WELL COMPLETION REPORT

HARLEQUIN-1

VOLUME 1

BASIC DATA

GIPPSLAND BASIN

VICTORIA

ESSO AUSTRALIA LIMITED

COMPILED BY:

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E. GREWAR

OCTOBER 1989

HARLEQUIN-1

WELL COMPLETION REPORT

VOLUME 1: BASIC DATA

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ESSO AUSTRALIA LTD

1. WELL DATA RECORD

HARLEQUIN-1

LOCATION	:	Latitude : 38^0 11' 59.94" South Longitude : 147^0 42' 28.06" East X = 561974.0 E Y = 5771744.4 S Map Projection: UTM Zone 55 Geographical Location: Bass Strait, Victoria Field: Harlequin
PERMIT	:	Vic/P1
ELEVATION	:	21m
WATER DEPTH	:	44m
TOTAL DEPTH	:	2574.0m (Driller) 2574.5m (Logger)
PLUG BACK TYPE	:	Cement Plug
REASONS FOR PLUGGING BACK	:	Plug and Abandon
MOVE IN	:	05/01/89 0615 hours
SPUDDED	:	06/01/89 0400 hours
REACHED T.D.	:	31/01/89 1530 hours
RIG RELEASED	:	06/02/89 1945 hours
OPERATOR	:	Esso Exploration and Production Australia Inc.
PERMITTEE OR LICENCEE	:	BHP Petroleum (Australia) Pty. Ltd.
ESSO INTEREST	:	0%
OTHER INTEREST	:	BHP Petroleum (Australia) Pty. Ltd.: 100%
CONTRACTOR	:	South Seas Drilling Company
RIG NAME	:	Southern Cross
EQUIPMENT TYPE	:	Semisubmersible
TOTAL RIG DAYS	:	33.18
DRILLING AFE NO.	:	03/409
TYPE COMPLETION	:	Plug and Abandon
WELL CLASSIFICATION	:	Before Drilling: New Field Wildcat After Drilling: Dry Hole

2. Harlequin-1

Operations Summary

1. MOVING/MOORING

After bolstering the No. 6 anchor at the Roundhead-1 location the Southern Cross was towed by the MV Lady Penelope to the Harlequin-1 location. Anchor No. 1 was dropped at Harlequin-1 at 0615 hours January 5, 1989. The rig was towed a distance of 40nm in 14.75 hours at an average speed of 2.7 kts.

As the Lady Penelope held the rig on location, the MV Eastern Tide ran anchors Nos. 5, 8 and 4. The Lady Penelope was then released from the tow bridle and assisted the Eastern Tide in running the remaining anchors. The eight anchors were run and set in 10 hours. This included the removal of ±80ft of damaged chain from No. 7 anchor chain.

The rig was moved 210m towards the called location and all anchors were load tested to 200 kips. After ballasting down and pretensioning all mooring lines to 70 kips the TGB was run and landed at a seafloor depth of 65m RKB. The initial rig position was then determined to be 12m on a bearing of 168° from the called location.

2. DRILLING OPERATIONS

a) 26" Hole/20" Casing

After setting the TGB, the 26" bit/26" hole opener BHA was made up, RIH and stabbed into the TGB with visual assistance from the RCV 150 vehicle. The initial 26" hole was then spudded at 0400 hours January 6, 1989 and drilled from 65m to 215m, at an average ROP of 14.6 mph, using seawater and high viscosity gel slugs to clean the hole. After dropping a Totco survey and spotting 100 bbls of high viscosity mud, the bit was pulled to the seafloor. The Totco was recovered and the bit was RIH to 124m where a bridge was encountered. The hole temporarily packed off and the pipe was eventually pulled free after a loss of partial returns. The interval from 75m to 215m was reamed and the hole was displaced with 350 bbls of high viscosity mud prior to POOH.

Overpull from 30-70 kips was experienced while POOH. Upon running in the hole a bridge was encountered at 85m. The interval from 85m to 105m was reamed and it was evident that the wellbore was falling in behind the bit. The decision was then made to respud the well.

The 26" BHA was recovered, a large pile of loose sand was washed off of the TGB and the TGB running tool was engaged in the TGB. After picking up the TGB the rig was moved 37m on a bearing of 350° from the original location. The TGB was re-set and the final rig position was determined to be 29m on a bearing of 006° from the called location.

The 26" bit/26" hole opener (with blanked off nozzles) BHA was RIH and the seafloor was tagged at 65m RKB. The Harlequin-1 well was then respudded at 1900 hours January 7. The 26" hole was drilled from 65m to 220m, at an average ROP of 13.8 mph, using seawater and 20 bbl high viscosity gel slugs on each connection. While drilling this section the ROP decreased from about 20mph to 10mph at ±170m, where the formation appeared to become more consolidated.

At TD the hole was displaced with 350 bbls of 10.0 ppg mud and a Totco was dropped. No fill was encountered after a wiper trip to the seafloor. The hole was displaced with 200 bbls of 10.0 ppg mud, in two stages, and the drillstring was pulled to run casing.

Seven joints of 20", 94 ppf, X-56, JV casing, plus a crossover joint (129 ppf, JV x CC) and the 24" pile joint/18 3/4" wellhead assembly were then run, with the 20" shoe at 198m. The casing was cemented to the seafloor, using a drillpipe stinger, with a lead slurry of 600 sx of Class 'G' cement plus 2.2% prehydrated gel and a tail slurry of 350 sx of Class 'G' neat cement.

The BOP stack was run and landed and the shear rams, wellhead connector and casing were tested to 500 psi.

b) 17 1/2" Hole/13 3/8" Casing

A 17 1/2" center jet bit and pendulum BHA were then picked up and RIH to the TOC at 186m. The cement and 20" casing shoe were drilled and the 17 1/2" hole was drilled from 220m to 795m, at an average ROP of 19.7 mph, using a seawater/gel mud system. During this interval 1.1 days of downtime were experienced when the bolts (16 ea) which connected the Elmagco brake to the drawworks sheared apart (see EFR No. 1). After a wiper trip to the 20" casing shoe, bridges were reamed at 448m, 492m and 774m and 5m of fill was cleaned out at TD. The BHC/GR/CAL log was then run.

The wear bushing was pulled and 60 joints of 13 3/8", 54.5ppf, K-55 BTC casing were run and landed with the shoe at 780m. The casing was cemented in place with 1000sx of Class 'G' neat cement. The estimated TOC was calculated to be at 280m based on an average hole diameter of 18" as per the caliper log. The top plug was bumped and the pressure was increased to 1500psi to test the casing. The 13 3/8" seal assembly was then set and tested, along with the BOP stack, to 200/2000psi. A Phase I PIT was run against the shear rams to 1500psi and the choke manifold was tested to 200/5000 psi.

c) 12 1/4 Hole

An HP11J bit and pendulum BHA including the MWD tool were then RIH. The cement plugs and float collar/float shoe were drilled out and 3m of hole was drilled to 798m, where a Phase II PIT was conducted to 950psi (16.1ppg EMW) with no leakoff.

The 12 1/4" hole was then drilled from 798m to 1468m in one bit run, at an average ROP of 15.1 mph. After drilling through the Gippsland Limestone and the Lakes Entrance claystone/siltstone Formation, the Top of Latrobe "Coarse Clastics" was picked at 1419m (approximately 6m low to prognosis). While drilling this section, the mud was gradually conditioned and the weight was increased to 9.5 ppg. When POOH from 1468m overpull up to 100 kips was experienced. (NOTE: The caliper log later showed the interval from the 13 3/8" casing shoe to 1500m to be washed out to a diameter of 14-19", while the hole below 1500m was generally in gauge).

Upon RIH 18m of fill was washed and reamed. The interval drilled from 1468m to 2079m consisted of predominantly sandstone with interbeds of siltstone and thin coals. This interval was drilled in two bit runs at an average ROP of 8.5 mph. After penetrating a thick claystone/volcanic interval a drill break was experienced from 2074-2079m. The bit run was then terminated, in order to core, after observing fluorescence in the cuttings.

A 12 1/4" core bit and full gauge core barrel were RIH to 1632m where tight hole was encountered. After reaming the interval from 1632m to 1767m in 5 1/2 hours the core barrel assembly was POOH and changed from 12 1/4" to 9 7/8". The core barrel assembly was then RIH and the interval from 2079m - 2098m was cored, at an average ROP of 12.7 mph. Core recovery was 94% and the corehead was 100% worn and appeared to have been run on junk.

An HP51A bit was then drilled from 2098m-2155m, at an average ROP of 8.1 mph. Prior to commencing coring at 2155m a run with an HPIIJ bit and junk sub was made to recover the numerous broken teeth observed on the HP51A bit. A core barrel with a $12^{1/4}$" corehead and $9^{7/8}$" stabilizers was RIH and the interval from 2155m to 2165m was cored, at an average ROP of 2.9 mph. Core recovery was 79% and the corehead was graded as 45% worn and 1/8" under gauge.

An ATJ22 bit was RIH. The interval drilled from 2165m to 2304m consisted of sandstone/siltstone lithologies. Overall average ROP for this bit run was 5.0 mph; however, the ROP decreased from about 8 mph to 2 mph at ±2270m, where a very hard dolomitic cement was observed in the sandstone samples. A decrease in ROP to less than 1 mph was observed at 2304m and the bit was pulled after $27^{3/4}$ hours and found to be missing three cones. An unsuccessful attempt to recover the cones was made with a reverse circulating junk basket. Three runs with a junk mill and two runs with short mill tooth bits were required to mill up the lost cones. While milling on junk the hole was deepened to 2320m. Total time lost during this operation was 3.48 days.

The remainder of the $12^{1/4}$" hole intersected predominantly sandstone/siltstone lithologies. The interval 2320m to 2574m was drilled in two bit runs, at an average ROP of 4.2 mph. While drilling ahead at 2574m the decision was made to run intermediate logs because of a threatened work stoppage by Schlumberger Operators. The bit run was stopped at this point and electric logs were run as follows:

Run No. 1 = DLL/MSFL/LDL/CNL/BHC/SP/GR/CAL
Run No. 2 = RFT/GR (26 pressure pretests)
Run No. 3 = SHDT/GR
Run No. 4 = WSS (22 shotpoints)
Run No. 5 = CST/GR (60 cores shot, 55 recovered)

Based on the evaluation of the electric logs the decision was made to terminate the well at this depth, 147m short of the programmed total depth.

3. PLUG & ABANDONMENT

After completing final logs, open-ended drill pipe was RIH to 2150m and a 150m balanced cement plug (P&A Plug No. 1) was set to cover a residual hydrocarbon zone at 2058-2092m, using 400sx of Class 'G' cement with 0.4% HR6L retarder mixed in freshwater. The pipe was then pulled up to 1900m and a 100m balanced cement plug (P & A Plug No. 2) was set to cover a freshwater/ saltwater transition zone, using 250 sx of Class 'G' cement with 0.2% HR6L retarder mixed in freshwater. The pipe was then pulled up to 1450m and a 100m balanced cement plug (P & A Plug No. 3) was set across the Top of Latrobe using 300 sx of Class 'G' neat cement mixed in freshwater. Plug No. 3 was later tagged with 15 kips at 1340m. A 100m balanced cement plug (P & A Plug No. 4) was then set at 830m, across the $13^{3/8}$" casing shoe, using 350sx of Class 'G' neat cement mixed in seawater. The plug was pressure tested to 1500 psi and tagged at 714m with 15 kips.

Schlumberger was rigged up and a $13^{3/8}$" EZSV bridge plug (P&A Plug No. 5) was set at 700m. The $13^{3/8}$" casing was then cut at 170m using a Pengo explosive cutter. Schlumberger was rigged down, the wear bushing was retrieved and a spear was run. Eight joints of casing and a stub were then pulled and laid down.

Open-ended drill pipe was RIH, the EZSV was tagged and a 50m balanced cement plug (P&A Plug No. 6) was set using 150sx of Class 'G' neat cement mixed in seawater. The pipe was pulled up and a 100m balanced cement plug (P&A Plug No. 7) was set across the $13^{3/8}$" casing stub, from 200m to 100m, using 500sx of Class 'G' neat cement mixed in seawater. While laying down drill pipe, Plug No. 7 was pressure tested to 500 psi.

After laying down the diverter, the inner barrel of the slip joint was pinned closed and the BOP stack and riser were pulled. A mechanical cutter was RIH and the 20" casing was cut at 74m RKB or 1m below the pile joint assembly CC connector. An $18^{3/4}$" wellhead running tool and bumper sub were then run and the wellhead, PGB and TGB were retrieved and laid down. A total of 6.75 hours of NPT were experienced waiting on repair of the subsea TV prior to stabbing the wellhead running tool into the wellhead housing (see EFR No. 4).

4. PULLING ANCHORS

After the rig was deballasted from drilling draft (48') to the 42' level, operations were suspended due to excessive roll (3.5 - 4 degrees) caused by the moderate swell (14') approaching the rig on a perpendicular bearing. After waiting on weather for 18.25 hours the rig was deballasted to transit draft (21').

The MV's Canning Tide and Lady Penelope commenced to pull anchors and the MV Lady Caroline was placed on static tow. After the two workboats had recovered seven anchors the No. 1 anchor was recovered with the rig. The anchor recovery operation required $13^{3/4}$ hours and the rig departed for the Mulloway-1 well location at 1945 hours February 6, 1989.

The RCV 150 vehicle had been removed from the Southern Cross during the $17^{1/2}$" hole phase of this well in order to be placed on the MV Flinders Tide survey vessel to perform pipeline inspections. Consequently, no seabed survey was conducted at this location.

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HARLEQUIN-1 FINAL WELL REPORT
CASING DATA

OD (In.)	WEIGHT (LB/FT)	GRADE	CONNECTION	LENGTH (M)	SHOE DEPTH (M-RKB)	CENTRALIZER POSITION	REMARKS
20	94	X-56	JV	14.31	198	NONE	FLOAT SHOE JOINT
20	94	X-56	JV	96.07		1 ACROSS FIRST THREE COLLARS	7 INTERMEDIATE JOINTS
20	129	X-52	JV x CC	13.73		NONE	CROSSOVER JOINT
24	670	-----	CC	12.04		NONE	PILE JOINT: EP13
				136.15			
13-3/8	54.5	K-55	BTC	12.52	780	NONE	FLOAT SHOE JOINT
	54.5	K-55	BTC	11.62		1 ACROSS COLLAR	FLOAT JOINT
	54.5	K-55	BTC	12.18		NONE	FLOAT COLLAR JOINT
	54.5	K-55	BTC	675.99		1 ACROSS FIRST TWO COLLARS	57 INTERMEDIATE JOINTS
	54.5	K-55	BTC	3.22		NONE	CASING HANGER PUP JOINT -CSG HANGER: EHW 310 -SEAL ASSY: ESW 36
				715.53			

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HARLEQUIN-1 FINAL WELL REPORT
CEMENT DATA

DATE (1989)	TYPE JOB	INTERVAL (M-RKB)	TYPE CEMENT	VOLUME (SX)	SLURRY WEIGHT (PPG)	ADDITIVES	MIX WATER	REMARKS
08-Jan	20" PRIMARY LEAD	198-65	CLASS "G"	600	13.2	2.2% PHG	FW	CEMENT THROUGH DP STINGER. CMT VOLUME AS PER PROGRAM TO PROVIDE 150% EXCESS ABOVE GAUGE HOLE VOLUME W/ TOC @ SEAFLOOR.
08-Jan	20" PRIMARY TAIL		CLASS "G"	350	15.8	----	SW	
13-Jan	13-3/8" PRIMARY	780-280	CLASS "G"	1000	15.8	----	SW	CMT VOLUME BASED ON 18" AVG. HOLE DIAMETER PER THE CALIPER LOG. BUMPED PLUG W/ 1500 PSI.
02-Feb	P & A PLUG No.1	2150-2000	CLASS "G"	400	15.8	0.4% HR6L	FW	SET TO COVER RESIDUAL HYDROCARBON ZONE @ 2058-2092m.
02-Feb	P & A PLUG No.2	1900-1800	CLASS "G"	250	15.8	0.2% HR6L	FW	SET TO COVER FRESHWATER/SALT-WATER TRANSITION ZONE @ 1800-1900m.
02-Feb	P & A PLUG No.3	1450-1340	CLASS "G"	300	15.8	----	FW	SET TO COVER THE TOP OF LATROBE PICKED @ 1408m. TAGGED WITH 15 KIPS.
03-Feb	P & A PLUG No.4	830-714	CLASS "G"	350	15.8	----	SW	SET ACROSS 13-3/8" CASING SHOE @ 780m. TESTED TO 1500 PSI, TAGGED WITH 15 KIPS.
03-Feb	P & A PLUG No.6	700-650	CLASS "G"	150	15.8	----	SW	SET ABOVE EZSV BRIDGE PLUG (P & A PLUG No.5) @ 700m.

ESSO AUSTRALIA LTD.
HARLEQUIN-1 FINAL WELL REPORT
CEMENT DATA

DATE (1989)	TYPE JOB	INTERVAL (M-RKB)	TYPE CEMENT	VOLUME (SX)	SLURRY WEIGHT (PPG)	ADDITIVES	MIX WATER	REMARKS
03-Feb	P & A PLUG No.7	200-100	CLASS "G"	500	15.8	----	SW	SET ACROSS 13-3/8" CASING STUB @ 170m. TESTED TO 500 PSI.

5. SAMPLES, CONVENTIONAL CORES, SIDEWALL CORES

HARLEQUIN-1

INTERVAL (m)	TYPE
780 - 2574	Cutting samples - 4 sets of washed and oven dried and 1 set of bagged air dried cuttings. Samples from 780 - 1300 at 30m intervals. Samples from 1300 - 2574.5 and 5m intervals.
1300 - 2574	Unwashed composite tinned samples for geochemistry collected at 30m/15m intervals.
2079 - 2098	Core #1 (Aluminium Sleeved). Cut: 19m Rec: 17.86m (94%).
2155 - 2165	Core #2 (Aluminium Sleeved). Cut: 10m Rec: 7.93m (79%).
2548 - 1391	Sidewall Cores, Shot 60. Rec: 55, Bought: 53.

