WCR (vol. 1)
KINGFISH-8
(W690)

APPENDIX 5 IS A SEPARATE ATTACHMENT

Esso Australia Ltd.

WELL COMPLETION REPORT

KINGFISH 8
(INCLUDING KINGFISH 8 STI)

VOLUME 1

INTERPRETED DATA

GIPPSLAND BASIN, VICTORIA

ESSO AUSTRALIA LTD

SEPTEMBER 1992

RESTECH/A:WCRCOV2:BJH/JTS

WELL COMPLETION REPORT
VOLUME 1: BASIC DATA

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1.

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WELL DATA RECORD

KINGFISH 8

LOCATION	:	Latitude : 38^{0}35'35.83" S : Longitude : 148^{0}03'37.94"E X= 592359m E Y= 5727807m N Map Projection: UTM Zone 55 Geographical Location: Bass Strait, Victoria Field : West Kingfish
PERMIT	:	Vic/L8
ELEVATION	:	23 m
WATER DEPTH	:	76 m
TOTAL DEPTH	:	2444m MD Kingfish 8 2731m MD Kingfish 8 ST1
PLUG BACK TYPE	:	Cement Plug
REASONS FOR PLUGGING BACK	:	Abandonment
MOVE IN	:	10/03/92 0000 hrs
SPUDDED	:	10/03/92 0230 hrs
REACHED TD	:	Kingfish 8 23/03/92 1325 hrs Kingfish 8 ST1 02/04/92 1415 hrs
RIG RELEASED	:	11/04/92 2100 hrs
OPERATOR	:	Esso Australia Resources Ltd.
PERMITTEE OR LICENCEE	:	BHP Petroleum (Bass Strait) Pty Ltd and Esso Australia Resources Ltd.
ESSO INTEREST	:	50%
OTHER INTEREST	:	50%
CONTRACTOR	:	Atwood Oceanics
RIG NAME	:	Falcon
EQUIPMENT TYPE	:	Semi-submersible
TOTAL RIG DAYS	:	34
DRILLING PROJECT NO	:	L05012000
TYPE COMPLETION	:	Plugged and abandoned
WELL CLASSIFICATION	:	Before drilling: Appraisal After drilling: Plugged and abandoned

OPERATIONS SUMMARY

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KINGFISH-8 FINAL WELL REPORT

Operations Summary

1. MOVING/MOORING

The Atwood Falcon was moored on location on the 10 March 1992 by MV Lady Caroline and MV Maersk Lifter. The anchors were run and storm tensioned to 250 Klbs. The rig was ballasted to a drilling draft of 55ft.

2. DRILLING OPERATIONS

26" hole section.
The Temporary Guide Base(TGB) was run, and the 26" bit and BHA made up and stabbed into the TGB. A 26" hole was drilled from 99m (76m water depth and 23m air gap) to 235m. The hole was swept by 200 barrels of high viscosity gel. The hole was then washed and reamed to bottom. A 300 barrel high viscosity pill was spotted, with an additional 100 barrel high viscosity pill spotted at 120m. The 20" casing was run in the hole and the wellhead assembly landed into the Permanent Guide Base. The casing was cemented and the cement and float shoe drilled out.

17 1/2" hole section
A 17 1/2" hole was drilled from 235m to 256m, and the hole swept with a 200 barrel high viscosity pill. 17 1/2" hole was drilled from 256m to 825m. The well was then circulated, flow checked and the top drive serviced, a survey was dropped and the drill string was strapped out of the hole. Schlumberger then rigged up and the suite 1 logs (GR-AS) run (TD at 823m, 20" shoe at 220m). Schlumberger were rigged down and the 13 3/8" casing run and cemented. The well was flow checked and the BOP's were tested.

12 1/4" hole section.
A 12 1/4" BHA was made up and run into the hole. The cement, float collar and shoe (at 813m) were drilled out, following which the hole was washed to 825m. 3 metres of new formation was drilled to 828m and a leak off test performed to 900 psi (EMW 16.0 ppg) with no formation breakdown. A 12 1/4" hole was then drilled from 828m to 1172m, when the bit was pulled due to poor penetration. A new BHA (including MWD) was made up and run into the hole, stopping to service the top drive. 12 1/4" hole was drilled with the new BHA from 1172m to 1629m, where the native mud system was displaced with a KCL/PHPA polymer system. The hole was circulated at 1629m and the volume of the new mud system established. The hole was drilled from 1629m to 2302.6m, a sample was circulated, and the string pulled out of the hole to core. The core barrel was made up and run into the hole, (washed and light reamed from 2281m to 2312.6m) circulated and the ball dropped. Core number 1 was cut from 2312.6m to 2331m. The string was then pulled out of the hole and core number 1 laid down (98% recovery). The BOP's were pressure tested, the core barrel redressed and run back into the hole to 2271m. The hole was washed and reamed from 2271m to 2331m, circulated and the ball dropped. Core number 2 was cut from 2331m to 2349m, a slug was pumped and the string pulled out of the hole. Core number 2 was laid down (100% recovery), and the bit, MWD and BHA made up and run back in the hole to 2260m.

The hole was washed and reamed from 2260m to 2312.6m. The hole was reamed from 2312.6 to 2349m and new hole drilled from 2349m to 2444m (TD). The drill string was pulled out of the hole and Schlumberger rigged up for logging suite number 2.

Run 1 -DLL-MSFL-AS-SP-GR-AMS.
Run 2 FMS-LDT-CNL-EPT-ML-NGT.
Run 3 DSI-GR.
Run 4 CSAT.

Schlumberger were then rigged down and a wiper trip run. The bit took weight at 2413m, so the hole was washed and light reamed from 2413m to 2444m. The hole was circulated and conditioned and the string pulled out of the hole. Schlumberger were then rigged up to continue logging.
Run 5-MDT,
Run 6-CST,
Run 7-MDT.

Schlumberger were then rigged down and open ended drill pipe run in to the hole, where a balanced cement plug was set from 2400m to 2270m. The cement was tagged at 2282m, and the string pulled out of the hole to 935m. A balanced cement plug was set from 935m to 798m.

9 7/8" hole section.
A kick off BHA was made up and run into the hole. Cement was tagged at 804m and dressed to 815m where the tool face was orientated and the hole kicked off. 9 7/8" hole was drilled from 815m to 1211m. The string was then pulled out of hole to change out the bit, and install the GR in the MWD, and the new BHA was run in the hole. A tight spot was encountered at 1174m, so the hole was washed and reamed from 1174m to 1211m. Drilling continued to 2514m, where a sample was circulated. Drilling again resumed to 2731m. Mud circulated and conditioned and string pulled out of the hole for logging. Schlumberger was rigged up, but run number 1 (DLL-MSFL-AS-GR-SP-AMS) could not pass 1695m, so it was pulled out and laid down and the string to shortened. DLL-MSFL-GR-SP-AMS was run in the hole, but still could not pass 1695m. A 9 7/8" bit and BHA was made up and run in the hole. The hole was washed and reamed from 1666m to 2731m. The hole was tight between 1900m and 1800m, so washing and reaming from 1780m to 2008m. Schlumberger was then rigged up to run DLL-MSFL-GR-SP-AMS, but again could not pass 1774m. The string was pulled out of hole, shortened and the standoffs removed. DLL-MSFL-GR-SP-AMS, was run backing in the hole, but still could not pass 1774m. Schlumberger were rigged down and the bit and BHA made up. Washing and reaming continued from 1774m to 2182m. The mud weight was raised to 10.5ppg, and hole reamed from 2640m to 2731m. Mud was conditioned, raising the weight to 11 ppg. Schlumberger was rigged up and (DLL-MSFL-LDT-CNL-GR) run in the hole. The tool was unable to go below 1333m and hanging up when going up and down, requiring maximum tension to pull free. At this stage the wireline was rigged down and the TLC string made up. An electrical fault was detected in the string, so it was broken down. No fault could be detected, so the string was reassembled and tested, with no fault detected. The TLC was run in hole with the side entry sub installed. The wet connector was pumped down, but was unable to latch. The hole with the wireline and wet connector were pulled out of the hole and the wet connector swapped out and ran back in the hole but still unable to latch. Inspection of the wet connector, showed that latching had occured, suggesting an elecrical fault. The TLC string was pulled out of the hole and inspected, identifying the problem as a locking ring from the wet connector that had jammed in the TLC connector port. This was removed, and the TLC string run in the hole. The side entry sub was installed and the wet connector pumped down and latched. The string was run in the hole to logged down from 2004m to 2731m. The hole was logged up to 2400m. The wireline and TLC were recovered from the hole and laid down.

Open ended drill pipe was run in the hole and a balanced cement plug was run from 2610m to 2500m. Cement was tagged at 2506m. A second cement plug was run from 863m to 750m. The casing was cut and pulled and BOP's, wellhead assembly, TGB and PGB recovered. The rig was ballasted to transit draft and the anchors pulled.

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KINGFISH-8 FINAL WELL REPORT
CASING DATA

OD (In.)	WEIGHT (LB/FT)	GRADE	CONNECTION	LENGTH (M)	SHOE DEPTH (mMD-RKB)	CENTRALIZER POSITION	REMARKS
20	94	X-56	JV	11.69	219.23	NONE	FLOAT SHOE JOINT
20	94	X-56	JV	87.51		NONE	7 INTERMEDIATE JOINTS
20	129	X-52	JV x ALT-2	12.61		NONE	CROSSOVER JOINT
24	670	----	ALT-2	9.76		NONE	WH S/N 862990-1
				==========			30" CONN S/N 346520-2
				121.57			30" DUMMY S/N 298276-1
13-3/8	54.5	K-55	BTC	12.35	813.52		FLOAT SHOE JOINT
	54.5	K-55	BTC	11.73		1 ACROSS COLLAR	FLOAT JOINT
	54.5	K-55	BTC	11.37			FLOAT COLLAR JOINT
	54.5	K-55	BTC	549.27		1 ACROSS FIRST FIVE COLLARS	67 INTERMEDIATE JOINTS
	68	K-55	BTC	127.55		NONE	11 INTERMEDIATE JOINTS
	68	K-55	BTC	2.92		NONE	CASING HANGER PUP JOINT
				==========			
				715.19			

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CEMENT DATA

DATE (1992)	TYPE JOB	INTERVAL (mMD-RKB)	TYPE CEMENT	VOLUME (SX)	SLURRY WEIGHT (PPG)	ADDITIVES	MIX WATER	REMARKS
11-MAR	20" PRIMARY LEAD	235-99	CLASS "G"	600	13.2	2.2% PH-GEL	FW	CEMENT THROUGH DP STINGER. CMT VOLUME CALCULATED TO PROVIDE 150% EXCESS ABOVE GAUGE HOLE
11-MAR	20" PRIMARY TAIL		CLASS "G"	350	15.8	----	SW	VOLUME WITH TOC @ SEAFLOOR.
14-MAR	13-3/8" PRIMARY	813.52-313	CLASS "G"	1150	15.8	----	SW	CMT VOLUME BASED ON GAUGE HOLE HOLE DIAMETER-NO CALIPER RUN. BUMPED PLUG W/ 1500 PSI.
27-MAR	P & A PLUG No.1	2400-2282	CLASS "G"	320	15.8	4 GP10BMF HR-6L	FW	SPOT ACROSS LATROBE HYDROCARBONS. TAGGED WITH 8 KIPS S/O OEDP.
27-MAR	SIDETRACK PLUG No.1	935-804	CLASS "G"	442	16.9	21 GP10BMF CFR-2L	FW	SET KICK-OFF PLUG-DENSIFIED FOR GEOLOGIC SIDETRACK DOWNDIP. TAGGED 6m DEEPER THAN ANTICIPATED
9-APR	P & A PLUG No.2	2610-2506	CLASS "G"	190	15.8	4 GP10B HR-6L	FW	TAGGED 6m DEEP @ 2506m. TAGGED WITH 15k# OF DRILLSTRING WT.
9-APR	P & A PLUG No.3	863-750	CLASS "G"	250	15.9	NEAT	SW	NOT TAGGED SINCE EZSV BP SET @ 700m AND P/T TO 1500 PSI-10 MINs.
10-APR	P & A PLUG No.4	250-130	CLASS "G"	600	15.8	2% CaCl2	SW	13-3/8" STUB AND SURFACE PLUG. TESTED TO 500 PSI.

5. SAMPLES, CONVENTIONAL CORES, SIDEWALL CORES

KINGFISH 8/ST1

Interval (m)	Type
825-2444	Cutting samples, 3 sets, washed and oven dried, 1 set of lightly washed and air dried bagged samples. Samples from 825m-2175m at 10m intervals. Samples from 2175m-2444m at 5m intervals.
2312.6-2331	Core number 1 (Fibreglass Sleeved) 18.1m recoverd, chip sampling every 1.2m.
2331-2349	Core number 2 (Fibreglass Sleeved) 18m recovered, chip sampling every 1.2m.
850-2413	Sidewall cores. 46 shot, recovered 46, bought 45.
Kingfish 8 ST1	
835-2731 MD	Cutting samples, 3 sets, washed and oven dried, 1 set of lightly washed and air dried, bagged and samples. Samples from 835-2450m MD at 10m intervals. Samples from 2450-2731m MD at 5m intervals.

6. WIRELINE LOGS AND SURVEYS

KINGFISH 8/ST1

Type and Scale		From	To
Kingfish 8			
	Suite 1		
GR-AS-AMS	1:200	92m	834m
	Suite 2		
GR-DLL-MSFL-AS-AMS	1:200	815m	2427m
FMS-LDT-CNL-ML-EPT-NGS-GR-AMS	1:200	2225m	2427m
DSI-GR	1:200	2100m	2425m
CSAT	8 levels shot	850m	2410m
MDT-GR	(35 Pretests/2 samples runs)	2305m	2390m
CST-GR (46 shots)	(Recovered 46, bought 45)	850m	2413m
MDT-GR	(2 Pretests/2 Sample runs)	2317m	2341m
Kingfish 8 ST1			
	Suite 3		
DLL-MSFL-AS-GR-AMS	1:200	815m	1774m
DLL-MSFL-GR-LDT-CNL-AMS	1:200	2407m	2731m

SUMMARY OF WIRELINE FORMATION TEST PROGRAMME

KINGFISH 8

Test Seat No.	Depth (mRKB)	Chamber Litres (l)	RECOVERY Oil (l)	Gas (ft3)	Water (l)	Filtrate (l)	F'tion Pressure Psia	Hydro. Pressure Psia	Remarks
1/1	2305.7	Pretest	-	-	-	-	3209	3570	Good Test
1/2	2306.0	Pretest	-	-	-	-	-	3571	Tight - Aborted
1/3	2306.5	Pretest	-	-	-	-	-	3572	Tight - Aborted
1/4	2307.0	Pretest	-	-	-	-	-	3573	Tight - Aborted
1/5	2305.0	Pretest	-	-	-	-	-	3570	Tight - Aborted
1/6	2316.5	Pretest	-	-	-	-	3206	3588	Good Test
1/7	2318.0	Pretest	-	-	-	-	3207	3590	Good Test
1/8	2319.2	Pretest	-	-	-	-	-	3592	Tight - Aborted
1/9	2319.7	Pretest	-	-	-	-	3211	3593	Good Test
1/10	2327.0	Pretest	-	-	-	-	3220	3604	Good Test
1/11	2329.0	Pretest	-	-	-	-	3222	3607	Good Test
1/12	2330.7	Pretest	-	-	-	-	3224	3610	Good Test
1/13	2332.5	Pretest	-	-	-	-	3227	3612	Good Test
1/14	2335.2	Pretest	-	-	-	-	3230	3617	Good Test
1/15	2336.2	Pretest	-	-	-	-	3231	3618	Good Test
1/16	2337.2	Pretest	-	-	-	-	3232	3620	Good Test
1/17	2338.5	Pretest	-	-	-	-	3237	3622	Good Test
1/18	2339.6	Pretest	-	-	-	-	3237	3623	Good Test
1/19	2340.5	Pretest	-	-	-	-	3239	3625	Good Test
1/20	2346.5	Pretest	-	-	-	-	3225	3634	Good Test
1/21	2348.3	Pretest	-	-	-	-	3227	3637	Good Test
1/22	2349.5	Pretest	-	-	-	-	3229	3638	Good Test
1/23	2343.2	Pretest	-	-	-	-	3259	3629	Low Perm.
1/24	2344.2	Pretest	-	-	-	-	3286	3630	Low Perm.
1/25	2352.2	Pretest	-	-	-	-	3234	3643	Good Test
1/26	2360.5	Pretest	-	-	-	-	3243	3655	Good Test
1/27	2363.5	Pretest	-	-	-	-	3247	3660	Good Test
1/28	2366.5	Pretest	-	-	-	-	3251	3664	Good Test
1/29	2373.0	Pretest	-	-	-	-	3260	3674	Good Test
1/30	2392.5	Pretest	-	-	-	-	3302	3704	Good Test
1/31	2398.0	Pretest	-	-	-	-	3310	3713	Good Test
1/32	2337.2	Pretest	-	-	-	-	3232	3619	Good Test
		22.71	-	-	-	22.0	3231	3619	Sample 1
		3.81	-	-	-	4.0	3231	3619	Sample 2
1/33	2305.7	Pretest	-	-	-	-	3210	3570	Good Test
		10.41	-	-	-	10.0	3204	3569	Sample Test
		3.81	-	-	-	-	-	-	Tool Failure
2/34	2332.5	Pretest	-	-	-	-	3226	3609	Good Test
		22.71	0.3	RTSTM	-	19.8	3226	3609	Sample 4
		3.81	-	-	-	4.0	3225	3610	Sample 5
2/35	2316.5	Pretest	-	-	-	-	3206	3585	Good Test
		10.41	0.5	RTSTM	-	9.5	3207	3585	Sample 6
		3.81		PRESERVED	-		3207	3585	Sample 7
3/36	2340.4	Pretest	-	-	-	-	3237	3620	Good Test
		45.4	7.0	8.8	-	35.0	3134	3620	Sample 8
		3.81	1.5	RTSTM	-	2.0	3235	3620	Sample 9
4/37	2317.2	Pretest	-	-	-	-	3207	3583	Good Test
		45.4	7.0	7.0	-	37.0	3207	3584	Sample 10
		3.81		PRESERVED			3208	3584	Sample 11

8.

TEMPERATURE RECORD

LOGGING RUN	THERMOMETER DEPTH (m)	MAX. RECORDED TEMPERATURE (C^o)	CIRCULATION TIME (t_k) (hours)	TIME AFTER CIRCULATION STOPPED (t)	HORNER TEMPERATURE (C^o)	GEOTHERMAL GRADIENT (C^o/km)
Kingfish 8						
Suite 1						
AS-CAL-GR	825m	37^0	1.00	5		
Suite 2						
DLL-MSFL-AS-GR-SP	2444m	87^0	.75	10.58		
FMS-LDL-CNL-ML-EPT-NGS	2444m	93^0	-	18.08	103.3^0C	37.65^0C/km
DSI	2444m	98^0	-	22.08		
CSAT	2420m	87^0	-	29.33		
MDT	2398m	87^0	1.42	15.00		
Kingfish 8 STI						
DLL-MSFL-AS-GR	1756m MD	62^0	2.00	7.25		
DLL-MSFL-CNL-LDL-GR	2731m MD	103^0	3.25	56.7		

