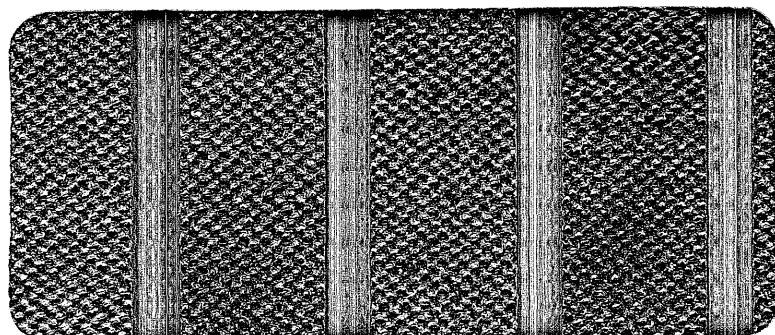




Esso



WCR - VOLUME 1
WHITING - 1
(W 807)

BASIC DATA

ESSO EXPLORATION AND PRODUCTION
AUSTRALIA INC.

104 Pages

+ 5 ENCLOSURES

OIL and GAS DIVISION

WELL COMPLETION REPORT

WHITING-1 - 7 MAY 1984

BASIC DATA

W807

VOLUME I

OIL and GAS DIVISION

- 7 MAY 1984

GIPPSLAND BASIN

VICTORIA

ESSO AUSTRALIA LIMITED

Compiled by: J. ROCHE

FEBRUARY, 1984

WHITING-1

WELL COMPLETION REPORT

VOLUME 1

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ESSO AUSTRALIA LTD.

1. COMPLETION REPORT

WELL : WHITING-1

LOCATION : Gippsland Basin
Latitude : 038° 14' 11.77" S
Longitude : 147° 53' 00.93" E
X = 577328m E
Y = 5767548m ~~N~~
Map Projection: Australian National Spheroid
UTM Zone 55
Geographical Location: Bass Strait, Victoria, Australia.
Field: New

PERMIT : Vic/L2

ELEVATION : KB 21.0m
RT 20.7m

WATER DEPTH : 53m

TOTAL DEPTH : 3011m

AVERAGE ANGLE : Vertical Hole

PLUG BACK TYPE : Balanced Plug

REASONS FOR PLUGGING BACK : Suspension

MOVE IN : 6th March, 1983

RIG UP : 6th March, 1983

SPUDED : 6th March, 1983

PRODUCTION UNIT - RIG UP : 19th April, 1983

PRODUCTION UNIT - RIG DOWN : 24th April, 1983

RIG DOWN COMPLETE : 28th April, 1983

RIG RELEASED : 28th April, 1983

OPERATOR : Esso Exploration and Production Australia Inc. (EEPA)

PERMITTEE OR LICENCE INTERESTS : EEPA 50%
BHP Petroleum Pty Ltd 50%

CONTRACTOR : South Seas Drilling Co.

RIG NAME : Southern Cross

EQUIPMENT TYPE : Semi-submersible Oilwell E-2000

TOTAL RIG DAYS : 53

DRILLING AFE NO. : 0305308233003

TYPE COMPLETION : CIW Corrosion Cap

WELL CLASSIFICATION : Before Drilling: New field wildcat
After Drilling : Suspended new field discovery

2. OPERATIONS SEQUENCE

WHITING 1

MOVE AND MOOR

The semi-submersible Southern Cross departed the Wirrah-2 location at 2400 hours on 5th March, 1983, and arrived at the Whiting-1 location at 0215 hours on 6th March, 1983. The rig was towed 9km (6.44 nautical miles) by the Lady Vera workboat in 2-1/4 hours at an average speed of 4km/hr (2.86 knots).

Anchor No. 8 was dropped by the rig with the remaining anchors run by the Bass Tide and Lady Vera workboats in 8-3/4 hours. The anchors were then all pretensioned to 200 kips prior to pulling the rig into position.

26" HOLE FOR 20" CONDUCTOR

The drilling template was landed at the seafloor depth of 74 metres RKB. The 26" hole was drilled to 211m using seawater and slugs of high viscosity gel mud.

The 18-3/4" wellhead and 20 inch casing were run and cemented at a shoe depth of 196m. The BOP stack and riser were run and the 20 inch casing, shear rams, and collet connector were successfully pressure tested.

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

After drilling out cement in the 20 inch casing, the 17-1/2" hole was drilled to 800m. The hole was logged and 13-3/8" casing was run and cemented at 778m. After five unsuccessful attempts to set the 13-3/8" seal assembly, a modified seal assembly was run. The seal assembly and casing were then pressure tested to 34,450/10,345 kPa (5000/1500 psi) respectively.

12-1/4" HOLE

The cement and float equipment in the 13-3/8" casing along with 6m of new hole were drilled and a Phase II PIT was conducted to 1.62 S.G. (13.5 ppg) EMW without leak-off. The hole was drilled to 1230m where the mud weight was increased from 1.10 S.G. (9.2 ppg) to 1.20 S.G. (10.0 ppg) before drilling into the Latrobe formation. A 2100 kPa (300 psi) overbalance was programmed should the 35 metres of objective sand be gas filled.

The hole was drilled to 1668m where the mud weight was reduced to 1.18 S.G. (9.8 ppg) to decrease the overbalance. Drilling continued to 2211m when heavy weather stopped drilling operations and a "Red Alert" was issued by EAL's Production Department. The bit was pulled into the 13-3/8" casing and hung off. Deteriorating weather forced the unlatching of the L.M.R.P. and the rig was moved approximately 21.3 metres towards the No. 5 and No. 6 anchors. Subsequently the L.M.R.P. and riser were pulled and secured on the rig. Following the abating of heavy weather conditions, the rig moved back onto location. The L.M.P.R. was rerun and pressure tested prior to drilling ahead.

The hole was then drilled to 2681m prior to POOH for Core No. 1, which was cut from 2681 - 2693.6m with 76% recovery. Drilling continued with 1.18 S.G. (9.8 ppg) mud weight to 3011 metres (total depth).

Heavy weather again necessitated hanging off the drillstring inside the 13-3/8" casing. With calmer weather, the bit was run back to bottom for a wiper trip prior to logging. Final logs were run (including an EPT log from 3009 to 1200m), followed by a velocity survey, 6 RFT's and 3 sidewall core runs. After running logs the decision was made to run 9-5/8" casing and production test the interval 1483 - 1496m.

9-5/8" CASING/PRODUCTION TEST NO. 1/IR

After logging, 9-5/8" casing was run to 2972m and cemented in two stages with a multiple stage cementing collar at 2098m. Two unsuccessful attempts were made to set the 9-5/8" seal assembly. The seal assembly running tool was modified and the seal assembly was successfully set and pressure tested to 1378/34450 kPa (200/5000 psi). The BOP stack was then pressure tested to 1378/24115/34450 kPa (200/3500/5000 psi).

Following an unsuccessful attempt to run the CBL-VDL-CCL-GR log (metal particles in the casing were affecting the CCL log), an 8-1/2" bit and casing scraper run was made to 2919m. Another unsuccessful CBL-CCL-GR log run was made; consequently, a 7" magnet was run on drillpipe. A CBL-VDL-GR-CCL was then run over the interval 1550-1100m (without a valid CCL). A gauge ring and junk basket were run to 1525m. The 9-5/8" casing and shear rams were then pressure tested to 1378/24115 kPa (200/3500 psi). A Baker Model "D" production packer was set on wireline at 1460m. The test string was run and pressure tested along with the casing below the packer and the surface equipment to 13780 kPa (2000 psi). The test string was pulled above the packer and displaced with diesel before the zone was perforated.

PLUG AND TEMPORARY ABANDONMENT

After the production test was completed, the test string was pulled and a bridge plug was set on wireline at 1440m and tested to 13780 kPa (2000 psi). The bridge plug was then tagged and a 100 sx cement plug set on top. Drill pipe was run to 205m where another 100 sx cement plug was set. The riser was displaced with seawater and the BOP stack and riser were pulled. Following an unsuccessful attempt to run the CIW corrosion cap, a rig fabricated substitute was run with diver assistance. The guidelines were then cut by the divers and retrieved.

PULLING ANCHORS

The workboats Bass Tide and Southern Tide changed out the chain on the No. 4 anchor and, with the Atlas Dampier, pulled all eight anchors. The Southern Cross departed for the Teraglin-1 well at 1930 hours on 28th April, 1983.

Note: The original CIW corrosion cap was later modified to suit the 18-3/4" wellhead and installed by the diving support vessel Shearwater Sapphire.

11191/27-28

CASING DATA

3. WELL WHITING-1

CSG O.D. IN.	WT. LBS/FT	GRADE	CONN.	CSG LENGTH METRES	SHOE DEPTH R.K.B.	CENTRALIZER POSITION	REMARKS
24	610	-	CC	10.35			PILE JOINT
20	129	X-52	JV CC	13.31		1 ACROSS EACH COLLAR FOR 5 COLLARS ABOVE SHOE	CROSSOVER JOINT
20	94	X-52	JV	87.49			7 JOINTS
20	94	X-52	JV	12.30	195.75		FLOAT SHOE JOINT
13-3/8	54.5	K-55	BUTT	3.5		1 ACROSS EACH COLLAR FOR SIX COLLARS ABOVE SHOE	HGR & PUP JOINT
13-3/8	54.5	K-55	BUTT	677.86		1 ACROSS EACH COLLAR FOR SIX COLLARS INSIDE 20 INCH CSG.	57 JOINTS
13-3/8	54.5	K-55	BUTT	12.34			FLOAT COLLAR JOINT
13-3/8	54.5	K-55	BUTT	11.98	777.68		FLOAT SHOE JOINT
9-5/8	47	N80	BUTT	1.97			HGR & PUP JOINT
9-5/8	47	N80	BUTT	1430.03		1 ACROSS EACH COLLAR FOR FIVE COLLARS ABOVE SHOE	121 JOINTS
9-5/8	47	N80	BUTT	2.97			PUP JOINT

CASING DATA

WELLWHITING-1.....

CSG O.D. IN.	WT. LBS/FT	GRADE	CONN.	CSG LENGTH METRES	SHOE DEPTH R.K.B.	CENTRALIZER POSITION	REMARKS
9-5/8"	47	N80	BUTT	591.16		FROM THIRD JOINT OF CSG FROM FLOAT COLLAR 1 ACROSS EVERY THIRD COLLAR	50 JOINTS
9-5/8"				1.00			D.V. COLLAR
9-5/8"	47	N80	BUTT	837.44			71 JOINTS
9-5/8"				-			HALLIBURTON SHUT OFF BAFFLE
9-5/8"	47	N80	BUTT	11.92			1 JOINT
9-5/8"	47	N80	BUTT	12.01			FLOAT COLLAR JOINT
9-5/8"	47	N80	BUTT	11.60	2971.82		FLOAT SHOE JOINT

WELL: WHITING-1

5. SAMPLES, CONVENTIONAL CORES, SIDEWALL CORES

<u>INTERVAL</u>	<u>TYPE</u>
200 - 1270m	3 sets of washed and dried samples, 3 sets of washed and bagged samples every 10m.
1270 - 3011m	As above, every 5m.
200 - 3011m	One tin of unwashed cuttings from each 15m interval (1/3 of a tin each 5m).
2681.0 - 2693.6m	Conventional Core No. 1.
841 - 2993.5m	Sidewall Cores (shot 132, recovered 109).

11191/2

WELL: WHITING-1

7. SUMMARY OF WIRELINE FORMATION TEST PROGRAMME

RUN	SEAT	DEPTH (METRES) K.B.	CHAMBER	RECOVERY			FORMATION		<u>HEWLETT-PACKARD</u> <u>FORMATION PRESSURE</u>		<u>HEWLETT-PACKARD</u> <u>HYDROSTATIC PRESSURE</u>		REMARKS
				OIL	COND.	GAS	WATER	FILTRATE	MPaa	Psia	MPaa	Psia	
				Litres	Litres	Litres	m ³	Litres	Litres				
1	1	2987.5	Pretest						33.64	4879.6	34.45	4995.7	Supercharged
1	2	2871.0	Pretest						29.25	4243.0	33.15	4808.7	
1	3	2801.5	Pretest						28.61	4150.2	32.39	4698.0	
1	4	2688.0	Pretest						26.95	3908.5	31.12	4513.2	
2	5	2537.0	Pretest						25.14	3645.6	29.39	4263.0	
2	6	2510.0	Pretest						-	-	29.09	4219.7	Tight
2	7	2481.7	Pretest						24.48	3550.9	28.76	4171.0	
2	8	2467.0	Pretest						24.42	3542.3	28.60	4147.5	
2	9	2451.0	Pretest						24.39	3537.4	28.43	4122.8	
2	10	2441.7	Pretest						24.38	3536.6	28.34	4110.1	
2	11	2428.0	Pretest						24.95	3618.0	28.18	4086.7	
2	12	2418.0	Pretest						24.32	3526.7	28.07	4070.6	
2	13	2403.6	Pretest						24.38	3536.2	27.91	4048.7	
2	14	2354.0	Pretest						23.59	3421.4	27.35	3966.2	
2	15	2346.5	Pretest						23.58	3419.3	27.25	3952.8	
2	16	2300.0	Pretest						22.91	3322.6	26.73	3876.4	
2	17	2259.0	Pretest						22.28	3231.8	26.25	3807.1	
2	18	2238.0	Pretest						22.09	3204.4	26.00	3770.6	
2	19	2203.2	Pretest						21.85	3168.7	25.58	3710.3	
2	20	2193.0	Pretest						21.84	3167.0	25.46	3692.6	
2	21	2157.5	Pretest						21.31	3091.4	25.07	3636.0	
2	22	2147.2	Pretest						21.24	3081.1	24.94	3616.8	
2	23	2124.2	Pretest						21.05	3053.1	24.68	3580.1	
2	24	2115.4	Pretest						21.04	3051.9	24.58	3564.8	
2	25	2006.0	Pretest						19.72	2860.2	23.29	3378.3	
2	26	1946.0	Pretest						19.12	2773.4	22.58	3274.8	
2	27	1921.0	Pretest						18.86	2736.1	22.28	3232.0	
2	28	1910.0	Pretest						18.76	2721.2	22.19	3219.1	
2	29	1901.0	Pretest						18.73	2717.0	22.08	3202.7	

WELL: WHITING-1

SUMMARY OF WIRELINE FORMATION TEST PROGRAMME

RUN	SEAT	DEPTH (METRES) K.B.	CHAMBER	RECOVERY			FORMATION		HEWLETT-PACKARD FORMATION PRESSURE		HEWLETT-PACKARD HYDROSTATIC PRESSURE		REMARKS
				OIL	COND.	GAS	WATER	FILTRATE	MPaa	Psia	MPaa	Psia	
				Litres	Litres	Litres m ³	Litres	Litres					
2	30	1880.0	Pretest						18.71	2713.4	21.83	3166.2	
2	31	1825.0	Pretest						17.87	2591.9	21.18	3071.4	
2	32	1812.5	Pretest						17.80	2581.2	21.02	3048.2	
2	33	1807.0	Pretest						17.79	2580.8	20.99	3044.3	
2	34	1771.0	Pretest						17.35	2517.1	20.55	2980.7	
2	35	1745.0	Pretest						17.08	2477.8	20.24	2935.2	
2	36	1718.0	Pretest						16.90	2451.8	19.94	2891.7	
2	37	1659.0	Pretest						16.26	2357.6	19.24	2790.0	
2	38	1575.0	Pretest						15.35	2227.0	18.24	2645.5	
2	39	1500.0	Pretest						14.64	2124.4	17.35	2516.5	
2	40	1493.5	Pretest						14.59	2115.4	17.27	2504.1	
2	41	1486.0	Pretest						14.54	2109.0	17.20	2494.9	
2	42	1482.0	Pretest						14.51	2105.1	17.15	2487.3	
2	43	1401.0	Pretest						13.70	1987.7	16.20	2349.0	
3	44	1482.0	22.7 lit 3.8 lit	16.85		0.433 Sample Preserved	0.65		14.52	2105.4	17.41	2525.7	Sample Sample
4	45	2801.5	22.7 lit 10.4 lit			0.0187 0.0108	19.5 9.0		28.62	4151.3	32.55	4721.5	Sample Sample
5	46	2910.0	Pretest						29.72	4311.2	33.71	4888.5	
5	47	2836.0	Pretest						29.38	4261.0	32.85	4764.7	Supercharged?
5	48	2785.0	Pretest						28.54	4140.1	32.29	4683.8	
5	49	2701.0	Pretest						27.15	3937.7	31.36	4548.8	
5	50	2623.5	Pretest						27.37	3970.3	30.54	4429.4	Supercharged?
5	51	2603.0	Pretest						25.72	3730.5	30.29	4393.6	
5	52	2537.0	Pretest						25.15	3647.5	29.53	4282.8	
5	53	2494.0	Pretest						24.61	3569.7	29.05	4121.8	
5	54	2428.0	Pretest						25.08	3637.8	28.29	4102.6	
5	55	2418.0	22.7 lit 3.8 lit	0.43		3.515 Sample Preserved	1.3		24.30	3525.0	28.16	4083.7	Sample Sample
6	56	1401.0	22.7 lit 10.4 lit			0.0241 0.0105	21.3 10.0		13.71	1988.7	16.22	2352.0	Sample Sample

8. TEMPERATURE RECORD

LOGGING RUN	THERMOMETER DEPTH (m)	MAX. RECORDED TEMPERATURE (C°)	CIRCULATION TIME (t_k) (hours)	TIME AFTER CIRCULATION STOPPED (t)	HORNER TEMPERATURE (C°)	GEOHERMAL GRADIENT (C°/km)
<u>Suite 1</u>						
BHC	800	45	0.75	5.17		
<u>Suite 2</u>						
DLL MSFL GR	3013	99	2.0	8.17		
LDL CNL GR	3013	115	2.0	15.67		
BHC GR	3013	121	2.0	23.00		
HDT	3013	126.7	2.0	28.67	146.5	46

Figures

LOCALITY MAP

WHITING - 1

SCALE - 1:250,000

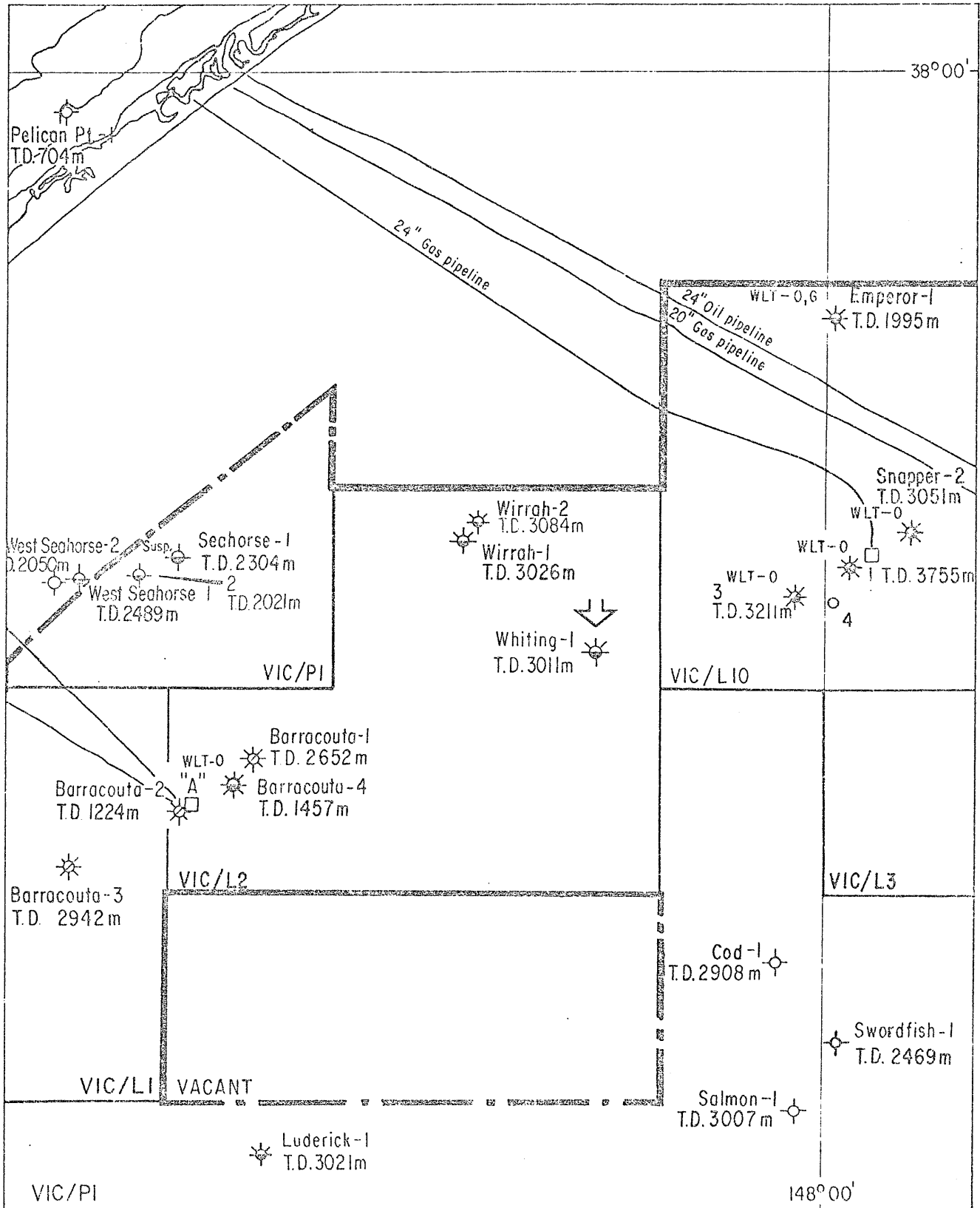


Figure 1

WELL PROGRESS CURVE

WELL WHITING-1

RIG: SOUTHERN CROSS

LITHOLO

PROJECTED

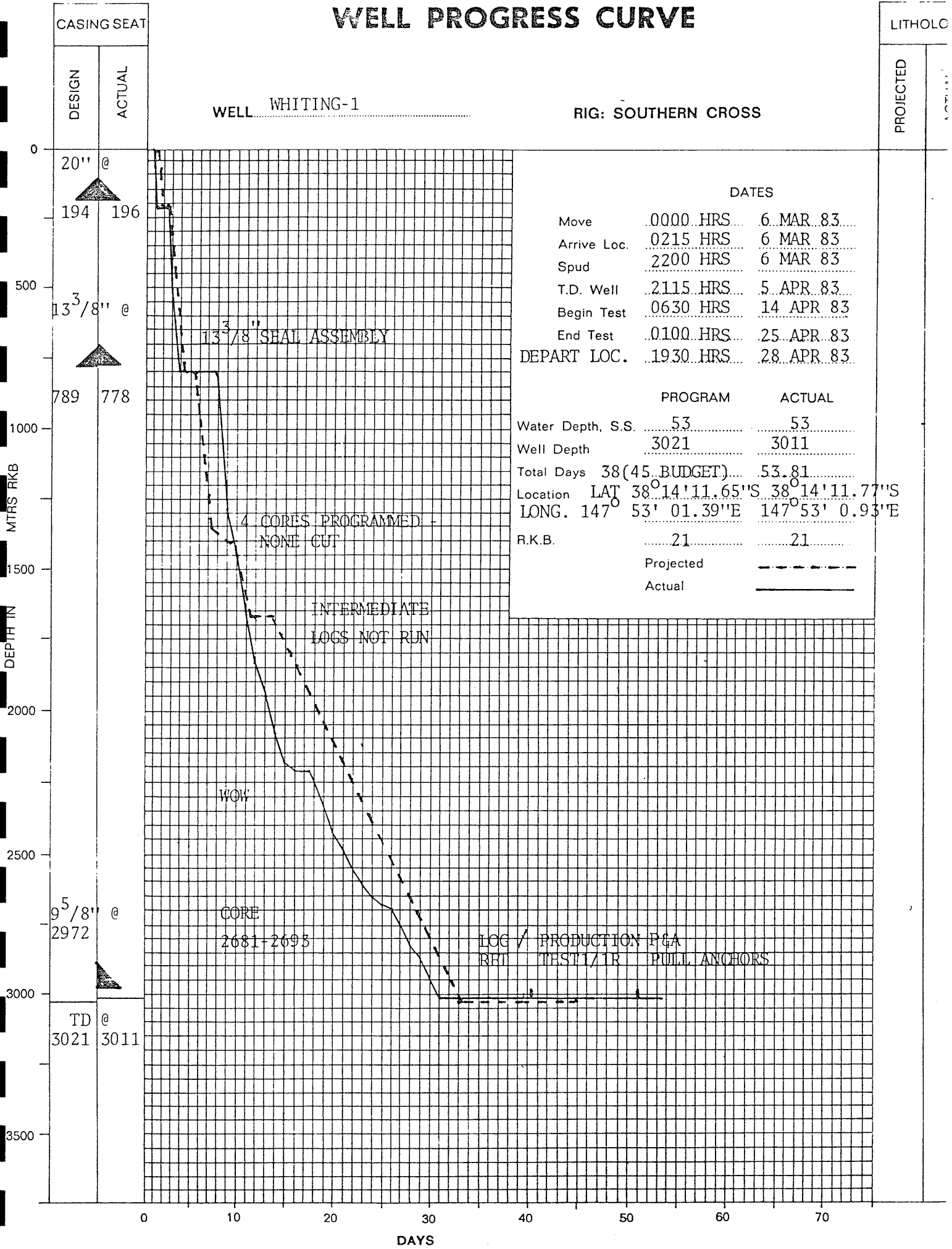


Figure 2

Wellbore Schematic

Well: WHITING-1

RKB

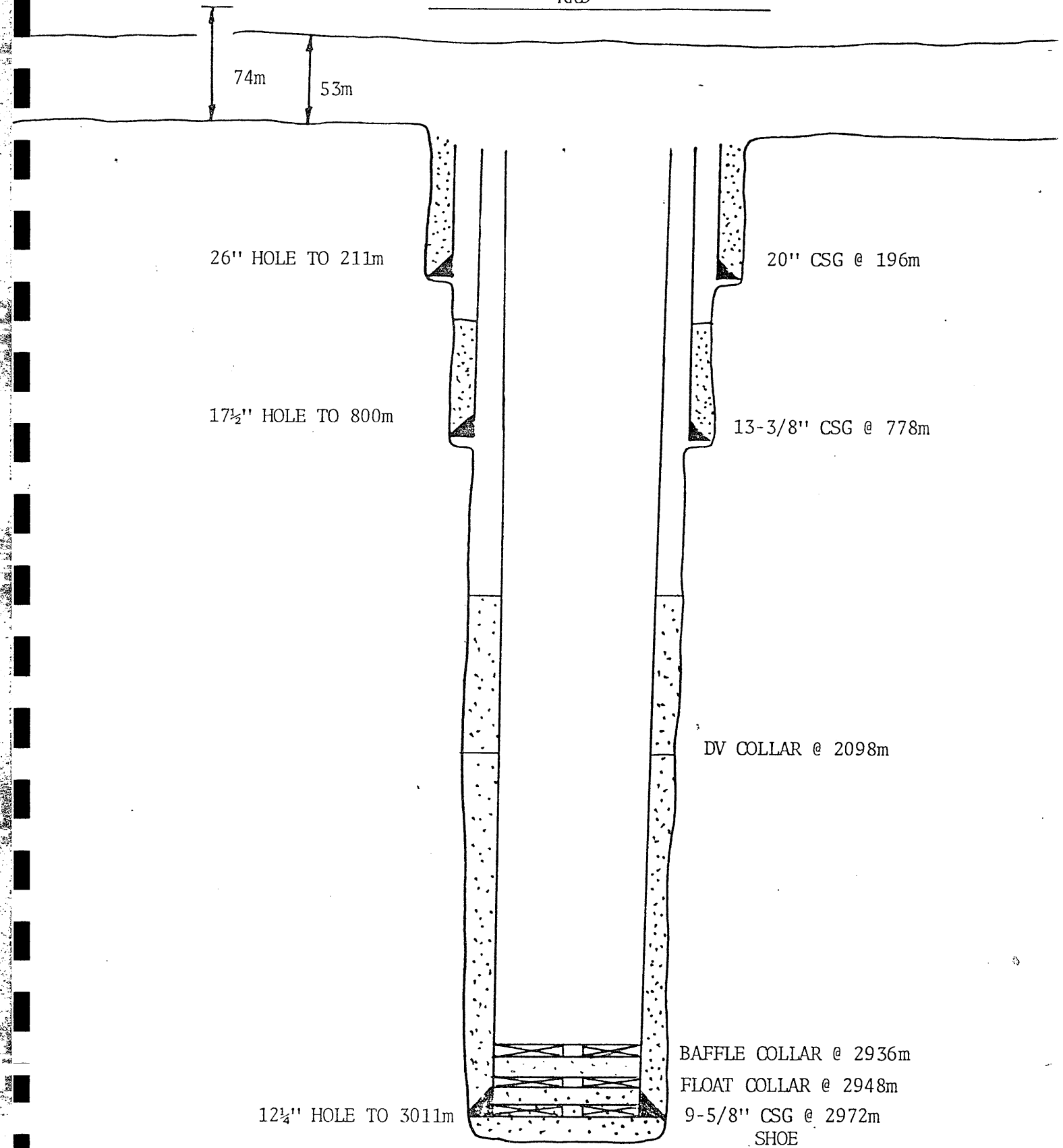


Figure 3

TEMPORARY ABANDONMENT SCHEMATIC

Well: WHITING-1

RKB

74m

53m

Rig fabricated temporary cap on top of wellhead w/ guide bases and four poster.