6. WIRELINE LOGS AND SURVEYS
HARLEQUIN-1

TYPE AND SCALE		FROM		TO
	SUITE 1			
BHC-CAL-GR	1:200 1:500	793.0	-	198.5
	SUITE 2			
DLL-MSFL-GR-SP-AMS	1:200 1:500	2570.0	-	780.0
BHC-GR-CAL	1:200 1:500	2546.5	-	780.0
LDL-CNL-GR	1:200 1:500	2564.5	-	780.0
RFT (HP GAUGE PRETESTS)	(26 Pretests)	2536.5	-	1687.7
SHDT-GR	1:200	2574.0	-	1350.0
WSS (CHECKSHOT)	(22 Levels)	2574.0	-	990.0
CST-GR (SIDEWALL CORES)	(60 Shots)	2548.0	-	1391.0
MWD (GR-RESISTIVITY)	1:500 1:1000	795.0	-	2574.0

7. SUMMARY OF WIRELINE FORMATION TEST PROGRAMME - HARLEQUIN-1

TEST & SEAT NO.	DEPTH (METRES) K.B.	RECOVERY (LITRES) CHAMBER	OIL	COND.	GAS	FORMATION WATER	MUD FILTRATE	HEWLETT-PACKARD FORMATION PRESSURE MPaa	Psia	HEWLETT-PACKARD HYDROSTATIC PRESSURE MPaa	Psia	REMARKS
		Litres	Litres	Litres	m^3	Litres	Litres					
1/1	2536.5	Pretest						25.92	3759.80	28.69	4161.22	Supercharged tight
1/2	2497.0	Pretest						-	-	-	-	Seal failure
1/3	2496.7	Pretest						24.78	3594.75	28.26	4098.52	Good
1/4	2433.7	Pretest							-	-	-	Dry test
1/5	2433.2	Pretest							-	-	-	Dry test
1/6	2433.0	Pretest							-	-	-	Dry test
1/7	2396.5	Pretest							-	-	-	Plugged
1/8	2396.7	Pretest							-	-	-	Seal failure
1/9	2395.6	Pretest							-	-	-	Plugging
1/10	2383.6	Pretest							-	-	-	Dry test
1/11	2385.0	Pretest							-	-	-	Dry test
1/12	2359.5	Pretest						23.08	3347.40	26.77	3882.05	Good
1/13	2329.9	Pretest						22.81	3308.32	26.44	3835.20	Good
1-14	2392.0	Pretest							-	-	-	Dry test
1-15	2161.8	Pretest						21.06	3053.96	21.10	3560.72	Good
1-16	2154.0	Pretest						20.98	3043.03	24.47	3548.38	Good
1-17	2145.5	Pretest						23.57	3419.02	24.37	3534.35	Supercharged
1-18	2107.5	Pretest						20.53	2978.10	23.94	3472.18	Good
1-19	2094.0	Pretest						20.40	2959.18	23.79	3450.10	Good
1-20	2089.0	Pretest						20.36	2952.38	23.73	3441.60	Good
1-21	2072.0	Pretest						20.19	2928.61	23.58	3420.02	Good
1-22	2061.7	Pretest						20.09	2913.80	23.46	3402.62	Good
1-23	1690.0	Pretest						16.35	2371.63	19.26	2792.95	Good
1-24	1687.7	Pretest						-	-	-	-	Tight
1-25	1688.0	Pretest						-	-	-	-	Tight
1-26	1688.5	Pretest						16.34	2369.57	19.23	2789.40	Good

8. TEMPERATURE RECORD - HARLEQUIN-1

LOGGING RUN	THERMOMETER DEPTH (m)	MAX. RECORDED TEMPERATURE (C°)	CIRCULATION TIME (t_k) (hours)	TIME AFTER CIRCULATION STOPPED (t)	HORNER TEMPERATURE (C°)	GEOTHERMAL GRADIENT (C°/km)
Suite 1						
BHC-CAL-GR	777	41	3H 10M(3.16)	3H 55M(3.92)		
Suite 2						
DLL-MSFL-LDL-CNL-BHC-GR-SP	2538.8	83 }		7H 05M(7.08) }		
RFT-GR (PRE-TEST)	2565.5	94.4 }	0H 30M(0.5)	14H 42M(14.70) }	106.°C	36.65°C/Km
SHDT-GR	2563.5	99.3 }		23H 50M(23.83) }		
WSS	2574.5	101.0 }		28H 0M(28.00) }		
CST's	No Thermometers Run					

FIGURES

LOCALITY MAP

HARLEQUIN-1

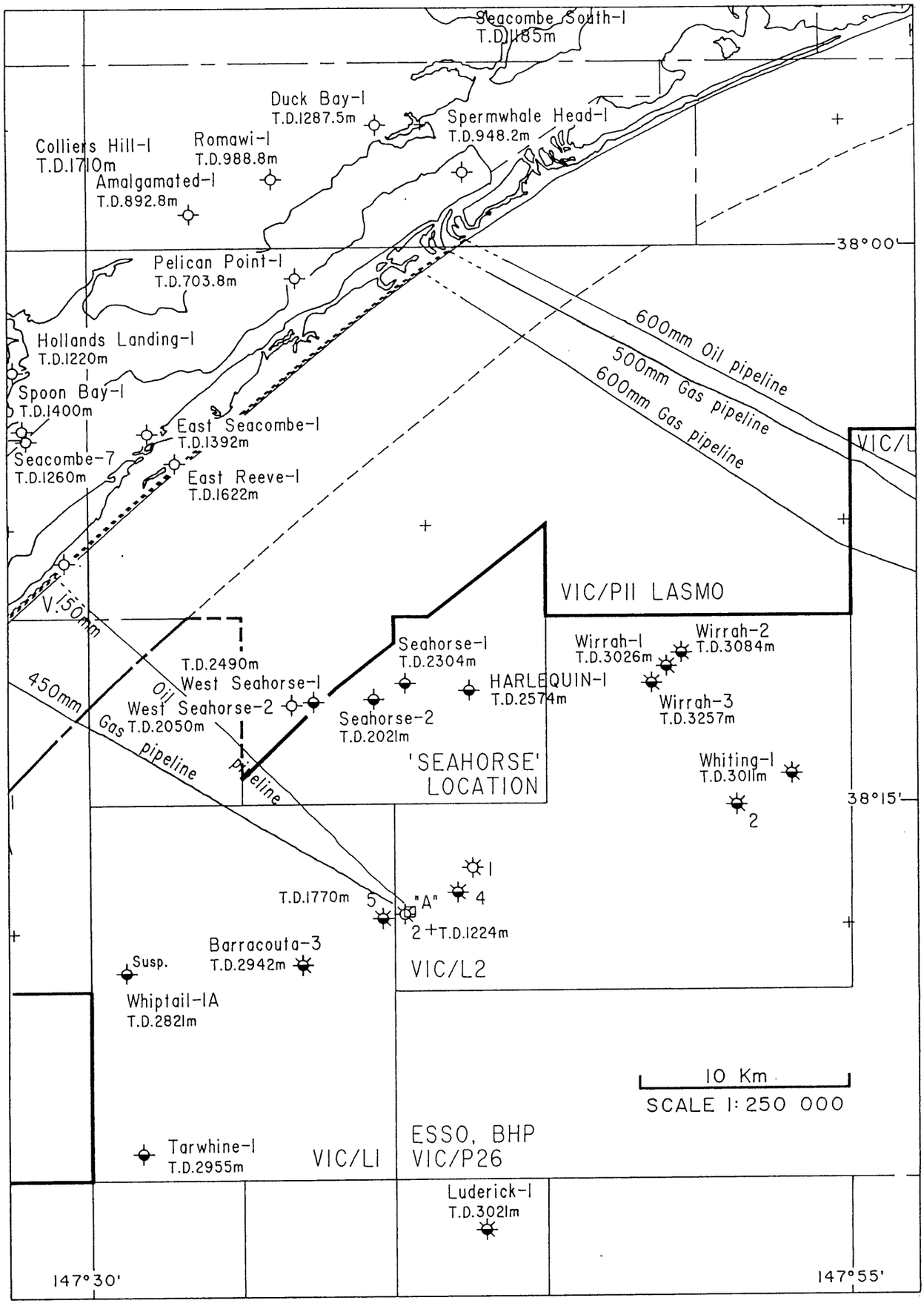


FIGURE 1

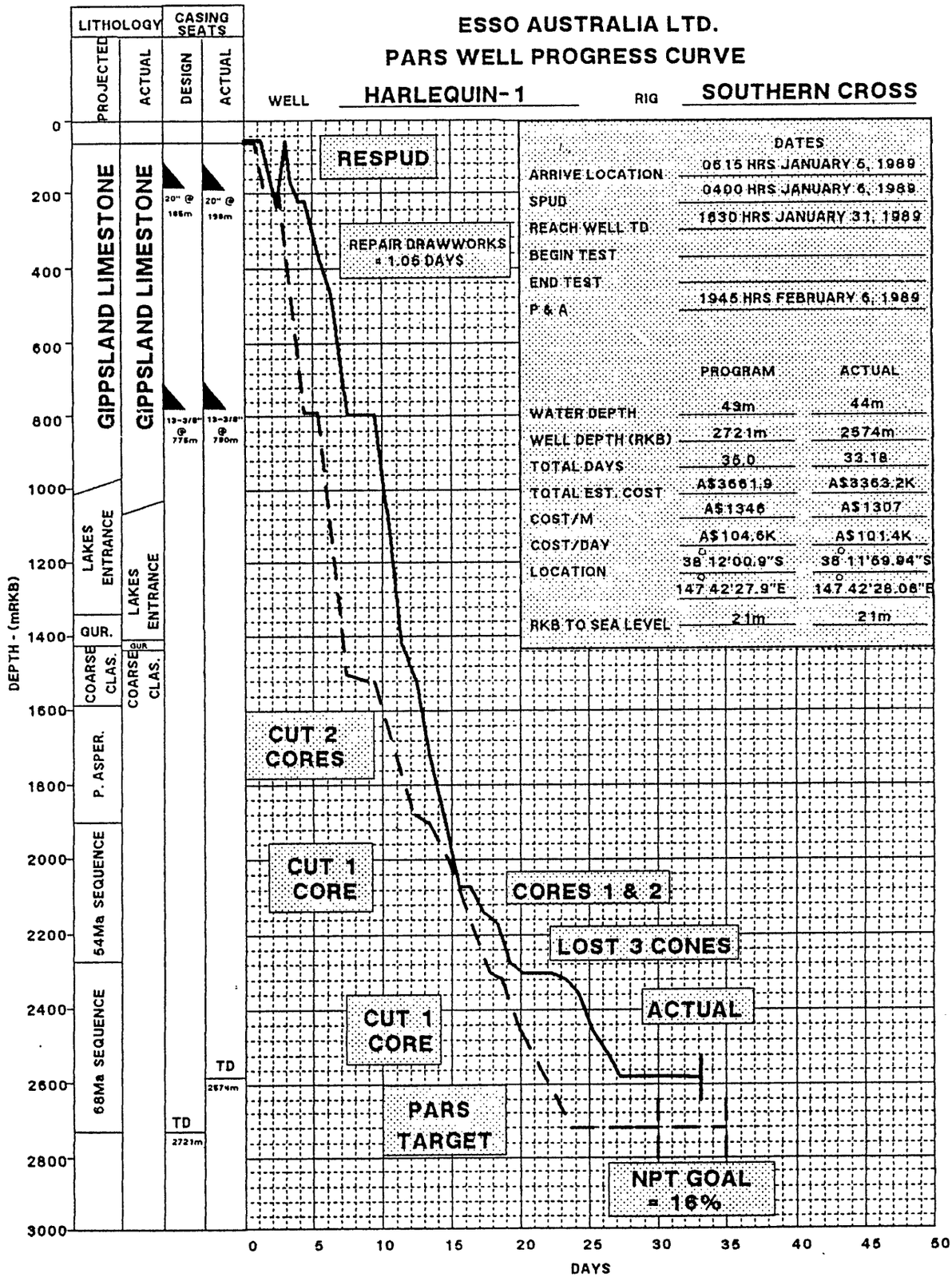

ESSO AUSTRALIA LTD.
PARS WELL PROGRESS CURVE
WELL HARLEQUIN-1
RIG SOUTHERN CROSS
LITHOLOGY
CASING SEATS
PROJECTED
ACTUAL
DESIGN
ACTUAL
GIPPSLAND LIMESTONE
LAKES ENTRANCE
GUR.
COARSE CLAS.
P. ASPER.
54Ma SEQUENCE
68Ma SEQUENCE
20" @ 185m
20" @ 199m
13-3/8" @ 775m
13-3/8" @ 790m
TD 2721m
TD 2574m
DEPTH - (mRKB)
DAYS
RESPUD
REPAIR DRAWWORKS = 1.06 DAYS
CUT 2 CORES
CUT 1 CORE
CORES 1 & 2
LOST 3 CONES
ACTUAL
CUT 1 CORE
PARS TARGET
NPT GOAL = 16%
DATES
ARRIVE LOCATION 0615 HRS JANUARY 5, 1989
SPUD 0400 HRS JANUARY 6, 1989
REACH WELL TD 1630 HRS JANUARY 31, 1989
BEGIN TEST
END TEST
P & A 1945 HRS FEBRUARY 6, 1989
PROGRAM
ACTUAL
WATER DEPTH 43m 44m
WELL DEPTH (RKB) 2721m 2574m
TOTAL DAYS 35.0 33.18
TOTAL EST. COST A$3661.9 A$3363.2K
COST/M A$1346 A$1307
COST/DAY A$104.6K A$101.4K
LOCATION 38° 12'00.9"S 38° 11'69.94"S
147 42'27.9"E 147 42'28.06"E
RKB TO SEA LEVEL 21m 21m