KINGFISH – 8/8 ST1
LOCALITY MAP

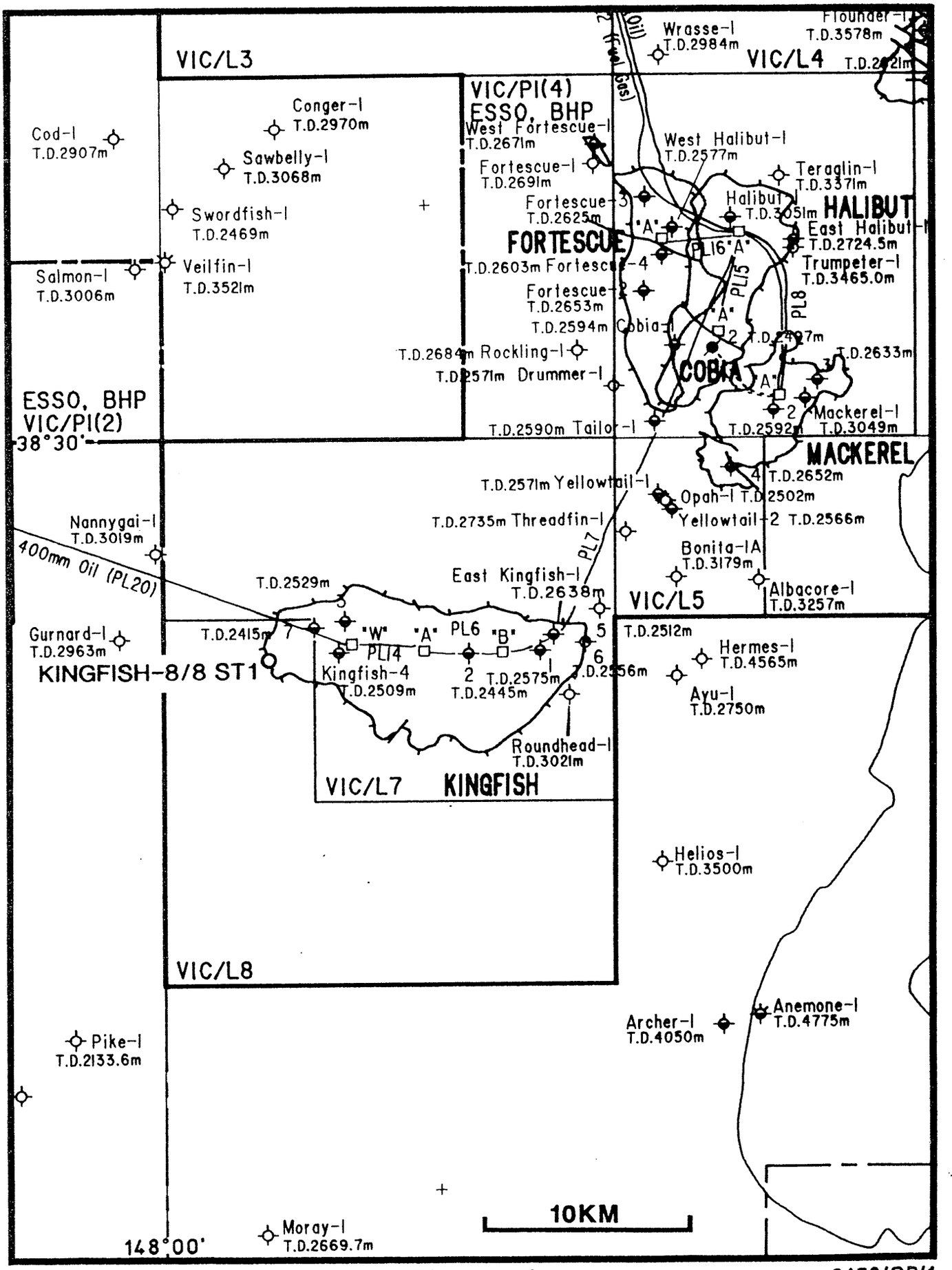

Figure 1

2479/OP/1

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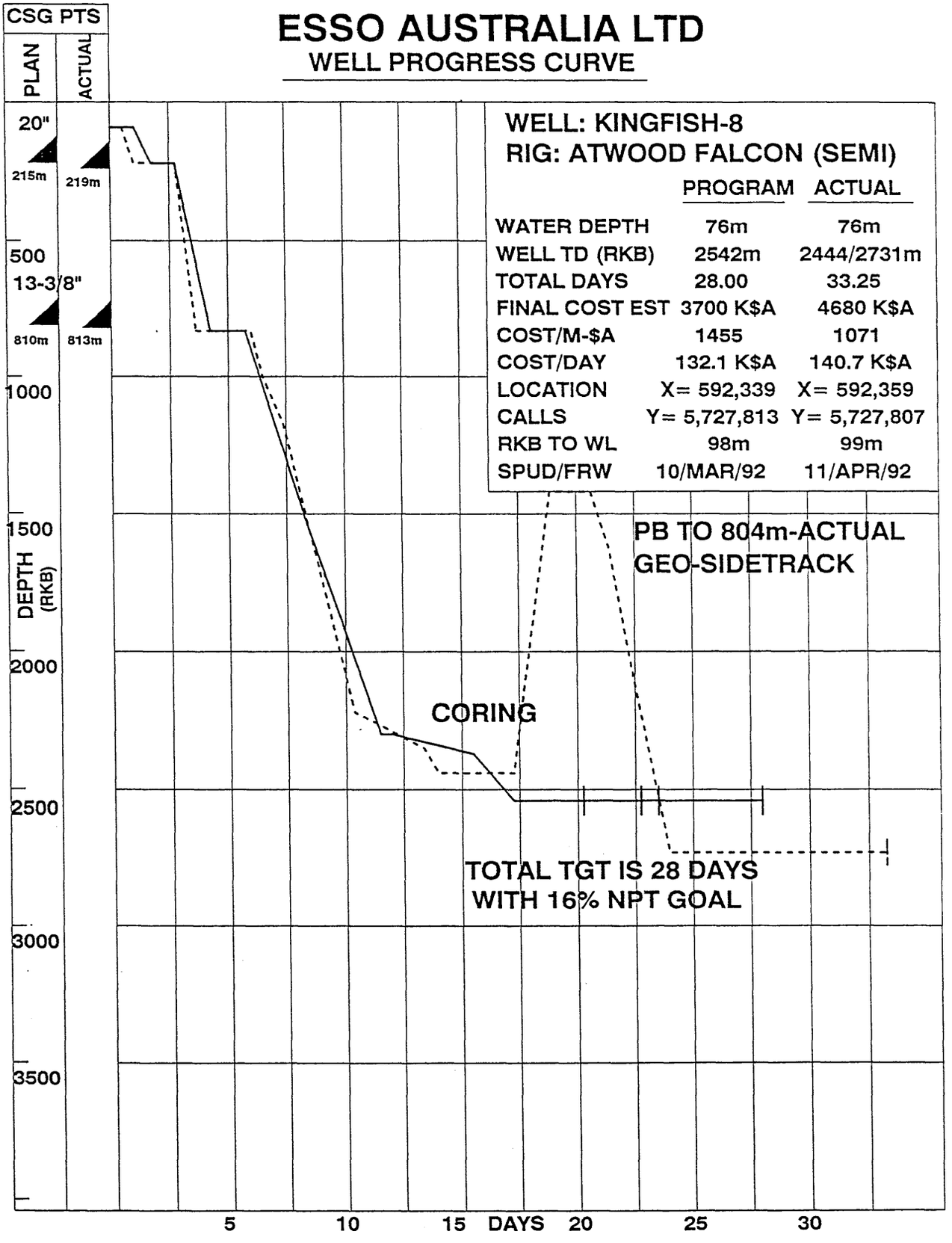
WELL PROGRESS CURVE



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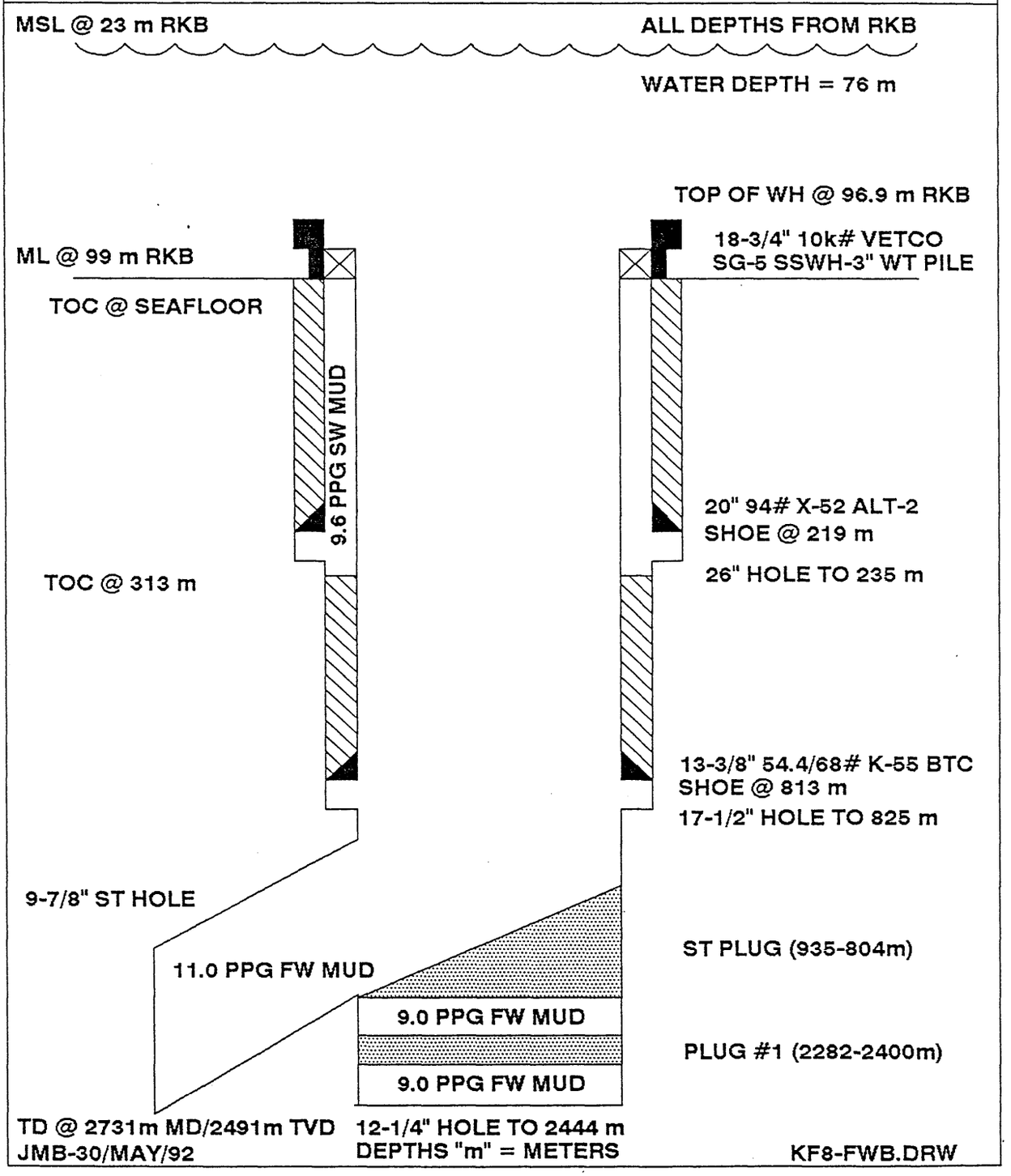
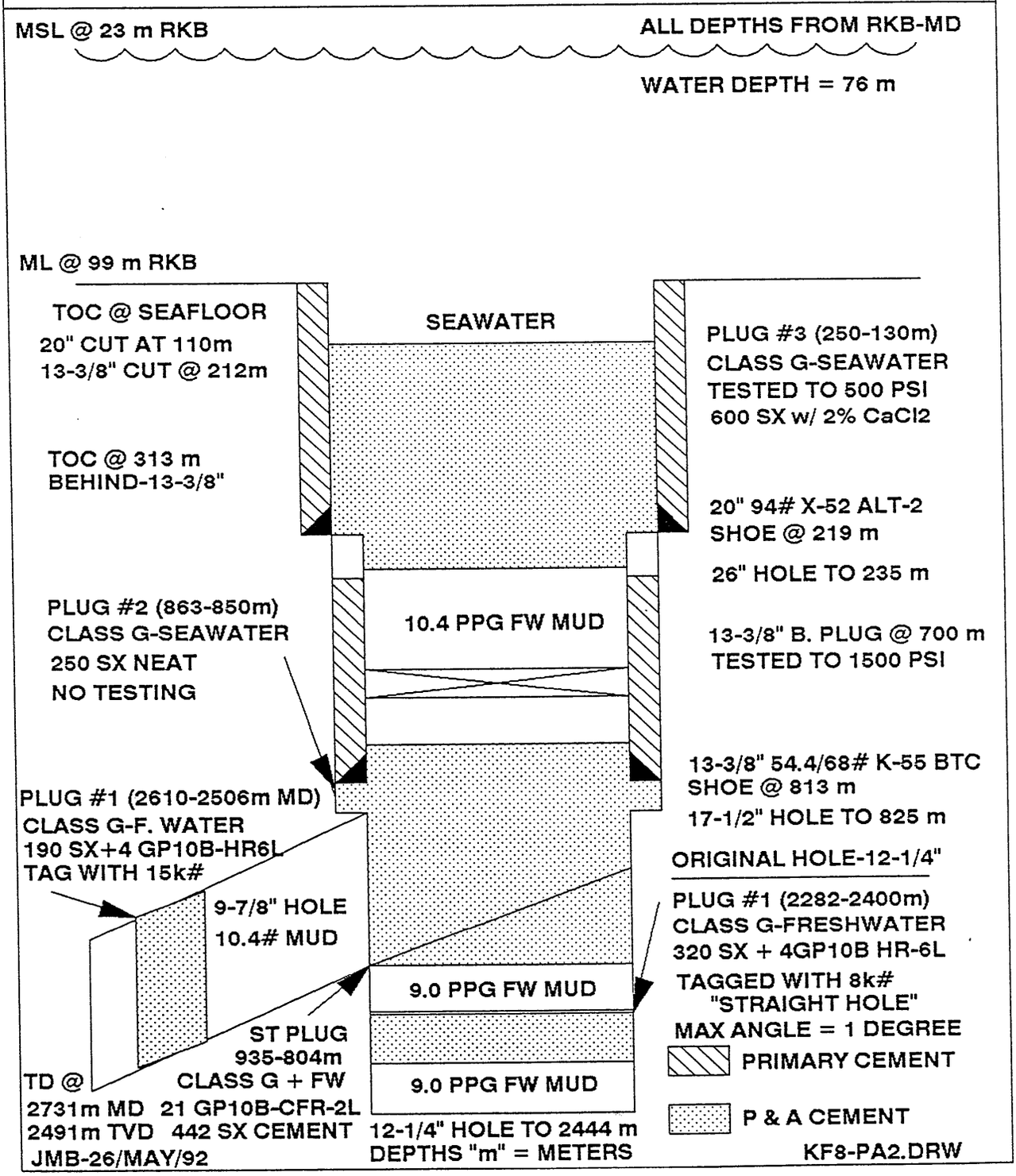
KINGFISH-8 FINAL WELLBORE SKETCH



ESSO AUSTRALIA LTD.
KINGFISH-8 P & A WELLBORE SKETCH



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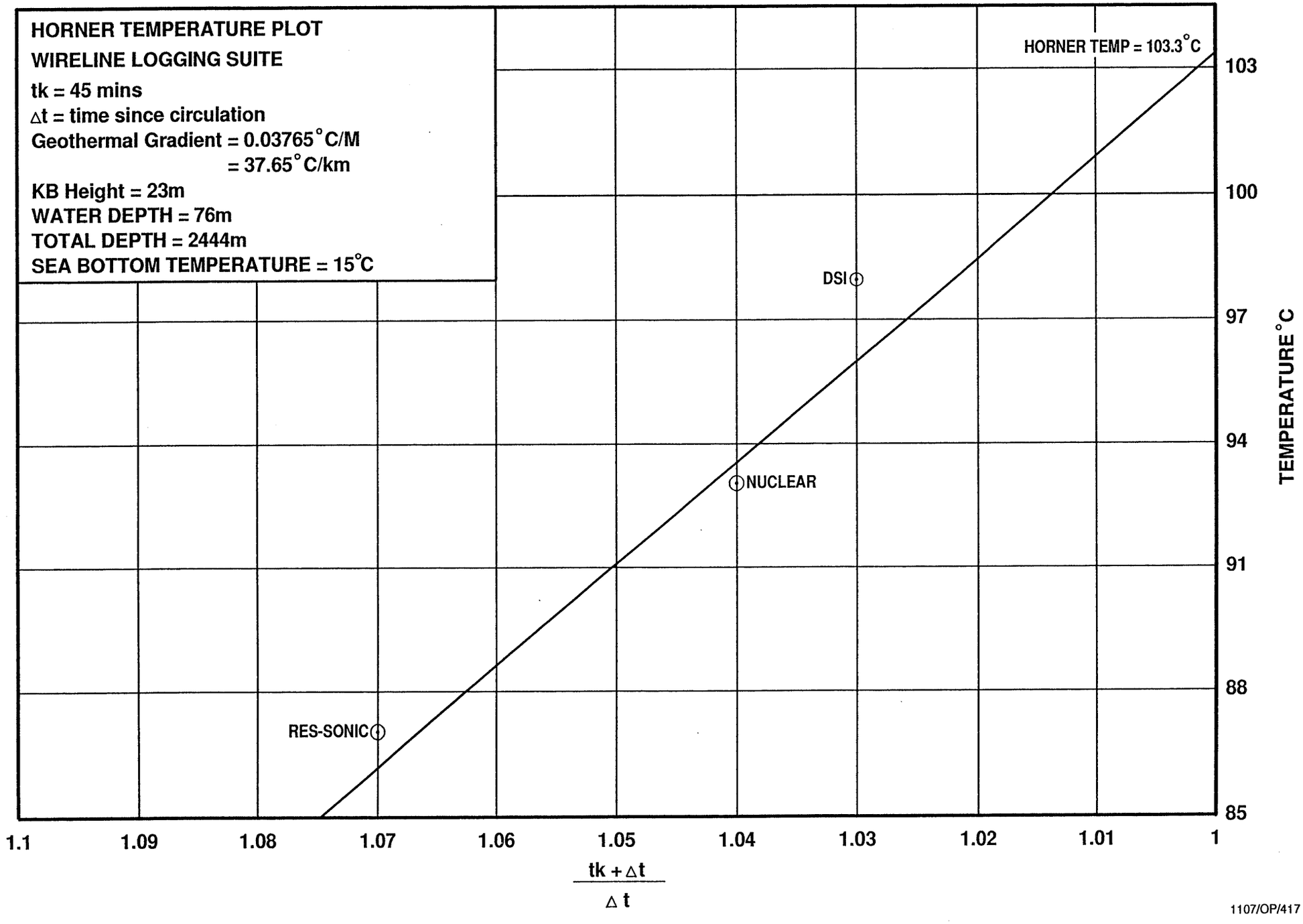

1107/OP/417 5/92

Appendix 1

APPENDIX 1

KINGFISH 8/ST1

LITHOLOGICAL DESCIPTIONS

KINGFISH 8

Lithology Descriptions

Depth (m)	%	Description
825-35	100	LIMESTONE: Light grey, buff, calcarenite, moderately argillaceous, trace carbonaceous fragments, slightly glauconitic, trace fossil fragments, common spheroids/ooids, soft, dispersive, massive to blocky.
835-45	100	LIMESTONE: Light grey, brown grey, calclutite, trace fine calcareous sand, trace glauconite, trace carbonaceous fragments, soft to sticky, amorphous, marly.
845-55	100	LIMESTONE: As above, grades to calcarenite in part, common spheroids/ooids, trace fossil fragments, soft to sticky, occasionally firm, amorphous, marly occasionally blocky.
855-65	100	LIMESTONE: As above, predominantly calclutite, common forams and fossil fragments, occasional loose fine calcareous sand, firm to sticky, amorphous to massive.
865-75	100	LIMESTONE: Light grey, brown grey, buff, calcarenite, very fine to fine grained, grades to calclutite in part, trace glauconite, common foram, trace ooids, slight to moderately argillaceous, firm, massive to blocky.
875-85	100	LIMESTONE: As above, becoming moderately argillaceous, grades to calclutite.
885-95	100	LIMESTONE: As above, predominantly calcarenite, very fine to fine grained, locally very argillaceous grading to calclutite, soft to firm, massive to blocky.
895-905	100	LIMESTONE: As above, abundant ooids, trace forams, trace glauconite, firm, blocky.
905-15	100	LIMESTONE: Light grey, grey brown, calcarenite, fine grained, moderately argillaceous/micritic cement, common foram, abundant ooids, slightly glauconitic, firm to sticky, massive, loose clasts.
915-25	100	LIMESTONE: Light grey, off white calclutite, trace fine calcareous sand, slight glauconite, minor carbonaceous fragments, sticky, amorphous.

925-35 100 LIMESTONE: As above grades to calcarenite, trace pyrite, sticky, loose clasts.

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Depth (m)	%	Description
935-45	100	LIMESTONE: Light grey, buff, light brown, calcarenite, fine grained, argillaceous in part, micritic cement, glauconitic, firm, blocky.
945-55	100	LIMESTONE: As above, occasional hard crystalline aggregates.
955-65	100	LIMESTONE: As above, common hard crystalline aggregates, trace glauconite.
965-75	100	LIMESTONE: Light to medium grey, olive grey, calcarenite, fine, subangular to subrounded, micritic cement, crystalline in part, glauconitic, trace disseminated pyrite, moderately hard to hard, blocky, angular fracture, grades to calclutite in part, trace calcareous sand, soft, massive.
975-85	100	LIMESTONE: As above, calcarenite, very fine to fine grained, trace fossil fragments, trace gastropods and forams.
985-95	100	LIMESTONE: As above, calcarenite, trace carbonaceous fragments, moderately hard, brittle, blocky
995-1005	100	LIMESTONE: Light grey, buff, olive green, calcarenite, very fine to fine, (grades to calcsiltite), trace glauconite, trace carbonaceous fragment, trace fossil fragments, trace forams, firm to moderately hard, blocky.
1005-15	100	LIMESTONE: As above, minor off white calclutite, soft to firm, massive
1015-25	100	LIMESTONE: As above, calcarenite, moderately argillaceous matrix, slightly dolomitic, moderately hard, blocky.
1025-35	100	LIMESTONE: Olive grey, off white to light grey, calcsiltite, moderately to very argillaceous, locally commonly very fine to fine calcareous sand, trace glauconite, trace carbonaceous fragments, firm to moderately hard, blocky.
1035-45	100	LIMESTONE: As above.
1045-55	100	LIMESTONE: As above, trace forams, trace disseminated pyrite.
1055-65	100	LIMESTONE: As above, calcsiltite, trace glauconite, moderately hard, blocky.

KINGFISH 8

Depth (m)	%	Description
1065-75	100	LIMESTONE: Olive grey, light grey, calcsiltite, moderately argillaceous, trace fossil fragments, trace ooids, minor glauconite, moderately hard to hard, blocky, angular fracture.
1075-85	100	LIMESTONE: As above, trace calcareous sand, moderately hard, blocky, angular fracture.
1085-95	100	LIMESTONE: As above, calcsiltite grading to calclutite in part, firm, blocky.
1095-1105	100	LIMESTONE: Light to medium grey, grey brown, calcarenite, very fine to fine grained, argillaceous in part, trace glauconite, trace carbonaceous specks, trace nodular pyrite, hard, blocky, angular fragments.
1105-15	100	LIMESTONE: As above, calcarenite light brown, buff in part, crystalline in part, hard, brittle, angular fragments.
1115-25	100	LIMESTONE: As above, abundant ooids, trace forams.
1125-35	100	LIMESTONE: Grey brown, light grey, olive grey, calcsiltite, common fine calcareous sand, moderately argillaceous, trace forams, trace ooids, soft to firm, moderately hard in part, blocky, massive.
1135-45	100	LIMESTONE: Light to medium grey, olive grey, calcsiltite, moderately argillaceous, trace carbonaceous specks, trace glauconite, firm to moderately hard, blocky.
1145-50	100	LIMESTONE: As above.
1155-65	100	LIMESTONE: As above, calclutite in part, trace carbonaceous flecks and fragments, rare ooids, trace fine calcareous sand, firm, massive to blocky.
1165-75	100	LIMESTONE: As above, trace glauconite, moderately hard, blocky.
1175-85	100	LIMESTONE: Light to medium grey, olive grey, calcsiltite, trace lithic fragments, becomes argillaceous, firm to moderately hard, blocky.
1185-95	100	LIMESTONE: As above, occasional calcarenite, trace glauconite, moderately hard, blocky.

