

FLOUNDER-6

GIPPSLAND BASIN, VICTORIA

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FLOUNDER-6 GIPPSLAND BASIN, VICTORIA.

R. DO ROZARIO L. G. ELLIOTT MARCH 1978

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FLOUNDER-6

<u>C O N T E N T S</u>

]	Well Data Record
11(a)	Initial Production Test - not applicable.
ii(b)	Formation Interval Tests
111	Perforating Record - not applicable.
1V	Casing-Liner-Tubing Record
٧	Cement Record
٧٦	Subsurface Completion Equipment - not applicable.
V11	Samples, Conventional Cores, Sidewall Cores
V111	Wireline Logs and Surveys
1X(a)	Stratigraphic Table
1X(b)	Description of Lithological Units
Х	Geological and Geophysical Analysis

APPENDICES

1.	Sample Descriptions
2.	Core Descriptions and Core Analysis Results
3.	Sidewall Core Descriptions
4.	Palynological Analysis of Flounder-6, Gippsland Basin, By A.D. Partridge.
5.	Foraminiferal Sequence - Flounder-6 by David Taylor
6.	Log Analysis by Hugh Crocker Consultants
7.	Velocity Survey
8.	Formation Interval Tests Record and Pressure Plots.

ENCLOSURES:

FIGURE 1	Structure Contour Map - Top of Latrobe Group (Post Flounder-6)
FIGURE 2	Structure Contour Map - "Base of Coals" Horizon (Post Flounder-6)
FIGURE 3	Structure Contour Map - Top of Pay Sand (T. Longus) (Post Flounder-6)
FIGURE 4	Structural Cross Section East-West (Pre & Post Flounder-6)
FIGURE 5	Flounder-6 Time Depth Curve
FIGURE 6	Sonic Calibration Curve
FIGURE 7	Well Completion Log - Flounder-6
FIGURE 8	Drilling Program - Days versus Depths.
ATTACHMENTS	

Flounder-6 Core Lab Well Report Flounder-6 Hewlett-Packard and Amerada Pressure Records.

COMPLETION REPORT

I WELL DATA RECORD

anthi is .

Date January, 1978

LOCATION

WELL NAME	STATE	PERMIT or LIC	ENCE	GEOLOGI	CAL BASIN	FIELD
FLOUNDER-6	VICTORIA OFFSHORE	VIC/L1	.1	GII	PPSLAND	FLOUNDER
CO-ORDINATES Lat. 38 19'07.11"s Surface	Long. 5 148 26'09	.227"E	MAP PROJEC	TION DES	DGRAPHICAL SCRIPTION: 74 E, VICTORIA	miles SE
X = 625,524 mE Y = 5757,843 mN			AMG ZO		79 miles S.E 57 miles N.W	
		ELEVATION	S & DEPTH	<u>1</u>	· · · · · · · · · · · · · · · · · · ·	
						······································
ELEVATIONS	WATER DEP	TH	TOTAL 1			Avg.Angle
Ground MSL KB 83'		306 '	M.D.		5 8214', ther 200' to 8601'	
RT	PLUG BACK	DEPTH	REASON	S FOR P.B	angle 1 ⁰ .	
Braden Head					•	
Top Deck Platform		450 '		Abandonec	1.	
		DAT	ES		· .	· · · · · · · · · · · · · · · · · · ·
MOVE IN	RIG	UP		SPUDDED	0000 hours	
July 10th, 1977	Jul	y llth, 1977		July 12	th, 1977?	
				1		
RIG DOWN COMPLETE	RIG	RELEASED		PROD.UNI	T - Start Ri	gging Up
RIG DOWN COMPLETE December 22nd, 1977		RELEASED uary 2nd, 1978		PROD.UNI	T - Start Ri	gging Up
<u>.</u>	Jan	uary 2nd, 1978	RIG STRIK	E BOUND		
December 22nd, 1977	Jan	uary 2nd, 1978		E BOUND 5, 4-8-77	T - Start Ri	
December 22nd, 1977	Jan	uary 2nd, 1978	2200 hour:	E BOUND s, 4-8-77 and		
December 22nd, 1977	Jan	uary 2nd, 1978	2200 hour:	E BOUND s, 4-8-77 and	' to 22-11-77	
December 22nd, 1977	Jan The Complete	uary 2nd, 1978	2200 hours 1200 hours LANEOUS	E BOUND s, 4-8-77 and	' to 22-11-77 '7 to 31-12-7	7
December 22nd, 1977 PROD.UNIT - Rig Dow	Jan Din Complete	uary 2nd, 1978 <u>MISCEL</u>	2200 hours 1200 hours LANEOUS	E BOUND s, 4-8-77 and s,21-12-7	' to 22-11-77 '7 to 31-12-7	7 NTEREST
December 22nd, 1977 PROD.UNIT - Rig Dow OPERATOR	Jan Description DERMITTEE HEMATITE	uary 2nd, 1978 <u>MISCEL</u> or LICENCEE	2200 hours 1200 hours LANEOUS	E BOUND s, 4-8-77 and s,21-12-7 INTEREST 50%	7 to 22-11-77 7 to 31-12-7 OTHER II	7 NTERES T
December 22nd, 1977 PROD.UNIT - Rig Dow OPERATOR ESSO AUSTRALIA LTD	Jan The Complete PERMITTEE HEMATITE RIG	uary 2nd, 1978 <u>MISCEL</u> or LICENCEE PETROLEUM P/L	2200 hours	E BOUND s, 4-8-77 and s,21-12-7 INTEREST 50% EQUIPME SEMI-SU	7 to 22-11-77 7 to 31-12-7 OTHER II 50	7 NTEREST 0%
December 22nd, 1977 PROD.UNIT - Rig Dow OPERATOR ESSO AUSTRALIA LTD CONTRACTOR AUSTRALIAN ODECO PT	Jan The Complete PERMITTEE HEMATITE RIG	uary 2nd, 1978 <u>MISCEL</u> or LICENCEE PETROLEUM P/L NAME CEAN ENDEAVOUR	2200 hours	E BOUND s, 4-8-77 and s,21-12-7 INTEREST 50% EQUIPME SEMI-SU DRILLIN	7 to 22-11-77 7 to 31-12-7 OTHER IN 50 NT TYPE BMERSIBLE RO	7 NTEREST)% TARY
December 22nd, 1977 PROD.UNIT - Rig Dow OPERATOR ESSO AUSTRALIA LTD CONTRACTOR AUSTRALIAN ODECO PT	Jan PERMITTEE HEMATITE PY. LTD O	uary 2nd, 1978 <u>MISCEL</u> or LICENCEE PETROLEUM P/L NAME CEAN ENDEAVOUR	2200 hours	E BOUND s, 4-8-77 and s,21-12-7 INTEREST 50% EQUIPME SEMI-SU DRILLIN	to 22-11-77 7 to 31-12-7 OTHER II 50 NT TYPE BMERSIBLE RO G VESSEL	7 NTEREST)% TARY
December 22nd, 1977 PROD.UNIT - Rig Dow OPERATOR ESSO AUSTRALIA LTD CONTRACTOR AUSTRALIAN ODECO PT TOTAL RIG DAYS	Jan PERMITTEE HEMATITE RIG Y. LTD ORILLING AFE 237-005	uary 2nd, 1978 <u>MISCEL</u> or LICENCEE PETROLEUM P/L NAME CEAN ENDEAVOUR NO. COM	2200 hours	E BOUND s, 4-8-77 and s,21-12-7 INTEREST 50% EQUIPME SEMI-SU DRILLIN	to 22-11-77 7 to 31-12-7 OTHER II 50 NT TYPE BMERSIBLE RO G VESSEL	7 NTEREST)% TARY

L.G.ELLIOTT/R. DO ROZARIO

Geologist

II(a) - Initial Production Test - Not applicable

8160

8148 8148.5 8195.5 8243

II(b) - Summary of Flounder-6 FIT & RFT DATA - for more information see Appendix 8

•	DEPT	1 (FT)		RECOVE	RY	Po P	k
	KB	<u>S.S</u>	GAS	01L	FILTRATE	(PSIG)	(md)
			(cf)	(c.c)	(c.c)		(110)
FIT NO.							· · ·
1	8215	8132	151 0				
2	8273	8190	151.3 65.8	2,450 6,400	800	3616	15
2 3 4 5 6 7 8 9 10	8301	8218	-	,400 -	7,750	3632 Tool fai	34
4 5	8301 8312.5	8218	-	-	100	Dry run	iure .
6	8334	8229.5 8251	-	-	3,500	Dry run	
7	8249	8166	- 38.4	2,870	1,500	3646	65
8	8231	8148	130.5	2,300	14,500 2,200	3623 3622	170
10	8243	8160	-	_		Lost seal	7
11	8531 8334	8448 8251	-	-	-	Lost seal	
•		0231		- .	-	Lost seal	after shot
12	8522	8439	-	-	21,000	fired 3735	108
					•	1155	100
		• • •					
RFT NO. (P	re-test cham	bers)	1	ORMATION	PRESSURE (PSI	•	
1	0==+		•	ONTATION	TRESSURE (PSI	<u>(</u>)	
	8531 8479	8448 8396		H.P	 pressure dat 	a unavailab	le
2 3 4 5 6 7 8	8479.5	8396.5		H.P	 pressure dat 	a unavailab	le
4	8301	8218		Run	3732		
5	8300	8217		Run	aborted - ver aborted - ver	y tight zon	e
7	8312.5 8283	8229.5		Kun	aborted - ver	y tight zone	9
	8273	8200 8190	•	Run	aborted - very	y tight zone	9
9	8215	8132			3643 3628		•
10 11	8531	8448			3738		
12	8479 8334	8396			3712		
13	8148	8251 8065			3648		
A 1	•			Nos	0.01		

H.P.	pressu	re	data	unava	ilable
	3732				
Run a	borted	-	very	tight	zone
Run a	borted	-	very	tight	zone
Kun a	borted	-	very	tight	zone
Run a	borted 3643 3628 3738 3712	-	very	tight	zone
	3648				
No se	al				
Run a	borted 3623 3630	-	very	tight	zone

ѕтк January 4, 1978

WELL FLOUNDER-6 GIPPSLAND BASIN

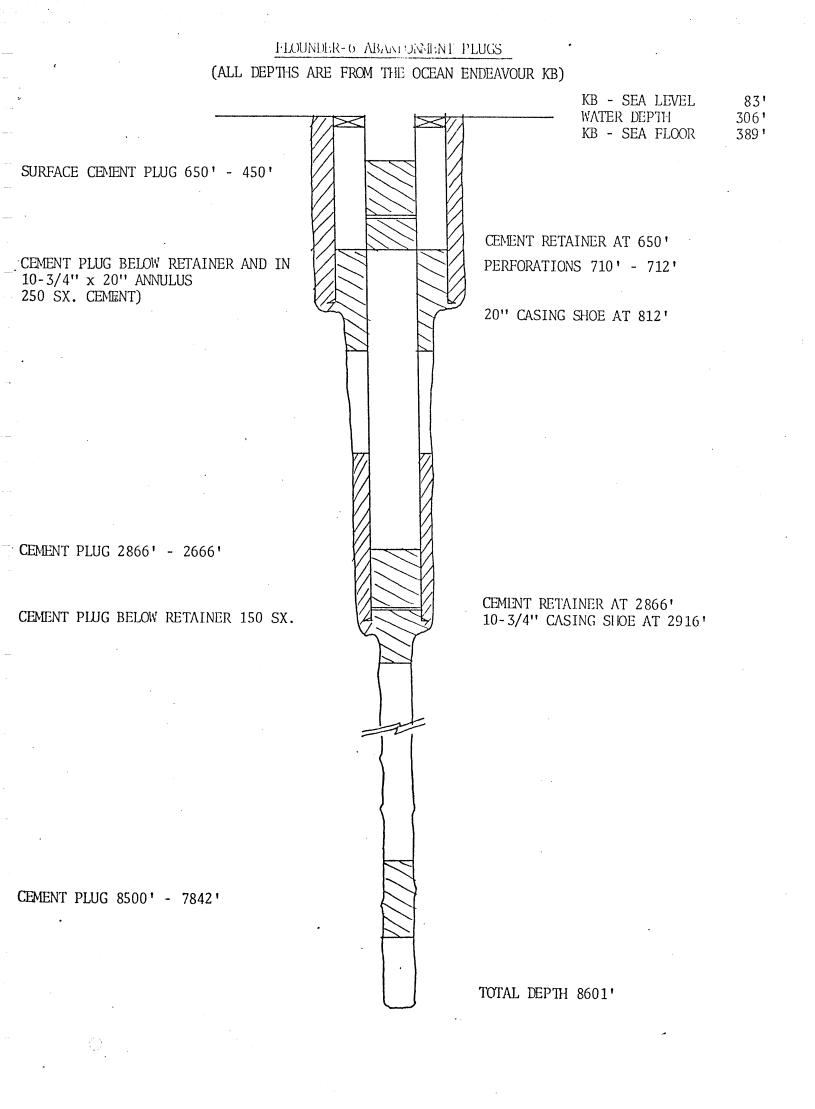
IV		CAS	ING - LINER	- TUBING REC	CORD		
Туре	Size	Weight	Grade	Thread	No. Joints	Amount	Depth
Pile Joint	24''	670#		CC.	1	32.23	413.23
Cross Over	20''	129#	X-52	JV x CC	1	42.30	455.53
Conductor Casing	20''	91#	X-52	JV	7	312.29	767.82
Float Shoe Jt.	20''	91#	X-52	JV	1	43.92	811.74
Casing Hanger	13-3/8''	-	-	-	1	2.30	387.79
Cross Over	13-3/8''- 10-3/4''	-	-		1	0.80	388.59
Pup Joint	10-3/4"	45.5#	K-55	BUTT	1	4.35	392.94
Surface Casing	10-3/4''	45.5#	K-55	BUTT	63	2480,36	2873.30
Float Collar	10-3/4''	_		BUTT	1	1.70	2875.00
Float Joint	10-3/4''	45.5#	K-55	BUTT	1	39.00	2914.00
Float Shoe	10-3/4''			BUTT	1	2.00	2916.00
							·
						· · · ·	

CASING - LINER - TUBING RECORD

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V	CI	EMENT RECOR	LD .		
String	20'' Condu		10-3/4" 5	Surface Csg.	
Type of Cement	Aust.	N Neat	Aust	N Neat	7
-	12% Ge1	2% CaCl ₂	Neat	1% CaCl ₂	
Number of FT ³	1709 .	472	767	378	
Average weight of slurry	12.1	15.6	1	15.6	
Cement Top	Seaf	loor	1232'		
Casing Tested with	500 1	psi	1500 psi		1
Number of Centralizers	7	7		10	1
Number of Scratchers	-			-	
Stage Collar etc.	-			-	 1.
Remarks	_			-	 - ;

G.W. WEYBURY



WELL FLOUNDER-6 (SIDETRACK)

				ONAL CORES, SW CC	 -	-
INTERVAL	TYPE	E	RECOVERED	INTERVAL	TYPE	RECOVERED
wa dr ir ur	sets o ashed a ried cu ngs, on nwashed ack of	nd tt- e		8128'6"-8160' 8160' -8171'6" 8171'6"-8214'6" 900' -2925' 5690' -6356' 6406' -7970'	Core #1 Core #2 Core #3 S.W.C.'s S.W.C.'s S.W.C.'s	31' 6" 10' 6" 32' 29 out of 30 9 out of 11 25 out of 30
or	uttings ne comp uttings	osite		SIDETRACK HOLE	· · · · · ·	-
C a sa	anned, ample ta very 10	aken		8130'-8160' 8160'-8177' 8177'-8225' 8225'-8270'	Core #4 Core #5 Core #6 Core #7	28' 3" 11'10 ¹ 2" 25' 8"
Every 20' 30	881'-30 000'-61 100'-81	00'		8270'-8313' 8313'-8343' 8343'-8390'	Core #8 Core #9 Core #10	45 ' 40 ' 3" 29 ' 43 ' 4"
SIDETRACKED HOLE			· · · · ·	8390'-8420' 6410'-8148'	Core #11 S.W.C.'s	30' 29 out of 30
Every 10' 69	330'-69 900'-81 420'-86	30'				
'III		WIRELI	NE LOGS AND	SURVEYS Incl. FIT)	
Type & Scale		. Fro	m To	Type & S	cale	From To
	un l	818'-	-2949'			
2" & 5" = 100' FDC-GR Ru GR	un 1	818'.	-2949' -2940' 5 389'			
2" & 5" = 100' FDC-GR Ru GR 2" & 5" = 100' ISF-Sonic Ru 2" & 5" = 100'	un 1	818'- `~ ta 2918	-2940'			
2" & 5" = 100' FDC-GR Ru GR 2" & 5" = 100' ISF-Sonic Ru 2" & 5" = 100' FDC-CNL Ru 2" & 5" = 100' CST 1 CST 1 CST 2	un 1 un 2	818'- 2918 2918 900-292 5690-635	-2940' 5 389' '-8122' '-8126' 5 6	Ran 12 FIT's an RFT's;for resu		
2" & 5" = 100' FDC-GR Ru GR 2" & 5" = 100' ISF-Sonic Ru 2" & 5" = 100' FDC-CNL Ru 2" & 5" = 100' CST 1	un 1 un 2	818'- to 2918 2918 900-292	-2940' 5 389' '-8122' '-8126' 5 6			
2" & 5" = 100' FDC-GR Ru GR 2" & 5" = 100' ISF-Sonic Ru 2" & 5" = 100' FDC-CNL Ru 2" & 5" = 100' CST 1 CST 1 CST 2 CST 3 SIDETRACK HOLE	un 1 un 2	818'- 2918 2918 900-292 5690-635	-2940' 5 389' '-8122' '-8126' 5 6 0	RFT's; for resul		
2" & 5" = 100' FDC-GR Ru GR 2" & 5" = 100' ISF-Sonic Ru 2" & 5" = 100' FDC-CNL Ru 2" & 5" = 100' CST 1 CST 2 CST 3 <u>SIDETRACK HOLE</u> ISF-Sonic Ru 2" & 5" = 100' FDC-CNL Ru 2" & 5" = 100'	un 1 un 2 un 1 un 3 un 2	818'- 2918 2918 900-292 5690-635 6406-797 2917'- 2915'-	-2940' 5 389' '-8122' '-8126' 5 6 0 -8590' -8594'	RFT's; for resul		
2" & 5" = 100' FDC-GR Ru GR 2" & 5" = 100' ISF-Sonic Ru 2" & 5" = 100' FDC-CNL Ru 2" & 5" = 100' CST 1 CST 2 CST 3 <u>SIDETRACK HOLE</u> ISF-Sonic Ru 2" & 5" = 100' FDC-CNL Ru 2" & 5" = 100'	un 1 un 2 un 1 un 3 un 2 un 1	818'- 2918 2918 2918 900-292 5690-635 6406-797 2917'- 2915'-	-2940' 5 389' '-8122' '-8126' 5 6 0 -8590' -8594' -8594' 5, 33 shots	RFT's; for resul		

L.G. ELLIOTT R. DO ROZARIO Geologist

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	ЕРОСН	SERIES		RMATION ORIZON	PALYNOLOGICAL ZONATION SPORE - POLLEN ASSEMBLAGE ZONES A.D. PARTRIDGE	PLANKTONIC FORAMINIFERAL ZONATIONS D. TAYLOR	DRILL DEPTH	SUBSEA DEPTH	THICKNESS
			SEAF	LOOR	A.U. PARTNOOL		389'	306'	
) T F	PLEIST	ML	JLAI	2001		AI - A2	1450'	1367'	
┠	[LE				A3	1843'	1760'	
	PLIO	м Ш				Α4	2180'	2097'	
ľ			G	PPSLAND					
		LATE	LI	MESTONE		B D			5919'
		·				Not Possible to Zone in Detail			0010
-	ш								
	MIOCENE	MIDDLE							
4	MIO	W				EI	6230	6147 6192 6217	
		_	<u>}</u>				<u>6300</u>		
$\rightarrow -$		EARLY				GG	6325'—	6242'	33'
		ш				111	6341	6258	
Ī						H 2			
; -				LAKES					
	Ш	LATE	E	NTRANCE		II			
	CENE		F	ORMATION		I 2			
) -	071600								
	OL			,		JI	MIS	SING	
5 -		EARLY			PROTEACIDITIES			XIIIIIIX	
°		ш			TUBERCULATUS	J2		((((((((((((((((((((((((((((((((((((
			1-1		UPPER N. ASPERUS	К			
0 –		LATE			MIDDLE				
	1	۲			N. ASPERUS			///////	
	ш		1		LOWER	1			
5 -	EOCENE	MIDDLE			N. ASPERUS				
	E O(Σ	」 ∤	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	v	1	6341'~~	6258	XIIIIIIIII
0 -]	FLOUNDER	P. ASPEROPOLUS.		7185'	7102'	924'
-		EARLY	d J	FORMATION	UPPER <i>M. DIVERSUS</i>				1501
		ш Ш	GROUP		LOWER M DIVERSUS	,	MIS	91NG	XIIIIII
5 -		LATE		~~~~~~		1		I	280
	Ψ	L A	OBE	COARSE	UPPER L. BALMEI	4	7457'	7374'—	
-	PALEOCENE	MIDDLE	ATRO	CLASTICS	LOWED				
50 -	μ Έ Ο	QIM	LA-		LOWER L BALMEI				378'
	PAL			FLOUNDER	A				
65 -		EARLY		FIELD		4	8082'-	7999' —	<u></u>
	U PP ER Cretaceous			1	B				518'
	I P P E	LATE		COARSE CLASTICS 	T. LONGUS		8601'-	8517'	L.ELLIOTT MARCH, 1978

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FLOUNDER-6

WELL COMPLETION REPORT

DESCRIPTION OF LITHOLOGICAL UNITS:

GIPPSLAND LIMESTONE (389'-6300')

389-800 No samples were collected, gamma ray log indicates limestones.

800-1600 <u>CALCARENITE</u> buff to very light grey, also cream, granular, very fine to fine, angular equant grains, friable to firm, silty at times. Skeletal material common at times, consisting of bryzoa, forams and bivalves.

- 1600-2800 <u>CALCISILTITE</u> light grey, subrounded to rounded grains, suspended in soft calcareous matrix, grades to fine calcarenite. Rare micritic limestone, buff to brown, microcrystalline, very hard, dense and brittle. Some forams and bivalves.
- 2800-3170 <u>CALCARENITE</u> buff to light grey, silty to fine, subangular to subrounded equant grains, grades in part to calcisiltite, firm to friable, some hard and brittle, rare glauconite and pyrite.
- 3170-4730 <u>CALCAREOUS SILTSTONE</u> light grey, silty to fine, subangular to subrounded grains in a clay to silty matrix, firm to friable. Larger fragments are generally fossils in calcareous ooze, grades to calcarenite. Zones of larger grained coarse fraction.
- 4730-6300 <u>INTERBEDDED SILTSTONE-MARL</u> Siltstone medium to dark grey, silt to very fine, subangular to subrounded equant grains, firm to friable, some pyrite and glauconite. Marl - light grey, soft, silty, forams abundant in places.

LAKES ENTRANCE FORMATION: (6300'-6341')

6300-6341

INTERBEDDED SILTSTONE-MARL - Siltstone - medium to dark grey, silt to very fine, subangular to subrounded equant grains, firm to friable, some pyrite and glauconite. Marl - light grey, soft, silty, forams abundant in places.

LATROBE GROUP FLOUNDER FORMATION: (6341'-7424')

SILTSTONE, MUDSTONE, SHALE - medium to dark grey, micaceous, carbonaceous, pyritic, some glauconitic, slight to very calcareous.

6800-7424

6341-6800

INTERBEDDED SANDSTONES, SILTSTONE AND SHALE-Sandstone - cream to light grey, fine to very coarse, friable to firm, some carbonate cement, subangular to rounded, some pyritic and glauconitic, generally micaceous. Siltstone - dark brown, firm to soft, carbonaceous, slightly calcareous. Shale - dark brown to light grey, very calcareous, pyritic, carbonaceous, silty.

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LATROBE COARSE CLASTICS & COALS: (7424' to 7878')

7424-7878 INTERBEDDED SANDSTONES, SILTSTONES AND COAL -Sandstone - light brown to light grey, very fine to granule, poor to moderate sorting, firm, some friable, slightly to moderately calcareous, some dolomitic stringers, subangular to subrounded, micaceous, at times pyritic. Siltstone - medium to dark grey, non to slightly calcareous, carbonaceous, micaceous, pyritic, often finely laminated with fine sandstones. Coal - black, vitreous, hard, slightly pyritic.

FLOUNDER SEAL: (7878'-8145')

7878-8145

SILTSTONE - medium to dark grey, very sandy, poor sorting, micaceous, argillaceous, slightly carbonaceous, dolomitic, glaucontic, pyritic, AND -

<u>MINOR SANDSTONE</u> – light to medium grey, silty, very fine to coarse grained, poorly sorted, glaucontic, pyritic, micaceous white dolomitic cement, friable to moderately consolidated.

LATROBE COARSE CLASTICS: (8145'-8601')

8145-8601

INTERBEDDED SANDSTONES AND SILTSTONES: Sandstones - light to medium grey, very fine to coarse grained, poorly sorted, micaceous, dolomitic, some glauconitic and pyritic. Siltstone - dark grey, non calcareous, sandy, carbonaceous, micaceous. From 8500-8601 some thin coals.

FLOUNDER-6

GEOLOGICAL AND GEOPHYSICAL ANALYSIS

OBJECTIVES:

Flounder-6 was designed to establish the development potential of the Flounder field by:-

- Testing for the presence of a gas cap in the Flounder-1 Block in a structurally higher position than the Flounder-1 well which intersected the top of the <u>T.longus</u> reservoir at -8199' and tested oil only.
- Providing information on the presently mapped structural configuration of the Flounder-1 Block.
- 3. Confirming the stratigraphic interpretation and reservoir parameters of the T-1 reservoir in this part of the field.

SUMMARY:

	FORMATION		TOPS		
		PREDICTED (Subsea)	ACTUAL DRILLED (KB83')	ACTUAL (Subsea)	THICKNESS
	Latrobe Group (Flounder Formation)	-6300	6341	-6258	1083'
•	Base of Flounder Channel	-7240	7424	-7341	•
	Seismic "Base of Coals"	-7630	7665	-7582	-
					· ·
	T-1 Reservoir				
	T-1.1 Unit	-8090	8145	-8062	143' Gross; 75' Net
	Gas-Oil Contact		8238	-81,55	93' Gross; 47' Net <u>Gas</u>
	T-1.2 Unit		8288	-8285	to T.D. (312'
	Oil/Water Contact		8397	-8314	28' Net <u>Oil</u>
	· ·				

GEOPHYSICS:

The tops of the Flounder T-1 reservoir cannot be adequately traced by a single continuous seismic reflection. Consequently isopaching down from a seismically mappable event at or near the "Base of Coals" about 500 feet higher in the section was used to derive a structure map for the top of the T-1 reservoir.

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Well control shows the interval between the base of the coals and the top of the pay thickens towards the east. An isochron map between the base of the coals and a discontinuous reflection very near the pay was used to show the trend of thickening away from well control. Using this 'trend' map and the well values, an isopach map between the base of coals and the top of the pay was then drawn.

This isopach map was used with the structure map on the base of coals horizon to construct a structure map on top of the pay sand.

Flounder-6 came in essentially as predicted (see Summary above). Except for the Base of Channel, the other horizons differed from prediction because of minor variations in time and velocity. The Base of Channel was in error because it was picked one cycle too high and the interval velocity between the top of Latrobe Group and the base of channel was too low. This error was not surprising because of the difficulty of mapping the base of channel and the varying nature of the channel sediments.

GEOLOGY:

Flounder-6 was expected to intersect about 224 feet of gross hydrocarbon section in the T-1 reservoir. This reservoir consists of a predominantly massive sand unit of nearshore origin with some dolomitization (T-1.1), conformably overlying a series of thin sands, shales and minor coals (T-1.2 unit). The main T-1.1 unit was expected to be 133 feet thick.

The well intersected a 93 feet gross column of gas with a gas-oil contact at 8155 feet subsea and 159 feet gross oil column with the field oil-water contact at 8314 feet subsea.

252

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The T-1.1 unit was 143 feet thick, 10 feet thicker than expected. However, dolomite zones were common and reduced the thickness of the net effective reservoir to 75 feet. This was made up of 47 feet net gas-sand and 28 feet net oil-sand.

The T-1.2 unit contains only poor quality non-effective reservoir sands. Above the field oil-water contact these silty sands contain shows but apparently occur within an oil transition zone with interpreted very high water saturations. The position of the oil-water contact in the T-1.2 unit was calculated from FIT pressure data. It appears that the T-1.2 unit is not in hydraulic communication with the T-1.1 sand unit and hence no recovery is predicted from the T-1.2. The reservoir pressure measured is about 18 psi below that measured in the Flounder-1 well. This drawdown can probably be attributed to hydraulic communication between Flounder and the producing fields in the more central area of the basin.

STRUCTURE:

The Flounder Field is an Intra-Latrobe reservoir in a northeast-southwest trending anticline. This anticline is cut by three significant north westerly trending normal faults which divide the field into four blocks. The top of the structure was eroded in the Late Paleocene-Early Eocene by the Tuna-Flounder Channel. The normal faults are interpreted to be late Paleocene prior to the filling of the channel. The folding probably took place in the Late Paleocene as the Tuna-Flounder Channel sediments have suffered little deformation, there being no top of Latrobe structure.

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APPENDIX 1

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FLOUNDER-6

APPENDIX 1

SAMPLE DESCRIPTIONS

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FLOUNDER-6

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	1	
881-900	100%	Cement plus shoe fragments. Trace Skeletal fragments - forams, shells.
900- 30		as above.
930- 60	30% 70%	Cement plus shoe fragments. Skeletal fragments/calcarenite very light grey, generally fractured coral and bryozoa, some benthonic forams, echinoid spines,shells.
960-990	20% 50%	Cement plus shoe fragments. Calcarenite - light grey to cream, fine to very fine angular grains fairly equant grains, friable grains.
	30%	Skeletal fragments - as above.
990-1020	10% 30% 60%	Cement/shoe cavings. Skeletal fragments - coral, bryozoa, forams, echinoid spines. Calcarenite - as above.
020-50	80%	Calcarenite - cream to light grey, spotty, granular, very fine to fine, angular equant grains, friable. Skeletal fragments - coral, bryozoa.
	10%	Cement shoe.
.050-80	70% 20%	Calcarenite - as above. Skeletal fragments - as above.
	10%	Cement plus shoe cavings.
080-1110	85% 15%	Calcarenite - as above Cement plus shoe Trace skeletal fragments.
110 40		
.110-40	80% 20%	Calcarenite - cream to light grey, granular, very fine to fine, subangular to angular equant grains, firm to friable. Cement cavings.
	20%	Trace skeletal fragments - coral, bryozoas.
.140–70	100%	Calcarenite - as above. Trace skeletal fragments. Trace cement.
170-1200	100%	Calcarenite - as above Trace skeletal fragments
•		Trace cement
200-30		as above
230-60	100%	Calcarenite - cream to light grey, very fine to fine, subangular to subrounded equant grains, firm to friable, very calcareous. Trace skeletal fragments to shell, coral, bryozoa, forams. Trace cement
260-90	100%	Calcarenite - as above, comprised generally of fossil debris. Trace skeletal fragments - as above. Trace cement
290-1320	100%	Calcarenite - light olive grey to light grey - as above. Trace skeletal fragements - as above Trace cement.
1320-50	50% 50%	Calcarenite - as above. Cement cavings
		Trace skeletal fragments - as above.

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)EP'TH	ç _i	DESCRIPTION
0-80	100%	Calcarenite - buff to light grey, very fine to fine, subangular to subrounded equant grains, firm to friable. Trace skeletal fragments - forams.
80-1410	100%	Calcarenite - as above, becoming siltier Trace skeletal fragments.
0-40	100%	Calcarenite - buff to very light grey, silty to very fine, sub- angular to subrounded, grades to calcareous siltstone, firm to friable. Trace skeletal fragments.
0-70	100%	Calcarenite - as above. Trace skeletal fragments - as above
0-1500	100%	Calcarenite - as above. Trace skeletal fragments - as above.
0-30		As above.
0–60	100%	Calcarenite - light grey, silty to fine, generally very fine, subangular to subrounded equant grains, firm to friable, some glauconite inclusion. Trace skeletal fragments - shell
0-90	85% 15%	Calcarenite - as above Micritic Limestone - buff to brown, hard, brittle, microcrystalline effervesces slightly in cold HCl - probably dolomitic. Trace skeletal fragments.
0-1620	60% 40%	Calcareous Siltstone - light grey, grades from calcarenite above, silty to very fine some fine, soft to firm. Micritic Limestone - buff, hard, brittle, dense microcrystalline.
		Trace skeletal fragments - forams.
0-50 '	50% 50%	Calcareous Siltstone - as above. Micritic Limestone - as above. Trace skeletal fragments.
0-80	70% 30%	Calcareous Siltstone - as above. Micritic Limestone - as above, buff to medium grey.
0-1710	75%	Calcareous Siltstone- as above grades in part to very fine calcarenite.
	25%	Micritic Limestone - as above.
0-40	90% - 10%	Calcarenite - light grey, silty to fine, subrounded to rounded grai in a clay to silt calcareous matrix, soft to firm. Micritic Limestone - buff to medium grey, hard, dense, brittle, microcrystalline.
0-70		As above Trace skeletal fragments, mainly benthonic forams.
0-1800	80% 20%	Calcarenite/Calcareous siltstone - as above. Micritic Limestone - as above. Trace forams.
00-30	85% 15%	Calcarenite - as above. Micritic Limestone - as above. Trace forams, echinoid spines.

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DEPTH	იკ ი	DESCRIPTION
1830-60	100%	Calcareous Siltstone - light grey, silty to very fine, subangular to subrounded grains, grains suspended in firm to soft calcareous
		clay matrix. Trace Micritic Limestone - buff to brown, microcrystalline, very hard, dense, brittle. Trace fossiliferous fragments - forams, shells.
1860-90	100%	Calcareous Siltstone - as above Trace Micritic Limestone - as above Trace fossiliferous Fragments - forams, shells.
1890-1920	100%	Calcareous Siltstone - as above Trace Micritic Limestone - as above Trace fossiliferous fragments - forams,.
1920-1950 ,	100%	Calcareous Siltstone, light grey, silty to very fine, subrounded to rounded, grains suspended in soft calcareous clay matrix. Trace Micritic Limestone, medium to grey, microcrystalline, very hard, brittle.
1950-1980	90% 10%	Trace fossiliferous fragments - forams. Calcareous Siltstone - as above. Micritic Limestone - as above. Trace fossiliferous fragments - forams - some benthonic.
1980-2010	100%	Calcareous Siltstone - as above. Trace Micritic Limestone - as above. Trace fossiliferous fragments - shells, forams.
2010-2040	100%	Calcareous Siltstone - light grey, silty to very fine, subrounded to rounded, grains suspended in very soft calcareous clay matrix. Trace fossiliferous fragments - forams.
2040–2070	100%	Calcareous Siltstone - as above. Trace fossiliferous fragments - forams.
2070-2100	100%	Calcareous Siltstone - light to medium grey, subrounded to rounded, grains suspended in very soft calcareous clay matrix. Trace fossiliferous fragments - shells, forams - some benthonic.
2100-2130	100%	Calcareous Siltstone - light to medium grey.
2130-2160	100%	Calcareous Siltstone - light to medium grey, subangular to sub- rounded, grains suspended in very soft calcareous clay matrix. Trace fossiliferous fragments - forams.
2160-2190	100%	Calcareous Siltstone - light grey, subrounded to rounded, grains suspended in soft calcareous clay matrix. Trace fossiliferous fragments - forams some benthonic, shells.
2190–2220	100%	Calcareous Siltstone - light grey, silty to very fine, subrounded to rounded fossiliferous (mainly forams) grains in soft to very soft calcareous ooze.
2220-50		As above - grades to calcareous claystone - volume of clay in sample dependent on amount of sample washing.
2250-80	90% 10%	Calcareous Siltstone - as above. Forams - mainly benthonic, up to 1.5mm diameter - mainly

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DEPTH	ß	DESCRIPTION
2280-2310	90% 10%	Calcareous Siltstone - as above. Forams - up to 2mm diameter.
2310-2340	90% 10%	Calcareous Siltstone - as above Forams - as above.
2340-2370	90% 10%	Calcareous Siltstone - light grey, silty to very fine, subrounded to rounded. Forams
2370-2400	100%	Calcareous Siltstone Trace Forams
2400-2430		As above - grades to calcareous-claystone-volume of clay in sample dependent on the amount of sample washing.
2430-2460	100%	Calcareous Siltstone-grading to calcareous claystone
2460-2490	100%	Calcareous Siltstone - light grey, silty to very fine, subrounded to rounded. Trace forams.
2490-2520	95% 5%	Calcareous Siltstone - as above Forams.
2520-50 -	100%	Calcareous Siltstone - light grey, silty to very fine, subrounded to rounded fossiliferous grains, firm to very soft calcareous clayey matrix. Trace abundant benthonic and planktonic forams.
2550-80	100%	Calcareous Siltstone - as above to very soft. Trace abundant forams - as above.
2580-2610	100%	Calcareous Siltstone - light grey, clay to very fine, subrounded to rounded grains, fossiliferous grains in calcareous clay ooze. Trace Forams - benthonic and planktonic.
2610-40	100%	Calcareous Siltstone - as above. Trace forams - as above.
2640-70	100%	Calcareous Siltstone - as above - grades in part to calcareous claystone - volume of clay dependent on sample washing.
2670-2700	100%	Calcareous Siltstone - light grey, clay to very_fine, subrounded to rounded grains, firm to very soft, hard fossiliferous fragments in calcareous clay/silty matrix. Trace Forams.
2700-30		As above.
2730-60	100%	Calcareous Siltstone - as above. Trace forams - planktonic and benthonic.
2760-90		As above
2790-2820	100%	Calcareous Siltstone - light grey, silty to very fine, subrounded to rounded equant grains, firm to soft, generally fossiliferous fragments in calcareous clay cement. Trace forams.
<u>2820-50</u>	100%	Calcarenite - grades from calcareous siltstone above, buff to light grey, silty to fine, subangular to subrounded equant grains,

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DEPTH	ß	DESCRIPTION
2820-50	100%	Continued.
		firm to friable. Trace forams.
2850-80	100%	Calcarenite - as above trace glauconite and rare finely dissemin ted pyrite. Trace forams.
2880-2910	100%	Calcarenite - buff to light grey, silty to fine, subangular to subrounded equant grains, firm to friable some hard and brittle (more homogenous and less granular), glauconite and fossiliferou inclusions. Trace forams.
2910-40	100%	Calcarenite - as above. Trace forams.
2940-70	100%	Calcarenite - buff to light grey, silty to fine, subangular to subrounded equant grains, grades in part to calcareous siltstone firm to slightly soft. Trace forams.
-		Drilled to 2964' at 2235 hours 15/7/77 - Circulated Bottoms Up. Short trip to 20" shoe condition mud prior to POH to log. Discovered pins on 20 singles of pipe included in pipe tally, al a single was missed. Depth Corr41' TD 2923. RIH drilled one single to 2955. Sample 2955 100% Calcarenite - as above.
		Trace forams.
2970		1 unit HW 520 ppm C
2970-3000	100%	Cement, float collar and shoe cavings trace Calcarenite - buff light grey, silty to fine,subangular to subrounded equant grains silty; firm to hard, very calcareous.
		Leak off test 2975' - closed hydril surge - 650psi only \simeq 12.6pp equivalent.
3020		Perform another leak off - shut rams this time - pressure up wit Halliburton unit. \approx 12.8ppg equivalent no leak off.
3000-20	40% 60%	Calcarénite - as above. Cement and shoe cavings.
3020-40	80% 20%	Cement Calcarenite - as above Trace forams.
3040-60	60% 40%	Cement Calcarenite - as above
3060-80	60% 40%	Cement, shoe, metal filings Calcarenite - cream to light grey, silty to fine, subangular to subrounded equant grains, minor glauconite inclusions, firm to h very calcareous.
		Trace forams - mainly benthonic some planktonic.
3080-3100	40%	Cement cavings, iron filings.
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DEPTH	ß	DESCRIPTION
	60%	Calcarenite - cream to light grey, silty to very fine, subangular to subrounded grains, firm to friable, minor glauconite, very calcareous.
		Trace forams.
3100-20	70% 30%	Calcarenite - as above. Cement cavings.
3120-40	80% 20%	Calcarenite - as above. Cement cavings.
3140–60	100%	Calcarenite - light grey, silty to very fine, subangular to sub- rounded equant grains, minor glauconite, grains in calcareous clayey matrix, some grades to calcareous siltstone.
		Trace cement.
3160-80	100%	Calcarenite - as above.
		Trace cement.
3180-3200	100%	Calcareous Siltstone - grades from calcarenite above, light grey, silty to very fine, firm, slightly granular, clayey to silty matrix, moderately calcareous.
•		Trace forams.
200-20	100%	Calcareous Siltstone - as above.
• _ ·		Trace forams, cement.
220-40	100%	Calcareous Siltstone - as above.
		Trace forams, fossiliferous debris.
240-60	100%	Calcareous Siltstone - light grey, clay to very fine, subangular to subrounded grains - generally fossiliferous in a clayey to silty matrix, firm to slightly soft.
•		Trace forams.
260-80	100%	Calcareous Siltstone - as above.
		Trace forams.
280-3300	100%	Calcareous Siltstone - as above.
		Trace forams.
300-20	100%	Calcareous Siltstone - as above.
		Trace forams.
320-40	100%	Calcareous Siltstone - light grey, silty to fine, subangular to subrounded grains in clay to silty matrix, firm to friable, generally fossiliferous fragments in calcareous ooze.
		Trace forams.