FIGURE 2

ESSO AUSTRALIA LTD.
HARLEQUIN-1 FINAL WELL REPORT
WELLBORE SCHEMATIC

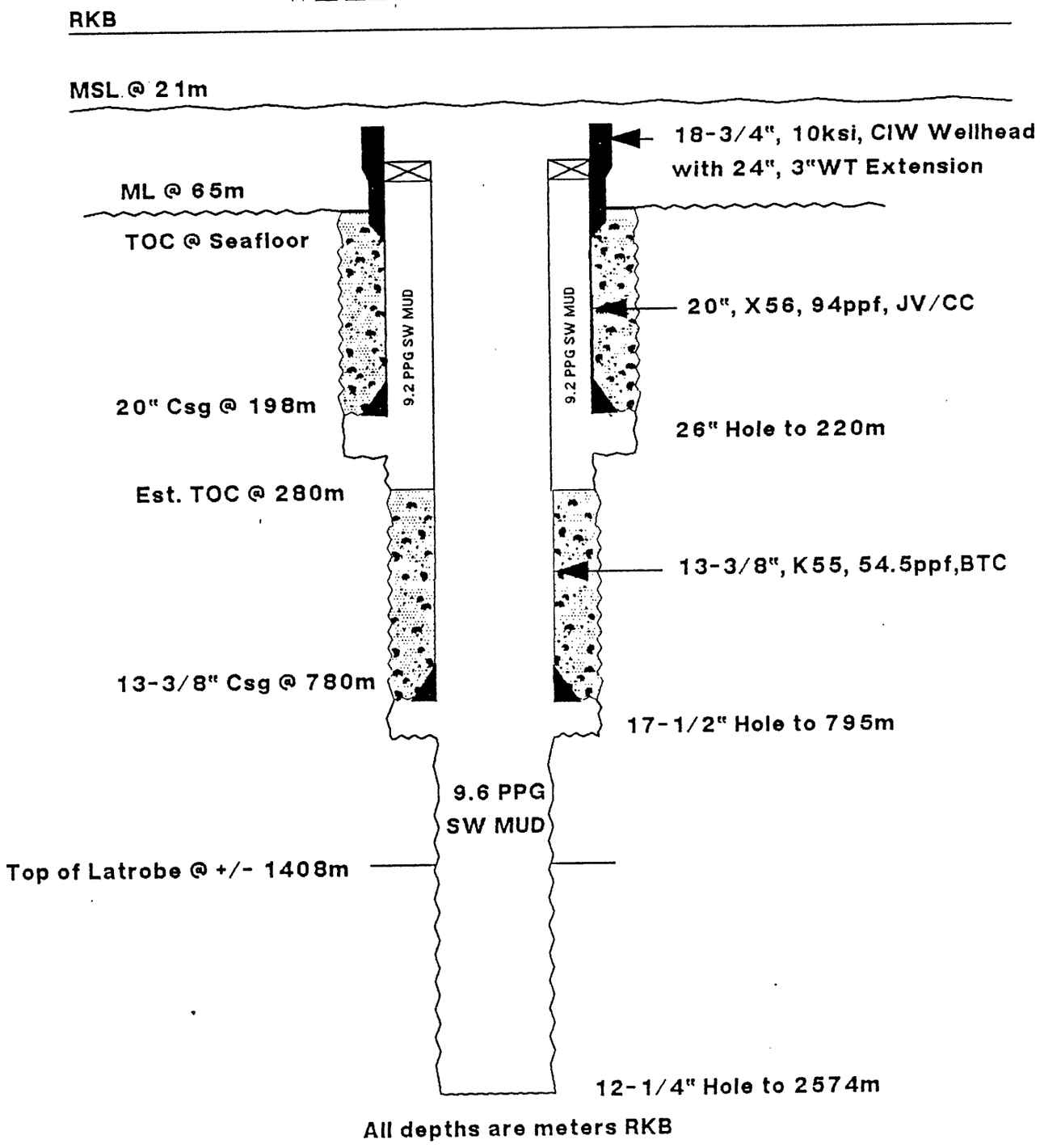


FIGURE 3

ESSO AUSTRALIA LTD.
HARLEQUIN-1 FINAL WELL REPORT
WELLBORE ABANDONMENT SCHEMATIC

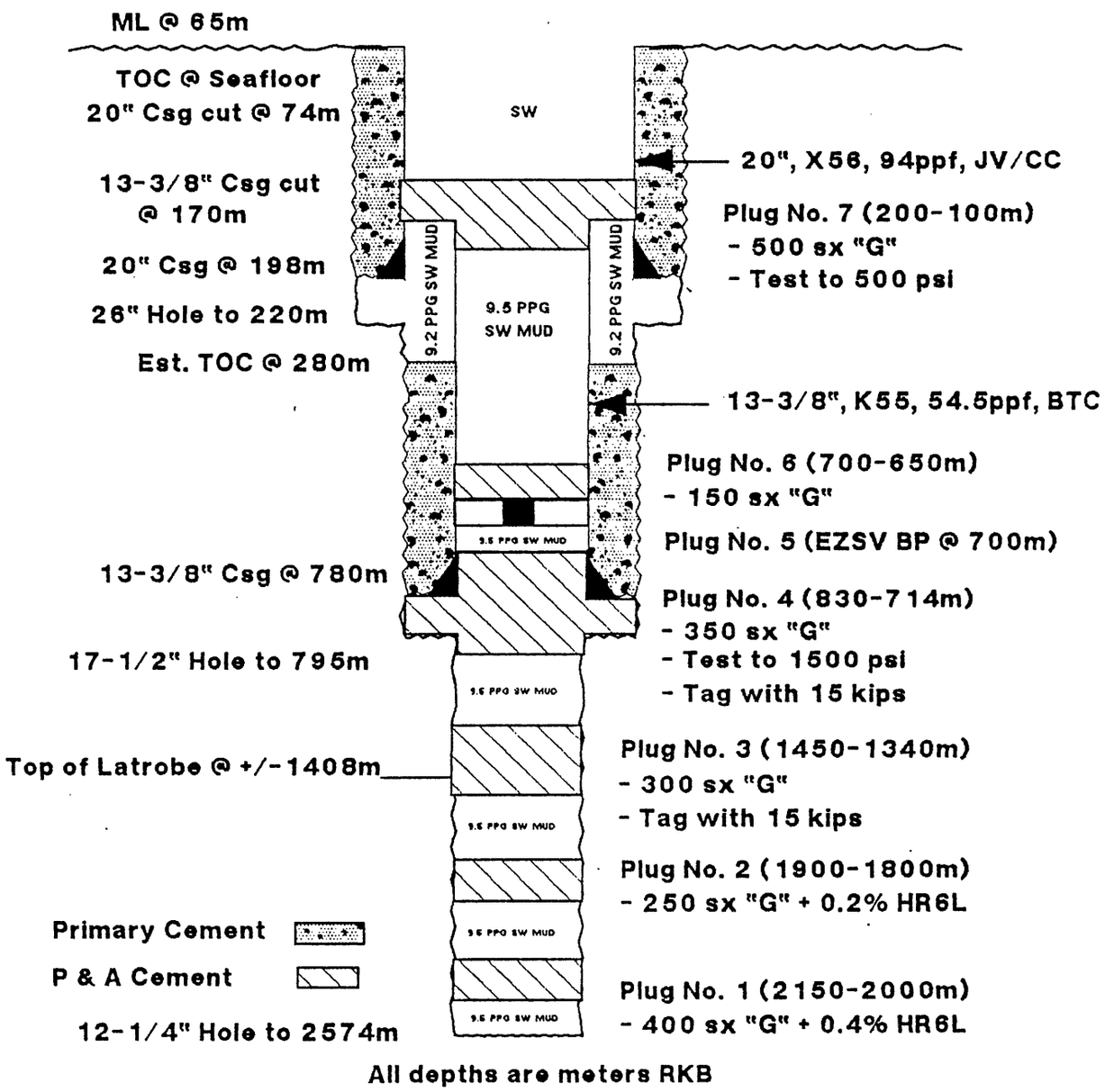


FIGURE 4

HARLEQUIN-1

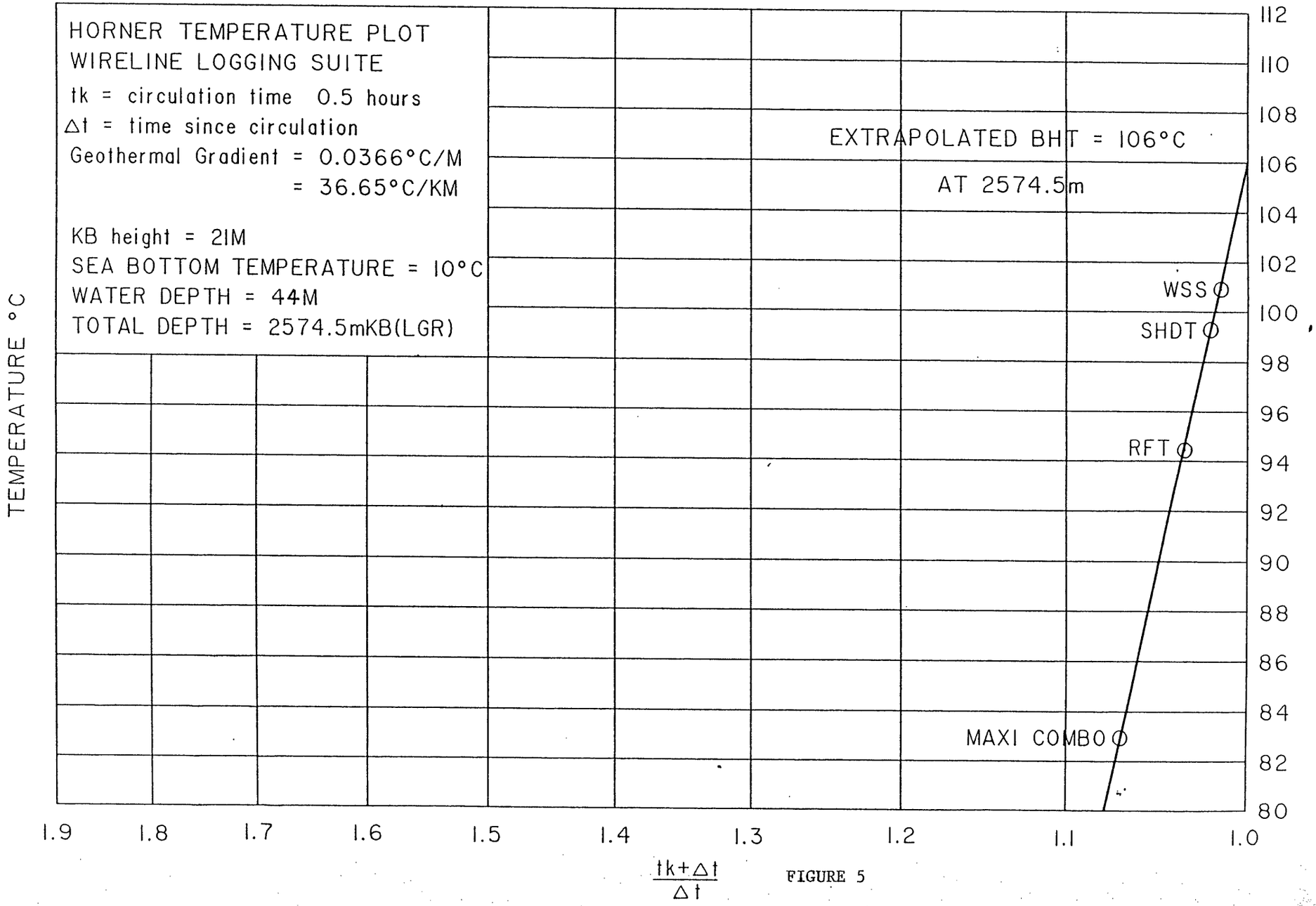


FIGURE 5

APPENDIX 1

Harlequin-1

Lithology Descriptions

Depth	%	Description
795 - 820	60	SANDSTONE: Translucent to clear, occasionally white, fine to coarse, predominantly medium, frosted grains, moderately to well sorted, subrounded to rounded, very calcareous cement, white to light grey calcareous/argillaceous matrix, moderately hard, brittle, common loose grains, trace glauconite and pyrite, tight to very poor visual porosity, no show, (80% dull green/yellow mineral fluorescence)
	40	LIMESTONE: Light to medium grey, calcarenite (Packstone) composed of fine to coarse carbonate clasts, common fossil fragments, (corals, spicules), becoming very silty in parts, hard.
820 - 850	100	SANDSTONE: Translucent, occasionally clear, frosted grains, medium to coarse grained, well sorted, subangular to rounded, moderate calcareous cement, minor calcareous white matrix, common carbonate clasts and fossil fragments (bryozoans, shell fragments, corals), predominantly loose, minor moderately hard brittle grain aggregates, poor to fair inferred porosity, no show, grading in parts to calcarenite. * Minor clay washing from samples.
850 - 880	80	SANDSTONE: As above with very calcareous cement, no show.
	20	LIMESTONE: White to light grey, calcarenite (Grainstone), slightly arenaceous, composed of white carbonate clasts and abundant fossil fragments including forams, shell fragments, bryozoans, corals, slightly clayey in unwashed sample, becoming predominantly biogenic, hard.
880 - 910	80	SANDSTONE: As above, grains are all frosted and generally very well rounded, commonly argillaceous, reddish brown stained quartz grains, common calcareous clasts and matrix.
	20	LIMESTONE: As above.
910 - 940	90	LIMESTONE: Light grey, occasionally mottled medium grey, calcarenite (=Grainstone) slightly arenaceous with minor very fine siltstone grains, dominantly composed of clasts of carbonate with common fossil fragments including forams, bryozoans and corals, trace glauconite.
	10	SANDSTONE: As above, dominantly fine to medium, generally decreasing with depth.
940 - 970	100	LIMESTONE: Light to medium grey, occasionally off white, slightly dolomitic, calcisiltite grading to calcarenite in parts, (Wackestone/Packstone), common clasts of carbonate, coarse grained and angular, abundant fossil fragments predominantly forams, minor bryozoans and shell fragments, trace pyrite, trace quartz grains in a micritic matrix.

Lithology Descriptions

Depth	%	Description
970 - 1000	100	LIMESTONE: Medium grey, becoming very uniform in texture and colour, slightly dolomitic, calcisiltite (=Wackestone), minor clasts and grains of calcite and carbonate set in a very fine silty micritic matrix, minor fossils as above.
1000 - 1030	100	LIMESTONE: As above, becoming very argillaceous with depth.
1030 - 1060	100	LIMESTONE: As above with common fossil fragments of forams, corals, bryozoans, common grains of crystalline carbonate and calcite, trace glauconite grains.
1060 - 1090	100	LIMESTONE: Calcisiltite as above, minor fossil fragments, trace pyrite, becoming increasingly argillaceous with depth.
	Tr	CLAYSTONE: Light grey, very calcareous (Micrite), slightly silty, homogeneous, very soft, dispersive.
1090 - 1120	100	LIMESTONE: As above.
1120 - 1150	100	LIMESTONE: As above, calcisiltite grading to calcilutite becoming increasingly clayey with depth, minor to trace fossils, (Wackestone/Mudstone).
1150 - 1180	100	LIMESTONE: As above with common forams.
1180 - 1210	100	LIMESTONE: Light to medium grey, becoming increasingly argillaceous, slightly dolomitic, calcisiltite grading to calcilutite/micrite as above, abundant forams, occasional coral fragments, trace glauconite, rare angular coarse clasts of crystalline calcite, slightly arenaceous with minor fine to medium loose quartz grains, clasts becoming moderately hard to firm.
1210 - 1240	100	LIMESTONE: As above, abundant forams.
	Tr	CLAYSTONE: Light grey to off white, very calcareous, slightly silty, very smooth, soft and dispersive, slightly sticky, trace pyrite and glauconite.
1240 - 1270	50	LIMESTONE: As above, (calcilutite/calcisiltite)
	50	CLAYSTONE: Medium grey, very calcareous, grading to calcilutite, slightly silty, minor fossil fragments, smooth texture, soft to firm, slightly dispersive and sticky.
1270 - 1300	70	CLAYSTONE: As above, very soft, platey.
	30	LIMESTONE: As above, becoming very argillaceous (Mudstone).
1300 - 1305	80	CLAYSTONE: As above.
	20	LIMESTONE: As above.

Lithology Descriptions

Depth	%	Description
1305 - 1310	80	CLAYSTONE: Medium grey, very calcareous, slightly silty, very fine pyrite in parts, minor glauconite, common forams, homogeneous texture, grading to mudstone (Dunham), soft, platey, crumbly in parts.
	20	LIMESTONE: As above.
1310 - 1315	80	CLAYSTONE: Light to medium grey, as above.
	20	LIMESTONE: As above.
1315 - 1320	70	CLAYSTONE: Becoming dark green, medium grey, grey/green, minor glauconite, common forams and coral fragments, as above.
	30	LIMESTONE: Medium grey, medium grey/brown, calcisiltite, slightly silty, common microfossil fragments, slightly glauconitic, rare clasts of calcite and crystalline carbonate, firm to moderately hard, blocky to angular.
1320 - 1325	60	CLAYSTONE: Light grey, light to medium grey and brown, generally as above.
	40	LIMESTONE: As above with abundant forams.
1325 - 1330	50	CLAYSTONE: Light grey/green, olive/grey, occasionally light grey and brown, very calcareous, grading to calcilutite, common very fine silty to granular glauconite, very fine disseminated pyrite in parts, common forams, slightly arenaceous in parts, generally smooth homogeneous texture, cuttings are subfissile, platey and soft, slightly dispersive.
	50	LIMESTONE: Light grey to medium grey, calcilutite/calcisiltite, (Wackestone/Mudstone) slightly dolomitic, becoming increasingly argillaceous, slightly glauconitic, minor grains of crystalline carbonate, grading to calcareous claystone as above.
1330 - 1335	70	CLAYSTONE: Predominantly light grey, generally as above.
	30	LIMESTONE: As above, minor forams.
1335 - 1340	90	CLAYSTONE: Light to medium grey/brown, commonly silty in parts, very calcareous, increasing glauconite (trace).
	10	LIMESTONE: As above, calcisiltite/calcilutite, as above.
1340 - 1345	100	CLAYSTONE: Medium grey, occasionally light grey to off white, trace glauconite, becoming very sticky, soluble and dispersive, very calcareous, soft.
	Tr	LIMESTONE: As above.
1345 - 1350	100	CLAYSTONE: Becoming olive grey, very light green/grey, predominantly light to medium grey as above.
1350 - 1355	80	CLAYSTONE: As above.
	20	SILTSTONE: Medium brown/grey, very argillaceous, very calcareous, minor glauconite, minor forams, grading to calcisiltite/Wackestone, soft, firm, blocky to subfissile.

Lithology Descriptions

Depth	%	Description
1355 - 1360	100	CLAYSTONE: As above, common forams.
1360 - 1365	100	CLAYSTONE: Light to medium grey becoming slightly less calcareous, very dispersive and soluble, smooth, slightly platey, silty, soft.
1365 - 1370	100	CLAYSTONE: Light to medium grey as above, slightly gritty texture, grading to calcisiltite, predominantly calcilutite, common forams, trace glauconite, rare pyrite.
1370 - 1375	100	CLAYSTONE: As above.
1375 - 1380	100	CLAYSTONE: As above, abundant forams, trace glauconite.
1380 - 1385	100	CLAYSTONE: As above, very calcareous, silty texture in parts grading from calcilutite to calcisiltite, soft.
1385 - 1390	100	CLAYSTONE: As above, no change.
1390 - 1395	70 30	CLAYSTONE: As above. SILTSTONE: Medium brown, medium brown/grey, very calcareous, calcisiltite, commonly very fine carbonate grains, very argillaceous, firm, blocky.
1395 - 1400	100	CLAYSTONE: As above, light to medium grey, occasionally very pale grey/green, generally smooth with occasional gritty texture, very calcareous, calcilutite/calcisiltite, common glauconite grains, common forams, occasional dolomite grains, which are pale yellow/brown, and translucent giving a dull yellow mineral fluorescence.
1400 - 1405	80 20	CLAYSTONE: Light grey to medium grey as above. SILTSTONE: Light brown to light brown/grey, very calcareous, calcisiltite, very argillaceous, firm, blocky to subfissile.
1405 - 1410	70 30	CLAYSTONE: As above. SILTSTONE: 2 types; (1) (25%) as above. (2) (5%) medium to light grey/brown, very calcareous with abundant glauconite grains with a medium grain size, slightly argillaceous, trace pyrite, firm to moderately hard, blocky.
1410 - 1415	60 40	CLAYSTONE: As above. SILTSTONE: 2 types; (1) (30%) as above with trace glauconite. (2) (10%) medium brown, speckled texture, abundant glauconite medium sized grains, with black re-worked rounded coal clasts, very siliceous and arenaceous, slightly calcareous, hard, blocky.

Lithology Descriptions

Depth	%	Description
1415 - 1420	50	CLAYSTONE: Light grey to olive/grey, occasionally buff, moderately calcareous, slightly silty, grading to calcilutite/calcisiltite, trace glauconite, minor forams, soft, blocky with subfissile cuttings.
	45	SILTSTONE: 2 types; (1) (30%) as above. (2) (15%) as above becoming very pyritic with both disseminated and nodular pyrite, abundant glauconite, common well rounded coal clasts (re-worked), hard, calcareous, blocky.
	5	SANDSTONE: Clear to translucent, fine to medium grained, rarely coarse, moderately sorted, rounded to subangular and angular fracture grains, frosted surfaces on some grains, loose, no cement or matrix, fair to good inferred porosity, no fluorescence.
1420 - 1425	50	COAL/LIGNITE: Very dark brown/black, very silty, dull to occasionally subvitreous lustre, uneven fracture , blocky, very brittle, hard, occasionally rounded coal clasts indicating re-working (possible cavings), trace pyrite.
	30	SANDSTONE: Translucent to clear, occasionally white, fine to very coarse, predominantly medium to coarse grained, poorly sorted, well rounded with frosted surfaces, common angular bit fractured grains, loose with no cement or matrix, minor pyrite cement on some grains, good inferred porosity, no fluorescence. (Trace dark brown bitumen staining on some grains).
	20	SILTSTONE/CLAYSTONE: Light to medium grey, very argillaceous, very calcareous, soft, subfissile (cavings). (Coal cavings masked majority of bottoms up sample)
1425 - 1430	40	SILTSTONE: Light grey, buff, very argillaceous, grading to claystone, moderately calcareous, possible cavings, soft, subfissile.
	40	COAL: As above, abundant cavings.
	20	SANDSTONE: As above. (1428 spot sample = 80% Coal, 10% Siltstone, 10% Sandstone)
1430 - 1435	60	SILTSTONE: 2 types; (1) very light grey to off white, very argillaceous, very calcareous, slightly arenaceous, smooth texture, soft, dispersive, blocky cavings. (2) medium brown, slightly calcareous, very micromicaceous, slightly arenaceous, microcarbonaceous, firm, blocky.
	20	COAL: As above.
	20	SANDSTONE: As above, fair to good inferred porosity, no fluorescence. (abundant pyrite nodules and glauconite, presumably cavings).

Lithology Descriptions

Depth	%	Description
1435 - 1440	50	SANDSTONE: Clear to translucent, occasionally milky white, predominantly medium to coarse, occasionally fine grained, moderately well sorted, subrounded, no cement/matrix, loose, good inferred porosity, no fluorescence.
	50	SILTSTONE: Medium to dark brown, argillaceous, microcarbonaceous, firm, blocky.
1440 - 1445	70	SANDSTONE: Translucent to clear, fine to predominantly coarse, commonly frosted grains, poor to moderately sorted, subrounded to subangular, occasionally rounded, no cement/matrix, loose, fair to good inferred porosity, no show. Tr to 5%, dull yellow mineral fluorescence (no cut), in very fine aggregates grading to arenaceous siltstone, reacted slowly with 10% HCl, possibly dolomitic cement.
	30	SILTSTONE: Generally as above.
1445 - 1450	70	SANDSTONE: As above, no show.
	20	SILTSTONE: Medium brown to dark brown/black, very carbonaceous in parts.
	10	COAL: As above.
1450 - 1455	70	SILTSTONE: Light to medium grey/brown, very argillaceous, moderately to very calcareous, (possible cavings), slightly arenaceous, firm, trace pyrite, blocky.
	30	SANDSTONE: Generally as above, predominantly medium grained, no show.
	Tr	COAL: Black, very dark brown/black, slightly silty, subconchoidal to uneven fracture, brittle, hard.
1455 - 1460	60	SILTSTONE: As above.
	40	SANDSTONE: As above.
	Tr	COAL: As above.
1460 - 1465	80	SANDSTONE: Translucent to clear, commonly white and milky quartz grains, medium to coarse grained, poor to moderate sorting, generally no cement or matrix, occasionally dolomitic/calcite cement, generally loose, cemented aggregates are hard to very hard, good inferred porosity, 30% dull yellow, patchy mineral fluorescence, no cut, slightly reactive with weak acid (HCl).
	15	SILTSTONE: As above.
	5	COAL: As above.
1465 - 1470	50	SANDSTONE: Translucent to clear, occasionally milky, occasionally slightly brownish, fine to very coarse, predominantly medium grained, poorly sorted, subangular, commonly loose grains with no matrix, occasionally very well cemented fine grained aggregates with dolomitic cement giving moderately bright yellow mineral fluorescence, aggregates are hard to very hard, fair to good inferred, with cemented aggregates having a tight to nil visual, porosity.

Lithology Descriptions

Depth	%	Description
	50	SILTSTONE: Light grey to medium grey, medium brown, very argillaceous, calcareous, slightly glauconitic, trace pyrite, firm to moderately hard, blocky.
	Tr	COAL: As above.
1470 - 1475	80	SANDSTONE: As above, predominantly medium to very coarse angular bit fractured grains, poorly sorted, fair inferred porosity, no shows.
	20	SILTSTONE: As above.
1475 - 1480	60	SANDSTONE: As above, trace to 20% mineral (Dolomite cement) fluorescence.
	20	SILTSTONE: Dark brown, dark brown/black, grading to very silty coal, lignitic, uneven and blocky fracture, moderately hard, brittle.
	20	COAL: Black, dull to subvitreous lustre, subconchoidal fracture, hard, brittle, very silty.
1480 - 1485	95	SANDSTONE: Clear to translucent, medium to coarse grained, commonly very coarse angular bit fractured grains, poorly sorted, original grains appear subrounded to rounded, predominantly loose uncemented grains with no matrix, minor dolomite cemented fine grained aggregates, trace dark brown bitumen staining on some grains, fair to good inferred porosity, no show, trace mineral fluorescence as above.
	5	SILTSTONE: Medium grey, dark brown, generally as above.
1485 - 1490	70	SANDSTONE: As above, fair inferred porosity, no show.
	30	SILTSTONE: Light grey, tan, medium brown, slightly arenaceous in parts, very calcareous, very argillaceous grading in parts to calcilutite, firm to soft, blocky.
	Tr	COAL: As above.
1490 - 1495	80	SILTSTONE: Light grey, occasionally light brown, very argillaceous and calcareous as above (due to stabilizer drag, possible cavings).
	20	SANDSTONE: As above.
SPOT SAMPLE at 1496	50	COAL: Dark brown to black, very silty with a subvitreous to dull lustre, brittle, moderately hard, also black, subvitreous to vitreous lustre, not silty, becoming anthracitic with depth.
	30	SANDSTONE: As above.
	20	SILTSTONE: As above, also dark brown, very carbonaceous grading to carbonaceous siltstone, very argillaceous, crumbly, blocky.