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Depth (m)	%	Description
1195-1205	100	LIMESTONE: Buff, light brown, light grey, calcarenite, fine, subangular to subrounded, trace micritic cement, slight argillaceous matrix, trace glauconite, minor carbonaceous fragment, firm to moderately hard, loose calcareous sand, blocky.
1205-15	100	LIMESTONE: As above grades, to calcsiltite.
1215-25	100	LIMESTONE: Light brown, buff, light grey, olive grey, calcsiltite, fine, subangular to subrounded, trace glauconite, minor carbonaceous fragments, firm to moderately hard, blocky.
1225-35	100	LIMESTONE: Light brown, light grey, olive grey, buff, calcsiltite, subangular to subrounded, trace glauconite, trace forams, firm to moderately hard, blocky.
1235-45	100	LIMESTONE: As above, minor carbonaceous fragments.
1245-55	100	LIMESTONE: Olive grey, light brown, calcsiltite, subangular, trace glauconite, minor carbonaceous fragments, firm, blocky to platy.
1255-65	100	LIMESTONE: As above, firm to moderately hard.
1265-75	100	LIMESTONE: Olive grey, light grey calcsiltite, subangular to subrounded trace glauconite, minor carbonaceous fragments, trace foram, firm to moderately hard, blocky.
1275-85	100	LIMESTONE: As above, occasionally calcarenite.
1285-95	100	LIMESTONE: Olive grey, light grey, calcsiltite grades to calcarenite, subangular to subrounded, trace glauconite, minor carbonaceous fragments, firm to moderately hard, blocky.
1295-1305	100	LIMESTONE: As above.
1305-15	100	LIMESTONE: Olive grey, light grey, dark green-grey, calcsiltite grading to calcarenite, trace glauconite, trace carbonaceous fragments, firm to moderately hard blocky.
1315-25	100	LIMESTONE: Buff, light grey, olive grey, calcarenite, fine, subangular to subrounded, trace glauconite, minor carbonaceous

Depth (m)	%	Description
		fragments, loose carbonaceous sand, firm to moderately hard, blocky.
1325-35	100	LIMESTONE: As above, grades to calcsiltite.
1335-45	100	LIMESTONE: off white, light grey, grey brown, calcarenite, fine subangular to subrounded, abundant ooids, common foram and fossil fragments, common glauconite, micritic/argillaceous cement, firm to loose clasts, blocky in part.
1345-55	100	LIMESTONE: As above, bio-calcarenite, common shell fragments, common skeletal, predominantly loose clasts.
1355-65	100	LIMESTONE: Light grey, olive grey, calclutite, common fine calcareous sand, trace ooids, trace nodular pyrite, trace glauconite, firm, blocky.
1365-75	100	LIMESTONE: As above calcilutite, common fossil fragments, firm, blocky.
1375-85	100	LIMESTONE: As above calcilutite, slight fossiliferous, trace ooids, moderate to very argillaceous, marly texture, soft to firm, massive to blocky.
1385-95	100	LIMESTONE: Light to medium grey, olive grey, calcilutite grades to calcisiltite, trace fine to very fine calcareous sand, trace glauconite, trace ooids, soft to firm, massive to blocky.
1395-1405	100	LIMESTONE: As above, calcilutite becoming moderate to very argillaceous, soft to firm, marly texture, massive to blocky.
1405-15	100	LIMESTONE: Light to medium grey, green grey, calcilutite, trace ooids, trace fine calcareous sand, soft to firm, marly texture, massive to blocky.
1415-25	100	LIMESTONE: Predominantly as above, calcilutite becoming increasingly argillaceous, grading to calcareous claystone, marly texture, soft to firm, massive to blocky.
1425-35	100	LIMESTONE: As above calcilutite occasionally calcisiltite, moderately to very argillaceous, trace glauconite, common nodular and disseminated pyrite, soft to firm, blocky, platy in part.

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Depth (m)	%	Description
1435-45	100	LIMESTONE: Pale grey, medium grey, calcilutite, trace to common very fine to fine calcareous sand, trace fossil fragments, trace glauconite, common pyrite, trace lithic fragments, firm, blocky.
1445-55	100	LIMESTONE: As above, trace forams, trace buff, light brown calcarenite, very fine, subangular, trace carbonaceous specks, firm, blocky.
1455-65	100	LIMESTONE: As above, calcilutite, moderate to very argillaceous, soft, marly texture, blocky.
1465-75	100	LIMESTONE: As above calcilutite, common pyrite, marly texture, blocky.
1475-85	90	LIMESTONE: As above calcilutite, soft to firm, marly texture, blocky.
	10	CLAYSTONE: Light to medium grey, green grey, moderate to very calcareous, trace lithic fragments, firm to moderately hard, platy to blocky.
1485-95	90	LIMESTONE: Pale grey, light grey, brown grey, calcilutite grades to calcisiltite, trace fine calcareous sand, trace fossil fragments, minor carbonaceous specks, firm to moderately hard, blocky, marly texture in part.
	10	CLAYSTONE: As above.
1495-1505	90	LIMESTONE: Pale grey, light grey, brown grey, calcilutite, trace fossil fragments, trace fine calcareous sand, trace carbonaceous specks, firm to moderately hard.
	10	CLAYSTONE: As above.
1505-1515	90	LIMESTONE: As above.
	10	CLAYSTONE: Light to medium grey, green grey, moderately calcareous, trace lithic fragments, trace pyrite, firm, platy to blocky.
1515-25	90	LIMESTONE: As above, trace lithic fragments, trace carbonaceous fragments.
	10	CLAYSTONE: As above, common nodular pyrite, trace forams.
1525-35	80	LIMESTONE: Pale grey, light grey, calcilutite, very argillaceous, trace pyrite, trace fossil fragments, trace fine calcareous sand, trace carbonaceous fragments, soft to firm, blocky.
	20	CLAYSTONE: As above.

Depth (m)	%	Description
1535-45	60	LIMESTONE: As above, grades to calcareous claystone.
	40	CLAYSTONE: Light to medium grey, green grey, moderately calcareous, firm, platy.
1545-55	40	LIMESTONE: Light grey, calcilutite, trace foram, trace calcareous fragments, soft to firm, blocky.
	60	CLAYSTONE: Medium grey, light brown, moderate to very calcareous, firm, platy to blocky.
1555-65	40	LIMESTONE: Light grey, light brown grey, calcilutite, trace glauconite, trace calcareous fragments, soft to firm, blocky.
	60	CLAYSTONE: Medium grey, light brown, moderately calcareous, trace pyrite, firm, platy to blocky.
1565-75	80	LIMESTONE: Light grey, pale brown grey, calcilutite, trace fine calcareous sand, trace forams, trace lithic fragments, trace carbonaceous flecks, soft to firm, marly texture, blocky.
	20	CLAYSTONE: As above.
1575-85	80	LIMESTONE: Light grey, green grey, calcilutite, trace pyrite, trace fossil fragments, moderately to very argillaceous, firm to moderately hard, blocky.
	20	CLAYSTONE: As above.
1585-95	80	LIMESTONE: As above, calcilutite, marly texture, grades to calcareous claystone.
	20	CLAYSTONE: As above.
1595-1615	70	CLAYSTONE: As above.
	30	LIMESTONE: As above, calcilutite, moderate to very argillaceous, marly texture, soft to firm, massive to blocky.
1615-25	80	CLAYSTONE: Light to medium grey, occasionally grey brown, moderate to very calcareous, trace calcareous silt in part, trace carbonaceous specks, firm to moderately hard, blocky.
	20	LIMESTONE: Off white to light grey, occasionally medium brown, calcilutite, trace nodular pyrite, occasionally hard crystalline fragments, moderately hard to firm, blocky.
1625-1635	80	CLAYSTONE: As above.
	20	LIMESTONE: As above, moderate to very argillaceous, common nodular pyrite, firm to moderately hard, blocky.

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Depth (m)	%	Description
1635-1645	80	CLAYSTONE: As above.
	20	LIMESTONE: Light grey, occasionally medium brown, calcilutite, moderate to locally very argillaceous, firm to moderately hard, blocky.
1645-55	80	CLAYSTONE: As above.
	20	LIMESTONE: As above, trace nodular pyrite, trace fossils.
1655-65	80	CLAYSTONE: Light to medium grey, grey brown, moderately calcareous, trace calcareous silt, firm to moderately hard, blocky.
	10	LIMESTONE: Light grey, occasionally medium brown, calcilutite, moderately argillaceous, trace disseminated pyrite, soft to moderately hard, blocky.
1665-75	80	CLAYSTONE: As above.
	20	LIMESTONE: As above, trace disseminated pyrite, trace nodular pyrite.
1675-85	90	CLAYSTONE: As above, trace lithic fragments, blocky to platy.
	10	LIMESTONE: As above, rare pyrite.
1685-95	90	CLAYSTONE: As above.
	10	LIMESTONE: As above, trace glauconite, trace nodular pyrite.
1695-1705	80	CLAYSTONE: Light to medium grey, moderately calcareous, trace calcareous silt, firm to moderately hard, blocky to platy.
	20	LIMESTONE: Off white to light grey, calcsiltite, moderately argillaceous, trace disseminated pyrite, occasionally calcareous fragments, firm, blocky, trace glauconite.
1705-15	80	CLAYSTONE: As above, trace lithics.
	20	LIMESTONE: As above, occasionally nodular pyrite.
1715-25	90	CLAYSTONE: Light to medium grey, green grey, moderately-locally very calcareous, trace calcareous silt, trace lithics, minor disseminated pyrite, firm to moderately hard, blocky.
	10	LIMESTONE: Pale grey, off white, occasionally medium brown, calcsiltite, moderate to very argillaceous, trace forams, trace spheroids, occasionally hard crystalline aggregates, firm to moderately hard, blocky.

Depth (m)	%	Description
1725-35	60	CLAYSTONE: As above.
	40	LIMESTONE: As above.
1735-45	90	CLAYSTONE: Light grey, green grey, occasionally brown grey, moderately calcareous, trace carbonaceous speck, trace lithic fragments, firm to moderately hard, blocky-platy.
	10	LIMESTONE: As above.
1745-55	90	CLAYSTONE: As above.
	10	LIMESTONE: As above.
1755-65	70	CLAYSTONE: As above.
	30	LIMESTONE: Pale grey, light to occasionally olive grey, calcilutite, moderate to very argillaceous, trace fine calcareous sand, trace foram, soft to firm, massive.
1765-75	60	LIMESTONE: As above, calcilutite, common ooids, trace nodular pyrite, soft to firm, occasionally moderately hard, massive to blocky.
	40	CLAYSTONE: As above.
1775-85	60	CLAYSTONE: Light grey, light brown grey, moderately calcareous, trace calcareous silt, trace nodular pyrite, trace carbonaceous fragments, firm to moderately hard, massive to blocky.
	40	LIMESTONE: Light to medium grey, green grey, calcilutite, moderately argillaceous, firm to moderately hard, blocky.
1785-95	70	CLAYSTONE: As above.
	30	LIMESTONE: As above, occasionally pale grey, off white.
1795-1805	70	CLAYSTONE: As above.
	30	LIMESTONE: As above.
1805-15	70	LIMESTONE: Off white, light grey, pale brown grey, trace calcareous sand, trace lithic fragments, moderately argillaceous calcilutite, soft to firm, massive to blocky, marly texture.
	30	CLAYSTONE: Light to medium grey, green grey, moderately calcareous, common lithic fragments, trace pyrite nodule, trace carbonaceous specks, moderately hard, blocky to platy.
1815-25	80	LIMESTONE: As above.
	20	CLAYSTONE: As above.
1825-35	73	LIMESTONE: As above.
	20	CLAYSTONE: As above.

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Depth (m)	%	Description
1835-45	80	LIMESTONE: As above, calcilutite, moderately argillaceous, trace lithic fragments, firm, massive to blocky.
	20	CLAYSTONE: As above.
1845-55	90	LIMESTONE: As above, marly texture.
	20	CLAYSTONE: As above, trace nodular and disseminated pyrite.
1855-65	90	LIMESTONE: Pale grey, light brown grey, off white, moderately to very argillaceous, trace fine calcareous sand, calcisiltite, trace lithic fragments, firm to moderately hard, marly texture, blocky to massive.
	10	CLAYSTONE: As above, common pyrite nodules.
1865-75	90	LIMESTONE: Pale grey, medium grey, moderately to very argillaceous, calcilutite grading to calcisiltite, trace lithics, trace carbonaceous fragments, trace glauconite, firm to occasionally, moderately hard, massive to blocky.
	10	CLAYSTONE: Medium grey, occasionally olive grey, moderately calcareous, trace lithic fragments, trace silt in part, firm to moderately hard, blocky to platy.
1875-85	70	LIMESTONE: As above, marly texture.
	30	CLAYSTONE: As above.
1885-95	80	LIMESTONE: As above.
	20	CLAYSTONE: As above, trace nodular pyrite.
1905-15	100	LIMESTONE: Pale grey, pale brown grey, occasionally medium grey, calcisiltite, moderately to very argillaceous, trace carbonaceous fragments, trace lithic fragments, trace fine calcareous sand, firm to moderately hard, massive to blocky.
	20	CLAYSTONE: As above, trace pyrite.
1915-25	100	LIMESTONE: As above.
	TRACE	CLAYSTONE: As above, trace pyrite.
1925-35	100	LIMESTONE: As above.
	TRACE	CLAYSTONE: As above, common nodular pyrite.
1935-45	100	LIMESTONE: Pale grey, pale brown grey, calcisiltite, moderate to very argillaceous, trace lithic fragments, trace carbonaceous fragments, firm to moderately hard, blocky.

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Depth (m)	%	Description
	TRACE	CLAYSTONE: Medium grey, moderately calcareous, trace lithic fragments, firm to moderately hard, blocky to platy, common nodular pyrite.
1945-55	100	LIMESTONE: As above, trace fossils.
	TRACE	CLAYSTONE: As above, very common nodular pyrite.
1955-65	100	LIMESTONE: As above, trace disseminated pyrite.
1965-75	100	LIMESTONE: As above, common disseminated pyrite.
	TRACE	CLAYSTONE: As above.
1975-85	100	LIMESTONE: Off white, light grey, light brown grey, moderate to very argillaceous, trace fine calcareous silt, calcisiltite, trace lithic fragments, trace disseminated pyrite, firm to moderately hard, marly texture, blocky to massive.
	TRACE	CLAYSTONE: Medium grey, olive grey, moderate to very calcareous, trace lithic fragments, firm to moderately hard, blocky to platy.
1985-95	100	LIMESTONE: As above, common disseminated pyrite.
	TRACE	CLAYSTONE: As above.
1995-2005	90	LIMESTONE: Light grey, pale grey, light brown grey, calcisiltite, trace very fine to fine calcareous sand, moderately to very argillaceous, trace carbonaceous specks, trace nodular pyrite, rare ooids, firm to moderately hard, blocky to massive.
	10	CLAYSTONE: As above.
2005-15	90	LIMESTONE: As above, calcisiltite grading to calcarenite in part, very fine, subangular, moderately argillaceous, firm, friable, massive.
	10	CLAYSTONE: As above.
2015-25	100	LIMESTONE: Light grey, off white, pale brown grey, calcisiltite, moderately to very argillaceous, trace pyrite, common carbonaceous fragments, firm to moderately hard, massive to blocky.
2025-35	100	LIMESTONE: As above, calcisiltite.
	TRACE	CLAYSTONE: Light to medium grey, green grey in part, moderately calcareous, common lithic fragments, trace carbonaceous specks, firm to moderately hard, blocky to platy.

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Depth (m)	%	Description
2035-45	90	LIMESTONE: Light brown grey, dark green grey, off white, calcisiltite, trace fine calcareous sand, trace disseminated pyrite, trace carbonaceous fragments, trace lithics,
	10	CLAYSTONE: As above.
2045-55	90	LIMESTONE: As above, grades to calcarenite in part, very fine to fine sand, firm to blocky.
	10	CLAYSTONE: As above.
2055-65	90	LIMESTONE: As above, predominantly calcisiltite, very argillaceous, firm to moderately hard, marly texture, grades to calcareous siltstone.
	10	CLAYSTONE: As above.
2065-75	100	LIMESTONE: Light grey, medium grey, light brown grey, calcisiltite, very argillaceous, trace disseminated pyrite, trace fine calcareous sand, trace lithics, firm to moderately hard, blocky, grades to calcareous siltstone.
2075-85	100	LIMESTONE: As above, becoming increasingly argillaceous calcisiltite to calcilutite, trace disseminated pyrite.
2085-95	70	LIMESTONE: As above predominantly calcilutite, marly texture.
	30	CLAYSTONE: Medium grey, green grey, moderately calcareous, silty in part, trace lithics, trace carbonaceous specks, moderately hard, blocky.
2095-2105	70	CLAYSTONE: Medium grey, green grey, grey brown, moderately calcareous, silty, trace lithics, trace carbonaceous fleck, firm to moderately hard, blocky.
	30	LIMESTONE: As above.
2105-15	90	CLAYSTONE: Light grey, grey brown, olive grey, moderately to locally very calcareous, silty, trace pyrite, moderately hard to firm, blocky.
	10	LIMESTONE: Off white, light brown, brown grey, calcsiltite, very argillaceous, trace nodular pyrite, firm to occasionally moderately hard, massive to blocky.
2115-25	90	CLAYSTONE: As above.
	10	LIMESTONE: As above, trace forams, rare pyrite.
2125-35	80	CLAYSTONE: As above.

Depth (m)	%	Description
	20	LIMESTONE: As above, occasionally hard crystalline fragments, trace nodular and disseminated pyrite, occasional forams.
2135-45	80	CLAYSTONE: Light grey, olive grey, grey brown, moderately to locally very calcareous, trace pyrite, firm to moderately hard, blocky.
	20	LIMESTONE: Off white, light brown, occasionally brown grey, calcsiltite, very argillaceous, trace fossils, occasionally hard crystalline fragments, firm to occasionally moderately hard, massive to blocky.
2145-55	80	CLAYSTONE: As above.
	20	LIMESTONE: As above.
2155-65	70	CLAYSTONE: As above.
	30	LIMESTONE: Off white, light brown, grey brown, calcisiltite, moderate to very argillaceous, trace pyrite, trace fine sand, firm to moderately hard, massive to blocky.
2165-75	70	CLAYSTONE: As above, trace pyrite.
	30	LIMESTONE: As above, occasionally moderately hard, blocky, sharp angular fracture in part.
2175-80	90	CLAYSTONE: As above, micromicaceous, moderately hard, subfissile to blocky.
	10	LIMESTONE: As above.
2180-85	80	CLAYSTONE: Light to medium grey, light brown grey, moderately calcareous, silty, micromicaceous, trace lithic and carbonaceous fragments, firm to moderately hard, blocky to subfissile.
	20	LIMESTONE: Buff to light brown, pale grey, calcisiltite, moderately to very argillaceous, trace carbonaceous speck, trace pyrite nodule, firm to moderately hard, massive to blocky.
2185-90	60	CLAYSTONE: As above.
	40	LIMESTONE: As above, calcisiltite grading to calcarenite in part, trace fine calcareous sand, trace foram, soft to firm, massive.
2190-95	60	CLAYSTONE: As above.
	40	LIMESTONE: As above, predominantly light brown calcarenite, fine micritic/argillaceous matrix, trace foram, firm, moderately hard, loose calcareous sand grains.
2195-2200	50	CLAYSTONE: As above.
	50	LIMESTONE: As above.

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Depth (m)	%	Description
2200-2205	60	CLAYSTONE: As above, becoming olive grey, green grey in part, moderately silty, trace carbonaceous speck, firm to moderately hard, blocky, grades to calcareous claystone.
	40	LIMESTONE: As above.
2205-10	80	CLAYSTONE: As above, trace nodular pyrite
	20	LIMESTONE: As above.
2210-15	60	CLAYSTONE: As above.
	40	LIMESTONE: Pale grey, light brown grey, calcisiltite, common fine calcareous sand, trace fossil fragments, trace gastropods, trace nodular pyrite, firm to moderately hard, massive to blocky.
2215-20	60	CLAYSTONE: As above.
	40	LIMESTONE: As above, trace nodular pyrite, trace disseminated pyrite.
2220-25	60	LIMESTONE: Pale grey, light brown grey, calcisiltite, moderate to very argillaceous, common fine calcareous sand, trace fossil fragments, trace gastropods, common nodular pyrite, firm to moderately hard, blocky
	40	CLAYSTONE: As above.
2230-35	60	CLAYSTONE: As above.
	40	LIMESTONE: As above.
2235-40	60	CLAYSTONE: Light to medium grey, light brown grey, occasionally olive grey, moderately calcareous, silty, trace lithics, firm to moderately hard, blocky to platy.
	40	LIMESTONE: As above, common nodular and disseminated pyrite, common fossil fragments.
2240-45	60	CLAYSTONE: As above.
	40	LIMESTONE: As above.
2245-50	60	LIMESTONE: As above, common nodular pyrite, trace fossil fragments.
	40	CLAYSTONE: As above.
2250-55	60	LIMESTONE: As above, trace glauconite, common nodular pyrite, common fossil fragments.
	40	CLAYSTONE: As above.
2255-60	60	LIMESTONE: As above, trace glauconite.
	40	CLAYSTONE: Light to medium grey, light brown grey, moderately to locally very

Depth (m)	%	Description
		calcareous, trace lithics, firm to moderately hard, blocky.
2265-70	70	LIMESTONE: As above, common glauconite, trace fine sand inclusions.
	30	CLAYSTONE: As above.
2270-75	80	LIMESTONE: Off white, medium grey, grey brown, calcarenite, common fine quartz sand, abundant glauconite, trace nodular pyrite, common white micritic cement, trace fossil fragment, trace lithic fragments, friable to moderately hard, tight, mineral fluorescence.
	20	CLAYSTONE: As above.
2275-80	90	SILTSTONE: Medium brown to dark grey brown, slightly calcareous, trace fine quartz sand, common glauconite, trace lithic fragments, micromicaceous, firm to moderately hard, blocky.
	10	CLAYSTONE: Pale grey, light grey, trace lithics, trace silt, moderately calcareous, firm, platy to blocky.
2280-85	100	SILTSTONE: As above, trace nodular pyrite.
2285-90	80	SILTSTONE: As above, common pyrite nodules.
	20	CLAYSTONE: Pale grey, light grey, moderate to locally very calcareous, common glauconite, trace lithics, moderately hard in part, blocky, subfissile, occasionally massive.
2290-95	100	SILTSTONE: Medium brown, olive grey, very argillaceous, abundant yellow and pink tuffaceous inclusions and laminations, soft, hygroturgid, massive, amorphous.
2295-2300	100	SILTSTONE: As above. (Tuffaceous)
2300-2305	10	SANDSTONE: Clear to translucent, medium to coarse, round to subrounded, medium to good sorting, trace calcareous/pyritic cement, loose grained, inferred fair to good porosity, fluorescence 5%, bright, pale yellow pin point fluorescence, fast streaming, thin ring residue, no stain in white light.
	90	SILTSTONE: Light grey, green grey, slightly, tuffaceous, very argillaceous, slightly calcareous, firm, hygroturgid, massive.
2305-2310	30	SANDSTONE: Clear to translucent, medium to coarse, occasionally fine, subangular to subrounded, moderate sorting, weak

Depth (m)	%	Description
		calcareous cement, trace common pyrite cement, common milky quartz, loose, inferred fair to good porosity, fluorescence trace, as above.
	70	SILTSTONE: As above.
		CHIP SAMPLE DESCRIPTIONS
2312.6	100	CLAYSTONE: Medium grey, green grey, slightly calcareous, trace nodular pyrite, micromicaceous, trace lithic fragments, moderately hard, blocky.
2313.8	100	CLAYSTONE: Medium to dark grey, slightly calcareous, abundant glauconite, abundant fine disseminated pyrite, hard, blocky.
2315	100	CLAYSTONE: As above. Trace medium sand grains, hard, blocky.
2316.2	100	SANDSTONE: Clear to translucent, light brown grey, occasionally granular, subangular to predominantly subrounded, trace light brown argillaceous matrix, friable, good porosity. Fluorescence: 100% patchy to solid, brown, pale yellow fluorescence, instant cut, thick spotty ring residue, thin light brown film in white light.
2317.4	100	SANDSTONE: Clear to translucent, medium to coarse, trace argillaceous matrix, trace pyrite cement, good porosity, fluorescence, instant cut, thick spotty ring residue, light brown film in white light.
2318.6	100	SANDSTONE: Clear to translucent, light grey, coarse, subrounded, good sorting, trace pyrite cement, trace argillaceous matrix, common argillaceous laminae, trace lithic fragments, friable, fair to good porosity. Fluorescence : 100%, solid to patchy, bright pale yellow fluorescence, instant cut, thick spotty ring residue, light brown film in white light.
2319.8	100	SANDSTONE: Medium grey, brown grey, fine to occassionally medium grained, subangular to subrounded, good sorting, trace silica/pyrite cement, trace argillaceous matrix, trace lithic fragments, trace to common milky quartz, moderately hard, very poor to nil porosity. Fluorescence 40% patchy, bright pale yellow fluorescence, instant milky cut, moderately thick ring residue, light brown stain in white light.