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3340-60	100%	Calcareous Siltstone - light grey, silty to fine, subangular to subrounded grains in clay calcareous matrix, firm, generally fossiliferous inclusions.	
		Trace forams.	•
3360-80	100%	Calcareous Siltstone - as above, occasionally firm to medium gr	ain.
		Trace forams, fossiliferous fragments.	
3380-3400	100%	Calcareous Siltstone - as above.	
		Trace forams - some benthonic gastropodic forms up to 2.5mm - broken out of calcareous siltstone.	:
3400-3420	100%	Calcareous Siltstone - as above	•
· .		Trace forams.	ŗ
3420-40	100%	Calcareous Siltstone - as above, abundant "ball bearing" form planktonic forams inclusions.	
		Trace forams.	•
3440-60	100%	Calcareous Siltstone - light grey, silty to very fine, subangul to subrounded fossiliferous grains in calcareous clay matrix, firm to friable some slightly soft.	ar r
		Trace forams, fossiliferous fragments.	ŧ
3460-80	100%	Calcareous Siltstone - as above.	:
		Trace Micritic Limestone - buff, hard, dense, brittle, microcry lline.	sta-
3480-3500 '	100%	Calcareous Siltstone - as above.	
· · · ·		Trace Micritic Limestone - as above.	
		Trace forams.	
3500–20	100%	Calcareous Siltstone - light grey, silty to fine, subangular to subrounded fossiliferous (generally forams) grains in a clayey/silty matrix, firm to friable, very calcareous.	:
		Trace Micritic Limestone - buff, hard, dense, microcrystalline, moderately calcareous - probably slightly dolomitic.	Ŧ
		Trace forams, fossiliferous debris.	
352040	100%	Calcareous Siltstone - as above.	
		Trace Micritic Limestone - as above.	•
		Trace forams - as above.	ř.
3540-60	100%	Calcareous Siltstone - as above.	
		Trace Micritic Limestone - as above.	
		Trace forams.	

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DEPTH	ç.	DESCRIPTION	•
3560-80	100%	Calcareous Siltstone - light grey, silty to very fine, subangular to subrounded fossiliferous (generally forams) grains in clayey/ silty matrix, firm.	
		Trace Micritic Limestone - buff, dense, hard, microcrystalline moderately calcareous.	•
· · ·		Trace forams.	1. F
3580-3600	100%	Calcareous Siltstone - as above, foram inclusions up to 2.5mm Trace Micritic Limestone - as above.	
		Trace forams.	
3600-20	100%	Calcareous Siltstone - as above, some grades up to calcarenite.	•
		Trace Micritic Limestone - as above.	F. T
		Trace forams, fossiliferous fragments.	
3620-40	100%	Calcareous Siltstone - light grey, silty to very fine, subangular to subrounded fossiliferous (generally forams) grains in clayey/ silty matrix, firm to friable.	
		Trace Micritic Limestone - buff, hard, dense, microcrystalline	
··· •		Trace forams.	• •
3640-60	100%	Calcareous Siltstone - as above.	!
· · · · · · · · · · · · · · · · · · ·		Trace Micritic Limestone - as above.	•
		Trace forams.	
3660-80	100%	Calcareous Siltstone - as above.	
		Trace forams - benthonic forams up to 2mm some partially replaced by pyrite.	1
5680-3700	100%	Calcareous Siltstone - as above.	
•		Trace Micritic Limestone - as above.	
		Trace forams, fossiliferous fragments.	,
700-20	100%	, Calcareous Siltstone - light grey, silty to very fine, subangular to subrounded fossiliferous grains, clayey/silty matrix, firm to friable, some grades to granular, very fine to fine calcarenit	
		Trace Micritic Limestone - buff, dense, hard, brittle, microcryst lline.	:a-
		Trace forams.	ţ
720-40	100%	Calcareous Siltstone - as above.	
		Trace Micritic Limestone - as above.	
		Trace forams,	

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DEPTH	ş	DESCRIPTION	• :
3740-60	100%	Calcareous Siltstone - light grey, silty to fine, subangular to subrounded fossiliferous grains, clayey/silty matrix, firm to friable.) , ₽
		Trace Micritic Limestone - buff, hard, dense, brittle, microcrys	ta-
		Trace forams.	1. F
3760-3800		No samples - changed over from seawater gel mud to fresh water gel mud.	
3800-3820	100%	Calcareous Siltstone - as above.	1
		Trace Micritic Limestone - as above.	
		Trace forams.	Г. ¹ .
3820-40	100%	Calcareous Siltstone - as above.	2
· · · · · · · · · · · · · · · · · · ·		Trace Micritic Limestone - as above.	•
		Trace forams, fossiliferous fragments.	•
3840-60	100%	Calcarenite - light grey to buff, silty to fine, subangular to subrounded fossiliferous grains, clayey/silty matrix, firm to friable, very calcareous.	+ 12 1
		Trace Micritic Limestone - buff, hard, dense, brittle, microcrys lline, moderately calcareous.	ta-
		Trace forams, rare bryozoa.	;
3860-80	100%	Calcarenite - as above.	:
I .		Trace Micritic Limestone	:
- - -		Trace forams.	
3880-3900	100%	Calcarenite - as above.	
		Trace Micritic Limestone	
		Trace forams.	.: 1
3900-20	100%	Calcarenite - grades in part to calcareous siltstone, light grey silty to fine, subangular to subrounded fossiliferous grains in clayey/silty matrix, firm to friable,	· •
		Trace Micritic Limestone - buff, very hard, dense, brittle microcrystalline.	
		Trace forams, fossiliferous fragments.	,
3920-40	100%	Calcarenite - as above.	•
		Trace Micritic Limestone - as above.	
	анаран (такара) Станаран (такара)	Trace forams.	
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DEPTH	S.	DESCRIPTION	-
3940-60	100%	Calcarenite - as above.	
		Trace Micritic Limestone	
		Trace forams, fossiliferous fragments.	
J960-80	100%	Calcarenite - as above.	
		Trace forams.	
3980-4000	100%	Calcarenite grades in part to calcareous siltstone, light grey, silty to fine, subangular to subrounded, minor traces of glauconite inclusions.	
		Trace forams - mainly benthonic.	
4000-4020	100%	Calcarenite - as above.	1
		Trace forams.	
4020-4040	100%	Calcarenite - as above.	:
		Trace forams.	•
4040-4060	100%	Calcarenite grades in part to calcareous siltstone, light grey, silty to fine, subangular to subrounded,	
		Trace forams.	
-060-4080	100%	Calcarenite - as above.	
		Trace forams - mainly benthonic, some planktonic.	:
4080 - 4100 '	100%	Calcarenite - light grey, silty to fine, subangular to subrounded, fossiliferous grains in silty/clayey matrix, firm to friable, glauconite and pyrite inclusions.	-
····		Trace forams.	
-100-4120	100%	Calcarenite - as above.	
		Trace Micritic Limestone - buff, very hard, dense, brittle, microcrystalline.	
		Trace forams, fossiliferous fragments.	
4120-40	100%	Calcarenite - as above.	
		Trace Micritic Limestone - as above.	
		Trace forams etc - as above.	
140-60	100%	Calcarenite, light grey, silty to fine, subangular to subrounded, fossiliferous grains in silty/clayey matrix.	
		Trace forams.	:
160-4180	100%	Calcareous Siltstone, light grey, silty to fine, subangular to subrounded, grains in a clay calcareous matrix, friable,	•
		Trace forams.	

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DEPTH	60	DESCRIPTION
4180-4200	100%	Calcarenite grades in part to calcareous siltstone, light grey, silty to fine, subangular to subrounded.
•		Trace forams.
200-4220	100%	Calcarenite - as above.
. · ·		Trace Micritic Limestone - buff, very hard, dense, brittle, microcrystalline.
		Trace forams.
1220-4240	95%	Calcarenite - grades in part to calcareous siltstone, light grey silty to fine, subangular to rounded.
	5%	Micritic Limestone - as above.
		Trace forams.
4240-60	100%	Calcareous Siltstone - light grey, silty to very fine grains (generally fossiliferous) clayey matrix, firm to friable, grades from calcarenite above.
·		Trace Micritic Limestone - as above.
		Trace forams, fossiliferous fragments.
260-80	100%	Calcareous Siltstone - as above.
- .		Trace Micritic Limestone - as above.
		Trace forams - abundant planktonics with a few benthonics.
1280-4300	100%	Calcareous Siltstone - as above.
1		Trace Micritic Limestone - as above.
• •		Trace forams - as above.
4300-20	100%	Calcareous Siltstone - light grey, clay to very fine, subangular to subrounded fossiliferous grains (mainly planktonic forams) in clayey/silty matrix, firm, grades to calcarenite.
		Trace forams - benthonic and planktonic.
1320-40	40% 60%	Calcareous Siltstone - as above light to medium grey. Calcarenite - buff to light grey, saccharoidal text, firm to friable, subangular to subrounded, silty to fine grains.
		Trace forams.
1340-60	50%	Calcareous Siltstone - light to medium grey, silty to very fine, subangular to subrounded grains in clay matrix, firm.
	50%	Calcarenite - buff to light grey, silty to fine, subangular to subrounded fossiliferous grains, firm to friable.
		Trace forams.
		Drill to 4401 pump slug, drop TOTCO pull out of hole for new bit

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DEPTH	ß	DESCRIPTION
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1360-80	60%	Calcarenite - buff to light grey, silty to fine, subangular to subrounded fossiliferous gra-ns (generally forams) in clayey/ silty matrix, firm to friable, granular.
	40%	Calcareous Siltstone - light to medium grey, silty to very fine, subangular to subrounded grains in clay matrix, firm.
		Trace Micritic Limestone - buff, hard, dense, brittle, microcrysta- lline.
		Trace forams - benthonic and planktonic forams.
4380-4400	50%	Calcarenite - as above.
	50%	Calcareous Siltstone - as above.
•••		Trace forams.
4400-20	.70%	Calcarenite - as above.
	30%	Calcareous Siltstone - as above
•		Trace forams.
4420-40	75%	Calcarenite - as above.
х	25%	Calcareous Siltstone - as above.
• <u>-</u>		Trace forams.
4440-60	100%	Calcarenite - buff to light grey, silty to very fine, subangular to subrounded fossiliferous grains, firm to friable, very calca- reous.
t		Trace Calcareous Siltstone light to medium grey, firm,
		Trace forams - planktonic, and benthonic
-4460-80	100%	Calcarenite - as above.
•		Trace Calcareous Siltstone - as above
		Trace forams.
4480-4500	100%	Calcarenite - as above grades in part to calcareous siltstone.
		Trace forams.
4500-20	100%	Calcarenite - buff to light grey, silty to fine, subangular to subrounded fossiliferous grains, clay matrix, firm to friable
		Trace forams - benthonic and planktonic.
4520-40	100%	Calcarenite - as above.
•		Trace Marl - very light grey, soft, very calcareous.
		Trace forams.
4540-60	90% 10%	Calcarenite - as above Marl - as above Trace forams
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FLOUNDER-6

BELLIS 19/7/77

DEPTH	ç	DESCRIPTION
4560-80	90%	Calcarenite - buff to light grey, silty to very fine, subangular to subrounded fossiliferous grains in clayey/silty matrix, firm to friable, granular
-	10%	Marl - very light grey, very soft, very calcareous.
		Trace forams - benthonic, planktonic.
4580-4600	70%	Calcarenite - as above.
	20%	Calcareous LSiltstone - light to medium grey, silty to very fine, firm to hard
	10%	Marl - as above.
		Trace Forams - as above.
4600-20	80%	Calcareous Siltstone - as above.
- -	20%	Calcarenite - as above.
		Trace Marl - as above.
		Trace forams.
4620-40	100%	Calcareous Siltstone - light to medium grey, clay to very fine, , subangular to subrounded grains, silty matrix, firm.
		Trace Calcarenite - buff to light grey; silty to fine, subangular to subrounded fossiliferous grains in clay matrix, firm to friable.
•		Trace Marl - very light grey, sticky, very soft.
		Trace forams - benthonic and planktonic, fossiliferous fragments.
4640-60	80%	Calcarenite - as above.
	20%	Calcareous Siltstone - as above.
		Trace forams.
4660-80	75%	Calcarenite - as above.
	25%	Calcareous Siltstone - as above.
		Trace forams.
4680-4700	70%	Calcarenite - as above.
	30%	Calcareous Siltstone - as above.
		Trace forams, fossiliferous fragments.
47 00–20	70%	Calcarenite - buff to light grey, silty to fine, subangular to subrounded fossiliferous grains, firm to friable (generally foram inclusions), rarely glauconitic.
	30%	Calcareous Siltstone - light to medium grey, subangular to sub- rounded grains, silty matrix, firm.
		Trace forams, fossiliferous fragments.

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FLOUNDER-6

BELLIS , 19/7/77

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DEPTH	°;	DESCRIPTION
4720-40	60% 40%	Calcarenite - as above. Calcareous Siltstone - as above.
		Trace forams - as above.
1740-6 0	40%	Calcarenite - as above.
	60%	Calcareous Siltstone - as above.
•		Trace Marl - light grey, very soft, sticky.
		Trace forams.
4760-80	75%	Calcareous Siltstone - light to medium grey, clay to very fine, subangular to subrounded grains, silty matrix firm, pyrite inclusions.
· · · · ·	25%	Calcarenite - buff to light grey, silty to fine, subangular to subrounded fossiliferous grains, clayey/silty matrix, firm to friable.
•		Trace forams.
47 80-4800	60% 40%	Calcareous Siltstone - as above. Calcarenite - as above.
•		Trace forams.
1800-4820	70% 30%	Calcareous Siltstone - as above. Calcareous - as above.
. · · ·		Trace Marl - as above.
		Trace forams
4820-40 '	60%	Calcareous Siltstone - light to medium grey, clay to very fine, subangular to subrounded grains, firm.
· · ·	30%	Calcarenite - light grey, silty to fine, subangular to subrounded fossiliferous grains, silty matrix, firm to friable.
	10%	Marl - very light grey, soft, sticky.
•		Trace forams granular pyrite aggregates.
4840-60	50% 50%	Calcarenite - as above. Calcareous Siltstone - as above. Trace forams, marl as above, pyrite
4860-80	50% 35% 35%	Marl - as above. Calcareous Siltstone - as above. Calcarenite - as above.
4880-4900	30%	Marl - light grey, very soft, sticky, percentage totally dependent
	40% 30%	on sample washing. Calcarenite - light grey, silty to fine, subangular to subrounded fossiliferous grains, clay matrix, firm to friable. Calcareous Siltstone - light to medium grey, clay to very fine, subangular to subrounded grains, firm to slightly soft.
		Trace forams - benthonic and planktonic.
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FLOUNDER-6

BELLIS 19/7/77

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DEPTH	ç,	DESCRIPTION
4900-20	20% 40% 40%	Marl - as above. Calcarenite - as above. Calcareous Siltstone - as above.
		Trace forams, pyrite.
4920-40	40% 30% 30%	Marl - as above. Calcarenite - as above. Calcareous Siltstone - as above.
		Trace forams.
4940-60	50% 50%	Marl - light grey, very soft, sticky to calcareous ooze Calcarenite and Calcareous Siltstone grains as above suspended in ooze.
		Trace forams.
4960-80	50% 35% 15%	Marl - as above. Calcarenite - as above. Calcareous Siltstone - as above.
		Trace pyrite, forams.
4980-5000	60% 30%	Marl - light grey, soft, sticky Calcareous Siltstone - light to medium grey, clay to very fine
•	10%	grained, subangular to subrounded grains, silty matrix, firm. Calcarenite - light grey, silty to fine, subangular to subrounded fossiliferous grains, firm to friable.
· _ ·		Trace forams.
5000-20	60% 40%	Marl - as above. Calcareous Siltstone - as above
		Trace Calcarenite - as above. Trace forams, pyrite.
5020-40	50% 50%	Marl - as above Calcareous Siltstone - as above.
		Trace Calcarenite - as above. Trace forams.
5040-5060	50% 50%	Calcareous Siltstone - light to medium grey, clay to very fine, subangular to subrounded grains, firm to slightly soft. Marl - very light grey, very soft, sticky, very calcareous
·		Trace forams.
5060-80	70% 30%	Marl - as above Calcareous Siltstone - as above.
		Trace forams.
5080-5100	75% 25%	Marl - as above. Calcareous Siltstone - as above.
•		Trace forams.
5100-20		As above.
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FLOUNDER-6

BELLIS 19/7/77

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DEPTH	ڊن ت	DESCRIPTION
5120-40	25%	Marl - as above.
	45%	Calcareous Siltstone - as above.
	30%	Calcarenite - light grey, silty/fine, subangular to subrounded grai firm to friable.
		Trace forams.
•		NOTE: Probably not a representative sample as riser being flushed.
5151		C.O. 1 pump on hole, 1 pump on riser short trip to 2916'.
5140-60	90%	Calcareous Siltstone - light to medium grey, clayey to very fine, subangular to subrounded grains, firm to hard.
	10%	Marl - very light grey, soft, sticky, percentage dependent in
		sample washing.
		Trace forame purito
		Trace forams, pyrite. Trace Calcarenite - buff to light grey, silty to fine, subangular to subrounded fossiliferous grains in silty matrix, granular, firm to friable.
5160-80	80%	Calcareous Siltstone - as above.
	20%	Marl - as above.
• .		Trace pyrite, forams.
5180-5200	70% 30%	Calcareous Siltstone - as above. Marl - as above.
• .		Trace pyrite, forams.
5200-20	80%	Calcareous Siltstone - as above.
	20%	Marl - as above.
1		Trace Calcarenite - as above.
5220-40	90%	Calcareous Siltstone - light to medium grey, clay to very fine,
•	10%	subangular to subrounded grains, firm. Marl - light grey, soft, sticky
		Trace forams, pyrite.
··	0.00	Calcareous Siltstone - as above, slightly pyritic
5240-60	80% 20%	Marl - as above.
		Trace forams, pyrite.
5260-80	90%	Calcareous Siltstone - as above
	10%	Marl - as above.
	v	Trace forams, pyrite.
5280-5300	80%	Calcareous Siltstone - as above, slightly glauconitic. Marl - as above.
	20%	
		Trace forams, pyrite.
5300-20	90%	Calcareous Siltstone - light to medium grey, clay to very fine, subangular to subrounded grains, firm, slightly pyritic, rare glauconite.
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BELLIS 19/7/77

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DEPTH	ç;	DESCRIPTION	د . به سردو
5300-20	·	Continued	
	. 10%	Marl - light grey, soft, sticky.	
		Trace forams, pyrite.	•
5320-40	100%	Calcareous Siltstone - as above.	۹ ۱
- - -		Trace Marl - as above Trace forams, pyrite	F.
5340-60	100%	Calcareous Siltstone - as above.	
		Trace Marl - as above Trace forams	•
5360-80	100%	Calcareous Siltstone - as above, some grades to calcarenite.	F
•		Trace Marl - as above. Trace forams, pyrite.	
5380-5400	100%	Calcareous Siltstone - light to medium grey, clay to very fine, subangular to subrounded grains, firm, some grade to very fine calcarenite.	•
-		Trace Marl – light grey, soft, sticky. Trace forams, pyrite.	ľ
5400-20	100%	Calcareous Siltstone - as above.	•
		Trace Marl - as above. Trace forams.	. :
5420-40	80% 20%	Calcareous Siltstone - as above. Marl - as above, volume totally dependent on sample washing.	
		Trace forams.	
5440-60	70%	Calcareous Siltstone - light to medium grey, clay to very fine, subangular to subrounded grains, firm to slightly friable, some grades to calcarenite.	
	30%	Marl - very light grey, very soft, sticky.	
		Trace forams, pyrite.	f
5460-80	50% 50%	Calcareous Siltstone - as above. Marl - as above .	
		Trace forams.	
5480-5500	60% 40%	Calcareous Siltstone - as above. Marl - as above	
		Trace forams.	¥.
5500-20	80%	Calcareous Siltstone - light to medium grey, clay to very fine, subangular to subrounded grains, firm to friable, grades to calcarenite.	
- -	20%	Marl - light grey, soft, sticky.	
		Trace forams.	

FLOUNDER-6

BELLIS 20/7/77

DEPTH	ç;	DESCRIPTION
5520-40	70% 30%	Calcareous Siltstone - as above. Marl - as above.
		Trace forams.
5540 - 60		As above.
5560-80	60% 40%	Calcareous Siltstone - as above. Marl - as above.
		Trace forams.
5580-5600	80% 20%	Calcareous Siltstone - light to medium grey, silty to very fine, subangular to subrounded grains, firm Marl - light grey, soft, sticky.
		Trace forams.
`5600-20	75% 25%	Calcareous Siltstone - as above. Marl - as above.
		Trace forams - as above.
5620-40		As above.
5640-60 -	80% 20%	Calcareous Siltstone - as above, minor glauconite, pyrite Marl - as above.
		Trace forams.
5660-80		As above ;
5680-5700	10% 30%	Calcareous Siltstone - as above.
. r		Trace forams.
5700-20	100%	Calcareous Siltstone - light to medium grey, clay to very fine, subangular to subrounded grains, moderate sorting, firm to slightly friable
-		Trace Marl – very light grey, soft, sticky. Trace forams, pyrite.
5720-40	90% 10%	Calcareous Siltstone - as above. Marl - as above.
		Trace forams, pyrite.
5740-60	90% 10%	Calcareous Siltstone - as above, firm to hard. Marl - as above.
•		Trace forams - benthonic and planktonic.
5760-80		As above.
5780-5800	100%	Calcareous Siltstone - light to medium grey, clay to very fine, subangular to subrounded grains, moderate to well sorting, firm to hard, occasionally planktonic, foram inclusions.
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FLOUNDER-6

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		FLOUNDER-6 BELLIS 20/7/77	
DEPTH	ş	DESCRIPTION	
5780-5800		Continued	
· · · · · · · · · · · · · · · · · · ·		Trace Marl - light grey, soft, sticky. Trace forams.	11 10 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
5800-20	100%	Calcareous Siltstone - as above.	·
		Trace forams, pyrite. Trace Marl - as above.	• • • • • • • • • • • • • • • • • • •
5820-40	100%	Calcareous Siltstone - as above.	
		Trace Marl - as above. Trace Calcarenite - buff to light grey, silty to fine, subangular to subrounded fossiliferous grains, firm to friable, poor sorting Trace forams.	
5840-60		As above - Trace pyrite.	F.
5860-80	100%	Calcareous Siltstone - medium grey, clay to very fine, subangular to subrounded grains, firm, moderate sorting.	· · ·
		Trace Calcarenite - buff to light grey, silty to fine, subangular to subrounded fossiliferous grains, firm to friable, poorly sorted Trace Marl - very light grey, soft, sticky Trace forams and pyrite.	đ
5880-5900	75% 25%	Calcareous Siltstone - as above. Marl - as above	• •
	C	Trace Calcarenite - as above. Trace forams, pyrite.	•
5900-20	80% 20%	Calcareous Siltstone - medium grey, clay to very fine, subangular to subrounded grains, moderate sorting, some pyritic Marl - very light grey, soft, sticky.	
		Trace forams, pyrite.	
5920-40	70% 30%	Calcareous Siltstone - as above. Marl - as above.	
		Trace forams, pyrite.	
5940-60	60% 40%	Calcareous Siltstone - as above. Marl - as above.	₹
		Trace forams - some replaced by pyrite.	- -
5960-80	90% . 10%	Calcareous Siltstone - as above Marl - as above	
		Trace forams.	•
(0850 20/7/77) 5997		Circulated out pump slug, clean hole and riser pulled out of hole to change bit. Cut and slip draw-works line. Change over mud sys RIH NB#4 9 ⁵ /8" HTC X 1G Back on Bottom Oll5 hours, 21/7/77 TG 1.5 Hot Wire 721C ₁ . Conditioned Mud.	* stem

FLOUNDER-6

BELLIS 20/7/77

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DEPTH	ŝ	DESCRIPTION
5980-6000	100%	Calcareous Siltstone - medium to dark grey, clay to very fine, subangular to subrounded grains, moderate sorting, firm, some pyrite.
		Trace forams - mainly planktonic - often replaced by pyrite.
5000-6020	90% 10%	Calcareous Siltstone - as above. Marl - very light grey, soft, sticky
		Trace forams, pyrite.
5020-40	70% 30%	Calcareous Siltstone - as above. Marl - as above.
•• •		Trace forams, pyrite.
5040-60	80% 20%	Calcareous Siltstone - as above r Marl - as above
		Trace forams, pyrite.
5060-80	60% 40%	Calcareous Siltstone - as above. Marl - as above.
		Trace forams, pyrite.
5080-6100	50% 50%	Calcareous Siltstone - medium to dark grey, clay to silty, subangular to subrounded grains, moderate sorting, firm to hard Marl - very light grey, soft, sticky
. .		Trace forams, pyrite
5100-10	60% 40%	Calcareous Siltstone - as above Marl - as above
. 1		Trace forams, pyrite.
6110-20	60% 50%	Calcareous Siltstone - as above Marl - as above.
		Trace forams - mainly planktonic; pyrite
5120-30		As above
6130-40	70%	Calcareous Siltstone - medium to dark grey, clay to silty, sub- I angular to subrounded, moderate sorting, firm to hard.
	30%	Marl - very light grey, soft to very soft, sticky
		Trace forams pyrite.
6140-50	40% 60%	Calcareous Siltstone - as above Marl - as above
- -		Trace forams - as above, pyrite.
5150-60	60% 40%	Calcareous Siltstone - as above Marl - as above
		Trace forams, pyrite

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BELLIS 21/7/77

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DEPTH	ŗ,	DESCRIPTION
6160-70	50% 50%	Calcareous Siltstone - as above Marl - as above
		Trace forams, pyrite.
6170-80	50%	Calcareous Siltstone - medium to dark grey, clay to silt, firm to hard, slightly pyritic, hint of fissility, tends toward calcareous shale.
	50%	Marl - very light grey, sticky, soft to very soft
· · ·		Trace forams, pyrite.
6180-90	90% 10%	Calcareous Siltstone - as above. Marl - as above Percentage is wash dependent
		Trace forams, pyrite.
6190-6200		As above
6200-10	80% .20%	Calcareous Siltstone - as above. Marl - as above.
· · ·		Trace forams, pyrite.
6210-20	90% 10%	Calcareous Siltstone - medium to dark grey, clay to silt, firm to hard, grades to calcareous shale, slightly pyritic. Marl - light grey, soft to very soft, sticky
· · ·		Trace forams, pyrite
6220-30	80% 20%	Calcareous Siltstone/Calcareous Shale - as above Marl - as above
, .		Trace forams, pyrite.
5230-40	90% 10%	Calcareous Siltstone - as above Marl - as above
		Trace forams, pyrite
6240-50	80% 20%	Calcareous Siltstone - medium to dark grey, clay to silt, firm to hard, slightly pyritic, grades to calcareous shale Marl - light grey, very soft, sticky
-		Trace forams, pyrite.
6250-60	90% 10%	Calcareous Shale - as above Marl - as above
· ·		Trace forams, fossiliferous fragments, pyrite.
6260-70	100%	Calcareous Siltstone - as above, shows some fissility, tends to calcareous shale.
		r Trace Marl - as above; forams, pyrite.
6270-80		As above.
5280-90	100%	Calcareous Siltstone/Calcareous Shale - as above.
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FLOUNDER-6

BELLIS 21/7/77

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DEPTH	ß	DESCRIPTION
6280-90		Continued
		Trace Marl - as above, forams, fossiliferous fragments, pyrite.
6290-6300	70% 30%	Calcareous Siltstone/Calcareous Shale - as above Marl - as above
		Trace forams, pyrite.
6300-10	60% 40%	Calcareous Siltstone - as above Marl - as above
		Trace forams, fossiliferous fragments, pyrite, glauconite
6310-20	50%	Calcareous Siltstone - medium to dark grey, clay to silt, firm to hard, grades in part to calcareous shale, slightly pyritic
-	50%	Marl - very light grey, soft, sticky
X		Trace forams, pyrite.
6320-30	60%	Calcareous Siltstone - as above, some buff, rare glauconite inclusions
	40%	Marl - as above Trace forams, pyrite, glauconite.
6330-40	70%	Calcareous Siltstone - buff - medium to dark grey, clay to silt, ' subangular to subrounded grains, firm to hard some friable, pyrite.
	30%	and glauconite inclusions. Marl - light grey, soft, sticky.
		Trace forams, pyrite, glauconite.
6341		Small change in rate of penetration and in torque noticed. Also noticed slight change in hot wire - chromotograph Trace $\Rightarrow 0.5$, 91 $\Rightarrow 212C_1$.
6340-50	60% 40%	Calcareous Siltstone - as above buff, medium to dark grey Marl - as above.
		Trace forams, pyrite, glauconite Trace Loose <u>quartz</u> grains - clear, angular, up to 0.6mm, no show.
6350-60	70%	Calcareous Siltstone - buff and medium to dark grey, clay to very fine, moderate to poor sorting, firm to friable. Marl - light grey, soft, sticky.
		Trace Siltstone - dark brown, speckled, black inclusions, non calcareous, firm to soft, clay to organic matter. Trace Calcarenite - cream, silty to medium, subangular to subrounded glauconite, grains, firm to friable to hard, very poorly sorted, silty, no show. Trace pyrite, glauconite, loose quartz grains.
6360-70	80%	Calcareous Siltstone/Calcareous Shale - as above, slight glauconite and pyrite.
	20%	Marl - as above.
		Trace Siltstone - dark brown - as above. Trace Calcarenite - as above
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FLOUNDER-6

BELLIS 21/7/77

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	Si .	DESCRIPTION
6360-70		Continued
•		Trace forams, glauconite, pyrite, rare quartz grains.
5370-80	60% 30%	Calcareous Siltstone/Calcareous Shale - as above Marl - as above
	10%	Siltstone - dark brown - as above
		Trace Calcarenite - as above, silty Trace forams, pyrite, galuconite
6380-90	80%	Calcareous Siltstone - medium to dark grey, clay to very fine, firm to hard, slightly pyrite and glauconite, moderate sorting
	20%	Marl - light grey, soft, sticky
		Trace Siltstone - dark brown, clay to silt, firm to soft non calcareous, partly organic
· .		Trace Calcarenite - cream to light grey, silt to medium, firm to friable non calcareous.
		Trace forams, loose quartz grains, pyrite, glauconite
5390-6400	60% 20%	Calcareous Siltstone - as above Marl - as above
	20%	Siltstone - as above
•		Trace Calcarenite - as above Trace forams, pyrite, glauconite
5400-10	70%	Calcareous Siltstone - as above
- -	20% 10%	Marl - as above Siltstone - as above
		Trace Micritic Limestone - tan/brown, very hard, very dense, brittle, microcrystalline, some mica Trace forams, pyrite, glauconite
, 5410-20		As above
5420-30	60%	
9420-30		Calcareous Siltstone - medium to dark grey, clay to silt, firm to hard, tends to calcareous shale in part
	20% 10% 10%	Micritic Limestone - as above Siltstone - dark brown, firm to soft, non calcareous, partly organi Marl - light grey, very soft, sticky.
		Trace forams, abundant pyrite
5430-40	60%	Calcareous Siltstone - as above
	30%	Siltstone - as above
	10%	Marl - as above
		Trace Micritic Limestone - as above, including glauconite Trace forams, glauconite, pyrite.
5440-50	40% 10%	Calcareous Siltstone - as above
	50%	Limestone - buff to brown, very hard, dense, - coarser form of micritic limestone above, 0 porosity and permeability. Trace forams, fossiliferous fragments, pyrite, and glauconite
450-60	30%	Calcareous Siltstone - as above.
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FLOUNDER-6

BELLIS 21/7/77

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DEPTH	°,	DESCRIPTION	4 4. P
6450-60		Continued	-
•	70%	Limestone - buff to brown, hard, dense limestone as above	
		Trace Siltstone - as above, forams, pyrite, glauconite	•
6460-70	60%	Limestone - buff to brown, microcrystalline, very hard, dense, brittle, very calcareous, some glauconite	1. F
· .	40%	Calcareous Siltstone/lutite - light to medium grey, firm, clay to silt	
		Trace Siltstone - dark brown, soft to firm, silt to very fine, weakly calcareous	
6470-80	25%	Calcareous Siltstone - light to medium grey, clay to silt, subangul to subrounded grains, firm to hard.	lar
	15% 20%	Micritic Limestone - cream to buff, firm to hard, dense	F.
~	40%	Trace forams, pyrite, glauconite.	
5480-90	40%	Calcareous Siltstone - as above	
	40% 20%	Limestone - brown - as above Micritic Limestone - buff - as above.	•
•		Trace forams, pyrite, glauconite, loose quartz grains	r r
3490-6500	70% 20% 10%	Calcareous Siltstone/Mudstone - as above Limestone - brown to dark brown - as above Micritic Limestone - as above	•
	10.0	Trace forams, pyrite, glauconite	:
6500-10	60% 30%	Calcareous Siltstone - as above "' Limestone - as above	
	10%	Siltstone - dark brown - as above	
		Trace forams, pyrite, glauconite, rare loose quartz grains	
6510-20	30% 50% 20%	Calcareous Siltstone - as above Limestone - as above Siltstone - dark brown - as above	ч
	20%	Trace pyrite, forams, glauconite.	Ţ
5520-30	60%	Siltstone - buff to brown, clay to very fine, firm to soft,	
***	40%	poorly sorted, slightly calcareous, speckled appearance Calcareous Mudstone - light grey, clay grain size, very calcareous, firm to soft, grades from calcareous siltstone above.	,
		Trace Limestone - brown, hard, dense, brittle Trace forams, glauconite, pyrite.	
6530-40	50% 40%	Siltstone – as above Calcareous Mudstone – as above	۲.
	10%	Limestone - buff to brown, as above Trace forams, glauconite, pyrite.	
6540-50	60%	Limestone - buff to brown, very hard, dense, microcrystalline.	
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FLOUNDER-6

BELLIS 21/7/77

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DEPTH	ç,	DESCRIPTION	•
6540-50		Continued	•••
	20%	Siltstone - brown, clay to silt, speckled appearance, firm, slightly calcareous	
	20%	Calcareous Mudstone - light grey, clay grain size, firm to soft, very calcareous.	•
		Trace pyritic, glauconitic, forams.	י גי
6550-60	20% 40%	Limestone - hard, dense, as above. Siltstone - as above.	
	40%	Calcareous Mudstone - as above	
		Trace pyrite, glauconite, forams, fossiliferous fragments	:
6560-70	50% 25%	Calcareous Mudstone - as above Limestone - as above	•
· •	25%	Limestone - as above	Ł
•		Trace pyrite, glauconite, forams	
6570-80	80% 10%	Calcareous Mudstone - as above Siltstone - as above	
	10%	Limestone - as above Trace pyrite, glauconite, forams.	•
5580-90	70%	Calcareous Mudstone - as above	۲. •
	20% 10%	Limestone - buff to brown. Siltstone - as above	!
		Trace forams, pyrite, glauconite	;
6590-6600	80%	Calcareous Mudstone - light grey, clay grain size, firm to soft,	
	10%	shows very weak fissility, very calcareous. Limestone - buff to brown, very hard, dense, micritic	
	10%	Siltstone - brown, speckled appearance, firm to soft, clay to silt grain size, slightly calcareous.	
		Trace forams, glauconite, pyrite.	
5600-10	50%	Calcareous Mudstone - as above	
	30% 20%	Limestone - as above Siltstone - as above	
		Trace pyrite, glauconite, forams, fossiliferous fragments	ş
5610-20	40%	Calcareous Mudstone -as above.	
· ·	40% 20%	Limestone - as above Siltstone - as above	
		Trace pyrite, glauconite, forams.	
620-30	40%	Calcareous Mudstone - light grey, clay grain size, slightly silty, firm to soft, shows some fissility	ir '
	40% 20%	Limestone - buff to brown, very hard, dense, brittle, micritic. Siltstone - brown to dark brown, clay to silt grain size, firm to soft, slightly calcareous, speckled appearance.	
		Trace forams, fossiliferous fragments, pyrite, glauconite.	
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FLOUNDER-6

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BELLIS 21-22/7/77

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DEPTH	°.3	DESCRIPTION
1800 hours 21-7- 6630	77	Circulated out pump slug. Drop survey. Pulled out of hole TG=5 Hot Wire 4640C 148C 36C . RIH New Bit #5 Bit 6 Security 9 /8" S68 Back on bottom 0235 22-7-77.
6630-40	100%	Calcareous Mudstone - light to medium grey, clay grain size, firm, slightly silty
		Trace Siltstone - dark brown, clay to silt, speckled appearance, slightly organic, firm to soft, slightly calcareous Trace Limestone - buff to brown, very hard, dense, brittle micritic Trace pyrite, glauconite, forams.
6640-50	90% 10%	Calcareous Mudstone - as above Siltstone - as above
•		Trace Limestone - as above Trace pyrite, glauconite, forams.
6650-60	80% 20%	Calcareous Mudstone - as above Siltstone - as above
		Trace Limestone - as above Trace forams, pyrite, glauconite, fossiliferous fragments
6660-70	70%	Calcareous Mudstone - light to medium grey, clay to silt grain size, firm, silty, moderately calcareous
	30%	Siltstone - dark brown, clay to silt, firm to soft, partly organic, speckled appearance, slightly calcareous Trace Limestone - buff to brown, hard, dense, brittle, microcrysta- lline Trace forams, pyrite, glauconite, rare quartz grains
6670-80	70% 15% 15%	". Calcareous Mudstone - as above Siltstone - as above Limestone - as above
6680-90	60%	Calcareous Mudstone - light to medium grey, clay to silt, firm to soft, moderately calcareous, silty in parts, slightly pyritic and
	25%	glauconitic Siltstone - dark brown, clay to silt, firm to soft, partly organic, slightly calcareous.
	15%	Limestone - buff to brown, very hard, dense, brittle, microcrysta- lline.
		Trace forams, pyrite, glauconite.
6690-6700	50% 40% 10%	Calcareous Mudstone - as above Siltstone - as above Limestone - as above
		Trace pyrite, forams, glauconite
6700-10	10% . 50% 40%	Calcareous Mudstone - as above Siltstone - as above Limestone - as above
		Trace forams, fossiliferous fragments, pyrite

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FLOUNDER-6

BELLIS 22/7/77

DEPTH 5710-20 5720-30	% 20% 30% 50% 10% 70% 20%	Calcareous Mudstone - as above Siltstone - as above Limestone - as above, slightly pyritic Trace forams, fossiliferous fragments, pyrite, glauconite Calcareous Mudstone - light to medium grey, clay to silt, firm to soft, silty, moderately calcareous, slightly pyritic, glauconitic Siltstone - dark brown, clay to silt, speckled appearance, partly organic, slightly calcareous. Limestone - buff to brown, hard to very hard, dense, microcrystalling
720-30	30% 50% 10% 70%	<pre>Siltstone - as above Limestone - as above, slightly pyritic Trace forams, fossiliferous fragments, pyrite, glauconite Calcareous Mudstone - light to medium grey, clay to silt, firm to soft, silty, moderately calcareous, slightly pyritic, glauconitic Siltstone - dark brown, clay to silt, speckled appearance, partly organic, slightly calcareous.</pre>
720-30	30% 50% 10% 70%	<pre>Siltstone - as above Limestone - as above, slightly pyritic Trace forams, fossiliferous fragments, pyrite, glauconite Calcareous Mudstone - light to medium grey, clay to silt, firm to soft, silty, moderately calcareous, slightly pyritic, glauconitic Siltstone - dark brown, clay to silt, speckled appearance, partly organic, slightly calcareous.</pre>
	50% 10% 70%	Limestone - as above, slightly pyritic Trace forams, fossiliferous fragments, pyrite, glauconite Calcareous Mudstone - light to medium grey, clay to silt, firm to soft, silty, moderately calcareous, slightly pyritic, glauconitic Siltstone - dark brown, clay to silt, speckled appearance, partly organic, slightly calcareous.
	10%	Trace forams, fossiliferous fragments, pyrite, glauconite Calcareous Mudstone - light to medium grey, clay to silt, firm to soft, silty, moderately calcareous, slightly pyritic, glauconitic Siltstone - dark brown, clay to silt, speckled appearance, partly organic, slightly calcareous.
	70%	Calcareous Mudstone - light to medium grey, clay to silt, firm to soft, silty, moderately calcareous, slightly pyritic, glauconitic Siltstone - dark brown, clay to silt, speckled appearance, partly organic, slightly calcareous.
	70%	soft, silty, moderately calcareous, slightly pyritic, glauconitic Siltstone - dark brown, clay to silt, speckled appearance, partly organic, slightly calcareous.
730-40		Siltstone - dark brown, clay to silt, speckled appearance, partly organic, slightly calcareous.
/30-40		organic, slightly calcareous.
/30-40	20%	
/30-40		TIMESCONE - DAIT CO DIOMU' HAIA CO VEIN HAIA' ACHSE' MICTOCINSCATIT
30-40		
30-40	1	Trace forams, pyrite, glauconite.
50-40	0.00	Siltatono - 25 abovo
	90% 10%	Siltstone - as above Calcareous Mudstone - as above
		F
		Trace Limestone - as above
	1	Trace forams, pyrite, glauconite
140 50	1000	Ciltatore - ac above
740-50	100%	Siltstone - as above
		Trace Calcareous Mudstone - as above
		Trace Limestone - as above
		Trace forams, pyrite, glauconite
750-60	90%	Siltstone - as above
	10%	Calcareous Mudstone - as above
		Trace Limestone - as above
760-70	75%	Siltstone - dark brown, clay to silt, firm to soft, speckled
	25%	appearance, partly organic, slightly calcareous Limestone - buff to brown, hard, dense, micritic
	256	Limestone - buff to brown, hard, dense, micritic
1 · · · ·		Trace Calcareous Mudstone - light grey, clay to silt, firm to
		soft, moderately calcareous, slightly silty.
	u yu	Trace glauconite, pyrite, quartz.
		Drilling Break
	, , , , , , , , , , , , , , , , , , ,	DITITIN DICAN
		6785 - 90 25-35 ft/hr
	1	6790 - 95 47.9 ft/hr
		6795 - 6800 83' ft/hr
		6800 - 6805 148 ft/hr f
	į	Fast break
		6798 - 6808 maximum 178 ft/hr at 6808
		Picked up off bottom flow check - no flow Circulated Out Bottoms Up 10.42 22/7/77
		CITCUINCO ONC DOCCOMD OF ICTA BELLIN
770-80	90%	Limestone - buff to brown, very hard, dense, micritic, slightly
		pyritic.
	10%	Calcareous Mudstone - as above
		Trace Siltstone - as above
	•	Trace pyrite, glauconite, forams, fossiliferous fragments - mineral
1	:	fluorescence
		Trace loose quartz grains, angular, cloudy, no show
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FLOUNDER-6

BELLIS 22/7/77

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DEPTH	ိုး	DESCRIPTION
5780-90	50%	Sandstone - Cream to milky, fine to very coarse, well calcareous cemented, dirty, very tight, subangular to subrounded grains,
· :		pale yellow fluorescence, no significant.
	40%	Limestone - as above Siltstone - dark brown, speckled appearance, clay to silt, slightly
	10%	calcareous, partly organic.
		Trace Coal, - black, virtreous, firm to hard Trace pyrite, glauconite, forams, fossiliferous fragments
5790-6800	40% 60%	Sandstone - as above Limestone - as above
		Trace Coal - as above Trace Siltstone - as above Trace pyrite, glauconite, forams, fossiliferous fragments.
6800-6008	60% 40%	Limestone - buff to brown, very hard, dense, microcrystalline. Sandstone - generally loose quartz grains, clear to cloudy, aggregates well cemented, calcareous cement, dirty, tight, subangul to subrounded equant grains, pale yellow fluorescence, no cut
		Trace Coal - black, vitreous, hard to firm. Trace pyrite, glauconite, forams, fossiliferous fragments.
5780		0.5 Hot Wire 201 C $26C_2$ $18C_3$ Trace C $_4$
-		
5790		
- 1		
5800		1 Hot Wire 410C $63C_2 45C_3 15C_4$
5808		Bottoms Up Cuttings Gas 31 units (shows its tight) Steam still $C_1 72 C_2 8 C_3 9 C_4$ Trace C_5 Trace
5800-10 '	70%	Sandstone - generally loose quartz grains, fine to very coarse, some granule, clear to milky, subangular to subrounded, aggregates very calcareous cement, well cemented, dirty, tight pale yellow fluorescence in all of quartz aggregates no cut. Limestone - buff to brown, very hard, dense, brittle, microcrysta- lline.
		Trace Coal - black, virtreous, firm to hard. Trace pyrite
5810-20	90% 10%	Sandstone - as above Limestone - as above
		Trace pyrite, coal
5820-30	80% 20%	Sandstone - as above Limestone - as above
		Trace pyrite, glauconite, fossiliferous fragments Trace Siltstone - dark brown, silt to clay, firm to soft, partly organic, slightly calcareous.
5830-40	80%	Sandstone - cream, fine to very coarse, granule, poorly sorted, clear to milky, subangular to wellrounded, generally loose quartz

FLOUNDER-6

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BELLIS 22/7/77

DEPTH	ς	DESCRIPTION
6830-40		Continued
	20%	silty, aggregates have pale yellow fluorescence, no cut - may be carbonate mineral fluorescence to some extent Limestone - buff to brown, very hard, dense, brittle, microcrystalline.
		Trace Siltstone - dark brown, clay to silt, firm to soft, slightly calcareous. Trace pyrite, glauconite.
6840-50	80% 10%	Sandstone - as above Limestone - as above
	10%	Siltstone - as above
	-	Trace pyrite, fossiliferous fragments, coal Trace Calcareous Mudstone - light grey, clay to silt, firm to soft, silty
6850-60	80%	Sandstone - as above
	10% 10%	Limestone - as above - some almost orange colour Siltstone - as above
		Trace pyrite, fossiliferous fragments, rare coal
6860-70	80%	Sandstone - cream to light grey, fine to very coarse and granule as loose grains, generally very fine to medium aggregates well
	10%	cemented with calcareous cement, subangular to rounded, aggregates show pale yellow fluorescence with no cut. Limestone - buff to brown, very hard, dense, brittle, microcrysta- lline
	10%	Siltstone - dark brown, silt to clay, firm to soft, partly organic, slightly calcareous.
		Trace pyrite, fossiliferous fragments, calcareous.
6870-80	10%	Sandstone - as above
	20% 10%	Calcareous Mudstone - light grey, clay to silt, firm to soft, silty Limestone - as above
		Trace Siltstone - as above
		Trace pyrite, fossiliferous fragments
6880-90	75%	Sandstone - cream to light grey, loose grains quartz fine to very coarse to granule, aggregates - ver fine to medium well cemented, ; calcareous cement, all show pale yellow fluorescence, no cut, sub- angular to rounded, hard to rarely friable.
	15%	Siltstone - dark brown, clay to silt, firm to soft, partly organic, slightly calcareous.
	10%	Limestone - buff to brown, very hard, dense, brittle, microcrysta- lline.
		Trace Calcareous Mudstone - light grey, clay to silt, firm to soft, moderately calcareous. Trace pyrite, fossiliferous fragments, glauconite
6890-6900	70%	Limestone - as above, aggregates often have black coaly inclusions
	10%	occasionally pyritic. Calcareous Mudstone - as above
	15%	Siltstone - as above
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FLOUNDER-6

BELLIS 22/7/77 .