Lithology Descriptions

Depth	%	Description
1495 - 1500	80	SANDSTONE: Clear to translucent, medium to very coarse, predominantly coarse grained, poorly sorted, subangular to subrounded, predominantly loose with no cement or matrix, rare dolomitic cemented grain aggregates which are hard to very hard and give moderately bright yellow mineral fluorescence, fair inferred porosity, no show.
	10	SILTSTONE: Light grey to tan, as above.
	10	COAL: As above.
1500 - 1505	95	SANDSTONE: As above, trace pyrite, common dark brown to black patchy staining on quartz grains, (possible bitumen staining), no fluorescence.
	5	SILTSTONE: As above.
1505 - 1510	50	SANDSTONE: As above, fair inferred porosity, no show.
	40	COAL: Dark brown/black, as above.
	10	SILTSTONE: As above.
1510 - 1515	100	SANDSTONE: Predominantly translucent, occasionally clear, medium to very coarse, predominantly coarse grained, poor to moderately sorted, subrounded, loose with no cement or matrix, aggregates fracture along grain boundaries rather than through grains, trace pyrite, good inferred porosity, no show.
1515 - 1520	100	SANDSTONE: As above, translucent to white, very clean, loose, good inferred porosity, no fluorescence.
	Tr	SILTSTONE: As above, light grey to light grey/green, presumably cavings.
	Tr	COAL: As above.
1520 - 1525	100	SANDSTONE: Translucent to clear, grading from fine to very coarse grained, predominantly medium to coarse, poorly sorted, angular to subrounded fractured grains, with occasional very well rounded grains, generally loose with no cement, occasionally grain aggregates with moderate to strong silica cement and visible overgrowth surfaces, aggregates are hard with tight visual porosity, inferred fair to good porosity overall, no fluorescence.
	Tr	COAL: As above.
	Tr	SILTSTONE: As above.
1525 - 1530	60	COAL/CARBONACEOUS SILTSTONE: Very dark brown/black, subconchoidal fracture, occasionally fissile, very dull to occasionally subvitreous, brittle, hard.
	40	SANDSTONE: As above.
1530 - 1535	90	SANDSTONE: As above.
	10	COAL: As above.

Lithology Descriptions

Depth	%	Description
1535 - 1540	100	SANDSTONE: Translucent to clear, occasionally milky white, medium to very coarse, predominantly coarse grained, moderately well sorted, subrounded to rounded, loose, clean, no cement or matrix, good inferred porosity, no fluorescence.
	Tr	COAL: As above.
1540 - 1545	100	SANDSTONE: As above, becoming predominantly coarse to very coarse grained, good inferred porosity, no show.
	Tr	COAL: As above.
1545 - 1550	100	SANDSTONE: As above, no change, no shows.
1550 - 1555	80	SANDSTONE: Coarse to very coarse grained, moderately well sorted, loose, very clean, good inferred porosity, no shows.
	20	COAL: As above.
1555 - 1560	70	COAL: Black and very dark brown/black, subvitreous lustre, slightly to moderately silty, uneven and blocky fracture, fissile in parts, moderately hard, brittle, grading to carbonaceous siltstone in parts.
	30	SANDSTONE: As above.
1560 - 1565	50	SANDSTONE: As above, coarse to very coarse grained, poorly sorted, fair porosity, no shows.
	50	COAL: As above.
1565 - 1570	70	SANDSTONE: Becoming medium grained, moderately sorted, subrounded, no cement/matrix, loose, fair to good inferred porosity, no shows.
	30	COAL: As above.
1570 - 1575	60	COAL: As above.
	20	SANDSTONE: As above.
	20	SILTSTONE: Very dark brown, argillaceous, slightly to moderately carbonaceous, grading to carbonaceous siltstone in parts, firm to moderately hard, subfissile.
1575 - 1580	70	COAL: As above.
	20	SANDSTONE: As above.
	10	SILTSTONE: (1) Medium to dark brown, very argillaceous, slightly to very carbonaceous, grading in parts to carbonaceous siltstone, slightly micromicaceous, non calcareous, firm, subfissile. (2) Light to medium grey, calcareous, very argillaceous, grading to claystone, soft to firm, blocky to subfissile (cavings).
1580 - 1585	100	SANDSTCNE: Clear to translucent, medium to coarse grained, moderately well sorted, subrounded to subangular, loose, no cement/matrix, trace pyrite coating quartz grains, good inferred porosity, no show.

Lithology Descriptions

Depth	%	Description
1585 - 1590	50	SANDSTONE: As above.
	30	SILTSTONE: Type (1) as above.
	20	COAL: As above.
1590 - 1595	100	SANDSTONE: As above with occasional fine to medium grains, minor silica cement in fine grained aggregates, hard, tight visual porosity, predominantly loose coarse to very coarse grains, no cement/matrix, fair to good inferred porosity, no shows.
	Tr	COAL: As above.
	Tr	SILTSTONE: As above.
1595 - 1600	70	SANDSTONE: As above.
	30	SILTSTONE: Buff to light brown, rare medium brown, moderately argillaceous, slightly arenaceous, abundant micromicaceous flecks, firm, blocky.
1600 - 1605	90	SANDSTONE: Translucent to white, occasionally milky, grading medium to coarse, predominantly bit fractured grains, poorly sorted, generally loose grains, minor siliceous cemented grain aggregates, no matrix, aggregates are hard, trace pyrite, with tight to poor visual porosity, overall sandstone has fair inferred porosity, no shows.
	10	COAL: As above.
1605 - 1610	100	SANDSTONE: As above, very clean, fair to good inferred porosity, no shows.
1610 - 1615	100	SANDSTONE: As above.
1615 - 1620	90	SANDSTONE: As above.
	10	COAL: Black, subvitreous lustre, occasionally vitreous, slightly silty, uneven to subconchoidal fracture, moderately hard to firm, brittle.
1620 - 1625	100	SANDSTONE: Translucent, occasionally clear, coarse to very coarse grained, occasionally pebbly, poorly sorted, subangular to subrounded fractured grains with common well rounded grains, no cement/matrix, clean loose grains, trace pyrite on quartz grains, fair inferred porosity, no shows.
1625 - 1630	100	SANDSTONE: As above, very poorly sorted, fair inferred porosity, no shows.
	Tr	COAL: As above.
1630 - 1635	90	SANDSTONE: As above, very coarse angular bit fractured grains, occasionally coarse to medium, common pyrite on quartz grains, fair to good inferred porosity, no fluorescence.
	10	COAL: As above.
1635 - 1640	100	SANDSTONE: As above becoming finer grained predominantly medium to coarse, generally translucent to milky white, occasionally clear, no cement/matrix visible, fair inferred porosity, no fluorescence.

Lithology Descriptions

Depth	%	Description
1635 - 1640 (contd)	Tr	COAL: As above.
	Tr	SILTSTONE: Medium brown, tan, argillaceous, slightly carbonaceous, micromicaceous, firm, blocky.
1640 - 1645	70	SANDSTONE: 2 types; (1) (50%) translucent to clear, medium to very coarse grained, as above. (2) (20%) light brown, translucent, very fine to fine, occasionally medium grained, well sorted, subangular to subrounded, moderately cemented with weak calcareous/siliceous cement, common light brown and white argillaceous matrix, firm to moderately hard, friable, tight visual porosity, trace dull brown and yellow mineral fluorescence, no cut.
	30	SILTSTONE: As above, also off white to light grey.
	Tr	COAL: As above.
1645 - 1650	100	SANDSTONE: (1) (100%) translucent to clear, medium to coarse grained, well sorted, subangular to subrounded, loose with no cement or matrix, trace pyrite, fair inferred porosity, no shows.
1650 - 1655	100	SANDSTONE: As above, becoming slightly coarser grained with depth, no shows.
1655 - 1660	100	SANDSTONE: As above, predominantly coarse to very coarse grained, good inferred porosity, no shows.
1660 - 1665	100	SANDSTONE: As above, with abundant pyrite cemented grains, fair to good inferred porosity, no shows.
1665 - 1670	100	SANDSTONE: Clear to translucent, medium to coarse, occasionally very coarse grained, dominantly angular bit fractured grains, poorly sorted, subangular to rounded, loose with no cement or matrix, clean, common pyrite coated grains acting as a cement in parts, good inferred porosity, no show.
1670 - 1675	100	SANDSTONE: As above.
1675 - 1680	100	SANDSTONE: As above, slightly finer grained.
1680	40	SANDSTONE: As above.
1685	60	SILTSTONE: Light grey to light grey/green, medium grey, very argillaceous, moderately calcareous, trace glauconite and pyrite, minor fossil fragments, firm to soft, blocky to subfissile (Lakes Entrance Formation, cavings).
1685 - 1690	100	SANDSTONE: Translucent to clear, medium to coarse, commonly very coarse milky fractured grains/pebbles, poorly sorted, subangular to subrounded, occasionally rounded, no visible cement/matrix, slightly pyritic, loose and clean, good inferred porosity, no show.

Lithology Descriptions

Depth	%	Description
1690 - 1695	100	SANDSTONE: Translucent to clear, medium to coarse grained, poorly sorted, subangular to subrounded, no visible cement/matrix, trace pyrite, loose and clean, good inferred porosity, no show.
1695 - 1700	100	SANDSTONE: Translucent to clear, coarse to very coarse, occasionally medium to coarse milky grains/pebbles, poorly sorted, subangular to subrounded, no visible cement/matrix, as above.
1700 - 1705	80	COAL: Black, subvitreous lustre, moderately silty, blocky to subconchoidal, uneven fracture, nonfissile, moderately hard, brittle.
	20	SANDSTONE: Translucent to very light grey, coarse to very coarse grained, poorly sorted, subangular to subrounded, no visible cement/matrix, trace pyritic cement, no show.
1705 - 1710	60	SANDSTONE: Clear to translucent, fine to coarse grained, very poorly sorted, subangular to subrounded, no visible cement/matrix, loose, moderate inferred porosity, no show.
	35	SILTSTONE: Medium light grey to light grey, moderately argillaceous, moderately calcareous, trace glauconite, minor fossil fragments, firm to soft, blocky to subfissile (cavings).
	5	COAL: As above.
1710 - 1715	95	SANDSTONE: Clear to translucent, predominantly medium with occasional coarse and very coarse milky angular bit fractured grains, moderately sorted, subangular, no visible cemented grain aggregates although minor quartz overgrowth surfaces noted indicating some silica recrystallization, trace white argillaceous matrix, generally loose, poor to fair inferred porosity, no fluorescence, trace mica flecks.
	5	SILTSTONE: Cavings as above.
	Tr	COAL: As above.
1715 - 1720	100	SANDSTONE: Translucent to white, occasionally clear, coarse to very coarse, occasionally medium grained, as above, trace pyrite, fair inferred porosity; no fluorescence.
	Tr	COAL: As above.
1720 - 1725	60	SANDSTONE: As above.
	40	COAL: Black, subvitreous to vitreous, slightly silty, brittle, moderately hard.
	Tr	SILTSTONE: Generally dark brown, medium grey, very argillaceous, slightly micromicaceous, moderately hard, blocky, (minor siltstone washing from sample).

Lithology Descriptions

Depth	%	Description
1725 - 1730	80	SANDSTONE: White to translucent, occasionally clear, medium to very coarse, predominantly coarse grained, moderately well sorted, subangular to subrounded, trace silica cement exhibited by minor quartz overgrowths, no matrix, loose, very clean, fair inferred porosity, no fluorescence.
	20	COAL: As above.
	Tr	CLAYSTONE: Light grey, very dispersive and soft, washing out of samples.
1730 - 1735	60	SANDSTONE: As above, poor inferred porosity, no fluorescence.
	20	SILTSTONE: Medium brown and medium grey, moderately argillaceous, abundantly micromicaceous, occasionally thin micro carbonaceous laminae and specks, soft to firm, subfissile.
	20	CLAYSTONE: Light grey to off white, smooth homogeneous texture, dispersive and soluble, slightly sticky, soft.
	Tr	COAL:
1735 - 1740	100	SANDSTONE: Translucent to clear, milky in parts, coarse to very coarse grained, moderately well to well sorted, subangular to subrounded, no cement/matrix, very clean, loose, good inferred porosity, no fluorescence.
1740 - 1745	100	SANDSTONE: As above, grading from fine to very coarse grained, poorly sorted, no cement/matrix, clean, fair to good inferred porosity, no fluorescence.
1745 - 1750	100	SANDSTONE: As above, no change, (Trace dull yellow patchy mineral fluorescence)
	Tr	SILTSTONE: Medium brown, mottled, very argillaceous, slightly arenaceous, abundant micromicaceous flecks, soft to firm, blocky.
1750 - 1755	100	SANDSTONE: Clear to translucent, predominantly medium to coarse, occasionally very coarse grained, moderately well sorted, becoming subrounded to rounded, occasionally subangular, very clean, no visible cement or matrix, loose, good inferred porosity, no fluorescence.
1755 - 1760	85	SANDSTONE: As above, becoming very well rounded, fair to good inferred porosity, no fluorescence.
	10	COAL: Black, as above.
	5	SILTSTONE: Medium to dark brown, slightly argillaceous, moderately carbonaceous with thin laminae of coal, micromicaceous, firm to moderately hard, subfissile.
1760 - 1765	50	SILTSTONE: Off white, green grey to red brown, slightly argillaceous, moderately carbonaceous with thin laminae of coal, trace glauconite, soft to moderately hard, subfissile. (possibly cavings)

Lithology Descriptions

Depth	%	Description
1760 - 1765 (contd)	50	SANDSTONE: Two types; (1) (80%) as above. (2) (20%) clear to very light grey, fine to medium grained, moderately to poorly sorted, subangular, minor silica cement and argillaceous matrix, trace pyrite as cement, brittle, poor visual porosity, trace dull yellow mineral fluorescence.
1765 - 1770	95	SANDSTONE: Translucent to clear, medium to coarse grained, moderately well sorted, subrounded to subangular, no cement/matrix, clean and loose, fair to good porosity.
	5	COAL: Black, as above, trace fluorescence from amber.
1770 - 1775	90	SANDSTONE: Two types; (1) (90%), as above. (2) (10%), as above, no fluorescence.
	5	COAL: As above.
	5	SILTSTONE: Grey brown, argillaceous with micromicaceous and carbonaceous flecks, thin coal laminae, soft to moderately hard, blocky to subfissile, no fluorescence.
1775 - 1780	30	SANDSTONE: Clear to translucent, fine to very coarse grained, poorly sorted, subrounded to subangular, no visual cement/matrix, clean and loose, good to moderate inferred porosity, no fluorescence.
	70	SILTSTONE: White to reddish brown, moderately argillaceous and calcareous, slightly arenaceous, coal laminae, soft to moderately hard, blocky to subfissile.
1780 - 1785	80	SANDSTONE: Two types; (1) (95%) clear to translucent, coarse to very coarse grained, moderately to poorly sorted, subangular to subrounded, no visual cement/matrix, occasional pyritic cement, loose and clean, good inferred porosity, no fluorescence. (2) (5%), as above.
	20	SILTSTONE: White to brown/grey, moderately argillaceous and calcareous, slightly glauconitic, soft to moderately hard, occasional coal laminae, subfissile to blocky, no fluorescence.
1785 - 1790	100	SANDSTONE: Clear to translucent, coarse to very coarse grained, poorly sorted, subangular fractured grains common, no visual cement/matrix, loose and clean, slightly micaceous, trace pyrite, moderate to good inferred porosity.
1790 - 1795	100	SANDSTONE: As above, except moderately to poorly sorted, trace sandstone type (2) as above, (cavings).
1795 - 1800	100	SANDSTONE: As above.
	Tr	COAL: As above.
1800 - 1805	100	SANDSTONE: As above.
	Tr	COAL: As above.

Lithology Descriptions

Depth	%	Description
1805 - 1810	90	CLAYSTONE: Off white to light grey, moderately carbonaceous, slightly silty in parts, very soft.
	10	SANDSTONE: As above.
1810 - 1815	100	SANDSTONE: Translucent to clear, medium to very coarse grained, subrounded to subangular, moderately calcareous, weak silica cement, no visible matrix, loose, trace pyrite, moderate to poor inferred porosity, no show.
1815 - 1820	100	SANDSTONE: As above, except no visual cement/matrix, no show.
1820 - 1825	100	SANDSTONE: As above, (for interval 1815-1820).
1825 - 1830	100	SANDSTONE: As above with common pyrite.
1830 - 1835	60	SILTSTONE: Off white, light grey to red brown, predominantly argillaceous, moderately calcareous, slightly micromicaceous, slightly glauconitic, slightly pyritic, slightly carbonaceous, soft to moderately hard, subfissile to blocky.
	40	SANDSTONE: Translucent to clear, medium to very coarse grained, moderately to poorly sorted subrounded to subangular, no visible cement/matrix, loose and clean, moderate inferred porosity, no fluorescence.
1835 - 1840	70	SILTSTONE: As above.
	30	SANDSTONE: As above.
1840 - 1845	100	SILTSTONE: Light grey/green to light grey, very calcareous, slightly fossiliferous, (Lakes Entrance/Gippsland Limestone cavings following bit trip, not representative).
	Tr	SANDSTONE: As above.
	Tr	SILTSTONE: As above.
1845 - 1850		(Abundant cavings in sample)
	70	SILTSTONE: Light to medium brown, tan, light grey, medium grey, moderately argillaceous, slightly arenaceous in parts, trace microcarbonaceous and micromicaceous flecks, firm to moderately hard, blocky.
	30	SANDSTONE: Clear to translucent, medium to coarse grained, as above.
	Tr	COAL: Black, subvitreous, slightly silty, fissile to subconchoidal fracture, firm to moderately hard, brittle.
1850 - 1855	100	SANDSTONE: Clear to translucent, occasionally white, predominantly medium with minor coarse to very coarse grains, generally well to very well sorted, subrounded to rounded, no visible cement or matrix, the sand is clean and loose, trace pyrite (disseminated and nodular) fair to good inferred porosity, no fluorescence.
	Tr	SILTSTONE: As above.
	Tr	COAL: As above.