PLUG #2 - 100 sx Class 'G' cement set at 205-120m

Bridge plug @ 1440m
Tested to 13780 kPa (2000 psi)
Baker model 'D' production packer @ 1460m.

PLUG #1 - 100 sx Class 'G' cement set on top of bridge plug.

Perforated 1483-1486m twice

Figure 4

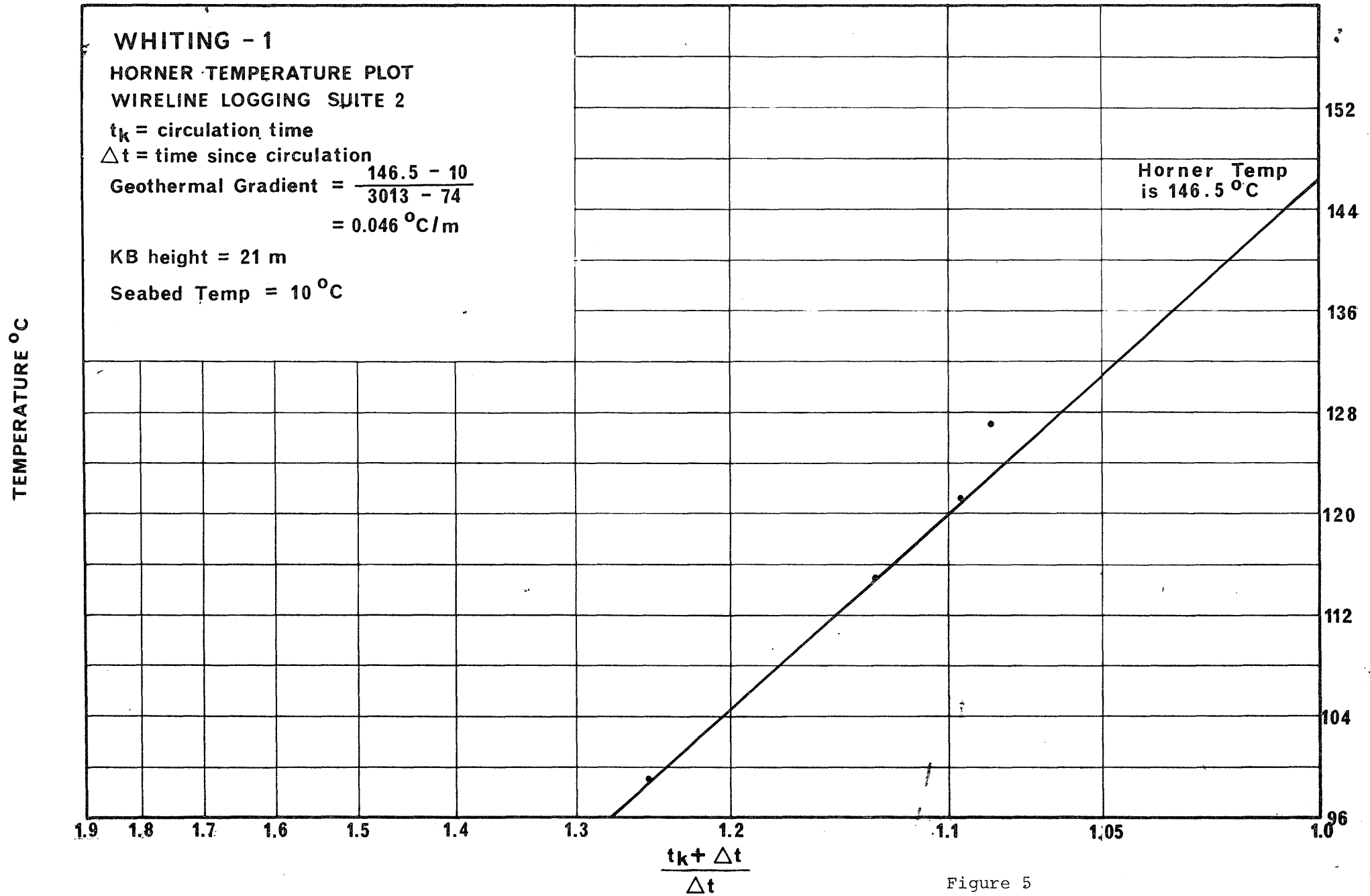


Figure 5

APPENDIX 1

2145 - 2150m	30	SANDSTONE:	as above, generally fine grained.
	70	SILTSTONE:	as above.
	trace	COAL	
	trace	PYRITE	
	common		White clay, abundant over the shakers.
2150 - 2155m	50	SANDSTONE:	as above.
	50	SILTSTONE:	as above.
	trace	COAL	
	trace	PYRITE	
			Desander sample shows loose, clear, quartz grains. Medium to fine grained, subangular to subrounded, some with white clay matrix.
2155 - 2160m	50	SANDSTONE:	as above.
	50	SILTSTONE:	as above.
	trace	COAL	
2160 - 2165m	100	SILTSTONE:	as above.
	trace	SANDSTONE:	as above, commonly cemented with pyrite.
	trace	COAL:	generally silty, occasionally with silty laminae.
	trace	PYRITE:	as above.
	common		White clay over the shakers. No Shows.
2165 - 2170m	10	SANDSTONE:	as above.
	90	SILTSTONE:	as above, also very rare green grey cuttings, non calcareous.
	trace	PYRITE:	blocky, granular cuttings, occasionally cemented siltstone cuttings.
	common		White clay over the shakers.
	2170 - 2175m	90	SILTSTONE:
10		COAL:	black, blocky, vitreous cuttings and medium dark grey silty cuttings. Two cuttings of silty coal gave slow bright yellow stream cut, strong yellow crush cut, a strong yellow residual ring and a pale brown residual oil ring.
		common	White clay (rock flour?)
2175 - 2180m	20	COAL:	as above.
	80	SILTSTONE:	as above.
	trace	SANDSTONE:	as above.
2180 - 2183m	100	SILTSTONE:	as above.
	trace	SANDSTONE:	as above.
	trace	COAL:	as above.
	trace	PYRITE:	as above.
	common		White clay.

2183 - 2185m	70	SILTSTONE: medium grey to light grey, soft to moderately firm, carbonaceous, argillaceous, and minor pyrite, rare glauconite.
	20	COAL: black, vitreous, angular, moderately hard.
	10	SANDSTONE: fine grained to very fine grained, subangular, well sorted aggregates, with non calcareous cement, poor visible porosity, minor pyrite cement, minor dolomite cement.
	trace	CLAYSTONE: medium grey, moderately firm, angular cuttings. Trace spotty bright yellow green fluorescence from dolomite cement.
2185 - 2190m	80	SILTSTONE: as above, including some very light grey, reddish brown and greenish siltstone.
	10	COAL: as above.
	10	SANDSTONE: as above, with rare, clear, coarse, subangular, loose quartz grains (cavings?). Rare pyrite cement in fine grained aggregates. Dolomite fluorescence as above.
	trace	CLAYSTONE: light grey and medium grey, moderately firm.
	trace	Glauconite rich siltstone, possibly cavings from Gurnard Formation.
2190 - 2195m	80	SILTSTONE: as above.
	10	COAL: as above.
	10	SANDSTONE: as above.
	trace	CLAYSTONE: as above, and glauconitic siltstone as above.
2195 - 2200m	80	SILTSTONE: greyish red, brownish grey, buff, occasionally light grey, quartzose, soft to firm. The greyish brown, brownish grey are generally carbonaceous, and argillaceous. Trace orange mineral fluorescence.
	10	SANDSTONE: light grey to very light grey, aggregates of fine to very fine grained clear quartz grains, with white, buff cement, non calcareous, possibly clay (kaolinite). The grains are subangular to subrounded, moderately well sorted, generally close packed with poor visible porosity. Occasional dark mineral grains and occasional carbonaceous grains are also present. The aggregates are generally firm, moderately hard, and occasional pyrite cemented. Trace yellow mineral fluorescence.
	10	COAL: black to medium dark grey, vitreous to speckly, the latter being silty.
	trace	PYRITE: generally blocky, granular cuttings sometimes shot through with carbonaceous material.
	trace	CLAYSTONE: medium light grey, firm to moderately hard angular cuttings.

2200 - 2205m	90	SILTSTONE: as above. Two siltstone cuttings give bright orange fluorescence, slow bright yellow stream cut, strong yellow residue and pale brown oil stain.
	10	SANDSTONE: as above. Two or three fine grained sandstone cuttings gave a very slow yellow stream cut, and a strong yellow crush cut.
	trace trace	COAL: as above. PYRITE: as above.
2205 - 2210m		Bottoms up
	70	SILTSTONE: light brown, clayey, as above.
	10	SANDSTONE: light grey, fine grained, tight, poorly sorted.
	20	COAL: black, conchoidal fracture. No shows.
2210 - 2215m	90	SILTSTONE: light grey to medium grey, occasionally pale brown, soft to firm, blocky to subfissile cuttings, trace calcareous cement, very carbonaceous with fossil leaves, grading to fine to medium sandstone.
	10	SANDSTONE: quartzose, translucent to white, hard, friable, medium grained, subangular aggregates well sorted with calcareous/siliceous cement, trace loose, coarse to very coarse translucent quartz grains.
	common trace	PYRITE COAL
2215 - 2220m	80	SILTSTONE: as above.
	10	SANDSTONE: as above.
	10	COAL: black, vitreous, conchoidal fracture, hard, brittle.
2220 - 2225m	90	SILTSTONE: light grey to medium grey, occasionally brown, soft to friable, blocky to subfissile cuttings, non-calcareous, with common carbonaceous flecking, fine grained inclusions and some carbonaceous layering?, leaf remains.
	10	SANDSTONE: quartzose aggregates, very fine to fine grained, moderately hard to hard, subangular to subrounded, moderately well sorted, non calcareous cement. Has very rare, spotty, dull to bright, white fluorescence, with occasional slow, faint cut. No crush cut.
	trace	COAL: black, vitreous, subangular to angular cuttings, hard, some cuttings with conchoidal fracture.
2225 - 2230	90	SILTSTONE: as above.
	10	SANDSTONE: as above with fine grained siltstone and carbonaceous inclusions. Very rare (two pieces in sample), spotty, bright white fluorescence with slow, dull cut and fast bright, white crush cut.
	trace trace trace	COAL: as above. PYRITE: aggregates. SANDSTONE: loose quartz: translucent, medium grained, subrounded.
2230 - 2235m	80	SILTSTONE: as above.
	10	SANDSTONE: as above. With very rare, white fluorescence, no cut, slow, faint crush cut.
	10	COAL: as above.

2235 - 2240m	100	SILTSTONE: as above - some grading to white kaolinitic claystone.
	trace	SANDSTONE: as above - rare fluorescence as above, no cut.
	trace	COAL: as above.
2240 - 2245m	100	SILTSTONE: as above grading to white, very light grey, very soft kaolinitic claystone, trace calcareous cement.
	trace	SANDSTONE: mainly aggregates as above, dull gold to bright gold fluorescence, bright gold yields a bright yellow but slow, diffuse cut.
	trace	COAL: as above.
2245 - 2250m	100	SILTSTONE: predominantly very light grey, grading to very argillaceous, very fine grained sandstone, otherwise as above.
	trace	SANDSTONE: aggregates as above.
2250 - 2255m	90	SILTSTONE: as above.
	trace	SANDSTONE: as above.
	10	COAL: as above.
2255 - 2260m	50	SILTSTONE: as above.
	10	SANDSTONE: as above.
	40	COAL: as above.
2260 - 2265m	40	SILTSTONE: as above, grading to claystone.
	50	CLAYSTONE: predominantly light grey, very soft, sticky, non calcareous.
	10	COAL: as above.
2265 - 2270m	50	CLAYSTONE: light grey, very soft, slightly sticky, blocky, well rounded cuttings, non calcareous.
	20	SILTSTONE: light grey to medium grey, soft, blocky to subfissile, with carbonaceous flecking and layering, non calcareous.
	30	COAL: black, hard, blocky, subangular cuttings, conchoidal fracture.
	trace	SANDSTONE: quartzose aggregates, clear to translucent, fine grained, subangular to subrounded, very friable, non calcareous. No shows.
	trace	SANDSTONE: loose quartz translucent, medium to coarse grained, subangular to subrounded. Very rare white to dull gold fluorescence with moderate to slow dull white cut and crush cut. The pieces with gold fluorescence had no cut or crush cut.
	trace	PYRITE: aggregates.
	trace	
2270 - 2275m	20	CLAYSTONE: as above.
	60	COAL: as above.
	20	SILTSTONE: as above.
	trace	SANDSTONE: aggregates - as above.
2275 - 2280m	40	CLAYSTONE: as above.
	30	SILTSTONE: as above.
	30	COAL: as above.
	trace	SANDSTONE: aggregates - rare dull, faint gold fluorescence, no cut, no crush cut, otherwise as above.
	trace:	loose quartz as above. No shows.

2280 - 2285m	50	CLAYSTONE: as above.
	30	SILTSTONE: as above.
	15	COAL: as above.
	5	SANDSTONE: loose quartz, occasionally very coarse, otherwise as above. No shows.
2285 - 2290m	60	CLAYSTONE: as above.
	20	SILTSTONE: as above.
	20	COAL: as above.
	trace	SANDSTONE: very fine to fine grained, aggregates with carbonaceous layering and flecking. No fluorescence.
	trace	SANDSTONE: loose quartz as above. No shows.
2290 - 2295m	60	COAL: as above.
	20	SILTSTONE: as above.
	10	CLAYSTONE: as above.
	10	SANDSTONE: aggregates as above, with rare faint/dull gold fluorescence, no cut.
2295 - 2300m	80	SILTSTONE: as above.
	10	CLAYSTONE: as above.
	10	SANDSTONE: aggregates as above, with rare dull gold fluorescence, no cut, no crush cut; one piece with bright white fluorescence, and moderate, bright white cut.
	trace	COAL: as above.
	trace	SANDSTONE: loose quartz as above. No shows.
2300 - 2305m	70	SILTSTONE: as above.
	20	CLAYSTONE: as above.
	10	SANDSTONE: aggregates as above, with rare (i.e., only few pieces per sample) dull, white fluorescence, and slow, white cut and crush cut.
	trace	SANDSTONE: loose quartz, as above.
	trace	COAL: as above.
2305 - 2310m	80	SILTSTONE: light grey to medium dark grey, very friable, blocky to subfissile cuttings, carbonaceous flecking and occasionally carbonaceous layers. Occasional dull, gold fluorescence, no cut, no crush cut. (These pieces were slightly calcareous).
	10	CLAYSTONE: very light grey to medium light grey, very soft, blocky, well rounded cuttings, slightly sticky, non-calcareous, with very fine carbonaceous inclusions.
	10	SANDSTONE: quartzose aggregates, clear to translucent, very fine to fine grained, predominantly very fine grained, well sorted, non calcareous, carbonaceous layering and inclusions. No fluorescence.
	trace	SANDSTONE: loose quartz, clear to translucent, subangular to subrounded, medium to coarse grained. No shows.
	trace	COAL: black, vitreous, hard, some conchoidal fractures.
	trace	PYRITE: aggregates.
2310 - 2315m	90	SILTSTONE: as above, occasionally very carbonaceous.
	trace	CLAYSTONE: as above.
	trace	SANDSTONE: fine grained aggregates as above.
	trace	COAL: as above.
	trace	PYRITE

2315 - 2320m	90	SILTSTONE: as above, occasionally very carbonaceous.
	trace	CLAYSTONE: as above.
2320 - 2325m	10	SANDSTONE
	40	SILTSTONE: as above.
	30	CLAYSTONE: as above.
	10	SANDSTONE: as above.
2325 - 2330m	20	COAL: as above.
	90	SILTSTONE: as above.
	10	CLAYSTONE: as above.
	trace	SANDSTONE: as above.
2330m - 2335m	10	SILTSTONE: as above.
	10	CLAYSTONE: as above.
	80	COAL: as above.
2335 - 2340m	70	SILTSTONE: as above rare dull gold fluorescence, slow streaming dull gold crush cut.
	10	SANDSTONE: predominately aggregates as above, dull gold fluorescence in part, trace bright yellow fluorescence with bright yellow slow streaming crush cut.
	20	COAL
2340 - 2345m	40	SILTSTONE: as above but carbonaceous in part, trace mica.
	30	SANDSTONE: (1) quartzose, white to buff, hard, friable, fine grained, subangular, well sorted aggregates, dolomitic cement, poor visible porosity, bright to dull gold fluorescence with pale gold very slow diffuse crush cut and residue. (2) quartzose subrounded grains, aggregates as above but with blue/white fluorescence, slow diffuse blue white crush cut and fluorescent residue. (3) trace loose quartz grains, coarse to very coarse, subrounded.
	30	COAL: as above.
2345 - 2350m	40	SILTSTONE: as above.
	30	SANDSTONE: as above.
	30	COAL: as above.
2350 - 2355m	50	SILTSTONE: predominantly medium dark grey to dark grey, firm, siliceous, occasionally carbonaceous laminae and flecking, blocky to subfissile cuttings, trace pyrite, trace mica.
	20	SANDSTONE: as above.
	30	COAL: as above.
2355 - 2360m	70	SILTSTONE: medium light grey to dark grey, occasionally pale brown, otherwise as above.
	10	SANDSTONE: as above.
	20	COAL: as above.
2357		Grab Sample
	90	COAL
	10	SILTSTONE
	trace	CLAYSTONE

2360 - 2365m	40	SILTSTONE: as above, micromicaceous in part, carbonaceous.
	40	SANDSTONE: quartzose, two types (1) white to pale brown, hard friable, fine grained, subangular, well sorted aggregates, dolomitic cement, dull gold fluorescence - no visible cut (2) loose quartz grains, clear to white, coarse to rare very coarse, subangular, well sorted - comprises about 50% of sample.
	trace	COAL: as above.
2365 - 2370m	90	SILTSTONE: as above.
	10	SANDSTONE: as above.
	trace	COAL: as above.
2370 - 2375m	70	SILTSTONE: light grey to medium dark grey, very friable to occasionally hard, blocky to sub-fissile, non-calcareous cuttings have common carbonaceous material, lighter grey, blocky cuttings have carbonaceous flecks, darker grey, sub-fissile cuttings are very carbonaceous with some carbonaceous layering.
	10	CLAYSTONE: very soft, light grey, blocky rounded cuttings, carbonaceous flecking and inclusions/
	10	SANDSTONE: quartzose aggregates clear, very fine to fine grained, occasionally medium subangular to subrounded, well sorted in a white dolomitic cement, some with very fine carbonaceous inclusions. Poor visible porosity. Dull gold fluorescence, no cut, no crush cut.
	10	SANDSTONE: loose quartz, translucent, medium to very coarse grained, subangular to subrounded, no shows.
	trace	COAL: black, hard, angular cuttings.
	trace	PYRITE: fine grained aggregates.
2375 - 2380m	50	SILTSTONE: as above.
	50	CLAYSTONE: as above, and becoming sticky.
	trace	SANDSTONE: quartz aggregates, with dull gold/pale yellow mineral fluorescence.
	trace	SANDSTONE: loose quartz, as above. No shows.
	trace	COAL: as above.
Note: 2375 - 2380m Desander sample had 50% Siltstone, 10% Claystone, 20% loose quartz, 20% Coal.		
2380 - 2385m	40	SILTSTONE: as above.
	40	CLAYSTONE: as above.
	20	COAL: as above.
	trace	SANDSTONE: quartz aggregates, with rare dull gold mineral fluorescence.
	trace	SANDSTONE: loose quartz, as above, no shows.
2385 - 2390m	40	SILTSTONE: as above.
	60	CLAYSTONE: as above.
	trace	SANDSTONE: aggregates, as above with very rare dull gold fluorescence, as above.
	Note: 2385 - 2390m desander sample was as above, but trace to 10% loose quartz as well.	
2390 - 2395m	40	SILTSTONE: as above.
	30	CLAYSTONE: as above.
	30	COAL: as above.
	trace	SANDSTONE: aggregates as above.

2398m		Grab Sample
	90	SILTSTONE: very carbonaceous in part, otherwise as above.
	10	COAL: as above.
	trace	SANDSTONE: as above.
2399m		Grab Sample
	80	SILTSTONE: as above.
	10	SANDSTONE: as above.
	10	COAL: as above.
2400m	70	SILTSTONE: as above.
	10	SANDSTONE: aggregates as above, and some loose coarse grains.
	20	COAL: as above.
2400 - 2405m	80	SILTSTONE: as above.
	10	CLAYSTONE: as above.
	10	SANDSTONE: aggregates, as above, with dull gold mineral fluorescence.
	trace	SANDSTONE: loose quartz, as above.
	trace	COAL
2408m		Grab Sample
	90	SILTSTONE: as above.
	10	CLAYSTONE: as above.
	10	SANDSTONE: aggregates, as above, including fluorescence as above.
	trace	SANDSTONE: loose quartz, as above.
	trace	COAL: as above.
	trace	PYRITE: as above.
2405 - 2410m	80	SILTSTONE: as above.
	20	SANDSTONE: very fine grained aggregates, but with rare patchy, dull white fluorescence, no cut and slow, white crush cut.
	trace	COAL: as above.
	trace	CLAYSTONE: as above.
	trace	SANDSTONE: loose quartz, as above.
2410 - 2415m	60	SILTSTONE: predominantly medium dark grey, hard, blocky to rarely subfissile cuttings, very carbonaceous, coaly in part, siliceous cement, no visible porosity, rare dull gold fluorescence - no cut, trace mica, trace pyrite.
	30	SANDSTONE: quartzose, very light grey to buff, hard to firm aggregates, friable, fine grained, subrounded to subangular, moderately well sorted, argillaceous to slightly calcareous cement - very poor visible porosity, rare dull to bright gold fluorescence - mineral fluorescence.
	10	COAL: black, vitreous, brittle, hard.
	trace	CLAYSTONE: white, soft, as above.
		Note: desander sample had 40% Siltstone, 60% Sandstone, sand is predominantly loose grained, fine to very fine grained as above, probably derived from broken aggregates.
2415 - 2420m	50	SILTSTONE: as above, with less carbonaceous, medium light grey, trace mica.
	40	SANDSTONE: as above, with occasional medium to very coarse grained, subrounded grains, trace fluorescence, as above.
	10	COAL: as above.
	trace	CLAYSTONE: as above.

2420 - 2425m	50	SILTSTONE: as above.	
	50	SANDSTONE: as above.	
	trace	COAL: as above.	
	trace	CLAYSTONE: as above.	
2425 - 2430m	90	SILTSTONE: light grey, very friable, blocky cuttings, calcareous in parts, common carbonaceous flecking and fine to very fine grained inclusions. Also medium dark to dark grey, occasionally greyish brown, friable, subfissile, non calcareous, very carbonaceous. The light grey siltstone grades to the dark carbonaceous one.	
	10	SANDSTONE: translucent, very fine to medium grained, occasionally coarse, dominantly fine grained, friable, subangular to subrounded, white to very pale brown, possible silty matrix, with light and dark siltstone, plus carbonaceous inclusions. Poor to moderate porosity. Occasional sandstone aggregates as above have dolomite cement, showing a faint, dull pale yellow fluorescence and no cut or crush cut.	
	trace	SANDSTONE: loose quartz, clear to translucent, medium to coarse grained, predominantly coarse grained, subangular, no shows.	
	trace	COAL: black, hard, angular, shiny, conchoidal fracture.	
	trace	PYRITE: fine grained aggregates, often quartz grains also present in aggregates.	
		2425 - 2430m: Fine mesh, over shakers sample: desander sample - lithologies as above, 90% Siltstone, 10% Sandstone: loose quartz, trace Sandstone aggregates, trace white mica.	
	2430 - 2435m	90	SILTSTONE: as above.
		10	SANDSTONE: as above, with mineral fluorescence as above.
		trace	SANDSTONE: loose quartz, as above.
		trace	COAL: as above.
trace		PYRITE: as above.	
	Fine Mesh Sample - 60% Siltstone, 30% Sandstone (loose quartz), 10% Sandstone (aggregates), trace Coal, trace Mica, trace Pyrite.		
2435 - 2440m	60	SILTSTONE: as above.	
	20	SANDSTONE: loose quartz, as above.	
	20	SANDSTONE: aggregates, including fluorescence as above.	
	trace	COAL: as above.	
	trace	PYRITE: as above.	
		Fine Mesh Sample: 20% Siltstone, 80% Sandstone (loose quartz), trace Coal, trace Mica.	

