose quartz grains: predominantly very coarse to coarse grained, poor to moderately well sorted, otherwise as above; 5% dull to moderately bright, white fluorescence with slow, very weak, streaming white cut. These cutting are quartz grains with a trace of siliceous cement/matrix attached to them.
	trace	CARBONACEOUS SILTSTONE: as above.
		Pulled out of hole at 1373.3m for bit trip.
		R.I.H. and reamed to 1373.3m.
1370 - 1375m	100	SANDSTONE: medium to very coarse grained, predominantly coarse grained, angular to subrounded, predominantly subangular, otherwise as above; dull, yellow fluorescence (trace) - dolomite?; no shows.
	trace	COAL: grading to carbonaceous siltstone.
	trace	GLAUCONITE and GLAUCONITIC SILTSTONE: probably Gunnard Formation.
1375 - 1380m	60	SANDSTONE: loose quartz grains: clear to translucent, coarse to very coarse grained, angular to subrounded, predominantly subangular, moderately sorted; pale yellow, mineral fluorescence - dolomite?; no shows.
	35	SILTSTONE: 2 types: 60% Type 1) greenish grey, soft to firm, calcitic, glauconitic in parts - probably cavings Gunnard Formation. 40% Type 2) medium grey, soft to firm, some grains only very slightly calcitic.
	5	GLAUCONITE: probably Gunnard Formation.
	trace	COAL: grading to carbonaceous siltstone.
1380 - 1385m	80	SANDSTONE: subrounded to rounded, moderately sorted; no shows, otherwise as above.
	20	SILTSTONE: 75% Type 1) as above. 25% Type 2) as above.
	trace	COAL: grading to carbonaceous <u>siltstone</u> .
	trace	GLAUCONITE.
1385 - 1390m	70	SANDSTONE: poorly sorted; light yellow, mineral fluorescence, otherwise as above.
	15	SILTSTONE: 75% Type 1) as above. 25% Type 2) as above.
	10	COAL: grading to darkish brown <u>siltstone</u> (laminated), carbonaceous.
1390 - 1395m	90	SANDSTONE: coarse to very coarse grained, predominantly coarse grained, angular to subangular; very slight, pale yellow fluorescence (trace), otherwise as above.
	10	COAL: grading to dark brown carbonaceous <u>siltstone</u> , conchoidal fracture noticeable in coal (vitrinite), cuttings generally very coarse to granular.
	trace	SILTSTONE: Type 1) as above.
	trace	DOLOMITE: light brown colour, reacted slowly in HCl.
	trace	GLAUCONITE.

1395 - 1400m	100	SANDSTONE: loose quartz grains: clear to translucent, occasionally tending to milky, medium to coarse grained, subangular to subrounded, moderately well sorted; no shows.
	trace	SILTSTONE: medium grey to medium dark grey, occasionally brownish grey, firm blocky cuttings; carbonaceous; trace Type 1) as above.
	trace	COAL: as above.
1400 - 1405m	50	SANDSTONE: loose quartz grains; occasionally angular, otherwise as above; rare (e.g 1 to 2 cuttings) have moderately bright, spotty, white fluorescence and very slow, very weak to faint white cut; these cuttings are covered with some dark carbonaceous matter.
	40	COAL: dark grey to black, firm to occasionally brittle in parts, subangular to subrounded cuttings, occasional conchoidal fracture, very commonly grade to Carbonaceous Siltstone or Silty Coal.
	10	SILTSTONE: medium dark grey to greyish brown, very carbonaceous, otherwise as above.
1405 - 1410m	50	SANDSTONE: coarse to very coarse grained, angular to subrounded, moderately sorted, otherwise as above.
	40	COAL: black to dark grey, brittle, angular, generally very coarse to granular, conchoidal fracture in some cuttings, blocky.
	10	SILTSTONE: greyish brown, carbonaceous, as above.
1410 - 1415m	60	SANDSTONE: coarse to very coarse grained, moderately sorted, otherwise as above.
	30	COAL: as above.
	10	SILTSTONE: moderately hard cuttings, greyish brown, carbonaceous, otherwise as above.
1415 - 1420m	60	SANDSTONE: coarse to very coarse, well sorted, trace pyrite, otherwise as above.
	30	COAL: grading to dark brown carbonaceous siltstone in part, otherwise as above. (Several cuttings exhibit coal and carbonaceous siltstone laminations).
	10	SILTSTONE: greyish brown, firm, carbonaceous, otherwise as above. Trace Type 1) as above.
	trace	GLAUCONITE.
1420 - 1425m	90	SANDSTONE: clear to translucent and rare pink, coarse to very coarse grained, predominantly coarse grained, moderately sorted, otherwise as above.
	10	COAL: as above.
	trace	SILTSTONE: greyish brown, firm, carbonaceous, otherwise as above.
1425 - 1430m	90	SANDSTONE: loose quartz grains: clear to translucent, occasionally milky, medium to coarse grained, subangular to angular, well sorted; trace white, bright fluorescence, no cut.
	5	SILTSTONE: as above, i.e. carbonaceous. Trace Type 1) as above, calcareous, occasionally glauconitic.
	5	COAL: as above.

1430 - 1435m	100	SANDSTONE: loose quartz grains: clear to translucent, very occasionally milky, medium to coarse grained, subangular to subrounded, moderately well sorted; no shows.
	trace	COAL: blocky to subrounded cuttings, conchoidal fracture.
	trace	SILTSTONE: dark brown, firm, highly carbonaceous.
	trace	PYRITE.
1435 - 1440m	60	SANDSTONE: loose quartz grains: clear to translucent, occasionally milky, medium to coarse grained, subangular to subrounded, moderately sorted; no shows.
	40	COAL: blocky to angular cuttings, conchoidal fracture.
	trace	CALCAREOUS SILTSTONE: soft, light grey, probably dolomitic.
	trace	CARBONACEOUS SILTSTONE: as above.
1440 - 1445m	95	COAL: small cuttings, conchoidal fracture, black to greyish black, firm, brittle.
	5	SANDSTONE: as above, coarse grained, well sorted; no shows.
	trace	CARBONACEOUS SILTSTONE: as above, dark reddish brown to black
1445 - 1450m	75	COAL: black, very coarse to pebble size (8 mm) cuttings, granular predominant, blocky, brittle, commonly with conchoidal fracture.
	25	SANDSTONE: loose grains: clear to translucent, occasionally milky, coarse to very coarse, poor to moderately sorted, subangular to subrounded.
	trace	CARBONACEOUS SILTSTONE: as above.
1450 - 1455m	90	COAL: as above.
	10	SANDSTONE: loose grains: clear to translucent, occasionally milky, coarse to very coarse, subangular to subrounded, moderately sorted; no shows.
	trace	CARBONACEOUS SILTSTONE: as above.
1455 - 1460m	80	COAL: as above.
	20	SANDSTONE: angular to subrounded, predominantly subangular, moderately sorted, otherwise as above.
	trace	CARBONACEOUS SILTSTONE: as above.
1460 - 1464m	90	COAL: as above, except grainsize ranges from very coarse granules, occasionally grading to dark reddish brown carbonaceous siltstone.
	10	SANDSTONE: very coarse grained, angular to subrounded, poorly sorted.
1465-1470		Pulled out of hole. Ran Suite 2 logs. CBU at 1476.9m.
	50	SILTSTONE: medium light grey to medium dark grey, firm carbonaceous (plus calcareous cavings).
	40	SANDSTONE: loose quartz grains: clear to translucent, medium to coarse, subangular to subrounded, moderately well sorted; no shows.
	10	COAL: black to dark grey, moderately hard, brittle, angular to subangular cuttings.