Lithology Descriptions

Depth	%	Description
1855 - 1860	100	SANDSTONE: As above, becoming coarse grained with depth, predominantly medium to coarse, occasionally fine to medium.
	Tr	SILTSTONE: As above.
1860 - 1865	95	SANDSTONE: As above.
	5	COAL: As above.
1865 - 1870	100	SANDSTONE: Translucent to clear, medium to coarse, occasionally very coarse grained, poorly to moderately sorted, subangular to subrounded as above, common pyrite nodules.
1870 - 1875	70	SANDSTONE: As above, poorly sorted, fair to good inferred porosity, no fluorescence.
	25	SILTSTONE: Light to medium grey, tan, moderately arenaceous, occasionally grading to very fine silty sandstone, slightly argillaceous, micromicaceous, firm to moderately hard, blocky.
	5	COAL: As above.
1875 - 1880	95	SANDSTONE: Translucent to clear, fine to medium, occasionally coarse grained, moderately sorted, subrounded, generally loose medium to coarse grains, with minor fine to medium grained weakly siliceous cemented grain aggregates having trace white to light grey argillaceous matrix, majority of medium to coarse grains are loose and clean, fair inferred porosity, no fluorescence.
	5	SILTSTONE: As above.
1880 - 1885	90	SANDSTONE: As above, becoming finer grained with common fine to medium cemented grain aggregates, poorly sorted, common pyrite, poor to fair inferred/visual porosity, no fluorescence.
	10	SILTSTONE: As above.
1885 - 1890	85	SANDSTONE: As above.
	10	COAL: As above.
	5	SILTSTONE: Light to medium brown, buff to off white, moderately hard, slightly arenaceous, commonly pyritic, micromicaceous, generally firm to moderately hard, blocky to subfissile.
1890 - 1895	100	SANDSTONE: Translucent to clear, fine to predominantly medium, rare coarse angular bit fractured grains, moderately well sorted, subrounded to rounded, predominantly loose with increased proportion of aggregated grains, aggregates show a weak siliceous cement and minor white argillaceous matrix, common pyrite, trace muscovite mica flecks, common quartz overgrowths, aggregates are friable, fair inferred porosity, no fluorescence.
	Tr	SILTSTONE: As above.
	Tr	COAL: As above.

Lithology Descriptions

Depth	%	Description
1895 - 1900	100	SANDSTONE: As above.
	Tr	SILTSTONE: As above.
1900 - 1905	100	SANDSTONE: As above, fine to predominantly medium grained, moderately well sorted, fair to good inferred porosity, no fluorescence.
1905 - 1910	100	SANDSTONE: Translucent to clear, medium to occasionally coarse, well sorted, subrounded, predominantly loose with minor weak silica cement, clean, good inferred porosity, no fluorescence.
1910 - 1915	100	SANDSTONE: As above, trace pyrite.
1915 - 1920	100	SANDSTONE: As above, trace muscovite and pyrite, fair to good inferred porosity, no fluorescence.
1920 - 1925	100	SANDSTONE: As above, becoming slightly coarser grained with depth, predominantly medium, minor weakly cemented fine grained aggregates, generally loose, fair inferred porosity, no fluorescence.
	Tr	SILTSTONE: Off white, light grey, medium brown, very argillaceous, moderately arenaceous, slightly carbonaceous with flecks and microlaminae, micromicaceous, firm, blocky.
1925 - 1930	100	SANDSTONE: Clear to translucent, medium to occasionally coarse grained, moderately sorted, subrounded to subangular, weak pyrite and silica cement, no matrix, generally loose, fair inferred porosity, no show.
	Tr	SILTSTONE: As above.
1930 - 1935	100	SANDSTONE: As above, trace mica
	Tr	SILTSTONE: As above, becoming moderately arenaceous with coal laminae.
1935 - 1940	100	SANDSTONE: Translucent to clear, medium to very coarse grained, moderately to poorly sorted, subrounded to subangular, weak siliceous cement, generally loose and moderately clean, slightly pyritic, fair inferred porosity, no show.
	Tr	SILTSTONE: As above.
1940 - 1945	100	SANDSTONE: As above.
	Tr	SILTSTONE: As above.
1945 - 1950	100	SANDSTONE: As above.
	Tr	COAL: Black, subvitreous, very slightly silty, fissile to blocky fracture, firm to moderately hard, brittle.
1950 - 1955	100	SANDSTONE: As above.
	Tr	COAL: As above.
1955 - 1960	100	SANDSTONE: As above.
	Tr	COAL: As above.

Lithology Descriptions

Depth	%	Description
1960 - 1965	70	SANDSTONE: Translucent to clear, medium to coarse grained, moderately to poorly sorted, subangular to subrounded, weak silica cement in parts, generally grains are loose and clean, trace mica, commonly pyritic, fair to good inferred porosity, no fluorescence.
	20	COAL: As above.
	10	CLAYSTONE: White to light grey, grading to siltstone in part, dispersive and soluble, very soft, slightly sticky, washing from sample.
1965 - 1970	80	SANDSTONE: As above, becoming slightly coarser grained, poorly sorted, subangular to occasionally subrounded, abundant pyrite, fair inferred porosity, no fluorescence.
	20	SILTSTONE: Off white to tan, medium brown, moderately argillaceous, occasionally very arenaceous grading to very fine sandstone, micromicaceous, common carbonaceous specks and laminae, moderately hard, blocky.
	Tr	COAL: As above.
	Tr	CLAYSTONE: As above.
1970 - 1975	60	SANDSTONE: Translucent to clear, medium to coarse grained, moderately to poorly sorted, no visual cement, generally loose grains, moderate to good inferred porosity, slightly pyritic.
	40	CLAYSTONE: White to light grey, grading to siltstone in parts, dispersive and soluble, very soft, slightly sticky, washing from sample.
1975 - 1980	60	CLAYSTONE: As above, becoming moderately calcareous, slightly glauconitic in parts (?cavings).
	40	SANDSTONE: As above.
	Tr	COAL: As above.
1980 - 1985	95	SANDSTONE: Clear to translucent, medium to coarse grained, poorly sorted, no visual cement/matrix, slightly pyritic, occasionally fine sandstone aggregates cemented with a siliceous cement, fair inferred porosity, no show.
	5	SILTSTONE; Off white to brownish grey, moderately argillaceous, slightly calcareous, slightly arenaceous in parts, occasionally micromicaceous, soft to moderately hard, subfissile to blocky.
1985 - 1990	95	SANDSTONE: As above.
	5	SILTSTONE: As above.
	Tr	COAL: Black, subvitreous, subconchoidal fracture, firm, brittle.
1990 - 1995	95	SANDSTONE: As above.
	5	SILTSTONE: As above, becoming moderately arenaceous in parts.

Lithology Descriptions

Depth	%	Description
1995 - 2000	100	SANDSTONE: Translucent to clear, medium to coarse, occasionally very coarse grained, moderately sorted, subrounded to subangular, no visual cement/matrix, except weakly silica cemented in parts, loose and clean, trace pyrite, good inferred porosity.
	Tr	SILTSTONE: As above.
2000 - 2005	100	SANDSTONE: As above.
	Tr	SILTSTONE: As above.
2005 2010	100	SANDSTONE: As above.
	Tr	COAL: Black, subvitreous, subfissile to sub conchoidal fracture, firm to moderately hard, brittle.
2010 - 2015	100	SANDSTONE: As above.
	Tr	SILTSTONE; Off white to brown grey, predominantly argillaceous, occasionally arenaceous in parts, micromicaceous in parts, occasional coal laminae, soft to moderately hard, subfissile to blocky, no show.
2015 - 2020	100	SANDSTONE: As above, becoming moderately sorted.
2020 - 2025	100	SANDSTONE: Translucent to clear, medium to coarse grained, moderately to poorly sorted, subrounded to subangular, no visual cement/matrix, loose and clean, very slightly pyritic, fair inferred porosity, no fluorescence.
	Tr	COAL: As above.
2025 - 2030	100	SANDSTONE: Translucent to clear, medium to coarse, predominantly medium grained, moderately to poorly sorted, subangular, weak silica cement in parts otherwise no visual cement/matrix, predominantly loose, very clean, slightly pyritic, trace glauconite (cavings?), moderate inferred porosity.
2030 - 2035	95	SANDSTONE: As above, becoming predominately medium to coarse, occasionally very very coarse grained.
	5	COAL: Black, dull to subvitreous, blocky, subconchoidal fracture, moderately hard, brittle.
2035 - 2040	100	SANDSTONE: As above, becoming predominantly medium to coarse, occasionally very coarse grained.
2040 - 2045	50	SANDSTONE: Clear to translucent, milky white, fine to very coarse, predominantly medium to coarse grained, very poorly sorted, angular to subrounded, weak to moderate recrystallized silica cement, common white argillaceous matrix, common loose grains, aggregates are hard, brittle, very poor inferred porosity, no fluorescence.

Lithology Descriptions

Depth	%	Description
2040 - 2045 (contd)	30	SILTSTONE: White to light grey, medium grey, medium brown, very argillaceous, moderately arenaceous, common pyrite, siliceous recrystallized appearance, hard to firm, blocky.
	20	VOLCANICS: Mottled grey, red, green and white, preserved crystals structure with acicular crystals and phenocrysts, chloritic in parts, common clay alteration of feldspars, quartz rich, possibly rhyolites, hard to very hard, blocky.
2045 - 2050	20	SANDSTONE: As above.
	40	VOLCANICS: As above.
	40	TUFF: Off white to white volcanic ash, very fine grained, with common relic glass shards, argillaceous, very pyritic, siliceous, firm, blocky.
	Tr	CHERT: Off white to very light grey, tan, conchoidal fracture, hard, angular blocky fragments.
2050 - 2055	80	VOLCANICS: As above.
	20	SANDSTONE: As above.
	Tr	CHERT: As above.
2055 - 2060	80	SANDSTONE: 2 types (1) (60%) clear to translucent, fine to coarse, predominantly medium to coarse grained, poorly sorted, subangular to occasionally subrounded, predominantly loose, occasional silica cement, clean with no visible matrix, trace mica, rare pyrite, fair inferred porosity, (2) (20%) white to light grey, very fine to fine grained, moderately well sorted, weak silica cement, minor light brown to white argillaceous matrix, firm to friable, poor to fair visual porosity. FLUOR: 70%, dull yellow/green patchy fluorescence, with no to occasionally very slight, pale yellow, streaming cut, none to very weak pale yellow crush cut, very thin pale yellow ring residue.
	20	SILTSTONE: Light grey to medium grey, tan, very argillaceous, moderately arenaceous, micromicaceous, trace carbonaceous flecks and laminations, firm to moderately hard, subfissile.
	Tr	VOLCANICS: As above, predominantly cavings. (Sample unwashed contained a lot of medium to light grey clay, which was very sticky and dispersive, washed completely from sample).
2060 - 2065	100	SANDSTONE: Clear to translucent, fine to predominantly medium grained, minor coarse to very coarse grains, poorly sorted, subrounded, loose with no cement and no visible matrix, common reworked coal fragments, trace pyrite and muscovite, fair to good inferred porosity.

Lithology Descriptions

Depth	%	Description
2060 - 2065 (contd)		FLUOR: 80-90%, pervasive dull yellow/green fluorescence, rare aggregates show patchy distribution, no cut to very weak, pale yellow, crush cut, no residue.
	Tr	SILTSTONE: As above.
2065 - 2070	100	SANDSTONE: As above, no change. FLUOR: 80-90%, as above.
2070 - 2075	90	SANDSTONE: As above.
	10	SILTSTONE: Medium grey/brown, moderately argillaceous, slightly arenaceous, slightly micromicaceous, moderately hard to firm, blocky.
2075 - 2079	100	SANDSTONE: Translucent to clear, medium to coarse, occasionally very coarse grained, poorly sorted, subangular to subrounded, no visible cement or matrix, predominantly loose grains, fair to good inferred porosity. FLUOR: 80-90% dull yellow pervasive fluorescence, trace (2-8%), moderately bright, pinpoint, yellow/white fluorescence in aggregates, aggregates giving a moderately fast, pale yellow, streaming cut, moderate crush cut, thin ring residue, no odor, no taste.
	Tr	SILTSTONE: As above.
2079 - 2098		CUT CORE #1 (Cut:19m, Rec:17.86m (94%)) Refer to appended core descriptions.
2098 - 2100	100	SANDSTONE: Clear to translucent, medium to predominantly coarse grained, moderately sorted, subangular, generally loose with very weak silica cemented aggregates in part, no matrix, fair to good inferred porosity. FLUOR: Trace, very dull yellow fluorescence, with weak pale yellow cut, moderate crush cut, trace to thin ring residue.
	Tr	SILTSTONE: Medium grey/brown, medium brown, argillaceous, commonly arenaceous, firm to moderately hard, blocky.
2100 - 2105	100	SANDSTONE: Translucent to white, occasionally clear, coarse to very coarse, predominantly bit fractured grains, grading to medium grained, very poorly sorted, angular to subangular, weak silica cement as evidenced by quartz overgrowths, clean with no matrix, loose grains with rare preserved aggregates, good inferred porosity, no fluorescence.
2105 - 2110	100	SANDSTONE: Translucent to clear, occasionally white, coarse to very coarse grained, predominantly bit fractured, poorly sorted, angular to subangular, weak silica cement as above, clean with no matrix, trace pyrite acting as cement, loose with occasional silica cemented aggregates, good inferred porosity, no fluorescence.
	Tr	SILTSTONE: Light grey to brown grey, argillaceous, commonly arenaceous, soft to moderately hard, blocky to subfissile, no fluorescence.

Lithology Descriptions

Depth	%	Description
2110 - 2115	10	SANDSTONE: Translucent to clear, occasionally white, medium to very coarse, predominantly coarse grained, poorly sorted, subrounded to subangular, occasionally rounded grains, weak silica/pyrite cement in parts, no matrix, loose with rare silica and pyrite cemented aggregates, clean, good inferred porosity.
	90	SILTSTONE: Light grey to medium grey, argillaceous, arenaceous in parts, slightly calcitic (18%), occasional coal laminae, moderately soft to moderately hard, blocky, no fluorescence.
2115 - 2120	100	SILTSTONE: As above.
	Tr	SANDSTONE: As above.
2120 - 2125	90	SANDSTONE: Clear to translucent, very coarse to medium, predominantly coarse grained, very poorly sorted, subangular to angular, no visible cement/matrix, clean and loose, trace pyrite acting as cement, moderate inferred porosity, no fluorescence.
	10	SILTSTONE: As above.
2125 - 2130	100	SANDSTONE: Clear to translucent, brown to white, medium to very coarse, predominantly medium to coarse grained, very poorly sorted, subrounded to subangular, predominantly no cement/matrix, occasionally silty and pyrite cemented aggregates, clean and loose, asphalt stained, moderate inferred porosity, no fluorescence.
2130 - 2135	100	SANDSTONE: As above, becoming commonly asphalt stained, common silica cemented aggregates, rare green fluorescence (possibly from cavings).
2135 - 2140	100	SANDSTONE: Clear to translucent, very coarse to medium, predominantly medium to coarse grained, poorly sorted, subangular to subrounded, trace silica and pyrite cemented aggregates in parts, elsewhere no cement/matrix, clean and loose, moderate inferred porosity.
2140 - 2145	90	SANDSTONE: Light grey, clear to translucent, fine to coarse grained, poorly sorted, subangular to subrounded, trace white argillaceous matrix, weak to moderate silica cement in parts, predominantly clean and loose, very good inferred porosity. FLUOR: 80%, Moderately bright to bright, solid, amber yellow, moderate crush cut, thin ring residue.
	10	SILTSTONE: Light grey and light brown, argillaceous to slightly carbonaceous, trace micromicaceous, non calcareous, slightly arenaceous in parts, blocky to subfissile, firm to moderately hard.
2145 - 2150	90	SANDSTONE: As above, fluorescence 90%, as above, trace lithic fragments (Volcanic)
	10	SILTSTONE: As above.

Lithology Descriptions

Depth	%	Description
2150 - 2155	90	SANDSTONE: As above, fluorescence 90%, as above, medium to coarse grained, trace fine pyrite.
	10	SILTSTONE: As above.
2155 - 2165		CUT CORE #2 (Cut:10m, Rec: 7.93m (79%) Refer to appended core descriptions
2165 - 2160	90	SANDSTONE: Light grey, clear to translucent, medium to coarse grained, moderately sorted, angular to subrounded, predominantly bit fractured coarse grains, inferred moderate to strong silica cement, trace white argillaceous matrix, poor inferred porosity. FLUOR: Trace, dull to moderately bright, yellow orange, spotty to patchy with weak crush cut, trace residue.
	10	CAVINGS: Grey clay, volcanics, Gurnard marls.
2160 - 2165	90	SANDSTONE: As above, slight trace pyrite, poor to fair inferred porosity. FLUOR: 5%, as above (?cavings).
	10	CAVINGS: As above.
2165 - 2170	90	SANDSTONE: As above, medium to coarse grained, trace pyrite, poor to fair inferred porosity. FLUOR: 5%, as above (?cavings).
	10	CAVINGS: As above, (mostly calcareous claystone, Gippsland limestone).
	Tr	SILTSTONE: Light brown to buff, argillaceous, occasional carbonaceous flecks and laminae, blocky, firm to soft.
2170 - 2175	100	SANDSTONE: As above, fine to coarse, predominantly medium grained, fair inferred porosity. FLUOR: Trace, as above (cavings).
	Tr	CAVINGS: As above.
2175 - 2180	100	SANDSTONE: As above, fine to medium, occasionally coarse grained, fair inferred porosity. FLUOR: Slight trace, as above, (cavings).
	Tr	CAVINGS: As above.
	Tr	COAL: Black, subvitreous, hackly to subfissile, brittle, hard.
2180 - 2185	100	SANDSTONE: As above, fair inferred porosity. FLUOR: Slight trace, as above (cavings).
2185 - 2190	100	SANDSTONE: As above, medium to very coarse grained, predominantly coarse bit fractured shards, poor inferred porosity. FLUOR: Slight trace, as above (cavings).
	Tr	COAL: As above.
2190 - 2195	100	SANDSTONE: As above: Fine to coarse grained, poorly sorted, poor to fair inferred porosity, no fluorescence, rare trace bitumen staining.
	Tr	SILTSTONE: Dark brown argillaceous and black carbonaceous, blocky, firm to soft.

Lithology Descriptions

Depth	%	Description
2195 - 2200	100	SANDSTONE: As above, fine to coarse grained, poorly sorted, poor to fair inferred porosity, trace pyrite, trace detrital muscovite. FLUOR: 10%, dull to very dull, spotty, yellow orange, no cut.
2200 - 2205	100	SANDSTONE: As above, predominantly fine to medium grained, moderately sorted, trace muscovite, rare pyrite, poor to fair inferred porosity. FLUOR: 5%, as above, no cut.
	Tr	SILTSTONE: Medium brown, argillaceous with carbonaceous flecks and laminae, blocky to earthy, firm to soft.
2205 - 2210	100	SANDSTONE: As above, predominantly fine to medium grained, poor to fair inferred porosity. FLUOR: 5%, as above, no cut.
	Tr	SILTSTONE: Light grey arenaceous with black carbonaceous laminae and abundant disseminated plant (leaf?) fragments, blocky to sucrosic, firm to moderately hard.
2210 - 2215	100	SANDSTONE: As above, fine to predominantly medium grained, poor to fair inferred porosity. FLUOR: 5%, as above, no cut.
2215 - 2220	100	SANDSTONE: As above, trace white argillaceous matrix, predominantly loose and clean shards, poor to fair inferred porosity. FLUOR: Trace, pinpoint as above, no cut.
2220 - 2225	100	SANDSTONE: As above, medium to coarse grained, fair inferred porosity. FLOUR: Trace, pinpoint as above.
	Tr	SILTSTONE: As above.
2225 - 2230	80	SANDSTONE: As above, predominantly medium grained, poor to fair inferred porosity. FLUOR: Slight trace, as above, no cut.
	10	SILTSTONE: Dark brown to black, argillaceous with abundant carbonaceous specks and laminae, (plant and leaf detritus) waxy texture, blocky to fissile, firm.
	10	COAL: Black, vitreous, blocky to conchoidal, silty in parts, brittle, hard.
2230 - 2235	80	SANDSTONE: As above, medium to coarse grained, fair inferred porosity, no fluorescence.
	10	SILTSTONE: As above.
	10	COAL: As above.
2237 SPOT SAMPLE	100	SILTSTONE: Light grey, clear to translucent, fine to coarse, predominantly medium grained, moderately sorted, subangular to subrounded, inferred weak to moderate silica cement, predominantly clean, loose shards, trace mica fair inferred porosity, no fluorescence.
	Tr	SILTSTONE: As above.
	Tr	COAL: As above.