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Depth (m)	%	Description
2321	100	SANDSTONE: Light grey, off white, fine, subangular, good sorting, trace calcareous/silica cement, common argillaceous matrix, trace glauconite. Fluorescence: 10% moderately bright to patchy, bright pale yellow fluorescence, weak instant milky cut, thick ring residue.
2321.5	100	SANDSTONE: As above, fluorecence 30%. As above.
2322.7	100	SANDSTONE: Light grey, off white, fine, subangular, good sorting, trace silica cement, trace kaolinite and bituminous matrix, hard, poor porosity, fluoresence: 80% bright patchy pale yellow fluorecence, weak instant to fast streaming cut, moderately thick ring residue, light brown stain in white light.
2323.9	100	SANDSTONE: Light grey, pale brown grey, fine, subangular, good sorting, trace silica cement, trace argillaceous matrix, trace pyrite, trace mica, trace medium milky quartz, moderately hard, very poor porosity. Fluorescence: 100% even pale yellow moderately bright fluorescence, instant milky cut, thick ring residue, brown film in white light.
2325.1	100	SANDSTONE: Light grey-brown, grey, medium, subangular to subrounded, good sorting, trace calcareous, trace argillaceous mixture, trace smoky quartz pebbles, friable, fair to good porosity. Fluorescence: 100%, patchy bright yellow fluorescence, instant milky cut. Thick ring residue, thick brown film in white light.
2326.3	100	SANDSTONE: White to light grey, fine to very coarse, occasionally pebbly, subangular to subrounded, poor sorting, trace calcareous cement, trace mica, trace smokey quartz, friable, fair to good porosity. Fluorescence: 70%, bright, pale yellow/blue white, patchy fluorescence, instant cut, thick ring residue, thick brown film in white light.
2327.5	100	SANDSTONE: White to light grey, pale brown, fine to coarse, subangular to predominantly subrounded, poor to moderately sorted, trace silica cement, trace argillaceous matrix, trace mica, trace smoky quartz, friable, fair to good porosity, Fluorescence: 70% moderately bright to patchy, bright pale yellow solid fluorescence,

Depth (m)	%	Description
		instant cut, thick ring residue, thin brown film in white light.
2328.7	100	SANDSTONE: White to light grey, pale brown, fine to medium, subangular to subrounded, moderate sorting, trace argillaceous matrix, trace mica, (slightly weathered), trace carbonaceous material and laminae, friable, fair porosity, fluorescence 60% moderately bright, pale yellow solid fluorescence, instant cut, moderate ring residue, light brown stain in white light.
2329.9	100	SANDSTONE: White to light grey, pale brown, fine to medium, subangular to subrounded, moderate sorting, trace argillaceous matrix, trace coarse milky quartz, trace mica, friable, poor to fair porosity. Fluorescence: 70%, moderately bright, pale yellow solid fluoresence, instant cut, moderately thick ring residue, light brown stain in white light.
2331	100	SANDSTONE: Clear to translucent, medium to coarse, occasionally very coarse grained, subrounded, moderately good sorting, rare argillaceous matrix, trace mica, friable, very good porosity. Fluorescence: 90% moderately bright to bright pale yellow fluoresence, instant to fast streaming cut, thick ring residue, light brown film residue in white light.
2332.2	100	SANDSTONE: Clear to translucent, light grey, fine, moderate sorting, weak silica cement, rare mica (muscovite), trace glauconite, friable to moderately hard, fair porosity, Fluorescence: 100%, bright pale yellow fluorescence, fast streaming cut, thin ring residue, light brown film in white light.
2333.4	100	SANDSTONE: Clear to translucent, light grey, fine, subangular, moderate sorting, weak silica cement, rare mica, trace lithics, friable to moderately hard, poor to fair porosity, FLUORESCENCE: 70% bright pale yellow fluorescence, fast streaming cut, thin ring residue, light brown film in white light.
2334.6	100	SANDSTONE: As above. FLUORESCENCE: 70%, as above.
2335.8	100	SANDSTONE: Clear to translucent, light grey, pale brown, fine to medium, subangular to subrounded, moderate sorting, trace silica

Depth (m)	%	Description
		cement, trace mica (muscovite and biotite), moderately hard, poor to fair porosity. Fluorescence 70%, bright pale yellow patchy fluoresence, fast streaming cut, thin ring residue, light brown film residue in white light.
2337	100	SANDSTONE: Clear to translucent, light to medium grey, fine to medium, subangular to subrounded, moderate sorting, weak silica cement, trace smoky quartz, trace mica (muscovite), moderately hard, poor porosity, Fluorescence: 60% bright pale yellow patchy fluorescence, moderately fast streaming cut, thin ring residue, light brown film in white light.
2338.2	100	SANDSTONE: Clear to translucent, light to medium grey, fine to medium, subangular to subrounded, moderate sorting, trace silica cement, trace smokey quartz, trace mica (muscovite), moderately hard, poor porosity, FLUORESCENCE: 60%, as above.
2339.4	100	SANDSTONE: Clear to translucent, light to medium grey, fine, subangular to subrounded, moderate to good sorting, common argillaceous matrix (Kaolinite?), rare mica, moderately hard, poor porosity. FLUORESCENCE: 60% bright pale yellow fluorescence, moderately fast streaming cut, thin ring residue.
2340	100	SANDSTONE: As above, FLUORESCENCE: 60%. As above.
2341.2	100	SANDSTONE: Clear to translucent, medium grey, very fine to fine, occasionally clear pebbles, subangular to subrounded, poor to moderate sorting, trace silica cement, common kaolinite matrix, trace mica, moderately hard, poor to very poor porosity. No fluoresence, weak slow cut, very faint ring residue.
2342.4	100	SANDSTONE: Clear to translucent, medium grey, very fine to fine subangular to subrounded, poor to moderate sorting, weak silica cement, trace argillaceous matrix, trace lithics, trace mica, moderately hard, poor porosity, no fluorescence.
2343.6	100	SANDSTONE: Clear to translucent, light grey, dark grey, brown, very fine to fine, occasionally moderate, subangular to subrounded, poor sorting, weak silica cement,

Depth (m)	%	Description
		trace pyrite cement, common argillaceous matrix, trace carbonaceous and micaceous micritic laminates, hard, poor to nil porosity, no fluorescence.
2344.8	100	SANDSTONE: Clear to translucent, light grey, medium to very coarse, subangular to subrounded, occasionally round pebbles, moderate sorting, trace silica cement, trace pyrite, trace milky quartz, trace lithics, rare pyrite nodules, friable, good porosity, FLUORESCENCE: 70%, bright pale yellow patchy fluorescence, instant cut, thick ring residue, faint light brown residue in white light.
2347.2	100	SANDSTONE: Clear to translucent, medium to coarse, subangular to subrounded, poor to moderate sorting, trace silica cement, trace smokey quartz, trace pyrite, rare mica, trace lithics, friable, good porosity, no fluorescence.
2348 4	100	SANDSTONE: Clear to translucent, fine to medium, subangular to subrounded, moderate sorting, trace silica cement, rare smokey quartz, very rare pyrite, friable, moderately hard, fair porosity, no fluorescence.
2349	100	SANDSTONE: Clear to translucent, medium to coarse, occasionally granular, subangular to subrounded, pale to moderate sorting, trace silica cement, trace argillaceous matrix, weak calcareous cement, rare pyrite, friable, good porosity, no fluorescence.
		CUTTING DESCRIPTIONS
2350-55	30	SANDSTONE: Predominantly as above, becomes medium to coarse, loose, inferred fair to good porosity, no fluorescence.
	65	SILTSTONE: Medium brown, light to medium grey, moderately to very argillaceous, slightly calcareous, micromicaceous, common carbonaceous fragments, moderately hard, blocky, subfissile in part.
	5	COAL: Black, slightly argillaceous, dull to subfissile in part.
2355-60	20	SANDSTONE: Predominantly as above, becomes medium to coarse, loose, inferred fair to good porosity, no fluorescence.
	80	SILTSTONE: As above.

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Depth (m)	%	Description
2360-65	60	SANDSTONE: Clear to translucent, frosted, clear, subangular to subrounded, round in part, good sorting, weak calcareous cement, abundant milky quartz, trace nodular pyrite.
	40	SILTSTONE: Light to medium grey, pale green grey, medium brown, very argillaceous, slightly calcareous, micromicaceous, trace carbonaceous microlaminae, firm to moderately hard, blocky, subfissile in part.
	TR	COAL: Black, subbituminous, subvitreous lustre, brittle, blocky to platy.
2365-70	20	SANDSTONE: As above.
	80	SILTSTONE: As above.
2370-75	10	SANDSTONE: As above.
	90	SILTSTONE: As above. locally abundant glauconite, trace pyrite, slightly arenaceous in part, moderately hard, blocky.
2375-80	10	SANDSTONE: White to light grey, very fine to fine, subangular to subrounded, good sorting, abundant kaolinite matrix, trace calcareous cement, trace carbonaceous/coal microlaminations, trace lithic fragments, friable, very poor to nil porosity. Fluorescence: trace-5%, bright pale yellow fluorescence, moderately fast streaming cut, thin ring residue, light brown stain in white light.
	90	SILTSTONE: As above.
2380-85	100	SILTSTONE: As above, slightly to non calcareous, trace coal fragments, firm to moderately hard, blocky to platy.
2385-90	20	SANDSTONE: Off white, light grey, occasionally clear to translucent, fine to medium, subangular to subrounded, poor sorting, locally abundant kaolinite matrix, trace lithics, friable to loose, very poor to nil porosity, no fluorescence.
	75	SILTSTONE: Medium brown, brown grey, very argillaceous, slight to non calcareous, micromicaceous, common carbonaceous fragments, moderately hard, blocky.
	5	COAL: Black, subbituminous, subvitreous lustre, slightly argillaceous, brittle, blocky to platy.
2390-95	90	SANDSTONE: Clear-translucent, medium to coarse, subangular to subrounded, round in part, good sorting, trace silica cement, weak calcareous cement, trace nodular pyrite, common milky quartz, loose, inferred fair to good porosity, no fluorescence.

Depth (m)	%	Description
		common milky quartz, loose, inferred good porosity, no fluorescence.
	5	SILTSTONE: As above.
2425-30	90	SILTSTONE: Medium grey, medium brown grey, very argillaceous, slightly calcareous, slightly micromicaceous, trace lithics and carbonaceous specks, trace disseminated pyrite, moderately hard, blocky to platy.
	10	SANDSTONE: Clear to translucent, light grey, medium to coarse, subangular to rounded, predominantly moderately sorted, locally moderate kaolinite/argillaceous matrix, trace glauconite, trace pyrite, loose, friable, poor to fair inferred porosity, no fluorescence.
2430-35	70	SANDSTONE: Light grey, off white, pale brown, very fine to fine, subangular, good sorting, abundant kaolinite matrix, slightly calcareous cement, trace pyrite cement, trace milky quartz grains, trace mica and carbonaceous fragments, friable, poor to nil porosity, no fluoresence.
	30	SILTSTONE: Light grey, grey brown, very argillaceous, slightly calcareous, trace carbonaceous, trace lithics, micromicaceous, firm to moderately hard, blocky to massive.
2435-40	90	SANDSTONE: Clear to translucent, frosted, coarse to very coarse, subangular to subrounded, moderate to good sorting, trace silica cement, predominantly milky quartz, loose, inferred good porosity, no fluorescence.
	10	SILTSTONE: As above, trace very fine sand.
2400-44	80	SANDSTONE: Predominantly as above, trace calcareous cement, trace pyrite, loose, inferred good porosity, no fluorescence.
	20	SILTSTONE: As above.

Depth (m)	%	Description
	10	SILTSTONE: As above.
2395-2400	90	SANDSTONE: As above, occasional fine grained with moderately argillaceous matrix, friable, poor porosity.
	10	SILTSTONE: As above.
	TR	COAL: Brown black, argillaceous slightly dull lustre, brittle, blocky.
2400-05	70	SANDSTONE: Off white, light grey, clear to translucent, fine to occasionally subangular, moderate to good sorting, abundant kaolinite matrix, trace pyrite, trace lithic fragments, trace "weathered" mica, friable, very poor to nil porosity, no show.
	30	SILTSTONE: Light to medium grey, medium brown, very argillaceous, slight to occasionally moderately calcareous, common carbonaceous fragments, micromicaceous, firm to moderately hard, blocky to platy.
	TR	COAL: As above.
2405-10	30	SANDSTONE: White to off white, light grey, light brown, fine to very fine, subangular, good sorting, common kaolinite matrix, trace mica, trace carbonaceous specks, moderately hard, tight, no fluoresence.
	70	SILTSTONE: Light brown, light brown grey, slightly argillaceous, micromicaceous, trace lithics, trace coal fragments, firm to moderately hard, blocky to platy.
2410-15	60	SANDSTONE: As above, abundant kaolinite mixture, friable to moderately hard, tight, no fluorescene.
	40	SILTSTONE: Predominantly as above, light to medium brown in part, very argillaceous, slightly calcareous, moderately hard, blocky.
	TRACE	COAL: Black, silty, argillaceous, dull lustre, blocky, brittle.
2415-20	30	SANDSTONE: Clear to translucent, light grey, fine to very coarse, subangular to subrounded,poor sorting, trace calcareous cement, trace pyrite, common milky quartz, loose, inferred good porosity, no fluorescence.
	50	SILTSTONE: Light grey, pale brown grey, very argillaceous, slightly calcareous, trace lithic fragments, slightly micromicaceous, firm, moderately hard, blocky.
	20	COAL: As above, subbituminous, blocky.
2420-25	95	SANDSTONE: Clear to translucent, frosted, coarse to very coarse, subangular to subrounded, good sorting, trace mica,

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Lithology Descriptions

Depth	%	Description
835-840	20	LIMESTONE: Pale grey, light brown grey, calcilutite, moderately to very argillaceous, trace very fine calcareous sand, trace carbonaceous specks soft, hygroturgid, massive to amorphous.
	80	CEMENT:
840-50	90	LIMESTONE: As above.
	10	CEMENT:
850-60	100	LIMESTONE: Pale grey, grey brown, occasionally light grey, calcilutite, moderately argillaceous, trace-common carbonaceous specks and fragments, trace hard fine calcareous and arenaceous inclusions, soft to plastic, massive to amorphous.
860-70	100	LIMESTONE: As above, trace glauconite.
870-80	100	LIMESTONE: Calcilutite as above, with calcarenite,light brown, grey brown, fine, subangular, very argillaceous to micritic, trace glauconite, trace pyrite nodules, trace forams, soft to firm, occasionally moderately hard, massive.
880-90	100	LIMESTONE: Light grey, green grey, calcilutite, moderate to very argillaceous, silty, common carbonaceous specks, trace ooids, soft to plastic, massive to amorphous.
890-900	100	LIMESTONE: Calcilutite as above, grading to calcisiltite in part, light grey, green grey, moderately argillaceous, trace carbonaceous specks, trace glauconite, soft, massive to amorphous.
900-10	100	LIMESTONE: Calcisiltite as above, with calcarenite inclusions, light to medium grey, fine, trace argillaceous matrix, trace lithic fragments, trace glauconite, moderately hard, blocky.
910-20	100	LIMESTONE: Pale grey, grey brown, calcilutite, moderately argillaceous, trace silt, trace nodular pyrite, trace ooids, soft, massive to amorphous.

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Depth (m)	%	Description
920-30	100	LIMESTONE: Calcilutite, as above, grades in part to calcisiltite.
930-40	100	LIMESTONE: Light grey, pale brown grey, calcilutite, moderately argillaceous, slightly silty, trace carbonaceous fragments, soft-firm, massive to amorphous.
940-50	100	LIMESTONE: Calcilutite as above, with calcarenite inclusions, light to medium grey, fine, subangular, trace micritic cement, trace argillaceous matrix, trace carbonaceous specks, trace glauconite, moderately hard, blocky.
950-60	100	LIMESTONE: Calcilutite and calcarenite as above.
960-70	100	LIMESTONE: Light grey, olive grey, calcilutite, moderately to very argillaceous, trace fine calcareous sand, trace glauconite, soft to firm, moderately hard in part, massive, angular fracture.
970-80	100	LIMESTONE: Calcilutite, as above.
980-90	100	LIMESTONE: Calcilutite, as above.
990-1000	100	LIMESTONE: Light grey, olive grey, pale brown grey, calcilutite, moderately argillaceous, slightly silty in part, trace carbonaceous specks, trace glauconite, firm to moderately hard, massive to blocky, angular fracture.
1000-10	100	LIMESTONE: As above, calcilutite.
1010-20	100	LIMESTONE: Calcilutite, as above, with calcisiltite, medium brown, grey, olive grey, slight to moderately argillaceous, trace very fine calcareous sand, trace glauconite, trace lithic and carbonaceous fragments, moderately hard to brittle, blocky, angular fracture.
1020-30	100	LIMESTONE: Calcilutite and calcisiltite. As above.
1030-40	100	LIMESTONE: Light grey, grey brown, olive grey, calcisiltite, slightly to moderately argillaceous, trace lithic and carbonaceous fragments, trace glauconite, slightly arenaceous in part, moderately hard to brittle, blocky, angular fracture.
1040-50	100	LIMESTONE: Calcisiltite, as above.

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Depth (m)	%	Description
1050-60	100	LIMESTONE: Olive grey, light to medium grey, calcisiltite, trace very fine calcareous sand, trace carbonaceous specks, trace glauconite, trace disseminated pyrite, moderately hard, brittle, blocky, angular fracture in part.
1060-70	100	LIMESTONE: As above, calcisiltite, moderately argillaceous, soft to firm in part, massive to blocky, angular fracture.
1070-80	100	LIMESTONE: As above.
1080-90	100	LIMESTONE: Calcisiltite as above, with calcarenite, light brown, medium grey, brown, very fine, micritic to argillaceous, trace glauconite, trace fossil (skeletal) fragments, moderately hard to hard, brittle, angular fracture, blocky.
1090-1100	100	LIMESTONE: Light grey, olive grey, light brown, calcilutite, grading to calcisiltite, trace carbonaceous specks, trace lithic fragments, firm to moderately hard, occasionally brittle, blocky to massive.
1100-10	100	LIMESTONE: Calcilutite, as above.
1110-20	100	LIMESTONE: Calcilutite with minor calcisiltite, as above.
1120-30	100	LIMESTONE: Calcilutite, as above trace forams.
1130-40	100	LIMESTONE: Light grey, grey brown, olive grey, calcarenite, moderately argillaceous to micritic, trace glauconite, trace ooids, trace carbonaceous specks, firm to moderately hard, massive to blocky.
1140-50	100	LIMESTONE: Light grey, grey brown, olive grey, calcisiltite, trace forams and ooids, rare glauconite, soft to firm, hard in part, massive to blocky, angular fracture.
1150-60	100	LIMESTONE: Light to medium grey, olive grey, calcilutite, trace very fine calcareous sand, trace crystalline calcareous fossil fragments, moderately argillaceous, soft, massive to blocky.
1160-70	100	LIMESTONE: As above, calcilutite.
1170-80	100	LIMESTONE: As above, calcilutite.

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Depth (m)	%	Description
1180-90	100	LIMESTONE: As above, calcilutite, moderately to very argillaceous, soft to moderately hard, blocky, platy.
1190-1200	100	LIMESTONE: Light to medium grey, olive grey, grey brown, calcilutite with calcisiltite, moderately to locally very argillaceous, trace carbonaceous specks, firm to predominantly moderately hard, massive to blocky, angular fracture.
1200-10	100	LIMESTONE: As above, trace forams and fossil fragments.
1210-20	100	LIMESTONE: Light grey, olive grey, green grey, moderately to very argillaceous, calcilutite, trace very fine calcareous sand, trace glauconite, trace lithic fragments, firm to occasionally moderately hard, blocky.
1220-30	100	LIMESTONE: As above, calcilutite.
1230-40	100	LIMESTONE: As above, calcilutite grading to calcisiltite in part.
1240-50	100	LIMESTONE: As above, calcilutite.
1250-60	100	LIMESTONE: Light to medium grey, grey brown, olive grey, calcisiltite, common very fine calcareous sand, trace carbonaceous specks, trace forams, moderately hard, blocky.
1260-70	100	LIMESTONE: Light to medium grey, grey brown, olive grey, calcisiltite, moderately argillaceous, trace fine calcareous sand, trace carbonaceous specks, firm to moderately hard, occasionally hard, blocky.
1270-80	100	LIMESTONE: As above, calcisiltite, occasionally very argillaceous, grading to calcilutite.
1280-90	100	LIMESTONE: As above, calcisiltite.
1290-1300	100	LIMESTONE: Light brown grey, light grey, green grey, calcisiltite, trace fine calcareous sand, trace lithic fragments, trace carbonaceous fragments, trace gastropods, trace crystalline fossil fragments, firm to moderately hard, massive to blocky.
1300-10	100	LIMESTONE: As above, calcisiltite grading to calcilutite.