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DEPTH	ŗ;	DESCRIPTION
68 9 0-6900		Continued
	5%	Limestone - as above
		Trace abundant pyrite, fossiliferous fragments.
6900-10	80%	Limestone - as above.
	10% 10%	Siltstone - as above Limestone - as above
		Trace pyrite, glauconite, fossiliferous fragments
		Trace Calcareous Mudstone - as above
6910-20	100%	Sandstone - cream to light grey, medium to granule, generally loose quartz grains, subangular to rounded, poorly sorted, clear to milky, aggregates fine to medium, well cemented - calcareous often silty - show weak yellow fluorescence, no cut - hard, rarely friable. Trace Calcareous Mudstone - light grey, clay to silt, firm to soft,
		moderately calcareous Trace Siltstone - dark brown, partly organic, firm to soft Trace Limestone - buff to brown, very hard, dense, micritic Trace pyrite, fossiliferous fragments, glauconite
6920-30	60% 30%	Sandstone - as above Calcareous Mudstone - as above
•	10%	Siltstone - as above
		Trace Limestone - as above
6936		Flush Riser. Pumps slug. Drop survey pulled out of hole. Ran in
		hole New bit #6 (Bit #7) $8\frac{1}{2}$ " HTC XDV Back on Bottom 0440 hours 23/7/77 0700hrs-6991' TG =5 units 2341C 207C 180C 61C Tr C 5
6930-40 '	60%	Calcareous Mudstone - light to medium grey, clay to silt, firm,
	30%	moderately calcareous. Sandstone - cream to light grey, fine to very coarse, very poorly sorted, aggregates well cemented with calcareous cement, show pale yellow fluorescence, subangular to rounded clear to cloudy grains,
	10%	no cut fluorescence. Siltstone - dark brown, clay to silt, firm to soft, slightly calcareous
		Trace limestone - buff to brown, very hard, dense, brittle, f microcrystalline Trace coal - pyrite, fossiliferous fragments.
6940-50	80%	Sandstone – as above – most aggregates broken up so very little fluorescence
2	10%	Calcareous Mudstone - as above
	10%	Siltstone - as above
		Trace Limestone - as above, coal, pyrite, glauconite, fossiliferouš
6950-60	90% 10%	Sandstone - as above Siltstone - dark brown to black tar like - as above
		Trace limestone - as above - trace coal, pyrite, glauconite, fossiliferous
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FLOUNDER-6

	•	FLOUNDER-6 BELLIS
•		22/7/77
DEPTH	ç	DESCRIPTION .
5960-70	90%	Sandstone - as above shows only a trace of pale yellow fluorescence
. · ·	10%	Black tar cement on some grains Siltstone - as above
		Trace limestone - as above, coal, pyrite, glauconite, fossiliferous
5970-80	80%	Sandstone - cream to light grey, generally loose quartz grains medium to very coarse, aggregates strongly cemented with calcareous cement - show pale yellow fluorescence, no cut · partly HC and partly mineral fluorescence. Some sand cemented with black tarry substance no fluorescence but slow yellow/white cut fluorescence.
	10% 10%	Calcareous Sandstone - light to medium grey, firm to soft. Siltstone - dark brown, firm to soft, clay to silt, slightly calcareous.
		Trace pyrite, fossiliferous fragments, glauconite.
6980–90	100%	Sandstone - cream to light grey, very fine to very coarse, very poorly sorted, subangular to rounded grains, mainly loose quartz grains, some very fine to medium aggregates strongly cemented with calcareous cement, show rare pale yellow fluorescence, partly mineral and partly HC fluorescence (~ 5 %) some very fine to fine quartz cemented with black tar - no fluorescence but shows white cut fluorescence.
-		Trace Calcareous Mudstone - light to medium grey, clay to silt, firm, moderately calcareous Trace Limestone - buff to brown, very hard, dense, brittle, microcrystalline.
		Trace Siltstone - dark brown to black, firm to soft, slightly calcareous partly organic and tarry. Trace pyrite, glauconite, fossiliferous fragments.
5990-7000	90%	Sandstone - as above 10% is very fine quartz cemented with tar
	10%	Calcareous Mudstone/Siltstone - as above
		Trace abundant pyrite, glauconite, fossiliferous fragments.
7000-10	90% 10%	Sandstone - as above Calcareous Mudstone - as above
		Trace Limestone – as above Trace pyrite, Siltstone – as above; coal
7010-20	75% 15% 10%	Sandstone - as above Calcareous Mudstone - as above Siltstone - as above
	10.0	Trace Limestone - as above Trace pyrite, coal.
7020-30	70%	Sandstone - cream to light grey, very fine to very coarse, generally aggregates - well cemented with calcareous cement- no fluorescence,
	20%	<u>no</u> cut, subangular to rounded grains, very dirty rare tar cemented grains, <u>no</u> fluorescence, <u>no</u> cut Siltstone - dark brown to black, clay to silt, firm to soft,
	10%	slightly calcareous. Calcareous Mudstone - light to medium grey, silty, firm trace pyrite, coal, limestone - as above, glauconite.

FLOUNDER-6

BELLIS 23/7/77

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DEPTH	с, с, ,	DESCRIPTION
7020-30 Continue	đ 10%	Note: Chromatograph readings have decreased.
7030-40	80%	Sandstone - cream to light grey, very fine to very coarse, sub-
		no fluorescence, no cut, firm to hard rare tar cemented guartz grai
	10%	- no cut, no fluorescence Siltstone - dark brown to black, speckled appearance, clay to silt, firm to soft, slightly calcareous.
	10%	Calcareous Mudstone - light grey, firm, silty.
		Trace Limestone - buff to brown, very hard, dense, brittle Trace pyrite, glauconite, rare coal.
7040- 50	70%	Sandstone – as above (\sim 5%) tar cemented sand rare has slow cut fluorescence.
	20% 10%	Siltstone - as above Calcareous Mudstone - as above, buff to light grey
		Trace pyrite, coal/tar, rare foram
7050-60	80%	Sandstone - as above
	10% 10%	Calcareous Mudstone - as above Siltstone - as above
		Trace pyrite, coal
70 60-70	90%	Sandstone - cream to light grey, fine to very coarse, generally
		loose grains, subangular to rounded, very poorly sorted, no show aggregates strongly cemented (calcareous) - no show
	10%	Siltstone - dark brown, firm to soft, clay to silt, slightly calcareous
		Trace pyrite, coal/tar Trace Calcareous Mudstone - light to medium grey buff - clay, silty, firm
7070- 80	90%	Sandstone - as above aggregates show weak pale yellow fluorescence,
		no cut. Only rare tar cemented sands, no fluorescence, weak white cut.
	10%	Calcareous Mudstone - as above.
		Trace Limestone – buff to brown, very hard, dense Trace pyrite, siltstone – dark brown – as above.
70 80-90	100%	Sandstone - fine to granule, all loose grains, no show, as above great looking sand.
		Trace Siltstone - as above Trace Calcareous Mudstone - as above Trace pyrite
 7 090-7100		As above
		Trace pyrite, glauconite
7100-10	1000	
100-10	100%	Sandstone - cream, fine to granule, subangular to vellrounded, very poorly sorted, generally loose grains, rare firm to medium aggregates - strongly cemented - calcareous cement, - some show pale yellow fluorescence
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LITHOLOGICAL DESCRIPTIONS FLOUNDER-6

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BELLIS 23/7/77

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DEPTH	۳. ت	DESCREPTION
7100-10 Continued	•••	Trace Siltstone - dark brown, clay to silt, firm to soft, slightly calcareous
		Trace Calcareous Mudstone - light grey, silty, firm, moderately calcareous. Trace pyrite.
7110-20	100%	Sandstone – as above
		Trace Siltstone - as above Trace Calcareous Mudstone - as above Trace Limestone - as above, pyrite.
7125		15.00 ho ur s 23/7/77 Pump slug Pulled Out of Hole Ran in Hole New Bit #7 (Bit #8) 8½" HTC J44 Back on Bottom 2200 hours 23/7/77 TG 1.5 Hot Wire 623C ₁ 30C ₂
		18C ₃ 15C ₄ TrC ₅
.7120-30	90%	Sandstone - cream to light grey, fine to granule, subangular to wellrounded, poorly sorted, mainly loose grains, aggregates of very fine to medium grains strongly cemented - calcareous cement - show pale yellow fluorescence no cut.
	10.8	Siltstone - dark brown, clay to silt, hard to soft, pyritic, slightly calcareous
	· }	Trace pyrite, Limestone - buff to brown, hard, dense
7130-40	70% 20%	Sandstone - as above Siltstone - as above
	10%	Calcareous Mudstone - light grey, silty, firm to soft, moderately calcareous
		Trace pyrite, Limestone - as above
7140-50	50% 25% 15% 10%	Sandstone - as above Calcareous Mudstone - as above Siltstone - as above Limestone - as above
		Trace pyrite
		Fast interval 7158-7218 ROP increase from 10-16 ft/hr to 65-117 ft/hr avg. 60ft/hr Flow check 7160 - no flow Flow check 7171 - no flow
71 50-60	60%	Sandstone - cream to light grey, very fine to coarse, subangular to rounded, poorly sorted, generally loose quartz grains, aggregates strongly cemented - 0 porosity and permeability - rarely show
	25%	pale yellow fluorescence - no cut, cuts white after HCl Siltstone - dark brown to black, clay to silt, partly organic,
	10% 5%	firm to soft, slightly calcareous. Limestone - buff to brown, very hard, dense, microcrystalline Calcareous Mudstone - light to medium grey, silty, firm
		Trace pyrite, fossiliferous fragments
7160-70	50%	Sandstone – as above
	20% 20%	Siltstone – as above Calcareous Mudstone – as above
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FLOUNDER-6

BELLIS 24/7/77

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DEPTH	¢ ĵ	DESCRIPTION
7160-70 Continued	10%	Limestone - as above
		Trace Coal/Tar - black, silty, a few fine quartz grains, no fluorescence, weak white cut fluorescence
-		Trace pyrite.
7170-80	80%	Sandstone – cream to light grey, very fine to granule, generally medium to coarse, subangular to rounded, poorly sorted, mainly loose grains, aggregates strongly cemented, 0 porosity and permeability – some show pale yellow fluorescence – no cut, cuts white after dissolving in HCl
	20%	Siltstone - buff to dark brown - black, clay to silt, firm to soft, slightly calcareous
		Trace Limestone - buff to brown, hard, dense, microcrystalline Trace Calcareous Mudstone - as above Trace pyrite, tar/coal - as above
7180-90		As above
7 190-7200	90% 10%	Sandstone – as above Siltstone – as above
		Trace Limestone - as above, Calcareous Mudstone - as above Trace coal, pyrite, glauconite
7200-10		As above
7210-20	100%	Sandstone - as above
		Trace Siltstone - as above Trace Limestone - as above Trace Calcareous Mudstone - as above Trace pyrite, coal
7720-30	90% 10%	Sandstone - cream, fine to granule generally medium to coarse, subangular to rounded, poorly sorted, gnerally loose grains, aggregates strongly cemented - calcarcous cement, rarely firm, show pale yellow fluorescence, weak white cut when dissolved in HCl. Siltstone - buff to brown, firm to soft, clay to silt, partly organic, slightly calcareous
		Trace Limestone - buff to brown, very hard, dense, microcrystalline Trace pyrite, coal/rare tar
7 230-40	100%	Sandstone - as above
		Trace Siltstonc - as above Trace Calcareous Mudstone - as above Trace pyrite, coal
7240-50	100%	Sandstone - as above
		Trace Limestone - as above Trace Siltstone - as above; Calcareous Mudstone - as above Trace pyrite, glauconite, coal

FLOUNDER-6

BELLIS 24/7/77

DEFTI 5 DESCRIPTION 7250-50 908 Sendstone - croam to light groy, fine to granule, generally medium to course grains, minangular to wellfromded, poorly sorted, mminity loose grains, minangular to wellform to be like store and by the source of the store of the st		r 1	
7260-70 90% Sandstone - eream to light grey, fine to granule, generally medium to coarse grains, subangular to wellrounded, poorly sorted, mainly loces graine, clear, white aggregates strongly comented with colestrous common, commonly frosted show pale yellow fluorescence, weak white out in RCI. 10% Limestone buff to brown, very hard, dense, micritic 7270-80 As above 7280-90 As above 7300-10 90% Sandstone - as above Trace Call pyrite, coal Trace Call pyrite, coal 7300-10 90% Sandstone - as above Trace coal, pyrite, coal Trace coal, pyrite, glauconite 7310-20 80% Sandstone - as above grades to pubbly sandstone 20% Sandstone - as above grades to pubbly sandstone 21% Limestone - as above diverse grades, subongular to wellrounded, grains clear to milly diver coales, subongular to wellrounded, grains clear to milly diver coales, subongular to wellrounded, grains clear to milly diverse coal, grains, firm to granule, generally wellim coreas above. <	DEPTH	ę	DESCRIPTION
to coarse grains, subangular to wellrounded, poorly sorted, mainly losse grains, clear, white aggregates strongly connected with calcarcous commonly frasted show pale yellow fluorescence, weak white out in BCI. 101 Limestone - buff to brown, very hard, dense, micritic 7770-80 As above 7280-90 As above 7300-10 908 Sandstone - as above Trace Coal, pyrite. 7310-20 904 Sandstone - as above grades to pebbly sandstone 7310-20 905 Sandstone - sa above grades to pebbly sandstone 7320-30 1005 Sandstone - sa above grades to pebbly sandstone 7330-40 As above - No shows. Trace pyrite, coal, glauconite 7340-50 10	7250-60		As above
Trace Calcareous Nudstone - light to medium grey, firm to soft, clay to silt Trace pyrite, coal7270-80As above7280-90As above7280-90As above7290-73001001Sandstone - as above Trace Cal, pyrite.7300-10901Sandstone - as above Trace Coal, pyrite.7300-10905Sandstone - as above Trace pyrite, coal7310-20806Sandstone - as above grades to pebbly sandstone Limestone - as above Trace coal, pyrite, glauconite7320-301001Sandstone - an above grades to pebbly sandstone Limestone - as above Trace coal, glauconite7320-301001Sandstone - an anny loose quarts grains, firm to granule, generally 	7 260–70		to coarse grains, subangular to wellrounded, poorly sorted, mainly loose grains, clear, white aggregates strongly cemented with calcareous cement, commonly frosted show pale yellow fluorescence, weak white cut in HCL.
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7280-90 As above 7290-7300 100% Sandstone - as above Trace Coal, pyrite. 7300-10. 90% Sandstone - as above 7300-10. 90% Sandstone - as above Trace pyrite, coal 7310-20 80% Sandstone - as above grades to pebbly sandstone 10% Sandstone - as above Trace coal, pyrite, glauconite 7320-30 100% Sandstone - mainly loose quartz grains, firm to granule, generally medium to very coarse, subangular to wellrounded, grains clear to milky ofie, frosted, no show. 7330-40 As above - No shows. 7340-50 100% Sandstone - as above 7350-60 90% Sandstone - as above 7360-70 90% Sandstone - as above 7360-70 90% Sandstone - crean to light grey, fine to granule, generally medium to coarse, subangular to wellrounded, very poorly sorted, all loose grains, no show 7360-70 90% Sandstone - crean to light grey, fine to granule, generally medium to coarse, subangular to wellrounded, very poorly sorted, all loose grains, no show 7370-80 90% Sandstone - as above, ~5% aggregates - show pale yellow fluores-			
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10%Limestone - as aboveTrace pyrite, glauconite7360-7090%Sandstone - cream to light grey, fine to granule, generally medium to coarse, subangular to wellrounded, very poorly sorted, all loose grains, no show Limestone - buff to brown, very hard, dense, micriticTrace pyrite, glauconite7370-8090%Sandstone - as above, ~ 5% aggregates - show pale yellow fluores-			
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10%Limestone - buff to brown, very hard, dense, micriticTrace pyrite, glauconite7370-8090%Sandstone - as above, ~ 5% aggregates - show pale yellow fluores-	7 360-70	90%	to coarse, subangular to wellrounded, very poorly sorted, all
7370-80 90% Sandstone - as above, ~ 5% aggregates - show pale yellow fluores-		10%	Limestone - buff to brown, very hard, dense, micritic
	•		
	7370-80	90%	
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BELLAS 24/7/77

DEPTH	°.	DESCRIPTION
7370-80 Continued	10%	Limestone - as above
		Trace pyrite, glauconite
7 380-90	80% 20%	Sandstone – as above, some very silty aggregates Limestone – as above
		Trace Siltstone - dark brown, clay to silt, firm to soft, pyritic Trace pyrite, glauconite
7 390-7400	90%	Sandstone - cream to light grey, fine to granule, generally " medium to coarse, subangular to wellrounded, very poorly sorted, loose quartz grains, aggregates calcareous cement show pale
	• 10%	yellow fluorescence, no cut Limestone - buff to brown, very hard, dense, brittle, micritic, slightly pyritic.
		Trace pyrite, glauconite
7400-10		As above
7410-20	100%	Sandstone - as above - no show
		Trace Limestone – as above, silty Trace pyrite.
7420-30	100%	Sandstone - cream to light grey, fine to granule, generally medium to coarse, subangular to wellrounded, clear to milky, commonly frosted, very poorly sorted, mainly loose grains, aggregates are strongly cemented - with calcareous cement - show
		pale medium yellow mineral fluorescence, no cut even when dissolved in HCl
•		Trace Limestone - buff to brown, very hard, silty, dense ". Trace pyrite ". Trace Siltstone - buff to dark brown, firm to soft, slightly calcareous
7430-40	100%	Sandstone - as above
		Trace Limestone - as above, Siltstone - as above, pyrite
7440-50		As above
7 450-60	65% 25% 10%	Sandstone - as above Coal - black, vitreous, hard Limestone - as above
		Trace pyrite.
		Tentative top of coal sequence, base of Flounder Channel 7407' – Drilling break first coal in 7450-60' sample – corresponding increase in gas on chromotograph C_1, C_2, C_3 .
		- 1 2 3
7460-70	50%	Sandstone - cream to light grey, very fine to granule, generally medium to coarse, subangular to wellrounded, very poorly sorted, generally loose grains, aggregates well cemented, no show
· · · · · · · · · · · · · · · · · · ·	40%	Coal - black, vitreous, hard
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DEPTH	<i>ب</i> ن 	DESCRIPTION
7460-70 Continue	1 10%	Siltstone - buff to dark brown, firm to soft, slightly calcareous.
		Trace Limestone - buff to brown, very hard, dense Trace pyrite.
74 70-80	50% 40%	Sandstone - as above Coal - as above
	10%	Siltstone - as above
—		Trace pyrite
7480-90	100%	Coal - black, vitreous, hard, slightly pyritic.
-		Trace Sandstone - white, medium to coarse, loose quartz grains, angular to rounded, poorly sorted, no show
7 490-7500		As above
х. _ 10		Trace Siltstone - brown, clay to silt, firm
7 500-10	90% 10%	Coal - as above, coal seen degassing Sandstone - as above
-		Trace Siltstone – as above Trace pyrite
7510-20	90% 10%	Sandstone - as above Coal - as above
		Trace Siltstone - as above Trace pyrite
- 7520-30	100%	Sandstone - cream, fine to granule, mainly medium to coarse, subangular to wellrounded equant grains, poorly sorted, generally loose quartz grains, aggregates cemented by calcareous cement - pale yellow fluorescence, no cut.
		Trace Coal - black, vitreous, hard, Trace Siltstone - brown, clay to silt, firm. Trace Limestone - buff to brown, very hard, dense, micritic Trace pyrite.
7530-40	90% 10%	Sandstone - as above Coal - as above
		Trace Siltstone - as above Trace pyrite
7540-50	100%	Sandstone - as above
		Trace Coal – as above Trace Siltstone – as above
7550-60		As above
		Trace pyrite.
7560-70	100%	Sandstone - white, fine to very coarse, occasionally granular, subangular to rounded, poorly sorted, generally loose grains.
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BELLIS 24/7/77

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DEPTH	ŗ,	DESCRIPTION
7 560-70		Continued
		Trace Siltstone - brown, clay to silt, firm. Trace coal - black, vitreous, hard. Trace pyrite.
757 0-80	90%	Sandstone - white, fine to very coarse, some granular, subangular to equant grains, generally loose grains no show, good porosity
	10%	and permeability. Coal - black, vitreous, hard.
		Trace Siltstone - brown, firm to soft, clay to silt Trace pyrite.
7 580-90	50% 50%	Sandstone - as above. Coal - as above.
		Trace Siltstone - as above; pyrite.
7590-7600	90% 10%	Sandstone – as above Siltstone – as above
		Trace Coal - as above Trace pyrite.
7600-10	80%	Sandstone - white, fine to very coarse, subangular to rounded
	10% 10%	equant grains, poorly sorted, unconsolidated,no show Siltstone - buff to brown, clay to silt, firm to soft. Coal - black, vitreous, hard.
		Trace pyrite.
7610-20	70% 15%	Sandstone - as above
	15%	Siltstone - as above, pyritic, carbonaceous - seat earth
		Trace pyrite.
7620-30	80% 10% 10%	Sandstone – as above Coal – as above Siltstone – as above
		Trace pyrite
7630-40	60%	Sandstone - white, fine to very coarse, subangular to rounded equant grains, very poorly sorted, unconsolidated, no show
	30% 10%	Siltstone - buff to brown, clay to silt, firm to soft Coal - black, vitreous, hard.
		Trace pyrite
7 640–50	80% 20%	Sandstone - as above Siltstone - as above
		Trace Coal – as above Trace pyrite.
7650-60	75%	Sandstone - white to light grey, very fine to very coarse, subangula to rounded equant grains, very poorly sorted, unconsolidated, no show, occasionally aggregate to friable.

FLOUNDER-6

BELLIS 24/7/77

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DEPTH	°.	DESCRUPTION
76 50-60		Continued
	15% 10%	Coal - black, vitreous, hard Siltstone - buff to brown, clay to silt, firm to soft, pyritic, carbonaceous
		Trace pyrite.
7 660–70	100%	Coal - black, vitreous, hard, pyritic
		Trace Sandstone - as above Trace pyrite.
7670-80	100%	Coal - as above
		Trace Siltstone - buff to brown, soft, pyritic, carbonaceous Trace Sandstone - as above unconsolidated. Trace pyrite.
7 680-90		As above
7 690-7700	80% 20%	Coal - black, vitreous, hard, pyritic Sandstone - white, very fine to very coarse, subangular to rounded equant grains, unconsolidated, friable.
•		Trace Siltstone - buff to brown, clay to silt, firm to soft, , pyritic, carbonaceous
77 00-10	70% 30%	Coal - as above Sandstone - as above
		Trace Siltstone - as above Trace pyrite
7710-20	60% 40%	Coal - as above Sandstone - as above
		Trace Siltstone - as above Trace pyrite
77 20-30	100%	Sandstone - white, fine to very coarse, subangular to rounded equant grains, completely friable, no show
		Trace Coal - black, vitreous, hard - as above Trace Siltstone - buff to brown, firm to soft, clay to silt, pyritic, carbonaceous. Trace pyrite.
77 30-40	90%	Sandstone - white, fine to very coarse, very poorly sorted,
	10%	subangular to rounded equant grains, friable, no show. Coal - black, vitreous, hard, pyritic.
		Trace Siltstone - buff to brown, clay to silt, firm to soft, pyritic, carbonaceous Trace pyritic.
77 40–50	100%	Sandstone – as above
		Trace Coal - as above Trace Siltstone - as above; pyrite.

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 DEPTH	5	DESCRIPTION
7750-60	100%	Sandstone – as above
		Trace Coal - as above; Siltstone - as above; pyrite
77 60-70		As above
7770-80		As above
7780-90	100%	Sandstone - white, fine to granular, generally medium to very coarse, subangular to rounded equant grains, very poorly softed, clear to milky often frosted grains, completely unconsolidated, no show.
		Trace Coal - black, vitreous, hard, slightly pyritic. Trace Siltstone - buff to brown, clay to silt, firm to soft, slightly pyritic and carbonaceous. Trace pyrite.
` 77 90-7800	100%	Sandstone - as above
		Trace Coal - as above Trace Siltstone - as above; pyrite
7800-10	90% 10%	Sandstone – as above Coal – as above
• • • • • • • • • • • • • • • • • • •		Trace Siltstone - as above Trace pyrite.
7810-20	100%	Sandstone - white, fine to very coarse, generally medium to coarse, subangular to rounded equant grains, very poorly sorted, : clear to milky often frosted grains, friable, no show
		Trace coal, pyrite, siltstone - as above
7820-30	90% 10%	Sandstone - as above Coal - as above
		Trace Siltstone - as above Trace pyrite.
7830-40	90%	Sandstone - white, fine to granular, generally medium to very coarse, subangular to rounded equant grains, very poorly sorted,
	10%	clear to white often frosted grains, very friable, no show Coal - black, vitreous, hard, slightly pyritic
		Trace Siltstone - buff to brown, clay to silt, firm to soft, . slightly pyritic, carbonaceous. Trace pyrite.
7840-50	100%	Sandstone - as above
		Trace Coal – as above Trace Siltstone – as abové Trace pyrite.
7850-60		As above
7860-70	100%	Sandstone - white, fine to granular, mainly medium to coarse,
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DEPTH	ç. V	DESCRIPTION
7 860–70	100%	Continued
		subangular to wellrounded equant grains, very poorly sorted, clear to white often frosted grains, very friable, no shows
		Trace Coal - black, vitreous, hard, slightly pyritic. Trace pyrite
		Trace Siltstone - buff to brown, clay to silt, firm to soft, slightly pyritic, carbonaceous.
7870-80	100%	Sandstone - as above, increases in aggregates of firm to medium quartz grains - firm to friable.
		Trace Coal - as above - cavings Trace Siltstone - light to medium grey, calcareous cavings.
7 880-90	100%	Sandstone – as above $\sim 10\%$ is composed of silty very fine to fine aggregates – frequently pyritic
-		Trace Coal - as above Trace Siltstone - as above
7890-7 900	70%	Sandstone - white, fine to granular, mainly medium to coarse, subangular to rounded equant grains, very poorly sorted, clear to
_ 3	20%	white often frosted grains, all loose quartz, no shows. Silty Sandstone - light grey, silty to fine, subangular to sub- rounded grains, very poorly sorted, moderately cemented in
	10%	aggregates, dirty sandstone - firm to slightly friable, no shows . Siltstone - buff to brown, clay to silt, firm to soft
• • • • • • • • • • • • • • • • • • •		Trace pyrite, coal - cavings.
7900-10	70%	Sandstone - white, fine to very coarse, very poorly sorted, subangular to rounded equant grains, very friable, no show
······································	30%	Silty Sandstone - light to medium grey, silt to fine, very poorly sorted, strongly cemented with partly dolomitic,carbonate cement, subangular to subrounded grains, hard to firm, no shows.
		Trace Siltstone - buff to brown, firm to soft, clay to silt Trace Coal cavings, pyrite.
7910-20	60% 40%	Sandstone – as above Silty Sandstone – as above, slightly pyritic.
		Trace Siltstone - as above Trace pyrite.
7920-30	50% 50%	Sandstone – as above Silty Sandstone – as above strongly cemented quartz grains- calcareous cement.
-		Trace pyrite.
7930-40	30%	Sandstone - white, fine to very coarse, loose quartz grains, subangular to wellrounded equant grains, very poorly sorted,
	70%	very friable, no show. Silty Sandstone - light to medium grey, silt to medium grains strongly cemented - aggregates - dolomitic cement, very poorly sorted. O porosity and permeability, no show, some pyritic, silty, mineral fluorescence, no cut
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æp'n	ŗ,	DESCRIPTION
930-40		Continued
•		Trace pyrite, coal cavings?
,940-50	50% 50%	Sandstone - as above, unconsolidated. Silty Sandstone - as above, hard dolomitic sand grains.
		Trace pyrite.
	<u>.</u>	Trace Siltstone - buff to brown, firm to soft, clay to silt.
950-60	50% 50%	Sandstone - as above, unconsolidated Silty Sandstone - as above
•		Trace pyrite
196070	50%	Sandstone - white, fine to very coarse, poorly sorted unconsolidate
	50%	quartz grains, subangular to subrounded equant grains, no show Silty Dolomitic Sandstone - light to medium grey, silty to medium,
-		<pre>very poorly sorted, grains strongly cemented by dolomitic/ carbonate cement - very hard, some show pale yellow fluorescence, no cut.</pre>
		Trace Siltstone - dark brown, firm to soft, clay to silt Trace pyrite.
797 0-80	50%	Sandstone - white, fine to very coarse, subangular to rounded
	40%	equant grains, very friable, no show. Silty Dolomitic Sandstone - light to medium grey, silt to medium grains, subangular to subrounded grains, generally grains cemented
	10%	by dolomite, very hard. Siltstone - buff to brown, clay to silt, firm to soft
		Trace pyrite.
7987		Increase in gas on FID C.G. = 14 units. Tr 1 unit Hot Wire $516C_1 \ 81C_2 \ 54C_3 \ 23C_4 \ TrC_5$
-	100%	Sandstone - as above friable, no fluorescence, no cut even from unwashed sample.
980-90	40%	Sandstone - as above
	50% 10%	Silty Dolomitic Sandstone – as above Siltstone – as above
		Trace pyrite; coal cavings?
990-8000	50%	Sandstone - white, fine to very coarse, subangular to rounded equant grains, very friable, no shows, unconsolidated
_	40%	Silty Sandstone - light to medium grey, silt to medium grains often show pale yellow fluorescence, no cut in dissolving HCl - cemented by dolomite, very hard. Often aggregates also friable,
-	10%	<pre>slightly pyritic. Siltstone - buff to brown, clay to silt, firm to soft, carbonaceous, slightly pyritic.</pre>
		Trace pyrite, coal cavings
3000-10	.70% 20% 10%	Sandstone – as above Silty Sandstone – as above Siltstone – as above

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FLOUNDER-6

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BELLIS 24/7/77

90000 1689200 D 1899-1990 B 1997-19

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DEPTH	<u> </u>	DESCRIPTION	<u>}</u>	
8000-10		Continued		•
		Trace pyrite, coal cavings		
8010-20	80% 20%	Sandstone – as above Silty Sandstone – as above		• •
		Trace pyrite, coal. Trace Siltstone		1
8020-30	60%	Silty Sandstone - light to medium grey, subangular to subrounded equant grains,	very poorly sort	ed,
	40%	well cemented with dolomite/carbonate glauconitic, no show, slightly pyritic Sandstone - white, fine to very coarse, equant grains, very friable, unconsolida	· · ·	·
1. 1.		Trace Siltstone - dark brown, clay to si slightly pyritic, carbonaceous Trace pyrite, glauconite.	ilt, firm to soft	
8030-40	50% 50%	Silty Sandstone - as above, some friable Sandstone - as above	2	· · .
		Trace pyrite, siltstone - as above		
8040-50	40% 40%	Sandstone – as above Silty Sandstone – as above	• •	L .
	20%	Siltstone/Mudstone - buff to light grey, soft.	, clay to silt, f	irm to
		Trace pyrite, coal		
8050-60	30% 60%	Sandstone - white, fine to very coarse to subrounded equant grains, unconsolida Silty Sandstone - buff to light grey, si	ated ilt to very fine,	very
	10%	poorly sorted, (abundant) glauconitic, p to soft, dolomitic carbonate cement. Siltstone - buff to brown, clay to silt organic, carbonaceous		
		Trace pyrite, coal.		•
8060-70	20% 60%	Sandstone – as above Silty Sandstone – as above		Ĩ
	20%	Siltstone - as above		
		Trace pyrite, glauconite, coal cavings?	•	•
8070-80	25% 60%	Sandstone – as above Silty Sandstone – as above		
	15%	Siltstone/Mudstone - as above		•
8090		Trace pyrite, glauconite, coal Large increase in gas.	20 610 m~0	• •
		Hot Wire 6 CG 24 2554C 355C 16: Pull off bottom check samples both washe fluorescence and no cut. Gas rapidly steadied.	· · ·	- no
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FLOUNDER-G

BELLIS 25/7/77

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EPTH	r U	DESCRIPTION 5
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80-8090	20%	Sandstone - white, fine to very coarse, poorly sorted, subangular
•• •	30%	to rounded equant grains, very friable, no show. Silty Sandstone - light to medium grey, silt to medium, very
	30.6	poorly sorted, abundant glauconite and pyrite, well cemented -
		dolomite - no show
	50%	Siltstone - light grey to buff, firm to soft, clay to silt, carbonaceous - poor white cut - gas seen bleeding out.
· · · · ·		
		Trace pyrite, glauconite.
90-8100	40%	Silty Sandstone – as above
JO 0100	20%	Sandstone - as above
	40%	Siltstone - as above
•		Trace pyrite, glauconite
100.10	20%	Sandstone - as above, no show
100-10	20% 60%	Silty Sandstone - as above, no show
·	20%	Siltstone - as above
· .		Trace pyrite, glauconite.
110-20	30%	Sandstone - white, fine to granular, very poorly sorted,
110-20	50%	clear to white frosted grains, very friable, no show.
	50%	Silty Sandstone - light to medium grey, silt to medium, very
_		poorly sorted, abundant glauconite and pyrite cemented with
•		quartz grains by dolomite, very hard, no show.
	20%	Siltstone - buff to brown, firm to soft, clay to silt, carbonaceous
•		Trace pyrite
		Trace glauconite.
120-8128	40%	Sandstone - white, fine to granular, very poorly sorted, clear to
•		white frosted grains, very friable, no show.
•		Silty Sandstone - light to medium grey, silt to medium, very poorly
	30%	sorted, abundant glauconite and pyrite cemented with quartz by
		dolomitic cement, very hard, no show.
	30%	Siltstone - buff to dark brown, clay to silt, fine to soft,
•.		carbonaceous, bearly degrassing, trace pyrite, glauconite.
		Drilled to 8128' C.O. Pump slug. Drop survey. Pulled out of
		hole 1746 hours 25/7/77 to core thru OWC @ 8397 KB. Hit bridge
		at 7094'. Started to ream. Pulled out of hole. RIH with bit to
		ream.
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FLOUNDER 6 DEVIATED HOLE

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			30/11/77
•	DEPTH	8	DESCRIPTION
Takin an	5330'~5350'	90%	MARL - light to medium grey, very soft, gluey,forams.
	•	10%	SILTSTONE - calcareous, medium grey, moderately firm, sandy sorting.
	5350'-5370'	90%	MARL - As above - light to medium grey, very soft, gummy, with some forams.
		10%	SILTSTONE - medium grey, firm, moderate to hard in parts, grading to very fine sandstone in part, calcareous.
	5370'-5390'		As above.
	5390'-5410'	90%	SILTSTONE - medium grey, firm, slightly sandy in part, grading to claystone with some forams.
		10%	MARL - light to medium grey, very soft, slightly gummy.
	5410'-5430'	50%	<u>SILTSTONE</u> - As above.
		_50%	MARL - As above.
	5430'-5450'	90%	SILTSTONE - moderately grey, firm, subfissile, calcareous, slightly sandy in part with some forams.
	· · ·	10%	MARL - light grey, very soft, gummy.
	5450 '- 5480'	90%	SILTSTONE, 10% MARL, however sample probably not representative of quantities, mostly marl suspected. Otherwise as above.
	5480'-5500'	90%	SILTSTONE - medium grey, calcareous, slightly sandy in part, subfissile tending to platy shapes, firm.
		10%	MARL - medium grey, calcareous, soft.
			Sphyerical, elliptical forams common to both lithologies, trace echinoid spines.
	5500 '- 5520'	90%	SILTSTONE, 10% MARL - Otherwise as above.
	5520'-5540'	80%	SILTSTONE, 10% MARL - Otherwise as above.
	5540 '- 5560 '	80%	MARL, 20% SILTSTONE - Otherwise as above.
	5560 '- 5580'	90%	SILTSTONE - medium grey, firm to moderately indurated, calca- reous, sandy in part, only slightly platy in part, with some forams.
		10%	MARL - light to medium grey, very soft, gummy.
	5580'-5600'	90%	<u>SILTSTONE</u> - As above.
		10%	MARL - As above.
	5600'-5620'	100%	SILTSTONE - medium grey, moderately indurated, very calcareous, sandy in part, slightly platy with some forams and fossiliferous fragments, some globules of white clay, possibly gel, trace pyrite, massive, crinoid stems?
	5620'-5640'	100%	SANDSTONE - As above with some trace Marl. Trace coal, black, hard, blocky, possibly lignite from mud.
	5640'-5660'	80%	SILTSTONE - As above.
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DEPTH	00	DESCRIPTION
		·
5640'-5660'	20%	\underline{MARL} - light to medium grey, gummy, trace coal, from mud, checked with mud man.
5660'- 5680'	80%	MARL - light to medium grey, very soft, gummy.
	20%	SILSTONE - medium grey, firm to moderately hard, as above.
5680'-5700'	90%	<u>SILTSTONE</u> - As above, trace pyrite, fossiliferous.
	10%	MARL - As above.
5700'-5760'		No sample due to depth correction and trip at 5779'. RIH with NB 14
5760'-5780'	50%	MARL - light grey, very soft, gummy, with some forams.
	50%	SILTSTONE - medium grey, firm to moderately indurated, sandy in part, pyrite, trace speresene and pipe dope.
5780'-5800'	. 80%	MARL - As above.
	20%	<u>SILTSTONE</u> - As above.
5800 '- 5820'	60%	CALCARENITE medium grey, grey to brown, moderately indurated, poorly indurated in part, argillaceous, trace glauconite, abundant forams, poor porosity.
	30%	SILTSTONE - medium grey, firm, as above, trace pyrite.
ŝ	10%	MARL - light grey, very soft, as above.
5820'-5840'	90%	SILTSTONE - medium grey, subfissile, trace glauconite, pyrite.
	10%	CALCARENITE - light grey to white, moderately indurated, trace glauconite, poor porosity. Forams abundant in both lithologies, echinoid spines.
5840'-5860'	90%	SILTSTONE, 5% CALCARENITE, 5% MARL - As above.
5860'-5880'	85%	SILTSTONE, 10% CALCARENITE, 5% MARL - As above.
5880'-5900'	90%	SILTSTONE - medium grey, moderately indurated, calcarenite (les: with some forams, slightly platy in part, argillaceous.
	10%	CALCARENITE - moderately indurated, medium grey, and grey to brown, fossiliferous, forams, poor visual porosity, trace marl.
5900' - 5920'	90%	SILTSTONE
	10%	CALCARENITE
5920'- 5960'	90%	<u>SILTSTONE</u> - As above.
	5%	CALCARENITE - As above.
	5%	MARL - As above.
5960'- 5980'	75%	SILTSTONE - As above.
	10%	CALCARENITE - As above.
	15%	MARL - As above.
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DEPTH	ß	DESCRIPTION
5980 '- 6000'	50%	SILTSTONE - medium grey, moderately indurated, subfissile, calcareous, argillaceous, trace glauconite and pyrite, forams, echinoid spines.
	50%	MARL - light grey, soft, forams.
6000'-6020'	50%	<u>SILTSTONE</u> - As above.
	50%	MARL - As above.
		Trace Calcarenite.
6020'-6040'	. 70%	<u>SILTSTONE</u> - As above.
	30%	MARL - As above.
6040'-6060'	80%	SILTSTONE - medium grey, moderate to well indurated, calcareous and argillaceous, trace pyrite and glauconite, forams and echinoic spines.
	20%	MARL - light grey, soft, silty, forams.
		Trace Calcarenite.
6060'-6080'	70%	<u>SILTSTONE</u> - As above.
	30%	MARL - As above.
н Талана (1997) Талана (1997)		Trace Calcarenite.
6080'-6100'	70%	<u>SILTSTONE</u> - As above.
	30%	MARL - As above.
6100 '- 6120'	70%	<u>SILTSTONE</u> - As above.
•	30%	MARL - As above.
6120'-6140'	70%	SILTSTONE - medium grey, moderate to well indurated, subfissile in part, slightly moderately calcareous and argillaceous, trace glauconite and pyrite, forams.
	30%	MARL - light grey, soft, slightly silty, forams, some echinoid spines.
6140'-6160'	70%	<u>SILTSTONE</u> - As above.
	30%	MARL - As above.
6160'-6180'	70%	<u>SILTSTONE</u> - As above.
	. 30%	MARL - As above.
6180'-6200'	70%	<u>SILTSTONE</u> - As above.
	30%	MARL - As above.
6200'-6220'	70%	SILTSTONE - light to medium grey, moderate to well indurated, subfissile, slight to moderately calcareous, slightly argillaceous trace pyrite, forams.
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FLOUNDER 6 DEVIATED HOLE