Lithology Descriptions

Depth	%	Description
2235 - 2240	90	SANDSTONE: As above, fair inferred porosity, no fluorescence.
	10	SILTSTONE: As above.
	Tr	COAL: As above.
2240 - 2245	100	SANDSTONE: As above, fine to very coarse grained, moderate to strong inferred silica cement, poor to fair inferred porosity, no fluorescence.
	Tr	SILTSTONE: Dark brown to black, as above.
2245 - 2250	95	SANDSTONE: As above, no fluorescence.
	5	SILTSTONE: As above.
2250 - 2255	50	SANDSTONE: As above, no fluorescence.
	50	SILTSTONE: As above.
POOR SAMPLE		
2255 - 2260	95	SANDSTONE: Light grey, clear to translucent, fine to coarse grained, poorly sorted, subangular to subrounded, inferred silica cement, trace white argillaceous matrix, predominantly loose, poor to fair inferred porosity, no fluorescence.
	5	SILTSTONE: As above.
2260 - 2265	95	SANDSTONE: As above, no fluorescence.
	5	SILTSTONE: As above.
2265 - 2270	100	SANDSTONE: As above, common white argillaceous matrix, (adhered to loose grains), poor to fair inferred porosity, no fluorescence.
		SILTSTONE: As above.
2270 - 2275	90	SANDSTONE: (1) as above, (2) trace, light grey, clear to translucent, fine to medium grained, moderately sorted, subangular, strong dolomite cement, trace argillaceous matrix, trace lithics, hard to very hard, no visual porosity, no fluorescence.
	10	SILTSTONE: Medium brown, with carbonaceous flecks, as above.
2275 - 2280	90	SANDSTONE: (1) (90%) as above, (2) (10%) as above, trace pyrite, no visual porosity, no fluorescence.
	10	SILTSTONE: As above.
2280 - 2285	90	SANDSTONE: (1) (80%) as above, (2) (20%) as above, predominantly fine grained, no fluorescence.
	10	SILTSTONE: As above.
2285 - 2290	60	SANDSTONE: (1) (80%) as above, (2) (20%) as above, fine to medium grained, strong cement, no visual porosity, no fluorescence.
	40	SILTSTONE: As above, plus light grey to buff, arenaceous with carbonaceous laminae, blocky to subfissile, firm to hard.

Lithology Descriptions

Depth	%	Description
2290 - 2295	60	SANDSTONE: (1) (70%) as above, (2) 30% as above, no fluorescence.
	40	SILTSTONE: As above, predominantly light grey to buff, argillaceous to arenaceous with carbonaceous flecks and laminae.
2295 - 2300	40	SANDSTONE: (1) (60%) loose grains, (2) (40%) dolomite cemented aggregates, no visual porosity, no fluorescence.
	60	SILTSTONE: Medium to dark grey, argillaceous, carbonaceous, with interlaminated arenaceous, blocky, firm to hard.
2300 - 2305		NO SAMPLE - FISHING FOR CONES. several large clasts of pale green volcanics with dark green mineral phenocrysts were collected from the junk basket during the fishing operations.
2305 - 2310	20	SANDSTONE: Light grey, loose, as for (1) above.
	Tr	SILTSTONE: As above.
	80	CAVINGS: Grey fossiliferous siltstone/claystone, 20% coal, abundant metal fragments.
2310 - 2315	70	SANDSTONE: 60% (1) as above, 40% (2) aggregates as above, strong dolomite cement, no visual porosity, no fluorescence.
	Tr	SILTSTONE: As above.
	30	CAVINGS: Mostly Lakes Entrance and Gippsland Limestone.
2315 - 2317.5 POH FOR BIT CHANGE	60	SANDSTONE: Predominantly (1) light grey to cream, clear to milky, fine to medium, predominantly fine grained, moderately sorted, subrounded to subangular, strong dolomite cement, common white argillaceous matrix, trace lithics, trace detrital mica, rare pyrite, hard to very hard, no visual porosity, no fluorescence.
	Tr	SILTSTONE: Medium to dark grey, argillaceous and carbonaceous with abundant carbonaceous specks and laminae, firm, blocky.
	40	CAVINGS: Marine siltstone/claystone.
2317.5 2320	40	SANDSTONE: Light grey, fine to coarse, predominantly medium grained, moderately sorted, subangular to subrounded, moderate to strong silica/dolomite cement, no visible matrix, trace lithics, trace pyrite, firm to moderately hard, no visual porosity, no fluorescence.
	60	CAVINGS: As above.
	Tr	SILTSTONE: Dark brown, translucent in thin cuttings, carbonaceous (kerogenous) waxy lustre, micaceous texture, subfissile to fissile, firm.
2320 - 2325	70	SANDSTONE: As above, fine to medium, very poor to no visual porosity, trace dull orange mineral fluorescence, no cut.
	30	CAVINGS: As above.
	Tr	SILTSTONE: Dark brown, kerogenous as above.

Lithology Descriptions

Depth	%	Description
2325 - 2330	90	SANDSTONE: As above, predominantly loose, inferred weak to moderate silica/dolomite cement, rare aggregates, no visual porosity, trace dull orange mineral fluorescence, no cut.
	10	CAVINGS: As above.
	Tr	SILTSTONE: As above.
2330 - 2335	95	SANDSTONE: As above, predominantly loose, trace coal fragments, very poor to poor inferred porosity, trace dull orange mineral fluorescence, no cut.
	5	CAVINGS: Marine siltstone/claystone, calcareous forams.
	Tr	SILTSTONE: As above.
2338.5 - SPOT SAMPLE 8 UNITS (0.16%) TOTAL GAS	95	SANDSTONE: As above, predominantly medium grained, loose, poor inferred porosity, trace dull orange mineral fluorescence, no cut.
	5	CAVINGS: As above.
	Tr	SILTSTONE: As above.
2335 - 2340	100	SANDSTONE: As above, predominantly medium grained, poor inferred porosity, trace mineral fluorescence as above, no cut.
	Tr	SILTSTONE: As above.
2340 - 2345	100	SANDSTONE: Light grey, clear to milky, very fine to coarse, predominantly medium grained, moderately sorted, subangular to subrounded, moderate silica/dolomite cement (calcimetry -> 4-12% dolomite) clean, rare pyrite, trace lithics, poor to no visual porosity, trace dull orange mineral fluorescence, no cut.
	Tr	SILTSTONE: As above.
2345 - 2350	100	SANDSTONE: As above (approximately 50% aggregates). FLUOR: As above.
2350 - 2355	100	SANDSTONE: As above. FLUOR: As above.
2359 - SPOT SAMPLE 0.23% TOTAL GAS (11 UNITS)	80	SANDSTONE: As above, trace pyrite, trace mineral fluorescence.
	20	COAL: Black, anthracitic, vitreous, conchoidal, brittle, grades to dark brown kerogenous siltstone as above, blocky, hard.
2355 - 2360	90	SANDSTONE: As above, predominantly loose, poor inferred porosity, trace dull orange mineral fluorescence, no cut.
	10	COAL: As above.
2360 - 2365	95	SANDSTONE: As above, poor inferred porosity, trace fluorescence as above.
	5	SILTSTONE: Dark brown, carbonaceous (kerogenous) with coal fragments and rare arenaceous siltstone laminae, grades to coal as above, waxy, fissile, moderately hard.
2367 - SPOT SAMPLE 0.16% (8 UNITS) TOTAL GAS	90	SANDSTONE: As above, poor inferred porosity, trace mineral fluorescence, no cut.
	5	SILTSTONE: As above.
	5	COAL: As above.

Lithology Descriptions

Depth	%	Description
2365 - 2370	95	SANDSTONE: As above, rare quartz overgrowths, poor inferred porosity, trace mineral fluorescence as above.
	5	SILTSTONE: As above.
	Tr	COAL: As above.
2370 - 2375	90	SANDSTONE: As above, fine to coarse, predominantly medium grained, predominantly loose, poor inferred porosity, trace dull orange mineral fluorescence, no cut.
	10	SILTSTONE: As above, plus medium brown argillaceous with common to abundant carbonaceous detritus, blocky, soft to firm.
2375 - 2380	80	SANDSTONE: Light grey, milky to translucent, very coarse to fine grained, poorly sorted, subangular to subrounded, inferred silica/dolomite cement, hard, trace pyrite and 1 visual porosity, trace mineral fluorescence.
	10	SILTSTONE: Dark brown to black, carbonaceous, fissile to amorphous, waxy, firm.
	10	CAVINGS: As above.
	Tr	COAL: As above.
2380 - 2385	80	SANDSTONE: Light grey, milky to translucent, coarse to fine, predominantly medium grained, moderately sorted, subangular, inferred strong silica/dolomite cement, hard, trace pyrite, poor visual porosity, trace mineral fluorescence.
	10	SILTSTONE: As above.
	5	CAVINGS: As above.
	5	COAL:
2389 - SPOT SAMPLE (.38% TOTAL GAS)	90	SANDSTONE: Light grey, milky to translucent, fine to coarse, predominantly medium grained, subangular to subrounded, inferred strong silica/dolomite cement (cement reacts with 30% HCl), hard, poor visual porosity, trace fluorescence, (mineral).
	10	SILTSTONE: As above.
2385 - 2390	80	SANDSTONE: As above, fine to coarse, predominantly coarse grained.
	15	CAVINGS: As above.
	5	SILTSTONE: As above.
2390 - 2395	70	SANDSTONE: As above. FLUOR: Trace, moderately bright to bright, spotty lemon yellow with weak to moderate crush cut, thin ring residue.
	25	SILTSTONE: As above.
	5	CAVINGS: As above.
2395 - 2400	95	SANDSTONE: Light grey, trace lithics (pyritic black shale), trace pyrite, milky to translucent, fine to coarse predominantly medium grained, moderately sorted, inferred silica/dolomite cement, poor visual porosity, hard. FLUOR: 5%, as above, moderate crush cut, thin residual ring.
	5	SILTSTONE: Light brown, siliceous to carbonaceous, carbonaceous laminae, fissile.

Lithology Descriptions

Depth	%	Description
2400 - 2405	95	SANDSTONE: As above, 10% fluorescence as above.
	5	SILTSTONE: As above.
	Tr	CAVINGS: As above.
2405 - 2410	100	SANDSTONE: Light grey, milky to translucent, very coarse to fine, predominantly medium grained, moderately sorted, inferred silica/dolomite cement, friable to hard, trace pyrite, trace lithics, poor inferred porosity. FLUOR: 10%, As above.
	Tr	SILTSTONE: As above.
	Tr	CAVINGS: As above.
2411.5 SPOT SAMPLE	90	SANDSTONE: Light grey, clear to milky, medium to coarse grained, poorly sorted, subangular to subrounded, moderate to strong silica/dolomite cement, white to grey siliceous matrix, trace pyrite, trace lithics, firm to moderately hard, very poor to no visual porosity. FLUOR: 15%, As above.
	10	SILTSTONE: Medium to dark brown, argillaceous to arenaceous and carbonaceous with abundant carbonaceous flecks and laminae, blocky to subfissile, firm.
2410 - 2415	95	SANDSTONE: As above, 20%, bright yellow fluorescence as above, moderate crush cut, thin ring residue.
	5	SILTSTONE: Medium brown, as above.
2415 - 2420	95	SANDSTONE: As above, predominantly medium grained, common lithics(dark grey to black quartz and dark grey shale, rare chert) very poor visual porosity. FLUOR: 20%, as above.
	5	SILTSTONE: As above.
2420 - 2425	100	SANDSTONE: As above, common fine grained aggregates with dolomite cement, no visual porosity. FLUOR: 20%, as above.
2425 - 2430	100	SANDSTONE: As above, poorly sorted, no visual porosity. FLUOR: 30%, dull, spotty, pale yellow, weak to moderate crush cut, thin ring residue.
2430 2435	100	SANDSTONE: As above, trace volcanic lithic grains, poor to no visual porosity. FLUOR: 15%, dull, spotty, as above.
2435 - 2440	100	SANDSTONE: As above, poor to no visual porosity. FLUOR: 10%, dull, spotty as above, weak crush cut, thin ring to trace residue.
2440 - 2445	100	SANDSTONE: As above, 5% lithics. FLUOR: 5%, dull, spotty as above, weak crush cut, trace residue.

Lithology Descriptions

Depth	%	Description
2445 - 2450	100	SANDSTONE: Grey, smoky to clear, hard, very coarse to fine predominantly medium grained, subrounded to subangular, dolomite cement (reacts with 30% HCL), poor visual porosity, 5% lithics, trace pyrite. FLUOR: 5%, dull, spotty as above, trace crush cut, thin ring residue.
	Tr	SILTSTONE: Black to dark brown, carbonaceous, pyritic, soft, fissile earthy.
2450 - 2455	100	SANDSTONE: As above, trace mica, FLUOR: 5%, dull, spotty as above, weak crush cut, thin ring residue.
2457 SPOT SAMPLE (SLOW ROP)	100	SANDSTONE: As above, inferred very strong dolomite cement. FLUOR: 5%, dull, patchy as above, trace crush cut, thing ring residue.
2455 - 2460	100	SANDSTONE: As above, dolomite and silica cement, trace argillaceous matrix. FLUOR: 5%, spotty, lemon yellow, dull weak crush cut, thin ring residue.
2462 SPOT SAMPLE (0.30% GAS)	97	SANDSTONE: As above. FLUOR: 5% as above, weak crush cut, thin ring residue.
TOTAL GAS	3	COAL: Black, anthracitic, subconchoidal to fissile, brittle, hard.
2460 - 2465	100	SANDSTONE: Light grey, clear to milky, fine to very coarse grained, predominantly bit fractured shards, poorly sorted, subrounded to subangular, strong silica/dolomite cement, trace cream silicic matrix, abundant grey quartz and quartzite lithic grains, rare coal fragments, hard to very hard, no visual porosity. FLUOR: 30%, dull, spotty yellow with weak crush cut, thin ring residue.
	Tr	SILTSTONE: Medium to dark brown, carbonaceous (kerogenous) waxy, common coal fragments, fissile, firm to moderately hard.
2465 2470	100	SANDSTONE: As above, predominantly very coarse shards, no visual porosity. FLUOR: 40%, dull, as above, weak crush cut, thin ring residue.
2470 - 2475	100	SANDSTONE: As above, fine to coarse, very poorly sorted, no visual porosity. FLUOR: 40%, as above, weak crush cut, thin ring residue.
2475 - 2480	100	SANDSTONE: As above, no visual porosity. FLUOR: 20%, as above, weak crush cut, thin ring residue.
2480 - 2485	100	SANDSTONE: As above, abundant (10%) grey quartz lithics, no visual porosity. FLUOR: 20%, as above, weak crush cut, thin ring residue.

Lithology Descriptions

Depth	%	Description
		Examination of junk basket samples from the bit tripped out at 2482m showed several clasts of conglomeratic sandstone with pebbles up to 50mm in size set in a coarse grained poorly sorted sandstone matrix with a very strong siliceous and dolomitic cement. Samples are similar to those described in the Wirrah wells.
2485 - 2490	100	SANDSTONE: As above, no visual porosity. FLUOR: 15%, as above, weak crush cut, thin ring residue.
2490 - 2495	100	SANDSTONE: As above, no visual porosity. FLUOR: 15%, as above, weak crush cut, thin ring residue.
2495 - 2500	100	SANDSTONE: As above, no visual porosity. FLUOR: 20%, as above, weak crush cut, thin ring residue.
2500 - 2505	100	SANDSTONE: As above, abundant (10%) lithics (metasediments), no visual porosity. FLUOR: 20%, as above, weak crush cut, thin ring residue.
2505 - 2510	100	SANDSTONE: As above, no visual porosity. FLUOR: 20%, as above, weak crush cut, thin ring residue.
2510 - 2515	100	SANDSTONE: As above, abundant lithics as above plus rare volcanics, no visual porosity. FLUOR: 20%, as above, weak crush cut, thin ring residue.
2515 - 2520	100	SANDSTONE: As above, no visual porosity. FLUOR: 25%, as above, weak crush cut, thin ring residue.
	Tr	SILTSTONE: Dark brown carbonaceous as above.
2520 2525	100	SANDSTONE: As above, predominantly medium grained, 5% lithics, no visual porosity. FLUOR: 15%, dull yellow white, with weak, yellow white, crush cut, thin ring residue.
2527 SPOT SAMPLE TOTAL GAS 14 UNITS (0.28%) PEAK	100	SANDSTONE: As above, common fine grained silica/dolomite cemented aggregates, no visual porosity. FLUOR: 15%, as above, weak crush cut, thin ring residue.
	Tr	COAL: Black, bituminous, vitreous, conchoidal, grading to carbonaceous siltstone in parts, blocky, brittle, hard.
2525 - 2530	100	SANDSTONE: As above, common very fine to fine grained aggregates, no visual porosity. FLUOR: 15%, as above, weak crush cut, thin ring residue.
2530 - 2535	100	SANDSTONE: As above, predominantly medium grained, no visual porosity. FLUOR: 10%, as above, weak crush cut, thin ring residue.

Lithology Descriptions

Depth	%	Description
2538 SPOT SAMPLE LOW ROP 2m/hr	100 Tr	SANDSTONE: As above, medium to coarse grained, no visual porosity. FLUOR: 10%, as above. COAL: As above.
2535 - 2540	100	SANDSTONE: Light grey, translucent to milky, abundant medium to dark grey, fine to very coarse, predominantly very coarse (bit fractured shards), poorly sorted, subangular to rounded, strong silica/dolomite cement, no visible matrix, abundant lithics (up to 10%) medium to dark grey quartz and quartzite lithic grains, trace pyrite, hard to very hard, no visual porosity. FLUOR: 10%, moderately bright, spotty yellow, with weak crush cut, thin ring residue.
2540 - 2545	100	SANDSTONE: Light grey, translucent to milky, abundant medium to dark grey, fine to very coarse grained, poorly sorted, subangular to rounded, strong silica/dolomite cement, no visible matrix, abundant lithics (up to 10%) medium to dark grey quartz and quartzite grains, trace pyrite, hard to very hard, no visual porosity. FLUOR: 10%, moderately bright, spotty, yellow with weak crush cut, thin ring residue.
2545 - 2550	95 5	SANDSTONE: Light grey, clear to milky, abundant dark grey, fine to very coarse, predominantly very coarse grained (bit fractured shards), abundant fine grained aggregates, poorly sorted, subangular to rounded, strong silica/dolomite cement, no visible matrix, abundant lithics (up to 10%) medium to dark grey quartz and quartzite grains, trace pyrite, trace carbonaceous flecks, hard to very hard, no visual porosity. FLUOR: 10%, moderately bright, spotty, weak crush cut, thin ring residue. SILTSTONE: Medium brown, carbonaceous, abundant coal fragments, waxy, fissile, firm.
2550 - 2555	50 50	SANDSTONE: Grey, translucent to milky, abundant medium to dark grey, fine to coarse grained, abundant fine grained aggregates, poorly sorted, subangular to rounded, strong silica/dolomite cement, no visible matrix, abundant lithics (up to 10%) medium to dark grey quartz and quartzite grains, trace pyrite, trace carbonaceous flecks, hard to very hard, no visual porosity. FLUOR: 10%, moderately bright, spotty, weak crush cut, thin ring residue. SILTSTONE: As above.
2555 - 2560	60	SANDSTONE: Grey, translucent to milky, abundant medium to dark grey, fine to very coarse grained, abundant fine grained aggregates, poorly sorted, subangular to rounded, strong silica/dolomite cement, no

Lithology Descriptions

Depth	%	Description
		visible matrix, abundant lithics (up to 10%) medium to dark grey quartz and quartzite grains, trace pyrite, carbonaceous flecks, hard to very hard, no visual porosity. FLUOR: 10%, moderately bright, spotty, weak crush cut, thin ring residue.
	40	SILTSTONE: As above.
2560 - 2565	70	SANDSTONE: Grey, translucent to milky, abundant medium to dark grey, fine to very coarse grained, abundant fine grained aggregates, poorly sorted, subangular to rounded, strong silica/dolomite cement, no visible matrix, abundant lithics (up to 10%) medium to dark grey quartz grains, trace pyrite, hard to very hard, no visual porosity. FLUOR: 10%, moderately bright, spotty, as above.
	30	SILTSTONE: As above.
2565 - 2570	60	SANDSTONE: Grey, translucent to milky, abundant medium to dark grey, fine to very coarse grained, abundant fine grained aggregates, poorly sorted, subangular to rounded, strong silica/dolomite cement, no visible matrix, abundant lithics (up to 10%) medium to dark grey quartz grains, trace pyrite, hard to very hard, no visual porosity. FLUOR: 10%, moderately bright, spotty, as above.
	40	SILTSTONE: As above.