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Depth (m)	%	Description
1310-20	100	LIMESTONE: Light brown, off white, light grey, green grey, calcisiltite, common fine calcareous sand, grades to calcarenite in part, moderately argillaceous in part, trace carbonaceous specks, trace ooids, firm to moderately hard, blocky.
1320-30	100	LIMESTONE: Light grey, brown grey, olive grey, calcilutite, slightly silty, moderately to very argillaceous, trace carbonaceous specks, moderately hard to firm, blocky.
1330-40	100	LIMESTONE: Calcilutite, as above, trace forams.
1340-50	100	LIMESTONE: As above, calcilutite, predominantly light grey, olive grey, trace gastropods, moderately hard to firm, blocky.
1350-60	100	LIMESTONE: As above, calcilutite grading to calcisiltite.
1360-70	100	LIMESTONE: Light brown grey, olive grey, calcilutite, moderately argillaceous, moderately silty in part, trace rare carbonaceous specks, firm to moderately hard, blocky.
1370-80	100	LIMESTONE: Predominantly as above, calcilutite grading to calcisiltite in part.
1380-90	100	LIMESTONE: Light to medium grey, olive grey, calcisiltite, trace very fine calcareous sand, moderately argillaceous, common glauconite, trace ooids, trace lithic fragments, firm to occasionally moderately hard, massive to blocky.
1390-1400	100	LIMESTONE: As above, calcisiltite, becoming increasingly argillaceous to micritic, grading to calcilutite.
1400-10	100	LIMESTONE: Calcisiltite, as above with minor calcarenite inclusions, medium grey, grey brown, very fine to fine, subrounded, micritic to argillaceous, common glauconite, common skeletal fragments, moderately hard, blocky.
1410-20	100	LIMESTONE: Light to medium grey, green grey, calcilutite, trace silt, moderately to very argillaceous, trace forams and gastropods, firm to moderately hard, blocky.
1420-30	100	LIMESTONE: As above, calcilutite, trace ooids and forams, trace sparry calcite.

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Depth (m)	%	Description
1430-40	100	LIMESTONE: Calcilutite, as above, trace nodular pyrite.
1440-50	100	LIMESTONE: Light to medium grey, green grey, calcilutite, silty in part, trace ooids and forams, trace fossil fragments, trace light brown calcarenite inclusions, soft to firm, marly texture, massive to blocky.
1450-60	100	LIMESTONE: Predominantly as above,calcilutite with common fine calcareous sand, marly texture.
1460-70	100	LIMESTONE: As above, calcilutite grading to calcisiltite, trace nodular pyrite.
1470-80	100	LIMESTONE: Olive grey, green grey, calcisiltite, moderately argillaceous, trace disseminated and nodular pyrite, trace carbonaceous specks, trace foram and fossil fragments, soft to firm, massive to blocky, marly texture in part.
1480-90	100	LIMESTONE: As above, calcisiltite grading to calcilutite, trace glauconite, firm, massive to blocky.
1490-1500	100	LIMESTONE: As above, calcisiltite, with common very fine calcareous sand, trace nodular pyrite, firm to moderately hard, blocky.
1500-10	80	LIMESTONE: Calcilutite, light grey, green grey, moderately to very argillaceous, trace glauconite, trace disseminated pyrite, rare fine calcareous sand, firm, massive to blocky, marly texture in part.
	20	CLAYSTONE: Medium to dark grey, slightly calcareous, trace glauconite, micromicaceous, trace pyrite, firm to moderately hard, blocky to platy.
1510-20	90	LIMESTONE: Calcisiltite, light grey, grey brown, slightly argillaceous, trace to common glauconite, trace forams, trace light brown hard crystalline aggregates, moderately hard to firm, blocky to massive.
	10	CLAYSTONE: As above.
1520-30	90	LIMESTONE: As above, calcisiltite.
	10	CLAYSTONE: As above.
1530-40	90	LIMESTONE: As above, calcisiltite.
	10	CLAYSTONE: As above.

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Depth (m)	%	Description
1550-60	70	LIMESTONE: Calcilutite, as above.
	30	CLAYSTONE: As above.
1560-70	90	LIMESTONE: As above, common forams and very fine calcareous sand.
	10	CLAYSTONE: As above, trace disseminated and nodular pyrite.
1570-80	90	LIMESTONE: Off white, light grey, grey brown, calcilutite, moderate to very argillaceous, slightly to moderately silty, trace forams, trace nodular and disseminated pyrite, soft to firm, marly texture, massive to blocky.
	10	CLAYSTONE: Light to medium grey, trace disseminated pyrite, slightly calcareous, trace lithic fragments, moderately hard, blocky to sub-fissile in part.
1580-90	80	LIMESTONE: As above, calcilutite, trace glauconite.
	20	CLAYSTONE: As above.
1590-1600	90	LIMESTONE: Light brown grey, olive grey, calcisiltite, moderately to very argillaceous, trace disseminated pyrite, trace carbonaceous specks, trace forams, firm to moderately hard, blocky.
	10	CLAYSTONE: As above.
1600-10	100	LIMESTONE: As above, calcisiltite grading to calcilutite.
1610-20	90	LIMESTONE: Medium green grey, olive grey, calcilutite, slightly silty, trace lithic and carbonaceous fragments, trace forams, trace disseminated pyrite, occasional pyritic fossil fragments, moderately hard to firm, blocky.
	10	CLAYSTONE: Medium grey, medium green grey, slightly calcareous, trace silt, micromicaceous, trace disseminated pyrite, firm to moderately hard, blocky to platy.
1620-30	90	LIMESTONE: As above, trace glauconite
	10	CLAYSTONE: As above.
1630-40	90	LIMESTONE: Light grey, grey brown, olive grey, calcisiltite, occasionally grades to calcarenite, moderately argillaceous to micritic, common to very fine calcareous sand, trace forams and ooids, trace nodular pyrite, trace glauconite, firm, massive to blocky.
	10	CLAYSTONE: As above.

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Depth (m)	%	Description
1640-50	80	LIMESTONE: As above, calcisiltite with abundant forams.
	20	CLAYSTONE: As above, occasionally grey, green.
1650-60	90	LIMESTONE: Off white, pale grey, grey brown, calcilutite, moderately silty in part, common pyrite nodules and fossil replacement, trace ooids (oolites), firm, marly texture, massive to blocky.
	10	CLAYSTONE: Medium grey, olive grey, green grey, slightly calcareous, trace lithic fragments, trace pyrite, firm to moderately hard, blocky to platy.
1660-70	80	LIMESTONE: As above, calcilutite.
	20	CLAYSTONE: As above.
1670-80	90	LIMESTONE: As above, calcilutite, with light to medium brown, brown grey calcarenite inclusions, hard, blocky.
	10	CLAYSTONE: As above.
1680-90	80	LIMESTONE: Light brown, grey brown, olive grey, calcisiltite, moderate to very argillaceous, micritic, common lithic fragments, trace carbonaceous specks, trace disseminated pyrite, trace ooids and forams, firm to moderately hard, massive to blocky.
	20	CLAYSTONE: Medium grey, green grey, slightly calcareous, trace lithic fragments, trace disseminated pyrite, moderately hard, blocky to sub-fissile.
1690-1700	60	LIMESTONE: As above.
	40	CLAYSTONE: As above.
1710-20	90	LIMESTONE: Calcilutite as above, occasional calcarenite inclusions, medium grey brown, argillaceous to micritic, moderately hard to hard, blocky.
	10	CLAYSTONE: As above.
1710-20	90	LIMESTONE: Light to medium grey, olive grey, green grey, calcilutite, moderately to very argillaceous, slightly silty in part, trace disseminated pyrite, moderately hard, blocky.
	10	CLAYSTONE: As above.
1720-30	80	LIMESTONE: Calcilutite, as above.
	20	CLAYSTONE: Medium grey, medium green grey, slightly calcareous, slightly silty, micromicaceous, firm to moderately hard, blocky to sub-fissile in part.

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Depth (m)	%	Description
1730-40	90	LIMESTONE: Pale grey, light brown grey, moderately argillaceous, trace to common very fine sand, trace carbonaceous specks, trace nodular pyrite, firm to moderately hard, blocky.
	10	CLAYSTONE: As above.
1740-50	70	LIMESTONE: As above, calcisiltite, common to abundant very fine to fine calcareous sand, grading to calcarenite.
	30	CLAYSTONE: As above.
1750-60	70	LIMESTONE: Calcisiltite grading to calcarenite, as above.
	30	CLAYSTONE: As above.
1760-70	80	LIMESTONE: Pale grey, light grey brown calcilutite, moderately silty, moderately to very argillaceous, common foram and fossil fragments, soft to firm, marly texture, massive to blocky.
	20	CLAYSTONE: Medium grey, green grey, slightly calcareous, trace lithic fragments, trace carbonaceous specks, trace disseminated pyrite, firm to moderately hard, blocky to sub-fissile.
1770-80	70	LIMESTONE: As above, calcilutite with minor calcarenite inclusions, medium brown, slightly dolomitic, hard, brittle, blocky, angular fracture.
	30	CLAYSTONE: As above.
1780-90	80	LIMESTONE: As above, calcilutite, trace forams, marly, moderately to very argillaceous, soft, massive to blocky.
	20	CLAYSTONE: As above.
1790-1800	70	LIMESTONE: Light grey, light brown grey, olive grey, moderately to very argillaceous, calcilutite, trace carbonaceous fragment, trace nodular pyrite, trace medium brown calcarenite inclusions, soft to hard in part, massive to blocky, marly in part.
	30	CLAYSTONE: Medium grey, green grey, slightly calcareous, micromicaceous, slightly silty, trace lithic and carbonaceous fragments, firm to moderately hard, blocky to sub-fissile in part.
1800-10	80	LIMESTONE: Calcilutite, as above.
	20	CLAYSTONE: As above.
1810-20	70	LIMESTONE: Light grey, green grey, calcilutite, slightly silty, moderately to very

Depth (m)	%	Description
		argillaceous, trace carbonaceous specks, firm to moderately hard, blocky to sub-fissile.
	30	CLAYSTONE: As above.
1820-30	60	LIMESTONE: Medium grey, green grey, calcilutite, very argillaceous, trace forams, trace carbonaceous specks, trace lithic fragments, trace pyrite, firm to moderately hard, blocky.
	40	CLAYSTONE: Medium grey, dark grey, slightly calcareous, trace disseminated pyrite, trace lithic fragments, moderately hard, blocky.
1830-40	60	LIMESTONE: As above.
	40	CLAYSTONE: As above.
1840-50	90	LIMESTONE: Light grey, light brown grey, olive grey, calcisiltite, trace carbonaceous specks, trace nodular pyrite, trace foram, firm to moderately hard, blocky.
	10	CLAYSTONE: As above.
1850-60	60	LIMESTONE: Predominantly as above, calcisiltite grading to calcilutite, common glauconite, trace medium brown crystalline hard aggregates.
	40	CLAYSTONE: As above.
1860-70	70	LIMESTONE: As above.
	30	CLAYSTONE: As above, occasional light blue green.
1870-80	60	LIMESTONE: Pale grey, light brown grey, olive grey, calcilutite, slightly silty, trace fine calcareous sand, soft to firm, occasionally moderately hard, marly texture in part, massive to blocky.
	40	CLAYSTONE: Medium grey, green grey, slightly calcareous, trace disseminated pyrite, trace lithic fragments, trace carbonaceous specks, micromicaceous, moderately hard, blocky to sub-fissile.
1880-90	70	LIMESTONE: As above.
	30	CLAYSTONE: As above.
1890-1900	80	LIMESTONE: Light grey, grey brown, olive grey, calcilutite, moderately to very argillaceous, silty in part, trace disseminated pyrite, trace fossil fragments, (occasionally crystallised), firm to moderately hard, blocky.
	20	CLAYSTONE: Medium grey, green grey,, slightly calcareous, trace disseminated pyrite, micromicaceous, trace lithic fragments,

Depth (m)	%	Description
		moderately hard, blocky to platy, sub-fissile in part.
1900-10	60	LIMESTONE: As above.
	40	CLAYSTONE: As above, silty in part.
1910-20	30	CLAYSTONE: As above.
	70	LIMESTONE: Predominantly as above, calcilutite, grading to calcisiltite in part.
1920-30	80	CLAYSTONE: Green grey, dark grey, slightly to non calcareous, micromicaceous, trace silt, trace disseminated pyrite, moderately hard, blocky to sub-fissile.
	20	LIMESTONE: Light grey, grey brown, olive grey, calcisiltite, moderately to very argillaceous, trace glauconite, trace very fine sand, occasional hard aggregates, predominantly firm to moderately hard, blocky to massive.
1930-40	60	CLAYSTONE: As above, common pyrite.
	40	LIMESTONE: As above, trace forams, marly texture in part.
1940-50	70	LIMESTONE: Pale grey, light brown grey, olive grey in part, calcilutite, moderate to very argillaceous, silty in part, trace fossil fragments, micritic/argillaceous, firm to moderately hard, marly, massive to blocky.
	30	CLAYSTONE: As above, trace glauconite, trace pyrite.
1950-60	80	LIMESTONE: As above, grades to calcisiltite in part.
	20	CLAYSTONE: As above.
1960-70	100	LIMESTONE: Light brown grey, light grey, calcarenite, fine, argillaceous/micritic, trace lithic fragments, trace nodular pyrite, trace glauconite, firm to moderately hard, blocky.
	TR	CLAYSTONE: Light to medium grey, slightly to non calcareous, micromicaceous, trace pyrite, trace glauconite, firm to moderately hard, blocky to sub-fissile.
1970-80	90	LIMESTONE: Calcarenite, as above, becoming increasingly argillaceous/micritic, occasional calcilutite.
	10	CLAYSTONE: As above.
1980-90	100	LIMESTONE: As above, calcarenite with calcilutite, trace pyrite nodules.
1990-2000	100	LIMESTONE: Medium to dark grey, dark green grey, brown grey, calcisiltite grading to

Depth (m)	%	Description
		calcarenite, very fine to fine, micritic/argillaceous, trace lithic fragments, firm to moderately hard, massive to blocky.
2000-10	90	LIMESTONE: As above, calcarenite/calcisiltite.
	10	CLAYSTONE: Light green grey, medium grey, slightly to non calcareous, micromicaceous, pyritic, firm to moderately hard, blocky to subfissile.
2010-20	90	LIMESTONE: As above, calcarenite.
	10	CLAYSTONE: As above.
2020-30	80	LIMESTONE: Calcarenite becoming increasingly argillaceous/micritic, grading to calcisiltite.
	20	CLAYSTONE: As above.
2030-40	70	LIMESTONE: Olive grey, dark green grey, grey brown, calcisiltite, moderately argillaceous, common very fine to fine calcareous sand, trace glauconite, trace carbonaceous speckles, firm to moderately hard, massive to blocky.
	30	CLAYSTONE: Medium grey, olive grey, slightly calcareous, trace lithic and carbonaceous specks, firm to moderately hard, blocky to sub-fissile in part.
2040-50	90	LIMESTONE: Calcisiltite, as above, trace nodular pyrite, trace anhydrite, trace forams.
	10	CLAYSTONE: As above.
2050-60	100	LIMESTONE: As above, trace anhydrite.
	TR	CLAYSTONE: As above.
2070-80	90	LIMESTONE: Brown grey, olive grey, light to medium grey, green grey, moderately argillaceous, calcisiltite, trace very fine to fine calcareous sand, trace nodular and disseminated pyrite, trace lithic fragments, trace glauconite, moderately hard to locally firm, massive to blocky.
	10	CLAYSTONE: Dark green grey, medium grey, slightly to non-calcareous, trace disseminated pyrite, micromicaceous, moderately hard, blocky to platy.
2080-90	80	LIMESTONE: As above, trace anhydrite.
	20	CLAYSTONE: As above.
2090-2100	70	LIMESTONE: As above.
	30	CLAYSTONE: As above, predominantly medium grey to light grey, silty in part, trace glauconite, blocky.

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Depth (m)	%	Description
2100-10	90	LIMESTONE: As above, calcisiltite becoming increasingly argillaceous, grading to calcilutite.
	10	CLAYSTONE: As above.
2110-20	90	LIMESTONE: Light brown grey, olive grey, calcilutite, moderately silty, trace glauconite, trace lithic fragments, trace disseminated pyrite, trace pyritic fossil fragments, firm to moderately hard, blocky to massive.
	10	CLAYSTONE: Light to medium grey, green grey, slightly to non calcareous, trace lithic fragments, micromicaceous, moderately hard, blocky to subfissile in part.
2120-30	80	LIMESTONE: As above, calcilutite, moderately to very silty in part, grades to calcisiltite, trace forams.
	20	CLAYSTONE: As above.
2130-40	70	LIMESTONE: As above.
	30	CLAYSTONE: Predominantly as above, trace carbonaceous flecks and microlaminae, moderately hard, blocky.
2140-50	100	LIMESTONE: Olive grey, light to medium grey, calcisiltite, moderately argillaceous, trace forams, trace disseminated pyrite, trace lithic and mica specks, soft to firm, marly texture in part, blocky.
2150-60	90	LIMESTONE: As above, calcisiltite
	10	CLAYSTONE: Medium grey, green grey, slightly calcareous, trace lithic fragments, slightly silty, firm to moderately hard, blocky to subfissile.
2160-70	100	LIMESTONE: Light grey, olive grey, brown grey, calcilutite, slightly silty, moderately argillaceous, trace very fine calcareous sand, trace glauconite, firm to moderately hard, marly texture, blocky to massive.
2170-80	100	LIMESTONE: As above, calcilutite, becoming increasingly silty, grades to calcisiltite.
2180-90	100	LIMESTONE: Olive grey, dark green grey, calcisiltite, moderately argillaceous, common very fine calcareous sand, trace pyrite, trace glauconite, firm to moderately hard, blocky.
2190-2200	100	LIMESTONE: As above, trace fossil and foram fragments.

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Depth (m)	%	Description
2200-10	100	LIMESTONE: Light grey, grey brown, olive grey, calcarenite, very fine to fine calcareous sand, trace nodular pyrite, trace carbonaceous and mica specks, trace fossil fragments, moderately hard, blocky.
2210-20	100	LIMESTONE: As above, calcarenite, becoming increasingly argillaceous, grades to calcisiltite.
2220-30	100	LIMESTONE: Grey brown, olive grey, calcilutite, slightly silty, micromicaceous, trace pyrite, trace fossil/shelly fragments, firm to moderately hard, massive to blocky.
2230-40	90	LIMESTONE: As above calcilutite, with medium brown hard calcarenite inclusions.
	10	CLAYSTONE: Medium grey, green grey, slightly to non calcareous, trace lithic specks, trace glauconite, moderately hard, blocky to platy.
2240-50	90	LIMESTONE: As above, calcilutite.
	10	CLAYSTONE: As above.
2250-60	80	LIMESTONE: As above, calcilutite moderately silty in part, trace fossil fragments.
	20	CLAYSTONE: As above, trace disseminated pyrite.
2260-70	80	LIMESTONE: As above, calcilutite.
	20	CLAYSTONE: As above, trace disseminated pyrite.
2270-80	70	LIMESTONE: Light brown grey, olive grey, calcisiltite, common very fine calcareous sand, trace forams, trace lithic fragments and mica, firm to moderately hard, massive to blocky.
	30	CLAYSTONE: Medium grey, green grey, slightly to non calcareous, trace mica, trace carbonaceous specks, moderately hard, blocky.
2280-90	90	LIMESTONE: As above, calcisiltite
	10	CLAYSTONE: As above.
2290-2300	60	LIMESTONE: Brown grey, olive grey, calcilutite, slightly silty, becoming increasingly, argillaceous, grades to calcareous claystone, trace disseminated pyrite, trace foram, firm to moderately hard, blocky.
	40	CLAYSTONE: Light to medium grey, green grey, trace lithics, slightly to non calcareous,

Depth (m)	%	Description
		trace disseminated and nodular pyrite, moderately hard, blocky.
2300-10	60	LIMESTONE: As above, calcilutite.
	40	CLAYSTONE: As above.
2310-20	60	LIMESTONE: As above, common pyrite, micromicaceous, moderately hard, blocky to subfissile, platy in part.
	40	CLAYSTONE: As above, calcilutite.
2320-30	60	LIMESTONE: Light brown grey, olive grey, calcisiltite, moderately argillaceous, micromicaceous, trace ooids, trace forams, trace disseminated pyrite, firm, blocky.
	40	CLAYSTONE: As above.
2330-40	60	LIMESTONE: As above, calcisiltite.
	40	CLAYSTONE: Brown, grey, medium grey, slightly to non calcareous, slightly silty, micromicaceous in part, trace disseminated and nodular pyrite, trace lithic fragments, firm to moderately hard, blocky.
2340-50	60	CLAYSTONE: As above.
	40	LIMESTONE: As above, calcisiltite.
2350-60	70	LIMESTONE: Light brown, buff, grey brown, calcisiltite, moderately argillaceous/micritic, trace fossil fragments, trace disseminated pyrite and pyritised fossil fragments, firm to moderately hard, occasionally hard, brown crystalline aggregates, blocky.
	30	CLAYSTONE: As above.
2360-70	80	LIMESTONE: Brown grey, olive grey, light brown, calcilutite, slightly silty, trace lithic and glauconite fragments, trace mica, firm to moderately hard, marly texture in part, blocky.
	20	CLAYSTONE: Light to medium grey, occasionally green grey, slightly to non calcareous, micromicaceous, moderately hard, blocky, subfissile in part.
2370-80	90	LIMESTONE: As above, calcilutite, becoming increasingly silty, grades to calcisiltite, trace nodular pyrite, common hard brown crystalline aggregates (dolomitic).
	10	CLAYSTONE: As above.
2380-90	70	LIMESTONE: Light brown, light to medium grey, olive grey, calcarenite, very fine calcareous sand, trace carbonaceous specks and microlaminae, moderately

Depth (m)	%	Description
		argillaceous/micritic, trace pyrite, moderately hard to blocky.
	30	CLAYSTONE: Medium grey, green grey, micromicaceous, slightly to non calcareous, trace disseminated pyrite, firm to moderately hard, blocky.
2390-2400	80	LIMESTONE: As above, calcarenite.
	20	CLAYSTONE: As above.
2400-10	70	LIMESTONE: Predominantly as above, calcarenite, trace medium brown crystalline hard aggregates.
	30	CLAYSTONE: As above.
2410-20	70	LIMESTONE: As above, calcarenite.
	30	CLAYSTONE: As above.
2420-30	80	LIMESTONE: Light to medium grey, olive grey, grey brown, calcisiltite, trace to moderately argillaceous, trace lithics, trace glauconite, trace disseminated and vein pyrite, slightly sandy in part, moderately hard, blocky.
	20	CLAYSTONE: Light to medium grey, slightly calcareous, trace carbonaceous specks, trace glauconite, slightly silty, firm to moderately hard, blocky to subfissile.
2430-40	60	CLAYSTONE: Medium grey, green grey, brown grey, slightly to non calcareous, trace pyrite, trace carbonaceous specks, firm to moderately hard, blocky to subfissile.
	40	LIMESTONE: Light brown, light grey brown, pale grey, calcilsiltite, trace fine calcareous sand, moderately to very argillaceous, trace carbonaceous specks, firm to moderately hard, blocky.
2440-50	60	LIMESTONE: As above.
	40	CLAYSTONE: As above, trace forams
2450-55	70	LIMESTONE: Olive grey, light grey brown, calcilutite, slightly silty, common shell and fossil fragments, trace forams, trace glauconite, firm, blocky to platy in part.
	30	CLAYSTONE: As above.
2455-60	70	LIMESTONE: As above.
	30	CLAYSTONE: As above.
2460-65	70	LIMESTONE: Light brown grey, olive grey, calcisiltite, moderately argillaceous, trace lithic and carbonaceous fragments, trace disseminated pyrite, trace fine calcareous sand, moderately hard, blocky.