R. DO ROZARIO G. KJELLGREN

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	DEPTH	8	DESCRIPTION
		30%	MARL - light grey, soft, slightly silty, forams, echinoid debris in cuttings.
	6220'-6240'	70%	<u>SILTSTONE</u> - As above.
		30%	MARL - As above.
	6240'-6260'	100%	SILTSTONE - medium to dark grey, very calcareous, moderate to well indurated, platy in part, trace pyrite and mica, with some forams, occasional crystalline,clear, fibrous, brittle, non calcareous, probably gypsum.
	6260'-6280'	100%	<u>SILTSTONE</u> - As above.
•			NOTE: MARL BEING WASHED AWAY, PROBABLY 20-30%.
	6280'-6300'	80%	<u>SILTSTONE</u> - As above,trace green Siltstone, trace clear crystalline pyrite.
		20%	MARL - light grey, very soft, gummy.
	6300'-6320'	90%	<u>SILTSTONE</u> - As above.
		10%	MARL - As above.
-	6320'-6340'	90%	SILTSTONE - medium to dark grey, moderate to well indurated, platy in part, trace pyrite and mica, trace gypsum with some fossiliferous forams, also occasional trace green siltstone, argillaceous, non calcareous.
		10%	MARL - light grey, as above - STILL CARRYING TRACE LIGNITE.
	6340'-6360'	70%	SILTSTONE - medium to dark grey, as above, with some forams.
		20%	SILTSTONE - dark brown, firm to moderately indurated, slightly calcareous to non calcareous, trace glauconite, mica, sandy in part, trace gypsum.
•		10%	MARL - As above.
			NOTE: About 5% Lignite from mud.
	6360'-6380'	80%	SILTSTONE - medium to dark grey, as above.
		20%	SILTSTONE - dark brown, as above.
	6380'-6400'	90%	SILTSTONE - medium to dark grey, as above.
		10%	SILTSTONE - dark brown, as above.
	6400'-6420'	80%	SILTSTONE - medium to dark grey, moderately indurated, calcare ous, platy in part, with some mica, trace pyrite, some fossilifer- ous forams.
		10%	SILTSTONE - dark brown, slightly calcareous to non calcareous, firm to moderately indurated, trace glauconite, sandy.
		10%	LIMESTONE - calcilutite, brown to buff, well indurated, brittle forams, trace glauconite, trace gypsum.
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FLOUNDER 6 DEVIATED HOLE

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DEPTH	ş	DESCRIPTION
6420'-6440'	70%	<u>SILTSTONE</u> - medium grey, micaceous, sandy, slightly pyritic, slightly glauconitic, firm, very calcareous.
· · ·	30%	CALCARENITE - mainly skeletal, granular, light grey up to .lmm. Trace Marl - light grey, gooey. Trace lignite, skeletal fragments.
6440'-6460'	60%	<u>SILTSTONE</u> - medium grey, as above.
	30%	<u>SILTSTONE</u> - brown, very sandy, grading to fine Sandstone, glauconitic, carbonaceous, weakly calcareous, soft micaceous.
	10%	SANDSTONE - light grey to white to .lmm sorting fair, subangular very fine, trace Marl, Lignite skeletal fragments.
6460'-6480'	50%	SILTSTONE - Brown, as above.
· · ·	50%	<u>SILTSTONE</u> - medium grey, as above. Trace Sandstone - as above. Trace Marl, Lignite, skeletal fragments. Trace Pyrite, - cement between grains.
6480 '- 6500'	40%	<u>SILTSTONE</u> - brown, as above.
	. 50%	SILTSTONE - medium grey, as above.
	10%	SANDSTONE - As above. Trace Marl, Lignite, skeletal fragments, pyrite.
6500'-6520'	30%	SILTSTONE - brown, as above.
	60%	SILTSTONE - medium grey, as above.
	10%	SANDSTONE - as above.
		Trace Marl, Lignite, skeletal fragments.
6520 '- 6540 '	10%	SILTSTONE - dark brown, soft to firm, mica, carbonaceous, slightly glauconitic, slight to non calcareous, argillaceous.
•	70%	- medium grey, moderate to well indurated, subfissile, mica, calcareous, trace pyrite, forams, becoming very argillaceous, grading to mudstone.
	20%	CALCILUTITE - buff, well indurated, dense, forams, no porosity.
6540 '- 6560'	60%	SILTSTONE - dark brown, medium grey, as above.
	20%	CALCILUTITE - buff, as above.
	20%	MARL - light grey to brown, very soft, gummy.
6560 '- 5680'	80%	SILTSTONE - medium to grey, well indurated, subfissile, calcare- ous, mica, forams.
	10%	 dark brown, soft to firm, slightly-non calcareous, carbonaceous, mica, argillaceous, trace gypsum crystalline, clear, fibrous, brittle, non calcareous, trace pyrite.
	10%	CALCILUTITE - buff, dense, well indurated, trace Marl.
6580'-6600'	80%	SILTSTONE - medium to grey.
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FLOUNDER 6 DEVIATED HOLE

DEPTH	<u>8</u>	DESCRIPTION
6580'-6600'	20%	SILTSTONE - dark brown, sandy, trace calcilutite.
6600'-6620'	60%	<u>SILTSTONE</u> - medium grey, trace pyrite, forams, gypsum, mica, very argillaceous.
	20%	- dark brown, trace calcilutite.
	20%	MUDSTONE - medium grey, firm, calcareous, silty in part, slightly fossiliferous.
6620'-6640'	30%	SILTSTONE - dark brown, soft to firm, carbonaceous, mica, slightly calcareous.
	70%	MUDSTONE - medium grey, firm to moderately indurated, calcareous, silty in part, with some pyrite, few forams, possible cavings.
6640 '- 6660'	30%	SILTSTONE - as above.
	70%	MUDSTONE - As above, trace calcilutite.
6660'-6680'	30%	SILTSTONE - dark brown, soft to firm, carbonaceous, slightly calcareous, mica, slightly sandy in part.
	70%	MUDSTONE - medium grey, firm, moderately indurated, calcareous, pyrite.
	60%	MUDSTONE - medium grey, firm to moderately indurated, calcareou pyrite, silty in part, trace foram.
6680'-6700'	20%	SILTSTONE - dark brown, soft to firm, carbonaceous, slightly calcareous, sandy in part, mica.
	20%	CALCILUTITE - brown, well indurated, dense.
6700'-6720'	80%	SILTSTONE - as above, mainly firm.
	20%	MUDSTONE - as above, medium grey, trace Limestone.
6720'-6740'	70%	SILTSTONE - As above.
	30%	MUDSTONE - As above, trace green.
6740'-6760'	50%	SILTSTONE - dark brown, soft to firm, carbonaceous, mica, sandy in part.
	30%	MUDSTONE - medium grey, firm, calcareous, micaceous.
	20%	CALCILUTITE - brown, well indurated, silty in part, brittle.
6760'-6780'	10%	SANDSTONE - white, very fine to fine, subangular, friable to moderately cemented, slightly calcareous cement, no fluorescence or cut, fair sorting.
	30%	MUDSTONE - grey, as above.
	60%	SILTSTONE - dark brown, as above - more pyrite.
6780'-6800'	10%	SANDSTONE - As above.
	40%	MUDSTONE - grey, firm, calcareous, mica, trace pyrite, trace

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FLOUNDER 6 DEVIATED HOLE

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DEPTH	ş	DESCRIPTION
6780'-6800'	20%	<u>SILTSTONE</u> - dark brown, as above.
	30%	CALCILUTITE - dolomitic, dark brown, very well indurated, dense, slightly carbonaceous.
6800 '- 6820'	80%	SANDSTONE - loose grains, medium to very coarse, angular to sub- angular, clear and milky, fair sorting, few granules, no fluores- cence or cut.
	10%	MUDSTONE - As above.
	10%	<u>SILTSTONE</u> - As above.
6820'-6840'	70%	SANDSTONE - loose grains, clear to milky, as above.
	20%	MUDSTONE - grey, firm to moderately indurated, calcareous, pyrite.
	10%	SILTSTONE - dark brown, firm to soft, slightly calcareous, mica.
		Trace <u>CALCILUTITE</u> - dark brown, dolomitic, very well indurated.
6840 '- 6860'	50%	SANDSTONE - loose grains, clear to milky, coarse to very coars few granules, angular to subangular, also aggregate, fine to medium grains, well cemented, white calcareous cement, tight, poor porosity, subangular to rounded quartz grains, dirty, occasional carbonaceous stain.
•	20%	SILTSTONE - dark brown, brown to black, non calcareous, soft to firm, very carbonaceous in part.
	30%	MUDSTONE - medium grey, firm to moderately indurated, calcareou trace pyrite, forams, subfissile.
6860 '- 6880'	20%	SANDSTONE - white to light brown, very fine grained, well indurated, subrounded, calcareous, well sorted, poor porosity, pyrite, trace glauconite.
· · · ·	40%	SILTSTONE - MUDSTONE - light grey, subfissile, pyrite, moderate ly calcareous, forams.
	40%	SILTSTONE - dark to medium brown, subfissile, slightly calcareou argillaceous, slightly carbonaceous, forams.
		Trace MARL - white, soft, slightly silty.
6880'-6900'	40%	SANDSTONE - As above.
	30%	<u>SILTSTONE</u> - <u>MUDSTONE</u> - light grey, as above.
	30%	SILTSTONE - dark to medium brown, as above.
		Trace LIMESTONE - very fine grained, light brown, well indurate trace pyrite and glauconite.
		Trace coal, echinoid debris.
6900'-6910'	30%	SANDSTONE
	30%	SILTSTONE
	40%	MUDSTONE - As above.

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FLOUNDER 6 DEVIATED HOLE

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DEPTH	ŝ	DESCRIPTION
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6910'-6920'	20%	SANDSTONE - light grey, brown, aggregate and loose, coarse to very coarse quartz grains, mica.
	30%	SILTSTONE - abundant pyrite, carbonaceous matter.
	50%	MUDSTONE
6920 '- 6930'	80%	<u>COAL</u> - black, hard, brittle, blocky , conchoidal to uneven fracture, pyrite, silty and sandy laminae.
	20%	SANDSTONE - coarse to very coarse loose grains, clear to milky, angular to subangular predominant, minor subrounded, also fine to medium grained aggregates, subangular, light grey to brown, well cemented, carbonaceous, silty, mica, pyrite.
6930 '- 6940'	95%	SANDSTONE - white to clear, loose, coarse to very coarse, sub- angular to subrounded, pyrite. Aggregates, fine grained, slightly carbonaceous, pyrite, well indurated and cemented, poor porosity, Remainder: Coal, mudstone and Siltstone, as above.
6940'-6950'	95%	SANDSTONE - As above.
. · · ·	5%	SILTSTONE/MUDSTONE
6950'-6960'	80%	SANDSTONE - As above.
	10%	<u>SILTSTONE</u> - As above.
	10%	MUDSTONE - As above.
6960' - 6970'	80%	<u>SANDSTONE</u> - coarse to very coarse, white to clear loose, angular to subrounded predominant, minor aggregates: fine to medium grained, light grey to white, well cemented, dirty and carbonaceou in part, poor sorting, no fluorescence, but weak white to yellow cut.
	10%	SILTSTONE - brown to dark brown, black to brown in part where very carbonaceous, firm to moderately indurated, subfissile, mica carbonaceous siltstone has no fluorescence, good white to yellow cut (grading to very fine Sandstone).
	10%	MUDSTONE - light grey, buff, calcareous to non calcareous, firm to moderately indurated, subfissile, silty in part.
6970'-6980'	80%	SANDSTONE - As above.
	10%	<u>SILTSTONE</u> - As above.
	10%	MUDSTONE - As above.
6980 '- 6990 '	80%	SANDSTONE - coarse to very coarse, loose quartz grains and aggregate - (about 50%), firm to medium grained predominant, white dolomite cement, no to very weak , white to yellow cut.
	10%	SILTSTONE - As above.
	10%	MUDSTONE
6990' - 7000'	80%	SANDSTONE - predominant, fine to medium grained aggregates, minor, coarse to very coarse loose quartz grains, no fluorescence no cut, very well cemented.
	10%	SILTSTONE - brown, carbonaceous, grading to very fine Sandstone 9/
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FLOUNDER 6 DEVIATED HOLE

R. DO ROZARIO

G. KJELLGREN

DEPTH	ę;	DESCRIPTION
6990'-7000'	10%	MUDSTONE - buff, light grey, firm to moderately indurated.
7000'-7010'	80%	SANDSTONE - As above.
	10%	<u>SILTSTONE</u> - As above.
	10%	MUDSTONE - As above.
7010'-7020'	70%	SANDSTONE - As above.
· ·	20%	<u>SILTSTONE</u> - As above.
· · ·	10%	MUDSTONE - As above.
7020 ' -7030 '	90%	SANDSTONE - coarse to very coarse, subangular to subrounded, loose quartz grains, clear to milky, and aggregates (30%): fine to medium predominant, well cemented, light grey to white, white dolomite cement, no fluorescence, no cut.
	5%	<u>SILTSTONE</u> - As above.
· · · · · · ·	5%	MUDSTONE - As above.
7030 '- 7040 '	100%	<u>SANDSTONE</u> - predominant, loose, coarse to very coarse quartz grains, subangular to subrounded, minor aggregates as above. Trace pyrite.
•		Trace SILTSTONE and MUDSTONE as above.
7040'-7050'	100%	SANDSTONE - predominant, loose, coarse to very coarse quartz grains, clear, minor milky, subangular to subrounded.
7050'-7060'	100%	SANDSTONE - almost all loose, coarse to very coarse quartz gr clear, minor milky, subangular to rounded, predominant subangula
		Trace aggregates as above.
		Trace SILTSTONE and MUDSTONE.
7060'-7070'	100%	SANDSTONE - almost all coarse to very coarse, loose quartz grains, clear to slightly frosted, minor firm to medium grained aggregates; well cemented, little dolomite matrix, poor porosity
		no fluorescence, weak, white to yellow slow cut, trace Siltstone
7070'-7080'	100%	SANDSTONE - predominant very coarse loose quartz grains, clea slightly milky, subrounded to rounded, trace aggregate as above.
7080'-7090'	100%	SANDSTONE - 70% coarse to very coarse loose quartz grains, cle to slightly milky, subrounded to rounded.
	30%	Aggregates, fine to coarse, white to light grey, well cemented, white to cream, dolomite matrix, poor porosity, no fluorescence cut. Trace pyrite.
7090'-7100' 3	100%	SANDSTONE - predominant very coarse loose quartz grains, clear slightly milky, subrounded to rounded, trace aggregates as above with some dolomite cement.
7100'-7110'	100%	SANDSTONE - predominant very coarse loose quartz grains, with some trace aggregates, as above, trace pyrite.
7110'-7120'	90%	SANDSTONE - coarse to very coarse, loose quartz grains, angula to subrounded, with some aggregates: light cream, fine to very c

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R. DO ROZARIO G. KJELLGREN

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FLOUNDER 6 DEVIATED HOLE

DEPTH	ç. Ö	DESCRIPTION
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7110'-7120'	100%	Continued/
		abundant yellow dolomitic matrix, very poor sorting.
	10%	SILTSTONE and MUDSTONE - As above - cavings?
7120'-7130'	70%	SANDSTONE - predominantly, coarse to very coarse angular to rounded, clear milky, loose quartz grains and aggregates, light
		cream, light grey, fine to very coarse, with some yellow dolomit matrix, very poorly sorted, trace pyrite and glauconite, very weak white to yellow crush cut in Sandstone, no fluorescence.
	20%	SILTSTONE - brown to dark brown, mdoerately indurated, mica, non calcareous, carbonaceous in part, grading very fine Sandstor trace glauconite.
	10%	MUDSTONE - light grey, fawn, firm, non to moderately calcareous silty in part.
7130'-7140'	70%	SANDSTONE - As above with some pyrite.
	20%	<u>SILTSTONE</u> - As above.
	10%	MUDSTONE - As above.
7140'-715-'	100%	SANDSTONE - predominant coarse, loose quartz grains, subangula to subrounded, clear to milky, trace light grey, rose, trace aggregates, firm to medium grained.
		Trace <u>SILTSTONE</u> and <u>MUDSTONE</u> - As above.
7150'-7160'	90%	SANDSTONE - coarse to very coarse, loose quartz grains, sub- angular to rounded, clear to milky, trace light grey, trace aggregates, firm to medium grained.
	5%	SILTSTONE - brown to dark brown, firm to moderately indurated, subfissile, carbonaceous in part, non calcareous.
	5%	<u>MUDSTONE</u> - light grey, fawn, non calcareous, firm, rare echino spines.
7160'-7170'	100%	SANDSTONE - As above, with some trace Sandstone and Mudstone.
7170'-7180'	100%	SANDSTONE - coarse to very coarse, loose quartz grains, as abo with trace SILTSTONE, brown to dark brown, as above. Trace MUDSTONE, light grey, fawn, as above.
7180'-7190'	95%	SANDSTONE - clear to milky, loose, coarse to very coarse, sub- angular to subrounded, moderate to well sorted, pyrite. Trace aggregates.
	5%	MUDSTONE, SILTSTONE - As above.
7190'-7200'	95%	SANDSTONE - As above.
	5%	MUDSTONE and SILTSTONE - As above, Limestone, very fine graine light brown, argillaceous.
7200'-7210'	90%	<u>SANDSTONE</u> - loose, coarse to very coarse grained, trace aggre gates, trace glauconite.
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FLOUNDER G DEVIATED HOLE

G. KJELLGREN

DESCRIPTION DEPTH ક્ષ 7200'-7210' 5% SILTSTONE - As above. 5% MUDSTONE - As above. Trace coal, pyrite. SANDSTONE - As above, minor aggregates, fine grained, trace 7210'-7220' 90% glauconite. SILTSTONE - As above. 5% MUDSTONE - As above. 5% Trace coal, pyrite, ever present echinoid debris. 7220'-7230' 40% SANDSTONE - As above. 25% SANDSTONE - aggregates - As above. 20% MUDSTONE - light grey, as above. SILTSTONE - medium brown, as above. 15% Trace coal, limestone, buff to light brown, pyrite. 7230'-7240' 35% SANDSTONE - As above. SANDSTONE - fine grained aggregates, as above, glauconite, 35% well indurated. MUDSTONE - As above. 15% SILTSTONE - As above, minor carbonaceous. 15% Trace pyrite. SANDSTONE - loose, coarse to very coarse grained, as above. 7240'-7250' 85% SANDSTONE - aggregates, very fine grained, as above. 5% MUDSTONE - buff to light grey, as above. 5% SILTSTONE - As above. 5% Trace coal, Limestone. 7250'-7260' SANDSTONE - loose coarse to very coarse grained, as above. 50% 7260'-7270' moderately glauconitic, pyrite SANDSTONE - aggregates very fine grained, as above. 30% 10% MUDSTONE - As above. 10% SILTSTONE - As above. Trace pyrite, limestone. QUARTZ - clear to milky, .5-2 mm, subrounded. 50% 7270'-7280' SANDSTONE - .1-.4 mm, light grey, to brownish grey, subangular 20% to subrounded, fair to poor sorting, some glauconite, slightly 12/....

FLOUNDER 6 DEVIATED HOLE

R. DO ROZARIO G. KJELLGREN

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DEPTH	ક	DESCRIPTION
7270'-7280'	20%	Sandstone Continued/
		micaceous, some calcite cement, firm.
	10%	SILTSTONE - brown, sandy, micaceous, carbonaceous, slightly pyritic, firm.
	20%	SILTSTONE - medium grey, very calcareous, firm.
· · · · ·		Trace pyrite - infills of voids from Sandstone, fine crystalline masses up to 1.5 mm.
7280'-7290'	40%	QUARTZ - as above up to 4.mm.
	30%	LIMESTONE - micritic brown to buff, carbonaceous, silty, micaceous, slightly glauconitic.
	10%	SANDSTONE - As above.
•	10%	<u>SILTSTONE</u> - medium grey, as above.
	10%	SILTSTONE - brown, as above.
		Trace Pyrite, fossiliferous fragments.
7290'-7300'	90%	<u>QUARTZ</u> - As above.
-	5%	<u>SILTSTONE</u> - medium grey - as above.
• .	5% _.	SILTSTONE - brown, as above.
		Trace Pyrite, Limestone, as above, fossiliferous fragments.
7300'-7310'	75%	<u>QUARTZ</u> - As above.
l. I	15%	<u>SILTSTONE</u> - brown, as above.
	10%	LIMESTONE - As above.
	•	Trace Pyrite, Siltstone - medium grey, as above.
7310'-7320'	50%	SANDSTONE - light grey to buff, multicoloured .0515 mm poorly sorted, silty carbonaceous,micaceous, pyritic, dolomitic cement finely bedded,minor glauconite, very hard, well cemented.
	50%	<u>QUARTZ</u> - As above.
		Trace Pyrite, Siltstone - medium grey, siltstone brown.
		Trace Limestone - as above, fossiliferous fragments.
7320'-7330'	80%	SANDSTONE - light grey carbonaceous, white quartz, some smokey dolomitic cement, hard, rare glauconite and pyrite, poor sorting, subangular.
•	20%	QUARTZ - light grey to mainly clear, rounded, to 3mm.
3		Trace Siltstone -brown carbonaceous, micaceous, slightly calcareous.
		Trace Pyrite - micro-crystalline aggregates to 2mm.
		Trace Limestone - buff micritic.
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FLOUNDER 6 DEVIATED HOLE

DEPTH	ç	DESCRIPTION
7320'-7330'		Continued/
		Trace Siltstone - light grey, calcareous.
7330'-7340'	80%	<u>SANDSTONE</u> - As above.
• •	20%	QUARTZ - As above.
•		Trace Siltstone, pyrite, Limestone.
7340 '- 7350'	90%	SANDSTONE - fine grained aggregates, light grey to white, dolomitic cement, moderately sorted, subrounded, slightly carbona- ceous, well indurated, minor glauconite, pyrite, poor porosity no fluorescence, no cut.
	5%	SANDSTONE - clear to milky, coarse to very coarse, $l \infty$ se grains, subangular to subrounded, pyritic.
	5%	MUDSTONE - light grey, subfissile, moderately indurated.
		SILTSTONE - medium to dark brown, slightly carbonaceous, subfissile, moderate to well indurated.
7350'-7360'	60%	SANDSTONE - fine grained aggregates, as above.
	10%	<u>SANDSTONE</u> - coarse to very coarse grains, $loose$, as above.
	20%	SANDY SILTSTONE - buff to light brown, very fine grained, well indurated, dolomitic cement, slightly carbonaceous, slightly glauconite, trace pyrite.
	10%	MUDSTONE - light grey as above, <u>SILTSTONE</u> - dark to medium brown, as above, trace Marl, light grey to white, soft, silty.
7360'-7370'	10%	SANDSTONE - clear to milky, coarse to very coarse grained, as above.
	10%	SANDSTONE - fine grained aggregates, buff to light brown, as above.
	70%	SANDSTONE - fine grained aggregates, light grey to white, as above.
	10%	MUDSTONE - light grey, as above, <u>SILTSTONE</u> - dark brown, as above.
7370'-7380'	. 20%	SANDSTONE - fine to coarse grained, moderate to well indurated, buff to light grey, 70% coarse to very coarse loose quartz, subangular to subrounded, clear to milky, white to buff, dolomitic cement, subangular quartz grains, no fluorescence or cut, pyrite, trace glauconite, silty in parts.
	10%	MUDSTONE - light grey, firm to moderately indurated, slightly calcareous, silty in part, and <u>SILTSTONE</u> - brown, slightly carbonaceous, subfissile, soft to firm, sandy, non calcareous.
7380 '-7 390'	90%	SANDSTONE - predominant loose, minor aggregates, as above.
	10%	SILTSTONE and MUDSTONE - As above.
7390'-7400'	90%	SANDSTONE - coarse to very coarse, loose quartz grains, predomi- nant subrounded, (minor subangular to rounded), clear to milky.
	10%	MUDSTONE and SILTSTONE - As above. 14/

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R. DO ROZARIO G. KJELLGREN

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FLOUNDER 6 DEVIATED HOLE

DEPTH	ç	DESCRIPTION
7400'-7410'	60%	SANDSTONE - loose, very coarse to coarse quartz grains, as above, trace glauconite.
:	30%	SILTSTONE - brown to buff, non calcareous, slightly carbonaceou pyrite, subfissile, sandy in part.
	10%	MUDSTONE - buff, light grey, soft to firm, non calcareous subfissile, rare glauconite grains.
7410'-7420'	20%	SANDSTONE - loose very coarse to coarse quartz grains, as above minor fine to medium grains.
· · ·	60%	<u>SILTSTONE</u> - As above.
	20%	MUDSTONE - As above.
7420 '- 7430 '	40%	SANDSTONE - loose very coarse to coarse quartz grains, subrounde to rounded, clear to milky, minor aggregates, fine to medium grain moderate to well cemented, white to light grey, buff, dolomitic matrix, no fluorescence, no cut.
	40%	SILTSTONE - dark brown, buff, firm to moderately indurated, As above.
	20%	MUDSTONE - buff, light grey, soft to firm, non calcareous to calcareous, trace white clay.
7430'-7440'	80%	SANDSTONE - predominant loose very coarse to coarse grains, as above, minor aggregates very fine to fine grained, friable, white to light grey, white non calcareous matrix, with some carbonaceous laminae, pyrite, no fluorescence or cut, minor aggregates fine to medium grained, buff, well indurated, buff dolomitic matrix, poor porosity, subangular grains, no fluorescen- or cut.
	10%	SILTSTONE - brown to dark brown, as above, carbonaceous, sandy, non calcareous.
	10%	MUDSTONE - light grey, buff, (the buff is non calcareous, the grey calcareous), soft to firm.
7440'-7450'	70%	SANDSTONE - coarse to very coarse loose grains, as above and approximately 30% Sandstone, very fine to fine aggregates, friabl to moderately indurated, white non calcareous matrix, very carbon
		aceous, pyrite, subangular grains, no fluorescence or cut.
	30%	SILTSTONE - dark brown, grey to brown, soft to firm, very sandy carbonaceous, pyrite, non calcareous, abundant pyrite.
7450'-7460'	80%	COAL - black, brittle, waxy to vitreous, blocky to subfissile, with some silty laminae, uneven - subconchoidal fracture.
	10%	SILTSTONE - brown, grey to brown, soft to firm, argillaceous, carbonaceous, non calcareous, no fluorescence, very weak to no white to yellow cut.
	10%	SANDSTONE - very fine to fine, white, light buff, friable to moderately indurated, carbonaceous, white clayey matrix, no fluorescence. (Very weak to no yellow cut). Trace loose coarse to very coarse quartz grains.
7460'-7470'	100%	COAL - black, brittle, waxy to vitreous, blocky to subfissile,
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FLOUMDER & DEVIAGED HOLE

DEPTH	÷	DESCRIPTION
7460'-7470'		Continued/
		uneven to subconchoidal fractures, argillaceous.
7470 '-7 480'	80%	SANDSTONE - coarse to very coarse, lcose quartz grains, clear to milky, predominant subrounded, pyrite, trace fine to medium grains aggregates, carbonaceous, pyrite, white, non calcareous, clayey matrix, no fluorescence, no cut.
•	10%	COAL - black, brittle, as above.
•	10%	SILTSTONE - brown to dark brown, buff, carbonaceous, pyritic soft to firm, non calcareous, very weak white to yellow cut, no fluorescence.
7480'-7490'	100%	SANDSTONE - coarse to very coarse, subangular to rounded with some trace Siltstone and Coal, as above.
, 7490 '-7 500 '	100%	<u>SANDSTONE</u> - coarse to very coarse, subangular to rounded, with some trace Siltstone, coal as above.
7500'-7510'	90%	SANDSTONE - coarse to very coarse, subangular to rounded, clear to milky, slightly pyritic.
	5%	COAL - black, brittle, hard, subconchoidal fracture.
	5%	SILTSTONE - brown, dark brown, soft to firm, non calcareous.
7510 '- 7520'	100%	SANDSTONE - loose very coarse to coarse quartz grains, clear to milky, subrounded predominant, minor subangular, rounded, trace pyrite.
		Trace coal and Siltstone, as above.
7520'-7530'	100%	SANDSTONE - loose very coarse to coarse grains, as above.
7530'-7540'	100%	SANDSTONE - very coarse to coarse, loose quartz grains, clear to milky, finely disseminated pyrite within grains, trace Siltstone.
7540 '- 7550'	100%	SANDSTONE - very coarse to coarse, loose quartz grains, predomi- nant subrounded to rounded, with some fine disseminated pyrite in grains.
7550 '- 7560'	. 80%	<u>COAL</u> - black, brittle, subfissile to blocky, silty, subconchoidal to uneven fracture, trace pyrite.
	20%	SILTSTONE - buff, brown, soft to firm, non calcareous, carbonaceo interbedded with some coal, subfissile.
7560'-7570'	90%	<u>COAL</u> - black, brittle, as above.
	10%	SILTSTONE - buff, brown, as above.
7570 '- 7580' \	60%	<u>SANDSTONE</u> - coarse to very coarse, loose quartz grains, subangula to subrounded, clear to milky, and very fine to fine aggregates, buff to light grey, subangular quartz grains, white to cream, (slightly dolomitic in part), non calcareous, clay matrix, carbona- ceous, silty in part, the fine sandstone interlaminated with some coal, and forming matrix of coarse quartz aggregates.
	30% .	SILTSTONE - brown, brown to grey, soft to firm, carbonaceous, very argillaceous in part, grading fine sandstone in part.
	10%	COAL - black, brittle, subfissile and silty in part, pyrite,
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FLOURDER & DEVLATED HOLE

		FLOUNDER & DEVIATED HOLE	R. DO ROZARIO G. KJELLGREN
DEPTH	95	DESCRIPTION	An 189 man (1994 and 1994 and 1
7570 '- 7580'		Continued/	anna fra hanna ha anna an duracha anna anna anna anna anna an suar anna anna anna anna anna anna anna a
• •		subconchoidal to uneven fracture.	
7580 '- 7590'	90%	<u>COAL</u> - black, hard, brittle, subconche subfissile with earthy texture.	oidal fracture, some
	10%	SILTSTONE - brown, brown grey, very an soft to firm, carbonaceous, trace pyrite	rgillaceous in part, e.
7590'-7600'	50%	<u>COAL</u> - As above.	
	40%	<u>SILTSTONE</u> - As above.	
	10%	<u>SANDSTONE</u> - loose coarse quartz grains aggregates, friable to moderately indura	
7600'-7610'	70%	SILTSTONE - medium brown, buff, soft t carbonaceous, argillaceous, sandy in par	
	20%	<u>COAL</u> - black, brittle, subfissile in <u>p</u>	part.
	10%	SANDSTONE - very fine to fine, aggregated cemented, white clay matrix, carbonaceouvery weak slow crush cut, no fluorescend	is, silty in part, no to
7610 '- 7620'	40%	SANDSTONE - coarse loose quartz grains aggregates, as above.	and very fine to fine
-	50%	SILTSTONE - brown, soft to firm, as ab	oove.
	10%	<u>COAL</u> - black, as above, abundant pyrit	ce.
7620'-7630'	60%	<u>SANDSTONE</u> – coarse loose quartz grains aggregates.	and very fine to fine
	40%	SILTSTONE - brown, as above.	
	•	Trace Coal, trace pyrite.	
7630'-7640'	60%	SANDSTONE - As above.	
	40%	SILTSTONE - As above.	
		Trace coal.	
7640'-7650'	100%	<u>COAL</u> - black, brittle, conchoidal frac Trace Siltstone and Trace Limestone quar	
7650'-7660'	100%	SANDSTONE - coarse to very coarse,loos milky, angular to subrounded, trace coal	
7660'-7670'	90%	QUARTZ - clear to milky, .5-2mm.	
	10%	COAL - black subvitreous.	
7670'-7680'	50%	<u>QUARTZ</u> - As above.	·
·	50%	COAL - As above.	
7680'-7690'	60%	<u>COAL</u> - As above.	
	40%	<u>QUARTZ</u> - As above.	
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FLOUNDER 6 DEVEATED HOLE

		FLOUNDER G DEVIATED HOLE R. DO ROZARIO G. KJELLGREN
DEPTH	8	DESCRIPTION
7690'-7700'	90%	<u>QUARTZ</u> - milky to clear, some brown subrounded to subangular .4-1.5 mm.
• • • • •	10%	<u>COAL</u> - black subvitreous.
7700'-7710'	100%	<u>QUARTZ</u> - As above, some grains with coaly matrix attached. Trace Coal - As above.
7710'-7720'	100%	QUARTZ - As above, trace pyrite on grain.
		Trace Coal - As above.
7720'-7730'	100%	QUARTZ - As above.
		Trace Coal - As above.
7730'-7740'	100%	<u>QUARTZ</u> - As above.
x		Trace Coal - As above.
• •		Trace Pyrite - micro-crystalline aggregates.
7740'-7750'	100%	<u>QUARTZ</u> - As above.
		Trace Coal - As above.
•		Trace Pyrite - As above.
7750'-7760'	100%	QUARTZ - As above.
•		Trace Coal - As above.
		Trace Pyrite - As above.
7760'-7770'	100%	QUARTZ - As above, pyrite on grains increasing.
1		Trace Coal - As above.
		Trace Pyrite - As above.
7770'-7780'	100%	QUARTZ - As above.
••• 		Trace Coal, Trace Pyrite.
7780'-7790'	95%	SANDSTONE (QUARTZ) - clear, coarse grains, loose, subrounded to rounded, well sorted, trace pyrite.
	5%	COAL - black, conchoidal fracture, slightly pyrite, sub-vitreous.
		Trace Siltstone, dark brown and Mudstone, light to medium grey.
7790'-7800'	95%	SANDSTONE - clear to milky, as above.
	5%	<u>COAL</u> - slightly pyrite, as above.
١.		Trace Siltstone, dark brown, as above, Mudstone, medium grey, as above.
7800'-7810'	95%	SANDSTONE - As above.
	5%	<u>COAL</u> - As above.
		Trace Siltstone, Mudstone, as above.
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FLOUNDER 6 DEVIATED HOLE

R. DO ROZARIO G. KJELLGREN

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DEPTH	હ	DESCRIPTION
` 7810'-7820'	45%	SANDSTONE - clear to milky,medium to coarse grains, loose, as above.
• • •	45%	<u>SANDSTONE</u> - clear to milky, very fine to fine grained aggregate moderate to well sorted, well indurated, subangular to subrounded slightly pyritic, slightly carbonaceous, dolomitic cement, no fluorescence, no cut.
	10%	<u>COAL</u> - As above. Trace Siltstone, dark brown, as above, Mudstone medium to light grey as above.
7820'-7830'	45%	<u>SANDSTONE</u> - loose, as above.
	45%	SANDSTONE - very fine to fine quartz aggregates, as above.
	5%	<u>COAL</u> - As above.
	5%	SILTSTONE - dark brown, as above, and Mudstone, light brown, white to light grey, as above. Minor pyrite grains.
7830'-7840'	50%	SANDSTONE - loose, as above.
	40%	SANDSTONE - very fine to fine grained aggregates, weak to well indurated, weak indurated Sandstone is white, argillaceous, carbonaceous, pyrite.
	5%	<u>COAL</u> - As above.
· ·	5%	<u>SILTSTONE</u> - As above, Mudstone, as above, minor pyrite grains.
7840'-7850'	45%	SANDSTONE - Loose, as above.
	45%	SANDSTONE - aggregates, as above.
	5%	<u>COAL</u> - As above.
	5%	SILTSTONE/MUDSTONE - pyrite grains, as above.
7850'-7860'	45%	SANDSTONE - loose as above.
	45%	SANDSTONE - aggregates, as above, no fluorescence, or cut.
	5%	COAL - As above.
	5%	SILTSTONE, MUDSTONE and Pyrite grains, as above.
7860'-7870'	20%	SANDSTONE - Loose, as above.
	75%	SANDSTONE - aggregates, very fine to fine grained, clear to milky, dolomitic cement, well indurated, very fine grained, with clay matrix, friable, slightly pyrite and carbonaceous.
· · ·	5%	COAL/SILTSTONE/MUDSTONE - pyrite, as above.
7870'-7880'	20%	SANDSTONE - loose, as above.
	80%	SANDSTONE - aggregates, as above, moderately pyrite, slightly micaceous.
		Trace 2% Coal, as above, Siltstone, Mudstone, pyrite, as above, rare glauconite aggregates.
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R. DO ROZARIO G. KJELLGREN

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FLOUNDER 6 DEVIATED HOLE

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DEPTH	8	DESCRIPTION
7880'-7890'	40%	SANDSTONE - loose, as above.
	45%	SANDSTCNE - aggregates as above, moderate to very pyritic, slightly micaceous.
	5%	<u>COAL</u> - As above.
	5%	SILTSTONE/MUDSTONE - slightly calcareous, and pyrite as above.
	5%	CLAYSTONE - cream, silty, non calcareous, soft.
7890'-7900'	30%	<u>SANDSTONE</u> - 1∞ se, as above.
	50%	SANDSTONE - fine grained aggregates, as above.
	15%	<u>SILTSTONE/MUDSTONE</u> - As above.
	5%	Pyrite grains, trace -2% Coal, trace Claystone white to cream.
7900 '- 7910'	25%	SANDSTONE - loose, as above.
	45%	SANDSTONE - fine grained aggregates.
	30%	SILTSTONE - dark brown subfissile, trace glauconite, mudstone, light grey, subfissile, trace 2% coal, minor pyrite grains, minor trace Claystone cream to light grey.
7910 '-7 920'	10%	SANDSTONE - loose, as above.
	80%	SANDSTONE - very fine to fine grained aggregates, as above. slightly pyritic, micaceous, carbonaceous.
	10%	SILTSTONE and MUDSTONE
		Trace Coal and pyrite and Claystone
7920'-7930'	30%	SANDSTONE - loose, as above.
	50%	SANDSTONE - very fine grained aggregates, as above, moderately micaceous.
	20%	SILTSTONE - dark brown, subfissile, trace glauconite, mudstone, silty, medium grey to light grains.
		Trace Coal, pyrite grains, Claystone.
7930 '- 7940 '	40%	SANDSTONE - loose, coarse grains, as above.
	40%	SANDSTONE - white to light grey to light brown, trace glauconite slightly carbonaceous, pyrite, micaceous.
	20%	SILTSTONE - dark brown, trace glauconite, MUDSTONE, light grey, silty, trace glauconite, trace coal, Claystone, pyrite.
7940'-7950'	30%	SANDSTONE - loose, as above.
	40%	SANDSTONE - clear to white to light grey to light green to ligh brown, aggregates, as above.
	30%	SILTSTONE - dark brown, micaceous, subfissile and Mudstone light grey to light green, glauconite, trace-2% Coal, pyrite, Claystone to cream, silty, soft.
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R. DO ROZARIO G. KJELLGREN

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FLOUNDER 6 DEVIATED HOLE

		FLOUNDER 6 DEVIATED HOLE
DEPTH	ß	DESCRIPTION
7950'-7960'	30%	SANDSTONE - loose, as above.
	40%	SANDSTONE - aggregates, as above, trace glauconite.
	30%	SILTSTONE/MUDSTONE
		Trace Coal, pyrite, Claystone, cream, silty.
7960'-7970'	30%	SANDSTONE - loose, as above.
	40%	SANDSTONE - very fine grained aggregates, multicolours, trace glauconite, no fluorescence or cut.
	30%	SILTSTONE/MUDSTONE
		Trace Coal, pyrite.
7970'-7980'	30%	SANDSTONE - loose, as above.
	40%	SANDSTONE - very fine grained aggregates, very friable to moderately indurated, argillaceous in part, multicolours, trace glauconite, otherwise dolomitic cemented.
	30%	SILTSTONE/MUDSTONE - As above.
		Trace pyrite, glauconite aggregates, coal.
7980 '- 7990'		As above, <u>SANDSTONE</u> aggregates notably contains more glauconite, slightly carbonaceous and very argillaceous; cream Sandstone aggregates, trace coal, pyritiferous.
7990' - 8000'		As above with 80% total <u>SANDSTONE</u> - glauconite common 20% <u>MUDSTONE/SILTSTONE/MUDSTONE</u> , light grey to pink
8000'-8010'	90%	SANDSTONE - light medium grey, glauconitic, pyritic, micaceous, poor to moderate sorting, .05.15mm some carbonaceous flecks, silt calcareous.
	10%	QUARTZ - loose subrounded grains, white milky.
		Trace coal, pyrite.
8010'-8020'	60%	SANDSTONE - light to medium grey, glauconite, pyrite, slightly carbonaceous, calcareous, mainly dolomitic, poor to moderate sorting, .05-15mm, silty subangular to subrounded.
	20%	QUARTZ - loose subrounded grains .5-2mm rounded.
	20%	SILTSTONE - brown, sandy, carbonaceous, calcareous, micaceous pyritic.
		Trace Coal, pyrite.
8020 '- 8030 '	40%	SANDSTONE - As above.
	30%	<u>QUARTZ</u> - As above.
	20%	SILTSTONE - As above.
	10%	MUDSTONE - brown, soft to firm, calcareous, platey chips, some carbonaceous.
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FLOUNDER 6 DEVIATED HOLE

R. DO ROZARIO G. KJELLGREN

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DEPTH	Ŗ	DESCRIPTION
		Trace Coal, Pyrite, Siltstone - grey calcarenite.
8030'-8040'	30%	SANDSTONE - As above.
-	30%	QUARTZ - As above.
	30%	SILTSTONE - As above.
		Trace Coal, Pyrite, Siltstone- grey calcarenite.
8040 '- 8050 '	505	SANDSTONE - As above.
8040 -8050	30%	QUARTZ - As above.
	10%	
•	10%	MUDSTONE - As above.
		Trace Coal, Pyrite.
8050'-8060'	40%	SANDSTONE - As above.
	30%	<u>QUARTZ</u> - As above.
	20%	<u>SILTSTONE</u> - As above.
	10%	MUDSTONE - As above.
-		Trace Coal, Pyrite, Siltstone - grey calcarenite.
8060'-8070'	70%	SANDSTONE - fine to medium grained, light grey to brown, well indurated, with some brown to yellow dolomitic cement, very glauconitic, very pyritic, micaceous, very poor porosity, no fluorescence or cut.
	20%	<u>QUARTZ</u> - coarse to very coarse, clear to milky, subangular to rounded.
-	10%	<u>SILTSTONE</u> – brown, light grey, firm, non calcareous, sandy, pyrite, Trace Mudstone.
8070 '- 8080 '	50%	SANDSTONE - light grey to light brown, micaceous, friable, some firm, carbonaceous, poor sorting, .lmm average, subangular to subrounded, some dolomitic cement.
	30%	QUARTZ - loose grains, .5-2mm, subrounded.
	20%	GLAUCONITE & PYRITE - glauconite about .1mm cemented by pyrite, pyrite replaced quartz chips the same size as the Sandstone ?? T. longus Gurnard. Contains some Quartz - looks like Gurnard. Glauconitic bright green pellets.
		Trace Siltstone, brown and grey, Trace Coal.
8080'-8090'	90%	SANDSTONE - As above, some very high in glauconite and pyrite, calcareous, carbonaceous.
	10%	SILTSTONE - brown micaceous, firm to non calcareous.
		Trace Coal, Siltstone - grey.
		Lost most of the aggregate glauconite and pyrite ?? through an unconformity.
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R. DO ROZARIO G. KJELLGREN

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FLOUNDER 6 DEVIATED HOLE

DEPTH	ç.	DESCRIPTION
8090'-8100'	40%	SANDSTONE - firm to medium grey, light brown, grey to brown, friable to moderately indurated, subangular quartz grains, trace pyrite and glauconite, mica.
	20%	<u>QUARTZ</u> - loose grains, predominantly coarse, clear to milky, subangular to subrounded.
	30%	SILTSTONE - dark brown, buff, soft to firm, carbonaceous, grading to very fine Sandstone in part, subfissile.
	10%	DOLOMITE - dark brown, well indurated, silty micro-crystalline Trace Coal and Mudstone.
8100'-8110'	80%	SANDSTONE - As above, some chips very glauconitic and pyritic, carbonaceous, calcareous.
·.	20%	<u>QUARTZ</u> - As above.
		Trace Siltstone, brown, Coal, Mudstone, Pyrite.
8110'-8120'	80%	SANDSTONE - grey to brown, buff, very fine to fine grains, friable to moderately indurated, very silty, slightly glauconitic and pyritic, dolomitic cement, no fluorescence, no cut.
	10%	QUARTZ - As above.
•	. 10%	SILTSTONE - brown, brown to grey, soft to firm, carbonaceous, micaceous, grading very fine Sandstone in part, non calcareous.
8120'-8130'	70%	SANDSTONE - very fine to fine, grey to brown, as above, carbonaceous, glauconite, pyrite, (trace).
	10%	QUARTZ - coarse, subangular to subrounded.
	20%	SILTSTONE - brown, soft to firm, carbonaceous, as above.
		STOP CIRCULATING AT 0030 HOURS.