1470-1475	100	SANDSTONE: loose quartz grains: predominantly medium to coarse grained, otherwise as above: no shows.
	trace	SILTSTONE: as above.
	trace	GLAUCONITE: green, well rounded cuttings.
1475-1480	80	SANDSTONE: loose quartz grains: predominantly medium to coarse grained, otherwise as above: no shows.
	20	COAL: firm to moderately hard, otherwise as above.
	trace	SILTSTONE: as above.
1480-1485	80	COAL: as above with conchoidal fracture in parts and silty in parts.
	20	SANDSTONE: loose quartz grains: medium to very coarse, angular to subrounded.
1485-1490	80	SANDSTONE: loose quartz grains: predominantly coarse grained otherwise as above.
	20	COAL: as above.
	trace	SILTSTONE: as above.
1490-1495	80	SANDSTONE: loose quartz grains: predominantly coarse to very coarse, otherwise as above.
	15	COAL: as above, only rarely silty.
	5	SILTSTONE: medium grey to medium dark grey, pale brown, firm to soft, blocky cuttings; carbonaceous.
1495-1500	90	COAL: black to dark grey, moderately hard, angular to subangular cuttings, vitreous and conchoidal fracture in parts, silty in parts.
	10	SANDSTONE: loose quartz grains: as above.
1500-1505	100	COAL: to dark brownish grey and commonly silty, otherwise as above.
	trace	SANDSTONE: loose quartz grains: as above.
1505-1510	85	COAL: as above
	10	SANDSTONE: loose quartz grains: medium to very coarse grained, otherwise as above.
	5	SILTSTONE/SHALE: siltstone: as above, grading to shale.
1510-1515	80	COAL: predominantly vitreous, otherwise as above.
	20	SANDSTONE: loose quartz grains, predominantly sub-angular to subrounded, i.e. as above.
	trace	SILTSTONE: very carbonaceous in parts, otherwise as above.
1515-1520	90	COAL: predominantly vitreous, otherwise as above.
	10	SANDSTONE: loose quartz grains: as above. Trace quartz aggregates: light grey, friable, very fine grained, well sorted, dolomitic cement, poor visible porosity: no shows.
		CBU at 1523m : 30% SANDSTONE (loose quartz grains), 70% COAL.

1520-1525	50	COAL: as above.
	50	SANDSTONE: loose quartz grains: clear to translucent, medium to very coarse grained, subangular to subrounded, predominantly subrounded, moderately well sorted; no shows. Trace - 5% aggregates: medium light grey, friable to moderately hard, very fine grained, well sorted, dolomitic cement, carbonaceous inclusions, poor visible porosity; no shows.
	trace	SILTSTONE: medium light grey, soft to firm, blocky, rounded cuttings.
1525-1530	100	SANDSTONE: loose quartz grains: predominantly medium to coarse grained, subangular to subrounded, otherwise as above. Trace - 5% quartz aggregates: as above.
	trace	COAL: as above.
	trace	SILTSTONE: as above.
1530-1535	100	SANDSTONE: loose quartz: medium to very coarse grained, otherwise as above. 5% aggregates: as above.
	trace	COAL: as above.
	trace	SILTSTONE: as above.
1535-1540	100	SANDSTONE: loose quartz grains: as above, occasionally aggregates: as above.
	trace	COAL: as above
1540-1545	100	SANDSTONE: loose quartz grains: predominantly subangular cuttings, otherwise as above.
	trace	COAL: as above.
1545-1550	100	SANDSTONE: loose quartz grains: predominantly coarse to very coarse grained, otherwise as above.
	trace	COAL: as above.
1550-1555	100	SANDSTONE: loose quartz grains: medium to very coarse, subangular to subrounded, otherwise as above.
	trace	COAL: as above.
1555-1560	90	SANDSTONE: loose quartz grains: predominantly very coarse grained, otherwise as above.
	10	COAL: black, brittle, vitreous, conchoidal fracture, angular cuttings.
	trace	SILTSTONE: medium grey to medium dark grey, soft to firm, blocky cuttings, very fine quartz grain inclusions in parts, carbonaceous, grading to shale in parts.
1560-1565	70	SANDSTONE: loose quartz grains: medium to very coarse grained, predominantly subangular otherwise as above.
	30	COAL: as above.
1565-1670	60	SANDSTONE: predominantly loose quartz grains: clear to translucent, medium to very coarse grained, subangular to occasionally rounded, poor to moderately well sorted; no shows. Also trace quartz aggregates: very fine dolomite cemented as above.

	40 trace	COAL: occasionally silty, otherwise as above. SILTSTONE: carbonaceous and grading shale in parts.
1570-1575	85	SANDSTONE: loose quartz grains: subangular to subrounded, occasionally granule sized otherwise as above.
	15 trace	COAL: as above, and subangular cuttings. SILTSTONE: as above.
1575-1580	80	SANDSTONE: loose quartz grains: as above.
	20 trace	COAL: as above. SILTSTONE: as above.
1580-1585	75	SANDSTONE: loose quartz grains: as above.
	10	COAL: dark grey to black, brittle, predominantly blocky, subrounded cuttings, vitreous in parts to silty in parts.
	15	SILTSTONE/SHALE: very carbonaceous, otherwise as above.
1585-1590	85	SANDSTONE: loose quartz grains: as above.
	10	COAL: as above, conchoidal fracture (rare).
	5	CARBONACEOUS SILTSTONE: as above.
1590-1595	95	SANDSTONE: Clear to translucent, medium to very coarse grained, subangular, moderately sorted; trace dolomite with trace white mineral fluoresences.
	5 trace	COAL: as above. SILTSTONE: very carbonaceous and laminated, otherwise as above.
1596-1600	100	SANDSTONE: loose quartz grains: predominantly medium grained, predominantly subangular to angular, otherwise as above. Also trace aggregates: medium to very coarse, subangular grains, dolomite cement, poorly sorted; poor visible porosity; no shows. Trace white mineral fluorescence.
	trace	COAL: as above.
1600-1605	100	SANDSTONE: predominantly loose quartz grains: as above. Also occasional dolomite cemented aggregates with 5% mineral fluorescence as above.
1605-1610	100	SANDSTONE: predominantly loose quartz grains: clear to translucent, to milky; medium to very coarse grained, subangular to subrounded, moderately well sorted; no shows. Also minor aggregates: as above. 10% white mineral fluorescence.
1610-1615	100	SANDSTONE: predominantly loose quartz grains: predominantly coarse to very coarse grained, otherwise as above. Aggregates: clear to very light grey, moderately hard: medium to coarse grained, subangular to subrounded, poor to moderately sorted; dolomite cement, carbonaceous inclusions in parts, very poor visible porosity, bright white mineral fluorescence; no shows.

1615-1620	90	SANDSTONE: predominantly loose quartz grains; as above. Minor dolomite cemented aggregates; fine to medium grained, 15% mineral fluorescence, otherwise as above.
	10	COAL: as above grading to carbonaceous siltstone and shale.
1620-1625	60	COAL: as above, grading to carbonaceous siltstone.
	40	SANDSTONE: loose quartz grains; clear to translucent, occasionally milky, very coarse, angular to subrounded, moderately sorted; 5% mineral fluorescence (dolomite).
1625-1630	60	COAL: as above, occasionally conchoidal fracture, grades to carbonaceous siltstone.
	40	SANDSTONE: coarse to very coarse grained, subangular to subrounded, moderately well sorted; clear to translucent, minor aggregates. Possible minor dolomite cement. 5% dolomite fluorescence.
	trace	SILTSTONE: red brown, firm.
	trace	PYRITE.
1630-1635	85	SANDSTONE: clear to milky as above. 5% dolomite mineral fluorescence.
	15	COAL:
	trace	DOLOMITE - greeny grey
	trace	SILTSTONE: carbonaceous laminae, dark brown to pale brown.
1635-1640	trace	PYRITE
	70	SANDSTONE: clear to translucent, coarse to very coarse grained, subangular to subrounded, moderately sorted; trace pyrite, 5% dolomite fluorescence (separate crystals), possibly minor dolomitic cement.
		30
1640-1645	80	SANDSTONE: occasionally milky, trace dolomite fluorescence (separate crystals); otherwise as above.
	20	COAL: occasional conchoidal fracture, as above.
1645-1650	100	SANDSTONE: loose quartz grains; as above. Also minor dolomite cemented aggregates as above.
	trace	COAL: as above.
1650-1655	90	SANDSTONE: loose quartz grain; clear to translucent, occasionally milky, rare pink, coarse to very coarse grained, predominantly very coarse grained, subangular to subrounded, predominantly subangular, moderately well sorted; trace dolomite fluorescence (crystals), occasional pyrite.
	10	COAL: as above.
1655-1660	95	SANDSTONE: rare aggregates; no shows, subangular to subrounded, predominantly subrounded, moderately sorted; occasional pyrite. <u>Note</u> : one aggregate contained quartz and dolomite crystals, otherwise as above.
	5	COAL: as above.