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Depth (m)	%	Description
	30	CLAYSTONE: Medium grey brown, slightly to non calcareous, trace disseminated pyrite, slightly silty, moderately hard, blocky to subfissile.
2465-70	70	LIMESTONE: As above, calcisiltite.
	30	CLAYSTONE: As above.
2470-75	70	LIMESTONE: Light brown, light to medium grey, calcilutite, slightly silty, trace lithic fragments, trace pyrite, trace fine calcareous sand, moderately hard, blocky.
	30	CLAYSTONE: Green grey, medium grey, trace silt, trace carbonaceous specks, pyritic, firm to moderately hard, blocky to platy.
2475-80	60	LIMESTONE: Olive grey, light brown grey, calcisiltite, moderately to very argillaceous, trace fine calcareous sand, trace pyrite, moderately hard to hard, blocky.
	40	CLAYSTONE: As above.
2480-85	60	CLAYSTONE: Medium grey to grey, brown grey, slightly calcareous, slightly silty, trace pyrite, trace lithic fragments, moderately hard, blocky to platy.
	40	LIMESTONE: As above, trace glauconite, trace calcarenite inclusions, trace to common pyrite.
2485-90	60	CLAYSTONE: As above.
	40	LIMESTONE: As above.
2490-95	70	CLAYSTONE: Medium grey, medium brown grey, olive grey, slightly to non calcareous, trace lithic fragments, firm to predominantly moderately hard, blocky to subfissile.
	30	LIMESTONE: Off white to light grey, green grey, calcarenite, fine, subangular, micritic cement, abundant glauconite, trace to common fine quartz sand, friable to moderately hard, tight, mineral fluorescence only.
2495-2500	80	SILTSTONE: Medium brown, medium grey, occasionally light brown grey, moderately to very argillaceous in part, slightly to moderately calcareous, common glauconite in part, moderately hard, blocky.
	20	LIMESTONE: Off white to light grey, medium brown in part, grey brown, calcarenite, common fine quartz sand, micritic/dolomitic cement, trace lithic fragments, common glauconite, trace nodular pyrite, moderately hard, tight, mineral fluorescence only.

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Depth (m)	%	Description
2500-05	70	SILTSTONE: As above, trace light yellow specks and laminae, (tuffaceous)
	30	LIMESTONE: As above, calcarenite, trace biotite
2505-10	70	SILTSTONE: Medium brown, dark grey, occasionally light brown grey, locally very argillaceous, common glauconite, slightly calcareous, trace yellow and pink tuffaceous fragments, trace nodular pyrite, moderately hard, blocky.
	30	LIMESTONE: Off white to light grey, occasionally medium brown, orange in part, calcarenite, common fine quartz sand, common glauconite, trace mica, trace lithic fragments, trace forams, hard, tight, mineral fluorescence only.
2510-15	70	SILTSTONE: As above, becoming arenaceous.
	30	LIMESTONE: As above becoming increasingly arenaceous.
2515-20	60	CLAYSTONE: Medium grey, medium brown, slightly calcareous, trace lithic fragments, trace pyrite, micromicaceous, slightly silty in part, moderately hard, blocky to platy.
	40	SILTSTONE: As above, moderately to very argillaceous, common pyrite.
2520-25	90	CLAYSTONE: As above.
	10	SILTSTONE: As above, common light yellow/light brown tuffaceous matrix.
2525-30	80	CLAYSTONE: As above, trace glauconite, slightly silty, moderately hard to hard, blocky to platy.
	10	SILTSTONE: As above, trace glauconite, trace to common fine sand, hard, blocky.
	10	SANDSTONE: Clear to translucent, coarse, subangular, moderate sorting, trace pyritic cement, common pyrite nodules, trace milky quartz, trace limonitic stained quartz, loose, inferred poor porosity, no show.
2530-35	60	CLAYSTONE: As above.
	10	SILTSTONE: As above.
	30	SANDSTONE: As above.
2535-40	80	CLAYSTONE: Light to medium grey, grey green, slightly calcareous, trace silt, trace lithic fragments, trace carbonaceous speck, moderately hard, blocky to platy.

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Depth (m)	%	Description
	20	SANDSTONE: Clear to translucent, frosted, coarse to very coarse, angular to subangular, moderate sorting, trace pyrite cement, trace silica cement, trace milky quartz, loose, inferred fair to good porosity, no show.
2540-45	70	SANDSTONE: Predominantly as above, trace fossil fragments, trace hard crystalline calcarenite inclusions.
	30	CLAYSTONE: As above.
2545-50	90	SANDSTONE: Clear to translucent, light grey, coarse, angular to subrounded, moderately good sorting, trace pyrite cement, trace silica cement, common milky quartz, trace glauconite, loose, inferred good porosity, FLUORESCENCE: trace dull to pin point, moderately bright, blue white fluorescence, weak instant cut, faint thin ring residue, no residue in white light.
	10	CLAYSTONE: As above. Trace glauconite.
2550-55	90	SANDSTONE: As above, FLUORESCENCE: 5%, dull to pin point, moderately bright, blue white fluorescence, weak instant cut, faint ring residue, no white light residue.
	10	CLAYSTONE: As above.
2555-60	80	SANDSTONE: As above, FLUORESCENCE: 5% as above.
	20	CLAYSTONE: As above.
2560-65	90	SANDSTONE: Clear to translucent, light grey, coarse to very coarse, subangular to subrounded, moderate sorting, trace pyrite cement, trace glauconite, common milky quartz, trace limonitic stain in part, loose, inferred good porosity, trace dull patchy blue white fluorescence, weak instant cut, trace ring residue, no white light residue.
	10	CLAYSTONE: As above, slightly silty, moderately hard, blocky to platy, subfissile in part.
2565-70	90	SANDSTONE: Clear to translucent, frosted, coarse to very coarse, angular to subangular, moderately sorted, trace pyrite cement, trace silica cement, common milky quartz, trace nodular pyrite, trace limonitic staining, loose, inferred good porosity, trace dull patchy blue white fluorescence, weak instant cut, trace to nil ring residue, no white light residue.
	10	CLAYSTONE: Light to medium grey, grey brown, slightly calcareous, trace lithic

Depth (m)	%	Description
		fragments, trace carbonaceous specks, hard, blocky.
2570-75	70	SANDSTONE: As above, FLUORESCENCE: trace, as above.
	30	CLAYSTONE: As above.
2580-85	70	CLAYSTONE: As above.
	20	SANDSTONE: As above.
	5	SILTSTONE: Medium brown, mottled texture, micromicaceous, trace lithics, firm, blocky to subfissile.
	5	COAL: Black, dull to subvitreous lustre, trace silt, brittle, blocky.
2585-90	TR	SANDSTONE: Clear to translucent, coarse, angular, moderate sorting, trace pyrite cement, trace silica cement, loose fractured grains, inferred poor to fair porosity, no shows.
	100	SILTSTONE: Grey, brown, olive grey, light green grey, slightly calcareous, trace disseminated pyrite, trace mica, moderately hard, blocky to platy.
2590-95	80	SANDSTONE: Clear to translucent, frosted, coarse to very coarse, angular, moderate sorting, trace silica cement, common milky quartz, loose, inferred good porosity, no show.
	10	CLAYSTONE: As above.
	10	COAL: Black, argillaceous, lignitic, dull lustre, subconcoidal fracture in part, brittle, blocky to subfissile.
2595-2600	80	SANDSTONE: As above, no show, trace bituminous stain on quartz grains.
	10	CLAYSTONE: As above.
	10	COAL: As above.
2600-05	80	SANDSTONE: Clear to translucent, frosted, medium to very coarse grained, angular, moderate to poor sorting, trace silica cement, common milky quartz, trace pyrite, loose, common fractured grains, inferred good porosity, no show, trace bituminous stain on quartz grains.
	20	CLAYSTONE: Light to medium grey, grey brown, moderately to very silty in part, slightly calcareous, micromicaceous, trace carbonaceous fragments, firm to moderately hard, blocky to subfissile, grades to siltstone in part.
	TR	COAL: As above.

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Depth (m)	%	Description
2605-10	80	SANDSTONE: As above, trace limonitic stained quartz, trace bituminous staining on quartz, no show.
	20	CLAYSTONE: As above.
	TR	COAL: As above.
2610-15	60	SANDSTONE: As above.
	40	CLAYSTONE: As above.
	TR	COAL: As above.
2615-20	70	SANDSTONE: Clear to translucent, frosted, medium to predominantly coarse, angular to subangular, moderate to poor sorting, trace silica cement, trace limonitic stained quartz, loose, inferred good porosity, no show.
	30	CLAYSTONE: As above, grading to siltstone, medium brown to light grey brown, slightly argillaceous, micromicaceous, mottled, trace carbonaceous microlaminae, moderately hard, blocky.
	TR	COAL: As above.
2620-25	70	SILTSTONE: Light grey brown to medium brown, slightly to moderately argillaceous, micromicaceous, trace lithic fragments, occasionally carbonaceous microlaminae, firm to moderately hard, blocky to subfissile.
	30	SANDSTONE: Clear to translucent, coarse to very coarse, subangular to angular, moderate to good sorting, trace silica cement, trace limonite stained quartz, common milky quartz, loose, occasionally fractured grains, inferred good porosity, no show.
	TR	COAL: Black, argillaceous/silty, dull lustre, lignitic, brittle, blocky.
2625-30	70	SILTSTONE: As above.
	30	SANDSTONE: As above.
	TR	COAL: As above.
2630-35	80	SILTSTONE: Medium brown, grey brown, trace lithic fragments, micromicaceous, trace carbonaceous specks, moderately hard, blocky to platy.
	20	SANDSTONE: Clear to translucent, frosted, coarse to very coarse, subangular to subrounded, moderately hard, good sorting, trace silica cement, common coarse milky quartz, trace bituminous stain, loose, inferred good porosity, no show.
	TR	COAL: As above.
2635-40	80	SILTSTONE: As above.
	20	SANDSTONE: As above.
	TR	COAL: As above.

Depth (m)	%	Description
2640-45	90	SILTSTONE: As above.
	10	SANDSTONE: As above.
	TR	COAL: As above.
2645-50	90	SILTSTONE: As above.
	10	SANDSTONE: Clear to translucent, frosted, coarse, subangular to subrounded, moderate sorting, no visible cement, loose, inferred, fair to good porosity, no fluorescence.
	TR	COAL: As above.
2650-55	100	SILTSTONE: Medium grey, light grey green, mottled texture, trace silt, micromicaceous, firm to moderately hard, brittle, blocky, platy in part.
	TR	SANDSTONE: As above.
2655-60	100	SILTSTONE: As above.
	TR	COAL: As above.
2660-2665	60	SILTSTONE: As above.
	40	SANDSTONE: Clear to translucent, frosted, coarse, subangular to subrounded, good to moderate sorting, trace silica cement, common milky quartz, loose.
2665-70	60	SILTSTONE: As above.
	40	SANDSTONE: As above.
2670-75	60	SILTSTONE: As above.
	40	SANDSTONE: As above.
2675-80	40	SILTSTONE: Light to medium grey, medium brown, moderately argillaceous, trace mica, trace carbonaceous fragments, moderately hard to hard.
	30	SANDSTONE: Clear to translucent, frosted, coarse to very coarse, angular to subangular, moderate sorting, trace silica cement, trace pyrite cement, common milky quartz, loose, inferred fair porosity, no show.
	30	COAL: Black, argillaceous/silty, sub-bituminous, brittle, blocky.
2680-2685	60	SILTSTONE: As above.
	40	SANDSTONE: As above.
2685-90	60	SANDSTONE: As above.
	40	SILTSTONE: As above.
2690-95	70	SANDSTONE: Clear to translucent, frosted, medium to coarse, subangular to angular, moderate sorting, weak calcareous cement, trace silica cement, common milky quartz, loose, inferred fair to good porosity, no fluorescence.

Depth (m)	%	Description
	30	SILTSTONE: As above.
2695-2700	70	SANDSTONE: Off white, clear to translucent, medium to coarse grained, subangular to angular, moderate sorting, trace calcareous/silica cement, common milky quartz, loose, fractured grains in part, inferred good porosity, no shows.
	30	SILTSTONE: Light to medium grey, medium brown, moderately argillaceous, common lithic fragments, mottled texture, micaceous, moderately hard, blocky.
2700-05	70	SILTSTONE: As above, trace pyrite nodules, trace biotite.
	30	SANDSTONE: As above.
2705-10	80	SILTSTONE: As above.
	20	SANDSTONE: As above.
2710-15	60	SANDSTONE: Clear to translucent, medium to coarse, subangular to subrounded in part, trace silica/calcareous cement, rare pyrite cement, common milky quartz, loose, fractured grains, inferred fair to good porosity, no show.
	40	SILTSTONE: Light to medium grey, medium brown, olive grey, slightly calcareous, moderate to very argillaceous (grades to claystone in part), trace mica, trace lithic fragments, trace carbonaceous fragments, moderately hard, blocky to platy.
2715-20	60	SANDSTONE: As above.
	40	SILTSTONE: As above.
2720-25	90	SILTSTONE: As above, grading to claystone.
	10	SANDSTONE: As above.
	TR	COAL: Black, trace pyrite, argillaceous/silty, woody texture, brittle, blocky.
2725-31	90	SILTSTONE: As above.
	10	SANDSTONE: As above.
	TR	COAL: As above.

Appendix 2

APPENDIX 2

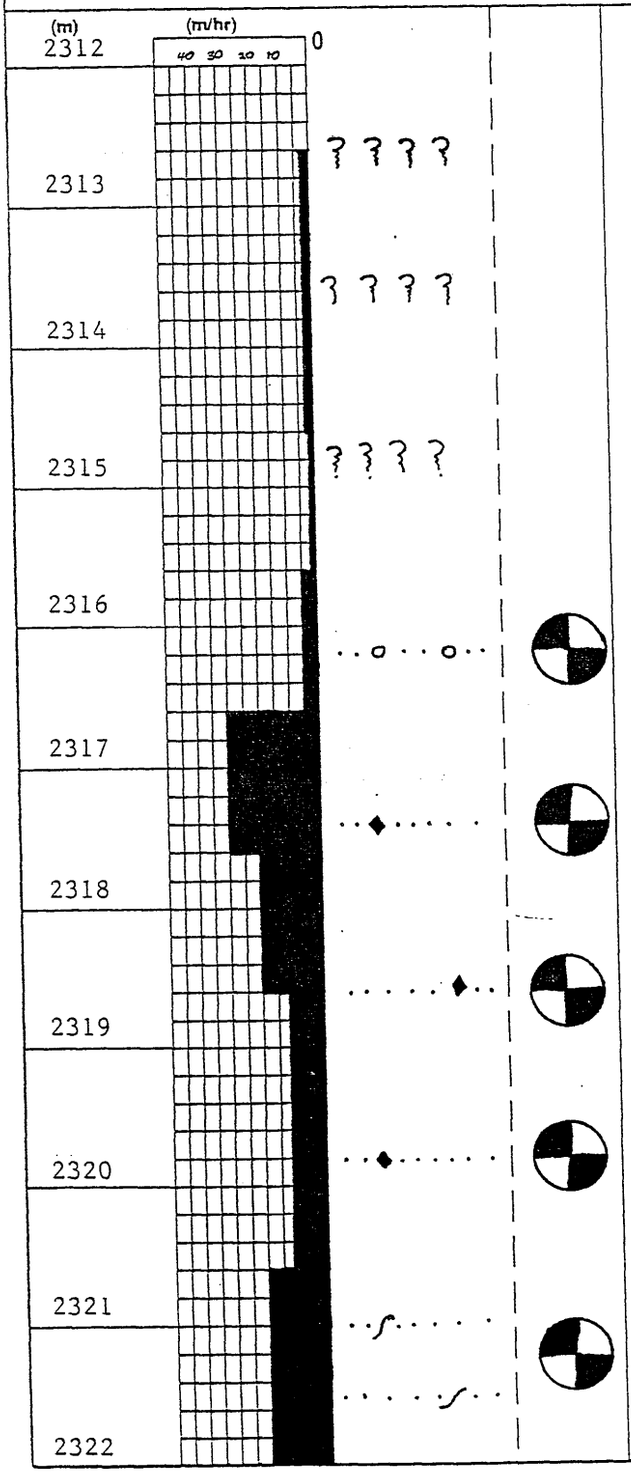
KINGFISH 8/ST1

CORE DESCIPTIONS

ESSO AUSTRALIA LTD

CORE DESCRIPTION

CORE No.:	1	WELL:	Kingfish 8
Interval cored:	2312.6-2331m	Recovered:	18.1m (98%)
Cut:	18.4m	Bit Size:	9 7/8"
Bit type:	Corgard RC412	Date:	21st March 1992
Described by:	Greg Clota		



Descriptive Lithology

2312.6m CLAYSTONE: Medium grey, green grey, slightly calcareous, trace pyritic nodules, micromicaceous, trace lithic fragments, moderately hard, blocky.

2313.8m CLAYSTONE: Medium to dark grey, slightly calcareous, abundant glauconite, abundant fine disseminated pyrite, hard, blocky.

2315m CLAYSTONE: As above, trace medium sand grains, hard, blocky.

2316.2m SANDSTONE: Clear to translucent, light brown, grey, medium to very coarse, occasionally granular, subangular to predominantly subrounded, trace light brown argillaceous matrix, friable, good porosity, FLUORESCENCE: 100% patchy to solid pale yellow fluorescence, instant cut, thick spotty ring residue, thin to light brown film in white light.

2317.4 SANDSTONE: Medium to coarse, clear to translucent moderate sorting, 5% lithics, trace matrix, subangular to subrounded, trace pyrite cement, good porosity, FLUORESCENCE: 100%, patchy, pale yellow, instant cut, light brown film in white light.

2318.6 SANDSTONE: Clear to translucent, light grey, coarse, subrounded, good sorting, trace argillaceous matrix, trace pyrite cement, common argillaceous laminae, trace lithic fragments, friable, fair to good porosity. FLUORESCENCE: Solid to patchy, pale yellow fluorescence, instant cut, thick spotty ring residue, light brown film in white light.

2319.8 SANDSTONE: Medium grey, brown grey, fine to occasionally medium, subangular to subrounded, good sorting, abundant argillaceous matrix, trace pyrite cement, trace silica cement, trace lithic fragments, trace coarse milky quartz, moderately hard, very poor to nil porosity, FLUORESCENCE: 40% Patchy bright to pale yellow fluorescence, instant milky cut, moderately thick ring residue Light brown stain in white light.

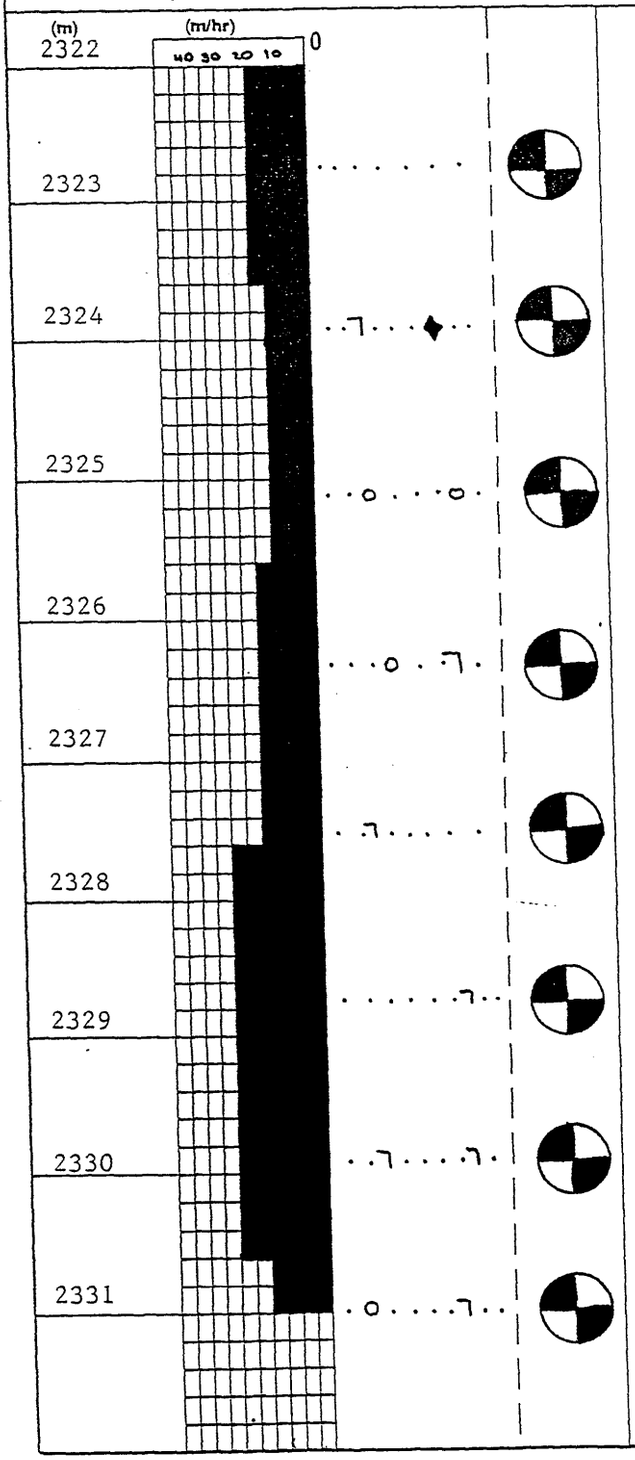
2321 SANDSTONE: Light grey, off white, fine, subangular, good sorting, trace calcareous/silica cement, common argillaceous matrix, trace glauconite, tight. FLUORESCENCE: 10% moderately bright to patchy bright pale yellow fluorescence, weak instant cut, thick ring residue.