2440 - 2445m	50	SILTSTONE: as above.
	10	SANDSTONE: loose quartz, as above, no shows.
	20	SANDSTONE: aggregates, with fluorescence as above.
	20	COAL: as above.
	trace	PYRITE: as above.
Fine Mesh Sample: 10% Siltstone, 80% Sandstone (loose quartz), 10% Coal, trace Mica.		
2445 - 2450m	60	SILTSTONE: as above, with some very soft white siltstone, as for light grey siltstone.
	30	SANDSTONE: loose quartz, occasionally very coarse, otherwise as above.
	10	SANDSTONE: aggregates, with fluorescence as above.
	trace	PYRITE: as above.
Fine Mesh Sample: 70% Siltstone, 30% Sandstone (loose quartz), trace Coal, trace Pyrite, trace Sandstone (aggregates), trace Mica.		
2450 - 2455m	80	SILTSTONE: as above, with the white, soft, siltstone grading to Claystone: white, very soft, blocky, well rounded cuttings, non calcareous.
	10	SANDSTONE: loose quartz, as above.
	10	SANDSTONE: aggregates, with fluorescence as above.
Fine Mesh Sample - 80% Siltstone, 20% Sandstone (loose quartz), trace Sandstone (aggregates).		
2455 - 2460m	40	SILTSTONE: predominantly light grey, occasionally medium grey to medium dark grey, firm, friable, argillaceous, non calcareous, dark cuttings have carbonaceous fossils, trace pyrite.
	60	SANDSTONE: quartzose, clear to white, loose grains, very coarse to medium grained, predominantly coarse grained, subangular to subrounded, moderately well sorted, occasional fine to medium aggregates with dolomite cement as above, trace pyrite.
	trace	CLAYSTONE: white, soft, sticky, non calcareous.
2460 - 2465m	60	SILTSTONE: as above, grading to very light grey claystone, trace pyrite, trace mica.
	10	CLAYSTONE: as above.
	30	SANDSTONE: as above, loose grains and occasional aggregates with carbonaceous laminae.
2465 - 2470m	30	SILTSTONE: as above, trace pyrite.
	20	CLAYSTONE: as above.
	50	SANDSTONE: as above, with trace of yellow fluorescence with slow streaming milky white cut.
2470 - 2475m	60	SILTSTONE: as above.
	10	CLAYSTONE: as above.
	30	SANDSTONE: as above, trace fluorescence, as above.

2475 - 2480m	60	SILTSTONE: as above, trace pyrite, trace glauconite.
	10	CLAYSTONE
	30	SANDSTONE: as above, trace of fluorescence, as above.
2480 - 2485m	50	SILTSTONE: as above, grading to fine grained sandstone aggregates.
	30	CLAYSTONE
	10	SANDSTONE: as above.
	10	COAL
2485 - 2490m	30	SILTSTONE: as above.
	10	CLAYSTONE: as above.
	60	SANDSTONE: two types as above - loose grains and aggregates; about 20% of sample is fine to very fine grained aggregates, friable, poorly sorted, argillaceous matrix, very poor visible porosity, bright yellow fluorescence with yellow slow streaming cut.
2490 - 2495m	50	SILTSTONE: as above, trace pyrite, trace glauconite.
	20	CLAYSTONE: as above.
	30	SANDSTONE: as above, predominantly aggregates, fluorescence as above.
	trace	COAL
2495 - 2500m	50	SILTSTONE: light grey to medium grey, soft to friable, blocky, subrounded cuttings, calcareous in parts; also medium grey to dark grey, very friable to friable, subfissile cuttings, calcareous in part, very carbonaceous. The light grey siltstone has common carbonaceous flecks and inclusions.
	30	CLAYSTONE: white to light grey, very soft, slightly sticky in parts, with inclusions of very fine grained carbonaceous material and occasional very fine to fine quartz grains.
	10	SANDSTONE: loose quartz; clear to translucent, medium to very coarse grained, dominantly coarse to very coarse grained, subrounded, no shows.
	10	SANDSTONE: quartzose aggregates; clear to translucent, very fine to medium grained, some are dominantly very fine grained, well sorted, with carbonaceous flecks, and white argillaceous, matrix, friable; others are very fine to medium grained, poorly sorted, very friable, with argillaceous matrix, and occasional carbonaceous and/or siltstone inclusions. Both have poor visual porosity. The well sorted, very fine grained aggregates are most common. 5-10% dull white fluorescence, no cut, very slow milky white crush cut.
	trace	COAL: black, angular to subangular cuttings, shiny.
	trace	PYRITE: aggregates containing quartz and pyrite.

2500 - 2505m	30	SILTSTONE: as above.
	50	CLAYSTONE: as above, and water sensitive in parts.
	20	SANDSTONE: aggregates as above, with 10-15% (of whole sample), patchy, dull white fluorescence, slow white cut and crush cut.
	trace	SANDSTONE: loose quartz.
2505 - 2510m	40	SILTSTONE: as above.
	50	CLAYSTONE: as above.
	10	SANDSTONE: aggregates - with less than 5% (of whole sample) having spotty, dull white fluorescence, most pieces had very slow, very faint to faint dull white cut with an occasional piece giving moderate streaming white cut. All gave moderate streaming dull white crush cut. Cut residue - dull to moderately bright, white ring, and no colour under white light.
	trace	SANDSTONE: loose quartz - as above, no shows.
2510 - 2515m	50	SILTSTONE: as above.
	40	CLAYSTONE: as above.
	10	SANDSTONE: aggregates, as above, with fluorescence and cut, etc. as above.
	trace	SANDSTONE: loose quartz, as above.
2515 - 2520m	trace	PYRITE: as above.
	40	SILTSTONE: as above.
	30	CLAYSTONE: as above.
	30	SANDSTONE: predominantly aggregates, as above, fluorescence as above.
2520 - 2525m	50	SILTSTONE: as above, but with less dark grey carbonaceous siltstone.
	20	CLAYSTONE: as above.
	30	SANDSTONE: predominantly loose quartz as above, no shows. Also medium to coarse, poorly sorted, aggregates, as above, with 10-15% of sample having dull patchy white fluorescence, and very slow to moderate streaming dull white cut, and crush cut. Cut residue - faint to bright white ring and no colour in white light.
	trace	PYRITE: as above.
2525 - 2530m	60	SILTSTONE: with very little dark grey carbonaceous siltstone.
	40	SANDSTONE: predominantly loose quartz as above. No shows. Also medium to coarse grained, poorly sorted quartz aggregates as above with 5% white fluorescence and no cut, and only very faint white dull crush cut.
	trace	CLAYSTONE: as above.
	trace	PYRITE: as above.
2530 - 2535m	50	SILTSTONE: as above.
	40	COAL: black, hard, shiny, conchoidal fracture, angular cuttings.
	10	SANDSTONE: predominantly aggregates - with rare, dull spotty white fluorescence shown by a few very small, very friable, broken sandstone aggregates. No cut, no crush cut. Also loose quartz as above. No shows.
	trace	PYRITE: as above.

2535 - 2540m	80	SILTSTONE: light grey to medium grey, very friable, blocky to subfissile cuttings, non-calcareous matrix, inclusions of very fine grained quartz grains and carbonaceous matter. Also present, is medium grey to dark grey, very friable, subfissile cuttings, very carbonaceous.
	20	CLAYSTONE: white to medium light grey, occasionally medium grey, well rounded cuttings, very soft, non calcareous matrix, with carbonaceous inclusions.
	trace	SANDSTONE: quartzose aggregates, clear to translucent, very fine to medium grained to predominantly fine to medium, subrounded grains, poor to moderate sorting. Some with carbonaceous flecking and carbonaceous shale inclusions. Few pieces with dolomitic cement. No fluorescence. Also present is trace of clear to translucent, coarse to very coarse, subrounded loose quartz.
2540 - 2545 m	trace	PYRITE: occurring as fine grained aggregates or within quartz aggregates.
	50	SILTSTONE: as above, with more dark, very carbonaceous siltstone.
	20	CLAYSTONE: as above.
	20	COAL: black, angular cuttings, shiny.
	10	SANDSTONE: aggregates and loose quartz as above. No shows.
2445 - 2550m	trace	PYRITE: as above.
		De-sander sample: 40% Sandstone; 10% Coal; 10% Claystone; 40% Siltstone.
	50	SILTSTONE: as above, trace pyrite.
	20	COAL: as above.
	30	SANDSTONE: as above.
2550 - 2555m	trace	CLAYSTONE: as above.
	90	SILTSTONE: as above, trace pyrite, mica.
	10	COAL: as above.
	trace	CLAYSTONE: as above.
2555 - 2560m	trace	SANDSTONE: as above.
	90	SILTSTONE: as above, trace pyrite, mica.
	10	CLAYSTONE: as above.
	trace	COAL: as above.
2560 - 2565m	trace	SANDSTONE: as above.
	60	SILTSTONE: as above.
	30	CLAYSTONE: as above.
	10	COAL: as above.
2565 - 2570m	trace	SANDSTONE: as above, trace yellow fluorescence with slow streaming milky white fluorescence in rare aggregates.
	80	SILTSTONE: medium light grey to medium dark grey, firm to soft, darker cuttings harder and grading to friable, very fine grained sandstone, lighter cuttings soft and argillaceous, more or less carbonaceous, slightly calcareous.
	20	CLAYSTONE: medium light grey, trace pyrite, soft, sticky.
	trace	SANDSTONE: quartzose aggregates, clear to translucent, friable, medium grained, subangular, well sorted, argillaceous matrix, trace fluorescence as above.
	trace	COAL: as above.

2570 - 2575 m	60	SILTSTONE: as above, trace pyrite.
	40	CLAYSTONE: as above.
	trace	SANDSTONE: as above. No shows.
	trace	COAL: as above.
2575 - 2580m	70	SILTSTONE: as above, trace pyrite.
	20	CLAYSTONE:
	10	SANDSTONE: as above, mineral fluorescence only.
	trace	COAL: as above.
2580 - 2585m	40	SILTSTONE: medium light grey to medium dark grey, very friable to friable, blocky cuttings, non calcareous matrix, with very fine grained carbonaceous inclusions. A minor amount of the siltstone is dark grey, friable, blocky to subfissile, very carbonaceous.
	60	CLAYSTONE: white to medium light grey, very soft, blocky, well rounded cuttings, sticky, with very fine grained carbonaceous and quartz grain inclusions.
	trace	SANDSTONE: aggregates of clear to translucent, very friable, coarse to very coarse grains, subrounded, moderate to good sorting, argillaceous matrix. No shows. Also loose quartz: clear to translucent, medium to very coarse, subangular to subrounded. No shows. Pyrite: as fine grained aggregates or very occasionally surrounding quartz grains in quartz aggregates.
2585 - 2590m	80	SILTSTONE: as above.
	20	CLAYSTONE: as above.
	trace	SANDSTONE: loose quartz as above. No shows. Also fine to medium grained aggregates, friable, with ?calcareous cement, and trace very spotty white fluorescence, no cut.
	trace	PYRITE: as above.
	trace	COAL: black, hard, shiny, angular cuttings.
2590 - 2595m	80	SILTSTONE: occasionally calcareous, grades to a very fine sandstone, very fine quartz grains with argillaceous matrix. No shows. Otherwise as above.
	10	CLAYSTONE: only slightly sticky, otherwise as above.
	10	SANDSTONE: loose quartz as above, no shows. Also quartz aggregates, clear, friable, medium grained, subrounded to rounded, moderate to good sorting, dolomitic cement, carbonaceous siltstone and carbonaceous matter inclusions, trace of spotty, white fluorescence, no cut, no crush cut.
	trace	PYRITE: as above.
2595 - 2600m	60	SILTSTONE: as above.
	15	CLAYSTONE: as above.
	25	SANDSTONE: predominantly loose quartz as above. No shows. Also present medium and coarse grained aggregates as above. Trace of spotty pale yellow dull fluorescence, no cut, no crush cut. (Mineral fluorescence).
	trace	COAL: as above.

2600 - 2605m	80	SILTSTONE: as above.
	10	CLAYSTONE: as above.
	10	SANDSTONE: aggregates and loose quartz as above. A trace of the aggregates have pale yellow/white dull spotty fluorescence, no cut, no crush cut. (Mineral dolomite fluorescence).
2605 - 2610m	trace	COAL: as above.
	80	SILTSTONE: as above.
	20	CLAYSTONE: as above.
	trace	SANDSTONE: loose quartz as above, no shows; medium grained aggregates as above, no shows.
2610 - 2615m	trace	COAL: as above.
	90	SILTSTONE: light grey to medium dark grey, firm to hard, friable, blocky to subfissile cuttings, argillaceous, non calcareous, darker cuttings have carbonaceous inclusions, micaceous in part.
	10	CLAYSTONE: very light grey to light grey, soft, sticky.
2619m	trace	SANDSTONE: two types: (1) loose quartz grains, coarse to very coarse grained, subangular, moderate visible porosity. No shows. (2) medium to fine grained aggregates, argillaceous matrix, occasionally pyrite, poor to moderate visible porosity, trace dolomite cement, and yellow/gold mineral fluorescence.
	70	SILTSTONE: as above, grading to very fine grained sandstone, trace pyrite.
	30	CLAYSTONE: as above.
2619.3m	trace	SANDSTONE: as above, some very fine grained aggregates, no shows.
		Note: De-sander sample had approximately 30% loose, angular to subangular quartz, no shows.
	80	SILTSTONE: as above.
	20	CLAYSTONE: as above.
2620m	trace	SANDSTONE: as above, very fine grained to fine grained aggregates, poor visible porosity, no shows, carbonaceous laminae.
	trace	COAL: as above.
	80	SILTSTONE: as above.
	20	CLAYSTONE: as above.
2620 - 2625m	trace	SANDSTONE: as above, no dolomite, no fluorescence.
	trace	COAL: as above.
	70	SILTSTONE: as above.
	30	CLAYSTONE: as above.
2625 - 2630m	trace	SANDSTONE: as above.
	trace	COAL: as above.
	80	SILTSTONE: as above.
	10	CLAYSTONE: as above.
	10	SANDSTONE: as above.
	trace	COAL: as above.

2630 - 2635m	90	SILTSTONE: light grey, greenish grey to medium grey, very friable, blocky to subfissile cuttings, predominantly non calcareous matrix, calcareous in parts, carbonaceous flecking and occasional carbonaceous inclusions. The siltstone grades in part to a very fine grained argillaceous sandstone, trace only.
	10	COAL: black, hard, shiny, very angular cuttings, conchoidal fracture.
	trace	CLAYSTONE: white to medium light grey, very soft, blocky, well rounded cuttings, non calcareous matrix.
	trace	SANDSTONE: loose quartz, clear to translucent, coarse grained, subangular to subrounded, no shows.
2635 - 2640m	100	SILTSTONE: as above, also: greyish brown to dark grey, friable to hard, blocky to subfissile, carbonaceous in part, some pieces have very fine pyrite inclusions. Occasionally green ?glauconite inclusions.
	trace	CLAYSTONE: as above.
	trace	SANDSTONE: loose quartz grains as above. Quartz aggregates 1) very fine grained, friable to moderately hard, carbonaceous inclusions, very well sorted, no shows; 2) medium grained, friable to moderately hard, moderately to good sorting, dolomitic cement, carbonaceous inclusions, few pieces had patchy white fluorescence with no cut, no crush cut; 3) coarse grained -- friable to moderately hard, also contains fine and medium grained quartz grains, poorly sorted, carbonaceous inclusions, no shows.
	trace	?Also green to clear aggregates, no visible grains, hard, ?silica cement, very fine black inclusions, no visual porosity, no shows. PYRITE: as very fine grained aggregates, also surrounding coarse and medium quartz grains in sandstone aggregates.
2640 - 2645m	80	SILTSTONE: dark grey, medium grey to medium light grey, hard to firm, friable, argillaceous, more or less carbonaceous with common carbonaceous flecking in lighter cuttings, cuttings blocky to subfissile, grading to very fine grained sandstone, trace glauconite.
	10	SANDSTONE: trace pyrite, quartzose, two types - (1) loose quartz grains, translucent to pale blue grey, medium to very coarse grained, angular to subrounded, no shows; (2) very fine grained to fine grained aggregates, firm, translucent, white to pale green, moderately sorted, argillaceous matrix, no visible porosity, common dark green glauconite pellets and glauconitic colouring. No shows.
	10	CHERT: multicoloured greenish grey, red brown, blue grey, mauve, very hard to fissile to conchoidal fracture, angular to subangular cuttings.
	trace	SHALE: buff, light brown, light grey to very light grey, soft.

2645 - 2650m	60	SILTSTONE: as above, with coaly laminae.
	30	SANDSTONE: as above, hard, siliceous cement in part, slightly calcareous in part, trace mineral fluorescence, more or less glauconitic. No visible porosity.
	10	CHERT: as above fine layering and inclusions visible in some pieces.
	trace	CLAYSTONE: white to very light grey with darker inclusions, very soft, sticky.
	trace	SHALE: as above, also large bladed pieces coming over shakers.
	trace	PYRITE: (1) loose microcrystalline aggregates; (2) associated with quartz grains.
2650 - 2655m	60	SILTSTONE: as above grading into sandstone as above.
	20	SANDSTONE: predominantly aggregates as above.
	10	CHERT: as above.
	10	CLAYSTONE: as above.
	trace	COAL
2655 - 2660m	70	SILTSTONE: as above, trace pyrite.
	30	SANDSTONE: as above.
	trace	CHERT: as above.
	trace	CLAYSTONE: as above.
2660 - 2665m	60	SILTSTONE: as above.
	40	SANDSTONE: as above, but predominantly greenish to grey to blue.
	trace	CHERT: as above.
	trace	CLAYSTONE: as above.
2665 - 2670m	60	SILTSTONE: as above, trace pyrite.
	40	SANDSTONE: as above.
	trace	CHERT: as above.
	trace	CLAYSTONE: as above.
	trace	SHALE: as above.
2670 - 2675m	70	SILTSTONE: as above.
	20	SANDSTONE: greenish aggregates as above also trace of white quartz aggregates, less well cemented, poor visible porosity otherwise as above, trace bright yellow fluorescence - milky white cut and crush cut.
	10	COAL: black, vitreous, hard, brittle, conchoidal fracture in part.
	trace	CLAYSTONE: as above.
2675 - 2680m	60	SILTSTONE: as above.
	40	SANDSTONE: as above, bright yellow to yellow fluorescence, slow streaming yellow crush cut in hard aggregates, medium to fine grained, low visible porosity.
2681m		Bottoms up.
	60	SILTSTONE: as above.
	40	SANDSTONE: predominantly greenish aggregates but about half of sample is white quartz aggregates as above with fluorescence as above.
	trace	CHERT
	trace	CLAYSTONE
	trace	COAL

Cut Core No. 1 from 2681.0m to 2693.6m. (see Core descriptions). Reamed rathole from 2681.0 to 2693.6m.

2693.6 - 2695m	60	?VOLCANICS: green grey to medium grey, very hard to extremely hard, crystalline, medium to coarse crystals, predominantly quartzose with biotite and ?chlorite, and white quartz veins.
	20	SILTSTONE: buff to medium grey, friable, predominantly argillaceous matrix, occasionally calcareous, carbonaceous inclusions.
	20	SANDSTONE: Two types: (1) loose quartz: clear to translucent, medium to very coarse grained, predominantly coarse, subangular to subrounded. No shows. (2) quartz aggregates: fine grained, clear to translucent, friable, fine grained, subrounded to rounded, well sorted, white argillaceous matrix, occasional carbonaceous inclusions, poor visual porosity, Trace to 5% bright, white fluorescence, slow dull white discontinuous cut and fast dull white crush cut.
	trace	CHERT: white, pink, pale mauve, very hard to extremely hard, cryptocrystalline, very angular cuttings, siliceous.
	trace	COAL: black, hard, angular cuttings.
2695 - 2700m	70	?VOLCANICS: as above.
	20	SILTSTONE: as above.
	10	SANDSTONE: Two types as above, with fluorescence as above.
	trace	CHERT: as above.
	trace	COAL: as above.
2700 - 2705m	trace	PYRITE: fine grained aggregates or occasionally surrounding quartz grains in coarse quartz aggregates.
	60	?VOLCANICS: as above.
	20	SILTSTONE: as above.
	10	SANDSTONE: type (1) loose quartz as above - only trace. (2) aggregates: fine grained aggregates as above with 10% bright white fluorescence, and slow even milky white cut and crush cut. Also occasional medium grained aggregates otherwise as above. No shows.
	10	COAL: as above.
	trace	CHERT: as above.
	trace	CLAYSTONE: light grey, very soft, blocky, well rounded cuttings, non calcareous matrix, carbonaceous inclusions.
2705 - 2710m	trace	PYRITE: as above.
	50	?VOLCANICS: as above.
	40	SILTSTONE: as above, and occasionally medium dark grey.
	10	SANDSTONE: (1) loose quartz, as above - trace only. (2) aggregates: as above with 5% (of entire sample) bright white fluorescence, and discontinuous, faint, dull cut and crush cut.
	trace	CLAYSTONE: as above.
trace	COAL: as above.	
trace	CHERT: as above.	

2710 - 2715m	40	SILTSTONE: as above, grading to Shale.
	10	SANDSTONE: types: (1) loose quartz, as above - trace only. (2) quartz aggregates: as above with trace of very dull gold fluorescence, no cut, no crush cut.
	40	?VOLCANICS: as above.
	trace	CLAYSTONE: as above.
	trace	SHALE: medium dark grey to dark grey, friable, subfissile to fissile cuttings, non calcareous matrix, with common carbonaceous matter.
	trace	COAL: as above.
	trace	CHERT: as above.
2715 - 2720m	60	SILTSTONE: as above and occasionally grading to very fine grained, friable to hard, well sorted, argillaceous sandstone.
	20	SANDSTONE: type (1) as above - trace only. (2) fine grained aggregates as above, with muscovite and rare very dull pale yellow to white fluorescence, very slow dull faint cut, dull faint white crush cut.
	20	?VOLCANICS: as above.
	trace	CHERT: as above.
	trace	PYRITE: as above.
2720 - 2725m	90	SILTSTONE: as above.
	10	SANDSTONE: type (1) loose quartz as above - trace only. (2) aggregates as above and tending in parts to very argillaceous, micaceous and carbonaceous, with rare dull white fluorescence, and very slow, very faint white cut and crush cut.
	trace	?VOLCANICS: as above.
	trace	CHERT: as above.
2725 - 2730m	70	SILTSTONE: as above.
	10	SHALE: as above.
	10	SANDSTONE: type (1): loose quartz - trace only, as above. (2): quartz aggregates; fine and medium grained aggregates as above. No shows.
	10	COAL: as above.
	trace	CLAYSTONE: as above.
	trace	PYRITE as above.
	trace	VOLCANICS: as above.
2730 - 2735m	50	SILTSTONE: as above.
	10	SHALE: as above.
	10	SANDSTONE: type (1) loose quartz as above - trace only. (2) quartz aggregates as above, occasionally interstitial pyrite.
	30	COAL: as above.
	trace	VOLCANICS: as above.
2735 - 2740m	20	SILTSTONE: as above.
	10	SHALE: as above, very carbonaceous.
	70	COAL: as above.
	trace	SANDSTONE: as above type (1) and (2)
	trace	CLAYSTONE: as above.
trace	VOLCANICS: as above.	

2740 - 2745m	10	SILTSTONE: as above.
	20	SANDSTONE: quartzose, clear to translucent quartz grains, firm but friable, fine grained aggregates, subrounded to angular, moderately sorted, white to buff argillaceous matrix, low visible porosity.
	20	SHALE: very carbonaceous, as above.
	50	COAL: as above.
	trace	VOLCANICS: as above.
2745 - 2750 m	50	SILTSTONE: as above, trace pyrite.
	10	SANDSTONE: as above but trace pale yellow fluorescence and very weak diffuse milky white fluorescence.
	10	COAL: as above.
	30	SHALE: as above.
	trace	CLAYSTONE: as above.
	trace	VOLCANICS: as above.
2750 - 2755m	50	SILTSTONE: as above, trace pyrite, trace mica, fine carbonaceous laminae in part.
	30	SANDSTONE: as above but 5% pale to bright yellow fluorescence and slow steaming yellow cut and crush cut.
	20	SHALE: as above.
	trace	CLAYSTONE: as above.
	trace	COAL: as above.
	trace	VOLCANICS: as above.
2755 - 2760m	50	SILTSTONE: as above.
	30	SANDSTONE: as above but also medium grained aggregates otherwise as above, 10% bright yellow fluorescence but only slow steaming crush cut. Trace mica.
	15	SHALE: as above.
	5	COAL: as above.
	trace	CLAYSTONE: as above.
	trace	VOLCANICS: as above.
2760 - 2765m	40	SILTSTONE: as above.
	10	SHALE: as above.
	10	SANDSTONE: as above, but predominantly medium grained aggregates, 5% fluorescence as above.
	40	COAL
	trace	VOLCANICS
2765 - 2770m	70	SILTSTONE: medium dark grey to dark grey, firm to hard, very carbonaceous, no shows.
	30	SANDSTONE: quartzose, fine to medium aggregates, hard, friable, buff to white argillaceous matrix, subrounded to subangular. Dull gold fluorescence, no cut. 5% to 10% occasionally pale to bright yellow fluorescence, no cut.
	trace	COAL.
2770 - 2775m	30	SILTSTONE: as above.
	60	SANDSTONE: as above plus trace loose quartz grains, translucent, very coarse to coarse grained, angular to subangular, fluorescence as above for majority but trace to 5% of bright yellow with stream yellow cut.
	10	COAL
	10	SHALE
	trace	CLAYSTONE.

Circulated bottoms up.

2777m	40	SILTSTONE: as above.
	50	SANDSTONE: as above, 60% dull gold fluorescence. No cut, non calcareous. Trace to 5% bright yellow fluorescence as above with very slow streaming cut.
	10	COAL
	trace	SHALE
2777 - 2780m	60	SILTSTONE: occasionally medium light grey, predominantly medium grey to medium dark grey, friable, blocky to sub-fissile cuttings, non calcareous matrix, common carbonaceous inclusions and layering.
	10	SHALE: medium dark grey to dark grey, friable, subfissile to fissile cuttings, non calcareous matrix, common carbonaceous matrix, common carbonaceous inclusions and layering.
	30	SANDSTONE: type (1) loose quartz, clear to translucent, coarse to very coarse grained, subangular to subrounded. No shows. (2) quartz aggregates; very light grey to buff, friable, fine to medium grained, subrounded grains, well sorted (there are fine grained aggregates and medium grained aggregates), argillaceous and dolomitic matrix, carbonaceous and muscovite inclusions. Dull gold fluorescence, no cut, no crush cut (i.e. mineral fluorescence).
2780 - 2785m	50	SILTSTONE: as above.
	10	SHALE: as above.
	40	SANDSTONE: types (1) and (2) with common dull gold fluorescence as above.
2785 - 2790m	70	SILTSTONE: as above.
	10	SHALE: as above.
	20	SANDSTONE: types (1) and (2) with common dull gold/pale yellow fluorescence, no cut, no crush cut, as above.
2790 - 2795m	60	SILTSTONE: very carbonaceous, medium grey to medium dark grey as above.
	10	SHALE: very carbonaceous otherwise as above.
	30	SANDSTONE: type (1) loose quartz, as above - trace only. (2) aggregates, becoming more argillaceous, with carbonaceous inclusions now common, fluorescence very dull gold, no cut, no crush cut otherwise as above.
	trace	COAL: black, friable to shiny, angular cuttings.
	trace	PYRITE: microcrystalline aggregates.
2795 - 2800m	40	SILTSTONE: as above.
	20	SHALE: as above.
	40	SANDSTONE: type (1) loose quartz - trace only, as above. (2) aggregates, fluorescence, cut etc. as above.
	trace	COAL: as above.
2800 - 2805m	70	SILTSTONE: as above.
	20	SHALE: as above.
	10	SANDSTONE: type (1) loose quartz, trace only, as above. (2) Aggregates, as above and trace of fluorescence as above.
	trace	PYRITE: microcrystalline as above.