1660-1665	90	SANDSTONE: rare aggregates (dolomite and quartz), dominantly loose quartz grains, angular to subangular, predominantly angular, moderately sorted; approximately 10% dolomite fluorescence; no shows, otherwise as above.
	5	COAL: Conchoidal fracture common, bright black lustre. No grading to carbonaceous shale or silt.
1665-1670	90	SANDSTONE: minor fine grained aggregates; no shows, loose quartz grains, very coarse grained, subangular to subrounded, predominantly subrounded, well sorted, approximately 10% fluorescence, otherwise as above.
	5	COAL: grading to carbonaceous siltstone, otherwise as above.
	5	SILTSTONE: white, soft, ? mud additive.
1670-1675	80	SANDSTONE: loose quartz grains (85%), fine grained aggregates (15%), coarse grained to very coarse, predominantly coarse grained, subangular to subrounded, predominantly subrounded, 15% mineral fluorescence, most of which are fine grained quartz aggregates in a dolomite cement; no show.
	10	COAL; vitreous, black, dominantly subrounded, grading to carbonaceous siltstone.
	10	SILTSTONE: light brown to very light grey, soft.
1675-1680	90	SANDSTONE: loose quartz grains; clear to translucent, medium to very coarse grained, subangular to subrounded, poor to moderately sorted; no shows. Also 10-15% quartzose aggregates: translucent to light grey, friable to moderately hard, very fine to occasionally fine grained, generally well sorted, dolomite cement, carbonaceous flecking, poor visible porosity; no shows, white mineral fluorescence.
	10	SILTSTONE: greyish brown, medium light grey to medium dark grey, soft, predominantly blocky cuttings, in parts grades to sub-fissile, carbonaceous shale.
1680-1685	100	SANDSTONE: loose quartz grains: predominantly coarse to very coarse grained, dominantly subrounded to rounded, otherwise as above. Also 5% quartzose aggregates, as above with trace - 5% mineral fluorescence.
	trace	SILTSTONE: as above.
1685-1690	100	SANDSTONE: loose quartz grains: subangular to subrounded, medium to very coarse grained otherwise as above. Trace dolomite cemented aggregates, very fine grained as above also occasionally medium to coarse quartz grains with dolomite cement.
	trace	SILTSTONE: as above.
1690-1695	70	SANDSTONE: angular to subrounded, medium to very coarse grained, trace dolomite cemented aggregates (very fine grained, carbonaceous in part), otherwise as above.
	30 trace	COAL: as above SILTSTONE: as above.

1695-1700	70	SANDSTONE: dominantly loose quartz grains, trace very fine grained aggregates (as above), coarse to very coarse grained, subangular to subrounded, predominantly subangular, moderately sorted, minor pyrite; no shows (dolomite fluorescence 5%).
	30	COAL: black, vitreous, blocky, sometimes platy, occasionally grading to carbonaceous siltstone, brittle.
	trace	SILTSTONE: as above.
1700-1705	55	COAL: as above.
	40	SANDSTONE: angular to subrounded, good sorting, otherwise as above.
	5	SILTSTONE: as above.
1705-1710	80	SANDSTONE: predominantly coarse grained, subangular to subrounded, predominantly subrounded, minor to very fine aggregates, otherwise as above; no shows.
	20	COAL: as above.
	trace	SILTSTONE: as above.
1710-1715	90	SANDSTONE: medium to very coarse grained, predominantly coarse grained, angular to subrounded, predominantly subangular, as above; no shows, minor to very fine aggregates.
	10	COAL: as above.
	trace	SILTSTONE: red brown to light brown, otherwise as above.
1715-1720	95	SANDSTONE: loose quartz grains; predominantly medium to coarse grained, predominantly subangular, otherwise as above. Occasional very fine grained dolomite cemented aggregates, as above.
	5	COAL: as above.
	trace	SILTSTONE: as above.
1720-1725	80	SANDSTONE: loose quartz grains: predominantly coarse grained, predominantly subrounded, otherwise as above. Trace dolomite cemented aggregates: as above.
	20	COAL: as above.
	trace	SILTSTONE: also light grey and soft, otherwise as above.
1725-1730	85	SANDSTONE: loose quartz grains, clear to translucent, coarse to very coarse grained, angular, moderately sorted, trace spotty mineral fluorescence, trace dolomite cement.
	10	COAL: as above
	5	SILTSTONE: light grey, light brown and red brown, red brown ones are soft, light brown and light grey are firm.
1730-1735	70	SANDSTONE: as above, occasional fine grained dolomitic aggregates; no shows.
	30	COAL: as above, blocky cuttings, occasional conchoidal fracture.
	trace	SILTSTONE: mostly light reddish brown and light grey.

1735-1740	75	SANDSTONE: mostly loose grains but occasional aggregates with a dolomitic cement, medium to coarse (mostly medium), subangular to subrounded, moderately well sorted; no shows.
	20	COAL: as above, grades into carbonaceous siltstone.
	5	SILTSTONE: red brown, sometimes carbonaceous, laminar.
	trace	PYRITE:
1740-1745	80	SANDSTONE: mostly loose grains with occasional fine grained dolomitic aggregates, mostly medium grained, quite well sorted, subangular to subrounded, dolomite cement.
	10	COAL: as above.
	10	SILTSTONE: highly carbonaceous grades to coal, red brown to dark grey. Mostly red brown, soft and laminar when carbonaceous.
	trace	PYRITE.
1745-1750	70	SANDSTONE: as above, but slightly less sorted and predominantly subangular to angular occasionally dolomite aggregates.
	15	SILTSTONE: dark red brown to black, carbonaceous, soft. Also light brown and soft, siltstone, 50-50 distribution.
	15	COAL: as above.
1750-1755	80	SANDSTONE: clear to translucent, medium grained, angular to subrounded, moderately well sorted, rare very fine grained dolomitic aggregates; no shows plus fluorescence almost absent.
	20	SILTSTONE: (1) red brown to dark brown, carbonaceous, laminae, soft, (2) light brown, moderately firm, non calcareous, (3) calcareous siltstone, (not dolomitic), grey to greenish grey, highly calcareous. (1) and (2) - common, (3) - rare.
	trace	COAL: as above conchoidal fracture, grading into carbonaceous, siltstone.
	trace	PYRITE.
1755-1760	95	SANDSTONE: as above, no dolomitic aggregates, all loose quartz, i.e. becoming less dolomitic (absent). Getting a smokey grey colour.
	5	COAL: as above.
	trace	SILTSTONE: type (3) calcareous) and type (2) are most common occasional type (1) carbonaceous siltstone, i.e. higher percent of calcareous siltstone (greenish grey).
1760-1765	100	SANDSTONE: clear to translucent, occasionally smokey grey, loose quartz grains, coarse grained, moderately well sorted, subangular to angular; no shows, dolomite fluorescence returning (dull white/yellow).
	trace	SILTSTONE: (1) carbonaceous (type (1), rare soft. (2) light grey to white, soft to moderately firm, platy. (3) calcareous, greenish grey (rare).
	trace	COAL: as above.
	trace	PYRITE:

1765-1770

100

SANDSTONE: clear to translucent, common smokey grey appearance, as above 5% spotty dull dolomite mineral fluorescence (loose quartz grains).

trace

SILTSTONE: Type (1) and (2) as above and (3) as above.

trace

PYRITE:

25131/1-28

APPENDIX

2

APPENDIX 2

Core No. 1

Well : BARRACOUTA-5

Interval Cored : 1205-1215m

Cut : 10m

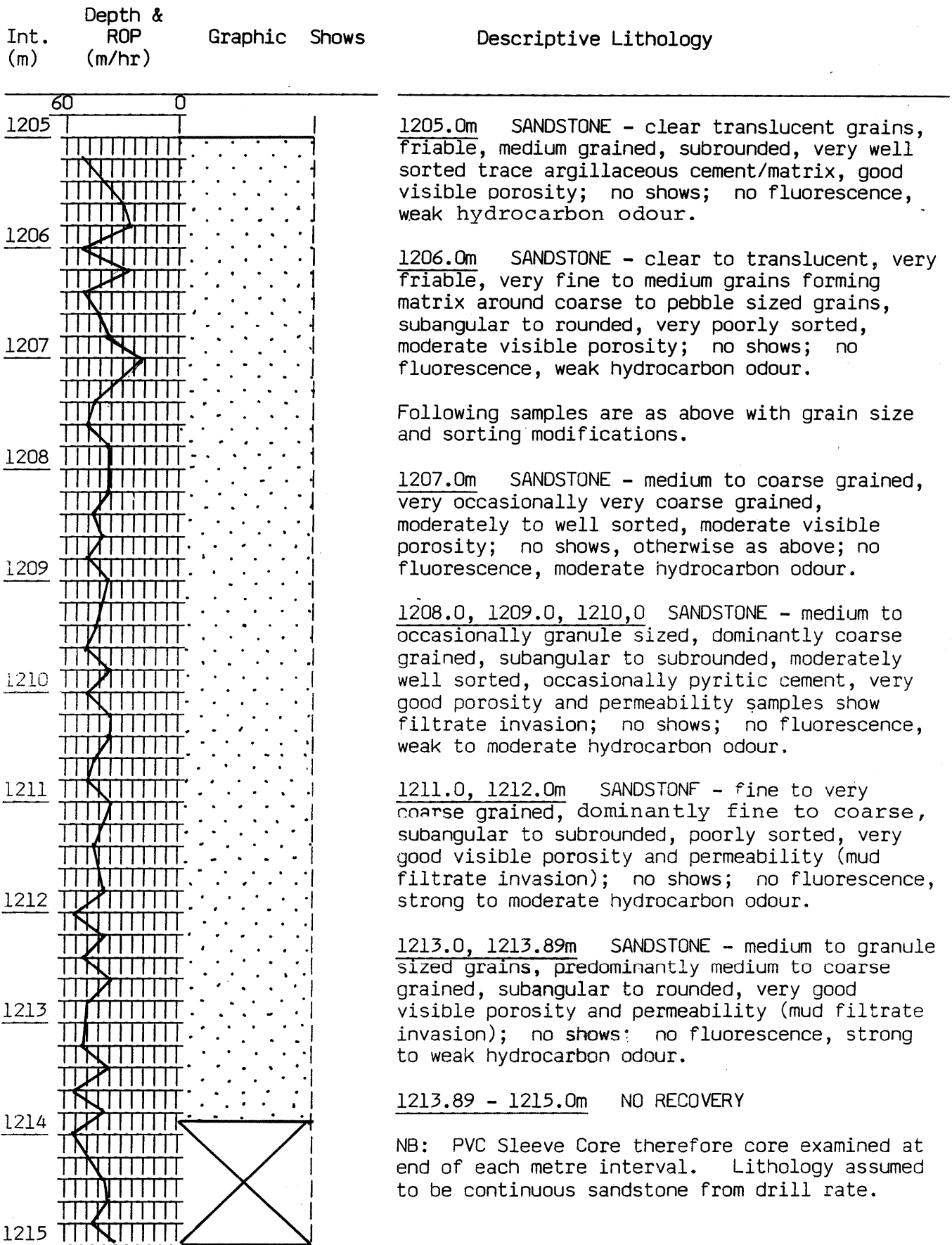
Bit Type : RC 4

Described by : P.Priest/P.Fell

Recovered : 8.89m (88.9%)

Bit Size : 9 7/8"

Date : 29/1/85



Core No. 2

Well : BARRACOUTA-5

Interval Cored : 1215m - 1224.6m

Cut : 9.6m

Bit Type : RC4

Described by : P. Fell

Recovered : 9.6m (100%)

Bit Size : 9 7/8"

Date : 29/1/85

Int. (m)	Depth & ROP (m/hr)	Graphic Shows	Descriptive Lithology
1215			1215.0m SANDSTONE - clear to translucent, medium to granule sized, predominantly coarse to very coarse grained, subangular to subrounded, poorly sorted, friable, mud invaded, slightly argillaceous.
1216			1216.0m SILTSTONE - greyish red to reddish brown, carbonaceous laminae, moderately hard, abundant white mica grains.
1217			1217.0m SANDSTONE - clear to translucent, medium to coarse, friable, subangular to subrounded, well sorted, rare opaques, moderate to good porosity; no fluorescence, moderate hydrocarbon odour.
1218			1218.0m SANDSTONE - clear to translucent, medium grained, angular to subangular, well sorted, siliceous cement, minor argillaceous matrix; occasional white mica and opaques, moderate porosity; no fluorescence, moderate hydrocarbon odour.
1219			1219.0m SANDSTONE - clear to translucent, friable, medium grain, angular to subangular; well sorted, occasional white mica and opaques, moderate porosity; no fluorescence, moderate hydrocarbon odour.
1220			1220.0m SANDSTONE - clear to translucent, friable, medium to very coarse grained, subangular to subrounded, moderately sorted, moderate porosity; no fluorescence, moderate hydrocarbon odour.
1221			1221.0m SANDSTONE - clear to translucent, friable, coarse to very coarse, poorly sorted, abundant pyrite (very fine grained size); no fluorescence, good hydrocarbon odour.
1222			1222.0m SANDSTONE - clear to translucent, moderate to hard, fine to medium grained, subangular to subrounded, well sorted, siliceous cement, moderate to good porosity, carbonaceous laminations; no fluorescence, moderate hydrocarbon odour.
1223			1223.0m SANDSTONE - as above except very fine grain, carbonaceous in part, moderate porosity; no fluorescence, moderate hydrocarbon odour.
1224			1224.0m - 1224.6m SILTSTONE - dominantly carbonaceous with laminae of quartz grains, moderately hard, white mica, poor porosity; no fluorescence, moderate hydrocarbon odour.

APPENDIX

3

APPENDIX 3

BARRACOUTA-5SIDEWALL CORE DESCRIPTIONS

<u>No.</u>	<u>Depth</u>	<u>Rec.</u> <u>(mm)</u>	<u>Rock</u> <u>Type</u>	<u>Description</u>
1	1451.0	37	SANDSTONE	light grey, fine to medium grained, moderately to poorly sorted, subrounded, soft, silty matrix.
2	1449.0	35	SILTSTONE	light grey, silt grained, firm.
3	1431.0	33	COAL	black, moderately hard.
4	1397.8	38	CLAYSTONE	light grey, soft.
5	1394.5	34	SILTSTONE	light grey to grey and red, soft, carbonaceous laminae.
6	1380.0	35	SILTSTONE	grey to red, silt grained, soft.
7.	1379.2	41	SILTSTONE	brown, silt grained, poorly sorted, firm, sandy laminations.
8.	1375.5	47	SANDSTONE	light grey and brown, fine to coarse grained, moderately sorted, subrounded, firm, carbonaceous laminated; 20% even, dull, white fluorescence, moderately fast streaming white cut, good visible porosity (10-20%).
9	1354.0	31	SANDSTONE	light grey to medium grey, fine grained, moderately sorted, subangular to subrounded, firm, silty matrix; 40% patchy, moderately white fluorescence, moderately fast streaming white cut, poor visible porosity (5% at best).
10	1339.5	35	SILTSTONE	light grey to reddish brown, silt grained, firm, carbonaceous and laminated.
11	1335.1	10	SANDSTONE	brownish to grey, medium to coarse grained, poorly sorted, subrounded, soft, slightly carbonaceous, silty.
12	1332.0	30	SILTSTONE/ SANDSTONE	dark grey, fine sand to silt grained, poor to moderately sorted, subrounded, moderately firm, slightly calcareous, highly carbonaceous, laminated and micaceous.
13	1327.0	28	SILTSTONE/ SANDSTONE	dark grey, fine sand to silt grained, moderate to poorly sorted, subrounded, soft, highly carbonaceous, laminated and micaceous.
14	1321.1	35	SANDSTONE	dark grey, fine grained, poorly sorted, subangular to angular, soft, carbonaceous, silty.
15	1318.3			NO RECOVERY
16	1309.3	29	SILTSTONE	black, fine silt to coarse grained sand, poorly sorted, subangular, firm, slightly calcareous, highly carbonaceous, laminated.

17	1306.2	25	SILTSTONE AND FINE SANDSTONE	black, silt and fine grained sand, poorly sorted, subrounded, moderately indurated, slightly calcareous, highly carbonaceous, silty.
18	1300.2	37	SILTY SANDSTONE	dark grey, silty grained, firm, carbonaceous laminae, micaceous.
19	1284.0	30	CLAYSTONE	pale brown, claystone grained, soft to firm, slightly carbonaceous.
20	1239.2	35	CLAYSTONE/ SILTSTONE	dark grey, silty to claystone grained, firm, slightly calcareous, carbonaceous laminae.
21	1234.2	50	CLAYSTONE	dark grey, silty to claystone grained, soft, slightly calcareous, carbonaceous.
22	1227.5	35	SILTSTONE	dark grey, silty grained, moderately indurated, carbonaceous, with very fine grained sandstone.
23	1218.5	37	SILTSTONE/ SANDSTONE	medium grey, silt grained, firm, carbonaceous and micaceous.
24	1203.6	50	SILTSTONE/ SANDSTONE	dark grey, coarse to very coarse grained poorly sorted, subrounded, firm, carbonaceous, pyritic and glauconitic.
25	1202.0	46	CLAYSTONE/ SANDSTONE	black, very fine sand to clay grained, poorly sorted, subrounded, firm, carbonaceous, highly glauconitic.
26	1198.9	35	CLAYSTONE/ SANDSTONE	dark grey, medium sand to clay grained, poorly sorted, subrounded, firm, carbonaceous, highly glauconitic.
27	1196.0	44	GLAUCONITIC SILTSTONE	dark grey to dark green, silt grained, firm, highly glauconitic and carbonaceous.
28	1193.0	25	GLAUCONITIC SILTSTONE	dark grey, silt grained, firm, highly glauconitic and carbonaceous.
29	1191.9	45	GLAUCONITIC SILTSTONE	dark grey, silt grained, moderately indurated, highly glauconitic and carbonaceous.
30	1191.0	38	SILTSTONE	dark grey, silty grained, firm to moderately indurated, highly glauconitic and carbonaceous and pyritic.
31	1189.9	39	SILTSTONE	black, silty grained, firm, slightly calcareous, highly glauconitic and carbonaceous and micaceous.
32	1188.9	38	CLAYSTONE/ SILTSTONE	black, silt and clay grained, firm, glauconitic and highly carbonaceous and micaceous.
33	1188.0	33	CLAYSTONE SILTSTONE	black, clay and silt grained, firm, slightly calcareous, trace of dolomite, glauconitic, highly carbonaceous and micaceous.
34	1187.0	39	SILTSTONE	black, silt grained, firm, glauconitic, highly carbonaceous, micaceous.
35	1186.0	40	SILTSTONE	black, silty grained, firm, highly glauconitic and carbonaceous.