2321.5 SANDSTONE: As above. FLUORESCENCE: 30% As above.

ESSO AUSTRALIA LTD

CORE DESCRIPTION

CORE No.:	1	WELL:	Kingfish 8
Interval cored:	2312.6-2331m	Recovered:	18.1m (98%)
Cut:	18.4m	Bit Size:	9 7/8"
Bit type:	Corgard RC412	Date:	21st March 1992
Described by:	Greg Clota		



Descriptive Lithology

2322.7 SANDSTONE: Light grey, off white, fine, subangular, good sorting, trace silica cement, trace kaolinite and bituminous matrix, hard, poor porosity. FLUORESCENCE: 80% Bright patchy pale yellow fluorescence, weak instant fast streaming cut, moderately thick ring residue, light brown stain in white light.

2323.9 SANDSTONE: Light grey, pale brown grey, fine, subangular, good sorting, trace silica cement, trace argillaceous matrix, trace pyrite, trace mica, trace medium to milky quartz, moderately hard, very poor porosity. FLUORESCENCE: 100% Even pale yellow moderately bright, pale yellow fluorescence, weak instant to fast streaming cut, moderate ring residue, light brown, white light stain.

2325.1 SANDSTONE: Light grey to brown grey, medium, subangular to subrounded, good sorting, trace calcareous cement, trace argillaceous matrix, trace smoky quartz pebbles, friable, fair to good porosity. FLUORESCENCE: 100% Patchy bright yellow fluorescence, instant milky cut, thick ring residue, thick brown film in white light.

2326.3 SANDSTONE: White to light grey, fine to very coarse, occasionally pebbly, subangular to subrounded, poor sorting, trace calcareous cement, trace mica, trace smoky quartz, friable, fair to good porosity. FLUORESCENCE: 10% Pale yellow, blue white, patchy fluorescence, instant cut, thick ring residue, thick brown film in white light.

2327.5 SANDSTONE: White, light grey, pale brown, fine to coarse, subangular to predominantly subrounded, predominantly good to moderately sorted, trace silica cement, trace argillaceous matrix, trace mica, trace smoky quartz, friable to good porosity. FLUORESCENCE: 70% medium bright patchy yellow solid fluorescence, instant cut, thick ring residue.

2323.7 SANDSTONE: with minor fine carbonaceous / micromicaceous streaks, white to light grey, pale brown, fine to medium, subangular to subrounded, trace argillaceous matrix, trace mica (slightly weathered), trace carbonaceous material, fair porosity. FLUORESCENCE: medium, pale yellow, solid, instant cut, medium ring residue.

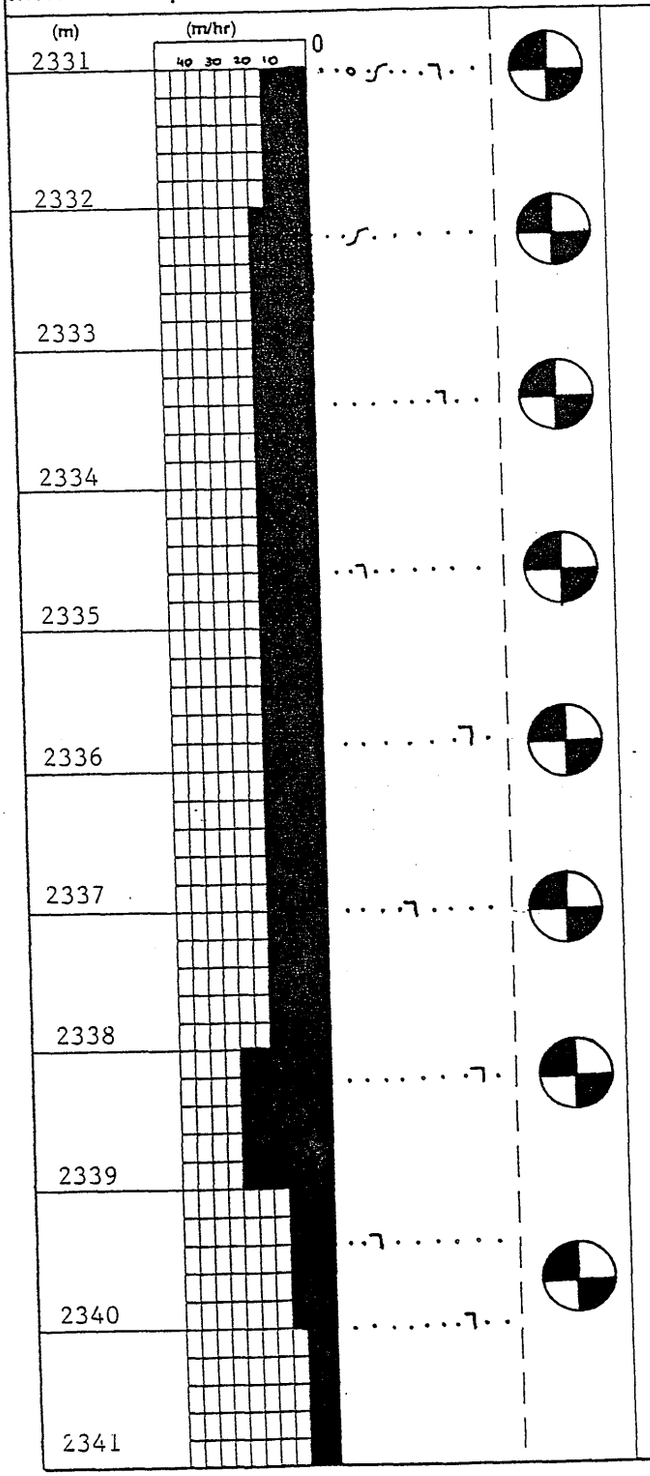
2329.9 SANDSTONE White to light grey, pale brown, fine to medium, subangular to subrounded, trace coarse round milky quartz, trace mica, trace argillaceous matrix, poor to fair porosity, FLUORESCENCE: 70% Medium to pale yellow, instant cut, medium to thick ring residue.

Bottom 2331 SANDSTONE: Clear to translucent, very rare micaceous/argillaceous matrix, friable, medium to coarse, occasionally very coarse, subrounded, moderately sorted, very good porosity, FLUORESCENCE: Medium to pale yellow fluorescence, instant streaming cut, strong ring residue.

ESSO AUSTRALIA LTD

CORE DESCRIPTION

CORE No.:	2	WELL:	Kingfish 8
Interval cored:	2331-2349m	Recovered:	18m (100%)
Cut:	18m	Bit Size:	9 7/8"
Bit type:	Corgard RC412	Date:	22nd March 1992
Described by:	Greg Clota		



Descriptive Lithology

2331 SANDSTONE: Clear to translucent, light grey, fine to very coarse, occasionally pebbly, subangular to subrounded, poor sorting, trace silica cement, trace mica (muscovite), rare glauconite, common smoky quartz pebbles, friable, good porosity, FLUORESCENCE: 100% Bright patchy pale yellow fluorescence, instant to fast streaming cut, thin to moderate ring residue, light brown film residue in white light.

2332.2 SANDSTONE: Clear to translucent, light grey, fine to medium, subangular, moderate sorting, rare mica (muscovite), trace glauconite, weak silica cement, weak to moderate induration, moderate porosity, FLUORESCENCE: 100% Bright yellow fluorescence, fast streaming cut, thin ring residue.

2333.4 SANDSTONE: Clear to translucent, light grey, fine, subangular, moderately sorted, rare mica, trace lithics, weak silica cement, weak to moderate induration, low to moderate porosity, FLUORESCENCE: 70% bright pale yellow fluorescence, fast streaming cut, thin bright ring residue, light brown film residue in white light.

2334.6 SANDSTONE: As above.

2335.8 SANDSTONE: Clear to translucent, light grey, pale brown, fine to medium, subangular to subrounded, moderate sorting, trace silica cement, trace mica (muscovite and biotite), moderately hard, low to moderate porosity, FLUORESCENCE: 70% Bright pale yellow, slightly patchy, fast streaming cut, thin ring residue, light brown film residue in white light.

2337 SANDSTONE: Clear to translucent, light to medium grey, fine to medium, subangular to subrounded, moderate sorting, trace silica cement, trace smoky quartz, trace mica, (muscovite), moderately hard, low porosity, FLUORESCENCE: 60% Bright pale yellow, patchy, medium streaming cut, thin ring residue.

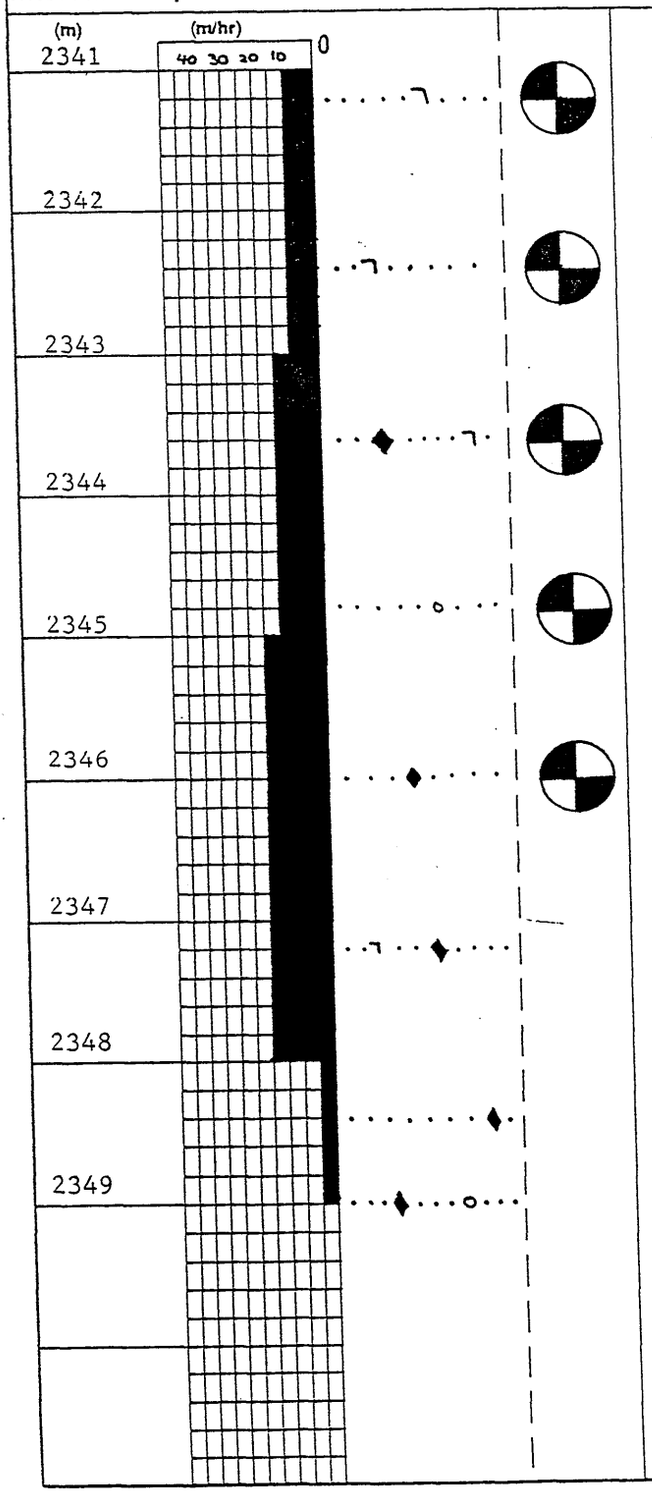
2338.2 SANDSTONE: Clear to translucent, light to medium grey, fine to medium, subangular to subrounded, moderate sorting, trace silica cement, trace smoky quartz, trace mica (muscovite), moderately hard, low porosity. FLUORESCENCE: 60% Bright pale yellow, patchy, medium streaming cut, thin ring residue.

2334.4 SANDSTONE: Clear to translucent, light to medium grey, fine, subangular, moderate sorting, trace 40% clay matrix (kaolinite), rare mica, moderate induration, low porosity, FLUORESCENCE: 60% bright pale yellow fluorescence, medium streaming cut, thin ring residue.

2340 SANDSTONE: Clear to translucent, light to medium grey, fine to medium, subangular, moderately sorted, rare mica, trace white clay matrix, weak silica cement, moderately hard, low porosity, FLUORESCENCE: As above.

ESSO AUSTRALIA LTD
CORE DESCRIPTION

CORE No.:	2	WELL:	Kingfish 8
Interval cored:	2331-2349m	Recovered:	18m (100%)
Cut:	18m	Bit Size:	9 7/8"
Bit type:	Corgard RC412	Date:	22nd March 1992
Described by:	Greg Clota		



2341.2 SANDSTONE: Clear to translucent, medium grey, fine to very fine, rare coarse, medium to poor sorting, subangular to subrounded, trace mica, silica cement, 10% clay matrix, (kaolinite?), moderately indurated/cemented, low porosity, no fluorescence, very slow cut, very faint ring residue.

2342.4 SANDSTONE: Clear to translucent, medium grey, very fine to fine, poor to moderate sorting, subangular to subrounded, silica cement, minor argillaceous matrix, trace lithics, mica, layers of mica up to 3mm thick, mica aligned parallel to layer, moderately hard, low porosity, no fluorescence, no cut.

2343.6 SANDSTONE: Clear to translucent, light grey to brown grey, very fine (occasionally medium), subangular to subrounded, poor sorting, silica cement, patchy pyrite cement, argillaceous matrix, trace carbonaceous, thin micaceous laminae, hard to well cemented, low porosity, no fluorescence, no cut.

2344.8 SANDSTONE: Clear to translucent, light grey, moderate to very coarse, subangular to subrounded, larger (up to 10mm) rounded milky quartz pebbles, poor sorting, minor pyrite cement, friable, moderate porosity, FLUORESCENCE: 50% bright pale yellow patchy, instant fast streaming cut, moderate ring residue, faint brown residue in white light.

2346 SANDSTONE: Clear to translucent, coarse to very coarse, subangular to subrounded, moderate sorting, some smoky quartz, minor lithics, weak silica cement, rare pyrite nodules, friable to good porosity, FLUORESCENCE: 70% bright pale yellow patchy fast streaming cut, thick ring residue, faint light brown residue in white light.

2347.2 SANDSTONE: Clear to translucent, medium, coarse in part, subangular to subrounded, poorly sorted, trace smoky quartz, very rare mica and pyrite, trace lithics, friable, good porosity, no fluorescence, no cut.

2348.4 SANDSTONE: Clear to translucent, fine to medium, subangular to subrounded, moderate sorting, rare smoky quartz, very rare pyrite, trace argillaceous matrix, moderately hard, moderate porosity, friable, no fluorescence, no cut.

2349 SANDSTONE: Clear to translucent, medium to coarse, occasionally granular, subangular to subrounded, moderate to poor sorting, rare smoky quartz, weak calcareous cement, rare pyrite, friable, good porosity, no fluorescence, no cut.

Appendix 3

APPENDIX 3

KINGFISH 8/ST1

SIDEWALL CORE DESCIPTIONS

KINGFISH 8

SIDEWALL CORE DESCRIPTIONS

No.	Depth (m)	Rec. (mm)	Descriptions
1	2413	20	SANDSTONE: Translucent, light grey, pale brown to dark grey laminations, very fine to fine, subangular to subrounded, well sorted, weak silica cement, argillaceous matrix (15%), trace mica concentrated in laminae, trace pyrite, planar laminae, soft, poor porosity, no fluorescence, no cut.
2	2410	25	SILTSTONE: Medium brown to dark grey, subfissile, trace very fine quartz, subrounded, soft, no porosity, no fluorescence, no cut
3	2404	25	SANDSTONE: Clear to translucent, off white to light grey, dark grey laminae, fine, sunbangular to subrounded, moderately to well sorted, weak silica cement, argillaceous matrix, (5-10%), trace pyrite, trace to common carbonaceous laminae, discontinuous laminae, soft to moderately hard, fair porosity, no fluorescence, no cut.
4	2400	20	SANDSTONE: Clear to translucent, light grey to medium grey, occasionally dark brown, very fine to fine, subangular to subrounded, moderately well sorted, weak silica cement, trace argillaceous matrix, trace pyrite, trace mica, soft, fair porosity, no fluorescence, no cut.
5	2387.5	25	SILTSTONE: (80%) Dark grey to brown, subfissile, soft, no porosity, no fluorescence, no cut. SANDSTONE: (20%) Medium grey to brown, very fine, subangular to subrounded, poor sorting, common mica, soft, poor porosity, no fluorescence, no cut.
6	2384	25	SANDSTONE/SILTSTONE: (50/50%) Light to medium grey, fine to very fine, moderate to poor sorting, subangular to subrounded, weak calcareous cement, trace mica, trace carbonaceous material, 5% argillaceous matrix, soft, poor porosity, no fluorescence, no cut.
7	2382	20	SHALE: (10% very fine sandstone) Medium to dark grey, moderately sorted, weak calcareous cement, trace mica, massive, soft, poor porosity, no cut, no fluorescence.
8	2376	20	SANDSTONE: (80%) SILTSTONE (20%) Laminated. Clear to milky, medium to dark grey, fine to very fine sandstone, subangular to subrounded, moderately sorted, 5% argillaceous matrix, slightly calcareous, trace carbonaceous material, laminated, fair to poor porosity, soft, no fluorescence, no cut.
9	2369.5	25	SILTSTONE: (80%) CLAYSTONE (20%) Laminated, Light to medium grey, weak calcareous cement, trace carbonaceous matrix, trace mica, poor to no porosity, subfissile, no fluorescence, no cut.

10	2356	15	SANDSTONE: Light grey, fine to very fine, moderate sorting, subangular to subrounded, weak calcareous cement, 5% argillaceous matrix, trace carbonaceous material massive, poor porosity, no fluorescence, no cut.
11	2345	25	SANDSTONE: Hard to medium grey, fine to occasionally medium grained, poor sorting, subangular to subrounded, trace calcareous cement, common pyrite cement, trace argillaceous matrix, occasionally smoky quartz, massive, poor porosity, pinpoint fluorescence, no cut.
12	2341.5	30	SANDSTONE: Hard to medium grey, fine to occasionally medium grained, moderate sorting, subangular to subrounded, moderately calcareous cement, massive, fair porosity, no fluorescence, no cut.
13	2325.5	33	SANDSTONE: Light grey, medium to coarse, moderate sorting, subrounded to rounded, weak calcareous cement, trace pyrite cement, trace silica cement, massive, poor to fair porosity, patchy, fluorescence, instant cut, thin to moderate residue.
14	2324	20	SILTSTONE: Light to very light grey, fine, good sorting, weak calcareous cement, 20% argillaceous matrix, fissile, poor porosity, 50% pinpoint fluorescence, instant to fast streaming cut, thin residue.
15	2322	18	SANDSTONE: Fine to very fine, moderate sorting, light to very light grey, subangular to subrounded, trace calcareous cement, trace argillaceous matrix, occasional carbonaceous laminae, fissile, fair to poor porosity, uniform fluorescence, instant cut, thin residue.
16	2314	30	SANDSTONE: Medium green to brown, fine grained, subangular, moderately sorted, abundant pyrite cement, abundant glauconite, trace coarse translucent quartz, trace argillaceous matrix, soft, no to poor porosity, trace mineral fluorescence, no cut.
17	2311.5	34	SANDSTONE: Medium green, light to medium brown, very fine grain, subrounded, moderate sorting, abundant pyritic cement, trace calcareous cement, abundant glauconite, trace medium to coarse grained quartz, trace silica cement patches, soft, no porosity, no fluorescence, no cut.
18	2308	31	SANDSTONE: Medium green to brown, fine to medium grained, subangular, poor sorting, abundant pyritic cement, trace calcareous cement, trace patchy silica cement, abundant glauconite, soft to moderately hard, nil to poor porosity, no fluorescence, no cut.
19	2306	25	SANDSTONE: Medium grey to brown, very fine to medium subangular, poor sorting, abundant pyritic cement, trace calcareous cement, trace patchy silica cement, trace glauconite, trace very coarse, subangular to subrounded, soft, poor porosity, no fluorescence, no cut.