2805 - 2810m	50	SILTSTONE: as above.
	40	SHALE: as above.
	20	SANDSTONE: type (1) and (2) with very rare very dull gold spotty fluorescence, no cut, no crush cut. Type (2) aggregates no longer dolomitic.
2810 - 2815m	70	SILTSTONE: as above.
	30	SHALE: as above.
	trace	SANDSTONE: type (1) loose quarts, as above. (2) aggregates, as above, trace very dull spotty gold to pale yellow fluorescence, no cut, no crush cut. Also two pieces of very argillaceous, fine grained sandstone with very dull spotty pale white fluorescence, no cut, very faint pale white crush cut.
2815 - 2820m	60	SILTSTONE: as above, and grading to a very fine, very argillaceous, carbonaceous sandstone.
	30	SHALE: as above.
	10	CLAYSTONE: buff to medium light grey, very soft, blocky, well rounded cuttings, argillaceous matrix, carbonaceous inclusions.
	trace	SANDSTONE: type (1) loose quartz, as above - few pieces only in sample. (2) aggregates, ranging from argillaceous to very argillaceous, otherwise as above. With very rare (few pieces only) very spotty, very dull gold fluorescence, no cut, no crush cut.
2820 - 2825m	trace	COAL: as above.
	75	SILTSTONE: as above.
	20	SHALE: as above.
	5	SANDSTONE; as above predominantly type (2) - trace bright yellow fluorescence with yellow diffuse cut and crush cut.
2828m	trace	CLAYSTONE: as above, but white.
	trace	COAL
	80	Spot Sample
		SILTSTONE: medium dark grey to dark grey, very carbonaceous in part, firm, to hard, friable, blocky cuttings, argillaceous, to slightly siliceous cement, no visible porosity, no shows.
20	SHALE: medium dark grey to dark grey, hard, fissile, carbonaceous.	
trace	SANDSTONE: quartzose, clear, firm, friable, fine to medium grained, predominantly grained aggregates, subangular to rounded, predominantly subrounded, moderately well sorted, buff argillaceous matrix, trace carbonaceous inclusions, trace bright yellow fluorescence and yellow diffuse crush cut.	
trace	COAL: black, brittle.	
2828 - 2830m	70	SILTSTONE: as above.
	10	SHALE: as above.
	20	SANDSTONE: as above, 5% bright yellow fluorescence and yellow slow streaming cut and crush cut.
	trace	CLAYSTONE: white to very light grey, soft, blocky cuttings, sticky in part.

2830.7m		Bottoms Up
	80	SILTSTONE: as above, trace pyrite, grading to very fine grained sandstone.
	10	SHALE: as above.
	10	SANDSTONE: as above, 5% fluorescence and cut, as above.
	trace	CLAYSTONE: as above.
	trace	COAL
2830.7 - 2835m	40	SILTSTONE: as above.
	60	SHALE: as above, very carbonaceous.
	trace	SANDSTONE: as above, trace fluorescence, as above.
2835 - 2838m	80	SILTSTONE: as above, less carbonaceous in part.
	10	SHALE: as above.
	10	SANDSTONE: as above.
2838 - 2840m	70	SILTSTONE: as above.
	30	SHALE: as above.
	trace	SANDSTONE: as above, with very rare dull white fluorescence, 1 piece had very slow faint streaming cut and crush cut.
2840 - 2845m	70	SILTSTONE: light grey to medium grey, friable, blocky to subfissile cuttings, argillaceous, non calcareous matrix, with carbonaceous inclusions.
	20	SHALE: medium dark grey to dark grey, friable, subfissile to fissile, argillaceous, non calcareous matrix, with carbonaceous inclusions.
	10	CLAYSTONE: light grey to greenish grey, soft, blocky cuttings, calcareous with occasional carbonaceous inclusions.
	trace	SANDSTONE: type 1) loose quartz - clear to translucent, coarse to very coarse grained, subangular to subrounded, no shows. Type 2) quartz aggregates - clear, friable, very fine to fine grained, well sorted, predominantly white clay matrix, in parts very argillaceous, carbonaceous inclusions. Poor visible porosity, trace dull white to dull gold fluorescence, white fluorescent pieces had slow white streaming cut, fast instant pale white crush cut.
	trace	COAL: black, hard, angular cuttings.
	trace	CHERT: probably cavings, pale blue/grey, hard, cryptocrystalline, angular to occasionally subrounded.
	trace	VOLCANICS: probably cavings - clear to green, hard, rounded cuttings, ?biotite, quartz, white quartz veins.
2845 - 2850m	60	SILTSTONE: as above.
	30	SHALE: as above.
	10	CLAYSTONE: as above.
	trace	SANDSTONE: aggregates as above, fluorescence as above, only 1 piece had cut as above.

2850 - 2855m	80	SILTSTONE: as above.
	20	SHALE: as above.
	trace	CLAYSTONE: as above.
	trace	SANDSTONE: type 1) loose quartz, as above; predominantly type 2) aggregates as above, with trace dull white pinpoint fluorescence, no cut, no crush cut.
	trace	PYRITE: microcrystalline aggregates.
2855 - 2860m	trace	VOLCANICS: probably cavings, as above.
	60	SILTSTONE: as above.
	20	SHALE: as above.
	10	CLAYSTONE: as above.
	10	SANDSTONE: type 1) loose quartz, as above; type 2) aggregates - trace dull white fluorescence, one piece had faint slow dull white crush cut.
2860 - 2865m	trace	PYRITE: as above.
	60	SILTSTONE: becoming darker and more carbonaceous.
	20	SHALE: becoming more carbonaceous.
	20	SANDSTONE: Type 2) aggregates - very fine to fine grained, with white clay matrix and carbonaceous inclusions as above, in parts very argillaceous and carbonaceous. Trace of muscovite inclusions. Trace of dull white fluorescence, no cut.
	trace	CLAYSTONE: as above.
2865 - 2870m	trace	COAL: as above.
	50	Note: Desander sample - fine to coarse grained, predominantly medium to coarse grained sand, quartzose, clear to translucent, subangular to subrounded, also trace of aggregates (type 2) as above, no shows.
	50	SILTSTONE: as above.
	50	SANDSTONE: type 2) micaceous aggregates as above, occasionally medium grained aggregates, trace of dull white fluorescence as above, no cut.
	trace	SHALE: as above.
2870 - 2875m	trace	CLAYSTONE: as above.
	70	SILTSTONE: medium dark grey to medium light grey, firm to hard, friable, blocky to subfissile cuttings, argillaceous, no shows, grading to very fine grained sandstone.
	10	SHALE: as above.
	20	SANDSTONE: as above, trace fluorescence as above.
	trace	CLAYSTONE: as above.
2875 - 2880m	20	SILTSTONE: as above.
	20	SANDSTONE: as above, no shows.
	10	SHALE: as above.
	50	COAL: as above.
2880 - 2885m	100	SILTSTONE: as above, very carbonaceous.
	trace	SHALE: as above.
	trace	COAL: as above.
	trace	SANDSTONE: as above.
2885 - 2890m	80	SILTSTONE: as above, more or less carbonaceous.
	10	SHALE: as above.
	10	COAL: as above.
	trace	SANDSTONE: as above.

2890 - 2895m	50	SILTSTONE: as above.
	20	SHALE: as above.
	20	COAL: as above.
	10	SANDSTONE: as above.
2895 - 2900m	80	SILTSTONE: as above.
	20	SHALE: as above.
	trace	SANDSTONE: as above, trace yellow/white fluorescence, no shows - mineral fluorescence due to dolomite cement.
2903.3m		Bottoms Up
	60	SILTSTONE: as above.
	30	SHALE: as above.
	10	SANDSTONE: as above, trace to 5% bright yellow mineral fluorescence due to dolomite.
	trace	CLAYSTONE: white to very light grey, soft, blocky cuttings.
2900 - 2905m	80	SILTSTONE: medium light grey to predominantly medium dark grey, firm to hard, blocky to subfissile cuttings, argillaceous, carbonaceous.
	20	SHALE: medium dark grey, friable to hard, subfissile to fissile cuttings, argillaceous, carbonaceous.
	trace	CLAYSTONE: very light grey to greenish grey, soft, blocky, well rounded cuttings, the greenish cuttings are calcareous, others non calcareous, with occasional very fine grained carbonaceous inclusions.
	trace	SANDSTONE: very fine to medium grained, friable, subrounded grained, moderate to well sorted, carbonaceous inclusions, dolomitic cement, trace pale yellow fluorescence, no cut, no crush cut, (mineral fluorescence), poor visible porosity.
	trace	PYRITE: as above.
2905 - 2910m	80	SILTSTONE: as above.
	20	SHALE: as above.
	trace	CLAYSTONE: as above.
	trace	SANDSTONE: as above, 5% bright yellow fluorescence, no cut, no crush cut.
2910 - 2915m	70	SILTSTONE: as above, and grading to very fine, argillaceous sandstone.
	20	SHALE: as above.
	10	SANDSTONE: as above, approximately 10% bright yellow fluorescence, no cut, no crush cut.
	trace	CLAYSTONE: as above.
2915 - 2920m	60	SILTSTONE: as above.
	20	SHALE: as above.
	20	CLAYSTONE: as above, and becoming soft and more carbonaceous.
	trace	SANDSTONE: as above, trace bright yellow fluorescence, no cut, no crush cut.
	trace	COAL: black, very hard, shiny, angular cuttings, conchoidal fracture.
2923m		Spot Sample
	60	SILTSTONE: as above.
	10	SHALE: as above.
	20	CLAYSTONE: as above.
	10	COAL: as above.
trace	SANDSTONE: as above.	

2920 - 2925m	60	SILTSTONE: as above.
	10	SHALE: as above.
	20	CLAYSTONE: also brownish grey, otherwise as above.
	10	COAL: as above.
	trace	SANDSTONE: type 1) as above, trace fluorescence with no cut, as above; also type 2) loose quartz, clear to translucent, coarse to very coarse grained, subangular, no shows, (very minor - trace only).
2925 - 2930m	50	SILTSTONE: as above.
	20	SHALE: as above.
	30	CLAYSTONE: predominantly very light grey to brownish grey and non calcareous, otherwise as above.
	trace	SANDSTONE: type 1) aggregates - as above, with minor trace fluorescence as above.
	trace	COAL: as above.
2931m		Spot Sample
	50	SILTSTONE: as above.
	10	SHALE: as above.
	20	CLAYSTONE: as above.
	10	SANDSTONE: as above.
2931m		Desander Sample
	50	SILTSTONE: as above.
	10	SHALE: as above.
	10	CLAYSTONE: as above,
	30	SANDSTONE: aggregates and dominantly loose quartz, fine to medium grained, otherwise as above.
	trace	COAL
	trace	PYRITE
2930 - 2935m	40	SILTSTONE: as above.
	20	SHALE: as above.
	20	CLAYSTONE: as above.
	10	SANDSTONE: type 2) aggregates as above, becoming very argillaceous in parts, fluorescence as above.
	10	COAL: as above.
2935 - 2940m	90	SILTSTONE: as above.
	10	SANDSTONE: as above, aggregates with fluorescence as above.
	trace	COAL
	trace	SHALE: as above.
	trace	CLAYSTONE: as above.
2940 - 2945m	40	SILTSTONE: as above, very carbonaceous in part.
	30	SHALE: as above.
	30	SANDSTONE: as above, 5% dull yellow fluorescence with fast streaming crush cut and dull gold mineral fluorescence due to dolomite.
	trace	COAL
2945 - 2950m	40	SILTSTONE: as above.
	10	SHALE: as above.
	40	SANDSTONE: as above, trace to 5% fluorescence as above.
	10	COAL: as above.

2950 - 2955m	70	SILTSTONE: as above.
	10	SHALE: as above.
	20	SANDSTONE: as above, slightly dolomitic cement, fluorescence as above.
	trace	COAL: as above.
2955 - 2960m	40	SILTSTONE: as above, micaceous in part, very carbonaceous.
	50	SANDSTONE: medium grained aggregates, micaceous in part, dolomitic in part, otherwise as above.
	10	SHALE: as above.
2960 - 2965m	50	SILTSTONE: as above.
	40	SANDSTONE: as above.
	10	SHALE: as above.
	trace	COAL: as above.
2965 - 2970m	60	SILTSTONE: medium dark grey to dark grey, firm to hard, friable, blocky to subfissile cuttings, argillaceous matrix, siliceous cement, very carbonaceous with carbonaceous flecks, trace pyrite, microcrystalline.
	10	SHALE: medium dark grey to dark grey, hard, fissile to subfissile, angular cuttings, very carbonaceous.
	30	SANDSTONE: quartzose, clear to translucent, firm, fine to medium grained aggregates, subangular to subrounded, moderately well sorted, buff, argillaceous matrix, slightly micaceous in part, dolomitic in part, poor visible porosity, trace to 5% dull to bright yellow fluorescence, slow streaming cut and crush cut, occasional loose grains - no shows.
	trace	COAL: black, vitreous, brittle.
2970 - 2975m	70	SILTSTONE: as above.
	10	SHALE: as above.
	20	SANDSTONE: as above, 5% fluorescence and cut, as above.
2975 - 2980m	60	SILTSTONE: also light grey, otherwise as above.
	10	SHALE: as above.
	30	SANDSTONE: some with dolomitic cement, otherwise as above, including occasional loose grains. Trace bright, pale, yellow fluorescence, no cut, no crush cut (these pieces were dolomitic).
2980 - 2985m	80	SILTSTONE: as above.
	20	SANDSTONE: as above, 10% bright white fluorescence, no cut, instant pale white crush cut.
	trace	SHALE: as above.
2985 - 2990m	80	SILTSTONE: as above.
	10	SHALE: as above.
	10	SANDSTONE: as above, trace of bright yellow fluorescence, no cut, no crush cut ie. as above. Also 5% bright white fluorescence - one piece had slow dull pale white cut, others had instant pale white crush cut only.

2990 - 2995m	50	SILTSTONE: as above, also in part grading to a very fine, argillaceous, carbonaceous sandstone. Poor visible porosity, no shows.
	20	SHALE: as above.
	30	SANDSTONE: with occasional carbonaceous inclusions, rare bright yellow mineral fluorescence, as above. Trace bright white fluorescence, slow streaming white cut, instant white crush cut.
2995m		Desander Sample
	50	SILTSTONE: as above.
	50	SANDSTONE: mostly broken pieces of aggregates (these aggregates are less argillaceous with medium to coarse grains. Have very rare (few pieces only in whole sample) pinpoint white fluorescence, 2 pieces had slow white cut and crush cut, occasional loose grains, medium to very coarse grained, subangular.
	trace	SHALE: as above.
2995 - 3000m	90	SILTSTONE: as above.
	10	SANDSTONE: as above, with very rare dull white fluorescence, no cut, one piece had instant white crush cut.
	trace	SHALE: predominantly subfissile.
	trace	CLAYSTONE: light to medium light grey, very soft, blocky, well rounded cuttings, slightly sticky in parts, argillaceous matrix, carbonaceous flecking.
	trace	COAL: as above.
	trace	PYRITE: microcrystalline aggregates.
3000 - 3005m	80	SILTSTONE: as above.
	10	CLAYSTONE: also greyish brown, otherwise as above.
	10	SANDSTONE: aggregates as above, one dolomitic piece had bright yellow fluorescence, no cut, no crush cut, 5 other pieces had bright white fluorescence, one of which has slow streaming white cut, 2 others faint white crush cut, rest no cut or crush cut.
3010m	40	SILTSTONE: as above.
	30	SHALE: as above.
	20	CLAYSTONE: as above, also greenish grey, soft, calcareous claystone - probably cavings.
	10	SANDSTONE: as above, minor trace dull gold mineral fluorescence, no cut.
3011m		Bottoms Up
	50	SILTSTONE: as above.
	20	SHALE: as above.
	20	CLAYSTONE: as above, with probable cavings as above.
	10	SANDSTONE: as above, with very minor trace dull gold mineral fluorescence, no cut.
	trace	COAL: as above.
trace	PYRITE: as above.	

APPENDIX 1

Lithological Descriptions

WHITING - 1

LITHOLOGY DESCRIPTIONS

<u>Depth</u>	<u>%</u>	<u>Description</u>
195 - 200m	100	CEMENT
200 - 210m	100	CEMENT
210 - 220m	100	CALCARENITE: very light grey, argillaceous, bryozoans abundant, occasional forams and shell fragments. Common aggregates of medium to fine grained, poorly sorted, angular, calcareous grains with a calcite cement. Occasional dark coloured grains. This materials forms a matrix around the larger bryozoans and shell fragments.
220 - 230m	100	CALCARENITE: as above.
230 - 240m	100	CALCARENITE: as above.
240 - 250m	100	CALCARENITE: as above.
250 - 260m	100	CALCARENITE: as above.
260 - 270m	100	CALCARENITE: as above, and trace echinoid plates.
270 - 280m	100	CALCARENITE: as above.
280 - 290m	100	CALCARENITE: as above, bryozoans far less abundant, occasional echinoid spine.
290 - 300m	100	CALCARENITE: as above.
300 - 310m	100	CALCARENITE: as above, predominantly bryozoan fragments.
310 - 320m	100	CALCARENITE: as above, less loose fossil fragments, aggregates more common.
320 - 330m	100	CALCARENITE: light grey, aggregates of medium to very fine grained calcareous clasts in calcareous cement, with argillaceous material present. The grains are angular to subrounded, poorly sorted with occasional dark mineral grains and glauconite grains. Cuttings are firm to moderately hard, generally subrounded. Minor amounts of shell fragments, bryozoa, and forams.
330 - 340m	100	CALCARENITE: as above.
340 - 350m	100	CALCARENITE: as above, sample slightly finer grained. Abundant medium grey, calcareous gumbo over the shakers.
350 - 360m	100	CALCARENITE: as above, no glauconite.
360 - 370m	100	CALCARENITE: as above.
370 - 380m	100	CALCARENITE: as above, less bryozoa.
380 - 390m	100	CALCARENITE: as above, minor glauconite, bryozoa less abundant, minor forams.

390 - 400m	100	CALCARENITE: as above, slight decrease in grainsize, minor shell fragments.
400 - 410m	100	CALCARENITE: as above, minor glauconite, slightly argillaceous.
410 - 420m	100	CALCARENITE: light to medium grey, firm to hard, subrounded cuttings. Dominated by aggregates of fine grained calcarenite with calcite cement. Glauconite and argillaceous materials are accessory to aggregates, as are dark (heavy?) mineral grains. Minor bryozoa, echinoid spines and plates (rare), forams and shell fragments.
420 - 430m	100	CALCARENITE: as above, frequently fine grained, subrounded glauconite grains in calcarenite aggregates.
430 - 440m	100	CALCARENITE: as above, bryozoa less frequent.
440 - 450m	100	CALCARENITE: as above.
450 - 460m	100	CALCARENITE: as above.
460 - 470m	100	CALCARENITE: as above, more shell fragments. Calcarenite grains in aggregates becoming slightly finer grained ie. very fine grained.
470 - 480m	100	CALCARENITE: as above.
480 - 490m	100	CALCARENITE: minor glauconite, less fossils, as above.
490 - 500m	100	CALCARENITE: as above, fossils now rare, less than 5%. Calcarenite aggregates dominant, becoming slightly more argillaceous.
500 - 510m	100	CALCARENITE: as above, cuttings hard to very hard.
510 - 520m	100	CALCARENITE: cuttings dominated by medium grey, calcite cemented aggregates. Aggregates contain small amounts of argillaceous material, dark minerals (iron oxides), occasional glauconite and fossil fragments. All aggregate components subrounded and poor to medium sorting. Very small amounts of bryozoa, echinoids and shell fragments.
520 - 530m	100	CALCARENITE: as above.
530 - 540m	100	CALCARENITE: as above.
540 - 550m	100	CALCARENITE: as above, abundant "gumbo" over the shakers.
550 - 560m	100	CALCARENITE: as above.
560 - 570m	100	CALCARENITE: as above, occasional echinoid fragments.
570 - 580m	100	CALCARENITE: as above, fossil fragments slightly more common.
580 - 590m	100	CALCARENITE: as above.

590 - 600m	100	CALCARENITE: as above, fossil fragments rare.
600 - 610m	100	CALCARENITE: as above.
610 - 620m	100	CALCARENITE: as above.
620 - 630m	100	CALCARENITE: as above, trace calcite - angular cuttings, possibly veins.
630 - 640m	100	CALCARENITE: as above.
640 - 650m	100	CALCARENITE: as above, trace calcite.
650 - 660m	100	CALCARENITE: as above.
660 - 670m	100	CALCARENITE: as above.
670 - 680m	100	CALCARENITE: as above.
680 - 690m	100	CALCARENITE: as above, forams more common.
690 - 700m	100	CALCARENITE: as above.
700 - 710m	100	CALCARENITE: as above.
710 - 720m	100	CALCARENITE: as above, trace siltstone (clean, non-calcareous).
720 - 730m	100	CALCARENITE: as above, cuttings soft to firm, forams most abundant fossil.
730 - 740m	100	CALCARENITE: as above.
740 - 750m	100	CALCARENITE: as above, fossil fragments now extremely rare. Dominated by aggregates of micrite cemented calcarenite. Grains are very fine to medium grained, subrounded, moderately well sorted.
750 - 760m	100	CALCARENITE: as above.
760 - 770m	100	CALCARENITE: as above.
770 - 780m	100	CALCARENITE: as above.
780 - 790m	100	CALCARENITE: as above, cuttings soft to moderately hard.
790 - 800m	100	CALCARENITE: as above, rare fossils - usually forams.
800 - 810m	100	CALCARENITE: aggregates are very fine grained with occasional quartz grains in micritic cement. Light to medium grey, soft to moderately hard, cemented grains subrounded, moderately well sorted, forams rare. No other fossils. 5% spotty bright green mineral fluorescence.
	trace	CEMENT
810 - 820m	100	CALCARENITE: as above, 2-5% mineral fluorescence.
	trace	CEMENT
820 - 830m	100	CALCARENITE: as above, minor glauconite, minor intraclastic rock fragments.

830 - 840m	100	CALCARENITE: aggregates of very fine grained carbonate, quartz and dark mineral grains cemented by micritic cement. Light grey, variably soft to moderately hard. Occasional pure white calcareous cuttings, possibly vein calcite. Some aggregates exhibit faint layering in surface texture.
840 - 850m	100	CALCARENITE: as above, minor pyrite. Trace spotty mineral fluorescence.
850 - 860m	100	CALCARENITE: as above.
860 - 870m	100	CALCARENITE: as above, fine to very fine grained, quartz and dark mineral grains in aggregates. Trace mottled mineral fluorescence.
870 - 880m	100	CALCARENITE: medium grey aggregates, quartz and dark mineral (some glauconite) grains. Very fine to fine grained, moderately sorted, soft to moderately hard, micritic cement, no fossils.
880 - 890m	100	CALCARENITE: as above.
890 - 900m	100	CALCARENITE: as above, slight increase in glauconite content - still minor. 2 distinct colour variations of calcareous aggregates. One is white to very light grey, the other medium grey. Both contain same types of grains (calcareous, quartz, dark mineral, glauconite, pyrite) all moderately well sorted and subrounded, in micritic cement. 50% spotty dull straw mineral fluorescence.
900 - 910m	100 trace	CALCARENITE: as above, contrast between colour variants not as marked (ie. light grey and medium light grey aggregates). SANDSTONE: cream to clear, well rounded, very well sorted, coarse grained, loose quartz grains. Note: presence of small (1-2m) drill breaks (30/70m/h) at this depth. All cuttings moderately hard.
910 - 920m	100 trace	CALCARENITE: colour distinction becoming prominent. Dark to medium grey aggregates becoming finer grained (very fine grained to siltstone) and constitute 50% of cuttings. White cuttings consist of polycrystalline carbonate, rich in glauconite and pyrite. All cuttings moderately hard. 50% patchy dull straw mineral fluorescence, 20% bright straw mineral fluorescence from white polycrystalline cuttings. SANDSTONE: cream to clear, well rounded, well sorted, coarse to medium grained, loose quartz grains.

920 - 930m	75	CALCAREOUS SILTSTONE/SANDSTONE: medium grey siltstone, cuttings very fine grained to siltstone, moderately hard, well sorted, well rounded, some cuttings poorly laminated.
	25	CALCARENITE: white to light grey, polycrystalline carbonate, abundant glauconite and pyrite as accessories.
	trace	SANDSTONE: cream, well rounded, well sorted, medium quartz grains.
930 - 940m	100	CALCAREOUS SILTSTONE/SANDSTONE: medium grey, very fine grained sandstone to siltstone. Cuttings contain well rounded, well sorted, calcareous, quartz, dark mineral and glauconite grains. Calcareous cement. Rare forams.
940 - 950m	100	CALCAREOUS SILTSTONE/SANDSTONE: as above, (very fine grained calcarenite to calcilutite), minor forams, bryozoa.
950 - 960m	100	CALCISILTITE: medium light grey, angular, firm cuttings, grains appear to be a subangular calcite, calcareous, slightly argillaceous cement. Occasional dark mineral grains, and forams, echinoid fragments. Possibly some dark carbonaceous flecks.
	trace	CALCITE: clear to buff, blocky cuttings, gives a dull straw mineral fluorescence, from fossil fragments and veins.
	trace	SANDSTONE: coarse grained, rounded to subrounded quartz grains, clear, frosted.
960 - 965m	100	CALCISILTITE: as above.
	trace	CALCITE: as above.
965 - 970m	100	CALCISILTITE: as above.
	trace	CALCITE: as above.
970 - 975m	100	CALCISILTITE: as above.
	trace	CALCITE: as above.
975 - 980m	100	CALCISILTITE: as above.
	trace	CALCITE: as above.
980 - 985m	100	CALCISILTITE: as above.
	trace	CALCITE: as above.
985 - 990m	100	CALCISILTITE: as above.
	trace	CALCITE: as above.
990 - 1000m	100	CALCISILTITE: as above.
	trace	CALCITE: as above.
1000 - 1010m	100	CALCISILTITE: as above.
	trace	CALCITE: as above, all the calcite in the sample gives dull straw coloured mineral fluorescence. More common than above.
1010 - 1020m	100	CALCISILTITE: as above.
	trace	CALCITE: as above.
1020 - 1030m	100	CALCISILTITE: as above.
	trace	CALCITE: as above.
1030 - 1040m	100	CALCISILTITE: as above.
	trace	CALCITE: as above.

1040 - 1050m	100 trace	CALCISILTITE: as above. CALCITE: as above.
1050 - 1060m	100 trace	CALCISILTITE: as above. CALCITE: as above.
1060 - 1070m	100 trace	CALCISILTITE: about 50% of the sample is very light grey. CALCITE: as above with associated dull straw mineral fluorescence. The sample over the shakers is very argillaceous and clayey.
1070 - 1080m	100 trace	CALCISILTITE: as above, 50% very light grey, rare glauconite grains. CALCITE: as above, with associated mineral fluorescence common.
1080 - 1090m	100 trace	CALCISILTITE: as above, rare glauconite, rare forams. 60% very light grey, some glauconite ascavity filling in fossils. CALCITE: as above.
1090 - 1100m	100 trace	CALCISILTITE: as above, darker grains (medium light grey) tend to be moderately hard, lighter grains soft. CALCITE
1100 - 1110m	100 trace	CALCISILTITE: medium grey to very light grey, well rounded, moderately well sorted, silt to very fine grain size grains in calcareous (slightly argillaceous) cement. Grain types - quartz, minor calcite, dark minerals, minor glauconite and pyrite. Soft. The sample over the shakers is very clayey. CALCITE: white to very light grey, polycrystalline.
1110 - 1120m	100 trace	CALCISILTITE: as above, minor glauconite. CALCITE: as above.
1120 - 1130m	100 trace	CALCISILTITE: as above, with clay as above. CALCITE
1130 - 1140m	100 trace	CALCISILTITE: as above, cuttings generally smaller in size. "Gumbo" is calcareous, argillaceous, H ₂ O sensitive and in abundance over shakers. CALCITE
1140 - 1150m	100 trace	CALCISILTITE: as above, nearly all sample over shakers is gumbo. CALCITE: as above, rare.
1150 - 1160m	100 trace	CALCISILTITE: as above, very argillaceous, predominantly very light grey, gumbo over shakers as above. CALCITE: as above.
1160 - 1170m	100	CALCISILTITE: as above, abundant gumbo at shakers. Rare glauconite grains in sample. 30% mottled mineral fluorescence, dull straw.