36	1185.0	36	SILTSTONE	black, silty to clay grained, firm, clayey, glauconitic and carbonaceous.
37	1184.0	35	SILTSTONE/ CLAYSTONE	black, silt and clay grained, firm, slightly calcareous, clayey, carbonaceous.
38	1183.0	36	CLAYSTONE/ SILTSTONE	black, silt and clay grained, moderately indurated, clayey, highly carbonaceous glauconitic.
39	1182.0	36	CLAYSTONE	brown to grey, silt and clay grained, soft, very calcareous, glauconitic carbonaceous (calcilutite)?.
40	1181.0	34	CALCILUTITE	brown to grey, clay grained, soft, very calcareous, glauconitic.
41	1180.0	43	CALCILUTITE	brown to grey, clay grained, soft, very calcareous, slightly glauconitic.
42	1178.9	24	CALCILUTITE	brown to grey, clay grained, soft, slightly calcareous, slightly glauconitic.
43	1178.0	29	CALCILUTITE	brown to grey, clay grained, soft to moderately indurated, very calcareous, glauconitic.
44	1176.9	36	CALCILUTITE	dark grey, clay grained, moderate to firm, very calcareous, slightly glauconitic.
45	1175.9	38	CALCILUTITE	dark grey, clay grained, moderate to soft, very calcareous, slightly glauconitic; bright orange mineral fluorescence.
46	1174.9	35	CALCILUTITE	medium grey, clay grained, moderately indurated, very calcareous, micaceous.
47	1170.1	34	CALCILUTITE	medium to dark grey, clay grained, moderately indurated, very calcareous, glauconitic.
48	1164.9	36	CALCILUTITE	medium grey to brown, clay grained, moderately indurated, very calcareous, possible pyrite..
49	1159.9	41	CALCILUTITE	medium grey, clay grained, moderate to firm, very calcareous, slightly micaceous.
50	1154.9	34	CALCILUTITE	medium grey, clay grained, moderately indurated, very calcareous, slightly micaceous.
51	1150.0	35	CALCILUTITE	medium grey, clay grained, moderate to firm, very calcareous, slightly micaceous.
52	1731.0	35	SILTSTONE	medium light grey, firm, slightly micaceous; weak white crush cut.
53	1671.0			NO RECOVERY
54	1666.5	50	SANDSTONE	light grey, fine to coarse grained, poorly sorted, subangular, very friable, carbonaceous inclusions; poor visible porosity.

55	1665.5	40	SANDSTONE	light to medium light grey, medium to very coarse grained to occasionally fine grained, poorly sorted, subangular, very friable, carbonaceous inclusions; matrix of smaller quartz grains, poor visible porosity.
56	1664.5			NO RECOVERY
57	1641.9	45	SANDSTONE	light to medium light grey, fine grained to granular, very poorly sorted, subangular to subrounded, carbonaceous and pyrite inclusions; finer grains form matrix, moderate visible porosity.
58	1641.0			PULLED OFF
59	1640.0	30	SANDSTONE	medium light grey, fine grained to very coarse grained, but dominantly medium to coarse grained, poorly sorted, subangular to subrounded, very friable, slightly argillaceous, carbonaceous inclusions; matrix of smaller grains, moderate to good visible porosity.
60	1639.0	35	SANDSTONE	medium to light grey, fine to very coarse grained, dominantly fine to medium grained, poor to moderately sorted, subrounded, very friable, carbonaceous inclusions; 10% patchy, dull, white fluorescence; slightly weak white cut (diffuse), moderate visible porosity.
61	1638.0	35	SANDSTONE	light to medium light grey, fine to very coarse grained, with fine grain matrix for moderate to coarse grains, poor to moderately sorted, subangular to subrounded, very friable, carbonaceous inclusions, pyritic inclusions; 20% patchy, dull white fluorescence; slightly weak diffuse white cut; moderate to good visible porosity, moderate to strong white crush cut.
62	1637.1	45	SANDSTONE	light to medium light grey, fine to coarse grained, poor to moderately sorted, subangular to subrounded, very friable, carbonaceous inclusions; 15% patchy, dull, white fluorescence; very slightly weak streaming white cut; weak white crush cut, moderate to good visible porosity.
63	1636.0	38	SANDSTONE	light grey, fine to occasionally coarse grained, dominantly medium grained, moderately sorted, subangular to subrounded, very friable, carbonaceous inclusions; 30% patchy, dull to moderately bright, white fluorescence; very slow weak diffuse white cut, moderate white crush cut; moderate to good visible porosity.

64	1634.9	30	SANDSTONE	light to medium light grey, very fine to coarse grained, poorly sorted, subrounded, very friable, very fine to fine grained matrix in the medium to coarse grained sands; trace patchy, dull, white fluorescence; slightly weak white diffuse cut, instantaneous moderate strong white crush cut; moderate visible porosity, carbonaceous inclusions.
65	1633.9	35	SANDSTONE	light grey, very fine to fine grained, and medium to coarse grained, poorly sorted, subangular, very friable, occasional carbonaceous inclusions; trace, patchy, very dull, white fluorescence; very weak, white crush cut, moderate visible porosity.
66	1633.0	28	SANDSTONE	light to medium light grey, very fine to medium to coarse grained, poorly sorted, subangular to subrounded, very friable, occasional carbonaceous inclusion; 20% patchy, dull white fluorescence; very slightly to very weak white cut, moderately strong white crush cut, moderate to good visible porosity.
67	1632.0	35	SANDSTONE	light grey, fine grained to medium to very coarse grained, poorly sorted, subrounded, very friable; 20% patchy, dull to medium bright, white fluorescence; slow, weak white diffuse cut, instantaneous strong white crush cut; moderate to good visible porosity.
68	1626.0	38	SANDSTONE	very light grey to medium light grey, fine to very coarse grained dominantly medium to coarse grained, poorly sorted, subangular, very friable, carbonaceous laminae; poor to moderate visible porosity.
69	1624.9	40	SANDSTONE	light grey, occasionally fine grained, but dominantly medium grained, very poorly sorted, subangular to subrounded, occasional carbonaceous inclusions; moderate visible porosity.
70	1623.9	40	SANDSTONE	light grey, fine to very coarse grained, but dominantly medium grained, poorly to moderately sorted, subangular to subrounded, very friable; poor to moderate visible porosity.
71	1623.0	35	SANDSTONE	light grey, very fine to fine grained, dominantly medium to coarse grained, poorly to moderately sorted, subrounded, very friable, carbonaceous in parts; 40% spotty, moderately bright, white fluorescence; slow, weak streaming white cut, instant moderate to strong white crush cut; moderate to good visible porosity.
72	1621.5	35	SILTSTONE	medium to light grey, firm, micaceous.

73	1597.0	30	SANDSTONE	light grey, medium to very coarse grained dominantly medium to coarse grained, moderately sorted, subrounded to rounded, very friable, carbonaceous in parts.
74	1596.0	35	SANDSTONE	light to medium light grey, medium to coarse grained, dominantly medium grained, moderate to well sorted, subrounded; good visible porosity.
75	1595.0	35	SANDSTONE	medium to light grey, very fine to fine grained, dominantly very fine grained, well sorted, friable.
76	1593.9	30	SANDSTONE	light to medium light grey, fine to very coarse grained, dominantly medium to coarse grained, poorly sorted, subrounded, very friable, carbonaceous in parts; 70% moderately bright, white fluorescence; moderate to fast streaming white cut, instant strong white crush cut; hydrocarbon odour, moderate visible porosity.
77	1589.0	40	SHALE	pale brown, firm; subfissile to fissile.
78	1524.0	45	SILTSTONE	medium light grey, firm, slightly calcareous, common carbonaceous laminations; common very fine quartz grains.
79	1522.4	38	SILTSTONE	medium light grey, firm, argillaceous.
80	1492.0	40	SILTSTONE	medium light to medium grey, firm, micaceous; common very fine quartz grains.
81	1468.0	35	SILTSTONE	brownish grey, firm, very fine carbonaceous laminae; micaceous.