FLOUNDER 6 SIDETRACK

R. DO ROZARIO G. KJELLGREN

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R. DO ROZARIO 13.12.77

DEPTH	çç	DESCRIPTION
		CORED FROM 8130'-8420' FT - for lithology see Core Description Sheets. Core #4 to Core #11.
8420 '- 8430'	20%	SANDSTONE - very fine to fine aggregates, light grey, subangular to angular, clear to milky quartz grains, moderate to weakly cemented with some dolomite in part, carbonaceous, silty in part, trace glauconite. No fluorescence, very weak slow white to yellow crush cut. cavings? from reaming.
	10%	<u>QUARTZ</u> - clear to milky, medium to coarse grains, subangular to subrounded, loose, few aggregates.
		SILTSTONE - medium grey, dark brown to grey, firm to well indurated, carbonaceous, micaceous, subfissile.
		Trace Coal, Trace Pyrite.
8430 '- 8440 '	40%	SANDSTONE - light grey, very fine to fine grains, grading to Siltstone in part, subangular to angular, clear to milky quartz grains, moderate to weakly cemented with some dolomite in part, very carbonaceous, poor porosity, even dull orange mineral fluorescence, no cut.
		Trace Pyrite.
	60%	SILTSTONE - medium grey, firm to moderately indurated, very carbonaceous, micaceous, subfissile.
8440'-8450'	30%	SANDSTONE - light grey, very fine to medium grains, silty in part, angular to subangular, clear to milky quartz grains, moderate to well cemented, with some dolomite in part, very carbonaceous, poor porosity, even dull orange mineral fluorescence, no cut, trace pyrite.
	70%	SILTSTONE - medium grey, carbonaceous, micaceous, firm to moderately indurated, micaceous.
8450'-8460'	30%	SANDSTONE - white to light grey, very fine to medium grains, angular to subangular quartz grains, weakly to well cemented with some white clay, carbonaceous, pyritic, poor porosity, trace dull gold mineral fluorescence, no cut.
	70%	SILTSTONE - medium grey, dark grey, dark grey to brown, firm to well indurated, very carbonaceous, micaceous, pyritic in part, subfissile to fissile and pyritic in part.
8460'-8470'	50%	SANDSTONE - white to light grey, very fine to fine grains, as above.
	50%	SILTSTONE - medium to dark grey, grey to brown, as above, Trace pyrite.
8470 '- 8480'	80%	<u>QUARTZ</u> - loose, clear to milky, angular to subangular, medium to coarse. Trace very fine to fine Sandstone aggregates, as above, and medium to coarse quartz aggregates, weakly cemented with some clay, friable, fair to good porosity, no fluorescence or cut.
	20%	SILTSTONE - medium grey, dark brown to grey, firm to well indurated, very carbonaceous, micaceous. Trace Pyrite, shaly in part, interlaminated with some coal - black, fissile, sub- vitreous to dull, conchoidal fracture.
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FLOUNDER 6 SIDETRACK

R. DO ROZARIO G. KJELIGREN .

R. DO ROZARIO 13.12.77

DEPTH		DESCRIPTION
8480'-8490'	80%	SILTSTONE - medium grey, dark brown to grey, as above.
	20%	SANDSTONE - very fine to medium grains, friable to moderately cemented with some white clay. Trace coarse to loose quartz grains, as above.
8490 '- 8500'	10%	SANDSTONE - very fine to fine grains, light grey, very carbona- ceous. Trace Pyrite.
	80%	SILTSTONE - light to dark grey, grey to brown, very carbonaceous subfissile, shaly in part, interlaminated in part with some coal.
	10%	COAL - black, fissile, dull to vitreous, conchoidal fracture, interlaminated with some Siltstone.
8500 '- 8510 '	10%	SANDSTONE - very fine to medium grained aggregates, as above, no fluorescence, or cut.
	10%	<u>COAL</u> - black, dull to vitreous, interlaminated with some Siltstone.
	80%	SILTSTONE - light to dark grey, brown to grey, very carbonaceous as above. Trace Pyrite.
8510'-8520'	10%	QUARTZ - coarse to very coarse grains, clear to milky, subangular.
	10%	SANDSTONE - very fine to fine offwhite to light grey, as above, weakly cemented with some clay (white), no fluorescence, or cut.
	80%	SILTSTONE - offwhite, light grey to medium grey, very argilla- ceous, carbonaceous, soft to firm, pyritic in part, micaceous.
8520'-8530'	60%	QUARTZ - medium to very coarse grains, loose, clear to milky, subangular to subrounded. Trace Coal: black, fissile, dull to subvitreous, very pyritic.
•	10%	SANDSTONE - cream to white, very fine to fine grains, aggregate. weakly to moderately indurated with some clay, very carbonaceous, non calcareous, trace pyrite.
	10%	SILTSTONE - light to dark brown, subfissile, slightly carbona-
	20%	DOLOMITE - light brown to buff, very well indurated, subfissile non calcareous, trace micaceous and carbonaceous.
		Trace Pyrite, no fluorescence or cut.
8530'-8540'	10%	<u>QUARTZ</u> - clear to milky, medium to very coarse grains, loose, subangular to subrounded, trace Pyrite.
	10%	SANDSTONE - white to cream, very fine to fine quartz aggregate moderately sorted, moderately indurated, slightly carbonaceous and pyritic, non calcareous, slightly dolomitic with some dolomitic cement, trace micaceous.
	25%	DOLOMITE - As above, trace Pyrite.
	50%	<u>SILTSTONE</u> - As above.
	5%	COAL - As above, conchoidal to subconchoidal fractures.
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FLOUNDER 6 SIDETRACK

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DEPTH	ß	DESCRIPTION
8530'-8540'		Trace Pyrite, no fluorescence or cut.
8540'-8550'	5%	<u>QUARTZ</u> - As above.
	5%	<u>COAL</u> - As above.
•	10%	SANDSTONE - As above, with some white clay matrix.
· · · · · · · · · · · · · · · · · · ·	10%	DOLOMITE - As above, light buff to grey, light brown.
	70%	SILTSTONE - light grey to dark brown, soft to weakly indurated, subfissile, very micaceous and carbonaceous.
		Trace clay, white, silty, slightly micaceous.
		Trace Pyrite, no fluorescence or cut.
8550'-8560'	5%	<u>QUARTZ</u> - As above.
•• ²	10%	COAL - As above, pyritic.
•	30%	SANDSTONE - cream to white, very fine to fine grains, with some white clay matrix, soft, slightly carbonaceous and dolomitic
	5%	DOLOMITE - non calcareous, trace Pyrite.
	50%	SILTSTONE - As above, very micaceous and carbonaceous.
· .		Trace Pyrite.
8560 '- 8570 '	5%	QUARTZ - clear to milky, medium to coarse grains, angular to subangular, loose.
		Trace Dolomite - light orange to brown, well indurated, hard, slightly pyritic.
	10%	COAL - black, subvitreous, fissile to blocky, pyritic.
		Trace Clay, buff, very soft, silty.
	25%	SANDSTONE - cream to white, very fine to fine grained aggregate clear to milky quartz grains, weakly to moderately indurated, trace dolomitic cement, with some white clay matrix, slightly carbonaceous and micaceous.
	60%	SILTSTONE - light grey, light grey to brown to dark brown, weakly to moderately cemented, subfissile in part, very micaceou and carbonaceous.
		Trace Pyrite aggregates.
8570'-8580'	13%	<u>COAL</u> - As above.
	20%	SANDSTONE - As above.
	50%	SILTSTONE - As above.
		Trace Quartz, loose, as above.
		Trace Pyritic aggregates, no fluorescence or cut.
8580'-8590'	90%	COAL - black, conchoidal fractures, blocky, slightly pyritic,
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FLOUNDER 6 SIDETPACK

R. DO ROZARIO G. KJELLGREN

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DEPTH	C, C, C	DESCRIPTION
8580 '- 8590'	10%	Continued/ subvitreous to vitreous, finely laminated. <u>SILTSTONE</u> - very carbonaceous and micaceous, weakly indurated, subfissilę. Trace Sandstone - As above, weakly to moderately indurated. Trace pyritic aggregates.
8590'-8601'	5%	SANDSTONE - white to cream, very fine to medium grains, trace micaceous and carbonaceous, weakly indurated, and cemented.
	30%	<u>SILTSTONE</u> - As above.
	65% ·	<u>COAL</u> - As above.
		Trace pyritic aggregates, loose quartz, clear to milky, medium to coarse grains.

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APPENDIX 2

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WELL COMPLETION REPORT

FLOUNDER-6

APPENDIX 2

CORE DESCRIPTIONS

Interval Cored .8128'6"-8160' Bit Type	 3	:08:E WI	ELL FLOO Recov	Vered	6 31!6			(
B123 $B123$ $B130$ $C = 0$	MARINE	SHOREFACE	fg mod. sorted fg poor sorting fg mod sorted fg poor sorting fg mod sorted fg poor sorted fg poorly sorted	intensely burrowed	sharp where preserved	m-itgy sands, dkgy-bl silts and shales	delomite and pyrite	yery low	<pre>3128'6"-8131'11" Inter- bedded and intensely burrowed SST. SLST and Shale. SST: M-dk gy, hard, vf- sIIty, mod-poorly sorted, sa-sr, quartz, mica, pyrite, v glauconitic, carb, dolomite cement, ind sorted burrowed, carb clay, silty and sandy in burrows, mica, pyrite dolomite cement.</pre> 8131'11"-8132'3" SST: as above, mod sorted, vf- silty. 8132'3"-8134'3" Inter- bedded and burrowed SST, Shale and SLST as above. 8134'3"-8134'6" SST: as above. 8134'6"-8136'5" Inter- bedded SST and Shale: as above highly burrowed. 8136'5"-8136'8" SST: mod sorted, rippled, wayy laminae, as above. 3136'8"-8139'5" Inter- bedded Shale and Sand- stone.
	- dia				•,				Dwg 1107/0P/07

-	C	,	AUSTI DES					-		Page 2 of 4
			LL FLOU							SCALE 2cm = 1ft
erval Cored .8128'6"-8160' C Rit TypeC-20Bit Size	ut ³	L'6" /32"	Recov	vered esc by.	.31! ELL	e" iotr	г	OŖŢĊ	(]	CORE No 1
DEPTH & BEDDING CORING RATE COMPOSITION & min /ft STRUCTURES	ENVIRONMENT	F CIES	TEXTURE	TEXTURAL CHANGE	CONTACTS	COLOR	OIL STN.	CEMENT	POROSITY	REMARKS
$\begin{array}{c} 138 \\ 39 \\ 39 \\ 39 \\ 39 \\ 39 \\ 39 \\ 39 \\ $		SHOREFACE	fine gr poor sorting f-mgr fair sorting		• \$	medium – dark grey		*	low	Faults probably caused by slumping and burrow- ing.
	NE	FORESHORE	:f-mgr fair sorting med-vc	cogrsening slighty	ʻG 'G	light grey	flourescence no stain	e cement	per	8141'- Sandstone 1t gy, hard, vf-f, mod sorting, sa-sr, quartz, mica, glauc, pyrite, pyrite and dolomitic cement, carbonaceous, very tight.
$\begin{array}{c} 43 \\ 43 \\ 144 \\ 145 \\ 145 \\ 145 \\ 145 \\ 145 \\ 146 \\ 145 \\ 146 \\ 1$	NEARSHORE MARINE	SHOREFACE	fine- medium grained rare coarse to		G	medium grey	on flour	dolomite and pyrite	10#	<u>B142'11"-8151'10" Inter-</u> bedded SST, SLST and <u>Shale, v glauc, highly</u> burrowed, dolomitic and pyritic cement, very tight.
$\begin{array}{c} 146 \\ 147 \\ 148 \\$			granule							8148' Sandstone M-lt oy, hard, vf-med, mod sorted, sa-sr, quartz, mica, vglaue, pyritic and dolomitic cement, carb- onaceous.
										Ding 1107/01/87

LSSO	AUSTRALIA LTD.
CORE	DESCRIPTION

WELL FLOUNDER-6

SCALE 200 - 1ft.

CORE No. 1

rage 3 or 4

terval	Cored	8128'6"-8160'	C
2.1			

(... 100%) Fm. . LATROBE ...

TEXTURAL CHANGE ENVIRONMENT CONTACTS STN POROSITY DEPTH 8 BEDDING CEMENT EXTURE FACIES COLOR CORING RATE COMPOSITION 8 REMARKS 110 STRUCTURES min/ft Q 10 20 30 8148' Sandstone: Medium 8148 . . . to light grey, hard, 0 ſ. f-mg $\widehat{}$ very fine to medium, mod 0 sorted, sa-sr, quartz, :149 MARINE mica, very glauconitic, k some $\overline{}$ 0 pyrite and dolomite ٨٨٨ granule cement, carb, very tight. ¢ĝ 1228 8150 NE ARSHORE 0 mdkgy tight 1 M poorly sorted 0 ø A G L À 151 $+\frac{1}{2}$ ۵ 0. Ŵ٨ 0. 0 8151'10"-8152'9" SST: N It gy, hard, vc-f, poorly sorted, sa-r, qtz, mica, glauc, pyrite, dolomite cement, tight, NEARSHORE MARINE SHÖREFACE 3152 r Ó ¢ç. pyrlte ыod 1197 Н ¢ Q 0 v buo 8153 tight. V tolomite ÷. fining 8152'9"-8160' - Dominant-Very ៣ **g** ly Sandstone with inter-3154 bedded shale intensely r MARINE burrowed. Shale is very carbonaceous, Sand has 6 poorly dolomite cement and low 8155 mdkgy sorted NEAR SHORE 1 3156 5 11 8158' Sandstone: Medium m Q to light grey, hard, fing 8157 to medium grained, sr-r, r poorly quartz, glauc, pyrite, sorte d ¥ dolomite cement. 8158 • ź ř. . - 1 Core is intensely burrowed throughout. No fluorescence or cut. Sands are tight and contain either dolomitic or pyritic cement.

ESSO	AUSTRALIA LTD.
CORE	DESCRIPTION

Page 4 of 4 Ì

			WE	LL FLC	UNDER-	-6			·		SCALE 2cm = 1ft CORE No. /1
											100%) Fm LATROBE
DEPTH 8 CORING RATE COMPOSITION min / ft	BEDDING B STRUCTURES	EWARONMENT	FACIES	TEXTURE	TEXTURAL CHANGE	CONTACTS	COLOR	OIL STN	CEWENT	POROSITY	REMARKS
8158 10 20 30 8158 8159 8159 8160 8160 8160 8160 8160 8160 8160 8160		NEARSHORE MARINE	SHOREFACE	medium grained poor sorting			medium grey	no flour, no stain	dolimitic and pyrific	R O	8158' Sandstone Med-lt gy, hard, f-m, mod sorting, sr-r, quartz, glauc, pyrite, pyrite and dolomite cement, very tight. 8160' Sandstone
							æ				Didd Sadudstown, mod sorted, sr-r, quartz, glauc, pyrite, pyrite and dolomite cement, very tight.

Gas Chromatograph readings from steam-still sample from 8152'.

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							•
 C	C	C	C	C	С		•
C,	с _л	5	C. A	$\mathcal{C}_{\mathfrak{L}}$	6		۰.
1	2		*±	~	0		
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100	·7 4	2014	729	1026	756		7
182ppm	14	324	129	1020	750		
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Dwg. 1107/09/87

CORE DESCRIPTION

• WELL FLOUNDER-6

SCALE^{2cm = 1ft}

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Page 1 of 2

CORE No. . . . 2

Interval Cored .8160!-8171'6" Cut. . 1.1.2"..... Recovered ... 10'6".... (... 96.%) Fm. LATROBE..... INTRONMENT TEXTURAL CHANGE CONTACTS STN. DEPTH 8 BEDDING POROSITY CORING RATE EXTURE CEMENT FACIES COLOR COMPOSITION 8 REMARKS 01 MIN/FT STRUCTURES 30 81607 10 2,0 t-mg V 8160'-8161'Sandstone F poor-mod ٥ sorted with thin interheds of Q v mod shale. Highly burrowed 8161 Sandstone: M-lt gy, hd, m-cg 4. 1. f-mg, mod sorted, mod \emptyset , LLL mod sorted glauc. Shale: Dk qy-bl, 8162 Q Ø v • f-ma hd, sharp bedding con-9 an g poor sort. tacts between sand and ·1, . . preserved 91 ¢ poe m - c g shale where they haven't £ 8163 6323 mod Q been affected by burrow-Н <u>.</u> sorted where ing. 8161'-8162' SST: M gy, v harp MARINE ž 8164 f-mig Q sa-r, glauc, mica, pyr, dolomite cement, purite cement, little matrix, fair sorting, fair-good Ø and . poorly upwards fair sorting, fair-good Thin shale laminae steep mod SHOREFACE omite 5 nod sorled mltgyly inclined. ν **NE AR SHORE** 8162'-8162'6" Interbedded 8165 fining Q 101 SST and Shale as above minor ۵ 21 8162'6"-8163'5" SST. as above with shale laminae 8163'5"-8165'5" Interbed ţ, <u>Interb</u>edd ed SST and Shale: as above, highly burrowed. Ľ 8166 Ð m - c a 2 8165'5"-8169'2" SST: V 15 M gy, firm, sr-r, mod bioturbated sorted, m-cg, qtz, pyrite glauc, mica, carb, some dolomite cement, good g. 8167 0005 Ţ mod sorting (highly 数od 8168 Н <u>8169'2"-8970'6" SST:</u> Lt gy, hard, m-cg, mod 0 m-grenule 8169 sorted, sr-r, qtz, mica, pyrite, fully comented Q · . . poor dolomi by dolomite, no porosity, ø ż H little matrix. 8170 4 Gas Chromatograph Readings from blender ; ample taken fr 8168' C3 CA C₅ C, С, C_G . 1 576 1246 1588 133 1846 334 ppm ÷., . .

			ORE WI	ELL FLOU				1			SCALE 2 CM = 12t
			1								CORE No
nterval Cored8160. Bit Type											
DEPTH 8 CORING RATE MIN/FT	BEDDING N & STRUCTURES	ENVIRONMENT	S S S S S S S S S S S S S S S S S S S		TEXTURAL CHANGE	CONTACTS	COLOR	OIL STN.	CEMENT	POROSITY	REMARKS
8170 10 20 3b 8170	. Н			mcg			11. gy.		dolomite	low	
8171	\										No recovery: cut in same way as dolomitic action.
								-			
									<u> </u>		

DEPTH a mA/H DUDONG A STUDETURES STUDETURES <th></th> <th>Bit Size</th> <th>Cut</th> <th>13.'</th> <th>ELL FLO Recov</th> <th>vered</th> <th>.32!</th> <th></th> <th>····</th> <th>ĻΊΟ.</th> <th>(</th> <th>SCALE 2cm = 1ft CORE No. 3 .74.%) Fm. LATROBE . Date 1/8/77</th>		Bit Size	Cut	13.'	ELL FLO Recov	vered	.32!		····	ĻΊΟ.	(SCALE 2cm = 1ft CORE No. 3 .74.%) Fm. LATROBE . Date 1/8/77
10 0 10 <t< th=""><th>ORING RATE COMPOSITION</th><th>8</th><th>EWARONMENT</th><th>FACIES</th><th>TEXTURE</th><th>TEXTURAL CHANGE</th><th>CONTACTS</th><th>COLOR</th><th>DIT ETN</th><th>CEMENT</th><th>POROSITY</th><th>REMARKS</th></t<>	ORING RATE COMPOSITION	8	EWARONMENT	FACIES	TEXTURE	TEXTURAL CHANGE	CONTACTS	COLOR	DIT ETN	CEMENT	POROSITY	REMARKS
$\frac{\text{Gas Chromatograph blender sample from 8174'8"}}{C_1 C_2 C_3 C_4 C_5 C_6 HOT WIRE}$		₩. ₩.			mod sorted ta-vc pebbly		sharp	11		dolomite	ery loa	It gy, Very hard, granul to mg, mod sorted, sa-r, quartz, glauc, carb, pyrite, some shale laminae, low angle x-bed at 8171'6"-8172', thin shale unit, that is burrowed at 8175'. Sharp bedding contacts. Pebbly cone 8177'-78'. Dolomite cement, porosity has been obliterated by the colo- mite cement. Yellow f mineral fluorescence,
				C	4		11					HOT WIRE 80 UNITS

				43'		vered	32					SCALE 2cm = 1ft CORE No. 3 74%) Fm. LATROBE
Туре	2-20	Bit Size		15/32	. in., D	esc by .	MC	RTO	a∕Ei	LLIC	PTT.	Date 1/8/77
DEPTH 8 CORING RATE CO	OMPOSITION	BEDDING 8 STRUCTURES	ENVIRONMENT	FACIES	TEXTURE	TEXTURAL CHANGE	CONTACTS	COLOR	DIL STN	CEMENT	POROSITY	REMARKS
		Н			m - ¥C			11 27		dolomite	ivery low	
83 84		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			vc – m			1† bra			ಕ ಜಾರಿಡೆ 900ರ	as above without dolomite cement. Some thin wavy shale laminae.
		н	NEARSHORE MARINE		Ac - UJ Boot sorted			11. 97		doiomite	very loz	
				•								1

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			esso ORE	ausi DES					·	1	Page 3 of 5
			WE	LL FLO	DUNDER	-6			·		SCALE
											74.%) Fm. LATROBE
DEPTH 8 CORING RATE COMPOSITI min/ft.	BEDDING B STRUCTURES	ENVRONMENT	FA C: E S	TEXTURE	TEXTURAL CHANGE	CONTACTS	COLOR	OIL STN.	CEMENT	POROSITY	REMARKS
91: 0 5 10 . 0	H	MARINE		f-vc mod .sorted f-vc			11 brn 1 11 1 gy	-	olonit	mod i bood - bom	8191'4"-8192'10" SST as above without dolomite cement but with sharp bedding contacts and some silt laminae.
R193				vt - f poorly sorte¢			11 - mgy		•	loa	8192'10"-8194'11" Highly burrowed interbedded SST, SLST and Shale with wavy and parallel continuous and discontinuous laminae SST It gy, hd, f-shale, poorly sorted, sa-sr, burrowed.
6195 96 96 8197 8197		MARINE	OFFSHORE	f-m vf-f paorly sorted		s harp	lt-mgy brn			poop #01	8]94'11"-8195'5" SST: with shale clasts (up to 4" +) Gry-brn, hard, quartz, mod sorted. 8195'5"-8197'9" Inter- bedded highly burrowed SST, SLST and Shale as for 8192'10"-8194'11"; 8197'9"-8201'8" Shale:
198 							pf			refy low	with very fine grained sst and silt laminae and burrow infills, parallel continuous laminae, Tenticular and silt beds, black, hard, pyrite, carbonaceous,
201	¢ 25										

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ан 1 1 1 1 1 1				AUST DES					-		Page 4 of 5
			Ŵ	LL FLC	лийрёк-	-6					SCALE 2cm = 1ft
											74.%) Fm. LATROBE
t Type C-20	Bit Size		.5/32"	. in., D	esc by.	MOR	ŢŎŊ	/ELI	101	`I'	. Date1/8/77
DEPTH 8 CORING RATE COMPOSITION min/f1	BEDDING & STRUCTURES	ENVIRONNENT	FA CIES	TEXTURE	TEXTURAL CHANGE	CONTACTS	COLOR	OIL STN	CEMENT	POROSITY	REMARKS
201 0 5 10	U										8201'3"-8202'6" Silty
202 		MARINE	SHORE FACE	pebble silf poorly sorted		sharp	ďk gy			201	Pebbly Sandstone: very poorly sorted sandstone with slst matrix and pebble-granule sized clasts, dk gy, hard, pebbly-silt, poorly sorted, sa-r, highly burrowed, quartz, carb, very tight.
8205											8202'6"-8214'6" NO RECOVERY.
8207											
8208											
8210		•									
Gas Chro	<u>natograph</u>	<u>Valuos</u>	<u>f.rom</u>	blendec	l sampl	le fi	rom	<u> </u>	216	-1	
								с ₆			аланан алан алан алан алан алан алан ал
C ₁ 106ppm	C ₂ 74	C ₃ 99		C ₄ 76	C ₅ 68			<u> 6</u> 38	<u></u>		
	an alge agenty of the state and a state of the state of the state of the state of the state of the state of the	anter a servicenteration et anter	anna an staine an staine an staine an staine an staine an staine an staine an staine an staine an staine an st		angezenin ar des -ne						

ESSU AUSTRALIA LIU. CORF DESCRIPTION

Page	5	of	5

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WELL FLOUNDER-6

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SCALE 2cm = 1ft CORE No. 3

DEPTH 8 ORING RATE min/f1	COMPOSITION	BEDDING & STRUCTURES	ENVIRONMENT	FACIES	TEXTURE	TEX TURAL CHANGE	CONTACTS	COLCR	OIL STN	CEMENT	POROSITY	REMARKS
												8203'6"-8214'6" NO RECOVERY.

WELL FLOUNDER-6 Sidetrack

SCALE _ 2cm. =. 111

CORE No. . . 4

·	01 201	01601		201			28'	η μ				95 %) Fm IATROBE=T. longus
Interval Cored			ut		Recov in., De		ELL DO	IOTT ROZA	RIC			Date 6-12-1977
			963-254 P	personal and the second second second second second second second second second second second second second se	< 10" 100800"0"# Dec 10"00"1"	0-20410-1040-14		LLGR	<u> </u>	CHERN CHERNE	1	ana ang ang ang ang ang ang ang ang ang
CORING RATE	COMPOSITION	BEDDING 8 Structures	ENVRONMENT	FACIES	TEXTURE	TEXTURAL CHANGE	CONTACTS	согся	OL STN	CEMENT	PORC SITY	REMARKS
8130						10111797 BAROLE A. 16 TOPO						8131' SANDSTONE ~
8130				? FORESHORE	V. fine some silt mod sort		<u>6-5</u>	Lî - Med. Grey			Poor	light grey, poor sorting very fine to fine, sub- angular to subrounded, very glauconite, very micaceous, very pyritic, pyritic and dolomitic cement, firm, silty, Interbedded very fine to fine Sandstone.
- 8132	· · · · · · · · · · · · · · · · · · ·	ν ν ν ν	MARINE	EFACE	vf-gran V. poor sort			l. Grey				8133' SANDSTONE - medium grey .02-2mm, very glauconite, very micaceous, silty, pyri- tic and dolomitic cement very poorly sorted, sub- angular to subrounded,
8133		ν ν~ ν		SHOREFACE				Lt - Med.				angular to subrounded, hard tight, some fine interbedds of very fine to medium Sandstone, mainly obliterated by burrows.
8134		ν γ					G			ement		
8135		υ τ ~~~ τ			vf-gran V. poor sort					ritic C	y Poor	8135', 8137' SANDSTONE -
8 36		ע ע ע	NEARSHORE	SHOREFACE				9y		and Py	Ver	light to medium grey, very fine to granule, very poor sorting, sub- angular to subrounded, silty, very glauconite, very micaceous, pyrite and dolomitic cement
8 37	· · · · · · · · · · · · · · · · · · ·	~~~່ ນີ້	2.	SHC				Grey		olomitic		-burrowed.
8138		ν ν ν~~~						Medium		Doi		8139.5' SANDSTONE - medium to light grey, medium to granule, glauconite, micaceous, pyritie-and-dolomitie
8139		ע ז און אר			fine		G				 	coment, moderate sort- ing, interbedded coarse and fine Sandstone.
┠╌┠╌┠╌┠╸┊╺╪ ┠╴╏ ┠╌╏╌╏╴╴╴ ┠╌┨╶╴┨╶╌╕╸┊╶╡		^Υ Η _Υ - <u>υ</u> ° Υ		Shoreface	mod sort		+ -				Poor	When we want to see the second data and
8140		ً ک ≷∛			pebble			<u> </u>				No fluorescence no cut.
					ande des la deserve della della della della della della della della della della della della della della della d							NO ILUOTESCENCE NO CUC.
-												
4.2444 - 24.4444 - 24.4444 - 24.4444 - 24.4444 - 24.4444 - 24.4444 - 24.4444 - 24.4444 - 24.4444 - 24.4444 - 24												
						· ·						

WELL FLOUNDER-6 Sidetrack

SCALE 2 cm. = 1ft

iterval Corei			Cut	30 ' /32"	Recov in., Di	esc hy	ELLI	ROZA	RIO		•	95%) fm. LATROBE-T. longus Date 6-12-1977
DEPTH & Coring Rate	COMPOSITION	BEDDING 8 STRUCTURES	T NPORMENT	20 20 20 20 20 20 20 20 20 20 20 20 20 2	TEXTURE	TEXTURAL CHANGE	CONTACTS	COLCR	OL STR	CEMENT	POROSIT (REMARKS
3 40 8 41 8 42 8 43 8 43 8 44 8 45 8 46 8 47 8 48 8 49 8 49 8 50			MARINE NEARSHORE OFFSHORE TRANSITION NEARSHORE MARINE	SHOREFACE	med-gran fair sorting m - c fair-poor sorting vf - m poor sort f - m poor-mod sorting f - m	less interbedde shale	- G - S - S - G	Med. grey (shale dark grey) Med. grey		Dolomite and Pyrite Dolomite and Pyrite	Fair - Poor Poor	<pre>8143' - SANDSTONE - silty and shaley, medium to-dark-grey-very-pyri- tic, subfissile, glauco- nite, firm, very micace- ous, very poorly sorted,</pre>
	1ATOGRAPH	- BLENDEI	R SAMPLE	FROM S	3142 ' C	5	C	5				No fluorescence, no cut.
ppm	Tr	7	1.8	42	8	0	60	5				
2 212000.000 (10000) (10000) (10000)							a					

WELL FLOUNDER-6 Sidetrack

SCALE ... 2cm...=. 1 ft.....

CORE No. 4......

isterval Cored			Cut			ered	1777	3'3" JOT:	דן			95 %) FmLATROBE-T. longus
Tit Type	C-20	Bit Siz	e8 ¹⁵	/32"	. in., Do	ese by	DO	ROZ: LLC	ARI	0,		. Date6-12-1977.
DEPTH 8 CORING FATE	COMPOSITION	BEDDING 8 STRUCTURES	ENVIRCHMENT	FACIES	TEXTURE	TEXTURAL CHANGE	CONTACTS	COLOR	OIL STN	CEMENT	PORCSITY	REMARKS
8150	·ø.¬m-	ן ז ~~	1									
8151	<u>у</u>	ν ν ν ν	NEARSHORE OFFSHORE TRANSITION		f - med poor sorting	less shale	- G-		name freeze a second and a second second second second second second second second second second second second		Poor	<u>8151'SANDSTONE</u> medium grey, fine to coarse grained, sub angular to subrounded, poor to moderate sorting, glauconite, micaceous, burrowed. Interbedded
8152	····	Н ~~т~~					Ŭ			Pyrite		burrowed. Interbedded Shale dolomite and pyrite cement.
8153	· · · · · · · · · · · · · · · · · · ·	H ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			f — c poor sorting		n open og sen skale og sen skale og sen som er op en skale og skale og sen skale og sen skale og sen skale og s		Medium grey	Dolomite & P	Poor	onaceous, tight, dolomica
8154	· · · · · · · · · · · · · · · · · · ·	Н	HORE MARINE				- G -			Dolo	Fair -	and pyrite cement.
8155	С. Т. К. С. С. С. С. С. С. С. С. С. С. С. С. v v			f-m poor sorting		- G-						
8156]	ν Μ γ γ	NEARSHO		m – gran poor – fair		- G -			te	Poor	8157' SANDSTONE
8157					sorting				n an far an an an an an an an an an an an an an	olomite & Pyrite	None	very coarse, glauconite, micaceous, very tight, very dolomitized, dolo- mite and pyrite cement, fair sorting.
8158		»رو الم								Dolo		
. 8159												8158'3"-8160' - NO
												8156'-8158'3" Very hard, very dolomitized.
8160 CHROMZ	TOGRAPH	- BLENDEF	SAMPLE	FROM 8	∥ 8156 '		L	<u></u>		L		No fluorescence, no cut.
<u> </u>	<u>c</u> <u>c</u>	<u>3</u> <u>C</u> <u>4</u>				t are tracted and the state of						
ppm 64	37 6	2 71.	64 66	· · · · · · · · · · · · · · · · · · ·								
	د و می اور این این این این این این این این این این											
(an manufur, in sharm diserution												

ESSO AUSTRALIA LTD.

WELL FLOUNDER-6 Sidetrack .

. . . CORE No. . 5.

mterval	Cored	8160'~8	3 177'	Cu	t	17'		Rec	:01
sit Type	e C20	RR	Bit	Size	815/	(32"		in.,	D
	and a second second		******				1	NUNEXI24	05700a.s

11,10,².. vered

DO ROZARIO esc by KJELLGREN Date 7/12/77

DEPTH 8 CORING RATE min/ft	COMPOSITION	BEDDING & STRUCTURES	ENVIRORMENT	FACIES	TEXTURE	TEXTURAL CHANGE	CONTACTS	COLOR 1	CIL STN.	CEMENT	POROSITY	REMAINS AND CONTRACTOR AND AND AND AND AND AND AND AND AND AND
8161	0 34 	3° Н Н	MARINE · NEARSHORE	SHOREFACE	m - c			lt-m grey				8162' - Sandstone - High: grey, medium to coarse grains, milky grains, angular to sub- angular, well comented and indurated, white dolomitic cement, trace glauconite, trace pyrite, tight, no fluorescence, very weak yellow cut. 8163'2" - Sandstone - light grey to brown, clear to milky grains, Time to medium grains, angular to subangular, well cemented and indu- rated, white to light buff dolomitic cement, tight, trace glauconite, trace mica, no fluores-
0100	0				f - w w		- s - - s -	brn-gy m gy				trace mica, no fluores- cence, weak white crush cut.
	<u> </u>	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	11		W		- s -	in gy				
8165		2 <u>5</u> °	ij	BEACH	c – vc with abnt grnls mod srtg			lt – m grey		Dolic	Poor	<u>8163'5" - Sandstone</u> - <u>medium</u> grey, clear to <u>milky grains, subangular</u> well cemented and indura- ted, white dolomitic cement, trace glauconite <u>and pyrite, tight</u> , slightly patchy yellow fluorescence, no visual cut. <u>8163'9" - Sandstone -</u> <u>Tight grey, clear to</u> <u>milky, coarse to very</u> <u>coarse grains with</u>
	· MM . G						- G -					abundant granules, well.
8167	$\left \begin{array}{c} & \cdot & \cdot \\ \cdot & \swarrow & \cdot \end{array} \right $	200			m - ^			lt-m				very fine grains dolomi- tic cement, tight, trace
	32 ·	100		A C E	m - c			it – m grey				mica, and pyrite, very rare glauconite, no fluorescence or cut.
8168		H	II	SHOREFA			- 6					8166' - Sandstone - light grey, medium to very coarse grains, with abundant granules, clear to milky grains, well cemented and indurated, dolomitic cement, sub- angular to subrounded, moderate sorting, tight, slightly silty, trace
	0 - Z.O	н	í)									pyrite and rare glauco- nite, no fluorescence or
8170	[• · •	JJ			L	L	L		<u>i</u> !	-0.000-000-000		cut.

Dwg. 1107/0P/87

SCALE 2cm = 1ft

WELL FLOUNDER – 6 Sidetrack

SCALE 2cm - 1ft

min/tt l	BEDDING & STRUCTURES	ENVIRONMENT	FACIES	TEXTURE	TEXTURAL CHANGE	CONTACTS	COLOR	OIL STN	CEMENT	POROSITY	REMARKS
8170 8170 8171 8171 8171 8172 8172 8172 8173 8174 8174 8174 8175 8175	Н	MARINE . NEARSHORE	BEACH	c – vc ⊮ grnIs ≤ 50% mod srtg			it - m grey		Dollic	Poor	<u>8171' - Sandstone -</u> As above with friable sandy inclusions up to '\', no fluorescence of cut.
8176											

WELL FLOUNDER-6 Sidetrack

SCALE 200 1 250

· .					Side	etrack						CORE No 6
-Interval Cored		-8225 '	Cut	48	Reco	vered	25	8"	•		(. ⁵	3.5) Fm T. longus
								I ROZ	AK	10 1		. Date .7-8/12/77
DEPTH 8 CORING RATE min/ft	COMPOSITION	BEDDING & STRUCTURES	ENVIRONMENT		TEXTURE	TEXTURAL CHANGE	CONTACTS	COLCR	OIL STN	CEMENT	PORCSITY	REMARKS
8177		 . H	MARINE	NEAR - SHORE	m — c few gran			brn- grey			fair	Slight hydrocarbon odour in core. 8177'-8182'6" - Sandstone
8178		ν? H	11	11	m - c			m gy			v poor	medium grey to brown,
8179	∫. <u>·</u> · · · · · · · · · · · · · · · · · ·	H	· ·		m – c few			brn-			1	medium to coarse grains, subangular to subrounded quartz grains, little dolomitic matrix, few grains, moderately sorted
8180	•		11	11	grans			grey				fair to good porosity, no fluorescence,no to weak yellow blue crush cut.
8181						incr grnls				omite		Very tight Sandstone at S177'8"-8178'1" with abundant dolomitic cement
8182	0.400	н					- G -			Dolo		
8183	0 4 0 0 0	·····	11	NE ARSHORE SHOREFACE	c - vc (rare gran)			m – grey			v poor	to brown, coarse to very coarse grains, with
8184	0 0 0		11	11	c – vc w/ abnt gran	incr grnls	- G-	brn grey			poor - mođ	dolomitic matrix, very
8186	· · · · · · · · · · · · · · · · · ·	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	11		m - c		- S-G- - S- G-	brn - grey			fair - poor	poorly sorted, poor porosity, trace glauco- nite, trace pyrite, no fluorescence, very weak
8187	Blender (Sample:	" 8177'6"	NEAR- SHORE	f - vc		°C,		С,		c	to weak, pale yellow blue crush cut.
					- <u>.t.</u>	-2	5-		4			

98 29

132 298

445

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WELL FLOUNDER-6 Sidetrack

SCALE _2cm = 1ft CORE No. ... 6......