1170 - 1180m	100	CALCISILTITE: as above, abundant gumbo still at shakers. Medium grey, calcareous, argillaceous, rare siltstone cuttings, moderately firm to soft, faint layering visible.
	trace	CALCITE: white, soft, polycrystalline calcite, occasionally pyritic, trace glauconite.
1180 - 1190m	100	CALCISILTITE: as above, rare bryozoa.
1190 - 1200m	100	CALCISILTITE: as above, some cuttings of glauconitic, medium grey siltstone - soft.
1200 - 1210m	100	CALCISILTITE: as above.
1210 - 1220m	100	CALCISILTITE: as above.
1220 - 1230m	100	CALCISILTITE: as above.
1230 - 1240m	100	CALCISILTITE: light grey to very light grey, soft to firm cuttings, argillaceous, calcareous, faint layering visible. Trace of very fine glauconite grains in some cuttings. Gumbo as above.
	rare	CALCITE: gives dull straw mineral fluorescence.
1240 - 1250m	100	CALCISILTITE: as above.
	trace	CALCITE: as above.
	trace	PYRITE: granular, small cuttings.
1250 - 1260m	100	CALCISILTITE: as above.
	trace	CALCITE: as above.
	trace	PYRITE: as above.
1260 - 1270m	100	CALCISILTITE: as above, increasing glauconite, minor pyrite, minor calcarenite.
1270 - 1275m	30	SILTSTONE: grades to very fine grained sandstone, sandstone is very light grey, subrounded, firm, has a calcareous cement and is slightly argillaceous. The grains are very fine grained and grade to siltstone, quartzose, subangular, well sorted, closely packed with poor visible porosity. Rounded to subrounded, fine grained glauconite grains are abundant in these cuttings. Occasional fine grained pyrite. From de-sander - quartz grains as above, plus tan and red brown fine grains, possibly iron oxides, (possibly weathered).
	70	CALCISILTITE: as above.
	trace	CALCITE: as above.
	trace	PYRITE: as above.
1275 - 1280m	10	SILTSTONE: as above.
	90	CALCISILTITE: mostly polycrystalline, soft. Trace dull straw patchy mineral fluorescence.
	trace	PYRITE: granular cuttings.

1280 - 1287m	20	SILTSTONE: as above.
	80	CALCISILTITE: as above, mostly polycrystalline type. Trace very dull patchy yellow mineral fluorescence.
	trace	PYRITE: as above.
	trace	SANDSTONE: loose quartz grains, clear, frosty, subrounded to rounded, coarse grained. Still getting masking of sample from above.
1287 - 1290m	90	SANDSTONE: clear to frosty loose quartz grains, subangular to predominantly subrounded to rounded, subangular grains probably smashed by bit. Predominantly very coarse grained, well sorted, no visible cement. Fine pyrite is scattered over the grains. No fluorescence, no cut.
	10	SILTSTONE/CALCISILTITE: as above. Calcareous cuttings give rare dull straw mineral fluorescence.
	trace	PYRITE: as above.
1290 - 1295m	100	SANDSTONE: as above, probable beach type sand. Very good visible porosity. No shows.
	trace	SILTSTONE/CALCISILTITE: as above.
1295 - 1300m	100	SANDSTONE: as above, no show, no cut. Trace very dull yellow mineral fluorescence from calcareous cement which cements medium grained quartz grains in aggregates.
	trace	SILTSTONE/CALCISILTITE
	trace	PYRITE
1300 - 1305m	100	SANDSTONE: as above, slightly more angular, more medium grained quartz grains are present. Some aggregates - medium grained, subangular, very hard, calcareous cement, very low visible porosity, minor mineral fluorescence.
	trace	CALCISILTITE: as above, minor yellow mineral fluorescence.
1313m	60	Grab Sample
	40	SANDSTONE: as above. CALCISILTITE: medium light grey to light grey, with trace of glauconite grains, argillaceous, soft to firm cuttings. 5% yellow mineral fluorescence from calcite cement as above, and from some polycrystalline calcite.
1305 - 1310m	100	SANDSTONE: as above.
1313 - 1315m	100	SANDSTONE: loose quartz grains, clear to frosty, coarse to medium grained, generally subangular, no visible cement. Very good visible porosity.
	trace	CALCISILTITE: as above.
	trace	PYRITE
	trace	Mineral fluorescence from dolomite.
1315 - 1320m	100	SANDSTONE: as above.
	trace	CALCISILTITE: as above.
	trace	PYRITE 10% spotty bright straw mineral fluorescence, probably from dolomite.

1320 - 1325m	100 trace	SANDSTONE: as above. CALCISILTITE: as above.
1325 - 1330m	100 trace	SANDSTONE: as above. CALCISILTITE: as above. Mineral fluorescence as above.
1330 - 1335m	100 trace trace	SANDSTONE: coarse quartz grains, loose, clear to frosty, subangular to subrounded, well sorted, coarse to medium grained, very good visible porosity. CALCISILTITE: variably argillaceous/glaucanite rich. Carbonate cemented. Medium grey, soft, moderately hard. Spotty, bright, straw, mineral fluorescence, no cut, (dolomite fluorescence).
1335 - 1340m	100 trace trace	SANDSTONE: as above. CALCISILTITE: as above. Mineral fluorescence as above.
1340 - 1345m	50 50	SANDSTONE: as above. CALCISILTITE: as above, much of sample is probably cavings from higher levels. 30% patchy dull straw mineral fluorescence, (dolomite fluorescence).
1345m	100 trace trace trace	Grab Sample SANDSTONE: coarse to very coarse loose grains, clear to frosted, subangular to subrounded, well sorted, very good visible porosity. COAL: black, vitreous, subangular, moderately firm, coarse grained cuttings. CALCISILTITE: as above. Dolomite fluorescence.
1345 - 1350m	90 10 trace trace	SANDSTONE: as above. COAL: as above. CALCISILTITE: as above. Spotty mineral fluorescence.
1350 - 1355m	100 trace trace trace	SANDSTONE: as above. COAL: as above. CALCISILTITE Spotty mineral fluorescence - dolomite fluorescence.
1355 - 1360m	100 trace trace trace	SANDSTONE: as above. COAL: as above. Coal cuttings gave a moderately strong yellow stream cut. CALCISILTITE: as above, some with glauconite. Spotty dull straw mineral fluorescence.
1360 - 1365m	100 trace trace trace	SANDSTONE: as above. COAL: as above, conchoidal fractures in some cuttings. CALCISILTITE: as above. 10% dull straw mineral fluorescence.
1368m	100 trace trace	Grab Sample SANDSTONE: as above, subangular to subrounded. COAL: as above, conchoidal fracture. Mineral fluorescence rare in cuttings. Gumbo over shakers.

1368 - 1370m	60	SANDSTONE: as above.
	40	COAL: black, friable, angular, sandy.
	trace	CALCISILTITE: as above.
	trace	SILTSTONE: olive grey to light brown, carbonaceous flecks, argillaceous, subfissile, micromicaceous, some calcareous cement.
	trace	Mineral fluorescence - dull straw.
1370 - 1375m	60	SANDSTONE: as above.
	40	COAL: as above.
	trace	SILTSTONE: as above, light brown.
	trace	CALCISILTITE: as above.
	trace	Mineral fluorescence, as above. Some gumbo over shakers.
1375 - 1380m	40	SANDSTONE: as above.
	60	COAL: as above, very angular.
	trace	SILTSTONE: as above.
	trace	CALCISILTITE: as above
	rare	Mineral fluorescence - as above. Some gumbo - probably from cavings.
1380 - 1385m	40	SANDSTONE: predominantly as above, 5% of sample is aggregates of very fine grained sandstone - quartzose, light grey, subangular well sorted, dolomite cement, gives bright straw mineral fluorescence. Aggregates moderately hard, slightly argillaceous.
	60	COAL: as above, angular, black.
	trace	SILTSTONE: as above, pale brown.
	trace	CALCISILTITE: as above.
	trace	PYRITE: as above.
1385 - 1390m	60	COAL: as above.
	40	SANDSTONE: predominantly loose as above. Trace of fine grained aggregates as above, with dolomite cement and occasional white polycrystalline cement, grades to siltstone.
	trace	SILTSTONE: as above.
	trace	PYRITE: occasional granular blocky cuttings. One cutting showed pinpoint fluorescence which gave a slow stream cut and a fairly strong continuous yellow fluorescent residual ring.
1395 - 1399m		Grab Sample
	10	COAL: as above.
	20	SILTSTONE: as above.
	70	SANDSTONE: as above. No shows.
	trace	Spotty bright straw mineral fluorescence from dolomite.
	trace	CALCISILTITE
1390 - 1395m	70	COAL: as above.
	10	SILTSTONE: as above.
	20	SANDSTONE: as above, mineral fluorescence as above, no shows.
1395 - 1400m	30	COAL: as above.
	70	SANDSTONE: as above, subangular.
	trace	SILTSTONE: as above.
	trace	CALCISILTITE: as above. Mineral fluorescence as above.
1400 - 1405m	40	COAL: as above, very angular.
	10	SILTSTONE: as above.
	50	SANDSTONE: as above, angular to subangular.
	trace	CALCISILTITE: as above.

1405 - 1410m	30	COAL: as above.
	10	SILTSTONE: as above.
	60	SANDSTONE: as above.
	trace	CALCISILTFITE: as above.
	trace	Mineral fluorescence (as above).
1410 - 1415m	trace	COAL: as above.
	10	SILTSTONE: as above, friable, occasional carbonaceous flecks, slightly calcareous cement.
	90	SANDSTONE: as above, angular to subangular, trace very fine grained aggregates with dolomite cement.
1415 - 1420m	40	COAL: as above.
	50	SANDSTONE: clear to frosty, loose quartz grains, subangular to subrounded, coarse to medium grained, well sorted, very good porosity, no visible cement. Minor aggregates of fine grained quartz, subangular to subrounded, moderately well sorted, closely packed, poor visible porosity, very hard with dolomite cement. This gives 5% spotty yellow mineral fluorescence, no cut.
	10	SILTSTONE: pale brown, reddish brown, quartzose, argillaceous, micromicaceous, some very fine carbonaceous flecks, generally firm cuttings.
	trace	PYRITE: granular blocky cuttings.
	trace	SILTSTONE: as above, with rare glauconite.
1420 - 1425m	10	COAL: as above.
	60	SANDSTONE: as above, 10% sandstone with dolomite cement as above, gives a spotty straw mineral fluorescence.
	30	SILTSTONE: as above, generally more carbonaceous.
	trace	PYRITE: as above.
1425 - 1430m	10	COAL: as above.
	60	SANDSTONE: as above.
	30	SILTSTONE: as above.
	trace	PYRITE
1430 - 1435m	40	SANDSTONE: as above, with 5% mineral (dolomite) fluorescence as above. One fine to medium grained sandstone gave slow strong yellow streaming cut, very strong yellow crush cut, moderately bright even residue covering half of bowl, also left a red brown oil stain on edge of bowl.
	60	SILTSTONE: as above.
	trace	COAL
	trace	PYRITE

1435 - 1440m	50	SILTSTONE: as above. Note: Bright red orange fluorescence from two very soft pale brown, very fine grained, sandstone/siltstone cuttings gave slow strong yellow stream cut, strong yellow crush cut, strong yellow residue over half of the bowl, leaves brown stain on edge of bowl. One similar siltstone/very fine grained sandstone cutting with spotty yellow fluorescence showed slow weak yellow stream cut, strong yellow crush cut. Small weak yellow residue ring on edge of ceramic bowl.
	30	SANDSTONE: as above, 5% spotty yellow mineral fluorescence from dolomite cement.
	20	COAL: as above.
	trace	PYRITE
1440 - 1445m	70	SILTSTONE: as above. Note: One siltstone cutting gave slow fairly strong yellow stream cut, strong bright yellow crush cut, small weak residue yellow ring.
	20	COAL: as above.
	10	SANDSTONE: as above, trace mineral fluorescence as above.
	trace	PYRITE
1445 - 1450m	80	SILTSTONE: as above. Note: 2 siltstone cuttings gave slow moderately strong yellow streaming cut with weak thin yellow residue on edge of bowl.
	10	COAL: as above.
	10	SANDSTONE: trace of mineral fluorescence as above.
1450 - 1455m	80	SILTSTONE: as above. Note: from 2 or 3 very fine grained sandstone cuttings, streaming cut and residue as above.
	10	COAL: as above.
	10	SANDSTONE: as above, trace mineral fluorescence as above.
1455 - 1457m	90	SILTSTONE: as above, trace of cut, as above.
	5	COAL: as above.
	5	SANDSTONE: as above.
1457 - 1460m	15	COAL: black, very angular, vitreous, moderately hard.
	5	SILTSTONE: light brown, argillaceous, carbonaceous, moderately hard.
	80	SANDSTONE: clear to frosted, very coarse grained to coarse grained, angular to subangular, well sorted, loose quartz grains, very good visible porosity, minor fine grained calcareous cemented aggregates. Trace of mineral fluorescence as above, in dolomite cemented sandstone. One sandy coal cutting gave weak blue/yellow stream cut. No crush cut.

1460 - 1463m	10	COAL: as above.
	80	SANDSTONE: as above, subangular.
	10	SILTSTONE: as above.
		Note: one siltstone cutting shows strong yellow stream cut, very strong yellow/gold crush cut, bright yellow unbroken residue over quarter of bowl. Slight oil residue on rim of bowl. Trace mineral fluorescence from dolomite cemented sandstone, as above.
	trace	POLYCRYSTALLINE CALCITE: soft, white.
	trace	PYRITE: as above.
1463 - 1465m	70	SANDSTONE: as above.
	20	COAL: as above.
	10	SILTSTONE: as above, trace of cut, as above.
	trace	POLYCRYSTALLINE CALCITE: as above.
	trace	Mineral fluorescence as above.
1465 - 1470m	80	COAL: as above.
	20	SANDSTONE: as above, angular.
	trace	SILTSTONE: as above.
	trace	Mineral fluorescence as above.
1470 - 1475m	40	COAL: as above.
	10	SILTSTONE: as above.
	50	SANDSTONE: as above, subangular.
	trace	Mineral fluorescence as above.
1475 - 1479m	10	COAL: as above.
	trace	SILTSTONE: as above.
	90	SANDSTONE: as above.
	trace	Mineral fluorescence as above.
1479 - 1480m	trace	COAL: as above.
	100	SANDSTONE: as above.
	trace	SILTSTONE: as above.
	trace	POLYCRYSTALLINE CALCITE: white, very soft.
	trace	Mineral fluorescence as above.
1480 - 1485m	10	COAL: as above/
	80	SANDSTONE: as above.
	10	SILTSTONE: as above.
	trace	Mineral fluorescence as above.
1485 - 1490m	10	COAL: as above.
	80	SANDSTONE: as above, subangular to angular.
	10	SILTSTONE: as above.
	trace	Mineral fluorescence as above.
1490 - 1495m	trace	COAL: as above, some calcite veining.
	100	SANDSTONE: as above.
	trace	SILTSTONE: as above.
	trace	Mineral fluorescence as above.
	trace	CALCAREOUS MUD: soft, white.
1495 - 1500m	90	SANDSTONE: clear to frosted, medium to very coarse grained, very well sorted, loose quartz grains, subangular, very good visible porosity.
	10	COAL: black, vitreous, friable, very angular fragments, minor calcite veining.
	trace	CALCAREOUS MUD: white, soft, easily removed with washing.
		5% bright straw spotty mineral fluorescence - dolomite fluorescence.

1500 - 1505m	100 trace trace trace	SANDSTONE: as above. COAL: as above. CALCAREOUS MUD: as above. Mineral fluorescence as above.
1505 - 1510m	100 trace trace trace	SANDSTONE: as above. SILTSTONE: pale brown, argillaceous, carbonaceous, moderately hard, micromicaceous. COAL: as above. CALCAREOUS MUD: as above. Mineral fluorescence as above.
1510 - 1515m	100 trace trace trace	SANDSTONE: as above, more rose quartz. COAL: as above. SILTSTONE: as above. Mineral fluorescence as above.
1515 - 1520m	100 trace trace trace	SANDSTONE: as above. SILTSTONE: as above. COAL: as above. Mineral fluorescence as above.
1520 - 1525m	100 trace trace trace	SANDSTONE: as above. SILTSTONE: as above. COAL: as above. Mineral fluorescence as above.
1525 - 1530m	80 20 trace trace	COAL: as above. SANDSTONE: as above. SILTSTONE: as above. Mineral fluorescence as above.
1530 - 1535m	90 10 trace trace	SANDSTONE: as above. COAL: as above. SILTSTONE: as above. Mineral fluorescence as above.
1535 - 1540m	90 10 trace trace	SANDSTONE: as above, subangular. COAL: as above. SILTSTONE: as above. Mineral fluorescence as above.
1540 - 1545m	100 trace trace trace	SANDSTONE: as above, minor very fine grained sandstone aggregates. COAL: as above. SILTSTONE: as above. Mineral fluorescence as above.
1545 - 1550m	100 trace trace trace	SANDSTONE: as above. COAL: as above. SILTSTONE: as above. PYRITE: aggregates of cubic pyrite and very fine grained sand (pyrite possibly a cement).
1550 - 1555m	100 trace trace trace	SANDSTONE: mostly frosted, some clear, medium to very coarse grained, well sorted, subangular, loose quartz grains. Very good visible porosity, minor very fine grained sandstone aggregates cemented by pyrite. SILTSTONE: dark grey to pale brown, moderately firm, argillaceous, micromicaceous, slightly carbonaceous. COAL: black, vitreous, friable, angular fragments, slightly sandy. Mineral fluorescence - bright straw spotty dolomite fluorescence.

1555 - 1560m	100	SANDSTONE: as above, rare pyrite cemented very fine grained sandstone aggregates.
	trace	COAL: as above.
	trace	SILTSTONE: as above.
	trace	Mineral fluorescence as above.
1560 - 1565m	100	SANDSTONE: as above.
	trace	SILTSTONE: as above.
	trace	COAL: as above.
	trace	Mineral fluorescence as above.
1565 - 1570m	100	SANDSTONE: distinct bimodal grain size distribution, coarse to very coarse grains, otherwise as above.
	trace	COAL: as above.
	trace	SILTSTONE: as above.
	trace	Mineral fluorescence as above.
1570 - 1575m	100	SANDSTONE: bimodal grain size not observed.
	trace	SILTSTONE: as above.
	trace	COAL: as above.
	trace	CALCAREOUS MUD: white, soft, calcite.
1575 - 1580m	100	SANDSTONE: as above, minor very fine grained sandstone aggregates with pyritic cement.
	trace	SILTSTONE: as above.
	trace	COAL
	trace	CALCAREOUS MUD
	trace	Mineral fluorescence.
1580 - 1585m	100	SANDSTONE: as above.
	trace	SILTSTONE: as above.
	trace	COAL: as above.
	trace	CALCAREOUS MUD: as above.
	trace	Mineral fluorescence as above.
1585 - 1590m	100	SANDSTONE: as above.
	trace	SILTSTONE: as above.
	trace	COAL: as above.
	trace	Mineral fluorescence as above.
	trace	CALCAREOUS MUD: as above, could be kaolinite.
1590 - 1595m	100	SANDSTONE: as above.
	trace	SILTSTONE: as above.
	trace	COAL: as above.
	trace	Mineral fluorescence as above.
	trace	CALCAREOUS MUD: as above, possibly some kaolinite.
1595 - 1600m	100	SANDSTONE: 50% as above, 50% - light grey, hard angular cuttings medium to fine to occasionally coarse grained, moderately well sorted, medium to fine grains are subangular to subrounded, coarse grains are subrounded, frosty, some dark mineral grains are present - eg. brown, red brown, moderate to poor visible porosity. Dolomite cement, grains quite well packed together. Gives spotty yellow gold mineral fluorescence (50%).
	trace	SILTSTONE/COAL: as above.
1600 - 1605m	100	SANDSTONE: as above.
	trace	SILTSTONE/COAL: as above.
1605 - 1610m	100	SANDSTONE: 40% loose quartz grains as above, 60% aggregates as above, mineral fluorescence from calcite cement, possible dolomite cement as well.
	trace	PYRITE

1610 - 1615m	100	SANDSTONE: 40% loose quartz grains, as above; 60% aggregates as above, dolomite and calcite in equal proportions, occasional fine grained pyrite, and carbonaceous flecks. SILTSTONE/COAL: as above.
	trace	
1615 - 1620m	100	SANDSTONE: 60% loose quartz grains, as above; 40% aggregates as above, probably more dolomite cement than calcite. SILTSTONE/COAL: as above.
	trace	
1620 - 1625m	100	SANDSTONE: 50% loose angular quartz grains, as above; 50% aggregates as above, some aggregates form the matrix between the loose quartz grains. Note: A lot of the loose quartz grains are coated in dolomite hence the 90% bright spotty yellow mineral fluorescence. SILTSTONE/COAL: as above.
	trace	
	trace	PYRITE: granular, appears to form between the larger quartz grains.
1625 - 1630m	100	SANDSTONE: 70% loose sand grains, as above; 30% cemented aggregates as above.
	trace	COAL: black, angular, firm.
	trace	PYRITE: as above.
	trace	SILTSTONE: as above.
	trace	CALCITE: white, friable, subangular polycrystalline cuttings. Mineral fluorescence as above.
1632m	100	Grab Sample SANDSTONE: 60% loose grains, some shattered, as above; 40% cemented aggregates, dolomite cement, as above.
	trace	SILTSTONE: medium light grey and pale brown, as above.
	trace	COAL: as above.
	trace	CALCITE: as above. 50% spotty bright straw/green mineral fluorescence from dolomite cemented sandstone aggregates and as dolomite coating on loose quartz grains. No Hydrocarbon fluorescence.
1632 - 1636m	100	Grab Sample SANDSTONE: 70% loose grains as above; 30% cemented aggregates as above, (minor pyrite cemented aggregates).
	trace	SILTSTONE: greenish grey, pale brown, as above.
	trace	COAL: as above.
	trace	CALCITE: as above, polycrystalline. Mineral fluorescence as above.
1636 - 1640m	90	SANDSTONE: 80% loose grains, as above, 20% cemented aggregates as above.
	trace	SILTSTONE: as above.
	trace	COAL: as above.
	trace	CALCITE: as above. Mineral fluorescence as above, 20% spotty bright straw yellow dolomite.
1640 - 1645m	90	COAL: black, vitreous, angular, friable.
	10	SANDSTONE: angular to very angular, minor pyrite cement, otherwise as above.
	trace	SILTSTONE: as above. 10% bright spotty straw green dolomite fluorescence.

1645 - 1650m	90	COAL: as above, minor associated pyrite.
	10	SANDSTONE: 50% subangular, fractured, medium to coarse grains, loose; 50% dolomite cemented aggregates, very hard aggregates of very fine to medium grained, well sorted, quartz.
	trace	SILTSTONE: as above. 5% bright spotty straw yellow dolomite fluorescence.
1650 - 1655m	90	COAL: as above, black, friable.
	10	SANDSTONE: 30% subrounded, coarse to medium grained, loose grains; 70% shattered grains in dolomite cemented aggregates - very hard, minor pyrite cement.
	trace	SILTSTONE: pale brown, as above. 10% spotty bright yellow dolomite mineral fluorescence.
1655 - 1660m	80	SANDSTONE: quartzose, clear to frosty, very coarse to coarse grained, occasionally medium grained, subangular to subrounded, well sorted, loose quartz grains, occasionally pyrite cemented. Trace of dolomite cemented aggregates as above, give bright yellow dolomite mineral fluorescence as above. No cut.
	20	COAL: as above.
	trace	SILTSTONE: as above.
	trace	PYRITE: loose grains.
	trace	Rock flour/kaolinite? binds together fine grained, loose quartz grains. The cuttings are soft, white to buff, non calcareous, non water sensitive.
1661m		Grab Sample
	50	COAL: as above.
	30	SANDSTONE: as above.
	20	CLAY?: as above, (rock flour).
1660 - 1665m	30	COAL: as above.
	40	SANDSTONE: mostly loose grains as above, occasionally dolomite cemented aggregates of medium to fine grained angular quartz, hard, angular cuttings.
	20	ROCK FLOUR/CLAY: with fine grained quartz clasts, as above. May come from very fine grained sandstone with argillaceous matrix.
	10	SILTSTONE: as above. No shows.
	trace	PYRITE: quite common, occurs as cement in the coarse to medium grained sandstone. Sample from the desanders - mostly loose clear quartz, subangular to angular, fine grained, occasionally pyritic, red brown, grey brown grains, only trace dolomite cement.
1665 - 1668m	30	SANDSTONE: as above, trace of dolomite cemented aggregates.
	30	COAL: as above.
	40	ROCK FLOUR: as above.
	trace	SILTSTONE: as above.
	trace	PYRITE: as above, quite common.

1668 - 1670m	50	CALCISILTITE: cavings from Lakes Entrance Formation?
	10	COAL: as above.
	10	SILTSTONE: as above.
	30	SANDSTONE: as above, predominantly loose as above, trace dolomite cement as above.
1674m		Grab Sample
	80	SANDSTONE: clear, loose quartz grains, very coarse grained to medium grains, subangular to subrounded, moderately well sorted, no visible cement, trace dolomite cemented aggregates as above.
	10	CALCAREOUS MUDSTONE: medium light grey, firm, angular cuttings, moderately calcareous.
	10	SILTSTONE: light grey to pale brown, firm to soft cuttings, trace carbonaceous material.
	trace	PYRITE: granular, rounded cuttings.
1670 - 1675m	90	SANDSTONE: as above, trace dolomite cement.
	10	SILTSTONE/CALCAREOUS MUDSTONE: as above, 50/50 proportions.
1675 - 1680m	100	SANDSTONE: as above.
	trace	SILTSTONE
	trace	COAL
	trace	CALCAREOUS MUDSTONE
	trace	PYRITE
1680 - 1685m	100	SANDSTONE: as above, predominantly loose quartz grains.
	trace	SILTSTONE
	trace	COAL
	trace	CALCAREOUS MUDSTONE
	trace	PYRITE
1685 - 1690m	100	SANDSTONE: as above, trace dolomite cement.
	trace	SILTSTONE
	trace	COAL
	trace	CALCAREOUS MUDSTONE
	trace	PYRITE
1690 - 1695m	100	COAL: black, vitreous, blocky, moderately hard, conchoidal fracture.
	trace	SANDSTONE: as above, with occasional dolomite cement.
1695 - 1700m	100	COAL: as above.
	trace	SANDSTONE: as above.
1700 - 1705m	20	SANDSTONE: as above, rare dolomite cement.
	60	SILTSTONE: greyish red, olive grey, very argillaceous, abundant carbonaceous flecks, possibly micromicaceous, quartzose, firm to soft cuttings.
	20	COAL: as above.
	trace	PYRITE: as above.
1705 - 1710m	10	SILTSTONE: as above.
	80	COAL: as above. Spotty dull orange/yellow fluorescence, weak straw yellow slow streaming cut, from one coal cutting. No crush cut. Faint oil stain (pale brown ring), weak unbroken pale yellow green residue fluorescence.
	10	SANDSTONE: as above, minor pyrite, trace dolomite cement.