APPENDIX 2

CORE DESCRIPTION

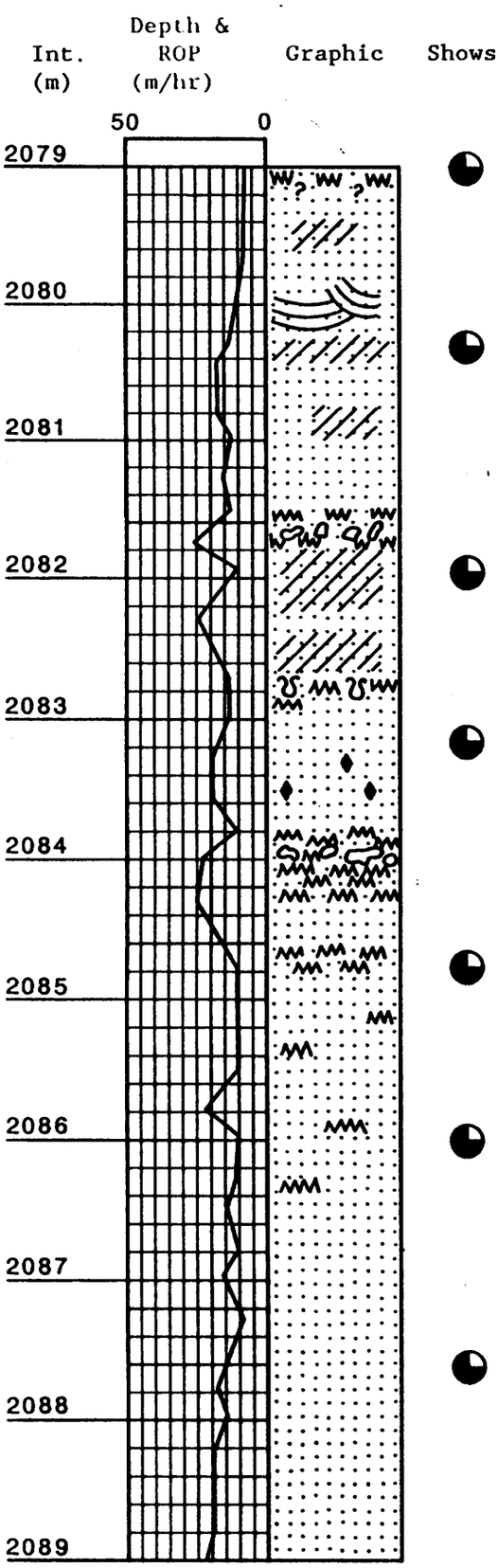
Core No. 1

Interval Cored : 2079-2098
Cut : 19m
Bit Type : Chris. RC444
Described by : E Grewar
G Smith
A Kent
G Nash

Well : Harlequin-1

Recovered : 17.86m (94%)
Bit Size : 9 7/8"
Date : 21/01/89

Aluminium Sleeved Core



Descriptive Lithology

2079.0-2079.22 CLAYSTONE: Dark grey. Poorly defined laminae. Irregular (churned?) medium to coarse grained sandstone lenses, occasional sand filled burrows, occasional pyrite nodules.

2079.22-2081.46 SANDSTONE: Dominated by trough cross bedding and planar sub horizontal parallel bedding, common irregular carbonaceous siltstone laminae parallel to bedding. Several scour surfaces present.
Sandstone: Light grey to brown, clear to translucent, very fine to medium, predominantly medium grained, moderately to well sorted, subangular to subrounded, weak silica cement, trace cream to buff argillaceous matrix, abundant lithics (volcanics), common detrital mica, common very finely disseminated pyrite, rare nodular pyrite, rare siltstone clasts, occasional coarse to very coarse coal fragments, friable to firm, very good visual porosity (grain dissolution).
Fluorescence: (2080.4m) 100%, bright, solid, yellow white with bright yellow instant blooming cut, thick yellow white ring residue.

2081.46-2081.5 CLAYSTONE/SILTSTONE BRECCIA: Elongate medium to dark grey and medium to dark brown siltstone and claystone clasts, set in fine to medium grained, poorly sorted, sandstone matrix. Sharp upper and lower contacts.

2081.5-2083.49 SANDSTONE: Becoming coarser grained and more pyritic with depth, planar horizontal bedding in places with bioturbation (burrows) at 2082.7m and irregular coaly laminae at 2083.47m.
Sandstone: (chip sample at 2081.8m) Light grey to light brown, clear to translucent, fine to medium, rarely coarse grained, moderately sorted, angular to subrounded, weak silica cement, buff argillaceous matrix, trace lithic grains, common mica flakes, common very finely disseminated pyrite, occasional coarse to very coarse coal fragments, friable, very good visual porosity (grain dissolution).

CORE DESCRIPTION

Core No. 1

Well : Harlequin-1

Interval Cored : 2079-2098
Cut : 19m
Bit Type : Chris. RC444
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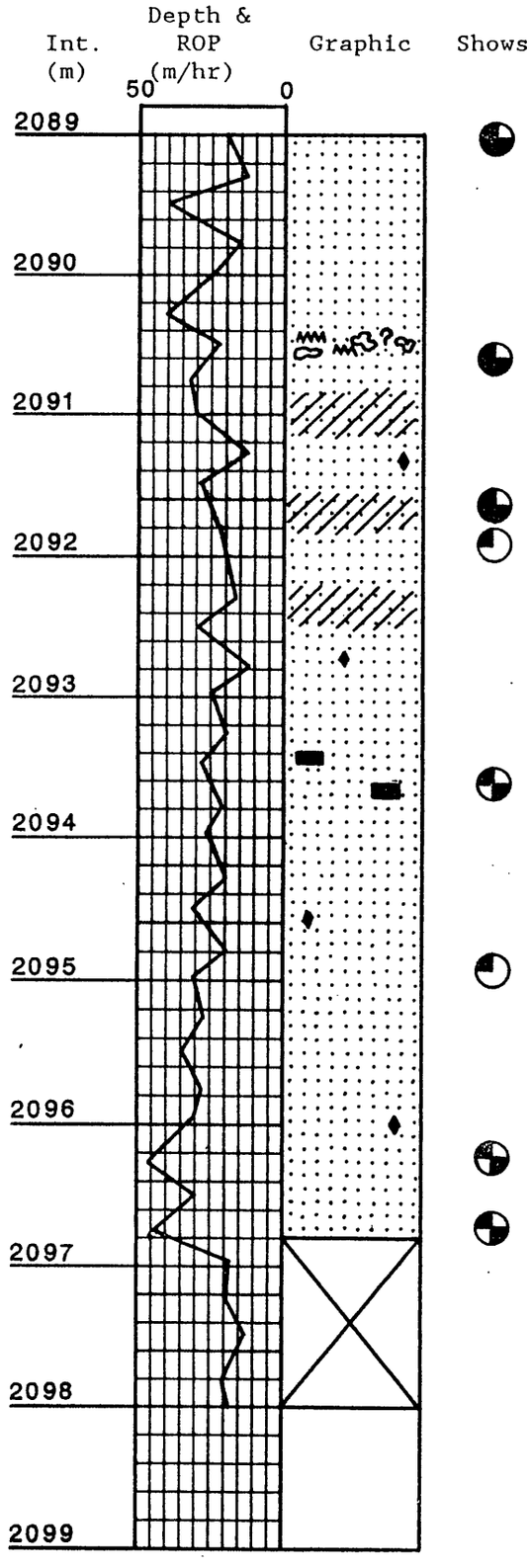
G Smith
A Kent
G Nash

Recovered : 17.86m (94%)
Bit Size : 9 7/8"
Date : 21/01/89

Aluminium Sleeved Core



Descriptive Lithology

Fluorescence: (2081.8m) 100%, as above.
Sandstone: (chip sample at 2083.2) Light grey, clear to translucent, fine to medium, occasionally coarse grained, moderately sorted, angular to subrounded, weak silica cement, common white to buff argillaceous matrix, abundant pyrite (10-15%), pyrite cemented aggregates, trace detrital mica, firm to very hard, excellent (grain dissolution) to no visual porosity (depending on pyrite infilling).
Fluorescence: (2083.2) 80%, bright, patchy, yellow white with instant streaming cut, thin yellow white ring residue.
2083.49-2083.84 SANDSTONE: Mottled light grey, medium to very coarse grained, poorly sorted, subangular to subrounded, weak siliceous cement, trace argillaceous matrix, common disseminated pyrite, rare claystone/siltstone intraclasts, firm, good to excellent visual porosity, variability dependent on irregularly distributed pyrite.
Fluorescence: As above, dependent on pyrite distribution.

2083.84-2084.00 SILTSTONE/CLAYSTONE BRECCIA: Siltstone, claystone and coal clasts set in a fine to medium grained, poorly sorted sandstone with abundant argillaceous matrix and rare nodular pyrite, large coal clasts display a woody texture in places.

2084.0-2086.87 INTERBEDDED SANDSTONE AND SILTSTONE: Stacked foresets of climbing ripples with minor burrowing and current ripples. Soft sediment deformation in finer grained interbedded intervals. The more massive sands contain pyrite nodules and wispy carbonaceous siltstone laminae (dish structures).
Sandstone: Off white to light brown, clear to translucent, very fine to predominantly fine grained, grades to arenaceous siltstone in parts, moderate sorting, subangular to

CORE DESCRIPTION

Core No. 1

Well : Harlequin-1

Interval Cored : 2079-2098
Cut : 19m
Bit Type : Chris. RC444
Described by : E Grewar
G Smith
A Kent
G Nash

Recovered : 17.86m (94%)
Bit Size : 9 7/8"
Date : 21/01/89

Aluminium Sleeved Core

Int. (m)	Depth & ROP (m/hr)	Graphic	Shows	Descriptive Lithology

subrounded, weak to moderate silica cement, moderately white to light brown argillaceous matrix, common thin carbonaceous and micaceous partings, abundant oil staining, moderate hydrocarbon odour, common lithic and coal fragments, friable to firm, very poor to good visual porosity.
Fluorescence: (chip sample at 2084.6m) 10%, dull, spotty, pale green yellow with weak crush cut, trace residue.
Fluorescence: (chip sample at 2086.0m) 100%, bright, solid, green yellow with instant blooming cut, thick ring residue.

2086.87-2090.42 SANDSTONE: Predominantly massive with rare subhorizontal siltier laminae.
Sandstone: Light grey to light brown, clear to translucent, fine to very coarse grained (fining upwards) moderately sorted, subangular to subrounded, very weak siliceous cement, trace light brown argillaceous matrix, trace to common lithics, trace detrital mica, common finely disseminated mica, friable to firm, good to excellent visual porosity (increasing with depth).
Fluorescence: (chip sample at 2087.4m) 100%, very bright, solid, yellow white with instant blooming cut, thick ring to thin film residue.
Fluorescence: (chip sample at 2089.2m) 100%, bright, solid, green yellow with instant yellow white blooming cut, thick ring residue.

2090.42-2090.57 CLAYSTONE/SILTSTONE BRECCIA: As for 2081.46-2081.5, elongate claystone and siltstone clasts, up to 10cm long, in a sandstone matrix.
Sandstone: As above, medium to coarse grained with rare large coal fragments, excellent visual porosity.
Fluorescence: (chip sample at 2090.6m) 100%, as above.

2090.57-2096.86 SANDSTONE: Common planar, sub horizontal bedding becoming more massive with depth (2092.3 to 2096m).

CORE DESCRIPTION

Core No. 1

Well : Harlequin-1

Interval Cored : 2079-2098
Cut : 19m
Bit Type : Chris. RC444
Described by : E Grewar
G Smith
A Kent
G Nash

Recovered : 17.86m (94%)
Bit Size : $9^{7}/8$"
Date : 21/01/89

Aluminium Sleeved Core

Int. (m)	Depth & ROP (m/hr)	Graphic	Shows	Descriptive Lithology
				Sandstone: Light grey to light brown, clear to translucent, fine to coarse, (fining upwards) moderately sorted, becoming poorly sorted with depth, subangular to subrounded, very weak to moderate siliceous cement, trace argillaceous matrix, trace disseminated pyrite, rare irregular carbonaceous siltstone laminae and clasts, trace coal fragments, trace lithics and mica, loose to firm predominantly friable, good to very good visual porosity, excellent at base.
				Fluorescence: (chip sample at 2093.4m) Trace dull, spotty, pale yellow with weak crush to no cut, thin ring to trace residue.
				Fluorescence: (chip sample at 2094.8m) Slight trace as above, no cut.
				Fluorescence: (chip sample at 2096.2) Trace, dull, spotty, pale yellow with weak crush cut, trace to no residue.
				Fluorescence: (chip sample at 2096.8m) 70%, very dull, solid, yellow with very weak crush to no cut, trace to no residue.
				Fluorescence: (from slabbed core) 2079-2091.7m: 80-100%, bright, solid to occasionally patchy, yellow white with an instant streaming to blooming cut leaving a moderately thick to thick ring residue and occasional thin film residue. Strong hydrocarbon odour and oil bleeding from core. 2091.7-2096.86m: generally trace, dull to very dull, patchy, pale yellow, with no cut to very weak, pale yellow crush cut, trace to no residue.

CORE DESCRIPTION

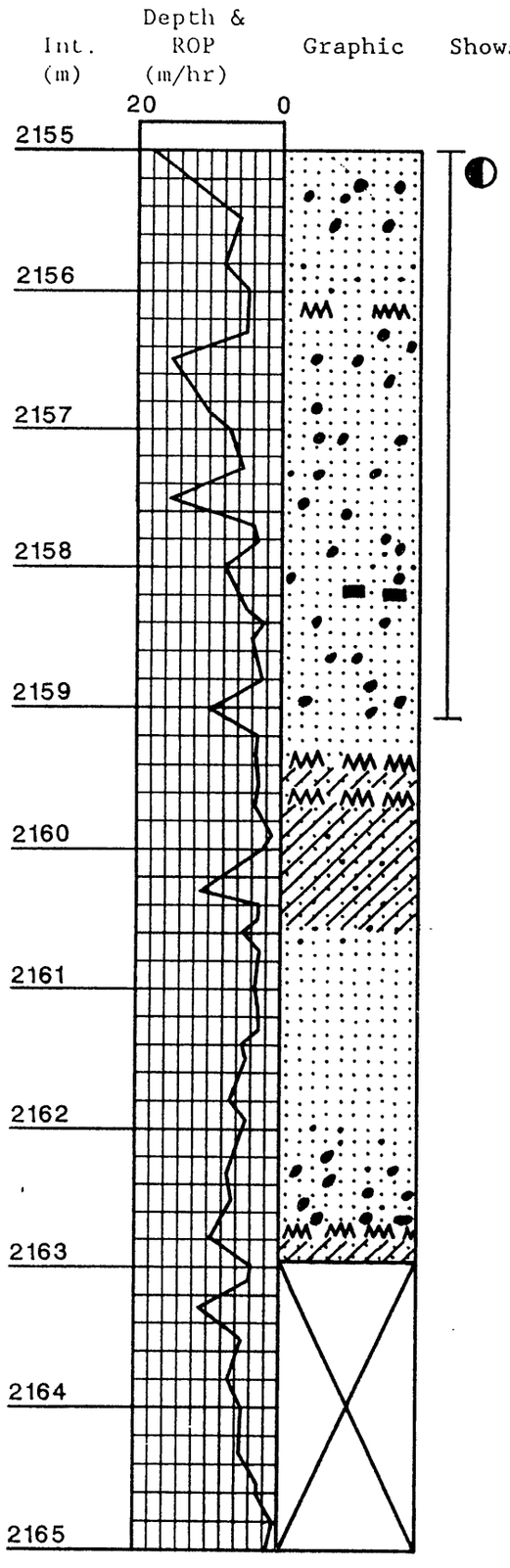
Core No. 2

Interval Cored : 2155-2165m
Cut : 10m
Bit Type : Chris. RC444
Described by : E Grewar
G Smith
A Kent
G Nash

Well : Harlequin-1

Recovered : 7.93m (79%)
Bit Size : 12 1/4"
Date : 22/01/89

Aluminium Sleeved Core



Descriptive Lithology

2155.0-2159.12 SANDSTONE: Generally massive with rare sub horizontal planar laminae, coaly/carbonaceous laminae at 2158.09m.
Sandstone: Light grey, medium to very coarse grained, occasionally pebbly, poorly sorted, subangular to rounded, weak to strong silica cement, minor argillaceous matrix, common disseminated and nodular pyrite, moderately hard to firm, rarely friable, isolated large pores, variable fair to very good visual porosity.
Fluorescence: 2155.0 to 2155.6, slight trace very dull spotty yellow green fluorescence with a very weak crush cut and trace residue ring.

2159.12-2159.63 SANDSTONE with very thin wisps of SILTSTONE.
Sandstone: Light grey to off white, predominantly medium grained, moderately sorted, subangular to subrounded, moderate to strong siliceous cement, minor light grey argillaceous matrix, moderately hard to firm, fair visual porosity. No fluorescence, no cut.