CORIN	min/{t	COMPOSITION	8 EDDING 8 STRUCTURES	ENVIRONMENT	FACIES	TEXTURE	TEXTURAL Change	CONTACTS	COLOR	OIL STN	CENERT	POROSITY	REMARKS AND AND AND AND AND AND AND AND AND AND
187			15°		SHOREFACE	w/ abnt gran							
89			H	·MARINE	NEARSHORE -	v. poor srtg	incr slt		brn grey			fair	Cross bedding weakly developed, few silty laminae.
90			र्रे जूर रूर्	11	11	vf – m	incr ss 		dk – m gy			poor	
191 92				11	NEARSHORE OFFSHORE TRANSITION	vf – m	incr ss ↓	- 6 -	it grey ait dk grey		Dolomitic	y poor	of Sandstone and Silt- stone with top Sandston laminations showing fin cross bedding. Numerou burrows and wavy lamina
93		· · · · · · · · · · · · · · · · · · ·					brn - gy			fair	decreasing with depth. Sandstone - very fine to fine grains, medium grey well cemented with		
94				11	OFFSHORE TRANSITION	vf — f gr	incr fsnd ↓		d k Gy			v poor	brown to white dolomiti <u>cement, fair sorted,</u> poor porosity, trace glauconite, pyrite, mic and carbonaceous matter Siltstone - dark grey t brown, moderately indur ted, carbonaccous, abun dant mica, trace pyrite
96					NEARSHORE - C								······································
97 L -		Blender	Sample:	8187'4		2 ₁	с ₂	<u>с</u> 3		{		С	<u> </u>
-					39	92	89	457		909)	11.4	5 198

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WELL FLOUNDER-6 Sidetrack

SCALE 200 - 120 ...

interval Cored 8177!-8225! Bit Type C20 Bit Size					T	8") ROZ IELLO	ר רו רדי	50		3.5) Fm T. longus Date 7-8/12/77
DEPTH 8 CORING RATE COMPOSITION 8 min/ft STRUCTURES	ENVIRONMENT	FA CO FA FA FA FA FA FA FA FA FA FA FA FA FA	TEXTURE	TEXTURAL CHANGE	CONTACTS	COLOR	GIL STN.	CEMENT	POROCITY	REMARKS
8197 0 10 20 30 × × × × × × × × × × × × × × × × × × ×	. MARINE	NEARSHORE	vt – f gr			d k grey			v poor	Subfissile, no fluores- cence, weak to moderate pale blue crush cut.
8200 v v v v v v v v v v v v v v v v v v	13		f-m-c grs some gran	w.ind		m brn-		dol	poor	Sandstone - grey to brown firm to medium coarse grains, with some rounded grains, silty in part, moderate to weakly
8202 2' 8"				incr grnls Y fri		grey			fair	cemented at base, poor to fair porosity, trace trace mica and glauconite no visual florescence, weak to moderate pale
8203										yellow blue crush cut.
							-			No-recovery to 82251,
8207 LLIIIV V Blender Sample:	8201 ' 6"	: C	¢	2	C ₃		C ₄		<u>с</u> 5	C
		19) 1	5	44		42		63	132
										·

3/5 '

ESSO AUSTRALIA LTD.

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WELL FLOUNDER-6 Sidetrack

SCALE 200 - 161 CONE No. 6.....

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interval Cored 817	7'-8225'	Cut	48'	Recov	vered .	25	8"			(.53	.5.%) Fm. T. longus
Bit Typa	Bit Size	8815	/32"	in., Di	esc by .	DO F KJEI	ROZA) JI.GR	RTO EN			Date
DEPTH 8 CORING RATE COMPOSIT	BEDDING A STRUCTURES	ENVIRONMENT	E S S S S S S S S S S S S S S S S S S S	t E X TURE L X TURE	TEXTURAL CHANGE	CONTACTS	COLOR	OLL STN	CEMENT	PORGSITY	REMARKS
8207 0 10 20 30		9, 2009 - 7, 2009 - 1, 2009 - 2, 2009 - 2, 2009 - 2, 2009 - 2, 2009 - 2, 2009 - 2, 2009 - 2, 2009 - 2, 2009 - 2	de regional de la construction de la construction de la construction de la construction de la construction de l		taron martin yen jott ka dan	- 300 e 40 30 2 40 4	201300132743				
8208											
8209											
8210											NO RECOVERY
8211											
8212											
8213											
8214											
8215											
8216											
8217											
	·										

Dwg. 1107/0P/87

WELL FLOUNDER - 6 Sidetrack

SCALE 2cm = 1ft

CORE No. . . 6.

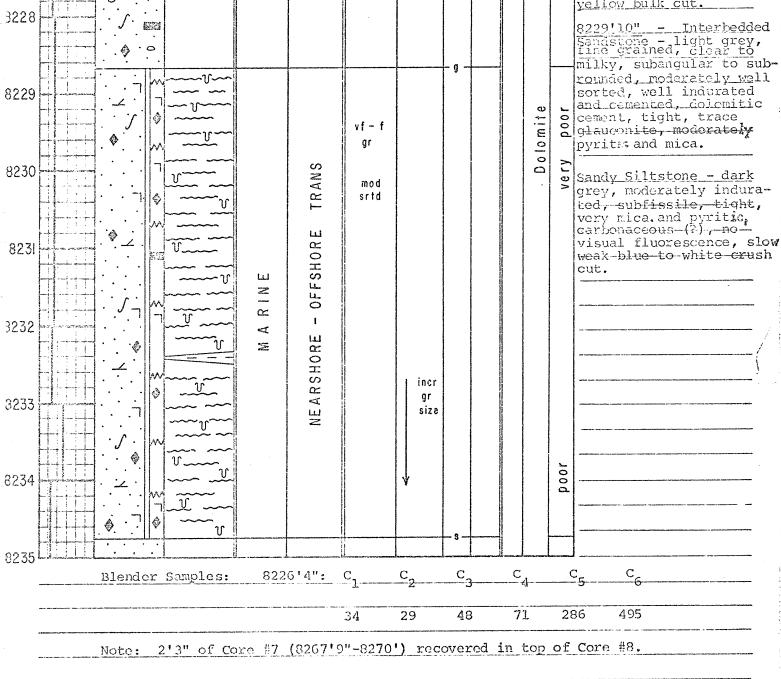
mix/fit Sindicates Z <thz< th=""> Z <thz< th=""> Z <thz< th=""></thz<></thz<></thz<>

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ESEC AUSTRALIA ITO. CORE DESCRIPTION

WELL FLOUNDER-6 Sidetrack SCALE 200 - 195

merval Cored	8225*	-8270' Bit Size	Cut 28/	45 ' (32"	Reco in., D	vered esc by .	42 R. G.	9" DO KJE	RCZ LLG	ARI(REN	(CORE No 7
DEPTH & CORING RATE CC min/ft	MPOSITION	BEDDING & STRUCTURES	EWSPORMENT	FACIES	TEXTURE	TEXTURAL CHANGE	CONTACTS	COLCR	OLL STR	CEMENT	PORCSITY	REMARKS
- 8225 - 8225 - 8225 		2 // 3	MARINE	NEARSHORE	f — vc gr priy srtd			lt – m grey			fair	Faint hydrocarbon odour in fresh break. <u>3226'4" - Sandstone -</u> Light grey, clear to milky grains, fine to very coarse grains, poorly sorted, moderately indurated and comanted, white dolomitic cement, white dolomitic cement, subangular to subrounded, fair porosity, moderately pyritic, trace glauconite, mica, trace coaly frag- ments (carbonaccous), nil to patchy vellow fluores- cence, slow white to yellow bulk cut. <u>8229'10" - Interbedded</u>



Dwg. 1107/0P/87

ESSO ABSTRALIA LTD. CORE DESCRIPTION

WELL FLOUNDER-6 Sidetrack

min/ft	COMPOSITION	BEDDING & STRUCTURES	ENARGARENT	FACIES	Т Е Х Т С Я П	TEXTURAL CHANGE	CONTACTS	COLCR	DIL STN	CEMENT	POROSITY	REMARKS
8235 10 20 3 6236		///у У Н У У Н Н Н Н Н Н Н	MARINE	NEARSHORE - SHOREFACE	m — vc gr wabnt grnis prly srtd			lt-m brn gy		Dolomite	fair — good	238.'4" Sandstone - Itcht Grey, medium to vary coarso_grains, with abundant granules, some pebbles_clear_to_milky subangular to subrounded poorly_sorted, white_ dolomitic cement, mod- erately_indurated_and cemented, fair porosity, trace_glauconite_and_ coaly_matter (carbona- cools)slightly_pyritic and mica, patchy yellow -fluorescence,_fast
				C	C	C4				C	5	
	824316"		78	29	422	795	1	145		185:	3	
						99999999999999999999999999999999999999						
		ayya taya dalamata taya ka manafasa yayadan y	MBMC Lanak, Keng Janu, Bri Hala	- nacharakan denas miningin minin se								D*g. 1107/09/87

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WELL FLOUNDER - 6 Sidetrack

SCALE 2cm = 1ft CORE NA

	GIGGLIGGA	CORE No 7
interval Cored 82251-82701		42'9" (95 b) Fm. T. longus R. DO ROZARIO
Sit Type	e8 ¹⁵ /32" in., Desc by	G. KJELLGREN Date 8/12/77

CEPTH 8 CORING RATE	COMPOSITION		EWIRONMEN	FACIES	rexture	TEXTURAL CHANGE	CONTACTS	ссгоя	OLL STN.	CEMENT	POROSITY	REMARKS
min/ft	a marate analysis and a subscript of	STRUCTURES		<[LL		C H	00	cc	6	U U	Cd.	neuroneuronentationentistuttistationalain son son käinestitten meinettist maintaines
8245 8246 8246 8247 3248 9249 8250 8250 8251 8251 8252 8253 8254		н н н н т	MARINE	NEARSHORE - SHOREFACE		decr grnls	-S-9-	lt -m bra gy		Dolomité	fair — good	<u>8253'6" - Sandstone -</u> <u>Inite grey, fine to</u> <u>Subrounded, poorly to</u> <u>moderately sorted, weak</u> <u>to milky, subangular to</u> <u>subrounded, poorly to</u> <u>moderately sorted, weak</u> <u>to moderately indurated</u> <u>and cemented, white</u> <u>dolomitic cement, fair</u> <u>porosity, trace glauco-</u> <u>nite, mica, slightly.</u> <u>pyritic spotty yellow</u> <u>fluorescence, fast_</u> <u>strong blue to white cut</u>
	61 ° MAN	ิ			f-vc gr			lt grey			v poor	
8255												
					nganganita yan karangi antanin karan da sita ka		nak telaphotetsi					
						1,						

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WELL FLOUNDER - 6 Sidetrack

Recovered

leterval Cored ... 8225!-8270'

SCALE 200 = 13t

R. DO ROZARIO Bit Type C20 RR Bit Size 8¹⁵/32" in., Desc by .G. KJELLGREN Date ... 8/12/77 ENVIRGNMENT 010 TEXTURAL CHANGE ST8 CERENT POROSITY BEDDING DEPTH 8 TEXTURE FACIES COLOR CONTA 8 REMARKS CORING RATE COMPOSITION 5 01 0 STRUCTURES min/ft 8255 F 10 20 3р · . · .∠ .' ٦ r 32 0 0 ٩ ш 0 ပ \mathbf{M} 8256 0 Н Þ 0 8257!2" <u>8257'2"</u> - Sandstone -<u>light grey, fine to</u> <u>very coarse grains,</u> <u>abundant granules,</u> <u>clear to milky, subangu-</u> <u>lar to subrounded guartz</u> <u>grains, verv vell cemen-</u> <u>ted with ______ite</u> <u>dolomitic cement, very</u> <u>tight porosity, trace</u> <u>glauconite and mica, ______</u> <u>moderate to very pyritic</u> <u>no fluorescence or cut.</u> - Sandstone L 51 ż ш HOR • ~ Dolomite LL 0 8257 2 ഗ ប 0 f – vc ٩ Ř I decr łt w/ ž. MANA gran grey 4 gran . ш **0**⊂ N 8258 Н . . 0 SH (œ M Ż 4 . V ш 8259 . 0 2 ww Н 8260 0 S • . . Fair . 0 incr 8261 ш • AC gran v ۷ f-vc • LL_ w/ ш HORI gran 8262 ш Н Z လ Dolom I œ. med ⊲ brnш 8263 c grey \geq œ. r 0 T တ decr £ gran 8264 ∢ Good ٨٨٨٨ fining ш ż Z ٠ 0 ø Н 8265

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WELL FLOUNDER-6 Sidetrack

SCALE 200 - 191

CORE No	CORE N	10 .	1				
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42'9" 95 ·) Fm T. longus interval Coreil 8225'-8270' Cut 45' Recovered (R. DO ROZARIO TEXTURAL CHANGE CONTACTS BEDDING NURONMEN STN POROSITY DEPTH 8 rexture CEMENT FACIES COLOR CORING RATE COMPOSITION 8 REMARKS CH STRUCTURES min/ft 10 20 30 3265 f \square 8266'6" - Sandstone medium brown to grey, V Dolomite fine to very coarse 8266 Good grains, becoming fine to med brn Η coarse at base, clear - gy to milky subangular to > 3267 subrounded quartz grains \square poor to moderate sorting 267'9 moderately cemented, r 8268 ww patchy yellow fluoresr f - m It NEARSHORE ø qy gr cence, fast strong Dolomite MARINE w / patch Poor white cut. V W r dk-gy 3269 cmtd r ſ. NO RECOVERY ·^^^ v v 3270 Note: (8267'9"-8270' recovered from Core #8) Revised recovery 100%. -c____ $---c_4 - c_5$ 8267 6" 19 89 193 255 509 662

ESSO AUSTRALIA LTD. CORE DESCRIPTION

WELL FLOUNDER - 6 Sidstrack

SCALE 2cm = 1ft

Interval Cored 8270 Sit Type C20 RR						R	0) R(OZAL		04) Fm
DEPTH 8 CORING RAFE COMPOSITI min/ft	BEDDING ON & STRUCTURES	ENVIRONMENT	FACIES	TEXTURE	TEXTURAL CHANGE	CONTACTS	COLCR	CIL STN.	CEMENT	PORCSITY	REMARKS
8270 10 20 30 8271 54 54 8271 60 mm 8272 54 54 8271 60 mm 8272 54 54 8273 60 mm 8273 54 54 8273 54 54 8273 54 54 8273 54 54 8273 54 54 8275 54 54 8276 54 54 8276 54 54 8276 54 54 8277 54 54 8276 54 54 8277 54 54 8278 54 54 3279 54 54		M A R I N E	NEARSHORE - I OFFSHORE I TRANS. I NEARSHORE	f - m gr f - c gr v. prly srtd vf - f gr ss interlam slst	incr grnis less cmtd incr silt	— g —	It gy W. paichy dk grey brn – gy 		Dolomite	Poor Very	<pre>3271'6" - Sandstone - light grey, firm to medium grains, subangular to subrounded, clear to milky quartz grains, trace glauconite and pyrite, very well coment- ed and indurated dolomi- tic cement, very tight, trace yellow patchy fluorescence, no-very weak slow white cut.</pre>
3280 Blender	∧ 𝒴 ↔ ↔ ↔ ↔ ↔ ↔ ↔ ↔ ↔ ↔ ↔ ↔ ↔ ↔ ↔ ↔ ↔ ↔	8276	Ч О Ш С	C,	c						
				38	2	7	3	_]_	75		154264

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WELL FLOUNDER - 6 Sidetrack

(...94....) Fm. ...T. longus ... Interval Cored 82701-83131 Cut ... 43'... R. DO ROZARIO R. DO ROZAKIO 8¹⁵/32" in., Desc by G. KJELLCREN Date 9/12/77 Cit Type C20 RR Bit Size TEXTURAL CHANGE CONTACTS WIF ONMER 1 STN: TEXTURE CEMENT POROSITY DEPTH 8 BEDDING FACIES COLOR REMARKS CORING RATE COMPOSITION ß OLL STRUCTURES min/ft 10 20 30 8280 F \mathcal{M} ิ ท ∽ sist ~~~ v wfgr ٩ interlam 6) $\overline{}$ SS 8281 ٦ſ MM Poor V ~~~ ÷ 8282 > v \sim Burrows generally pyri tised. TRANSITION $\overline{}$ V 3283 dk gy ø w patchy าก ŴM g 1 it incr brnш grey Poor sand 8284 ٦٢ mm. OFFSHORE 2 Dolomitic Ø . ٩ £ r g M < 8285 2 v ł \sim NEARSHORE \$ MM 8286 ww V ŝ Poor 8288'- Pyrite nodule, 3287 \sim V Ô ellipsoidal 5 cms long. > \sim V 8288 Â \sim T ۵ ٦r 9289 q vf – m NEAR-SHORE 11 ¢ Poor °0 gr ₩, brn ٨ sist g y laminae w. grnls ٦ſ V 3290

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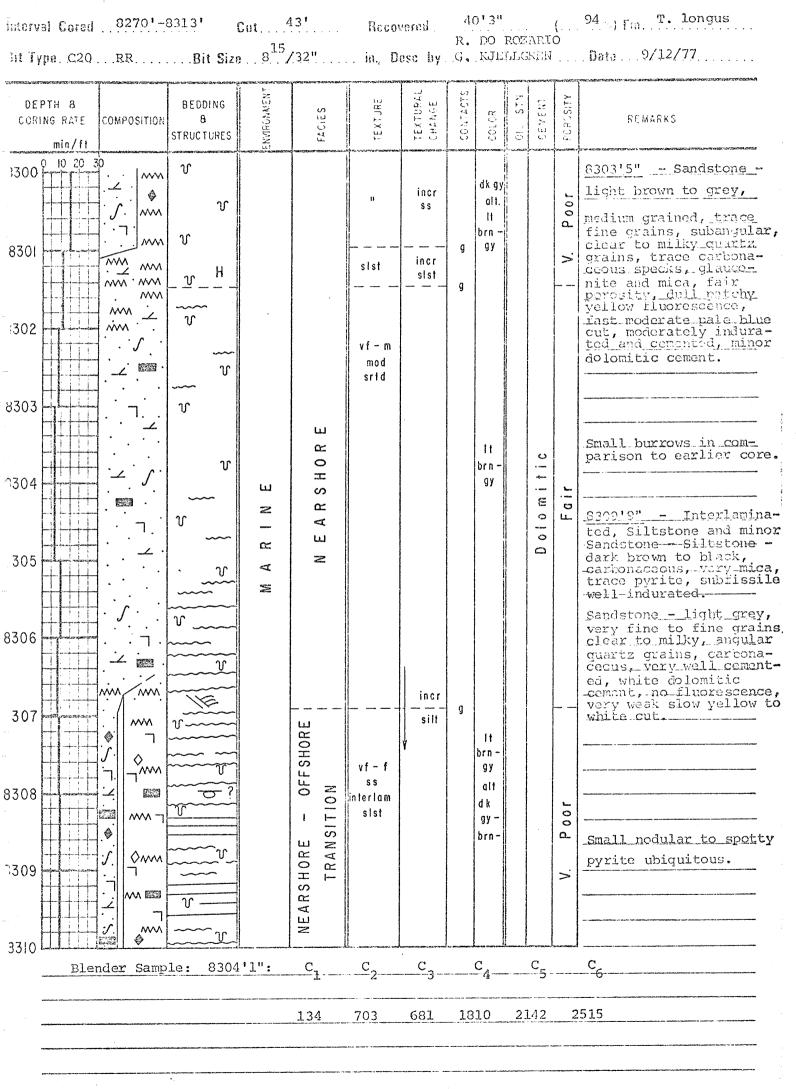
WELL FLOUNDER-6 Sidetrack

min/ft STRUCTURES	ENGROUNEN	FACIES	TEXTURE	TEXTURAL CHANGE	CONTACTS	COLGR	DIL STR	CEMENT	POROSITY	REMARKS
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	E E	NEARSHORE	vf-m gr w. sist Iam w grnis	incr grnls	9	lt brn - gy			Poor	<u>2200'9" - Sandstone -</u> medium grey, very fine medium grains, angular subangular, clear to milky quartz grains, wit granules, trace glaucon ite, pyrite and mica, very well cemented and indurated, white dolomi tic cement, many Silt- stone laminae, dark brown to black, pyrite, mica, well indurated, subfissile, no to dull
	MAR	NEARSHORE – OFFSHORE TRANSITION	vf-m gr ss w sist		9 -		D 0 1 0	Pri Poor	patchy yellow fluores- cence, moderate to very weak yellow to white cu	

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WELL FLOUNDER-6 Sidetrack

SCALE 2cm = 1ft



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COR DESCRIPTION

WELL FLOUNDER - 6 Sidetrack

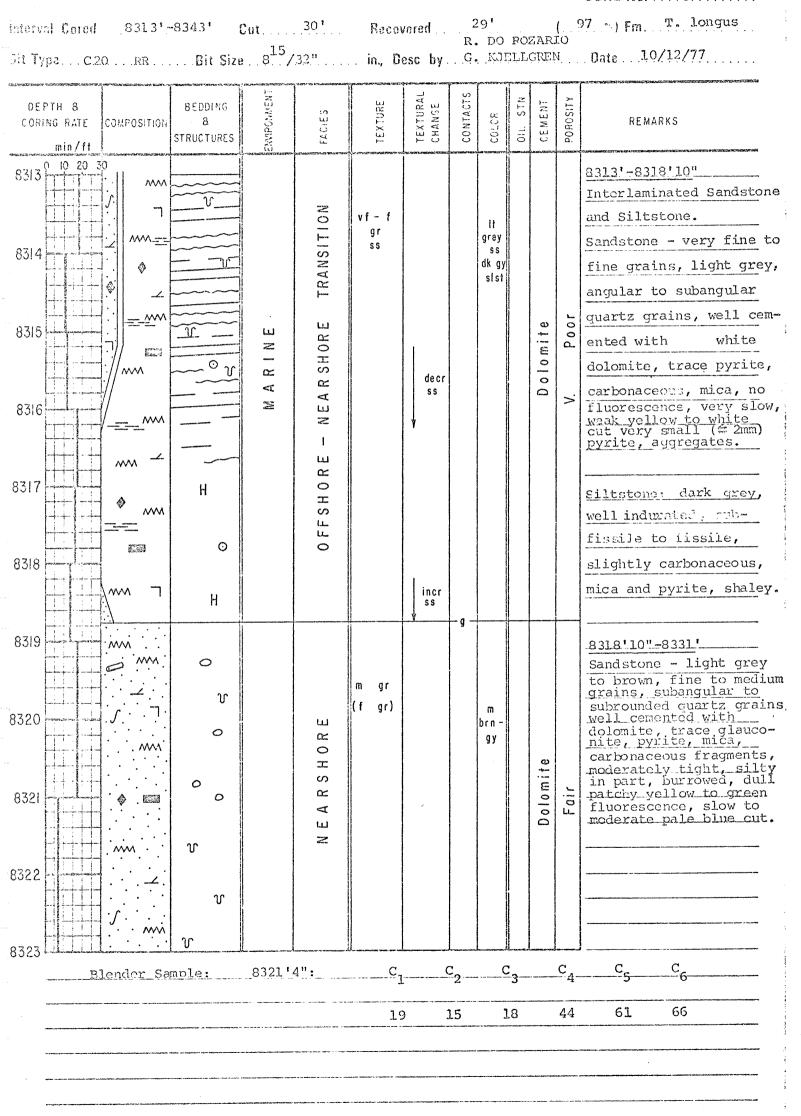
Interval Cored										
DEPTH & BEDDING CORING RATE COMPOSITION & min/ft STRUCTURES	EWV.ROHA	E E S	1 	TEXTURAL CHANGE	CONTACTS	ссгоя	DIT SIN	CEMERT	POROSITY	REMARKS
9310 0 10 20 30 9310'3" •		NE AR -	vf-m gr	incr ss	g	lt brn- gy		Dol.	poor	
8311	n de la constante de						na sa sa sa sanga na kanana na na kananana na mawananananana			NO RECOVERY.
8312									and a sub-	
8313										
										· · · · · · · · · · · · · · · · · · ·

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WELL FLOUNDER - 6 Sidetrack SCALE 2cm - 1rc



ESSO AUSTRALIA LTD. CORE DESCRIPTION

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WELL FLOUNDER-6 Sidetrack

SCALE ___2cm = lft ___

DEPTH 3 CORING RATE COMPOSITION min/ft	BEDDING 8 STRUCTURES	EWRONKENT	FACIES	TEXTURE	TEXTURAL CHANGE	CONTACTS	согоя	OLL STN.	CENENT	POROSITY	REMARKS
3323 10 20 30 3323 1 1 1 3324 1 1 1 3325 1 1 1 8325 1 1 1 8326 1 1 1 8327 1 1 1 8328 1 1 1 8327 1 1 1 8328 1 1 1 8327 1 1 1 8328 1 1 1 8329 1 1 1 8330 1 1 1 8331 1 1 1		MARINE		m gr (f gr)		- s - g -	m bro - gy		Dolomite	۲. – ۲ ۲	Note: faint hydrocarbon odour on fresh break. Nodules - up to 4" diameter, highly pyritic dark grey, and silty, syneresis cracks infill with dolomite and pyrite. Note: moderate odour of H2S on fresh break towards base of Sandston
				vf - f ss			lt gy ss dk gy sist			V. Poor	8331'-8342' Interlaminated Sandstone and Siltstone. Siltstone - dark grey, well indurated, sub- fissile to fissile,

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CORE DESCRIPTION

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WELL FLOUNDER-6 SideTrack

SCALE 2/2 - 12t

					Side	etrock						CORE No
Interval Cored								100 17	11107 7	TATC	`	97 •) Fm T. longus
Sit Type	<u>F</u> R	Bit Size	81	/32"	in., Do	esc by.	G.	KUET	JĢĮ	UN.	• • •	. Date
DEPTH 8 CORING RATE COM	PCSITION	BEDDING 8 STRUCTURES	EWNROAKENT	ری لیا در لیا در لی	TEXTURE	TEXTURAL CHANGE	CONTACTS	COLOR	Cit. STN	CENENT	POROSITY	REMARKS
- 8337 3333 8339 3340 8341			MARINE	NEARSHORE – OFFSHORE TRANSITION	vf - f ss	vincr slst ss		lt gy ss dk gy sist		Dolomite	V. Poor	Sandstone - very fine to fine grains, light grey, angular_to subangular quartz grains, well cem- ented with white dolomite cement, trace pyrite, carbonaceous, mica, no fluorescence, very slow, weak yellow to white cut, very tight.
3343						*******						

ESSO AUSTRALIA LTD. CORF DESCRIPTION

WELL, FLOUNDER - 6 Sidetrack

SCALE 200 - 15t

CORE No. 10

(90) FmT. longus 42'4" Interval Cared 83431-83901 Cut. 47' Recovered R. DO ROZARIO tit Type C20 RR Bit Size 8¹⁵/32" Date 11.12.77 ... in., Desc by G. KJELLGREN TEXTURAL CHANGE **VVIROAMEN** POROSITY CONTACTS 512 BEDDING DEPTH 8 EXTURE CEMENT FACIES COLOR CORING RATE COMPOSITION 8 REMARKS 01L STRUCTURES min/ft 10 20 30 8344': Sandstone: 343 light brown to grey, 0 ш vf - f œ gr very fine to fine grains 0 H mod FOI I moderate to well sorted, bra w 8344 တ ġу srtd ŧ œ angular to subangular 5 Poor guartz grains, well ш ~ cemented with dolo-1345 incr mitic cement, poor poro-ANN AAAA silt ww ٦ſ sity, trace glauconite s-0 sIst/shale and mica, no fluores-٦ 8346 W v f - f s s \sim cence or cut. 6 ____ \bigcirc RANSITIO 10%/ 63 M w 1 3347 S MM0 --- 0 2 ¢ α M 4 0348 dk 8348 :- Siltstone: __dark ~~~ N 61 Qγ incr V grey, very shaley, very ٦r Ş ĉ SS 8723 0 ហ well indurated, with **^^**^ T 5 2349 ഗ some carbonaceous and 0 C L., ۵ 5 u_ woody fragments, very MM 0 ۵ mica, subfissile to I fissile, minor interlam-1350 MAA ш inated Sandstone: light 04 0 NT grey, very fine to fine ЧS ٨ grains, moderately to 8351 œ ⊲ well sorted, angular to ш 627 subangular quartz grains, 2 very well cemented with ~~~ 3352 dolomitic cement, very poor porosity, trace mica, pyrite and carbona-٢ ٨٨٨٨ ceons, no fluorescence or 63 8353 out. Blender Sample: 8343'6": C C C C C Spotty pyrite aggregrates throughout this zone. 29 20 7.3 1.34

ESSO AUSTRALIA LTO. CORE DESCRIPTION

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WELL FLOUNDER - 6 Sidetrack

SCALE 2cm = 1ft

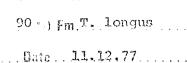
CORE	No.			10				

DEPTH 8 CCRING RATE COMPOSITION 8 min/ft STRUCTURES	ENVIRONMENT	FACIES	TEXTURE	TEXTURAL CHANGE	CONTACTS	COLCR	011. 57%	CEMENT	POROSITY	REMARKS
8353 8354 8354 8354 H 8355 H		1			- g -	d k g y			V. Poor	
	MARINE	1	vf-f gr ss interlam slst			lt gy – brn alt gy		Dolic	V. Poor	<u>B358'6": Sandstone:</u> light grey, very fine to fine grains, moderately sorted, angular to sub- angular quartz grains, very well cemented with dolomitic cement, trace glauconite and carbonaceous, very tight very poor porosity, no fluorescence or cut. Minor silty laminae, dark grey, carbonaceous, mica, trace pyrite.
3363		NEAR - SHORE	vf-m w/grnls		s -	m gy			V. Poor	Contorted Beds, secondary dolomita -> probable
										flow-zono,

ESSO AUSTRALIA LTD. COBE DESCRIPTION

WELL FLOUNDER - 6 Sidetrack

Interval Cored 8343'-8390' Cut 47' Recovered 42'4" (R. DO ROZARIO Bit Type: C20. RR Bit Size 8¹⁵/32" in, Desc by G. KULLIGIEN



TEXTURAL CHANGE CONTACTS POROSITY CEMENT STN S TEXTURE DEPTH 8 REDDING Granossa COLOR ŝ REMARKS 8 CORING RATE COMPOSITION ... 0 07: STRUCTURES min/ft 3363 P 10 20 30 н 11 11 п q 10 decr ſ vf – f alt SS gr ss 8 It gy and FSHORE <u>۸۸۸</u> 8364 sist/sh . 🖗 dk gy 11 8366'6": Sandstone: 5 m Pood 50 light to dark grey, ٦ſ 8365 ī >fine to very coarse \sim ≃ granules, clear to 4 V 0 Z milky quartz grains, 8366 V subangular to subrounded. M moderately indurated, c ٦. incr v well cemented with grnls . 0 ż 8367 dolomitic cement, some Dolic ш Ø dark grey silty matrix, Z f-vc v 55 w/ ٨A very poorly sorted, very ¢ C SHORE Ó abnt 9 3368 E2 .7 11. tight porosity, no grnls 0 2 dk õ fluorescence or bulk/ 11 gy œ \sim crush_cut, trace_glauco-0 4 > nite, micaceous and 8369 ш V ~ slightly carbonaceous. ለለለ **8**13 າເ 8370 3 1 w 0 าก decr 7 arnis s 8372': as for 8348' i.e. \mathcal{M} 8371 vf - f Siltstone/Shale-with-OFFSHORE ww gr SS Poor NEAR some minor interlaminatalt 6 6.3 11 8 ed very fine to fine dk 8372 gy grains Sandstone. > incr \sim grnls . Imm 0.1 T 8373 Blender Sample: 8366'7": C <u>с</u> c, _С₃_ 86 74 63 14 `

ESSO AUSTRALIA LTD. CORE DESCRIPTION

WELL FLOUNDER -6 Sidetrack

SCALE 200 = 1ft

interval Cored	8343'-8390'	Cut	Recovered	42!4"	(Fm.T. longus
Set TypeC2	0 RR Bit S	ize	in., Desc by	R. DO ROWAR	ulo N Date	11.12.77

DEPTH S CORING RATE COMPOSITION 8 min/ft		ENVIPONNENT	FACIES	TEXTURE	TEXTUPAL CHANGE	CONTACTS	COLOR	61, 5711.	CENERT	POROSITY	REMARKS
8374 0 10 20 30 	८ <u>२</u>	а толоной на тэй бай бай	R S H O R E E	f - c w/ abnt grnls v. prly srtd	↓fining	~- (] -	it brn- gy alt dk gy			Poor	
8375 H			N E A	{ - m gr vf - f gr	fining	g	lt brn- gy			Fair	
3376 3377 3378 378	<} \ < < (\ \ < \ / \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	MARINE	NEAR - OFFSHORE	vf-f gr	incr slst	y 	lt brn- gy alt dk gy		D 0 I i c	Poor	light grey, fine to medium-grains, clear to milky-guartz grains, subangular to subrounded well sorted, weak to moderately-indurated, well cemented, white dolonitic cement, trace glauconite and mica, slightly carbona- ceous and pyritic, fair to poor porosity, no
			11	vf-f gr	decr ss	3	lt gy alt dk gy			V. Poor	fluorescence or cut.

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WELL FLOUNDER - 6 Sidetrack

SCALE2cm = 1ft 1 .a in CODE N.

8384 Image: State of the st	Interval Cored .8343'-8390' 3it Type								7 / 101	0	CORE No 10 90 •) Fm. T. longus Date
3333 a u	CORING RALE COMPOSITION 8	VG NUSANA	S U U U U U U U U U		15×102A CHABGE CHABGE	CONTACTS	COLDR		CEMENT	POROSITY	REMARKS
83864 Image: State in the s	3383 0 r	?	F1	11			E)			11	pyrite aggregates.
8366	8384 8384 8385 8385	A R I N	EARSHOR	gr mod w	<u>¥</u>		brn -	- Marine America a contra la contra la contra de la contra de la contra de la contra de la contra de la contra	0 [j	00	white dolomitic cement, very tight porosity,
9387 NOTE: 1' from 9387											and carbonaceous (?), minute trace glauconite no fluorescence or cut.
3398											_8389!-8390! of Core_10
8390 vf - f mod w srid vf - f mod w srid v v fine to fine grame well cemented with cilonite, poor porosity, no fluorescence or cut.	3398										
				mod					Dolic	0	very fine to fine grains well comented with dolomite, poor porosity,
Blender Sample: 8384': no gas											
Blender Sample: 8384': no gas											
Blender Sample: 8384': no gas											
	Blender Sample	: 8384 ':	no gas	3							

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WELL FLOUNDER-6 Sidetrack

SCALE2cm =11ft

CORE No. 1414

CORING RATE COMPOSITION	SEDDING 8 RUCTURES	EWIN OF WEIGHT			TEXTURAL CHANGE	CONTRCTS	COLOR	OLL STN.	CEWENT	POROSITY	REMARKS
			NEAR – OFFSHORE TRANS.	vf-f gr ss		- 5 -	dk gy ait it gy			V. Poor	Pyritic nodules.
393	ج \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	MARINE	N E A RSHOR E	f-m grss w/ grnls	incr grn1s Y	- g -	lt brn - gy		Dolic	Poor	well cemented.
1396 1397	<pre> {</pre>		RE TRANSITION	vf – f grss		5	lt gy alt dk			0 0 r	8395'3": Interlaminated Sandstone and Siltstone Siltstone: dark grey, well indurated, sub- fissile to fissile, shaley, very micaceous, trace pyrite and carbor ceous. Sandstone: ligh
398 398 398 398 399 3397 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3			NEAR - OFFSHOR		decr ss ¥		gy			<u></u> ۷. Р	grey, very fine to fine grains, angular to sub- angular quartz grains, well cemented with white dolomitic cement, trace mica and carbona- ceous, very poor poro- sity, no fluorescence or cut.
400											Very well cemented Sand- stone nodules.

WELL FLOUNDER - 6 Sidetrack

SCALE2cm

CORE No. II......

(100 %) Fm LATROBE-T.longus 301 Interval Cored 8390'-8420' Recovered ... R. DO ROZARIO in, Desc by ...G. KUELLGREN Date 12.12.77...... TEXTURAL CHANGE CONTACTS NVIRONMEN' STN. POROS.TY BEDDING DEPTH 8 EXTURE CEMENT FACIES COLOR CORING RATE COMPOSITION 8 REMARKS 01L STRUCTURES min/ft 3400f 10 20 30 MM 11 :5 н 11 m q ທີ 0 r L vf - f8401 LLI 0 OFFSHOR 0 gr ss alt $\overline{0}$ TRANSITION lt v interlam brn Poor sist gу v 3402 1 8 h٨ 1 dk r > bra NEAR gу ĩ 8403 າ ≫کرد incr Ġ Ô SS S 6 blk 0 6 Very well cemented fis N പ 9404 incr q Sandstone nodules with sist/si 2 slst/sh ပ MM 633 •--some pyrite. 0 Poor C332 с× ٨ 11 dk MM V 4 gy-Δ 8405 blk N ww . 1111 > · MM Ξ V incr SS мм – r .7 ~~~ vf-f gr ss 8406 v mod w \mathbf{M} . • v srtd ٦ 1 8409'6": Sandstone: w oredo light brown, fine to Fo lt 3407 V . brn-M • 11 coarse grains, clear l . QV r ٦ ٦. to milky quartz grains, 000 Ζ M. incr ss moderate to well sorted, v ñ 8408 moderately cemented V with dolomite, r fair porosity, trace 3409 g mica , dark grey SHORE f - m NEAR It gr ss Siltstone; no fluoresgy mod w bra Н srtd cence or cut. 8410

ESSO AUSTRALIA LTD. CORE DESCRIPTION

WELL FLOUNDER - 6 Sidetrack

SCALE 2cm = 1ft

CORE No. I I

(100 %) Fm. LATROBE-T. longus 301 Interval Cured 8390'-8420' 30' Cut... Recovered R. DO ROZARIO 8¹⁵/32" Bit Type C20 RR Bit Size TEXTURAL CHANGE POROSITY NVIRONMEN CONTACTS STN. BEDDING DEPTH 8 EXTURE CEMENT FACIES COLCR COMPOSITION 8 REMARKS CORING RATE 01. 01 STRUCTURES min/ft Q 10 20 30 Н 11 H 8410 п u 1 .7 mm ↓ incr v slst 11 vf - f \bigcirc g 1 lincr v s s v gr ss 2 mod w 8411 srtd 8413'9": Interlaminated v w / NAA/ predor Sandstone and Siltstone: ш slst 11 N æ Fo. lom QY-H O Sandstone: light grey, L brn 8412 ഗ very fine to fine grains v I <u>م</u> . angular to subangular ⊲ V incr പ P 0 0 s s quartz grains, very well 2 8413 ≫∕∕ r white cemented with Ŵ dolomitic cement, trace 1 ĩ . m_ ш • 📖 micaceous and carbona-Z ٨A 8414 0110 ceous matter, very poor ~~~ าเ decr porosity, no fluores-5-0 œ SS Ω v sist/sh cence or cut. ₩/ V < 8415 Siltstone: dark grey, mnr ð AMA v vf - f LJ well indurated, sub-٦ - -OF FSHOR gr ss m m V fissile to fissile, dk RANSITION r g y M shaley, very micaceous 8416 ____ ٢ Pool r and carbonaceous. \mathcal{M} r 1 > EAR ww v 8417 1 ۵ **E** 19 **WARDER** Ŵ \sim ſſ -----T ۲ ۸۰۰۰ 8418 incr าก Sand stone: 8419'3": s-g SS SS \angle าก \mathcal{M} medium grey to brown, ш \int . predom RSHOR ĩ m - c fine to very coarse M lt-m 0 8419 gr ss 600 ٦ bra grains, moderately sort-W gу srtd д Ш 30°. ed, weakly to moderately MM 🖾 L white cemented with 8420 <u>с</u>5 dolomitic cement, angu-<u>c</u>2 <u>C</u>3 <u>C</u>4 C₁ 8419'1": Blender Sample: lar to subangular, clear to milky quartz grains, 19 15 7 7.3 9 5 trace carbonaceous and micaceous, slight trace glacuonite, slightly silty, fair to good porosity, no fluores-

cence or cut.

3/3

Dwg. 1107/0P/87

PE904980

This is an enclosure indicator page. The enclosure PE904980 is enclosed within the container PE902759 at this location in this document.