1712m		Grab Sample
	40	SANDSTONE: as above, minor pyrite.
	30	SILTSTONE: as above, carbonaceous.
	30	COAL: as above, silty in parts One coal cutting gave spotty dull yellow fluorescence, yellow stream cut, weak broken straw residual fluorescent ring.
	trace	Bright yellow dolomite mineral fluorescence.
1712 - 1715m	50	COAL: as above.
	20	SILTSTONE: as above. One cutting of carbonaceous siltstone containing a red brown, semi opaque, fibrous material gave dull orange fluorescence, strong yellow moderately fast stream cut, strong yellow crush cut. Showed strong yellow fluorescent ring with pale brown residual oil stain.
	30	SANDSTONE: as above.
	trace	PYRITE: rounded to angular granular cuttings.
1717m		Grab Sample
	60	SANDSTONE: white to clear, medium to coarse grained, sub-rounded, moderately well sorted, loose quartz. Good visible porosity, minor pyritic cement.
	30	SILTSTONE: Reddish brown to tan, friable, argillaceous, slightly carbonaceous.
	10	COAL: black, vitreous, friable to very friable, conchoidal fractures.
	trace	PYRITE: associated with coal and sometimes sandstone (as cement).
	trace	Spotty dull orange/yellow mineral fluorescence.
1717 - 1720m	70	SANDSTONE: 50% as above. 50% dolomite cemented aggregates of fine grained sandstone, moderately hard, with 30% bright yellow/green mineral fluorescence.
	20	SILTSTONE: as above.
	10	COAL: as above.
	trace	PYRITE: as above.
1720 - 1725m	50	SANDSTONE: as above, minor pyritic cement, 30% bright yellow/green dolomite mineral fluorescence as above.
	20	SILTSTONE: as above.
	30	COAL: as above.
1725 - 1730m	60	SANDSTONE: as above. 30% Mineral fluorescence as above.
	20	SILTSTONE: as above.
	20	COAL: as above.
1730 - 1735m	60	SANDSTONE: 50% loose grains as above, minor pyritic cement. 50% Dolomite cemented aggregates of medium grained to fine grained, sub-rounded, well sorted quartz, spotty bright yellow/green mineral fluorescence.
	25	SILTSTONE: Red to brown, medium light grey and tan cuttings as above.
	15	COAL: as above.
1735 - 1740m	45	SANDSTONE: as above.
	35	COAL: as above.
	20	SILTSTONE: as above.

1740 - 1745m	100	COAL: as above. One cutting of coal gave slow weak yellow stream cut, moderate yellow crush cut, continuous yellow residual ring.
	trace	SILTSTONE: as above.
	trace	SANDSTONE: as above. Trace, bright yellow spotty mineral fluorescence.
1745 - 1750m	50	COAL: as above, with trace of dull straw fluorescence, moderately bright slow yellow stream cut and continuous straw/green residue.
	30	SILTSTONE: as above.
	20	SANDSTONE: as above, 50/50 loose grains to aggregate dolomitic cement.
	trace	Bright spotty yellow/green mineral fluorescence.
1750 - 1755m	60	SANDSTONE: predominantly loose quartz grains, clear to frosty, subangular to subrounded, predominantly coarse to medium grained occasionally fine grained, moderately well sorted. Trace of white aggregates of clear fine grained quartz, subangular to subrounded, well sorted, well packed with dolomitic cement giving bright yellow mineral fluorescence, poor visible porosity, very hard cuttings.
	20	SILTSTONE: as above.
	20	COAL: as above.
	trace	PYRITE: blocky granular cuttings. No hydrocarbon fluorescence.
1755 - 1760m	40	SANDSTONE: as above, with mineral fluorescence.
	30	SILTSTONE: as above.
	30	COAL: as above. One to two grains of coal give dull straw/yellow fluorescence, slow weak yellow/green stream cut. Discontinuous pale yellow ring residue, faint pale yellow oil stain.
	trace	PYRITE: as above.
1760 - 1765m	70	SANDSTONE: as above more medium grains than above, trace of mineral fluorescence.
	20	SILTSTONE: as above.
	10	COAL: as above.
	trace	PYRITE: as above, some show layering and have carbonaceous flecks included. Abundant white clay material in sample (rock flour?)
1765 - 1770m	70	SANDSTONE: as above, trace of dolomitic mineral fluorescence.
	20	SILTSTONE: as above.
	10	COAL: as above.
	trace	PYRITE: as above.
1770 - 1775m	90	SANDSTONE: as above 90% loose grains. 10% dolomite cemented aggregates, minor pyrite, trace of mineral fluorescence.
	10	SILTSTONE: as above.
	trace	COAL: as above.
1775 - 1780m	80	SANDSTONE: as above.
	10	SILTSTONE: as above.
	10	COAL: as above.
	trace	PYRITE: as above, sometimes cementing sandstone.

1780 - 1785m	100	SANDSTONE: Loose quartz grains as above, mainly medium grain size.
	trace	SILTSTONE: as above.
	trace	COAL: as above, with trace of slow bright yellow stream and cut, moderately weak pale yellow residual rim.
	trace	PYRITE: as above.
1785 - 1790m	100	COAL: Black, vitreous, angular cuttings with conchoidal fracture.
	trace	SILTSTONE: as above.
	trace	SANDSTONE: as above.
1790 - 1795m	70	SANDSTONE: as above.
	10	SILTSTONE: as above. One siltstone cuttings showed orange fluorescence, gave strong yellow stream cut, moderately strong yellow crush cut and a strong even yellow residue.
	20	COAL: as above. One cutting of silty coal showed yellow fluorescence, gave slow weak yellow stream cut, weak yellow crush cut.
	common	ROCK FLOUR
1795 - 1800m	50	SANDSTONE: as above.
	40	SILTSTONE: as above. One siltstone cutting with yellow fluorescence gave strong yellow stream cut, strong yellow crush cut, very strong bright yellow residue ring with dull orange centre. Strong pale brown oil residue.
	10	COAL: as above.
	trace	PYRITE: as above.
	common	White rock flour.
1800 - 1805m	60	SANDSTONE: as above generally medium grained, trace of mineral fluorescence.
	40	COAL: as above.
	10	SILTSTONE: as above.
1805 - 1810m	50	SANDSTONE: loose quartz grains, clear to frosty, bimodal, coarse to medium grained and very fine grained. The coarse to medium grains are well sorted, subangular to subrounded, very good visible porosity. The very fine grains are angular, shows signs of siliceous cementing, angular to subangular.
	30	SILTSTONE: pale brown, medium light grey, quartzose, carbonaceous flecks rare to common, sometimes in laminations. One cutting of siltstone gave slow yellow stream cut, strong yellow crush cut, orange/yellow residue over rim and pale brown residue in white light.
	20	COAL: as above.
	trace	PYRITE
1813m		Grab Sample
	50	SANDSTONE: as above.
	50	SILTSTONE: as above.
	trace	COAL
1810 - 1815m	60	SANDSTONE: as above.
	40	SILTSTONE: as above. One siltstone and one silty coal cutting gave very weak yellow stream cut, no crush cut.
	trace	COAL: as above.
	common	White rock flour.

1815 - 1820m	100	SANDSTONE: loose quartz grains, clear to frosty, very coarse grained to predominantly medium grained, subangular to subrounded, moderately well sorted. Trace of aggregates, fine to very fine grained quartz grains in white silica cement, firm.
	trace	SILTSTONE: as above. Two silty coal cuttings gave slow moderately bright stream cut and crush cut, strong yellow residual rim over one third of the bowl, with one third of bowl covered with pale brown oil residue in white light.
	trace	MUDSTONE: buff, firm, angular cuttings. Not water sensitive.
	trace	PYRITE: as above.
1820 - 1825m	50	SANDSTONE: as above, slightly carbonaceous.
	40	SILTSTONE: as above.
	10	COAL: as above.
	trace	DOLOMITE: with associated bright yellow mineral fluorescence.
	trace	PYRITE: as above.
1825 - 1830m	70	COAL: black, vitreous, subfissile, slightly silty.
	20	SANDSTONE: as above.
	10	SILTSTONE: as above.
	trace	Yellow dolomite mineral fluorescence.
	trace	One coal cutting gives dull straw spotty fluorescence and slow moderately bright yellow green stream cut. Even, weak, faint brown oil stain. Discontinuous, weak dull yellow fluorescent ring.
1830 - 1835m	50	COAL: as above.
	40	SANDSTONE: as above, rare argillaceous dolomitic cemented aggregates, rare pyrite.
	10	SILTSTONE: as above.
	trace	Spotty dull yellow green fluorescence, one cutting gives bright yellow stream cut. Pale brown ring of oil residue. Weak discontinuous yellow ring residue fluorescence.
1835 - 1840m	70	SANDSTONE: as above, minor dolomite cemented fine grained sandstone aggregates, with bright yellow green spotty mineral fluorescence.
	20	COAL: as above. One coal cutting shows spotty faint yellow fluorescence, gives slow dull yellow stream cut. Faint green yellow ring residue fluorescence, very faint pale brown oil stain residue.
	trace	PYRITE: as above, slightly carbonaceous.
1840 - 1845m	40	COAL: as above.
	30	SANDSTONE: as above - no dolomite cemented aggregates. Trace spotty faint minor fluorescence - from calcite.
	30	SILTSTONE: as above
	trace	PYRITE: slightly carbonaceous - associated with coal?

1845 - 1850m	70	COAL: as above, slightly silty. 5% spotty faint yellow fluorescence. 50% of coal cuttings give moderately fast dull yellow to green stream cut, slight dull yellow/straw crush cut. Discontinuous ring of moderately bright straw residue fluorescence. Ring of pale brown oil stain residue.
	20	SILTSTONE: as above.
	10	SANDSTONE: as above.
1850 - 1855m	5	
	50	COAL: black, vitreous, friable, angular. Trace spotty faint straw fluorescence. 50% of coal cuttings give fast bright yellow/green stream cut. Trace even pale yellow/green residue fluorescence. Faint even light brown oil residue.
	40	SILTSTONE: light grey, medium grey, red-brown and pale brown, argillaceous occasionally sandy cutting. 80% of carbonaceous siltstone cuttings give fast dull yellow stream cut. Discontinuous rings of bright yellow/green residue fluorescence, light to medium discontinuous rings of brown/orange oil residue.
	10	SANDSTONE: angular, white to clear, moderately sorted, loose quartz (possibly cavings).
	trace	PYRITE: coarse grained cuttings of microcrystalline pyrite.
1855 - 1860m	70	SILTSTONE: as above. Rare orange/yellow dull spotty fluorescence from siltstone cuttings, no cut.
	20	SANDSTONE: as above, minor pyritic cement.
	10	COAL: as above. 50% faint spotty yellow/green fluorescence, 80% moderately fast dull yellow stream cut. Moderately bright discontinuous rings of yellow/green residue fluorescence, faint pale brown even oil residue.
1860 - 1865m	70	SILTSTONE: as above.
	10	SANDSTONE: as above.
	20	COAL: as above. 10% Faint spotty pale straw fluorescence, 80% moderately fast dull yellow steam cut, faint even pale straw residue fluorescence.
1865 - 1870m	60	SILTSTONE: as above some cuttings very argillaceous.
	30	SANDSTONE: 70% angular to subangular, fine grained to coarse grained, poorly sorted, white to clear loose quartz grains. 30% cemented aggregates of fine grained quartz, subangular, well sorted. Dominant cement is dolomite with minor pyritic cement, friable to moderately hard.
	10	COAL: as above. Some cuttings quite silty. Trace spotty dull yellow/green fluorescence, with slow dull yellow/green stream cut. Discontinuous rings of dull straw residue fluorescence.

1877		Grab Sample
	10	SANDSTONE: 50% loose quartz grains as above. 50% fine grained aggregates as above, with minor pyritic cement.
	10	COAL: as above.
	80	SILTSTONE: as above. Trace spotty yellow/orange mineral fluorescence, no cut. Abundant white clay in sample (rock flour?).
1870 - 1875m	10	SANDSTONE: as above.
	10	COAL: as above.
	80	SILTSTONE: as above. Trace spotty yellow mineral fluorescence from dolomite grains.
1875 - 1878m	10	SANDSTONE: as above.
	trace	COAL: as above.
	90	SILTSTONE: as above, trace yellow mineral fluorescence from dolomitic cement. Note: 60% white clay (rock flour?) in sample tray.
1878 - 1880m	30	SANDSTONE: 50% loose quartz grains, clear to frosty, coarse to medium, predominately medium grain, moderately well sorted, subangular to subrounded, 50% white to buff aggregates, firm to soft, subrounded cuttings, subangular grains, moderately well sorted, occasional dark mineral grains, occasional white micaceous flakes, silica and dolomite cements.
	50	SILTSTONE: Pale brown, greyish red, occasionally buff, very argillaceous, and sometimes very carbonaceous, siliceous, soft to firm cuttings.
	20	COAL: black, vitreous, sometimes very silty, angular to blocky cuttings.
	trace	PYRITE: some cementing quartz aggregates, some loose, granular, blocky or angular.
	common	White clay (rock flour?) over sample, non calcareous, non H ₂ O sensitive.
1884m		Grab Sample
	trace	SANDSTONE: as above.
	50	COAL: black vitreous blocky cuttings with conchoidal fracture.
	50	SILTSTONE: 30% as above. Two thirds is greyish red, very carbonaceous.
	trace	PYRITE: as above, quite common.
	trace	Hydrocarbon fluorescence from some coal and siltstone cuttings. Gives strong moderately fast yellow stream cut, bright blue yellow residue on rim of bowl, and strong pale brown oil stain.
1880 - 1885m	30	SANDSTONE: 50% loose quartz grains, clear to frosty, medium to coarse grained, moderately well sorted, 50% aggregates of fine to very fine grained sandstone as above.
	50	SILTSTONE: as above, grades to occasionally long angular cuttings of greyish red <u>Shale</u> . Non calcareous, carbonaceous, sub-fissile to fissile. 3 to 4 cuttings give slow strong blue yellow stream cut, strong yellow crush cut, yellow residual ring covering 1/4 of the bowl.
	20	COAL: as above.

1885 - 1890m	60	SILTSTONE: as above. 50% hydrocarbon fluorescence, stream cut and residue as above.
	40	COAL: as above.
	trace	PYRITE: as above.
	common	Yellow brown clay over shakcs.
1893m		Grab Sample
	100	COAL: black, vitreous, blocky cuttings. Trace of very slow bright yellow stream cut.
	trace	SILTSTONE: as above.
	trace	SANDSTONE: as above.
1890 - 1895m	90	COAL: as above.
	10	SILTSTONE: as above, trace yellow mineral fluorescence.
1895 - 1900m	40	SANDSTONE: 50% loose, medium grained, clear to frosty, subangular to subrounded, well sorted quartz grains. 50% aggregates of light brown and buff, very fine to fine grained quartz, subangular, moderately well sorted, siliceous cement, firm, occasional dark grains, occasional carbonaceous flecks, poor visible porosity, occasional white mica, trace of dolomitic mineral fluorescence.
	40	SILTSTONE: as above.
	20	COAL: as above.
	trace	PYRITE: granular blocky cuttings, occasional cementing, fine grained quartz grains.
1900 - 1905m	60	SANDSTONE: as above, loose sand and aggregates.
	40	SILTSTONE: as above grades to minor quantities of medium brown siliceous shale.
	common	White clay over sample. Note: Sample from the de-sander: - 100% loose clear quartz grains, medium to fine grained, subangular to subrounded, well sorted.
1905 - 1910m	70	SANDSTONE: as above, trace mineral fluorescence.
	30	SILTSTONE: as above.
	trace	COAL: as above.
	trace	PYRITE: as above.
1910 - 1915m	common	White clay (rock flour?).
	80	SANDSTONE: as above, occasional very thin coal laminations.
	20	SILTSTONE: as above.
	trace	COAL: as above.
1915 - 1920m	trace	PYRITE: as above.
	common	White clay (rock flour?).
	50	SANDSTONE: as above, trace strong slow yellow cut, yellow unbroken residue rim.
	10	SILTSTONE: as above.
1920 - 1925m	40	COAL: as above.
	common	White clay.
	80	SANDSTONE: as above.
	20	SILTSTONE: as above.
1925 - 1930m	trace	COAL
	trace	PYRITE: as above.
	common	White clay
	10	SANDSTONE/SILTSTONE: as above.
	90	COAL: black vitreous blocky cuttings.

1930 - 1935m	80	SILTSTONE: as above light grey, pale brown and medium grey. Partly carbonaceous. Trace mineral fluorescence.
	10	COAL: as above, minor pyrite. Trace spotty dull straw fluorescence.
	10	SANDSTONE: predominantly very fine grained aggregates as above, rare loose grains (medium, subrounded). Rare pyritic cemented sandstone.
	common	White clay.
1935 - 1940m	80	SILTSTONE: as above.
	10	COAL: as above.
	10	SANDSTONE: as above.
	common	White clay.
1943m		Grab Sample
	50	SILTSTONE: as above. Two siltstone cuttings give moderately fast bright yellow/ green stream cut, even faint residue fluorescence, very faint pale brown oil stain.
	40	SANDSTONE: 90% fine grained sandstone aggregates cemented by common siliceous, minor pyrite, rare dolomite cements. 10% loose, medium to coarse, subrounded grains.
	10	COAL: as above. White clay.
1940 - 1945m	80	SILTSTONE: light grey, blue grey, pale brown, some calcite cement.
	20	SANDSTONE: 40% subrounded to subangular, coarse, loose quartz grains. 50% very fine to fine grained aggregates, cemented predominantly by calcite, minor pyrite cement, mineral fluorescence.
	trace	COAL: as above.
1945 - 1950m	80	SILTSTONE: as above.
	20	SANDSTONE: as above.
	trace	COAL: as above.
1950 - 1955m	90	COAL: as above. One silty coal cutting gives moderately fast bright yellow/green stream cut. Faint yellow even residue fluorescence, very faint pale brown oil stain.
	10	SILTSTONE: as above.
	trace	SANDSTONE: as above.
1957 Grab Sample	80	COAL: as above.
	20	SILTSTONE: as above.
	trace	SANDSTONE: as above.
1957 - 1960m	80	SILTSTONE: 80% light grey cuttings - mostly siliceous cement. 20% grey, brown, reddish brown cuttings.
	20	SANDSTONE: 80% very fine grained silica cemented aggregates, minor very fine grained pyrite cemented aggregates. 20% loose, medium grained, subangular quartz grains.
	trace	COAL: as above.
1960 - 1965m	70	SILTSTONE: as above.
	20	COAL: as above - minor associated pyrite.
	10	SANDSTONE: most fine grained aggregates, silica cemented.

1965 - 1970m	60	COAL: as above.
	20	SILTSTONE: as above, slightly carbonaceous. Several carbonaceous siltstone cuttings give moderately fast strong yellow/green stream cut. Even faint yellow residue fluorescence. Very faint pale brown oil stain.
	20	SANDSTONE: as above, very fine to fine grained aggregates, siliceous cement.
1970 - 1975m	80	COAL: as above. Several coal (brown fibrous fragments with woody texture) give moderately strong yellow/green stream cut. Pale brown even oil stain.
	10	SILTSTONE: as above, slightly carbonaceous - often in layers.
	10	SANDSTONE: very fine grained aggregates, silica cemented. Trace spotty dull yellow/green mineral fluorescence.
1975 - 1980m	50	SILTSTONE: as above carbonaceous layers.
	30	SANDSTONE: all silica cemented very fine grained sandstone.
	20	COAL: as above, silty in part.
1980 - 1985m	60	SILTSTONE: as above, 50/50 dark/light colours. One siltstone cutting gives moderately strong, fast yellow/green stream cut. Weak even yellow residue fluorescence. Pale brown oil stain.
	40	SANDSTONE: as above - very fine grained sandstone aggregates, silica cement, minor pyritic cement.
	trace	COAL: as above.
1985 - 1990m	50	SILTSTONE; as above.
	40	SANDSTONE: as above - mostly siliceous cemented fine grained aggregates. Trace of spotty dull yellow green fluorescence from calcareous cement.
	10	COAL: as above.
1990 - 1995m	60	SILTSTONE: as above.
	30	SANDSTONE: light grey to very light grey, very fine to fine grained, subangular to angular, moderately well sorted, soft to firm cuttings, siliceous cement, poor visible porosity, occasional dark grains.
	10	COAL: as above. Two cuttings of coal (black vitreous and very fibrous) give slow bright yellow stream cut, bright yellow residue, very pale brown oil residue.
	common	White clay
1995 - 2000m	60	SILTSTONE: as above.
	30	SANDSTONE: as above, occasionally very carbonaceous, very rare glauconite inclusions.
	10	COAL: as above.
	trace	PYRITE: blocky granular cuttings and rare finely disseminated crystals in siltstone.
2000 - 2005m	40	SANDSTONE: as above, occasional thin coal laminations. 10% spotty bright yellow mineral (dolomitic) fluorescence from fine grained sandstone aggregates.
	60	SILTSTONE: as above.
	trace	COAL: as above.
	trace	PYRITE: as above.

2005 - 2010m	50	SANDSTONE: as above.
	50	SILTSTONE: as above.
	trace	COAL: as above.
2010 - 2015m	100	SILTSTONE: greyish red to buff, quartzose, firm to soft, subrounded to subangular cuttings, argillaceous, occasionally very carbonaceous to carbonaceous laminae.
	trace	COAL: as above.
	trace	SANDSTONE: as above.
2015 - 2020m	100	SILTSTONE: as above.
	trace	COAL: as above.
	trace	SANDSTONE: as above.
2020 - 2025m	100	SILTSTONE: as above.
	trace	COAL
	trace	SANDSTONE
2025 - 2030m	30	SANDSTONE: as above. 10% bright yellow mineral fluorescence from dolomite cemented very fine to fine grained sandstone aggregates.
	70	SILTSTONE: as above.
	trace	COAL: as above.
2030 - 2035m	70	COAL: black vitreous angular cuttings. Several coal cuttings give bright yellow slow stream cut. Strong blue yellow fluorescence residue.
	20	SANDSTONE: as above.
	10	SILTSTONE: as above. Trace dull orange mineral fluorescence.
2035 - 2040m	80	SILTSTONE: as above, mostly light grey.
	20	SANDSTONE: as above.
	trace common	COAL: as above. White clay (rock flour?) over shakers.
2040 - 2045m	90	SILTSTONE: as above.
	10	SANDSTONE: as above, trace bright yellow mineral fluorescence from dolomitic cement.
	trace common	COAL: as above. White clay over shakers and in sample.
2045 - 2050m	90	SILTSTONE: as above.
	10	SANDSTONE: as above.
	trace	COAL.
2050 - 2055m	100	SILTSTONE: greyish red, buff, quartzose, firm to soft, rounded to subangular cuttings. The buff coloured cuttings include scattered grains of clear very fine grained quartz. Trace dull orange mineral fluorescence.
	common	White clay over shakers and in sample.
	trace trace	SANDSTONE: as above. COAL: as above.
2055 - 2060m	100	SILTSTONE: as above, including occasional greenish cuttings, trace mineral fluorescence.
	Trace	COAL: as above.
	Trace	PYRITE: rare argillaceous granular cuttings.

2060 - 2065m	90	SILTSTONE: as above. Trace grey green siltstone as above.
	10	SANDSTONE: white to very light grey, fine to very fine grained, very occasional medium grains, subangular to angular, moderately well sorted, siliceous cement, sometimes very closely packed and hard, others soft with white clay cement, some contain occasional carbonaceous flecks, poor visible porosity.
	trace	PYRITE: as above.
	trace	COAL: Note: About 30% of sample from the de-sander is fine grained quartz and quartzose aggregates as above.
2065 - 2070m	90	SILTSTONE: as above. Occasional green siltstone fragments.
	10	SANDSTONE: fine to very fine grained, soft clay like cement as above.
	trace	COAL: black, friable, blocky, vitreous.
2070 - 2075m	50	SANDSTONE: fine grained, well sorted, subrounded, siliceous cement, minor pyrite cement. Poor visible porosity. Slightly argillaceous. Minor clear, subrounded, coarse grained quartz grains.
	40	SILTSTONE: medium grey, light grey, pale brown, greenish and reddish brown. Grades up to very fine grained sandstone and down to clayey siltstone.
	10	CLAYSTONE: light grey, soft to firm cuttings. COAL: as above.
2075 - 2080m	50	SANDSTONE: as above, cement is 30% silica, 50% calcite, 20% dolomite and minor pyrite (5%). Sandstone grains are medium to fine grained, well sorted and subrounded.
	45	SILTSTONE: as above.
	5	COAL: as above.
	trace	CLAYSTONE
2080 - 2085m	40	SILTSTONE: as above.
	40	SANDSTONE: as above, 60% silica cement, 40% dolomite and calcite cement, minor pyrite cement. Rare loose, medium, subrounded quartz grains. Minor mineral fluorescence.
	20	COAL: as above. Several coal fragments give strong, moderately fast yellow green stream cut, even faint yellow residue fluorescence, very faint ring of pale brown oil residue.
	trace	CLAYSTONE: as above.
2085 - 2090m	40	SILTSTONE: as above.
	30	SANDSTONE: as above, 50/50 silica and calcareous cements, rare pyritic cement. 20% moderately bright spotty yellow green, calcite/dolomite fluorescence.
	30	COAL: as above.
2090 - 2095m	40	SILTSTONE: as above.
	30	SANDSTONE: as above. No shows.
	30	COAL: as above.
	trace	CLAYSTONE

2095 - 2100m	50	SILTSTONE: as above, minor carbonaceous layers, minor pyrite.
	40	SANDSTONE: calcite cemented aggregates, fine grained. No shows.
	10	CLAYSTONE: as above.
	trace	COAL: as above.
2100 - 2105m	70	SILTSTONE: as above.
	20	COAL: as above.
	10	SANDSTONE: as above. No shows.
	trace	CLAYSTONE: dark grey, as above.
2105 - 2110m	70	SILTSTONE: as above.
	20	COAL: as above.
	10	SANDSTONE: as above.
2110 - 2115m	50	COAL: as above.
	30	SILTSTONE: as above.
	20	SANDSTONE: as above.
	trace	CLAYSTONE: as above.
	common	White clay/rock flour.
2115 - 2120m	70	SILTSTONE: as above.
	20	SANDSTONE: as above.
	10	COAL: as above.
	common	White clay/rock flour.
2120 - 2125m	90	SILTSTONE: as above.
	10	SANDSTONE: as above, silica cemented aggregates.
	trace	COAL: as above.
	trace	CLAYSTONE: as above.
2125 - 2130m	90	COAL: as above, moderately hard to hard.
	10	SILTSTONE: as above.
	trace	SANDSTONE: as above, dolomite cemented.
2130 - 2135m	50	SILTSTONE: brownish grey, light grey, medium light grey, subangular to angular cuttings, occasionally very carbonaceous, carbonaceous flecks.
	40	SANDSTONE: light grey to light brown grey, subrounded, soft to moderately hard cuttings, very fine to fine grained, cuttings white non calcareous cement, subrounded to subangular quartz grains, occasional dark mineral grains. Occasional medium grained aggregates of clear quartz, angular to subangular, grains well packed, well sorted, moderately hard, rounded to subangular cuttings. Both sandstones have poor visible porosity. Some mineral fluorescence.
	10	COAL: black, vitreous, blocky, moderately hard cuttings.
	trace	PYRITE: blocky, granular, occasionally with abundant carbonaceous grains included.
2135 - 2140m	100	SILTSTONE: as above, trace mineral fluorescence.
	trace	SANDSTONE: as above.
	trace	COAL: as above.
2140 - 2145m	30	SANDSTONE: as above.
	70	SILTSTONE: as above.
	trace	COAL
	trace	PYRITE
	common	White clay

APPENDIX

2

APPENDIX 2

Core Descriptions

ESSO AUSTRALIA LTD.
CORE DESCRIPTION

Core No. One

Well Whiting.-.1...