APPENDIX

4

BARRACOUTA-5

SIDEWALL CORE GAS ANALYSIS

NO.	DEPTH	C1	C2	C3	C4	C5	C6
52		3603	606	1032	632	202	37
53		147	9	14	6	trace	
54		1507	526	1096	786	267	40
55		491	1212	1320	430	115	60
56		524	1852	2119	657	202	40
57		393	1414	1514	455	123	19
58		564	1862	2106	664	216	40
59		655	2155	2421	758	231	75
60		536	202	1210	1112	376	70
61		982	404	3962	3438	2252	1272
62		4979	4445	2091	808	462	149
63		2609	1236	1106	624	321	56
64		524	471	247	101	43	10
65		3946	3209	2876	1126	806	160
66		4896	4326	3960	3539	1848	374
67		13104	14819	12403	4403	1848	449
68		6289	9160	5724	2022	1039	150
69		5765	6736	3302	960	375	80
70		296	130	96	46	20	10
71		1048	1111	1396	1599	1626	896
72		1179	707	529	379	269	130
73		386	272	161	96	30	10
74		136	74	42	10	trace	trace
75		86	37	trace	trace	trace	trace
76		1638	808	3164	3033	2069	1260
77		622	96	trace	trace	trace	
78		962	126	36	trace	trace	
79		761	106	26	trace	trace	
80		361	96	10	trace	trace	
81		203	40	10	trace		

APPENDIX 5



APPENDIX 5

VELOCITY SURVEY REPORT

VELOCITY SURVEY REPORT

CONTENTS

1. Marine Velocity Survey Summary
2. Field Report From Esso Representatives
3. Schlumberger Field Report
4. Gun Geometry Sketches
5. Schlumberger Processing Report
6. Deviated Well Survey Compilation Sheets

ENCLOSURES

1. Schlumberger Raw Shots
2. Schlumberger Shot Location Plots

1. MARINE VELOCITY SURVEY SUMMARY

WELL : BARRACOUTA-5

TYPE : Deviated Wildcat

BASIN : Gippsland

LICENSE : VIC/L1

DATE OF SURVEY : February 4, 1985

CONTRACTOR : Schlumberger

RECORDED BY : D. Dawson

WITNESSED BY : K. Grieves, D. Lee

WELLHEAD CO-ORDINATES : 38 DEG. 18' 3.53"
: 147 DEG. 39' 36.04"
X = 557710m E
Y = 5760569m N

RIG : Southern Cross

SURVEY VESSEL : Flinders Tide

NAVIGATION SYSTEM ON SURVEY VESSEL : Trisponder

NO. OF SHOOTING LEVELS : 2

WATER DEPTH AT WELLHEAD : 45.5m

WATER DEPTH AT LEVEL 1 LOCATION (1429m MDKB) : 45.5m

WATER DEPTH AT LEVEL 2 LOCATION (1203m MDKB) : 45.8m

R.T. ELEVATION : 21.0m

T.D. WHEN SHOT : 1775.5m MDKB

CASING DEPTHS : 20" @ 182m, 13³/₈" @ 77 9

ENERGY SOURCE : Bolt Airgun (model 1900B)
200 cu.in.

SOURCE DEPTH : 10.0m

SOURCE OFFSET : Varies (See Shot Location Plots)

SOURCE AZIMUTH : Varies (See Shot Location Plots)

SOURCE SENSOR : Accelerometer

DOWNHOLE GEOPHONE : Geospace HS-1
High temperature (350 Deg. F),
Coil Resistance 225 + 10% Natural
Frequency 8-12 Hz, Sensitivity
0.45 V/in/sec. Maximum tilt
angle 60 Deg. Min.

DOWNHOLE GEOPHONE OFFSET FROM WELLHEAD AT LEVEL 1 (1429m MDKB) : 600.4m on azimuth
28 DEG. 0'59"

DOWNHOLE GEOPHONE OFFSET FROM WELLHEAD AT LEVEL 2 (1203m MDKB) : 461.7m on azimuth
27 DEG. 53'50"

RECORDING INSTRUMENT : Schlumberger Computerized
Service Unit (CSU)

2. FIELD REPORT FROM ESSO REPRESENTATIVES

Rigging up for the velocity survey commenced at 0440 on February 4, following a wiper trip. Only two levels were to be recorded.

Since the well had a large deviation from vertical it was necessary to use a workboat, the "Flinders Tide" to position the source. A Schlumberger engineer on board operated a single airgun which had been lowered over the stern of the boat.

The gun was fired from the "Southern Cross", using a gun firing function on the 2-way radio in the Schlumberger "shack". The same radio was used to transmit the accelerometer break from the gun back to the CSU and for communication between the Schlumberger engineer on the "Flinders Tide" and the Schlumberger "shack".

The position of the gun was held as close as possible to the called location by the dynamic positioning system on the "Flinders Tide". This system was linked to the boat's navigation system. The navigation system used the gyro on the boat, the boat heading and the gun offset from the Trisponder beacon to correct for the displacement of the gun from the beacon.

A navigation "fix" for the gun was taken for each shot. For the successful shots the drift of the gun from the called location ranged from 25m to 41m and averaged 38m, equivalent to a difference of approximately 0.3 msec in one-way time at both checkshot levels. This difference was corrected for in processing.

Run-in-hole commenced at 0600. There were two delays with the commencement of the survey. The first, lasting approximately 20 minutes was due to a failure of the 2-way radio because of a corroded antenna lead connection. The second delay was due to the Schlumberger engineer's failure to provide the CSU with an appropriate input parameter. The CSU required a "radio delay" of 600 msec to enable detection of the gun break. A delay of 500 msec had been input to the system but with this delay the CSU would detect only the fire command from the "fire" button on the 2-way radio. The troubleshooting of this problem took 2 hours.

Whilst this troubleshooting was taking place the tool was positioned at level 1, 1429m MDKB and a number of unsuccessful shots taken. The first successful shot was taken at 0900. In all, six shots were taken at this level. The first of these, shot No. 13, was a test shot with the 600 msec "radio delay". No "fix" was taken for this shot. A stack of the five usable shots was made in the field.

No stacked shots have been included in the final report for the survey. This is because variations in the offset of the gun from the well geophone may produce variations in the well break and hence smear the well break on the stacks.

The "Flinders Tide" then moved so that the gun would be at the second called location, and the tool was brought up to 1203m MDKB. The first shots taken at this level (shots 21 to 23) were unsuccessful because of poor coupling.

The cable was then slackened, the tool was reset at 1203m MDKB and eight successful shots were taken. Four of the these shots were noisy (24, 25, 26 and 29). Two field stacks were made at this level.

Pull out of hole commenced at 1000 and the velocity survey was complete at 1030.

3. SCHLUMBERGER FIELD REPORT

COMPANY	WELL	DATE	LOCATION	ENGINEER	WITNESSED BY
ESSO AUST.LTD	BARRACOUTA#5	4.2.85	SEA	D.DAWSON	D.LEE/K.GRIEVES
FEET <input type="checkbox"/> METRES <input checked="" type="checkbox"/>	JACK UP <input type="checkbox"/> PLATFORM <input type="checkbox"/>	SHIP <input type="checkbox"/> SEMI-SUB <input checked="" type="checkbox"/>	WEATHER: CALM, NO WIND/WAVES		
SCHLUMBERGER ZERO	DF	AT ELEVATION	20.7m	RELATIVE TO MEAN SEA LEVEL (M.S.L.)	
LOG MEASURED FROM	DF	AT ELEVATION	0m	RELATIVE TO SCHLUMBERGER ZERO	
DRILLING MEASURED FROM	DF	AT ELEVATION	0m	RELATIVE TO SCHLUMBERGER ZERO	
SOURCE			TIDEL INFORMATION		
GUN TYPE	WATER <input type="checkbox"/> AIR <input checked="" type="checkbox"/>	DISTANCE			
VOLUME <u>1</u> x <u>200</u> CU INCHES	TIDE LEVEL TO M.S.L.				
PRESSURE <u>140</u> BARS	(RECORD IF LEVEL VARIES MORE THAN 2 METRES DURING SURVEY)				
VIBRATOR TYPE	HOUR				
SWEEP LENGTH	DATE				
FROM <u>-</u> HZ TO <u>-</u> HZ	CSU SOFTWARE VERSION: 26.4		MAX. HOLE DEV:		AZIM:

NOTE: SHOTS HIGHLY RECOMMENDED AT TD, TOP EACH SONIC, ABOVE AND BELOW BAD HOLE INTERVALS

UNCORRECTED RESULTS

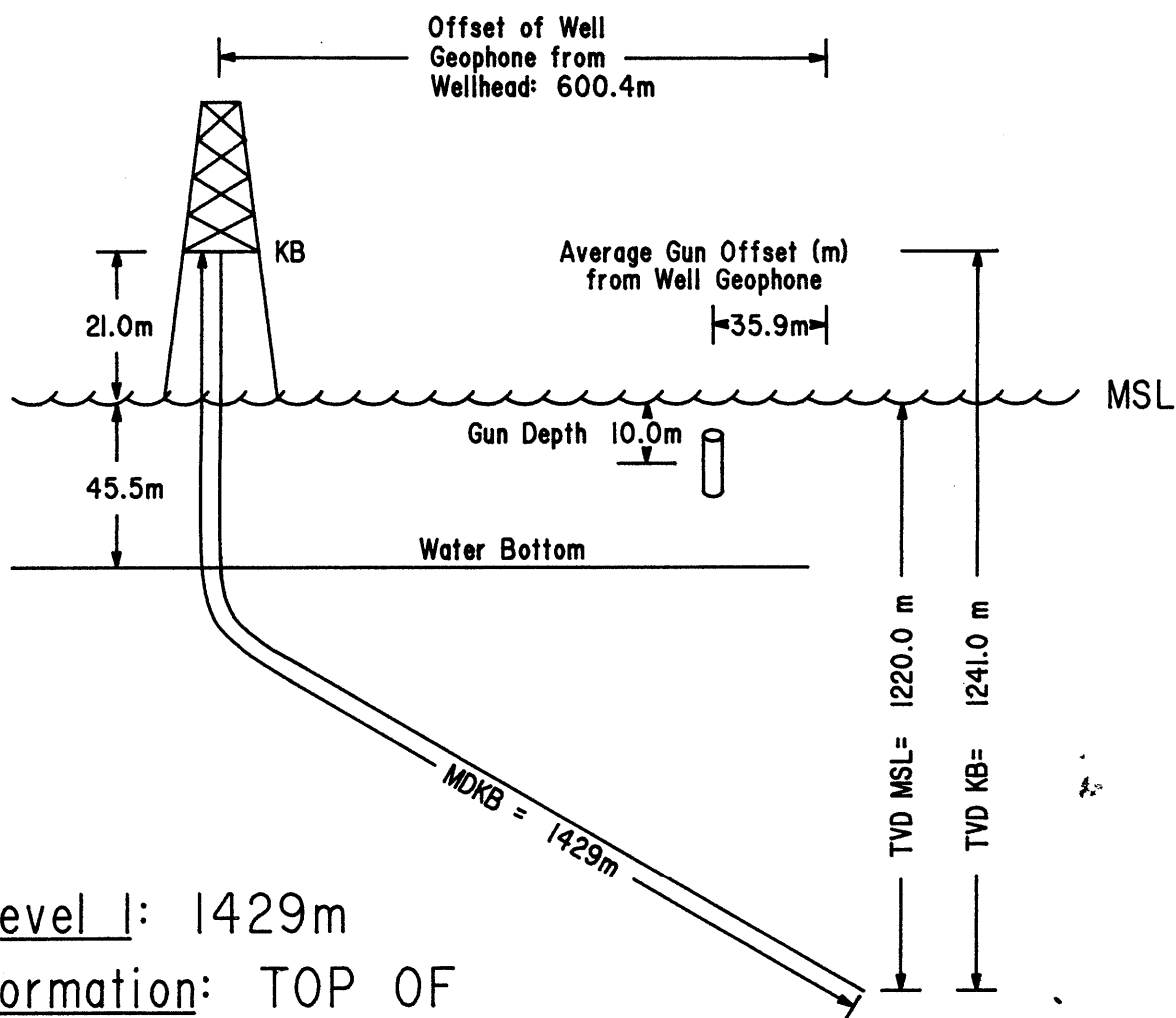
Quality: G = Good, P = Poor, U = Unsatisfactor

SHOT NO.	Measured DEPTH	GUN PRESSURE	FILTERS	TRANSIT TIME	HOUR SHOT	FILE	STACK	STACKED SHOTS	QUALITY / REMARKS
1		140 Bar							
2		"							
3		"			07:25				SHOTS NOT RECORDED
4		"							TOFS" SET TOO
5		"							LOW SO CSU DID NOT
6		"							TAKE GUN ACCELEROMETER
7		"							AS SHOT DETECTION
8		"							TRAVEL TIMES
9		"							INCORRECT
10		"							
11		"							
12		"							
13	1429	"			-	4			
14	1429	"		501.2	08:49	4			
15	1429	"		501.4		4			
16	1429	"		501.5		4			
17	1429	"		501.4		4			
18	1429	"				4			NO SHOT
19	1429	"		501.2		4			
20	1429	"				4			NO SHOT
21	1203	"				5			POOR COUPLING
22	1201	"				5			MOVED TO 1201
23	1203	"				5			STILL NO COUPL
24	1203	"		433.9		5			SLACKED OFF(NOIS
25	1203	"				5			NOISY
26	1203	"		435.6		5			NOISY
27	1203	"		434.9	09:31	5			
28	1203	"		434.4		5			
29	1203	"		435.1		5			NOISY
30	1203	"		434.4		5			
31	1203	"		434.8		5			
					09:42				PULLING OUT
									OF HOLE

Distribution: White = computing centre; Green = District; Pink = Location

4. GUN GEOMETRY SKETCHES

GUN GEOMETRY SKETCH
DEVIATED WELL VELOCITY SURVEY
BARRACOUTA-5



Level 1: 1429m

Formation: TOP OF
LOWER N. asperus COAL

Well Geophone Co-ordinates:

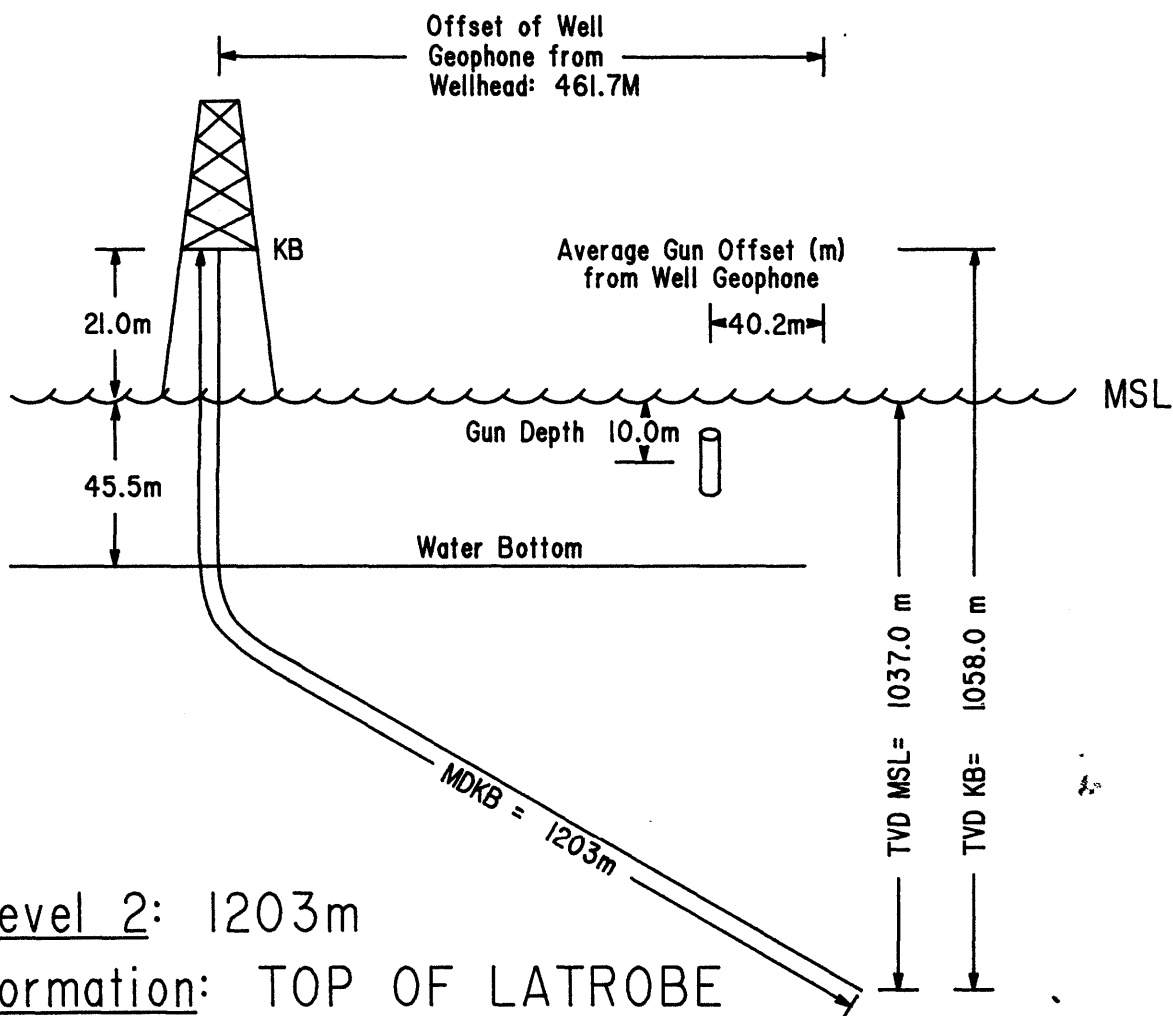
X = 557993mE

Y = 5761099mN

GUN GEOMETRY SKETCH

DEVIATED WELL VELOCITY SURVEY

BARRACOUTA-5



Level 2: 1203m

Formation: TOP OF LATROBE
GROUP "COARSE CLASTICS"