The enclosure PE904980 has the following characteristics: ITEM_BARCODE = PE904980 CONTAINER_BARCODE = PE902759 NAME = Flounder 6 Core Description Chart BASIN = GIPPSLAND PERMIT = VIC/L11TYPE = WELLSUBTYPE = DIAGRAM DESCRIPTION = Flounder 6 plus sidetrack. Core Description Chart. From appendix 2 of WCR. REMARKS = DATE_CREATED = 31/12/77DATE_RECEIVED = $W_NO = W692$ WELL_NAME = Flounder-6 CONTRACTOR = Core Laboratories INC CL_____OP_CO = Esso Australia LTD (Inserted by DNRE - Vic Govt Mines Dept)

APPENDIX 3

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WELL COMPLETION REPORT

FLOUNDER-6

APPENDIX 3

SIDEWALL CORE DESCRIPTIONS

				ROCK	MODIFIERS			INDUR	GRAIN			DISS			FLO	JRESCENCE	Ξ	CUT F	LUOR.	CUTR	ESIDUE		PROB	
	NO. 1 a	DEPTH	REC	TYPE 3	4	CAL 5	COLOR 6	DEG	SIZE 8	SRTG 9	RND	CLAY	STAIN	%	DISTR	INTEN	COLOR	INTEN	COLOR	QUAN	COLOR	SHOW	PROD	REMARKS - GAS
		2025					+				10	11	12	RK	14	15	16	17	18	19	20	21	22	23
LL/	1	2925	14	Calc Clay-	mica,very fine		light grey		clay	-	-	50							<u> </u>					Gas Odour
1/2	[stone	pyrite.		5-01									ļ								
16,	2	2860	14	Calc	Abundant	v	light	firm	clay	p	sa	30												Gas Odour
				Silt- stone	glauconite,				to silt															
ТП -	З	2800	7		Glauconite,	V	light	firm		a	sa	30												Gas Odour
DA		2000	#	Silt	mica forams	<u> ``</u>	LIGHT	m	silt	<u>۲</u>	-sr													Gas Ouour
		2760	71	stone	Clauserite			<i>c</i> :																
Н	4	2769	<u>+</u>		Glauconite, mica forams		buff to ligh		silty to ver		sa	30												Some gas Od
				Į					fine	<i>1</i> 	-sr													······
ON N	5	2700	1	Calc	silty, clay glauconite	V	light olive		clay	p	sa	30		_										Gas Odour
RUN	ļ			stone	grauconice		grey		to silt		-sr													
SWC	6	2625	174	Calc	large forams	s v	light	firm	clay	-	-	40												Gas Odour
				clay- stone	silt		to medium	to																
			1	scone			grey	naru															· ·	<u>*************************************</u>
RUN NOSWC RU	7	2550	11	Calc	forams,	v		firm	clay	_	-	40												Gas Odour
,				Clay-	silt	+	light olive					40		-										Gas Ouour
NO	[5	stone			grey																	
	8	2475	178	Calc	Silt, for ams	V	light olive	firm	clay	-	-	40		_		<u> </u>							1	Gas Odour
δ Ω				clay- stone			grey																	
	9	2400	174	Calc	Silt, forams	v		firm		p	sa	30												Gas Odour
				Silt- stone			medium		to silt		-sr													
							grey																	······································
~	10	2332	2	Calc	Silt, forams	v	light	firm	clay	-	-	50												Gas Odour
GE			1	Clay-		1	to	ton																Gas Gaoar
BEF				stone			medium grey	SOIL																
SCHLUMBERGER	11	2256	74	Calc	Silt, for ams	17	light	firm		n		30.												
CH		2250	4	Silt-			plive		to	p	sa -sr	30.												Gas Odour
	}			stone	1		grey		silt															
	12	2180	12	Calca	forams, mica	V	light plive	firm		p	sa	30												Gas Odour
SERVICE CC	<u> </u>			Leurc	nuca		grey		very fine		-sr							-						
	13	2114	N/R																					Misfire

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					ROCK	MODIFIERS			INDUR	GRAIN			DISS			FLOU	JRESCENCI		CUT F	LUOR.	CUT F	ESIDUE		PROB	· · · · · · · · · · · · · · · · · · ·
3		NO. 1 a	DEPTH 1	REC 2	TYPE 3	4	CAL 5	COLOR 6	DEG 7	SIZE 8	SRTG 9	RND 10	CLAY 11	STAIN 12	% RK	DISTR 14	INTEN 15	COLOR 16	INTEN 17	COLOR 18	QUAN 19	COLOR 20	SHOW 21	PROD 22	REMARKS - GAS 23
REC	LL,	14	2044	2	Calc	mica, forams,	v	light	firm	clay	-	-	40												Gas Odour
30	16/7/				stone	glauconite, pyrite		olive grey	slight soft	ly														-	
,	LE L	15	1974	174	Calc Clay-	mica,forams	v	light olive		clay		-	40												Gas Odour
ATT	DATE				stone	glauconite		grey	slight soft	ly		-													
	T	16	1902	174		11 11	"	11	"	11	11	"	11												TP tj
	0				above																				
ts S	RUN NO	17	1832	2	Calca renite	- mica,foram glauconite	nis V	light olive grey	firm	silt to very	p	sa -sr	30												Gas Odour
ESSO AUSTRALIA LTD. SIDEWALL CORE DESCRIPTIONS	.SWC									fine															
DESCR		18	1762		Calc silt- stone	mica, forams	V	light olive grey	firm	clay to silt	p	sa -sr	30												Gas Odour
CORE	1	19	1692	2	Calc Silt-	11 11	11	11	11	"	17	11													17 11
	NO	20	1630		stone	17 17			11	11			11												17 1/
SIDIS	RUN				Above																	-			
		21	1536		<u>Calca</u> renite	1	v	light olive	firm	clay to	p	sa	30												Gas Odour
								grey		very fine		-sr													
	SER.	22	1475		As Above	11	11	11	TT	11	11	11	11									-		-	£1 11
0	MBERGER	23	1400			Mica,forams	s V	light	firm	clay to	р	sa	30												Strong Gas Od
T BELLIS	SCHLUM					rous debris			soft	fine		-sr													100ppmC,
T BI	- 11	24	1342		As Above	11 11	"	11	11	11	11	"	31					 							Strong Gas Odd
GEOLOGIST	VICE C	25	1256			forams in	v	buff	friable	clay	q	sa	10									-			Strong Gas Odd
MEL.	SERVICE		R 257 3 72		renite	clay matrix	9	to light olive		nediu	m	-sr												18	1000ppmC,

grey

				ROCK	MODIFIEF				INDUR	GRAIN			DISS			FLOU	IRESCENCI	3	CUT F	LUOR.	CUTR	ESIDUE		PROB			
	NO.		REC	TYPE			1	COLOR	DEG	SIZE		1	CLAY	STAIN	%	DISTR	INTEN	COLOR	INTEN	COLOR	QUAN	COLOR	- зноw	PROD	REN	IARKS - G	GAS
	1 a	1	2	3	4		5	6	7	8	9	10	11	12	RK	14	15	16	17	18	19	20	21	22		23	
77	26	1190	24	Calca renite	- forams clay ma	in atri	× V	buff to	riable o soft	clay to	p	sa	10												Stron	g gas	Odo
./L/					-			light		mediu	m	-sr														··· ·	
791								grey				+			1			<u> </u>	1		1	1					
	27	1120	21.	7.0	11	11	11	11	friabl	. !!												-					
ш	21	1120	24	As					to	e						······································		<u> </u>									
DATE				above					uncon-																		
			ļ						solida	-				······································	_								-				
-+			İ						ted																		
	28	1040	11/2	As	11	11	11	11		17	"	"													11	tī	11
N N				abo ve															1				-				
SWC RUN NO	29	970	150	7 ~	11	11		11		11	53	11											-				
S F	-42	/0	11/0	above																			1		17	11	
NS	20		- 1			11	11	11	11	11	11																
	30	900	11/2	As above																					17	"	B1
٦												ļ											_				
			ļ																								
C																											
RUN NO.																			1				1				
RU																		1					-				
			1									+															4. s *
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R			ļ	ļ																							
RCE																											
1BE																											
й'n																		+			-	1					
SCH			1						-									<u> </u> .	+		1		-				
0			+																		· · · · ·						
SERVICE CO SCHLUMBERCER	l I		+	1																<u> </u>							
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щ							1													1							

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22				ROCK	MODIFIERS			INDUR	GRAIN			DISS	-		FLOU	IRESCENC	E	CUT F	LUOR.	CUT R	ESIDUE		PROB	
2	NO. 1 a	DEPTH	REC 2	TYPE 3	4	CAL 5	COLOR 6	DEG 7	SIZE 8	SRTG 9	RND	CLAY 11	STAIN 12	% RK	DISTR 14	INTEN 15	COLOR	INTEN	COLOR	QUAN	COLOR	SHOW	PROD	REMARKS - GAS
	31	6356			Globigerina		Medium			bimo-			12	HK	14		16	17	18	19	20	21	22	23
				1	glauconite	1	grey	to	Linu	dal														May be 6340'
30)/7//7					carbonaceous fragments			Eirm															-	
30	32	6354	1	SILT-	Glauconite,	v :	black	-	silt	fair	sa-													Oxidised
DATE				STONE	pyrite,mica		brown				sr													
							-grey	`																
8	33	6348	NR																					
· • •	34	6340	1½"	MARL	Globigerina	v	Medium	firm		bimo-														· · · ·
No					ooze, glau- conite.		grey	to soft		dal														
SWC RUN NO	35	6335	³ /4	MARL	11 11	11	11	n	"	11														
RUN NO	36	6330	2"	MARL	17 17	n	11	"	11	11														
	37	6320	174	MARL	11 11	11	n	11	11	Poor														
2	38_	6270	11,"		Calcareous glauconite		Dark grey	Firm	<u>to.5m</u> r	. "								-						Fissile
	39	6200	³ /4	SHALE	Calcareous		11	11	11	17											1			Fissile
RUN NO	40	6139	3/4	SHALE	Calcareous	11	11	11	11	11										· ·	1		-	Fissile
	41	6056																						MF=misfire
IES	42	5878	MF																	<u> </u>				
		5690						-									-							
			3																					
В	4.4	7970	T.B																				-	LB=Lost bullet
RGE		7907		SILT-	Quartz,	SL	Medium	Firm	Silt	Mod									1					TD-TO2C DUTTEC
MBE					Calcareous,		to																	
O SCHLUMBERGER					pyrite, mica carbonaceous	3	dark grey												-					
00	46	7845	1,11	SAND-	Quartz,		Light	Firm	Vorte	Poor		200												
		,045	4	STONE	carbonaceous		grey	T. TT III	fine to mediur	FOOL	sa- sr	308		$\left - \right $								-		
SERVICE	47	7800	1_11	1 1		SL	Light	Firm	nediur gran-	l Poor	sa-	10%								· ·				
SE		R 257 3.72		the second second second second second second second second second second second second second second second s	pyrite		grey	11L	ule t fine		sr	100				1	1	<u> </u>		1		<u> </u>		
		i.		· · ·]		· .			Г .		I			·										n en la companya de la companya de la companya de la companya de la companya de la companya de la companya de l

			ROCK	MODIFIERS			INDUR	GRAIN			DISS			FLOU	RESCENCE	E	CUT F	LUOR.	. CUT R	ESIDUE		PROB	
NO.	DEPTH	REC	TYPE		}	COLOR	DEG	SIZE	SRTG	RND	CLAY	STAIN	%	DISTR	INTEN	COLOR	INTEN	COLOR	QUAN	COLOR	SHOW	PROD	REMARKS - GAS
1 a	1	2	3	4	5	6	7	8	9	10	11	12	RK	14	15	16	17	18	19	20	21	22	23
48	7750	1_1"	SAND-	Quartz,	М	Light	Firm	gran-	Poor	sa-	10%												
			STONE			Brown		ule t	0	sr													
								very	fine														
49	7707	1_11	SILTY	Quartz,silt	CT	Madin					200												
	1101	-2	STONE		2	grey	<u>i fiim</u>	ule t		sa-	30%												
			DIONE			grey		very												-			
50	7666	1 ₂ "			SL	Medium	n Firm	Silt	Good	sa-							ļ						
			STONE	quartz,		to				sr													
				carbonaceou pyrite	S	Dark o	rey															1	
51	7600	1 <u>-</u> "	SILT-	Silt,quartz	SL	Dark	Firm	Silt	Good	11													Fissile,laminat
			STONE		+	to																	with very fine
				pyrite		light																l	fine grained sa
				calcareous	<u> </u>	grey-																<u> </u>	stone in parts.
52	7525	1-311		Quartz,	-	1	Firm	Silt	11	"													
			STONE			grey																	
				onaceous, pyrite																			
53	7457	1 <u>-</u> "	SILT-	Quartz,	-	Medium	n Firm	Silt	Good	sa-													
			STONE	carbonaceou pyrite	s	dark grey				sr													
54	7426	1_11	STT.T-	Quartz,	-	Medium		11	11														
<u></u>	1420	2	1	carbonaceou	s	grey																<u> </u>	
				pyrite, mic																			
	7470	34	CAND		<u> </u>	Ticht	Firm	570	Deer		30%												
55	7413	/4	A	Quartz, silt, carb-	-	Light grey		Very fine	Poor	sa- sr	30%			• ·······								l	
	<u> </u>	ļ	STONE	onaceous,		grey		to		51													
								very															
								coars	e														
56	7402	14"	SAND-	Quartz,	SL	Light	Firm	Silt	Mođ	sa-	25%												Sand and lamina
		1		silt, mica		grey to			to m Poo														very fine sand
	1		with	carbonaceou	s,	 Dark		mediu	m 1900	r													Siltstone
	1	<u> </u>	SILT-	pyrite		grey											· · ·						DITCOLONE
	M R 257 3 72	<u> </u>	PIONE			larea																	

				ROCK	MODIFIERS			INDUR	GRAIN			DISS			FLOU	JRESCENC	E	CUT F	LUOR.	CUTR	ESIDUE		PROB	
	NO.	DEPTH	REC	TYPE		CAL	COLOR	DEG	SIZE	SRTG	RND	CLAY	STAIN	%	DISTR	INTEN	COLOR	INTEN	COLOR	QUAN	COLOR	SHOW	PROD	REMARKS - GAS
	1 a	1	2	3	4	5	6	7	8	9	10	11	12	RK	14	15	16	17	18	19	20	21	22	23
. : L	57	7376	NR																					
11.7	58	7294	NR																					
	59	7261	1"	SAND-	Quartz,	SL	Light	Firm	Very	Poor	sa-	20%				+								
n M			1 1	STONE	carbonaceou		grey		fine		r						·							
: ш Г					glauconite	<u> </u>			to					<u> </u>							ļ			
DATE					pyrite				coars	e														
	60	7186	$\frac{3}{4}$	SAND-	Quartz,	-	Light	Firm	Very	Mod	sa-	15%												
Γ				STONE	carbonaceou	us,	grey		fine		r													
n					glauconite	1 -			to						* *********									
					_pyrite	<u> </u>			medi	im														
	61	7145	NR												-									
	62	7091	, ,	SILT-	Quartz,	-	Dark	Firm	Very	Poor	sa-	30%												
Ş				STONE	silt,		grey		coars	e	r													
S +		•		with	-carbonaceou				<u>to</u> silt		+								1					
v F				SAND- STONE	mica,pyrite	3			5110							ļ			·					
			ļ	SIONE																				
	63	7029	14'	SILT-	Quartz,	-	Medium	**	Silt	Good	sa-													
T				STONE	silt, mica		to				r												-	
RUN NO							Dark													· ·				
S							grey_																	
	64	6949		SAND-	Quartz,	-	Light	19	Fine		sa-	10%												Thin coal lar
IES				STONE	carbonaceou silt,pyrite	us	grey		to mediu	im	r													
on the second					, <u>, , , , , , , , , , , , , , , , , , ,</u>				grain	1								1	1					
al series	65	6937	11.	SHALE	Clay,	77	Dest	T7 4																
	05	0937	14	STALE			Dark brown	Firm	Clay	Mod	-	-												
¥.		· ··· ·······			pyrite, carbonaceou		to																	
א ביטא בה					quartz,sil	ţу	light																And the second	
771							grey																	
MOTHOR	66	6876	34	SHALE	Clay,pyrite	e M	11	11	11	Mod	-	_									1			
5					quartz, sil		+				+													Possibly cav
									l								ļ	ļ						
	67	6805		SAND-	Quartz,		Light	Soft	fine	Mod	sa-													
SERVICE				STONE	mica, carbonaceou		grey		to coarse		r							-						
PR	68	6750	13/4	SHALE	Clay,	v	Dark	Firm	1	Good	1_	_					-						-	
S L		R 257 3.72		CITE TIL	carbonaceou	1	grey	L'TTII	LCTAY	GOOd						.				<u> </u>	<u> </u>		1	

silty, stringers

				ROCK	MODIFIERS			INDUR	GRAIN			DISS			FLOU	RESCENCE	Ξ	CUT F	LUOR.	CUT R	ESIDUE		PROB	
Î	1	DEPTH	REC	TYPE		ł	COLOR	DEG	SIZE	SRTG	1	CLAY	STAIN	%	DISTR	INTEN	COLOR	INTEN	COLOR	QUAN	COLOR	SHOW	PROD	REMARKS - GA
H	1 a	1	2	3	4	5	6	7	8	9	10	11	12	RK	14	15	16	17	18	19	20	21	22	23
7 T0 T	9	6690	1"	SHALE	Mica,	M	Dark	Firm	Clay	Good														
\leq					carbonaceou pyrite	s	grey																-	
30/7	0	6623	11/214	SHALE	28 69	v	11		11	11														
7	1	6546	2"	SILT-	Quartz,	v	"	11	Silt	17														
DATE				STONE	Mica, pyrit	e											· · · · ·				1			
VO -					minor glauc	oni	te.							+-+										·····
					carbonaceou	1	·							╂}							<u> </u>		-	
е Н																								
·	2	6475	12"		Silt,quartz	, V	Dark	Firm	Silt	Good	-	_												
N				STONE	pyrite		to mediu	n .																
SWC RUN NO							grey																	
RUN NO 2 SWC RU	73	6406	NR				1																	·····
NS.																								
~																								
0		·····																						
RUN NO																								
																								······································
IES							1		1		+		· · · · · · · · · · · · · · · · · · ·											
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HER.						ļ																		
ERC																								
IMB																								· · · ·
SCHLUMBERGER							1				1													
SCI																								
0			<u> </u>					<u> </u>																
SERVICE CO			<u> </u>											<u> </u>										
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		ROCK	MODIFIERS			INDUR	GRAIN			DISS			FLOU	RESCENCE		CUT F	LUOR.	CUT R	ESIDUE		PROB	
DEPTH	REC	TYPE			COLOR	DEG	SIZE	SRTG			STAIN	%	DISTR	INTEN	COLOR	INTEN	COLOR	QUAN	COLOR	SHOW	PROD	REMARKS - GAS
1	2	-	4		Ŭ		8	9	10	11	12	RK	14	15	16	17	18	19	20	21	22	23
8584	1/2	STONE	micaceous.	hom		soft		-	-	40			-			_						Very low porosi
			-		51																	
DEAC	1	SILT-	carbonaceous			n very																
0040	2	DIONE	argillaceou		9107			sorte	· · ·													Very low porosi
									-50													
	2	DOTO	carbonaceou		white		sand-															
8542	14	MITE	silty,	non	to	indura	mediu - to	m p oorl	<u>, </u>	10		_							ļ			Poor porosity
			alcaceous	-sl	light		coars	e	Ť													sugary text, silty-laminae.
					grey			sorte	đ													SILLY-Idullide.
8444	1	SILT-	carbonaceou:	S						20												
0111	2		micaceous	hon	1	l 1	-	-		30							+					Very low poros
						ted																
· · ·	<u> </u>				dark	modera	-													l	_	
8390	12	SHALE	micaceous,	non	lgrev	tely_				90		_										Very low poros
			subfissile				L									-						2
						ted																
8338	1"	SAND-	micaceous,		light		fim		a-	[-		modera	ce :	modera	te	1			-	
		STONE	LOTORITIC	<u>non</u>	lgrey_	weak	edium	tely_			<u> </u>		even	to	1-		1	· · · ·				Tight porosity
								sorte	a 					TOM	green		green					Slight hydrocan
									ļ		ļ		 			ļ		l			-	bon odour, trac light brown oi
8283	E				<u> </u>							_										
8243	$^{3}_{/4}$	SAND - STONE	micaceous,	- I	grev	well	fine			_		25	batchy	100	pale			sligh	pale			Slight hydroca
			dolomitic			ted	very	301-00	l-r				1		5				to			bon odour, low
																1		· ·	voilet	1		porosity.
0220	1.	SAND-	micaceous,	-	mediur	poorl	lgrain V	s poorl	v v								+					
0220	2	-STONE	dolomitic	+		-indu-	firm	sorte	đ_sa													Low porosity
									-r											1		
				_		I.	few															
								Þ														
8148	3/4	SAND-	plauconitic	ébils	light	trople	firm	mod	a-	-		25	patch	v dull				no				Enin nomerita
			and pyritic	1	lareă-				sr				1	1		7			<u>, 4</u>			Fair porosity
	+		dolomitic	_		1 ·····	few	·		Į			l		ţ	· · · · ·	-	- Juc		I		
	1 8584 8546 8542 8444 8390 8338 8338 8283 8283 8243	1 2 8584 $\frac{1}{2}$ 8546 $\frac{1}{2}$ 8542 $^{3}/4$ 8542 $^{3}/4$ 8542 $^{3}/4$ 8390 $\frac{1}{2}$ 8338 1" 8283 E 8243 $^{3}/4$ 8283 E 8243 $^{3}/4$ 8228 $\frac{1}{2}$ 8228 $\frac{1}{2}$ 8228 $\frac{1}{2}$ 8228 $\frac{1}{2}$ 8228 $\frac{1}{2}$ 8228 $\frac{1}{2}$ 8228 $\frac{1}{2}$ 8228 $\frac{1}{2}$ 8228 $\frac{1}{2}$ 8228 $\frac{1}{2}$ 8228 $\frac{1}{2}$ 8228 $\frac{1}{2}$ 8228 $\frac{1}{2}$	DEPTH REC TYPE 1 2 3 8584 1/2 STONE 8584 1/2 STONE 8546 1/2 STONE 8542 3/4 DOLO- MITE 8444 1/2 STONE 8390 1/2 SHALE 8390 1/2 SHALE 8338 1" SAND- STONE 8338 1" SAND- STONE 8283 E 8243 3/4 STONE 8228 1/2 SAND- STONE	DEPTH REC TYPE 1 2 3 4 8584 1/2 SILT-carbonaceous argillaceous 8546 1/2 STONE sandy, argillaceous 8542 3/4 DOLO-carbonaceous 8542 3/4 DOLO-carbonaceous 8542 3/4 MITE silty, aicaceous 8444 1/2 SILT-carbonaceous 8444 1/2 STONE dolomitic, 8390 1/2 SHALE carbonaceous, subfissile 8338 1" SAND-micaceous, 8338 1" SAND-micaceous, 8283 E 8283 E 8243 3/4 STONE dolomitic 8283 E 8283 C 8283 C 8383 C	DEPTH REC TYPE CAL 1 2 3 4 5 SILT-carbonaceous mod argillaceous mod argillaceous mod argillaceous mod argillaceous non argillaceous -sl SILT-carbonaceous SILT-carbonaceous non argillaceous -sl DOLO-carbonaceous -sl argillaceous -sl B444 ¹ / ₂ SILT-carbonaceous -sl SILT-carbonaceous -sl SILT-carbonaceous -sl SILT-carbonaceous -sl argillaceous -sl argi	DEPTH REC TYPE CAL COLOR 1 2 3 4 5 6 SILT-carbonaceous mod grey argillaceous mod grey argillaceous mod grey argillaceous mod grey argillaceous -sl SILT-carbonaceous medium sTONE sandy, non grey argillaceous -sl 1 2 00LO-carbonaceous white silty, non to nicaceous -sl 1 1 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2	DEPTH REC TYPE CAL COLOR DEG 1 2 3 4 5 6 7 BS84 1/2 SILT-carbonaceous medium very grey soft argillaceous medium very grey soft 3 SILT-carbonaceous medium very grey soft argillaceous-sl BS46 1/2 SILT-carbonaceous medium very grey soft argillaceous-sl BS42 3/4 DOLO-carbonaceous medium very tell micaceous -sl BS44 1/2 SILT-carbonaceous medium very tell micaceous -sl light ted argillaceous -sl light ted argillaceous -sl light ted argillaceous -sl light ted BS44 1/2 SILT-carbonaceous mon grey eratel indura sted BS44 1/2 SILT-carbonaceous mon grey eratel indura ted BS44 1/2 SILT-carbonaceous mon grey telly subfissile micaceous, mon grey weak BS44 1/2 SHALE carbonaceous mon grey telly subfissile micaceous, mon grey weak BS48 1" SAND-micaceous, medium poorl grey indura BS48 1/4 STONE glauconitic mated BS48 1/4 STONE Fracemicaceous BS48 1/4 STONE Fracemicaceous BS48 1/4 STONE Fracemicaceous BS48 1/4 STONE Fracemicaceous	DEPTH REC TYPE Calculation of the second sec	DEPTH REC TYPE CAL COLOR DEG SIZE SRTG 1 2 3 4 5 6 7 8 9 8584 's SILT-carbonaceous medium very - - argillaceous mod grey soft - - 8584 's SILT-carbonaceous medium very very poorl 8546 's STONE sandy, non grey soft fine 8546 's STONE sandy, non to fine sand- 8542 '4 DOLO-carbonaceous white poorlymedium sorte 8544 's SILT-carbonaceous mon ted coarse 8444 's SILT-carbonaceous dark mod-grey sorte 8444 's SILT-carbonaceous dark mod-grey - - 8444 's SILT-carbonaceous dark mod-grey - - 8390 's SHALE stoceous non grey ted - 8338 1" SAND-nicaceous, non grey weak to ted	DEPTH REC TYPE CAL COLOR DEG SIZE SRTG RND 1 2 3 4 5 6 7 8 9 10 8584 ½ STONE Carbonaceous medium very - - - - 8584 ½ STONE carbonaceous medium very very poorly 8546 ½ STONE carbonaceous medium very very poorly 8546 ½ STONE carbonaceous medium very very poorly 8546 ½ STONE carbonaceous white poorly moorly 8542 ½ DOLO- carbonaceous white poorly sorted 8544 ½ STIT-carbonaceous white poorly sorted sorted 8444 ½ STIT-carbonaceous grey sorted sorted 8390 ½ SHALE carbonaceous dark modera- - - 8338 1" SAND-micaceous, n	DEPTH REC TYPE CAL COLOR DEG SIZE SRTG RND CLAY 1 2 3 4 5 6 7 8 9 10 11 SILT-carbonaceous medium very $-$ 40 argillaceous medium very soft 40 argillaceous medium very poorly soft fine sorted a 40 argillaceous site of the sorted a 40 argillaceous site of the sorted a 40 argillaceous site of the sorted a 40 store site of the sorted a 40 argillaceous site of the sorted a 40 argillaceous site of the sorted a 40 argillaceous site of the sorted a 40 argillaceous site of the sorted a 40 argillaceous site of the sorted a 40 argillaceous site of the sorted a 40 argillaceous site of the sorted a 40 store site of the sorted a 40 argillaceous site of the sorted a 40 argillaceous site of the sorted a 40 argillaceous site of the sorted a 40 argillaceous site of the sorted a 40 argillaceous site of the sorted a 40 argillaceous site of the sorted a 40 subfissile site of the sorted site of the	DEPTH REC TYPE CAL COLOR DEG SIZE SATG RND CLAY STAIN 1 2 3 4 5 6 7 8 9 10 11 12 8584 1 SITD-carbonaceous medium very - - 40 8584 1 SITD-carbonaceous medium very very port - 8546 5 STONEAndx, mon medium very very poort/y - - 8546 5 STONEAndx, mon medium very very poort/y - - 8546 5 STONEAndx, mon medium very very poort/y - - 8547 3/4 DOLO-carbonaceous white poort/y medium - - 8542 3/4 DOLO-carbonaceous dark mod-red - - - 8544 12 STITF-carbonaceous dark mod-red - - - 8444 12 STITF-carbonaceous dark modera- - - - 8444 12 STONEDolomitic non grey erately - - - </td <td>DEPTH REC TYPE CAL COLOR DEG SIZE SRTG RND CLAY STAIN % 1 2 3 4 5 6 7 8 9 10 11 12 RK SILT-carbonaceous, mod grey soft 40 argillaceous medium very 40 SILT-carbonaceous medium very bery poorly SILT-carbonaceous medium very soft fine sorted a 40 argillaceous - 1 to</td> <td>DEPTH REC TYPE 4 5 CAL COLOR DEG SIZE SRTG PND CLAY STAIN 4 DISTR 1 2 3 4 5 6 7 8 9 10 11 12 RK 14 STATE Carbonaceous medium very $-$ 40 $-$ argillaceous medium very very poorly STATE Carbonaceous medium very very poorly argillaceous-sl 40 $-$ - 40 <math>- 40</math> <math>- -</math></td> <td>DEPTH REC TYPE CALCOLOR DEG SIZE SATG RND CLAY STAIN TO THE AND THE A</td> <td>DEPTH REC TYPE CAL COLOR DEG SIZE SATG RND CLAY STAIN THEN COLOR RK 14 IS DISTRIBUTED COLOR RK 14 IS DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 15 DISTRIBUTED COLOR RK 14 IS 15 DISTRIBUTED COLOR RK 14 IS 15 DISTRIBUTED COLOR RK 14 IS 15 DISTRIBUTED COLOR RK 14 IS 15 DISTRIBUTED COLOR RK 14 IS 15 DISTRIBUTED COLOR RK 14 IS 15 DISTRIBUTED COLOR RK 14 IS 15 DISTRIBUTED COLOR RK 14 IS 15 DISTRIBUTED COLOR RK 14 IS 15 DISTRIBUTED COLOR RK 14 IS 15 DISTRIBUTED COLOR RK 14 IS 15 DISTRIBUTED COLOR RK 14 IS 15 DISTRIBUTED COLOR RK 14 IS 15 DISTRIBUTED COLOR RK 15 DISTRIBUTED RK 15 DISTRIBUTED COLOR RK 15 DISTRIBUTED RK 15 DISTRIBUTED RK 15 DISTRIBUTED RK 15 DISTRIBUTED RK 15 DISTRU</td> <td>$\begin{array}{c c c c c c c c c c c c c c c c c c c$</td> <td>DEPTH REC TYPE CAL COLOR DEES SIZE SITE NO CLAY STAIN STORE DESTR INTEN COLOR INTEN COLOR 1 2 STAF 9 10 11 12 RK MR 15 16 17 18 SEME 1 STOREFILT CORFUNCTION GROUP MR 10 11 12 RK MR 15 16 17 18 SEGME 1 STOREFILT CORFUNCTION GROUP MR MR 16 17 18 SEGME STORE Contractorus medium Very Very Very POORLY 40 -</td> <td>DEPTH Dec TYPE CAL COLO DEG SZE STAN NU DETR NUEN COLO DEG DEG STAN NU DEG NUEN COLO DEG NUEN COLO NUEN</td> <td>Depth MEC TYPE CAL COLOR DEE SITE SATE FIND CLAY STATE TEN COLOR DET TEN COLOR DET TEN COLOR DUCK D</td> <td>Deprint Asc Type Description Out Description <thdescription< th=""> Description</thdescription<></td> <td>Deprint Acc Cound Des State S</td>	DEPTH REC TYPE CAL COLOR DEG SIZE SRTG RND CLAY STAIN % 1 2 3 4 5 6 7 8 9 10 11 12 RK SILT-carbonaceous, mod grey soft 40 argillaceous medium very 40 SILT-carbonaceous medium very bery poorly SILT-carbonaceous medium very soft fine sorted a 40 argillaceous - 1 to	DEPTH REC TYPE 4 5 CAL COLOR DEG SIZE SRTG PND CLAY STAIN 4 DISTR 1 2 3 4 5 6 7 8 9 10 11 12 RK 14 STATE Carbonaceous medium very $ -$ 40 $-$ argillaceous medium very very poorly STATE Carbonaceous medium very very poorly argillaceous-sl $ 40$ $-$ - $ 40$ $- 40$ $- -$	DEPTH REC TYPE CALCOLOR DEG SIZE SATG RND CLAY STAIN TO THE AND THE A	DEPTH REC TYPE CAL COLOR DEG SIZE SATG RND CLAY STAIN THEN COLOR RK 14 IS DISTRIBUTED COLOR RK 14 IS DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 16 DISTRIBUTED COLOR RK 14 IS 15 DISTRIBUTED COLOR RK 14 IS 15 DISTRIBUTED COLOR RK 14 IS 15 DISTRIBUTED COLOR RK 14 IS 15 DISTRIBUTED COLOR RK 14 IS 15 DISTRIBUTED COLOR RK 14 IS 15 DISTRIBUTED COLOR RK 14 IS 15 DISTRIBUTED COLOR RK 14 IS 15 DISTRIBUTED COLOR RK 14 IS 15 DISTRIBUTED COLOR RK 14 IS 15 DISTRIBUTED COLOR RK 14 IS 15 DISTRIBUTED COLOR RK 14 IS 15 DISTRIBUTED COLOR RK 14 IS 15 DISTRIBUTED COLOR RK 14 IS 15 DISTRIBUTED COLOR RK 15 DISTRIBUTED RK 15 DISTRIBUTED COLOR RK 15 DISTRIBUTED RK 15 DISTRIBUTED RK 15 DISTRIBUTED RK 15 DISTRIBUTED RK 15 DISTRU	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	DEPTH REC TYPE CAL COLOR DEES SIZE SITE NO CLAY STAIN STORE DESTR INTEN COLOR INTEN COLOR 1 2 STAF 9 10 11 12 RK MR 15 16 17 18 SEME 1 STOREFILT CORFUNCTION GROUP MR 10 11 12 RK MR 15 16 17 18 SEGME 1 STOREFILT CORFUNCTION GROUP MR MR 16 17 18 SEGME STORE Contractorus medium Very Very Very POORLY 40 -	DEPTH Dec TYPE CAL COLO DEG SZE STAN NU DETR NUEN COLO DEG DEG STAN NU DEG NUEN COLO DEG NUEN COLO NUEN	Depth MEC TYPE CAL COLOR DEE SITE SATE FIND CLAY STATE TEN COLOR DET TEN COLOR DET TEN COLOR DUCK D	Deprint Asc Type Description Out Description Description <thdescription< th=""> Description</thdescription<>	Deprint Acc Cound Des State S

FORM R 257 3/72

				ROCK	MODIFIERS			INDUR	GRAIN			DISS			FLOU	IRESCENCE	E	CUT F	LUOR.	. CUT R	ESIDUE		PROB	
NO. 1 a	DEF		2	TYPE 3	4	CAL 5	COLOR 6	DEG 7	SIZE 8	SRTG 9	RND 10	CLAY 11	STAIN 12	% RK	DISTR 14	INTEN 15	COLOR 16	INTEN 17	COLOR 18	QUAN 19	COLOR 20	SHOW 21	PROD 22	REMARKS - GAS 23
12.12.77	81			SAND- STONE	very glau- conitic, micaceous, and dolomi- tic		dark grey	weak to firm	very fine	mod		20		-	-		-							Very low porosit
DATE 18	81	.37	3/4	SAND- STONE	micaceous, slightly carbonaceou very dolomi	-	nedium grey	weak	very fine	very poor	a	_20												Very low porosit
RUN NO 4	81	.32	12		tic, micaceous, glauconitic trace carbonaceou pyritic,	ſ	dark grey	firm				20												Very low porosit
4 SWC	81	.27	<u>1</u> _2	SILT- STONE	dolomitic. very glau- conitic & micaceous, pyritic, slightly carbonaceou	-	nedium to dark grey	firm		very poor		20												Very low porosi
RUN NO	3 8	.10	1 ₂	SILT- STONE	very dolomitic glauconitic micaceous, pyritic, slightly	-	dark grey	firm				10			NO			blue	dull to	thin	dull white			Very low porosi no odour
1ES	8)95	1	INTER LAMIN ATED SHALE	carbonaceou -carbonaceou -glauconitic micaceous, pyritic, dolomitic	15	light grey and black	sub-	-	-		30			NO			yello		not v	to yellow			Very low porosi
SCIII,UMBERGER) 8(080	³ /4	SILT- STONE	carbonaceou micaceous, pyritic, qlauconitic		light to medium grey	fissi to fissi mod			-	20			NO			no to weak	verv		isible			Very low porosi
SERVICE COSCIII.UMB				C TT TT_	very dolomitic very glau- conitic, dolomitic, micaceous;	_	brown to grey	ļ	very fine- to	good	sa	20						C	nut					Very low porosi

FORM R 257 3/72

	PROB		ESIDUE	CUT RE	.UOR.	CUT FL		RESCENCE	FLOU			DISS			GRAIN	INDUR			MODIFIERS	ROCK			
REMARKS - GAS	PROD	SHOW	COLOR	QUAN	COLOR	INTEN	COLOR	INTEN	DISTR	1 1	STAIN	CLAY	RND	SRTG	SIZE	DEG	COLOR	1 1		TYPE	l.	DEPTH	NO.
23	22	21	20	19	18	17	16	15	14	RK	12	11	10	9	8	7	6 dark	5	4	3 SILT-	2	1	1a
Poor porosity									_			30		_	_	mod	dark grey	-	micaceous; dolomitic; sandy,trace	TONE		8050	92
																		· ·	glauconitic				
Voru poor por				_					-			20		_		mod	dark grev		As above micaceous,			8035	93
Very poor por												20					-907		trace glauconitic				
												20			very		dark	s	carbonaceou	SILT-	3/45	8020	94
Very poor por				-					-			30				firm	grey		very glauconitic	STONE	/ 19	0020	
											·····				to fine Sand-				sandy, dolomitic?				
										ļ					stone					SILT-	2		
Poor porosity												20	sa	good	very fine	mod	medium grey	,-	very sandy, glauconitic	STONE	³ /4	8005	95
TOOL FOLODIOJ													-a		to fine				micaceous, dolomitic.				
<u>,</u>															Sand- stone								
									_			30	1	good	very		edium	_ m	very sandy, glauconitic	TONE	$\frac{3}{46}$	7990	96
Very poor por														yoou	fine to		grey		micaceous, dolomitic.				
													<u>-r</u>		fine Sand-				dolomi cic.				<u> </u>
															stone		dark		slightly	SILT-	3.6		
Very poor por			ļ	_								40	-			mod	grey	-	sandy. glaucónitic very	STONE_	- /4	7975	97
													<u> </u>						very micaceous,				
																	2001-	6	carbonaceou dolomitic.				
Very poor por									-			30	_	-	-	mod	dark grev	_	micaceous.	0	1	7960	98
																to	5		slightly sandy,				
	-															well		s	argillaceou				
	-																		dolomitic.				
		 								+		20			very		medium		very sandy, micaceous,	SILT- STOME	³ /4	7945	99
Very poor por												20	-a	good	to	mod to	grey	5,	argillaceou slightly	STORE			
	-														fine Sand-			s,	carbonaceou				
		 													stone		medium		dolomitic.	STLT-	3		
									-			30	"	11	11	11	grey	-	As above, less sandy,	STONE	-/4	7930	100
																F = 2000			dolomitic.	8			ļ
Very poor por				-					-			30	-	-	-	to	medium grey	- I	very argill ceous, mica	STONE	1	7288	101
becoming very						-										sticky		е Б,	ceous, trac carbonaceou				
clayey.																			dolomitic				

FORM R 257 3/72

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				ROCK	MODIFIERS			INDUR	GRAIN			DISS			FLO	JRESCENCI	Ē	CUT F	LUOR.	CUTR	ESIDUE		PROB	· · · · ·
57	NO. 1 a	DEPTH 1	REC 2	TYPE 3	4	CAL 5	COLOR 6,	DEG 7	SIZE 8	SRTG 9	RND 10	CLAY 11	STAIN 12	% RK	DISTR 14	INTEN 15	COLOR 16	INTEN 17	COLOR 18	QUAN 19	COLOR 20	SHOW	PROD 22	REMARKS - GAS 23
.77	102	7142	1	SILT- STONE &	very argillaceou	ıs	mediur grey	n firm			_	50_												Very poor porosi
30 18.12.			-	CLAY- STONE	very argillaceou trace carbonaceou dolomitic	s,																		
, 8 T		6410		SILT- STONE	1		mediur	n firm	_	-	-	50			_						-			Very poor poros:
ATT DATE				STONE_	very argillaceou dolomitic, micaceous.	5	grey	to																Very poor poros.
) 							sticky																
4						<u> </u>								-										
CN	2																							
PTIONS SWC RUN NO																								
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SIDEWALL CORE DESCRIPTIONS BLIN NO 4 SWC RI																								
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SIDEWALI RUN NO																								
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GEOLOGIST DO RAZARIO/KJELLGREN SERVICE CO SCIILUMBERGER																					•			
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FLOUNDER-6 SIDEWALL CORE DESCRIPTIONS

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	SWC NO.	DEPTY	RECOVERED	DESCRIPTION
	1	2925	1¼"	<u>Calcareous Claystone</u> - light grey to light green grey, clay to silt, firm, minor mica, minor vein like finely disseminated pyrite no fissility, very calcareous, gas odour.
-	2	2860	1 ¹ 4"	<u>Calcareous Siltstone</u> - light grey, clay to silt grain size, subangular grains, firm, abundant glauconite - up to 0.5mm, minor mica, gaseous odour.
	3	2800	1	<u>Calcareous Siltstone</u> - light grey, clay to silt grain size, subangular to subrounded grains, firm, glauconite, mica, forams - appear to be mainly planktonic, gaseous odour.
	4	2769	114	<u>Calcarenite</u> - buff to light grey, silty to very fine grains, subangular to subrounded, firm, some glauconite and mica, forams, gas odour, no effective porosity and permeability.
	5	2700	1	<u>Calcareous Siltstone</u> - light olive grey, clay to silt, subangular to subrounded, glauconite, clay matrix, mica, forams, gas odour.
	6	2625	1 ³ /4	<u>Calcareous Claystone</u> - light to medium grey, firm to hard, very calcareous, clay grain size, large forams (benthonic) up to 2mm, gas odour.
	7	2550	1½	<u>Calcareous Claystone</u> - as above light olive grey
	8	2475	1 ⁵ /8	As above
	9	2400	1 ³ /4	<u>Calcareous Siltstone</u> - light to medium grey, silty to very fine grain size, firm, forams, clay matrix, gas odour.
	10	2332	2"	Calcareous Claystone - light to medium grey, firm to soft, forams, silty, gas odour.
	11	2256	14	<u>Calcareous Siltstone</u> - light olive grey, clay to silt, subangular to subrounded grains, forams, clay matrix, gas odour.
•	12	2180	1 ¹ 2	Calcarenite - light olive grey, silty to very fir subangular to subrounded grains, very calcareous firm, forams and mica, gas odour.
	13	2114	N/R	Misfire.
	14	2044	2	Calcareous Claystone - light to medium olive grey firm to slightly soft, very calcareous, inclusic of forams, mica, glauconite and very fine pyrite gas odour.
	15	1974	1 ³ /4	As above.
	16	1902	1 ³ /4	As above.
	17	1832	2	Calcarenite - light olive grey, clay to very fine firm, subangular to subrounded grains, very calcareous, clay matrix forams, mica, glauconite
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SIDEWALL CORE DESCRIPTIONS

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SWC NO.	DEPTH	RECOVERED	DESCRIPTION
17	1832	2	Continued
			gas odour.
18	1762	112	<u>Calcareous Siltstone</u> - light olive grey, clay to silt, subangular to subrounded grains, firm, very calcareous, clay matrix, forams, mica.
19	1692	2,	Calcareous Siltstone - as above, has speckled appearance due to darker forams in lighter clay matrix.
20	1630	1 ³ /4	As above
21	1536	1 ³ /4	Calcarenite - light olive grey, clay to very fir subangular to subrounded equant grains, very calcareous, firm, mica and foram inclusions, gas odour.
22	1475	2"	<u>Calcarenite</u> - as above.
23	1400	2"	<u>Calcarenite</u> - light olive grey, clay subangular to subrounded grains, poorly sorted, very calcareous, forams, mica, fossiliferous debris, strong gas odour - C ₁ - 100ppm.
24	1342	2 ¹ 4	<u>Calcarenite</u> - as above, strong gas odour, quite granular, very low permeability.
25	1256	1 ³ /8	<u>Calcarenite</u> - buff to light olive grey, clay to medium, poorly sorted, subangular to subrounded equant grains, saccharoidal texture, friable strong gas odour C ₁ - 1000ppm, very calcareous, fossiliferous grains, good porosity, low permea- bility.
26	1190	2 ¹ 4	As above - strong gas odour.
27	1120	2 ¹ 4	As above - unconsolidated fossiliferous grains weakly bonded by calcareous mudstone.
28	1040	$1\frac{1}{2}$	As above
29	970	1 ⁵ /8	As above
30	900	$1^{\frac{1}{2}}$	As above.
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SIDEWALL CORE DESCRIPTIONS

FLOUNDER#6

MORTON

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SWC NO.	DEPTH	RECOVERED	DESCRIPTION
31	6356'	1 ³ /4"	<u>Marl</u> - medium grey, medium to firm, very calcareous, glauconitic, fossiliferous with globigerina; carbona- ceous fragments.
32	6354'	1"	<u>Siltstone</u> - black to brown grey, firm, subangular to subrounded grains, very calcareous, glauconitic, pyritic micaceous.
33	6348 '	N/R	NO RECOVERY
34	6340'	<u>1</u> ¹ ₂ "	Marl - medium grey, firm to soft, very calcareous, glauconitic, fossiliferous with globigerina ooze, bimodal with grains up to 1-2mm.
35	6335 '	3/4"	Marl - as above.
36	6330 '	2"	<u>Marl</u> - as above.
37	6320'	1 ³ /4"	Marl - as above.
38	6270 '	1 ¹ / ₄ "	<u>Shale</u> - dark grey, firm, silty, fissile, very calcareous, glauconitic.
39	6200'	³ /4"	Shale - as above.
40	6139'	3/4"	<u>Shale</u> - dark grey, firm, silty, fissile, very calcareous, glauconitic.
41	6056	N/R	MISFIRE
42	5878 '	N/R	MISFIRE
43	5690'	N/R	MISFIRE