Interval Cored 2681.0-2693.6 m, Cut 12.6 m, Recovered 9.57 m, (.76 %) Fm. LATROBE
Bit Type CHRIST C20 Bit Size 8-15/32 in., Desc by Neil Davidson Date 31/3/83

Depth & Coring Rate (m/hr)	Graphic	Shows	Interval (m)	Descriptive Lithology
20			2681	SANDSTONE: clear to translucent, occasional black grains, predominantly quartzose, hard but friable, fine to medium grained, subrounded to subangular, occasionally angular; moderately sorted, white
		1	2682	argillaceous matrix. Trace mica, trace green accessory (chlorite?). Poor visible porosity, dull gold (straw) mineral fluorescence throughout.
		2	2683	Note: Sandstone is similar throughout, with minor grain size variations; and carbonaceous laminae, micaceous laminae and minor pyrite concentrations.
		3	2684	SHALE: medium dark grey to dark grey, quartzose, micromicaceous, very carbonaceous in parts, very hard.
		4	2685	COAL: black, vitreous, bituminous, hard, brittle, also forms laminae up to 2cm thick where shown.
		5	2686	SILTSTONE: medium dark grey, quartzose and micaceous very hard, friable, very fine grained sandstone to silt-sized grains, siliceous cement, argillaceous in part, no visible porosity.
		6	2687	
		7	2688	FLUORESCENCE:
		8	2689	1. 5-30% dull to bright yellow, slow streaming cut.
		9	2690	2. Pinpoint - 5% bright yellow, very weak, slow streaming milky white cut.
		10		3. 60-90% bright yellow, very slow weak streaming yellow cut.
				4. Pinpoint to 5% pale to brown yellow, very slow diffuse crush cut - very slow weak streaming yellow cut
				5. 40-80% bright yellow, very slow, weak streaming yellow cut and crush cut.
				6. 80-90% bright yellow, as for 5.
				7. 80% bright yellow, as for 5.
				8. 80% bright yellow, as for 5.
				9. 60-80% pale-bright yellow, strong yellow streaming cut.
				10. 5-10% dull bright yellow, very slow diffuse crush cut.

APPENDIX 3

APPENDIX 3

Sidewall Core Descriptions

WHITING - 1

SIDEWALL CORE DESCRIPTIONS

<u>No.</u>	<u>Depth</u>	<u>Rec.</u> (mm)	<u>Rock</u> <u>Type</u>	<u>Description</u>
1	2993.5	15	Siltstone	Medium light grey, silty to clayey, firm, argillaceous, quartzose, micaceous.
2	2958.0	30	Siltstone	Medium grey, silty to clayey, firm, argillaceous, carbonaceous, quartzose.
3	2926.5	20	Siltstone	Dark grey, silty to clayey, firm, carbonaceous, micaceous, argillaceous.
4	2892.0			Misfire
5	2856.0	18	Siltstone	Dark grey, silty to clayey, firm, very carbonaceous, argillaceous.
6	2827.0	25	Siltstone	Light grey, silty to clayey, firm, quartzose, argillaceous.
7	2792.9			Misfire
8	2767.0	28	Claystone	Dark grey, clayey, firm, carbonaceous.
			Coal	Black, shiny, firm to brittle.
9	2738.4	12	Coal	Black, shiny, soft to brittle.
10	2717.0			Misfire
11	2678.0	22	Siltstone	Light grey, silty to clayey, firm, argillaceous, quartzose.
12	2661.0	17	Sandstone	Light grey, fine to very fine grained, moderately well sorted, friable, quartzose, argillaceous. No shows.
13	2614.0			Misfire
14	2585.5	23	Siltstone	Light grey, silty to clayey, firm, quartzose, argillaceous.
15	2551.6	16	Sandstone	Medium grey, fine to medium grained, dominantly fine grained, friable, argillaceous, quartzose, silty, no shows.
16	2517.5			Misfire
17	2486.5	20	Shale	Dark grey, hard, carbonaceous, with streaks of coal.
18	2457.0	39	Claystone	Very light grey, firm, water sensitive.
19	2402.8			Misfire
20	2358.5	20	Siltstone	Dark brown grey, silty to clayey, firm, carbonaceous, argillaceous.
21	2329.0			Misfire
22	2295.0			Misfire
23	2266.5			Misfire

24	2233.0			Misfire
25	2200.3			Misfire
26	2169.0			Misfire
27	2141.2			Misfire
28	2110.0			Misfire
29	2073.5			Misfire
30	2042.0			Misfire
31	2010.5	30	Siltstone	Light grey, silty to clayey, firm, quartzose, argillaceous.
32	1980.5	15	Siltstone	Very light grey, silty to clayey, firm, quartzose, argillaceous.
33	1950.5	25	Siltstone	Very light grey, silty to clayey, firm, quartzose, argillaceous.
34	1925.0	20	Sandstone	Light grey to black, fine grained, friable to hard, quartzose, carbonaceous, siliceous cement, has numerous black carbonaceous streaks, also a 3mm coal "seam", no shows.
35	1889.5	22	Siltstone	Very light grey, clayey to silty, firm, very argillaceous.
36	1851.1	22	Siltstone	Medium grey, clayey to silty, firm, very argillaceous.
37	1839.0	25	Sandstone	Light grey, fine to very fine grained, well sorted, subangular to subrounded, firm to hard, trace dolomite, quartzose, micaceous, no shows.
38	1802.5	13	Siltstone	Light grey, silty to very fine grained, well sorted, firm, quartzose, no shows.
39	1780.5	18	Siltstone	Medium brown grey, silty to clayey, firm, quartzose, carbonaceous, argillaceous.
40	1756.0	25	Siltstone	Very light grey, firm, silty to clayey, quartzose, argillaceous.
41	1734.0	36	Claystone	Light grey, clayey, firm.
42	1715.8	20	Siltstone	Medium red brown to grey, silty to clayey, hard, quartzose, argillaceous.
43	1676.3	21	Siltstone	Medium red brown to grey, clayey to silty, hard, quartzose, argillaceous.
44	1657.5	23	Siltstone	Light gry brown, silty to clayey, firm to hard, quartzose, argillaceous.
45	1640.7	30	Sandstone	Very light grey, fine to medium grained, dominantly fine grained, subrounded, well sorted, friable, quartzose, no shows.

46	1604.5	25	Sandstone	Very light grey, very fine grained, well sorted, subrounded, hard, quartzose, no shows.
47	1590.3	16	Sandstone	Light grey, very fine grained to silty, moderately well sorted, subrounded, very hard, quartzose, micaceous, siliceous, no shows.
48	1577.5	35	Claystone	Very light grey, clayey, soft, trace dolomite.
49	1542.0	30	Sandstone	Very light grey, fine to very fine grained, moderately sorted, subangular to subrounded, friable to hard, quartzose, micaceous, siliceous, no shows.
50	1527.5	25	Siltstone	Dark brown grey, silty to clayey, firm, argillaceous, quartzose, carbonaceous.
51	1492.0	24	Siltstone	Very light grey, very fine grained to silty, friable, quartzose, micaceous, no shows.
52	1739.0	40	Sandstone	Very light grey, very fine grained, well sorted, subrounded, firm, quartzose, argillaceous, trace dolomite, no shows.
53	1668.0	40	Siltstone	Light grey, silty firm, quartzose, slightly micaceous.
54	1665.5	20	Siltstone	Light grey to medium grey, silty, firm, quartzose, slightly micaceous.
55	1540.5	35	Sandstone	Very light grey, fine to medium grained, moderately sorted, subrounded, firm, slightly calcareous, quartzose, argillaceous, carbonaceous, no shows.
56	1525.0	30	Sandstone	Medium grey, fine to very fine grained, well sorted, firm, slightly calcareous, quartzose, argillaceous, no shows.
57	1507.1	43	Sandstone	Light grey, very fine to medium grained, moderately sorted, subrounded, firm, quartzose, argillaceous, slightly calcareous, no shows.
58	1478.5	30	Coal	Black, brittle.
59	1461.0	35	Sandstone	Light grey, fine grained, well sorted, firm, quartzose, argillaceous, no shows.
60	1456.0	30	Siltstone	Medium light grey, silty, firm, slightly calcareous, quartzose, slightly micaceous.
61	1436.8	20	Siltstone	Pale brown, silty, firm, argillaceous.

62	1417.0	40	Sandstone	Very light grey, fine to medium grained, well sorted, subangular, firm, quartzose, no shows.
63	1415.2	35	Claystone	Dark brown, firm, argillaceous.
64	1399.8	35	Siltstone	Medium grey, silty, firm, quartzose, argillaceous.
65	1382.5	43	Sandstone	Medium grey, fine to very coarse grained, poorly sorted, subrounded, firm, moderately calcareous, quartzose, argillaceous, no shows.
66	1374.0		Misfire	
67	1359.5	25	Calcsiltite	Dark brown, firm, moderately calcareous, argillaceous.
68	1356.0	35	Sandstone	Clear to translucent, medium to very coarse grained, rounded, moderately sorted, firm, quartz grains, no shows.
69	1342.5	45	Sandstone	Medium dark grey, medium grained, moderately sorted, rounded, firm, moderately calcareous, quartzose, very argillaceous, no shows.
70	1341.5	35	Sandstone	Medium dark grey, very fine grained, well sorted, firm, quartzose, very argillaceous, no shows.
71	1337.9	30	Sandstone	Medium dark grey, medium to very coarse grained, moderately sorted, subrounded, firm, quartzose, moderately calcareous, very argillaceous, no shows.
72	1332.0	35	Sandstone	Medium grey, very fine grained, well sorted, firm, very calcareous, quartzose, very argillaceous, no shows.
73	1326.0	30	Sandstone	Light grey, fine to very coarse grained, moderately sorted, subrounded, firm, very calcareous, quartzose, no shows.
74	1322.5	35	Sandstone	Medium grey, very fine to coarse grained, poorly sorted, subangular, firm, moderately calcareous, quartzose, carbonaceous, argillaceous, no shows.
75	1317.8	43	Sandstone	Medium grey, medium to coarse grained, moderately sorted, subangular, firm, quartzose, argillaceous, no shows.
76	1304.9	42	Sandstone	Medium light grey, very fine to very coarse grained, poorly sorted, subrounded, firm, slightly calcareous, quartzose, argillaceous, no shows.
77	1301.2	40	Sandstone	Medium grey, very fine to medium grained, moderately sorted, subangular, friable, moderately calcareous, quartzose, argillaceous, no shows.

78	1292.0	50	Sandstone	Medium grey, very fine grained, well sorted, friable, trace calcareous, quartzose, argillaceous, no shows.
79	1288.0	34	Sandstone	Medium grey, very fine grained, well sorted, friable to hard, quartzose, argillaceous, glauconitic, micaceous, carbonaceous, pyritic, no shows.
80	1284.0	48	Calcsiltite	Green grey, hard, silty, slightly calcareous, quartzose, glauconitic, micaceous.
81	1280.4	55	Calcsiltite	Green grey, very hard, silty, very calcareous, quartzose, glauconitic, micaceous.
82	1276.6	18	Calcsiltite	Brown grey, very hard, silty, very calcareous, quartzose, argillaceous.
83	1272.0	35	Calcsiltite	Medium light grey, silty, very hard, very calcareous, argillaceous.
84	1268.0	40	Calcsiltite	Medium light grey, silty, very hard, very calcareous, argillaceous.
85	1264.0	40	Calcsiltite	Medium light grey, silty, very hard, very calcareous, argillaceous.
86	1259.0	36	Calcsiltite	Medium light grey, silty, very hard, very calcareous, argillaceous.
87	1255.0	46	Calcsiltite	Medium grey, silty, very hard, very calcareous, argillaceous.
88	1219.0	34	Calcsiltite	Medium grey, silty, very hard, very calcareous, argillaceous.
89	1186.0	33	Calcsiltite	Medium light grey, very hard, silty, very calcareous, argillaceous.
90	1148.0	27	Calcsiltite	Medium light grey, silty, very hard, very calcareous, argillaceous.
91	1114.0		Misfire	
92	1095.0	43	Calcsiltite	Medium light grey, silty, very hard, very calcareous, argillaceous.
93	1069.0	34	Calcsiltite	Light grey, silty, very hard, very calcareous, argillaceous.
94	1038.0	27	Calcsiltite	Light grey, silty, very hard, very calcareous, argillaceous.
95	1003.0	16	Calcsiltite	Light grey, silty, very hard, very calcareous, argillaceous.
96	978.0	35	Calcsiltite	Medium light grey, silty, very hard, very calcareous, argillaceous.
97	953.0	27	Calcsiltite	Medium grey, silty, very hard, very calcareous, argillaceous.
98	923.0		Misfire	
99	898.0	22	Calcarenite	Medium grey, silty to fine grained, very hard, very calcareous, argillaceous.

100	872.0	17	Calcarenite	Medium grey, silty to fine grained, hard, very calcareous, argillaceous.
101	841.0			Misfire
102	805.0	28	Calcarenite	Medium grey, silty to fine grained, hard, very calcareous, argillaceous.
103	2998.0	38	Sandstone	Very light grey, fine grained, well sorted, subrounded, friable, slightly calcareous, quartzose, argillaceous, no shows.
104	2949.0	25	Sandstone	Light grey, fine to medium grained, moderately sorted, subrounded, friable, quartzose, argillaceous, 90% even bright blue white fluorescence, moderate creamy white cut fluorescence, trace cut residue.
105	2892.0			No Recovery
106	2881.0	20	Siltstone	Dark brown, clayey, friable, carbonaceous, streaks of coal.
107	2801.5	17	Sandstone	Very light tan, medium grained, well sorted, subrounded, friable, quartzose, argillaceous, 70% even very dull blue fluorescence, pale blue white cut fluorescence, 0.5% Cl gas in core jar.
108	2793.0	15	Claystone	Very dark brown, clayey, hard, carbonaceous, micaceous.
109	2758.5	20	Sandstone	Light brown, medium to very coarse grained, moderately sorted, subangular to subrounded, friable, quartzose, micaceous, argillaceous, upper? half of core has similar show to No. 107, the lower? half has no show.
110	2749.0	22	Sandstone	Very light grey, fine to very fine grained, well sorted, subrounded to rounded, friable, quartzose, micaceous, argillaceous, no shows.
111	2717.0	20	Siltstone	Light grey, silty to clayey, firm, quartzose, argillaceous.
112	2701.3			No Recovery
113	2614.0	45	Siltstone	Medium grey, silty to clayey, hard, argillaceous, quartzose, carbonaceous.
114	2601.0	18	Sandstone	Very light grey, medium grained, well sorted, subrounded, friable, quartzose, no shows.
115	2517.5			Misfire
116	2402.8	30	Claystone	Light to medium grey, clayey to silty, soft.
117	2329.0	23	Siltstone	Light grey, silty to clayey, firm, quartzose, argillaceous.

118	2295.0	15	Siltstone	Light grey, silty to clayey, soft to firm, slightly calcareous, quartzose, argillaceous.
119	2266.5	22	Siltstone	Light grey, silty to clayey, soft to firm, quartzose, argillaceous.
120	2233.0	18	Siltstone	Medium grey, silty to clayey, soft to firm, quartzose, argillaceous.
121	2200.3	18	Claystone	Medium light grey, clayey to silty, soft to firm.
122	2192.9	26	Sandstone	Light grey, fine grained, well sorted, subrounded, friable, quartzose, no shows.
123	2169.0	17	Siltstone	Light grey, silty to clayey, friable, trace calcareous, quartzose, argillaceous.
124	2141.2	18	Siltstone	Medium dark grey, silty to clayey, firm to hard, quartzose, argillaceous, carbonaceous.
125	2110.0	28	Siltstone	Very light grey, silty to clayey, firm, quartzose, argillaceous.
126	2073.5	17	Siltstone	Light grey, silty to clayey, firm, quartzose, argillaceous.
127	2042.0	20	Siltstone	Light grey, silty to clayey, firm, quartzose, argillaceous.
128	1946.5	33	Sandstone	Light grey, medium to coarse grained, moderately sorted, subrounded, unconsolidated, quartzose, 100% even very bright, blue white fluorescence, bright milky white cut fluorescence.
129	1374.0	30	Siltstone	Dark brown grey, silty to clayey, hard, carbonaceous, quartzose, argillaceous.
130	1114.0	30	Calcisiltite	Medium light grey, silty to clayey, hard, very calcareous.
131	923.0	35	Sandstone	Medium grey, fine grained, moderately sorted, subrounded, hard, very calcareous, quartzose, no shows.
132	841.0	38	Calcisiltite	Medium dark grey, silty to clayey, hard, very calcareous, argillaceous.

WHITING - 1

SIDEWALL, CORE DESCRIPTIONS

<u>No.</u>	<u>Depth</u>	<u>Rec.</u> <u>(mm)</u>	<u>Rock</u> <u>Type</u>	<u>Description</u>
1	2993.5	15	Siltstone	Medium light grey, silty to clayey, firm, argillaceous, quartzose, micaceous.
2	2958.0	30	Siltstone	Medium grey, silty to clayey, firm, argillaceous, carbonaceous, quartzose.
3	2926.5	20	Siltstone	Dark grey, silty to clayey, firm, carbonaceous, micaceous, argillaceous.
4	2892.0			Misfire
5	2856.0	18	Siltstone	Dark grey, silty to clayey, firm, very carbonaceous, argillaceous.
6	2827.0	25	Siltstone	Light grey, silty to clayey, firm, quartzose, argillaceous.
7	2792.9			Misfire
8	2767.0	28	Claystone	Dark grey, clayey, firm, carbonaceous.
			Coal	Black, shiny, firm to brittle.
9	2738.4	12	Coal	Black, shiny, soft to brittle.
10	2717.0			Misfire
11	2678.0	22	Siltstone	Light grey, silty to clayey, firm, argillaceous, quartzose.
12	2661.0	17	Sandstone	Light grey, fine to very fine grained, moderately well sorted, friable, quartzose, argillaceous. No shows.
13	2614.0			Misfire
14	2585.5	23	Siltstone	Light grey, silty to clayey, firm, quartzose, argillaceous.
15	2551.6	16	Sandstone	Medium grey, fine to medium grained, dominantly fine grained, friable, argillaceous, quartzose, silty, no shows.
16	2517.5			Misfire
17	2486.5	20	Shale	Dark grey, hard, carbonaceous, with streaks of coal.
18	2457.0	39	Claystone	Very light grey, firm, water sensitive.
19	2402.8			Misfire
20	2358.5	20	Siltstone	Dark brown grey, silty to clayey, firm, carbonaceous, argillaceous.
21	2329.0			Misfire
22	2295.0			Misfire
23	2266.5			Misfire

24	2233.0			Misfire
25	2200.3			Misfire
26	2169.0			Misfire
27	2141.2			Misfire
28	2110.0			Misfire
29	2073.5			Misfire
30	2042.0			Misfire
31	2010.5	30	Siltstone	Light grey, silty to clayey, firm, quartzose, argillaceous.
32	1980.5	15	Siltstone	Very light grey, silty to clayey, firm, quartzose, argillaceous.
33	1950.5	25	Siltstone	Very light grey, silty to clayey, firm, quartzose, argillaceous.
34	1925.0	20	Sandstone	Light grey to black, fine grained, friable to hard, quartzose, carbonaceous, siliceous cement, has numerous black carbonaceous streaks, also a 3mm coal "seam", no shows.
35	1889.5	22	Siltstone	Very light grey, clayey to silty, firm, very argillaceous.
36	1851.1	22	Siltstone	Medium grey, clayey to silty, firm, very argillaceous.
37	1839.0	25	Sandstone	Light grey, fine to very fine grained, well sorted, subangular to subrounded, firm to hard, trace dolomite, quartzose, micaceous, no shows.
38	1802.5	13	Siltstone	Light grey, silty to very fine grained, well sorted, firm, quartzose, no shows.
39	1780.5	18	Siltstone	Medium brown grey, silty to clayey, firm, quartzose, carbonaceous, argillaceous.
40	1756.0	25	Siltstone	Very light grey, firm, silty to clayey, quartzose, argillaceous.
41	1734.0	36	Claystone	Light grey, clayey, firm.
42	1715.8	20	Siltstone	Medium red brown to grey, silty to clayey, hard, quartzose, argillaceous.
43	1676.3	21	Siltstone	Medium red brown to grey, clayey to silty, hard, quartzose, argillaceous.
44	1657.5	23	Siltstone	Light grey brown, silty to clayey, firm to hard, quartzose, argillaceous.
45	1640.7	30	Sandstone	Very light grey, fine to medium grained, dominantly fine grained, subrounded, well sorted, friable, quartzose, no shows.

46	1604.5	25	Sandstone	Very light grey, very fine grained, well sorted, subrounded, hard, quartzose, no shows.
47	1590.3	16	Sandstone	Light grey, very fine grained to silty, moderately well sorted, subrounded, very hard, quartzose, micaceous, siliceous, no shows.
48	1577.5	35	Claystone	Very light grey, clayey, soft, trace dolomite.
49	1542.0	30	Sandstone	Very light grey, fine to very fine grained, moderately sorted, subangular to subrounded, friable to hard, quartzose, micaceous, siliceous, no shows.
50	1527.5	25	Siltstone	Dark brown grey, silty to clayey, firm, argillaceous, quartzose, carbonaceous.
51	1492.0	24	Siltstone	Very light grey, very fine grained to silty, friable, quartzose, micaceous, no shows.
52	1739.0	40	Sandstone	Very light grey, very fine grained, well sorted, subrounded, firm, quartzose, argillaceous, trace dolomite, no shows.
53	1668.0	40	Siltstone	Light grey, silty, firm, quartzose, slightly micaceous.
54	1665.5	20	Siltstone	Light grey to medium grey, silty, firm, quartzose, slightly micaceous.
55	1540.5	35	Sandstone	Very light grey, fine to medium grained, moderately sorted, subrounded, firm, slightly calcareous, quartzose, argillaceous, carbonaceous, no shows.
56	1525.0	30	Sandstone	Medium grey, fine to very fine grained, well sorted, firm, slightly calcareous, quartzose, argillaceous, no shows.
57	1507.1	43	Sandstone	Light grey, very fine to medium grained, moderately sorted, subrounded, firm, quartzose, argillaceous, slightly calcareous, no shows.
58	1478.5	30	Coal	Black, brittle.
59	1461.0	35	Sandstone	Light grey, fine grained, well sorted, firm, quartzose, argillaceous, no shows.
60	1456.0	30	Siltstone	Medium light grey, silty, firm, slightly calcareous, quartzose, slightly micaceous.
61	1436.8	20	Siltstone	Pale brown, silty, firm, argillaceous.

62	1417.0	40	Sandstone	Very light grey, fine to medium grained, well sorted, subangular, firm, quartzose, no shows.
63	1415.2	35	Claystone	Dark brown, firm, argillaceous.
64	1399.8	35	Siltstone	Medium grey, silty, firm, quartzose, argillaceous.
65	1382.5	43	Sandstone	Medium grey, fine to very coarse grained, poorly sorted, subrounded, firm, moderately calcareous, quartzose, argillaceous, no shows.
66	1374.0			Misfire
67	1359.5	25	Calcsiltite	Dark brown, firm, moderately calcareous, argillaceous.
68	1356.0	35	Sandstone	Clear to translucent, medium to very coarse grained, rounded, moderately sorted, firm, quartz grains, no shows.
69	1342.5	45	Sandstone	Medium dark grey, medium grained, moderately sorted, rounded, firm, moderately calcareous, quartzose, very argillaceous, no shows.
70	1341.5	35	Sandstone	Medium dark grey, very fine grained, well sorted, firm, quartzose, very argillaceous, no shows.
71	1337.9	30	Sandstone	Medium dark grey, medium to very coarse grained, moderately sorted, subrounded, firm, quartzose, moderately calcareous, very argillaceous, no shows.
72	1332.0	35	Sandstone	Medium grey, very fine grained, well sorted, firm, very calcareous, quartzose, very argillaceous, no shows.
73	1326.0	30	Sandstone	Light grey, fine to very coarse grained, moderately sorted, subrounded, firm, very calcareous, quartzose, no shows.
74	1322.5	35	Sandstone	Medium grey, very fine to coarse grained, poorly sorted, subangular, firm, moderately calcareous, quartzose, carbonaceous, argillaceous, no shows.
75	1317.8	43	Sandstone	Medium grey, medium to coarse grained, moderately sorted, subangular, firm, quartzose, argillaceous, no shows.
76	1304.9	42	Sandstone	Medium light grey, very fine to very coarse grained, poorly sorted, subrounded, firm, slightly calcareous, quartzose, argillaceous, no shows.
77	1301.2	40	Sandstone	Medium grey, very fine to medium grained, moderately sorted, subangular, friable, moderately calcareous, quartzose, argillaceous, no shows.

78	1292.0	50	Sandstone	Medium grey, very fine grained, well sorted, friable, trace calcareous, quartzose, argillaceous, no shows.
79	1288.0	34	Sandstone	Medium grey, very fine grained, well sorted, friable to hard, quartzose, argillaceous, glauconitic, micaceous, carbonaceous, pyritic, no shows.
80	1284.0	48	Calcsiltite	Green grey, hard, silty, slightly calcareous, quartzose, glauconitic, micaceous.
81	1280.4	55	Calcsiltite	Green grey, very hard, silty, very calcareous, quartzose, glauconitic, micaceous.
82	1276.6	18	Calcsiltite	Brown grey, very hard, silty, very calcareous, quartzose, argillaceous.
83	1272.0	35	Calcsiltite	Medium light grey, silty, very hard, very calcareous, argillaceous.
84	1268.0	40	Calcsiltite	Medium light grey, silty, very hard, very calcareous, argillaceous.
85	1264.0	40	Calcsiltite	Medium light grey, silty, very hard, very calcareous, argillaceous.
86	1259.0	36	Calcsiltite	Medium light grey, silty, very hard, very calcareous, argillaceous.
87	1255.0	46	Calcsiltite	Medium grey, silty, very hard, very calcareous, argillaceous.
88	1219.0	34	Calcsiltite	Medium grey, silty, very hard, very calcareous, argillaceous.
89	1186.0	33	Calcsiltite	Medium light grey, very hard, silty, very calcareous, argillaceous.
90	1148.0	27	Calcsiltite	Medium light grey, silty, very hard, very calcareous, argillaceous.
91	1114.0		Misfire	
92	1095.0	43	Calcsiltite	Medium light grey, silty, very hard, very calcareous, argillaceous.
93	1069.0	34	Calcsiltite	Light grey, silty, very hard, very calcareous, argillaceous.
94	1038.0	27	Calcsiltite	Light grey, silty, very hard, very calcareous, argillaceous.
95	1003.0	16	Calcsiltite	Light grey, silty, very hard, very calcareous, argillaceous.
96	978.0	35	Calcsiltite	Medium light grey, silty, very hard, very calcareous, argillaceous.
97	953.0	27	Calcsiltite	Medium grey, silty, very hard, very calcareous, argillaceous.
98	923.0		Misfire	
99	898.0	22	Calcarenite	Medium grey, silty to fine grained, very hard, very calcareous, argillaceous.