2159.63-2162.95 Predominantly massive SANDSTONE with minor sub horizontal planar bedding towards base of core (2162.79-2162.95m).
Sandstone: Light grey, medium to very coarse, predominantly coarse grained, poor to moderately sorted, subangular to subrounded, moderate to strong siliceous cement, minor light grey argillaceous matrix, trace disseminated pyrite, trace mica, firm to moderately hard, large isolated pores are common, good to very good visual porosity, no fluorescence, no cut.
2162.95-2165.0: No recovery

APPENDIX 3

HARLEQUIN_1

SIDEWALL CORE DESCRIPTIONS

NO.	Depth (m)	Rec. (mm)	Bought/ Reject	Description
1	2548.0	5	R	SILTSTONE: Light to medium grey, arenaceous with non swelling argillaceous matrix, non calcareous, trace carbonaceous specks, micromicaceous, blocky to sucrosic, soft to firm. GAS: None detected.
2	2542.8	25	B	SILTSTONE: Medium grey, argillaceous, trace carbonaceous specks, large plant detritus, non calcareous, cryptofissile, blocky, soft. GAS: 144/134/130/66/26. *
3	2540.0	20	B	SILTSTONE: Medium grey to brown, argillaceous, common plant detritus, carbonaceous specks, non swelling, non calcareous, blocky, soft to firm. GAS: 722/301/195/72/20.
4	2514.5	17	B	SILTSTONE: Medium brown, arenaceous with non swelling argillaceous matrix, common carbonaceous specks, homogeneous, non calcareous, blocky, soft to firm, no visual fluorescence, weak to moderately pale yellow crush cut, thin ring residue. GAS: 228/62/26/5/-.
5	2498.3	10	B	SILTSTONE: Medium brown, argillaceous, non swelling, common carbonaceous specks, micromicaceous, homogeneous, disseminated nodular pyrite, non calcareous, blocky, soft, no fluorescence, no cut. GAS: 335/140/82/31.
6	2484.5	20	B	CLAYSTONE: Medium brown, non swelling, common carbonaceous specks, micromicaceous, light grey argillaceous laminae, non calcareous, amorphous to blocky, firm. GAS: 340/90/50/7.
7	2457.5	5	B	CLAYSTONE: Medium brown, slightly silty, slightly swelling (cryptoturgid), carbonaceous specks, micromicaceous, nodular pyrite, non calcareous, amorphous to blocky, soft. GAS: 20/9/4/-/-.
8	2421.3	5	B	SANDSTONE: Light grey, translucent to white, friable, coarse to fine grained, poorly sorted, subangular to rounded, calcareous cement, trace white argillaceous matrix, lithics, mica. FLUOR: Trace orange mineral fluorescence. GAS: 20/9/4/-/-.
9	2388.5	-	-	EMPTY BULLET
10	2381.0	5	B	CLAYSTONE: Medium brown, sticky, slight silty, moderately swelling (cryptoturgid), carbonaceous specks, micromicaceous, non calcareous, amorphous, soft. GAS: 130/86/58/15/-.

* ppm C1/C2/C3/C4/C5

NO.	Depth (m)	Rec. (mm)	Bought/ Reject	Description
11	2368.5	20	B	CLAYSTONE: Light grey, homogeneous, slightly swelling, non calcareous, trace carbonaceous specks, pyrite (cavity infill), blocky, firm. GAS: 137/75/40/4.
12	2347.1	20	B	CLAYSTONE: Light grey, homogeneous, non swelling, non calcareous, microcarbonaceous specks, micromicaceous, blocky, soft to firm. GAS: 42/26/12/TR
13	2293.0	20	B	SILTSTONE: Medium brown to grey, argillaceous, homogeneous, non swelling, non calcareous, trace to common carbonaceous specks, micromicaceous, blocky, firm. GAS: 100/83/45/10.
14	2281.5	17	B	SILTSTONE: As above, trace framboidal pyrite, trace carbonaceous specks, moderately swelling (cryptoturgid), non calcareous, blocky, soft to firm, no visible fluorescence, weak pale yellow crush cut. GAS: 32/65/48/7.
15	2256.0	15	B	SILTSTONE: Light to medium brown, arenaceous with argillaceous matrix, slightly swelling (cryptoturgid), non calcareous, trace to common carbonaceous specks, blocky, firm. GAS: 55/100/90/33/TR.
16	2247.5	26	B	CLAYSTONE: Medium brown, homogeneous, abundant pyrite (?burrow infilling), slightly sticky, microcarbonaceous, blocky, firm to soft. GAS: TR/TR/4/.
17	2232.2	15	B	SILTSTONE: Medium brown, argillaceous, with light grey to light brown arenaceous laminae (0.1 to .02mm) parallel to core axis, non calcareous, moderately swelling (cryptoturgid), trace carbonaceous specks, micromicaceous, blocky to sucrosic, friable to firm. GAS: 87/105/70/16.
18	2228.5	12	B	CLAYSTONE: Light to medium grey, homogeneous, slightly silty, micromicaceous, blocky, firm. GAS: 15/11/6/.
19	2197.8	30	B	SILTSTONE: Medium to dark brown, argillaceous, carbonaceous, common plant detritus and carbonaceous flecks, abundant disseminated micropyrite, non swelling, non calcareous, blocky, firm. GAS: 1805/1005/760/232/50.
20	2189.5	40	B	CLAYSTONE: Light grey to light brown, homogeneous, trace pyrite nodules, common plant detritus, trace, disseminated, clear calcareous grains, trace disseminated calcite, non swelling, blocky, firm. GAS: 160/75/65/19.
21	2141.0	15	B	CLAYSTONE: Medium to dark brown, non swelling, common carbonaceous specks, micromicaceous, carbonaceous laminae, non calcareous, blocky, firm, no visible fluorescence, weak crush cut, thin residual ring. GAS: 15/33/35/10/-.

NO.	Depth (m)	Rec. (mm)	Bought/ Reject	Description
22	2112.0	40	B	CLAYSTONE: Light grey, non swelling, carbonaceous specks, micromicaceous, non calcareous, blocky, firm. GAS: 15/5/10/TR/-.
23	2056.0	20	B	SILTSTONE: Light grey, argillaceous, non swelling, carbonaceous specks, micromicaceous, non calcareous, amorphous, soft. GAS: TR/TR/TR/-/-.
24	2047.0	40	B	ALTERED TUFF: Light green to grey, argillaceous, moderately swelling, trace devitrified glass, considerable altereration to (celadonite) clays, non calcareous, amorphous, sticky, firm. GAS: 22/7/5/-/-.
25	2001.5	26	B	SILTSTONE: Grey, argillaceous, non swelling, common plant detritus, carbonaceous specks, micromicaceous, non calcareous, blocky, firm, trace fluorescence, weak crush cut. GAS: -/-/TR/-/-.
26	1989.0	17	B	SILTSTONE: Grey, argillaceous, non swelling, carbonaceous specks, micromicaceous, non calcareous, blocky, soft. GAS: 10/16/24/4/-.
27	1972.0	35	B	CLAYSTONE: Light grey, slightly silty, moderately swelling, carbonaceous specks, micromicaceous, disseminated pyrite, non calcareous, blocky, firm. GAS: 12/4/8/-/-.
28	1930.0	20	B	SILTSTONE: Medium brown argillaceous with light grey arenaceous laminae (0.1 to 0.4mm) parallel to core axis, non swelling, argillaceous matrix, non calcareous, common plant detritus, coal, trace carbonaceous specks, micromicaceous, friable to firm. GAS: 260/425/790/212/25.
29	1921.0	10	B	SILTSTONE: Light brown argillaceous with light grey arenaceous laminae (<0.1mm) parallel to core axis, non swelling, non calcareous, plant detritus, carbonaceous specks, micromicaceous, disseminated pyrite, friable, firm. GAS: 20/100/200/92/13.
30	1895.8	40	B	CLAYSTONE: Light brown, silty, moderately swelling, calcareous, carbonaceous specks, micromicaceous, disseminated pyrite, blocky, moderately hard, no fluorescence, no cut. GAS: 75/115/170/112/25.
31	1884.0	-	-	SPLIT BULLET, retaining wire intact.
32	1875.0	10	B	SILTSTONE: Light grey, arenaceous, homogeneous, trace disseminated pyrite, non swelling argillaceous matrix, micromicaceous, blocky to sucrosic, friable to firm, no fluorescence. GAS: 7/5/4.

NO.	Depth (m)	Rec. (mm)	Bought/ Reject	Description
33	1870.0	35	B	CLAYSTONE: Light grey, homogeneous, rare plant detritus, non calcareous, non swelling, slightly sticky, micromicaceous, blocky, firm to soft. GAS: 470/15/18/7.
34	1844.0	17	B	CLAYSTONE: Light grey, homogeneous, trace carbonaceous flecks, micromicaceous, non swelling, non calcareous, blocky, firm to soft. GAS: 45/21/12/TR.
35	1830.0	50	B	CLAYSTONE: Light grey, homogeneous, slightly sticky, non swelling, non calcareous, trace pyrite, blocky, firm to moderately hard. GAS: 280/10/14/6.
36	1810.5	-	-	SPLIT BULLET, retaining wire intact.
37	1780.0	20	B	SILTSTONE: Medium brown, argillaceous, homogeneous, moderately swelling, non calcareous, trace pyrite, blocky, firm to moderately hard. GAS: 45/52/82/47/10.
38	1762.5	17	B	SILTSTONE: Light grey arenaceous, with medium brown carbonaceous laminae parallel to core axis, carbonaceous flecks, moderately swelling argillaceous matrix, non calcareous, blocky to sucrosic, firm to moderately hard, no fluorescence. GAS: 8/18/36/18.
39	1735.5	30	B	CLAYSTONE: Medium brown with light brown microlaminae parallel to core axis, slightly sticky, non swelling, non calcareous, micromicaceous, blocky, firm to moderately hard. GAS: 250/9/12/8.
40	1729.5	17	B	SILTSTONE: Light grey, argillaceous to arenaceous, homogeneous, non calcareous, moderately swelling (cryptoturgid), micromicaceous, blocky, soft to firm. GAS: 5/5/4.
41	1708.0	30	B	CLAYSTONE: Light grey, homogeneous, clean, non swelling, non calcareous, blocky, firm to moderately hard. GAS: 228/4/5/TR.
42	1686.5	30	B	SILTSTONE: Medium brown, argillaceous with discontinuous white arenaceous/argillaceous laminae parallel to core axis, non calcareous, slightly swelling (cryptofissile) micromicaceous, blocky, firm to moderately hard. GAS: 195/76/53/15.
43	1644.0	-	-	SPLIT BULLET, retaining wire intact.
44	1624.0	50	B	CLAYSTONE: Light grey, homogeneous, clean, moderately sticky, non swelling, non calcareous, blocky, firm to moderately hard. GAS: 380/9/11/5.

NO.	Depth (m)	Rec. (mm)	Bought/ Reject	Description
45	1594.0	20	B	SILTSTONE: Light grey, argillaceous with dark grey laminae (0.1 to 0.2mm) parallel to core axis, moderately swelling (cryptofissile), carbonaceous specks, micromicaceous, non calcareous, sticky, blocky, firm, no fluorescence. GAS: 18/4/4/4.
46	1583.0	-	-	SPLIT BULLET, retaining wire intact.
47	1577.5	25	B	CLAYSTONE: Medium grey, slightly swelling, calcareous, carbonaceous specks, micromicaceous, sticky, amorphous, firm. GAS: 53/24/8/TR/-.
48	1565.5	-	-	SPLIT BULLET, retaining wire intact.
49	1525.5	30	B	SILTSTONE: Interlaminated light grey (arenaceous) and grey (argillaceous) (0.1 to 0.4mm) parallel to core axis, possible crossbedding, carbonaceous, swelling argillaceous matrix, non calcareous, micromicaceous, friable to firm, no fluorescence, no cut. GAS: 76/25/53/28/TR.
50	1505.0	25	B	SILTSTONE: Light grey, argillaceous with medium grey laminae (0.1 to 0.2mm) parallel to core axis, carbonaceous specks, micromicaceous, pyrite (disseminated), sticky, blocky, soft, no fluorescence, no cut. GAS: 22/4/4/TR/-.
51	1493.0	35	B	SILTSTONE: Medium brown with dark brown wavy crosslaminae parallel to core axis, arenaceous with non swelling argillaceous matrix, oil stained, micromicaceous, blocky, firm to moderately hard, no visible fluorescence, moderate, pale yellow crush cut, thick ring residue. GAS: 250/225/120/42/TR.
52	1458.5	30	B	SILTSTONE: Light grey with grey laminae (0.1 to 0.2mm) parallel to core axis, arenaceous with non swelling argillaceous matrix, non calcareous, micromicaceous, trace carbonaceous, flecks, blocky, soft to firm. GAS: 45/9/8/TR/-.
53	1434.0	35	B	SILTSTONE: Light brown, argillaceous with light grey and dark brown laminae (0.1 to 0.3mm) parallel to core axis, non swelling argillaceous matrix, non calcareous, carbonaceous specks, micromicaceous, blocky, friable to firm. FLU: No visible fluorescence, moderate crush cut, thin film residue. GAS: 8/33/123/80/TR.
54	1422.0	45	B	CARBONACEOUS SILTSTONE: Dark brown, argillaceous with dark brown to black laminae (0.1 to 0.2mm) parallel to core axis, non swelling argillaceous matrix, non calcareous abundant carbonaceous matter, micromicaceous, blocky, moderately hard. GAS: 30/7/35/25/TR.

NO.	Depth (m)	Rec. (mm)	Bought/ Reject	Description
55	1419.0	50	B	SILTSTONE: Dark brown to green brown, pyritic, glauconitic, non swelling argillaceous matrix, very calcareous, micromicaceous, friable, moderately hard. GAS: 46/-/-/-/-.
56	1413.0	60	B	SILTSTONE: Dark brown to green brown, glauconitic, non swelling argillaceous matrix, very calcareous, common calcareous foraminifera, pyrite, slightly sticky, micromicaceous, blocky, moderately hard. GAS: 46/25/13/-.
57	1407.0	60	B	CALCAREOUS CLAYSTONE: Grey to brown, common calcareous foraminifera, sticky, non swelling, micromicaceous, amorphous, firm. GAS: 15/-/TR/-/-.
58	1400.0	60	B	CALCAREOUS CLAYSTONE: As above. GAS: TR/-/-/-/-.
59	1393.0	40	B	CALCAREOUS CLAYSTONE: As above. GAS: None detected.
60	1391.0	60	B	CALCAREOUS CLAYSTONE: As above. GAS: None detected.

APPENDIX 4

RFT PRESSURE DATA

WELL: HARLEQUIN -1

DATE:

~~GEOLOGIST~~-ENGINEER: A.B. THOMSON

RFT NO. RUN-SEAT / RFT TYPE	DEPTH m MDKB	DEPTH m TVD ss KB= 21m	INITIAL HYDROSTATIC HP/RFT GAUGE psia psig / PPg	TIME SET	MINIMUM FLOWING PRESSURE psia (PRETEST)	FORMATION PRESSURE HP/RFT GAUGE psia ~~psig~~ / PPg	TEMP °C °F	TIME RETRACT	FINAL HYDROSTATIC HP/RFT GAUGE psia ~~psig~~ / PPg	COMMENTS (INCLUDE PROBE TYPES)
1-1 PT	2536.5	-2515.5	4162.90	07.52	19.3	3759.80 / 8.76	199.2	08.15	4161.22 / 9.62	TIGHT SUPERCHARGED
1-2 PT	2497.0	-2476.0	4097.48	08.27	-	-	-	08.30	-	SEAL FAILURE
1-3 PT	2496.7	-2475.7	4097.77	08.35	707.6	3594.75 / 8.51	202.2	08.43	4098.52 / 9.64	VALID TEST
1-4 PT	2433.7	-2412.7	3997.64	08.55	-	-	-	08.58	-	TIGHT
1-5 PT	2433.2	-2412.2	3997.95	09.04	-	-	200.1	09.06	-	TIGHT
1-6 PT	2433.0	-2412.0	3996.02	09.16	-	-	199.4	09.18	-	TIGHT
1-7 PT	2396.5	2375.5	3936.83	09.30	-	-	198.1	09.33	-	PLUGGED
1-8 PT	2396.7	-2375.7	3939.83	09.41	-	-	196.9	09.43	-	SEAL FAILURE
1-9 PT	2395.6	-2374.6	3938.40	09.50	-	-	196.5	09.53	-	PLUGGED
1-10 PT	2383.6	-2362.6	3919.71	10.01	-	-	196.6	10.03	-	TIGHT

PT=PRETEST
SPT=SAMPLE

L=LONG NOSE PROBE
M=MARTINEAU PROBE

[redacted] RE[redacted]AT[redacted]

WELL: HARLEQUIN -1

DATE: 1-2-89

GEOLOGIST-ENGINEER: A.B. THOMSON

RFT NO. RUN-SEAT / RFT TYPE	DEPTH m MDKB	DEPTH m TVD ss KB=	INITIAL HYDROSTATIC HP/RFT GAUGE psia psig / PPg	TIME SET	MINIMUM FLOWING PRESSURE psi__ (PRETEST)	FORMATION PRESSURE HP/RFT GAUGE psia psig / PPg	TEMP °C	TIME RETRACT	FINAL HYDROSTATIC HP/RFT GAUGE psia psig / PPg	COMMENTS (INCLUDE PROBE TYPES)
1-11 PT	2385.0	-2364.0	3922.49	10.09	-	-	196.4	10.12	-	TIGHT
1-12 PT	2359.5	-2338.5	3881.12	10.24	2572.0	3347.40 8.41	195.8	10.37	3882.05 9.66	VALID TEST
1-13 PT	2329.9	-2308.9	3834.74	10.47	1942.0	3308.32 8.41	194.5	10.56	3835.20 9.66	VALID TEST
1-14 PT	2392.0	-2371.0	3934.58	11.09	-	---	194.3	11.13	-	TIGHT
1-15 PT	2161.8	-2140.8	3560.44	11.33	1324.3	3053.96 8.38	189.1	11.37	3560.72 9.67	VALID TEST
1-16 PT	2154.0	-2133.0	3548.02	11.44	2803.0	3043.03 8.38	186.9	11.49	3548.38 9.67	VALID TEST
1-17 PT	2145.5	-2124.5	3534.39	11.56	-	3419.20 9.45	186.4	12.04	3534.35 9.67	SUPERCHARGED
1-18 PT	2107.5	-2086.5	3472.15	12.13	2705.0	2978.10 8.38	185.2	12.16	3472.18 9.67	VALID TEST
1-19 PT	2094.0	-2073.0	3450.35	12.25	2885.0	2959.18 8.38	184.6	12.28	3450.10 9.67	VALID TEST
1-20 PT	2089.0	-2068.0	3441.22	12.38	2884.0	2952.38 8.38	184.4	12.46	3441.60 9.67	VALID TEST

PT=PRETEST
SPT=SAMPLE

L=LONG NOSE PROBE
M=MARTINEAU PROBE

RFT PRESSURE DATA

WELL: HARLEQUIN-1

PAGE 3 OF 3

DATE: 1-2-89

~~GEOLOGIST~~-ENGINEER: A.B. THOMSON

RFT NO. RUN-SEAT / RFT TYPE	DEPTH m MDKB	DEPTH m TVD ss KB=	INITIAL HYDROSTATIC HP/RFT GAUGE psia psig / PPg	TIME SET	MINIMUM FLOWING PRESSURE psi__ (PRETEST)	FORMATION PRESSURE HP/RFT GAUGE psia psig / PPg	TEMP °C	TIME RETRACT	FINAL HYDROSTATIC HP/RFT GAUGE psia psig / PPg	COMMENTS (INCLUDE PROBE TYPES)
1-21 PT	2072.0	-2051.0	3413.44	12.57	28 83	2928.61 / 8.38	184.1	1.04	3420.02 / 9.69	VALID TEST
1-22 PT	2061.7	2040.7	3402.90	1.18	2858	2913.80 / 8.38	183.9	1.25	3402.62 / 9.69	VALID TEST
1-23 PT	1690.0	-1669.0	2792.98	1.48	1620	2371.63 / 8.34	177.6	1.53	2792.95 / 9.7	VALID TEST
1-24 PT	1687.7	-1666.7	2788.95	2.01	-	-	174.2	2.02	-	TIGHT
1-25 PT	1688.0	-1667.0	2789.37	2.09	-	-	173.7	2.11	--	TIGHT
1-26	1688.5	-1667.5	2789.63	2.19	2299	2369.57 / 8.34	173.4	2.24	2789.40 / 9.7	VALID TEST

PT=PRETEST
SPT=SAMPLE

L=LONG NOSE PROBE
M=MARTINEAU PROBE

APPENDIX 5

THE SCHLUMBERGER REPORT

SONIC CALIBRATION

AND GEOGRAM

PROCESSING REPORT

HARLEQUIN No. 1

HAS BEEN DISTRIBUTED SEPARATELY

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