20	2305.5	32	SANDSTONE: Pale to medium brown, very fine to fine grain, moderate sorting, minor pyritic cement, trace calcareous cement, trace glauconite, trace coarse, soft, fair porosity, weak to moderate pale yellow fluorescence, instant cut, thin ring residue.
21	2303.5	24	SANDSTONE: Medium grey to green, fine, moderate sorting, subangular to subrounded, 20% glauconite, 10% pyrite, weak calcareous cement, soft, poor porosity, no fluorescence, no cut.
22	2299.5	28	SANDSTONE: Medium brown, fine to very fine, moderate sorting, subangular to subrounded, glauconite and pyrite oxidized, trace calcareous cement, pyritic cement, soft to brittle in part poor to no porosity, no fluorescence, no cut.
23	2297	21	SANDSTONE: As above, estimated 20% glauconite, 10% pyrite, oxidized in part, trace mica, slight calcareous cement, moderately cemented, no porosity, no fluorescence, no cut.
24	2295	28	SANDY SILTSTONE: (20% sand) fine to very fine, subangular, glauconite (20%), pyritic cement, both oxidised to yellow brown, weakly calcareous soft to well cemented in part, no porosity, no fluorescence, no cut.
25	2293.5	30	SANDY SILTSTONE: As above, very hard in part (ferricrete) no porosity, no fluorescence, no cut.
26	2290	31	SANDY SILTSTONE: (20%) Medium grey, fine to very fine, subangular, glauconite (10%) pyrite (5%), abundant calcareous cement in part, trace mica, rare pyritic/calcareous concretions, no porosity, (1%) pinpoint fluorescence, no cut.
27	2286	37	SANDY SILTSTONE: Green to grey, fine to very fine, subangular, glauconite (15%) pyrite (20%), moderately weathered, patchy calcareous cement, soft to hard in part, poor to no porosity, no fluorescence, no cut.
28	2280	32	SANDSTONE: Dark green grey, fine to very fine, subangular, moderate sorting, (20%) glauconite, patchy calcareous cement massive, soft, poor porosity, no fluorescence, no cut.
29	2277	28	SANDY SILTSTONE: (30% sand) Dark green grey, fine to very fine, subangular, moderate sorting, patchy calcareous cement, patchy glauconite (20%), very weathered in part, trace mica, poor porosity, no fluorescence, no cut.
30	2272	-	Missing
31	2271	29	SANDSTONE: Medium green to grey, very fine grain, subangular, poor sorting, argillaceous matrix, abundant glauconite, abundant carbonate, trace pyrite, soft, no to poor porosity, no fluorescence, no cut.
32	2268	30	CALCSILTITE: Light to medium grey, moderately to well sorted, moderate calcareous cement, trace subrounded, very fine grained quartz, trace mica, thin laminae of very fine

			grained glauconitic sand, soft to moderately hard, no to poor porosity, no fluorescence, no cut.
33	2225	30	CALCSILTITE: Medium grey, very calcareous, trace pyrite, subfissile, moderately hard, no porosity, trace fluorescence very slow cut.
34	2200	30	CALCSILTITE: (90%) Medium grey, very calcareous, trace pyrite, moderately hard, subfissile, no porosity. SANDSTONE: (10%) Pale brown to grey, very fine grained, (20%) calcareous matrix, soft, poor porosity, no fluorescence, no cut.
35	2100	45	CALCSILTITE: Medium grey, very calcareous, trace pyrite, moderately hard, subfissile, no porosity, no fluorescence, no cut.
36	1900	33	CALCSILTITE: Medium grey, moderately argillaceous, trace pyrite, firm to moderately hard, subfissile to occasionally massive, no porosity, no fluorescence, no cut.
37	1767	40	CALCSILTITE: Medium grey to dark grey, olive grey, moderately argillaceous, trace pyrite, trace calcareous fragments, trace lithics, firm to moderately hard, no porosity, subfissile to massive, no fluorescence, no cut.
38	1649	42	CALCILUTITE: Medium grey, moderately argillaceous, trace pyrite, trace calcareous fragments, firm to moderately hard, no porosity, massive, no fluorescence, no cut.
39	1545	42	CALCSILTITE: Medium to olive grey, moderately argillaceous, trace pyrite, trace lithics, occasionally shaly nodules, moderately hard, no porosity, massive, no fluorescence, no cut.
40	1434	53	CALCSILTITE: Medium to olive grey, moderately argillaceous, occasional calcareous fragments, trace pyrite, trace lithics, moderate to hard, no porosity, massive, no fluorescence, no cut.
41	1408	45	CALCSILTITE: Medium to olive grey, moderately argillaceous, occasional calcareous fragments, trace pyrite, trace lithics, moderately hard, no porosity, massive, no fluorescence, no cut.
42	1395	33	CALCISILTITE: Light grey, argillaceous, trace mica, moderately hard, no porosity, no fluorescence, no cut.
43	1345	30	CALCISILTITE: Light grey (10% fine to very fine sandstone) trace mica, moderately hard, rare calcite fragments, calcareous cement, no porosity, no fluorescence, no cut.
44	1094	29	CALCSILTITE: Light to moderate grey, calcareous cement, trace mica, moderately hard, no porosity, trace mineral fluorescence, no cut.

45	858.5	50	CALCILUTITE: Medium grey, calcareous cement, trace mica, very thin siltstone laminae, moderately hard, subfissile, no porosity, no fluorescence, no cut.
46	850	41	CALCSILTITE: Light grey, calcareous cement, very thin lenticular to planar laminae, moderately hard, no porosity, no fluorescence, no cut.

Appendix 4

APPENDIX 4

KINGFISH 8/ST1

RFT RESULTS

RFT SAMPLE TEST REPORT

WELL: Kingfish 8

OBSERVER: Greg Clota DATE: 25/03/92 RUN NO: 1

	CHAMBER 1 (6 gal)		CHAMBER 2 (1 gal)	
SEAT NO	32/1		32/2	
DEPTH	2337.2	m	2337.2	m
A. RECORDING TIMES				
Tool Set	1755	hrs		hrs
Time Open	2	mins	-	mins
Chamber Open	1808	hrs	1824	hrs
Chamber Full	5	mins	1	mins
Seal Chamber	1816	hrs	1827	hrs
Fill Time	8	mins	2	mins
Finish Build Up	1820	hrs	1829	hrs
Build Up Time	4	mins	2	mins
Tool Retract	-	hrs	1829	hrs
Total Time	-	mins	3.4	mins
B. SAMPLE PRESSURE				
Initial Hydrostatic	3619	psia	-	psia
Initial Form'n Press	3232	psia	-	psia
Initial Flowing Press	113	psia	1862	psia
Final Flowing Press	793	psia	1912	psia
Final Form'n Press	3231	psia	3231	psia
Final Hydrostatic	-	psia	3619	psia
C. TEMPERATURE				
Temperature @ Sample Depth	86	deg C	86	deg C
Rm @ Sample Depth	0.1	ohm.m	0.1	ohm.m
D. SAMPLE RECOVERY				
Surface Pressure	-	psia	-	psia
Amt Gas	-	cu ft	-	cu ft
Amt Oil	-	lit	-	lit
Amt Water (Total)	22	lit	4	lit
Amt Others	-	lit	-	lit

WELL: Kingfish 8 Seat 32

OBSERVER: Greg Clota DATE: 25/03/92 RUN NO: 1

E. SAMPLE PROPERTIES		
Gas Composition		
C1	ppm	ppm
C2	ppm	ppm
C3	ppm	ppm
C4	ppm	ppm
C5	ppm	ppm
C6+	ppm	ppm
CO2/H2S	% /ppm	% /ppm
Oil Properties	deg API @ deg C	deg API @ deg C
Colour		
Flourescence		
GOR		
Pour Point		
Water Properties		
Resistivity	0.23ohm-m @ 22 deg C 0.23	0.23 ohm-m @ 22 deg C
NaCl Equivalent	43000 ppm	43000 ppm
Cl-titrated	16000 ppm	16000 ppm
Tritium	- DPM	- DPM
ph	7.9	7.4
Est Water Type	Filtrate	Filtrate
F. MUD FILTRATE PROPERTIES		
Resistivity	0.211 ohm-m @ 26 deg C	0.211 ohm-m @ deg C
NaCl Equivalent	45000 ppm	45000 ppm
Cl-titrated	16000 ppm	16000 ppm
pH	9.0	9.0
Tritium in Mud	- DPM	- DPM
G. GENERAL CALIBRATION		
Mud Weight	9.0 ppg	9.0 ppg
Calc Hydrostatic	3580 psi	3580 psi
Serial No. (Preserved)		
Choke Size/Probe Type	Variable/L	Variable/L
REMARKS		

RFT SAMPLE TEST REPORT

WELL: Kingfish 8

OBSERVER: Greg Clota DATE: 25/03/92 RUN NO: 1

	CHAMBER 1 (6 gal)		CHAMBER 2 (1 gal)	
SEAT NO	33/1		33/2	
DEPTH	2305.7	m	2305.7	m
A. RECORDING TIMES				
Tool Set	1830	hrs		hrs
Time Open	3	mins	-	mins
Chamber Open	1837	hrs	2122	hrs
Chamber Full	120	mins	-	mins
Seal Chamber	2118	hrs	-	hrs
Fill Time	161	mins	-	mins
Finish Build Up	2120	hrs	-	hrs
Build Up Time	2	mins	-	mins
Tool Retract	-	hrs	2144	hrs
Total Time	-	mins	194	mins
B. SAMPLE PRESSURE				
Initial Hydrostatic	3570	psia	-	psia
Initial Form'n Press	3210	psia	-	psia
Initial Flowing Press	600	psia	-	psia
Final Flowing Press	2327	psia	-	psia
Final Form'n Press	3204	psia	-	psia
Final Hydrostatic	-	psia	3569	psia
C. TEMPERATURE				
Temperature @ Sample Depth	84	deg C	84	deg C
Rm @ Sample Depth	0.1	ohm.m	0.1	ohm.m
D. SAMPLE RECOVERY				
Surface Pressure	-	psia	-	psia
Amt Gas	-	cu ft	-	cu ft
Amt Oil	-	lit	-	lit
Amt Water (Total)	10	lit	-	lit
Amt Others	-	lit	-	lit

WELL: Kingfish 8 Seat 33

OBSERVER: Greg Clota DATE: 25/03/92 RUN NO: 1

E. SAMPLE PROPERTIES		
Gas Composition		
C1	ppm	ppm
C2	ppm	ppm
C3	ppm	ppm
C4	ppm	ppm
C5	ppm	ppm
C6+	ppm	ppm
CO2/H2S	% /ppm	% /ppm
Oil Properties	deg API @ deg C	deg API @ deg C
Colour		
Flourescence		
GOR		
Pour Point		
Water Properties		
Resistivity	0.23ohm-m @ 26 deg C 0.23	ohm-m @ deg C
NaCl Equivalent	43000 ppm	ppm
Cl-titrated	16000 ppm	ppm
Tritium	- DPM	DPM
pH	7.7	
Est Water Type	Filtrate	
F. MUD FILTRATE PROPERTIES		
Resistivity	0.211 ohm-m @ 26 deg C	0.211 ohm-m @ 26 deg C
NaCl Equivalent	45000 ppm	45000 ppm
Cl-titrated	16000 ppm	16000 ppm
pH	9.0	9.0
Tritium in Mud	- DPM	- - DPM
G. GENERAL CALIBRATION		
Mud Weight	9.0 ppg	9.0 ppg
Calc Hydrostatic	3532 psi	3532 psi
Serial No. (Preserved)		
Choke Size/Probe Type	Variable/L	Variable/L
REMARKS		Tool faliure chamber failed to open.

(Ref: KF803.doc)

RFT SAMPLE TEST REPORT

WELL: Kingfish 8

OBSERVER: Greg Clota DATE: 25/03/92 RUN NO: 2

	CHAMBER 1 (6 gal)		CHAMBER 2 (1 gal)	
SEAT NO	34/1		34/2	
DEPTH	2332.5	m	2325.5	m
A. RECORDING TIMES				
Tool Set	0128	hrs	-	hrs
Time Open	1	mins	-	mins
Chamber Open	0133	hrs	0157	hrs
Chamber Full	15	mins	2	mins
Seal Chamber	0153	hrs	0202	hrs
Fill Time	20	mins	5	mins
Finish Build Up	0155	hrs	0204	hrs
Build Up Time	2	mins	2	mins
Tool Retract	-	hrs	0204	hrs
Total Time	-	mins	36	mins
B. SAMPLE PRESSURE				
Initial Hydrostatic	3609	psia	-	psia
Initial Form'n Press	3226	psia	-	psia
Initial Flowing Press	76	psia	176	psia
Final Flowing Press	2865	psia	2825	psia
Final Form'n Press	3226	psia	3225	psia
Final Hydrostatic	-	psia	3610	psia
C. TEMPERATURE				
Temperature @ Sample Depth	86	deg C	86	deg C
Rm @ Sample Depth	0.1	ohm.m	0.1	ohm.m
D. SAMPLE RECOVERY				
Surface Pressure	900	psia	-	psia
Amt Gas	RTSTM	cu ft	-	cu ft
Amt Oil	0.25	lit	-	lit
Amt Water (Total)	19.75	lit	4	lit
Amt Others	-	lit	-	lit

WELL: Kingfish 8 Seat 34

OBSERVER: Greg Clota DATE: 25/03/92 RUN NO: 2

E. SAMPLE PROPERTIES		
Gas Composition		
C1	17817 ppm	ppm
C2	18070 ppm	ppm
C3	39722 ppm	ppm
C4	40627 ppm	ppm
C5	14709 ppm	ppm
C6+	ppm	ppm
CO2/H2S	% /ppm	% /ppm
Oil Properties	deg API @ deg C	deg API @ deg C
Colour	Honey Brown	
Flourescence	Blue white	
GOR	-	
Pour Point		
Water Properties		
Resistivity	0.25ohm-m @ 21 deg C	0.24 ohm-m @ 21 deg C
NaCl Equivalent	40000 ppm	41000 ppm
Cl-titrated	15500 ppm	16000 ppm
Tritium	- DPM	- DPM
pH	7.6	7.6
Est Water Type	Filtrate	Filtrate
F. MUD FILTRATE PROPERTIES		
Resistivity	0.211 ohm-m @ 26 deg C	0.211 ohm-m @ 26 deg C
NaCl Equivalent	45000 ppm	45000 ppm
Cl-titrated	16000 ppm	16000 ppm
pH	9.0	9.0
Tritium in Mud	- DPM	- DPM
G. GENERAL CALIBRATION		
Mud Weight	9.0 ppg	9.0 ppg
Calc Hydrostatic	3573 psi	3573 psi
Serial No. (Preserved)		
Choke Size/Probe Type	Variable/L	Variable/L
REMARKS	Amount of oil too small to get an API and Pour Point.	

RFT SAMPLE TEST REPORT

WELL: Kingfish 8

OBSERVER: Greg Clota DATE: 25/03/92 RUN NO: 2

	CHAMBER 1 (6 gal)		CHAMBER 2 (1 gal)	
SEAT NO	35/1		35/2	
DEPTH	2316.5	m	2316.5	m
A. RECORDING TIMES				
Tool Set	0219	hrs	-	hrs
Time Open	2	mins	-	mins
Chamber Open	0224	hrs	0249	hrs
Chamber Full	18	mins	1	mins
Seal Chamber	0247	hrs	0256	hrs
Fill Time	23	mins	7	mins
Finish Build Up	0248	hrs	0301	hrs
Build Up Time	1	mins	5	mins
Tool Retract	-	hrs	0313	hrs
Total Time	-	mins	54	mins
B. SAMPLE PRESSURE				
Initial Hydrostatic	3585	psia	-	psia
Initial Form'n Press	3206	psia	-	psia
Initial Flowing Press	1033	psia	2033	psia
Final Flowing Press	1993	psia	2825	psia
Final Form'n Press	3207	psia	3207	psia
Final Hydrostatic	-	psia	3585	psia
C. TEMPERATURE				
Temperature @ Sample Depth	85	deg C	85	deg C
Rm @ Sample Depth	0.1	ohm.m	0.1	ohm.m
D. SAMPLE RECOVERY				
Surface Pressure	-	psia	-	psia
Amt Gas	RTSTM	cu ft	-	cu ft
Amt Oil	0.5	lit		lit
Amt Water (Total)	9.5	lit		lit
Amt Others	-	lit	-	lit

WELL: Kingfish 8 Seat 35

OBSERVER: Greg Clota DATE: 25/03/92 RUN NO: 2

E. SAMPLE PROPERTIES		
Gas Composition		
C1	109557 ppm	Preserved ppm
C2	99746 ppm	ppm
C3	311431 ppm	ppm
C4	352556 ppm	ppm
C5	85410 ppm	ppm
C6+	ppm	ppm
CO2/H2S	% /ppm	% /ppm
Oil Properties	43.02 deg API @15.5 deg C	deg API @ deg C
Colour	Honey Brown	
Flourescence	Blue white	
GOR	RTSTM	
Pour Point		
Water Properties		
Resistivity	0.25ohm-m @ 21 deg C 0.23	ohm-m @ deg C
NaCl Equivalent	40000 ppm	ppm
Cl-titrated	15500 ppm	ppm
Tritium	- DPM	DPM
pH	7.6	
Est Water Type	Filtrate	
F. MUD FILTRATE PROPERTIES		
Resistivity	0.211 ohm-m @ 26 deg C	0.211 ohm-m @ 26 deg C
NaCl Equivalent	45000 ppm	45000 ppm
Cl-titrated	16000 ppm	16000 ppm
pH	9.0	9.0
Tritium in Mud	- DPM	- DPM
G. GENERAL CALIBRATION		
Mud Weight	9.0 ppg	9.0 ppg
Calc Hydrostatic	3549 psi	3549 psi
Serial No. (Preserved)		
Choke Size/Probe Type	Variable/L	Variable/L
REMARKS		

(Ref:61:KF804.doc)

RFT SAMPLE TEST REPORT

WELL: Kingfish 8

OBSERVER: Greg Clota DATE: 26/03/92 RUN NO: 3

	CHAMBER 1 (12 gal)		CHAMBER 2 (1 gal)	
SEAT NO	36/1		36/2	
DEPTH	2340.4	m	2340.4	m
A. RECORDING TIMES				
Tool Set	1401	hrs	-	hrs
Time Open	1	mins	-	mins
Chamber Open	1405	hrs	1701	hrs
Chamber Full	170	mins	33	mins
Seal Chamber	1659	hrs	1747	hrs
Fill Time	174	mins	46	mins
Finish Build Up	1700	hrs	1751	hrs
Build Up Time	1	mins		mins
Tool Retract	-	hrs	1751	hrs
Total Time	-	mins	203	mins
B. SAMPLE PRESSURE				
Initial Hydrostatic	3620	psia	-	psia
Initial Form'n Press	3237	psia	-	psia
Initial Flowing Press	20	psia	203	psia
Final Flowing Press	2560	psia	2901	psia
Final Form'n Press	3134	psia	3235	psia
Final Hydrostatic	-	psia	3620	psia
C. TEMPERATURE				
Temperature @ Sample Depth	96	deg C	99	deg C
Rm @ Sample Depth	0.12	ohm.m	0.12	ohm.m
D. SAMPLE RECOVERY				
Surface Pressure	350	psia	500	psia
Amt Gas	8.8	cu ft	RTSTM	cu ft
Amt Oil	7	lit	1.5	lit
Amt Water (Total)	35	lit	2.0	lit
Amt Others	-	lit	-	lit

WELL: Kingfish 8 Seat 36

OBSERVER: Greg Clota DATE: 26/03/92 RUN NO: 3

E. SAMPLE PROPERTIES		
Gas Composition		
C1	23749 ppm	250975 ppm
C2	4843 ppm	250430 ppm
C3	4374 ppm	60881 ppm
C4	3521 ppm	594361 ppm
C5	1112 ppm	71175 ppm
C6+	ppm	- ppm
CO2/H2S	% /ppm	- % /ppm
Oil Properties	43 deg API @15.5 deg C	43 deg API @15.5 deg C
Colour	Honey brown	Honey brown
Flourescence	Blue white	Blue white
GOR	199.9 ft^3 BBl	RTSTM
Pour Point	4^0C	4^0C
Water Properties		
Resistivity deg C	0.223ohm-m @ 23 deg C 0.23	0.235 ohm-m @ 23
NaCl Equivalent	45000 ppm	45000 ppm
Cl-titrated	15500 ppm	15500 ppm
Tritium	- DPM	- DPM
pH	7.8	7.8
Est Water Type	Filtrate	Filtrate
F. MUD FILTRATE PROPERTIES		
Resistivity	0.211 ohm-m @ 26 deg C	0.211 ohm-m @ 26 deg C
NaCl Equivalent	45000 ppm	45000 ppm
Cl-titrated	16000 ppm	16000 ppm
pH	9.0	9.0
Tritium in Mud	- DPM	- DPM
G. GENERAL CALIBRATION		
Mud Weight	9.0 ppg	9.0 ppg
Calc Hydrostatic	3585 psi	3585 psi
Serial No. (Preserved)	-	-
Choke Size/Probe Type	Variable/L	Variable/L
REMARKS		

Ref: (61:KF8005.doc)

RFT SAMPLE TEST REPORT

WELL: Kingfish 8

OBSERVER: Greg Clota DATE: 26-27/03/92 RUN NO: 4

	CHAMBER 1 (12 gal)		CHAMBER 2 (1 gal)	
SEAT NO	37/1		37/2	
DEPTH	2317.2	m	2317.2	m
A. RECORDING TIMES				
Tool Set	2325	hrs	-	hrs
Time Open	2	mins	-	mins
Chamber Open	2329	hrs	0015	hrs
Chamber Full	80	mins	1	mins
Seal Chamber	0057	hrs	0018	hrs
Fill Time	88	mins	3	mins
Finish Build Up	0100	hrs	0125	hrs
Build Up Time	3	mins	7	mins
Tool Retract	-	hrs	0125	hrs
Total Time	-	mins	120	mins
B. SAMPLE PRESSURE				
Initial Hydrostatic	3280	psia	-	psia
Initial Form'n Press	3207	psia	-	psia
Initial Flowing Press	75	psia	321	psia
Final Flowing Press	2658	psia	3091	psia
Final Form'n Press	3207	psia	3208	psia
Final Hydrostatic	-	psia	3584	psia
C. TEMPERATURE				
Temperature @ Sample Depth	94	deg C	95	deg C
Rm @ Sample Depth	0.04	ohm.m	0.04	ohm.m
D. SAMPLE RECOVERY				
Surface Pressure	400	psia	Preserved	psia
Amt Gas	7.0	cu ft		cu ft
Amt Oil	7	lit		lit
Amt Water (Total)	37	lit		lit
Amt Others	-	lit		lit

WELL: Kingfish 8 Seat 37

OBSERVER: Greg Clota DATE: 26-27/03/92 RUN NO: 4

E. SAMPLE PROPERTIES		
Gas Composition		
C1	281174 ppm	ppm
C2	126490 ppm	ppm
C3	234201 ppm	ppm
C4	190698 ppm	ppm
C5	38909 ppm	ppm
C6+	ppm	ppm
CO2/H2S	% /ppm	% /ppm
Oil Properties	49.6 deg API @ 15.5 deg C	deg API @ deg C
Colour	Honey brown	
Flourescence	Pale yellow/Blue white	
GOR	159	
Pour Point		
Water Properties		
Resistivity g C	0.245ohm-m @ 25 deg C 0.23	ohm-m @ de
NaCl Equivalent	45000 ppm	ppm
Cl-titrated	- ppm	ppm
Tritium	- DPM	DPM
pH		
Est Water Type	Filtrate	
F. MUD FILTRATE PROPERTIES		
Resistivity	0.211 ohm-m @ 26 deg C	0.211 ohm-m @ 26 deg C
NaCl Equivalent	45000 ppm	45000 ppm
Cl-titrated	16000 ppm	16000 ppm
pH	9.0	9.0
Tritium in Mud	- DPM	- DPM
G. GENERAL CALIBRATION		
Mud Weight	9.0 ppg	9.0 ppg
Calc Hydrostatic	3550 psi	3550 psi
Serial No. (Preserved)	-	-
Choke Size/Probe Type	Variable/L	Variable/L
REMARKS	Varialble choice caused initial flows to be high psi.	Once chamber opened fill time was extremely quick.

Ref: (61:KF8006.doc)

Appendix 5

APPENDIX 5

VELOCITY REPORT

See Kingfish 8 Schlumberger Sonic Calibration and Geogram Processing Report dated 24th March, 1992.

(separate attachment) PE906040