100	872.0	17	Calcarenite	Medium grey, silty to fine grained, hard, very calcareous, argillaceous.
101	841.0		Misfire	
102	805.0	28	Calcarenite	Medium grey, silty to fine grained, hard, very calcareous, argillaceous.
103	2998.0	38	Sandstone	Very light grey, fine grained, well sorted, subrounded, friable, slightly calcareous, quartzose, argillaceous, no shows.
104	2949.0	25	Sandstone	Light grey, fine to medium grained, moderately sorted, subrounded, friable, quartzose, argillaceous, 90% even bright blue white fluorescence, moderate creamy white cut fluorescence, trace cut residue.
105	2892.0		No Recovery	
106	2881.0	20	Siltstone	Dark brown, clayey, friable, carbonaceous, streaks of coal.
107	2801.5	17	Sandstone	Very light tan, medium grained, well sorted, subrounded, friable, quartzose, argillaceous, 70% even very dull blue fluorescence, pale blue white cut fluorescence, 0.5% Cl gas in core jar.
108	2793.0	15	Claystone	Very dark brown, clayey, hard, carbonaceous, micaceous.
109	2758.5	20	Sandstone	Light brown, medium to very coarse grained, moderately sorted, subangular to subrounded, friable, quartzose, micaceous, argillaceous, upper? half of core has similar show to No. 107, the lower? half has no show.
110	2749.0	22	Sandstone	Very light grey, fine to very fine grained, well sorted, subrounded to rounded, friable, quartzose, micaceous, argillaceous, no shows.
111	2717.0	20	Siltstone	Light grey, silty to clayey, firm, quartzose, argillaceous.
112	2701.3		No Recovery	
113	2614.0	45	Siltstone	Medium grey, silty to clayey, hard, argillaceous, quartzose, carbonaceous.
114	2601.0	18	Sandstone	Very light grey, medium grained, well sorted, subrounded, friable, quartzose, no shows.
115	2517.5		Misfire	
116	2402.8	30	Claystone	Light to medium grey, clayey to silty, soft.
117	2329.0	23	Siltstone	Light grey, silty to clayey, firm, quartzose, argillaceous.

118	2295.0	15	Siltstone	Light grey, silty to clayey, soft to firm, slightly calcareous, quartzose, argillaceous.
119	2266.5	22	Siltstone	Light grey, silty to clayey, soft to firm, quartzose, argillaceous.
120	2233.0	18	Siltstone	Medium grey, silty to clayey, soft to firm, quartzose, argillaceous.
121	2200.3	18	Claystone	Medium light grey, clayey to silty, soft to firm.
122	2192.9	26	Sandstone	Light grey, fine grained, well sorted, subrounded, friable, quartzose, no shows.
123	2169.0	17	Siltstone	Light grey, silty to clayey, friable, trace calcareous, quartzose, argillaceous.
124	2141.2	18	Siltstone	Medium dark grey, silty to clayey, firm to hard, quartzose, argillaceous, carbonaceous.
125	2110.0	28	Siltstone	Very light grey, silty to clayey, firm, quartzose, argillaceous.
126	2073.5	17	Siltstone	Light grey, silty to clayey, firm, quartzose, argillaceous.
127	2042.0	20	Siltstone	Light grey, silty to clayey, firm, quartzose, argillaceous.
128	1946.5	33	Sandstone	Light grey, medium to coarse grained, moderately sorted, subrounded, unconsolidated, quartzose, 100% even very bright, blue white fluorescence, bright milky white cut fluorescence.
129	1374.0	30	Siltstone	Dark brown grey, silty to clayey, hard, carbonaceous, quartzose, argillaceous.
130	1114.0	30	Calcisiltite	Medium light grey, silty to clayey, hard, very calcareous.
131	923.0	35	Sandstone	Medium grey, fine grained, moderately sorted, subrounded, hard, very calcareous, quartzose, no shows.
132	841.0	38	Calcisiltite	Medium dark grey, silty to clayey, hard, very calcareous, argillaceous.

APPENDIX 4

APPENDIX 4

Velocity Survey Report

VELOCITY SURVEY REPORT

1. Marine velocity survey report.
2. Processing report.
3. Schlumberger field report.
4. Shooting geometry sketch.
5. Check shot data - observed and corrected.
6. Drift calculation sheet.
7. Sonic calibration curve.
8. Time-depth curve.
9. Schlumberger calibration log.
10. Schlumberger geogram.
11. Schlumberger checkshot records.

0745L

MARINE VELOCITY SURVEY REPORT

WELL : Whiting-1

BASIN : Gippsland

DATE OF SURVEY : 9-4-83

CONTRACTOR : Schlumberger

RECORDED BY : G. Miller

WITNESSED BY : A. Bramall

WATER DEPTH : 53m

KB ELEVATION : 21m

T.D. WHEN SHOT : 3011mKB

CASING DEPTH : 20" @ 196mKB. 13 3/8" @ 778mKB.

NO. OF SHOOTING LEVELS : 13

SEA CONDITIONS : Rough

0702L

PROCESSING REPORT

WHITING-1

1. OPEN HOLE LOGS

Sonic data used over the interval 3009.5 - 200.1m (K.B.)
Density data used from 781 to 0.0m (K.B.) R.S. 2.256 and from 3009.5 to 781 (K.B.) used log data.

Logs where patch at following intervals:-

<u>DENSITY</u>	<u>SONIC</u>
1421.6 - 1422.8 Bad Hole	620 - 621 cycle skip
1884.8 - 1886.3 Bad Hole	719.5 - 720.5 cycle skip
2144.5 - 2145.8 " "	2562.8 - 2564 " "
2292.2 - 2293.3 " "	2566.7 - 2567.2 " "
2326.0 - 2328.2 " "	2569.0 - 2569.8 " "
2550.2 - 2551.8 " "	
2604 - 2606 " "	
2641 - 2644.7 " "	
2649.2 - 2656.8 " "	
2663.4 - 2664.3 " "	
2832.7 - 2834.5 " "	
2838.2 - 2839.2 " "	
2860.8 - 2862.3 " "	

Sonic log data above 200m not used due to bad hole.

2. SHOT DATA

Moonpool: stacked all shots

Level 700.0m stacked 2 shots.
Level 1150.0m stacked 4 shots.
Level 1292.0m stacked 4 shots - did not use 6 shots due to noise.
Level 1355.0m stacked 4 shots.
Level 1485.0m stacked 3 shots.
Level 1655.0m stacked 2 shots - did not use 1 shot due to noise.
Level 1825.0m stacked 5 shots - did not use 4 shots due to noise.
Level 2000.0m stacked 5 shots - did not use 4 shots due to noise.
Level 2250.0m stacked 3 shots - did not use 2 shots due to noise.
Level 2410.0m stacked 3 shots - did not use 1 shot due to noise.
Level 2625.0m stacked 3 shots - did not use 4 shots due to noise.
Level 2850.0m stacked 4 shots - did not use 4 shots due to noise.
Level 3009.5m stacked 7 shots - did not use 2 shots due to noise.

3. DATA PROCESSING INFORMATION

- SRD is sea level computed at 0.0m (20.7m log data depth measurements).
- Rotary table = 20.7 above SRD (reference for log data).
- SRD = 0.0m.
- Ground level (G.L.) = -53m from SRD.
- Gun distance from wellbore = 32.32m.
- Hydrophone distance from wellbore = 32.32m.
- Azimuth for gun and hydrophone = 0.
- Gun elevation from SRD = -9.14.
- Hydrophone elevation from SRD = -6.1.
- Created a dummy shot at sea bed (G.L.) using velocity in sea water at 1480 m/sec (as specified in your request) (see calculation).
- Program create a shot at bottom and top of Sonic data if no shot available at that depth. In our case created one at 200.1m K.B. depth using Sonic data.
- Average velocity used between sea bed and top of Sonic (200.1m) = 2365.1 m/sec derive from shots.
- Average velocity used between SRD and sea bed = 1480 m/sec (as requested).

SEISMIC

WELL SEISMIC SERVICE FIELD REPORT

C. C-070513

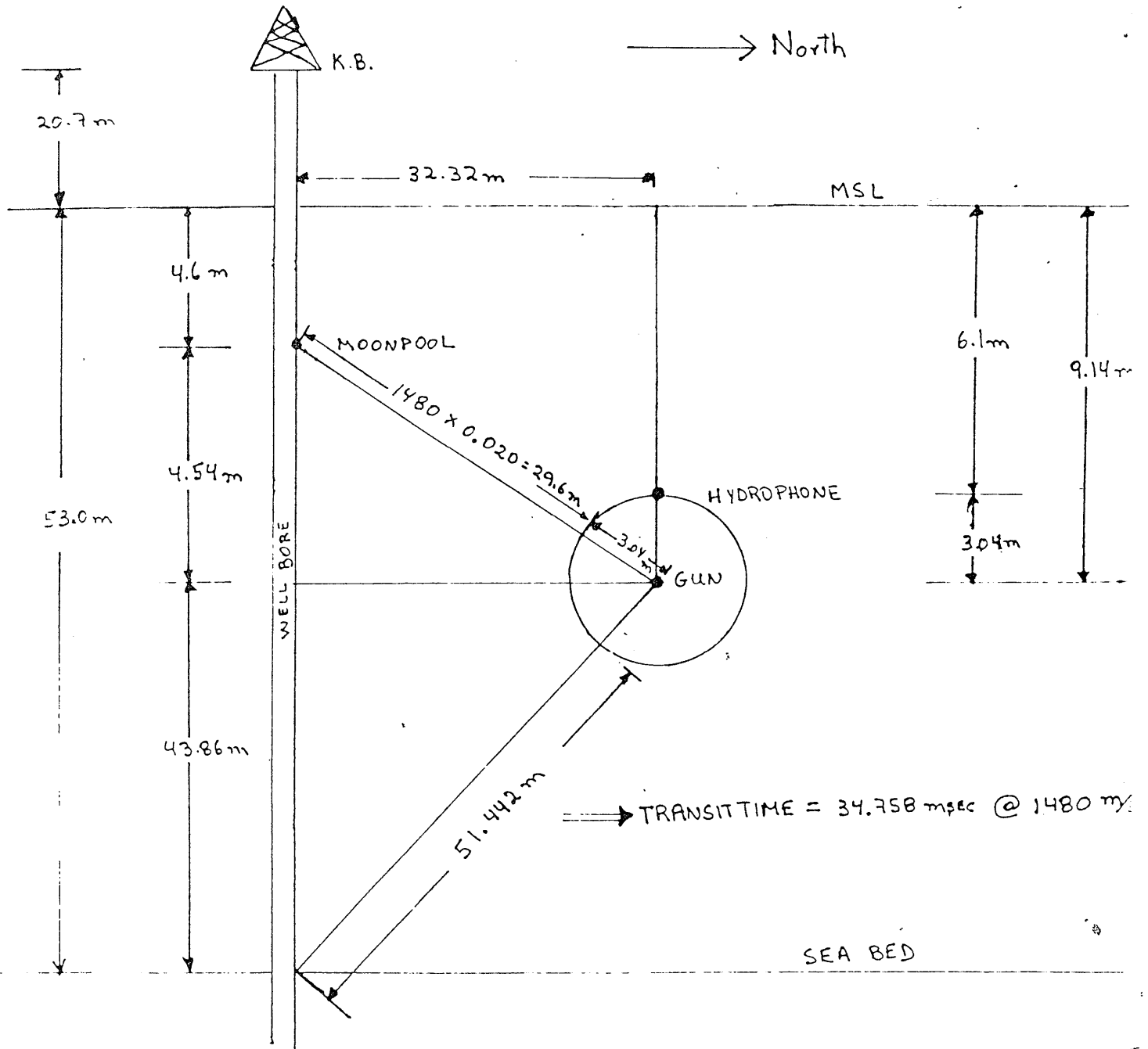
Company ESSC	Well WHT 106	Date 9/4/83	Location SEA	Recorded by MILLER	Witness RAMALL
JACK UP <input type="checkbox"/>	PLATFORM <input type="checkbox"/>	SHIP <input type="checkbox"/>	SEMI SUB <input checked="" type="checkbox"/>	MARSH <input type="checkbox"/>	LAND <input type="checkbox"/>
TIDE HIGH AT (HOUR/DATE):		TIDE LOW AT (HOUR/DATE):		TIME OF FIRST LEVEL:	
<input type="checkbox"/> ABOVE MSL		<input type="checkbox"/> ABOVE MSL		<input type="checkbox"/> ABOVE MSL	
<input type="checkbox"/> BELOW MSL		<input type="checkbox"/> BELOW MSL		<input type="checkbox"/> BELOW MSL	
GUN DEPTH 9m	GUN OFFSET FROM WELL 31.6m	GUN AZIMUTH 0	DEG/NORTH		
HYDRO DEPTH 6m	HYDRO OFFSET FROM WELL 31.6m	HYDRO AZIMUTH 0	DEG/NORTH		
RT ELEVATION 20.7m	<input type="checkbox"/> ABOVE MSL <input checked="" type="checkbox"/> ABOVE SEA AT (HOUR/DATE)			<input type="checkbox"/> ABOVE GL	
BIT SIZE 12 1/2	CASINGS 20"	196m	13 3/8 @ 778m	@	@
MAX HOLE DEV 3 @ 230	OTHER SERVICES: DOL-M-FL, L-FL, HDT, EPT, BHC, RET, CST				
GUN VOLUME 2 X 200 cu m	FIRING PRESSURE 2100 PSI	WAVEFORM KIT <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
STAND OFF SLEEVES (WSA) <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	LONG ARM <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	BRIDLE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
PANEL WSF A 719	M TAPE MTU D	RECORDER WSR A 718			
NER OF SHOOTING LEVELS 13	REQUESTED BY CUSTOMER 2	SELECTED BY FIELD ENGINEER			

NOTE - COMPULSORY SHOTS : TD/ upper reading first sonic / above and below too high ΔT zones (bad hole)

UNCORRECTED RESULTS

DEPTH	SHOTS FROM N°/TO N°	TRANSIT TIME (ms)	QUALITY	REEL N°	HOURL/MINUTES (OFFSHORE WITH TIDES ONLY)	REMARKS
700 m	1, 2	292.9	E	1	21.28	8/4/1983 1
1292 m	8, 9, 10	495.1	E	1	22.15	" "
1825 m	11, 12, 14	677.2	E	1	22.39	" "
3009 m	17, 19, 20, 21	995.5	E	1	23.26	" "
2850 m	26, 27, 28, 29	957.6	E	1	23.52	" "
2685 m	31, 33, 34	913.6	E	1	00.10	9/4/83 12
2625 m	35, 36, 38	899.2	E	1	00.17	" 11
2410 m	39, 40, 41	845.3	E	1	00.28	" "
2250 m	44, 45, 46	800.3	E	1	00.39	" "
2000 m	53, 54, 55	730.2	E	1	00.58	" "
1825 m	56, 57, 58, 59, 60	676.3	E	1	01.09	" "
1655 m	61, 62, 63	617.7	E	1	01.22	" "
1485 m	64, 65, 66	563.1	E	1	01.33	" "
1355 m	68, 69, 70	515.5	E	1	01.42	" "
1292 m	73, 74, 75, 76	495.7	E	1	01.54	" "
1150 m	77, 79, 80	443.7	E	1	02.05	" "

SCHEME FOR CALCULATION TO ESTIMATE OFFSET
AND DUMMY SHOT AT SEA BED.



VELOCITY SURVEY - WHITING-1

<u>LEVEL NUMBER</u>	<u>MEASURED DEPTH FROM KB</u> (m)	<u>VERTICAL DEPTH FROM MSL</u> (m)	<u>OBSERVED TRAVEL TIME</u> (ms)	<u>VERTICAL TRAVEL TIME MSL/ GEOPHONE</u> (ms)	<u>AVERAGE VELOCITY MSL/GEOPHONE</u> (m/s)	<u>DELTA DEPTH BETWEEN SHOTS</u> (m)	<u>DELTA TIME BETWEEN SHOTS</u> (ms)	<u>INTERVAL VELOCITY BETWEEN SHOTS</u> (m/s)
1	1150.0	1129.0	445.7	451.8	2498	142.0	51.7	2747
2	1292.0	1271.0	497.4	503.5	2524	63.0	20.1	3134
3	1355.0	1334.0	517.5	523.6	2547	130.0	47.6	2731
4	1485.0	1464.0	565.1	571.2	2563	170.0	54.6	3114
5	1655.0	1634.0	619.7	625.8	2611	170.0	59.1	2876
6	1825.0	1804.0	678.8	684.9	2634	175.0	53.4	3277
7	2000.0	1979.0	732.2	738.3	2680	250.0	70.1	3566
8	2250.0	2229.0	802.3	808.4	2757	160.0	45.0	3556
9	2410.0	2389.0	847.3	853.4	2799	215.0	53.9	3989
10	2625.0	2604.0	901.2	907.3	2870	60.0	14.4	4167
11	2685.0	2664.0	915.6	921.7	2890	165.0	44.0	3750
12	2850.0	2829.0	959.6	965.7	2929	159.4	37.9	4206
13	3009.4	2988.4	997.5	1003.6	2978			

0678L/69

DRIFT CALCULATION SHEET

WHITING-1

Depth Rel.S.L. (m)	Depth Interval (m)	Av. Vertical Travel Time (check shots) (ms)	Ti Check Shots (ms)	Ti Sonic Log (ms) (washout corrected)	Ti - Ti Check Sonic (ms)	Drift (ms)																																																																												
1129	142.0	451.8	51.7	47.9	3.8	3.8																																																																												
1271		503.5					1271	63.00	503.5	20.1	19.7	0.4	4.2	1334.0	523.6	1334.0	130.00	523.6	47.6	45.0	2.6	6.8	1464.0	571.2	1464.0	170.0	571.2	54.6	52.8	1.8	8.6	1634.0	625.8	1634.0	170.0	625.8	59.1	55.6	3.5	12.1	1804.0	684.9	1804.0	175.0	684.9	53.4	51.7	1.7	13.8	1979.0	738.3	1979.0	250.00	738.3	70.1	66.8	3.3	17.1	2229.0	808.4	2229.0	160.0	808.4	45.0	42.3	2.7	19.8	2389.0	853.4	2389.0	215.0	853.4	53.9	51.9	2.0	21.8	2604.0	907.3	2604.0	60.0	907.3	14.4
1271	63.00	503.5	20.1	19.7	0.4	4.2																																																																												
1334.0		523.6					1334.0	130.00	523.6	47.6	45.0	2.6	6.8	1464.0	571.2	1464.0	170.0	571.2	54.6	52.8	1.8	8.6	1634.0	625.8	1634.0	170.0	625.8	59.1	55.6	3.5	12.1	1804.0	684.9	1804.0	175.0	684.9	53.4	51.7	1.7	13.8	1979.0	738.3	1979.0	250.00	738.3	70.1	66.8	3.3	17.1	2229.0	808.4	2229.0	160.0	808.4	45.0	42.3	2.7	19.8	2389.0	853.4	2389.0	215.0	853.4	53.9	51.9	2.0	21.8	2604.0	907.3	2604.0	60.0	907.3	14.4	13.2	1.2	23.0	2664.0	921.7				
1334.0	130.00	523.6	47.6	45.0	2.6	6.8																																																																												
1464.0		571.2					1464.0	170.0	571.2	54.6	52.8	1.8	8.6	1634.0	625.8	1634.0	170.0	625.8	59.1	55.6	3.5	12.1	1804.0	684.9	1804.0	175.0	684.9	53.4	51.7	1.7	13.8	1979.0	738.3	1979.0	250.00	738.3	70.1	66.8	3.3	17.1	2229.0	808.4	2229.0	160.0	808.4	45.0	42.3	2.7	19.8	2389.0	853.4	2389.0	215.0	853.4	53.9	51.9	2.0	21.8	2604.0	907.3	2604.0	60.0	907.3	14.4	13.2	1.2	23.0	2664.0	921.7													
1464.0	170.0	571.2	54.6	52.8	1.8	8.6																																																																												
1634.0		625.8					1634.0	170.0	625.8	59.1	55.6	3.5	12.1	1804.0	684.9	1804.0	175.0	684.9	53.4	51.7	1.7	13.8	1979.0	738.3	1979.0	250.00	738.3	70.1	66.8	3.3	17.1	2229.0	808.4	2229.0	160.0	808.4	45.0	42.3	2.7	19.8	2389.0	853.4	2389.0	215.0	853.4	53.9	51.9	2.0	21.8	2604.0	907.3	2604.0	60.0	907.3	14.4	13.2	1.2	23.0	2664.0	921.7																						
1634.0	170.0	625.8	59.1	55.6	3.5	12.1																																																																												
1804.0		684.9					1804.0	175.0	684.9	53.4	51.7	1.7	13.8	1979.0	738.3	1979.0	250.00	738.3	70.1	66.8	3.3	17.1	2229.0	808.4	2229.0	160.0	808.4	45.0	42.3	2.7	19.8	2389.0	853.4	2389.0	215.0	853.4	53.9	51.9	2.0	21.8	2604.0	907.3	2604.0	60.0	907.3	14.4	13.2	1.2	23.0	2664.0	921.7																															
1804.0	175.0	684.9	53.4	51.7	1.7	13.8																																																																												
1979.0		738.3					1979.0	250.00	738.3	70.1	66.8	3.3	17.1	2229.0	808.4	2229.0	160.0	808.4	45.0	42.3	2.7	19.8	2389.0	853.4	2389.0	215.0	853.4	53.9	51.9	2.0	21.8	2604.0	907.3	2604.0	60.0	907.3	14.4	13.2	1.2	23.0	2664.0	921.7																																								
1979.0	250.00	738.3	70.1	66.8	3.3	17.1																																																																												
2229.0		808.4					2229.0	160.0	808.4	45.0	42.3	2.7	19.8	2389.0	853.4	2389.0	215.0	853.4	53.9	51.9	2.0	21.8	2604.0	907.3	2604.0	60.0	907.3	14.4	13.2	1.2	23.0	2664.0	921.7																																																	
2229.0	160.0	808.4	45.0	42.3	2.7	19.8																																																																												
2389.0		853.4					2389.0	215.0	853.4	53.9	51.9	2.0	21.8	2604.0	907.3	2604.0	60.0	907.3	14.4	13.2	1.2	23.0	2664.0	921.7																																																										
2389.0	215.0	853.4	53.9	51.9	2.0	21.8																																																																												
2604.0		907.3					2604.0	60.0	907.3	14.4	13.2	1.2	23.0	2664.0	921.7																																																																			
2604.0	60.0	907.3	14.4	13.2	1.2	23.0																																																																												
2664.0		921.7																																																																																

WHITING-1

Depth Rel.S.L. (m)	Depth Interval (m)	Av. Vertical Travel Time (check shots) (ms)	Ti Check Shots (ms)	Ti Sonic Log (ms) (washout corrected)	Ti - Ti Check - Sonic (ms)	Ti Sonic Drift (ms)
2664.0	165.0	921.7	44.0	41.9	2.1	25.1
2829.0		965.7				
2829.0	159.4	965.7	37.9	38.0	-0.1	25.0
2988.4		1003.6				

0702L

PE902567

This is an enclosure indicator page.
The enclosure PE902567 is enclosed within the
container PE902566 at this location in this
document.

The enclosure PE902567 has the following characteristics:

ITEM_BARCODE = PE902567
CONTAINER_BARCODE = PE902566
 NAME = Geogram from WST Ricker Wavelets
 Reverse polarity
 BASIN = GIPPSLAND
 PERMIT = VIC/L2
 TYPE = WELL
 SUBTYPE = SYNTH_SEISMOGRAM
 DESCRIPTION = Geogram from WST Ricker Wavelets
 Reverse polarity for Whiting-1
 REMARKS =
 DATE_CREATED =
 DATE_RECEIVED = 7/05/84
 W_NO = W807
 WELL_NAME = Whiting-1
 CONTRACTOR = ESSO
 CLIENT_OP_CO = ESSO

(Inserted by DNRE - Vic Govt Mines Dept)

PE902568

This is an enclosure indicator page.
The enclosure PE902568 is enclosed within the
container PE902566 at this location in this
document.

The enclosure PE902568 has the following characteristics:

ITEM_BARCODE = PE902568
CONTAINER_BARCODE = PE902566
NAME = Geogram from WST Ricker Wavelets
Reverse polarity
BASIN = GIPPSLAND
PERMIT = VIC/L2
TYPE = WELL
SUBTYPE = SYNTH_SEISMOGRAM
DESCRIPTION = Geogram from WST Ricker Wavelets Normal
polarity for Whiting-1
REMARKS =
DATE_CREATED =
DATE_RECEIVED = 7/05/84
W_NO = W807
WELL_NAME = Whiting-1
CONTRACTOR = ESSO
CLIENT_OP_CO = ESSO

(Inserted by DNRE - Vic Govt Mines Dept)

PE902571

This is an enclosure indicator page.
The enclosure PE902571 is enclosed within the
container PE902566 at this location in this
document.

The enclosure PE902571 has the following characteristics:

ITEM_BARCODE = PE902571
CONTAINER_BARCODE = PE902566
 NAME = Seismic Calibration log
 BASIN = GIPPSLAND
 PERMIT = VIC/L2
 TYPE = WELL
 SUBTYPE = VELOCITY_CHART
DESCRIPTION = Seismic Calibration log, Adjusted
 Continuous Velocity Log, CPI,
 (enclosure from WCR vol.1) for
 Whiting-1
REMARKS =
DATE_CREATED = 8/04/83
DATE_RECEIVED = 7/05/84
 W_NO = W807
 WELL_NAME = Whiting-1
CONTRACTOR = SCHLUMBERGER
CLIENT_OP_CO = ESSO

(Inserted by DNRE - Vic Govt Mines Dept)

PE902569

This is an enclosure indicator page.
The enclosure PE902569 is enclosed within the
container PE902566 at this location in this
document.

The enclosure PE902569 has the following characteristics:

ITEM_BARCODE = PE902569
CONTAINER_BARCODE = PE902566
 NAME = Sonic Calibration Curve
 BASIN = GIPPSLAND
 PERMIT = VIC/L2
 TYPE = WELL
 SUBTYPE = VELOCITY_CHART
DESCRIPTION = Sonic Calibration Curve (enclosure from
 WCR) for Whiting-1
REMARKS =
DATE_CREATED = 28/02/84
DATE_RECEIVED = 7/05/84
 W_NO = W807
 WELL_NAME = Whiting-1
CONTRACTOR = ESSO
CLIENT_OP_CO = ESSO

(Inserted by DNRE - Vic Govt Mines Dept)

PE603938

This is an enclosure indicator page.
The enclosure PE603938 is enclosed within the
container PE902566 at this location in this
document.

The enclosure PE603938 has the following characteristics:

ITEM_BARCODE = PE603938
CONTAINER_BARCODE = PE902566
 NAME = Synthetic Seismogram
 BASIN = GIPPSLAND
 PERMIT = VIC/L2
 TYPE = WELL
 SUBTYPE = SYNTH_SEISMOGRAM
DESCRIPTION = Synthetic Seismogram (from WCR-vol 1)
 for Whiting-1
REMARKS =
DATE_CREATED = 28/02/84
DATE_RECEIVED = 13/11/85
 W_NO = W807
 WELL_NAME = WHITING-1
CONTRACTOR =
CLIENT_OP_CO = ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE902570

This is an enclosure indicator page.
The enclosure PE902570 is enclosed within the
container PE902566 at this location in this
document.

The enclosure PE902570 has the following characteristics:

ITEM_BARCODE = PE902570
CONTAINER_BARCODE = PE902566
 NAME = Time Depth Curve
 BASIN = GIPPSLAND
 PERMIT = VIC/L2
 TYPE = WELL
 SUBTYPE = VELOCITY_CHART
DESCRIPTION = Time Depth Curve (enclosure from WCR)
 for Whiting-1
REMARKS =
DATE_CREATED = 27/02/84
DATE_RECEIVED = 7/05/84
 W_NO = W807
 WELL_NAME = Whiting-1
CONTRACTOR = ESSO
CLIENT_OP_CO = ESSO

(Inserted by DNRE - Vic Govt Mines Dept)