Well Geophone Co-ordinates:

X = 557926mE
Y = 5760977mN

5. SCHLUMBERGER PROCESSING REPORT

Seismic Reference Datum (SRD) : Mean Sea Level
Elevation SRD : Mean Sea Level
Elevation Derrick Floor : 20.7m AMSL
Elevation Ground Level : -45.5m AMSL
Well Deviation : 38 Deg Maximum
Total Depth : 1775.5m MDKB

PROCESSING

CORRECTION TO DATUM

Seismic reference Datum (SRD) is at Mean Sea Level. The airgun and sensor were positioned 10m below SRD and using a water velocity of 1480m/s a correction of 6.8ms was calculated between the gun sensor and SRD.
1718L/0

6. DEVIATED WELL SURVEY COMPILATION SHEETS

WELL: BARRACOUTA #5 BASIN: GIPPSLAND LATITUDE : 038 18' 03.53" EASTING : 557 710 DATE : 4TH FEB. 1985 LONGITUDE: 147 39' 36.04 NORTHING: 5760 569														
K.B. to Sea Level : 21.0m Depth of Shot : 10.0m below MSL Velocity of Water : 1480 m/s Water Depth : 45.5m					Esso Representative: D.LEE/K.GRIEVES Contractor : SCHLUMBERGER Contractor Engineer: D. DAWSON					Survey Vessel : Flinders Tide Navigation Operator: Esso Marine Operations Navigation System : Trisponder				
Shot No.	File No.	MDDF M	TVD DF M	TVD MSL	Time Shot	Raw Travel Time m sec	Shot Location X: Y:	Wellphone Location X: Y:	Offset M	Vertical Travel Time (m sec)	True Vertical Travel Time *	Av.Vel. m/sec	Av. Vel. for level m/sec	Remarks
13	4	1429	1241	1220.3		501								
14	4	1429	1241	1220.3	08:49	501	558 023 5761 115	557 993 5761 099	34	500.8	507.6	2404.1		
15	4	1429	1241	1220.3		501	558 025 5761 122	557 993 5761 099	39.4	500.7	507.5	2404.5	2404.2	
16	4	1429	1241	1220.3		501	558 034 5761 117	557 993 5761 099	44.8	500.7	507.5	2404.5		
17	4	1429	1241	1220.3		501	558 025 5761 115	557 993 5761 099	35.8	500.8	507.6	2404.1		
18			NO	SHOT										
19	4	1429	1241	1220.3		501	558 017 5761 100	557 993 5761 099	24	500.9	507.7	2403.6		

* True Vertical Travel Time = Vertical Travel + Airgun Depth Correction +/- Tidal Correction

WELL: BARRACOUTA #5		BASIN: GIPPSLAND		LATITUDE : 038 18' 03.53"		EASTING : 557 710								
		DATE : 4TH FEB. 1985		LONGITUDE: 147 39' 36.04		NORTHING:5760 569								
K.B. to Sea Level :		21.0m		Esso Representative:		D.LEE/K.GRIEVES								
Depth of Shot :		10.0 below MSL		Contractor :		SCHLUMBERGER								
Velocity of Water :		1480 m/s		Contractor Engineer:		D. DAWSON								
Water Depth :		45.5m		Survey Vessel :		Flinders Tide								
				Navigation Operator:		ESSO Marine Operations								
				Navigation System :		Trisponder								
Shot No.	File No.	MDKB	TVD KB	TVD MSL	Time Shot	Raw Travel Time m sec	Shot Location X: Y:	Wellphone Location X: Y:	Offset M	Vertical Travel Time (m sec)	True Vertical Travel Time * +6.8	Av.Vel. m/sec	Av. Vel. for level m/sec	Remarks
24	5	1203	1058	1037.3		434	557 966	557 926	40	433.7	440.5	2354.8		
							5760 973	5760 977						
25	5	1203	1058	1037.3	09:31	435	557 962	557 926	36	434.7	441.5	2349.5		
							5760 974	5760 977						
26	5	1203	1058	1037.3		435	557 968	557 926	42	434.6	441.4	2350.0		
							5760 978	5760 977						
27	5	1203	1058	1037.3		434	557 966	557 926	40.5	433.7	440.5	2354.8	2352.9	
							5760 971	5760 977						
28	5	1203	1058	1037.3		434	557 966	557 926	40.5	433.7	440.5	2354.8		
							5760 971	5760 977						
29	5	1203	1058	1037.3		435	557 966	557 926	40.3	434.7	441.5	2349.5		
							5760 972	5760 977						
30	5	1203	1058	1037.3		434	557 965	557 926	39	433.7	440.5	2354.8		
							5760 975	5760 977						

* True Vertical Travel Time = Vertical Travel + Airgun Depth Correction +/- Tidal Correction

WELL: BARRACOUTA #5		BASIN: GIPPSLAND		DATE : 4TH FEB. 1985		LATITUDE : 038 18' 03.53"		LONGITUDE: 147 39' 36.04		EASTING : 557 710		NORTHING: 5760 569		
K.B. to Sea Level : 21.0m		Depth of Shot : 10.0m below MSL		Velocity of Water : 1480 m/s		Water Depth : 45.5m		Esso Representative: D.LEE/K. GRIEVES		Contractor : SCHLUMBERGER		Contractor Engineer: D. DAWSON		
								Survey Vessel : Flinders Tide		Navigation Operator: ESSO Marine Operations		Navigation System : Trisponder		
Shot No.	File No.	MDKB	TVD KB	TVD MSL	Time Shot	Raw Travel Time m sec	Shot Location X: Y:	Wellphone Location X: Y:	Offset	Vertical Travel Time (m sec)	True Vertical Travel Time *	Av.Vel. m/sec	Av. Vel. for level m/sec	Remarks
31	5	1203	1058	1037.3		434	557 964 5760 974	557 926 5760 977	38	433.7	440.5	2354.8		

* True Vertical Travel Time = Vertical Travel + Airgun Depth Correction +/- Tidal Correction

PE902439

This is an enclosure indicator page.
The enclosure PE902439 is enclosed within the
container PE902438 at this location in this
document.

The enclosure PE902439 has the following characteristics:

- ITEM_BARCODE = PE902439
- CONTAINER_BARCODE = PE902438
 - NAME = Raw Shots - Deviated well Velocity
Check shot survey
- BASIN = GIPPSLAND
- PERMIT =
- TYPE = WELL
- SUBTYPE = VELOCITY_CHART
- DESCRIPTION = Raw Shots - Deviated well Velocity
Check shot survey
- REMARKS =
- DATE_CREATED = 21/03/1985
- DATE_RECEIVED = 02/08/1985
- W_NO = W895
- WELL_NAME = Barracouta-5
- CONTRACTOR = Schlumberger
- CLIENT_OP_CO = ESSO

(Inserted by DNRE - Vic Govt Mines Dept)

PE902440

This is an enclosure indicator page.
The enclosure PE902440 is enclosed within the
container PE902438 at this location in this
document.

The enclosure PE902440 has the following characteristics:

ITEM_BARCODE = PE902440
CONTAINER_BARCODE = PE902438
NAME = Check Shot Survey Deviated well
BASIN = GIPPSLAND
PERMIT =
TYPE = WELL
SUBTYPE = VELOCITY_CHART
DESCRIPTION = Check Shot Survey Deviated well
REMARKS =
DATE_CREATED = 21/03/1985
DATE_RECEIVED = 02/08/1985
W_NO = W895
WELL_NAME = Barracouta-5
CONTRACTOR = Schlumberger
CLIENT_OP_CO = ESSO

(Inserted by DNRE - Vic Govt Mines Dept)