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FLOUNDER-6 SIDEWALL CORE DESCRIPTIONS

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			MORTON 30/7/77
NO.	DEPTH	REC	
44	7970	NR	Lost Bullet.
45	7907	1"	Siltstone - medium to dark grey, firm, quartz, mica, calcareous pyrite, carbonaceous, slightly calcareous, moderately sorted.
46	7845	1 1 4 1	Sandstone - light grey, firm, poorly sorted, silty to medium grained, subangular to subrounded, quartz, carbonaceous, pyrite, silty, non calcareous, no
			fluorescence.
47	7800	<u>ז</u> יזיין <u>זי</u> ין זיין זיין זיין זיין זיין זיין זיין	Sandstone - light grey, firm, granule to fine grained poorly sorted, subangular to rounded, quartz, pyrite, slightly calcareous, no fluorescence.
48	7750	1 ₂ "	Sandstone - light brown, firm to soft, granule to very fine, silty to clayey matrix, subangular to rounded, moderately calcareous, possibly oxidised matrix though more likely drilling mud invasion, no fluorescence.
49	7707	1 <u>7</u> 11	Silty Sandstone - medium grey, firm to soft, granule to silt sized, poorly sorted, subangular to rounded, slightly calcareous.
- 50 -	7666	ויז <u>1</u> 2	Siltstone - medium to dark grey, firm, silty, well sorted, quartz, carbonaceous, pyrite, slightly calcareou carbonaceous fragments.
51	7600	<u>1</u> д п	Siltstone - interbedded with Sandstone. Siltstone dark grey to black, fissile, firm, very carbonaceous, quartz, pyrite slightly calcareous interbedded with Sandstone, light grey, firm to soft, very fine to moderately sorted, quartz, pyrite, silty, slightly calcareous, no fluorescence.
52	, 7525	1 ₂ ''	<u>Siltstone</u> - firm, dark grey, silty to well sorted, subangular to subrounded quartz, carbonaceous, pyrite.
53	7457	1 ₂ "	Siltstone - medium to dark grey, firm, silty, well sorted, subangular to subrounded, quartz, carbonaceous, pyrite.
54	7426	1 ₂ 11	<u>Siltstone</u> - medium grey, firm, silty, well sorted, subangular to subrounded, quartz, carbonaceous, pyrite, mica.
55	7413	34"	Sandstone - light grey, firm, very coarse to very fine, poorly sorted, quartz, silty, carbonaceous, sub- angular to rounded, no fluorescence, very dirty sandstor
56	7402	1 ¹ 4"	Sandstone and interbedded fine sandstone, and Siltstone. Sandstone - light grey, firm, very fine to medium, poorly to moderately sorted, subangular to subrounded, quartz, pyrite, carbonaceous, slightly calcareous, Siltstone, dark grey, firm, carbonaceous, mica, quartz, laminae 1-2mm thick, no fluorescence.
57	7376	NR	Lost Bullet.
58	7294	NR	Lost Bullet.
, 59	7261	. 1"	Sandstone - light grey, firm to soft, very fine to
			•

FLOUNDER-6 SIDEWALL CORE DESCRIPTIONS

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MORTON 30/7/77

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NO.	DEPTH	REC	DESCRIPTIONS
59	7261	1"	Continued
			<pre>coarse grained, poorly to moderately sorted, subangular to rounded, quartz, glauconite, carbonaceous, pyrite, slightly calcareous, no fluorescence.</pre>
60	7186	³ /4"	Sandstone - light grey, firm, very fine to medium, moderately sorted, subangular to rounded, quartz, carbonaceous, glauconite pyrite, no fluorescence.
61	7145	NR	
62	7091	1 ¹ 2"	Silty Sandstone - dark grey, firm, very coarse to silty, poorly sorted, subangular to rounded, quartz, silty, pyrite, carbonaceous, mica.
63	7029	1 ¹ 4"	Siltstone - medium to dark grey, firm, moderately well sorted, subangular to subrounded, quartz, mica, pyrite, two silts are present, one a dirty dark grey in contact with a cleaner light grey silty, sharp contacts.
64	6949	1"	Sandstone - light grey, firm to soft, fine to medium grained, moderately sorted, subangular to rounded, quart carbonaceous, silty, pyrite, thin (2mm) coal laminae, no fluorescence.
- 5 5	6937	<u>1</u> 4"	Shale - dark brown to dark grey, firm, moderately sorted, silty in patches, pyrite, quartz, very calcaredu carbonaceous.
66	6876	3 4"	Shale - as above, in pieces and may be cavings.
57	6805	1"	Sandstone - light grey, unconsolidated, fine to coarse, moderate to poorly sorted, subangular to rounded, quartz mica, carbonaceous, slightly calcareous, no fluorescence
68	6750	174"	<u>Shale</u> - dark grey, firm, thin silt laminae, well sorte carbonaceous, very calcareous.
59	6690	1"	Shale - as above, moderately calcareous.
70	6623	11/2"	Shale - dark grey as above, very calcareous.
71	6546	2"	<u>Siltstone</u> - dark grey, firm, silty, well sorted, quart mica, pyrite, glauconite, carbonaceous, very calcareous.
72	6475	1½"	Siltstone - medium to dark grey, firm, silt, quartz, pyrite, well sorted, very calcareous.
73	6406	NR	

FLOUNDER 6 SIDETRACK

SIDEWALL CORE DESCRIPTIONS

DO ROZARIO/KJELLGREN

23/12/77

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NC No.	DEPTH	RECOVERED	DESCRIPTION
74	8584'	1 ₂ "	SILTSTONE: medium grey, moderately indurated, very argillaceous, moderately carbonaceous, slightly micaceous, and calcareous; no fluorescence or cut.
75 	8546'	1 ₂ "	SILTSTONE: medium grey, moderately indurated, laminated, very sandy consisting of very fine grained quartz, very argillaceous, moderately carbonaceous, trace of mica; no fluorescence or cut.
76	8542'	3/4"	DOLOMITE: cream to light brown, poorly indurated, fine to medium grained, angular to subrounded, moderately carbonaceou as carbonaceous laminae; no fluorescence or cut.
77	8444'	1 ₂ "	SILTSTONE: alternate light and medium grey laminae, moderate ly calcareous light grey laminae, moderately indurated, slightly carbonaceous and micaceous, dolomitic, very argilla- ceous; no fluorescence or cut.
78	8390'	1 <u>2</u> "	CLAYSTONE: dark grey, poorly indurated, finely disseminated carbonaceous matter, very micaceous; no fluorescence or cut.
79	8338		SANDSTONE: light grey, fine to medium grained with some coarse quartz grains, clear, angular to subangular, moderatel sorted, poorly indurated, white clay matrix, dolomitic, slightly carbonaceous and micaceous, few grains of glauconite even low intensity pale green fluorescence and moderate pale blue cut, slight hydrocarbon odour, trace of light brown oil (?).
80	8283'	-	No recovery.
81	8243'	3/4"	SANDSTONE: mottled light and dark grey, very fine to very coarse quartz sand with rare granules, clear to milky quartz subangular to subrounded, very poorly sorted, moderately indurated, very argillaceous and pyritic in part, slightly carbonaceous, micaceous and dolomitic, traces of glauconite, patchy low intensity pale green fluorescence, slight pale blue cut.
82	8228'	1 ₂ "	SANDSTONE: medium grey, clear to milky quartz grains, subangular to subrounded, very fine to medium grained, poorly sorted, poorly indurated, light grey silty and argillaceous matrix, slightly pyritic and dolomitic, traces of mica, carbonaceous matter and glauconite; no fluorescence or cut.
- 83	8148'	3/4"	SANDSTONE: light grey, clear to milky quartz, subangular to subrounded, fine to medium grained, moderately sorted, friable, dolomitic, traces of carbonaceous matter and glauco- nite, trace of mica and pyrite; fair porosity; weak very dull white to yellow fluorescence, no visible cut.
84	8143'	3/4"	SANDSTONE: medium to dark grey, very fine grained with some coarse quartz, subangular to subrounded, poorly indurated, very argillaceous and delomitic, moderately glauconitic and micaceous; no fluorescence or cut.
85	8137'	3/4"	SANDSTONE: medium grey, very fine grained, angular, poorly indurated, poorly sorted, very argillaceous and dolomitic, slightly glauconitic, pyritic, micaceous and carbonaceous, no fluorescence or cut.
86	8132'	1 ₂ "	SILTSTONE: dark grey, laminated in part, moderately indura-
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FLOUNDER 6 SIDETRACK

SIDEWALL CORE DESCRIPTIONS

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DO ROZARIO/KJELLGREN

23/12/77

WC No.	DEPTH	RECOVERED	DESCRIPTION
86	8132'	1 ₂ 11	Continued/
			ted, very argillaceous and micaceous, slightly carbonaceous and pyritic, glauconitic; no fluorescence or cut.
	8127'	1 ₂ 11	SILTSTONE: alternate light and medium grey, laminated in part, moderately indurated, very glauconitic, micaceous, pyritic and argillaceous, slightly carbonaceous, very dolomitic; no fluorescence or cut.
88	8110'	ן <u>ז</u> וו	SILTSTONE: dark grey, moderately well indurated, very micaceous, argillaceous, pyritic, slightly glauconitic and carbonaceous; no fluorescence, slow dull blue to yellow cut with a thin dull yellow white residue.
89	8095 '	1	INTERLAMINATED SILTSTONE & SHALE: medium grey and black, moderately indurated and fissile, very micaceous, pyritic and carbonaceous, traces of glauconite, dolomitic; the shale is carbonaceous; no fluorescence, very weak dull yellow crush cut.
90	8080'	3/4"	SILTSTONE: light to medium grey, weakly laminated, moderated indurated, very dolomitic, argillaceous, moderately micaceous pyritic and carbonaceous, traces of glauconite, no fluores- cence, very weak dull yellow crush cut.
91	8065'	3/4"	SILTSTONE: dark grey, moderately well indurated, very glauconitic and micaceous, argillaceous, pyritic, dolomitic, traces of carbonaceous matter, no fluorescence or cut.
92	8050'	1 ₂ "	SILTSTONE: dark grey, moderately well indurated, argillaceou moderately micaceous and pyritic, slightly carbonaceous traces of glauconite, dolomitic; no fluorescence or cut.
93	8035 '	3/4"	SILTSTONE: as above, with only traces of carbonaceous matter
- 94	8020'	3/4"	SILTSTONE: partly laminated medium to dark grey, moderately indurated, argillaceous, very glauconitic and micaceous, slightly carbonaceous, traces of pyrite, dolomitic, no fluorescence or cut.
95	8005 '	3/4"	SILTSTONE: medium brown to grey, poorly indurated, argilla- ceous, moderately micaceous, slightly carbonaceous and glauconitic, very dolomitic; no fluorescence or cut.
96	7990 '	³ /4"	SILTSTONE: medium grey, moderately indurated, argillaceous, moderately micaceous and carbonaceous, pyritic with traces of glauconite, dolomitic; no fluorescence or cut.
	7975 '	3/4"	SILTSTONE AND SHALE INTERLAMINATED: dark grey and black, moderately well indurated to fissile, argillaceous, moderatel micaceous and carbonaceous with carbonaceous laminae slightly pyritic, traces of glauconite, dolomitic; no fluorescence or cut.
98	7960 '	7 ² 1	SILTSTONE: dark grey, moderately indurated, argillaceous, very micaceous, moderately carbonaceous, traces of pyrite and glauconite, dolomitic; no fluorescence or cut.
99	7945'	3/4"	SILTSTONE: medium grey, as above.
-100	7930 '	3/4"	SILTSTONE: medium grey, as above.
			3/

FLOUNDER 6 SIDETRACK

SIDEWALL CORE DESCRIPTIONS DO ROZARIO/KJELLGREN

23/12/77

WC No.	DEPTH	RECOVERED	DESCRIPTION					
101	7288'	l	SILSTONE: dark grey, weakly laminated, moderately well indurated, very argillaceous and micaceous, moderately carbonaceous, traces of pyrite and glauconite, dolomitic; no fluorescence or cut.					
102	7142'	_ 1	SILTSTONE AND CLAYSTONE INTERLAMINATED: dark grey, well indurated, subfissile siltstone, claystone poorly indurated moderately micaceous and carbonaceous, traces of pyrite and glauconite, dolomitic; no fluorescence or cut.					
103	6410'	1	SILTSTONE: dark grey, moderately indurated, very argillaceou and micaceous, slightly carbonaceous and pyritic, traces of glauconite, dolomitic; no fluorescence or cut.					
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APPENDIX 4

WELL COMPLETION REPORT

FLOUNDER-6

APPENDIX 4 PALYNOLOGICAL ANALYSIS OF FLOUNDER-6, GIPPSLAND BASIN

by

A.D. Partridge

PALYNOLOGICAL ANALYSIS

OF

FLOUNDER-6 AND FLOUNDER-6 (SIDETRACK)

GIPPSLAND BASIN

by

ALAN D. PARTRIDGE

ESSO AUSTRALIA LTD.

MARCH 31, 1978

INTRODUCTION

Forty-one sidewall core and seven core samples were examined in Flounder-6 and Flounder-6A. The zones recognised in the well are summarised below. Details of all samples examined are given on Table-1 while the confidence ratings for the zone intervals are given on the accompanying Data Sheet.

SUMMARY

UNIT

SPORE-POLLEN ZONES

Lakes Entrance Formation P. <u>tuberculatus</u> 6340 feet

UNCONFORMITY AT 6341 FEET -

Flounder Formation

6341 - 7424 feet

<u>P</u>. <u>asperopolus</u> 6354 to 7091 feet $\frac{W}{6475}$ to 6546 feet

DINOFLAGELLATE

I

ZONES

 $\frac{W. \text{ thompsonae}}{6876 \text{ to } 7091 \text{ feet}}$

Upper <u>M</u>. diversus 7142 to 7413 feet $\frac{W}{7288}$ feet

UNCONFORMITY AT 7424 FEET -

Upper L. balmei

Latrobe Coarse Clastics

7424 - 7878 feet

7426 feet

Lower L. <u>balmei</u> 7600 to 7845 feet

Lower L. balmei

7907 to 8065 feet

Upper Flounder Field Seal

7878 - 8082 feet

Lower Flounder Field Seal

<u>T. longus</u> 8095 to 8145 feet D. druggii 8095 feet

T. evittii

8033 to 8065 feet

8082 - 8145 feet

Latrobe Coarse Clastics <u>T. longus</u> 8145 to 8584 feet <u>D.</u> <u>druggii</u> 8175 to 8444 feet

8145 - 8601 feet

Flounder-6, T.D. = 8214 feet

Flounder-6A, T.D.= 8601 feet

1. Flounder Formation

The top of the Flounder Formation can be picked from the electric logs at 6341 feet. This is directly below the sidewall core at 6340 feet containing a good <u>P. tuberculatus</u> Zone assemblage with both spore-pollen and dinoflagellate zone species.

The base of the Flounder Formation lies between sidewall cores at 7413 and 7426 feet, which is not reflected by any marked log break.

The Flounder Formation itself is 1083 feet thick and can be subdivided into two spore-pollen zones and three dinoflagellate zones. Subtle lithological and electric log character changes can be related to the threefold dinoflagellate subdivision of the section.

The most apparent subdivision is the calcareous mudstone and siltstone unit between 6340 and 6800 feet which may be referred entirely to the <u>W</u>. <u>edwardsii</u> Zone even though the nominated species only occurs in the two samples at the top of this interval. The underlying unit would correspond to the interval of the <u>W</u>. <u>thompsonae</u> Zone between 6800 and 7100 feet. This corresponds to the highest occurrence of sands, interbedded with mudstone and siltstone in the Flounder Formation. The break at 6800 feet between the above two units may have some regional importance. It corresponds for example to the time of deep water sand emplacement in the Gurnard Formation in Kingfish-7 (see Partridge 1977).

The lowest unit between 7100 and 7426 feet corresponds to the Upper M. diversus. It contains dinoflagellates throughout but only the sample at 7288 feet can be referred to a specific dinoflagellate zone. This is the W. ornata Zone. There is not much apparent lithological distinction between the middle and lower units except for an increase in the percentage of sand in the lower unit.

2. L. balmei Zone Coal Measures

The division of the L. <u>balmei</u> Zone into Upper and Lower subzones is not clearly defined in Flounder-6. Considering the most recent revision of Stonefish-1 (Partridge 1976) it is probable that in the Flounder Field area the Flounder-Tuna Channel has cut down into the Lower L. <u>balmei</u> Zone. The records of the Upper L. <u>balmei</u> Zone given on data sheets for the other Flounder wells are undoubtedly wrong. Unfortunately revision of these wells is beyond the scope of this report. The source of error is that the base of the Upper L. <u>balmei</u> Zone is recognised on two different parameters. One is the first appearances of spore-pollen such as <u>Cyathidites gigantis</u> and <u>Banksieaeidites</u> <u>elongatus</u>. The alternative is the first appearance of the dinoflagellate Wetzeliella homomorpha. The difficulty lies in that the first occurrences of these forms is not always concurrent, and secondly in the Flounder wells there is difficulty in distinguishing W. <u>homomorpha</u> from various undescribed species of <u>Spinidinium</u>. These two dinoflagellate types seem to represent an evolving plexus in which speciation is difficult.

3. Flounder Field Seal

The shale-siltstone seal to the Flounder T.1 reservoir sands can be divided into two units based on palynology, as follows:

Unit A: 7878 to 8082 feet Lower L. <u>balmei</u> Zone Unit B: 8082 to 8145 feet <u>T. longus</u> Zone

Although there is as yet no clearly defined lithological distinction between these units this subdivision is important as it corresponds to the Cretaceous-Tertiary boundary (as well as a major palynological zone boundary) and is elsewhere in the basin recognised as a major seismic sequence boundary. Dinoflagellates occur throughout both units attesting to their deposition in an open marine environment. The good sidewall core sampling in Flounder-6A compared to the earlier Flounder wells has for the first time allowed the documentation of the occurrence of the <u>Trithyrodinium evittii</u> Dinoflagellate Zone within the Flounder Field Seal. That this zone should occur in the shale seal has been suspected for some time. The occurrence of the <u>Deflandrea druggii</u> Dinoflagellate Zone within the basal part of the shale seal has been documented previously from other Flounder wells.

DISCUSSION OF ZONES

Species identified from the samples examined are given on the eight attached distribution sheets. The basis for choosing the zone intervals is discussed in the following:

Tricolpites longus Zone 8095 to 8584 feet

Flounder-6 and -6A reached total depths while still within the <u>T</u>. <u>longus</u> Zone. This is based on the presence of the spore <u>Stereisporites</u> (<u>Tripunctisporis</u>) <u>punctatus</u> at 8584 feet in the deepest sidewall core and the dinoflagellate <u>Deflandrea</u> <u>druggii</u> at 8444 feet. Other species identified characteristic of the <u>T</u>. <u>longus</u> Zone included <u>Quadraplanus</u> <u>brossus</u>, <u>Proteacidites gemmatus</u>, <u>P. otwayensis</u>, <u>P. palisadus</u>, <u>P. reticuloconcavus</u> and the dinoflagellate <u>Deflandrea</u> corunata.

The diversity within the zone is quite high. This is not apparent from the distribution charts however, as the samples were not studied in detail.

The top of the <u>T</u>. <u>longus</u> Zone is identified as lying within the lower part of the Flounder Field seal.

Lygistepollenites balmei Zone 7426 to 8065 feet

The base of the <u>L. balmei</u> Zone is recognised by the extinction of the characteristic spore and pollen species of the underlying <u>T. longus</u> Zone, and the incoming of the characteristic species of the <u>Trithyrodinium</u> evittii Dinoflagellate Zone.

The top of the L. <u>balmei</u> Zone is identified on the highest mutual occurrence of <u>Lygistepollenites balmei</u>, <u>Australopollis</u> <u>obscurus</u>, <u>Latrobosporites</u> <u>amplus</u> and <u>L. ohaiensis</u>, all in the sample at 7426 feet. This sample is the only one that can possibly be referred to the Upper <u>L. balmei</u> subzone based on the abundant occurrence of a species of <u>Spinidinium</u> transitional to <u>Wetzeliella homomorpha</u>.

Three samples at the base of the <u>L</u>. <u>balmei</u> Zone (from 8033, 8050 and 8065 feet) can be referred to the <u>Trithyrodinium evittii</u> Dinoflagellate Zone based on common occurrence of the nominated species. Important accessory species are <u>Deflandrea speciosus</u>, <u>Areoligera senonensis</u> and common Hystrichosphaeridium tubiferum.

Other dinoflagellates occur in samples throughout the <u>L</u>. <u>balmei</u> Zone (see distribution charts) but are not diagnostic on any particular zone.

Upper Malvacepollis diversus Zone 7142 to 7413 feet

As is usual, the finer grained lithologies sampled in the Flounder Formation gave rich yields of diverse assemblages. The sandstone lithologies gave generally poor assemblages and sometimes could only be defined as indeterminate. In the sidewall core at 7413 feet, no species that would restrict the sample to the Upper <u>M. diversus</u> Zone were identified. However, there is a marked change in preservation of the fossils compared to the underlying <u>L</u>. <u>balmei</u> Zone, and the dominance of the pollen <u>H</u>. <u>harrisii</u> precludes an age older than Lower <u>M. diversus</u> Zone. An Upper <u>M</u>. <u>diversus</u> age for the basal sediment in the channel is preferred from comparison with Flounder-1 and -2, the closest adjacent wells. The other samples clearly belong to the Upper M. <u>diversus</u> Zone because of common occurrence of <u>Proteacidites pachypolus</u> and <u>Myrtaceidites tenuis</u>. This is further supported by the dinoflagellates, especially the occurrence of Wetzeliella ornata at 7288 feet.

Proteacidites asperopolus Zone 6354 to 7091 feet

The base of the P. asperopolus Zone is normally taken at the first appearaces of such species as Santalumidites cainozoicus, Conbaculites apiculatus and Proteacidites asperopolus. In this well there is a little scatter in the first appearance of these species which is reflecting the detail in which the individual samples have been worked. For convenience therefore the base of the zone is placed at the sample containing the first appearance of the dinoflagellate Wetzeliella thompsonae. Other features characteristic of the P. asperopolus Zone are common occurrence of Proteacidites pachypolus and Myrtaceidites tenuis and consistent presence of Triporopollenites helosus. The top of this zone and top of Flounder Formation is readily recognised by marked change in style of preservation and diversity of samples across the unconformity with the overlying Lakes Entrance Formation. That the top of the Flounder Formation is still within the P. asperopolus Zone is confirmed by occurrence in the highest sample, at 6354 feet, of the species Myrtaceidites tenuis, Conbaculites apiculatus and the common occurrence of the dinoflagellate Deflandrea flounderensis.

Proteacidites tuberculatus Zone 6340 feet

This zone is recognised by the occurrence of three key spores species <u>Cyatheidites annulatus</u>, <u>Foveotriletes crater</u> and <u>F. lucunosus</u> in the sample at 6340 feet.

The sidewall core at 6356 feet also obviously belongs to the <u>P</u>. <u>tuberculatus</u> Zone even though it was not documented in detail. It must either be misshot or mislabelled as it is obviously below the E-log pick for the top of the Flounder Formation.

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Palynology of cuttings from Stonefish-1, Gippsland Basin. Esso Australia Ltd. Palaeo. Rept. 1976/1.

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Palynological analysis Kingfish-7, Gippsland Basin. Esso Australia Ltd., Palaeo. Rept. 1977/25.

SAMPLE a	nd DEPTH (in feet)	ZONE	AGE	CONFIDENCE RATING	YIELD	DIVERSITY	COMMENTS
SWC 34	6340	P. tuberculatus	Miocene	. 0	Moderate	Moderate	Reworked Early Eocene present
SWC 32	6354	P. asperopolus	Early Eocene	0	High	High	Top of Flounder Formation
SWC 31	6356	P. tuberculatus	Miocene	1	Moderate	Moderate	SWC miss-shot or miss-labelled
SWC 72	6475	P. asperopolus	Early Eocene	0	High	High	Top occurrence W. edwardsii
SWC 71	6546	:1	n	0	High	Moderate	W. edwardsii present
SWC 70	6625	"	17	0	High	High	ana malaya ana ana ana ana ana ana ana ana ana
SWC 69	6690	57	17	0	High	Moderate	
SWC 68	6750		"	0	High	High	
SWC 67	6805	Barren of palynomo	*	-	-	-	Coarse sandstone lithology
SWC 66	6876	P. asperopolus	Early Eocene	0	High	High	Top occurrence W. thompsonae
SWC 65	6937	**	11	0	High	High	W. thompsonae present
SWC 64	6949	1	**	0	Moderate	Moderate	W. thompsonae present
SWC 63	7029	12		0	High	High	W. thompsonae present
SWC 62	7091			0	High	High	Lowest occurrence <u>W</u> . thompsonae
SWC 102	$\frac{7142}{7100}$	Upper M. diversus	Early Eocene	2	Moderate	Moderate	
SWC 60 SWC 59	7186 7261	Tra da ha seradar a se h		2	Low	Low	Fine sandstone lithology
		Indeterminant		-	Very low	Very low	Sandstone lithology
SWC 101 SWC 56	7288	Upper M. diversus	Early Eocene	0	High	High	Occurrence of <u>W</u> . <u>ornata</u>
SWC 55	7402 7413			1	High	High	
SWC 55 SWC 54	7413			2	Very low	Very low	Base of Flounder Formation
SWC 54 SWC 53	7428	Upper L. balmei L. balmei	Paleocene	. 1	High	Moderate	
SWC 51	7600	Lower L. balmei		· <u>1</u> 1	Moderate	Moderate	D
DWC DI	7000	Lower L. Dallier		T	High	Moderate	Presence Palaeoperidinum
SWC 50	7666	Lower L. balmei	"	1	Moderate	Low	pyrophorum
SWC 49	7707	Dower T. Darmer	"	1	Moderate	Moderate	
SWC 46	7845	"	"	1	Low	Moderate	
SWC 45	7907	"	**	1	Moderate	Low	
SWC 100	7930		**	1	Moderate	Moderate	
SWC 99	7945	11	"	1	Moderate	Moderate	
SWC 98	7960	"	17	1	Moderate	Moderate	
SWC 97	7975	"	**	ī	Moderate	Moderate	
SWC 96	7990	"	**	ī	Moderate	Low	
SWC 94	8020	"	"	ī	Moderate	Moderate	
SWC 93	8033	"	(†	ō	High	Moderate	Top occurrence T. evittij
SWC 92	8050	**	17	0	Moderate	Moderate	T. evittii present
SWC 91	8065	"	11	0	Moderate	Moderate	Lowest occurrence T. evittii
SWC 90	8080	Indeterminant	-	-	Moderate	Low	
SWC 89	8095	T. longus	Maestrichtian	1	Moderate	LOW	Top occurrence D. druggii
Core - 2	8164		17	1	Moderate	Moderate	
Core - 3	8 8175	11	**	1	Low	Low	D. druggii present
Core - 3	8199	"	11	1	Moderate	Moderate	ana ang ang ang ang ang ang ang ang ang
Core - 4			11	2	Very Low	Very Low	
Core - 4		"	11	1	Moderate	Low	
Core - 4		"	19	1	Low	Low	
Core - 4		"		1	Moderate	Moderate	
SWC 77	8444	"	"	0	Moderate	Moderate	D. druggii present
SWC 75	8546	88 79	58	1	Low	Moderate	van, taarentaatiotiaaranaa =
SWC 74							

N.B. Samples underlined are from Flounder 6A (sidetrack)

TABLE - 1: SUMMARY OF PALYNOLOGICAL ANALYSES, FLOUNDER - 6 AND FLOUNDER - 6A, GIPPSLAND BASIN

RΑ	S	TN	`	

GIPPSLAND

DATE

March 17, 1978.

WELL NAME

FLOUNDER-6 AND -6A

ELEVATION

K.B. +83 feet

[HI	GHEST	DATA			LOW	EST I	DATA		
AGE	PALYNOLOGIC ZONES	Preferred Depth	Rtg.	Alternate Depth	Rtg.	2 way time	Preferred Depth	Rtg	Alternate Depth	Rtg.	2 way time
OLIG- MIO.	<u>P. tuberculatus</u>	6340	0				6340	0			
ÖΣ	U. <u>N</u> . <u>asperus</u>										
	M. <u>N</u> . asperus										
	L. <u>N</u> . <u>asperus</u>										
NE	<u>P. asperopolus</u>	6354	0				7091	0			
EOCENE	U. <u>M</u> . <u>diversus</u>	7142	2	7288	0		7413	2	7402	1	
	M. <u>M</u> . <u>diversus</u>										
	L. <u>M</u> . <u>diversus</u>										
NE	U. <u>L. balmei</u>	7426	1				7426	1			
PA LE OCENE	L. <u>L. balmei</u>	7600	1				8065*	0			
PAL	<u>T. longus</u>	8095*	1				8584*	2	8546*	1	
	<u>T. 1illiei</u>						-				
sous	<u>N. senectus</u>										
LATE CRETACEOUS	<u>C. trip./T.pach</u>	•									
CRF	<u>C</u> . <u>distocarin</u> .										
	<u>T. pannosus</u>										
EA	RLY CRETACEOUS										
PR	E-CRETACEOUS										

COMMENTS:

*These depths are for Flounder-6A.

W.edwardsii Zone 6475 to 6546 ft; W. thompsonae Zone 6876 to 7091 ft. W. ornata Zone 7288 ft.

T. evittii Zone 8033 to 8065 ft; D. druggii Zone 8095 to 8444 ft.

RATINGS: 0; SWC or CORE, EXCELLENT CONFIDENCE, assemblage with zone species of spores, pollen and microplankton.

1; SWC or CORE, GOOD CONFIDENCE, assemblage with zone species of spores and pollen or microplankton.

2; SWC or CORE, POOR CONFIDENCE, assemblage with non-diagnostic spores, pollen and/or microplankton.

3; CUTTINGS, FAIR CONFIDENCE, assemblage with zone species of either spore and pollen or microplankton, or both.

4; CUTTINGS, NO CONFIDENCE, assemblage with non-diagnostic spores, pollen and/or microplankton.

NOTE: If a sample cannot be assigned to one particular zone, then no entry should be made. Also, if an entry is given a 3 or 4 confidence rating, an alternate depth with a better confidence rating should be entered, if possible.

DATA RECORDED BY: <u>A.D. Partridge</u>

DATE March 17, 1978.

DATA REVISED BY: _

DATE_

Well NameFI	<u>,OUNI</u>	DER-	<u>6 </u>	<u>6A</u>		•••••••					ļ	Basi	n	G	IPPS	SLAN	D			S	Shee	t N	0]	L c	<u>۴ _ </u>	3		
SAMPLE TYPE *	U.	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	U	S S	s	S	S	S	S	N	1
DEPTHS	6340	6354	6356	6475	546	6625	90	6750	305	6876	37	6949	7029	1001	7142	7186	7261	7288	7402	7413	126	7457	7600	7666	7707	7845	7907	
PALYNOMORPHS	6	6	63	64	6	66	66	6	68	30	60	9	7(2	7	7	7.	72	7	7	7	2	Ř	7	4	7	7	
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A. acutullus A. luteoides										\rightarrow												 		╂				┽━
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A. obscurus B. disconformis	I			-												\geq		\geq		ļ	\geq	4						┢
B. arcuatus								$ \geq$				\mid								<u> </u>	\vdash	\vdash						
B. elongatus																												+
B. mutabilis	1	 			<u> </u>		 													†			1					1-
B. otwayensis																												
B. elegansiformis						\geq	\square	ļ							\geq						ļ	ļ						_
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C. heskermensis						\leq]_
C. horrendus																		L			ļ	ļ	ļ	ļ				<u> </u>
C. meleosus	 	<u> </u>			<u> </u>	<u> </u>		<u> </u>		_	-	<u> </u>	<u> </u>					-						 				+
C. apiculatus		1>			A	\vdash		A			\geq		$ \rightarrow $					\vdash						<u> </u>				+
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C. vanraadshoovenii	1																			 -			<u> </u>	<u>†</u>				1
C. orthoteichus/major	1					$\overline{}$					$\overline{\ }$		$\overline{\ }$	·····>	$\overline{)}$				\leq									
C. annulatus	\leq		\leq																				ļ					
C. gigantis				<u> </u>	_		Ļ	L-							_				_		<u> </u>	-	<u> </u>		_	_	-	Ł
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					\geq																							

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*C=ccre; S=sidewall coro; T=cuttings.

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A = Common or Abundant C = Caved RW = Reworked species

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Well Name										·		Basi										· ···	v 	·	// /			
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D. granulatus		\square	\square	ļ		\vdash	ļ		$ \geq $					ļ					ļ	 		ļ		<u> </u>		 		_
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M. diversus	+	+	\rightarrow	\rightarrow		·				}				<u> </u>				>						†				
M. duratus															·													/
M. grandis		+	<u> </u>	<u> </u>	<u> </u>	- <u>-</u>		L																				
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C = Caved RW = Reworked species

ŧ ł Well Name FLOUNDER-6 & 6A

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Basin _____GIPPSLAND

Sheet No. $\frac{3}{2}$ of $\frac{8}{2}$

DEPTHS																												
ALYNOMORPHS	6740	6354	6356	6475	6546	6625	6690	6750	6805	6876	6937	6949	7029	7091	7142	7186	7261	7288	7402	7413	7426	7457	7600	7666	7707	7845	7907	1001
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M. subtilis M. ornamentalis	-k	\vdash	+	┼──	+->	–	\vdash	\rightarrow			\vdash	\vdash	\vdash	\vdash	\downarrow				\vdash	 			┨───					4
M. hypolaenoides		۹	+-	+	+			<u> </u>	<u>+</u>			┼──											<u> </u>			 		-
M. homeopunctatus			1	1	1	1					1											<u> </u>		†	<u>†</u>	<u> </u>	†	٦
M. parvus/mesonesus						$\overline{\mathbf{N}}$					\square												<u> </u>		1		†	1
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M. verrucosus				ļ	ļ	ļ		ļ	ļ				ļ									ļ		ļ	ļ			_
M. australis		+								ļ	ļ														 			_
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N. emarcidus/heterus		K				$\overline{\mathbf{x}}$	${\color{black}{\frown}}$					$\left \right\rangle$		$\overline{}$		$\overline{}$			$\overline{}$									-
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N. goniatus		ļ	ļ	ļ				 				ļ																
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P. demarcatus			+	+			<u> </u>																		<u> </u>			ł
P. magnus		<u>†</u>	1	1		<u> </u>																			1			f
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P. morganii/jubatus P. mawsonii		\leftarrow				\leftarrow	<u>k</u> -	_															<u> </u>	-				+
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P. formosus P. grandis	° °									\leq				\leq					$\leq \uparrow$	-+								+
P. grevillaensis	•							\rightarrow	+	- 7																	j	t
P incurvatus f																												ţ
P. intricatus	e e																											Î
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P. latrobensis	•	<						$ \rightarrow$							-+	¦-		\geq										ł
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P. otwayensis	0 e						+			\rightarrow				-+			$\neg \uparrow$	\rightarrow				-+						t
P. pachypolus •	•	\leq		A	\leq	$\overline{\mathbb{A}}$	\mathbb{N}			$\overline{\Delta}$	N.J.	$\overline{\mathbf{N}}$	\leq		R	\triangleleft	ji	N								+	1	ſ
P. palisadus •	0 0 0							· · · · · ·	'	<u> </u>	Ĭ	·	1	'				1										Ţ
r. parvus													-1															Ļ
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A = Common or Abundant C = Caved RW = Reworked species

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Well Name _____ FLOUNDER-6 & 6A

GIPPSLAND Basin ___

Sliset No. 4 of 8

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*C=core; S=sidewall core; T=cuttings.

A = Colomon or Abundant C = Caved RW = Reworked species

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PALYNOMORPHS	6340	6354	6356	6475	6546	6625	6690	6750	6805	6876	6937	6549	7029	1602	7142	17	7261	72	74	74	74	74	76	76	77	78	170	10
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C = Caved RW = Reworked species

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Sheet No. <u>6</u> of <u>8</u>

SAMPLE TYPE *	S	S	<u>s</u>	S	C S	S	<u> </u>	S	<u>v</u>	S	L.C.	0	C	U	ر	U U	U	S	S	S		ļ			L	ļ		1
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A = Common or Abundant C = Caved RW = Reworked species

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APPENDIX 5

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WELL COMPLETION REPORT

FLOUNDER-6

APPENDIX 5

FORAMINIFERAL SEQUENCE - FLOUNDER-6

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David Taylor

FORAMINIFERAL SEQUENCE

FLOUNDER # 6

by DAVID TAYLOR

Consultant

Esso Australia Ltd.

Paleontology Report 1978/3

January 31, 1978.

SUMMARY

By comparison with other Flounder wells, Flounder # 6 is anomalous in that no Oligocene sediment was present, but that the complete early Miocene sequence was developed. This haphazard preservation of sediment at various times in the six Flounder wells was a function of fluctuations in mechanisms effecting stability of the continental slope.

A continuous late Neogene planktonic foraminiferal sequence was developed in Flounder # 6, but was 1600 feet thinner than in Flounder # 5. This was probably due to variation in the height of the canyon at the depositional site.

At least one sidewall core (i.e. at 6356 feet) at the base of the marine carbonate sequence was incorrectly labelled regarding depth.

INTRODUCTION.

Forty six sidewall core samples were submitted for examination from FLOUNDER # 6. Nine samples between 7091 and 6410 were barren of fauna or devoid of planktonic foraminifera. The rich planktonic foraminiferal carbonate at 6356 is obviously out of sequence so that there has been an error in sampling or labelling of this sidewall core.

It is important to note that data in this report and accompanying data sheets is related to the depths (in feet) labelled on samples as submitted. No attempt at obvious adjustments has been made.

The following sheets of factual observed data accompany this report.

Distribution Chart Sheet l	 showing distribution of planktonic foraminifera and basis of biostratigraphic breakdown.
Distribution Chart Sheet 2	 giving distribution of benthonic foraminifera and environmental interpretation.
Two Sample Data Sheets	 listing all samples, giving quality of zonal entity and summarising residue grain character.

Biostratigraphic Data Sheet

BIOSTRATIGRAPHY and ENVIRONMENT

The sequence will be discussed in three sections which are each discrete in age and each are regarding samples from separate sidewall core guns. Comparison with the other Flounder sequences will be made at the end of this biostratigraphic discussion.

1) PALEOGENE - Sidewall core gun 3 and 4.

Sidewall cores between 7091 and 6410 were barren of foraminifera, apart from 6625 and 6536 which contained a wholly arenaceous fauna of *Bathysiphon angleseaensis* and *Haplophragmoides rotundata*. As planktonic were absent, no age determination can be given, but this arenaceous fauna is characteristic for the Flounder Formation.

2) EARLY NEOGENE - Sidewall core gun 2.

The fauna at 6356 is a diverse Zone H-l fauna which can be regarded as of high quality, with *Globigerina woodi connecta*, *Globoquadrina dehiscens* (both early and ultimate morphotypes), *Globorotalia bella* and *G. praescitula*. Thus the earliest marine carbonate sample in the sequence was younger than Oligocene, as it represented the basal part of the early Miocene. The bases of the other five Flounder marine carbonate sequences contained Oligocene planktonic foraminifera.

2.

At 6354 (2 feet above the Zone H-1 sample) the grains were entirely quartz sand and sandstone without any foraminifera, suggesting the Flounder Formation and not the Lakes Entrance Formation carbonate of 6356. As the lithological sequence is reversed either or both of those samples were mislabelled or mishot.

Zone H-1 faunas were present at 6340, 6335 and 6330, with the latter fauna being of very high quality with a similar fauna to 6356, but also containing *Globorotalia kugleri*.

Fauna at 6320 represents Zone G whilst the next sample at 6270, has a Zone E-2 fauna. The Zone F to E-2 sequence appears to be abbreviated when compared with other Flounder sequences.

The base of the mid Miocene is between 6270 and 6200 with *Praeorbulina* glomerosa curva being present in the former and *Orbulina universa* in the latter. Once again abbreviation of section is evident. The samples at 6200 and 6139 represent Zone D-2.

As no samples were submitted between 6139 and 2925 no Zone D-1 or C faunas were seen.

3) LATE NEOGENE - Sidewall core gun 1.

Faunas between 2925 and 2700 were biostratigraphically indeterminant. The presence of *Globorotalia acostaensis*, *G. miotumida miotumida* and a morphotype close to *G. miotumida conomiozea* indicates that 2625 represented the late Miocene in Zone B-2. G. miotumida conomiozea is abundant at 2400 which places the fauna within Zone B-1 and probably within the basal Pliocene. The Pliocene aspect of the fauna increases at and above 2332 with the appearance of G. puncticulata sphericomiozea.

The distinct *G. puncticulata puncticulata* and *G. crassaformis* at 2180 marks the lowest A-4 sample, but probably the base of A-4 is between 2180 and 2332 as *G. puncticulata puncticulata* evolved rapidly from *G. puncticulata sphericomiozea*. The sample at 2180 was definitely deposited in the basal Pliocene.

The initial appearance of *G. inflata* and *Globoquadrina humerosa* was at 1762 indicating the first definite Zone A-3 fauna though the base was probably below this level on evolutionary rates.

The base of Zone A-2 was picked on the earliest occurrence of G. dutertrei.

4) BIOSTRATIGRAPHIC COMPARISON WITH OTHER FLOUNDER SEQUENCES. Comparison was made by re-examination of samples and analysis of distribution charts compiled by myself for Flounder # 1, # 2, # 3, # 4 and # 5. These comparisons are tabulated on page 4 and discussed on page 5.

Page 4.

				FLOUNDER S	SEQUENCES	· · · · · · · · · · · · · · · · · · ·		AGE
EPOCH	ZONE	# 1	# 6	# 2	# 5	# 3	# 4	М.Ү.
MID	D-1 top	2983 (1)	NO DATA	3150 (3)		NO DATA	3258 (1)	
MID	base	5500 (3)					5100 (1)	
MIOCENE	D-2 ^{top} base	5555 (1) 5865 (1)	?	?	6714 (0) 6021 (0)	? 6100 (3)	?	
	EE-1 top	?	?	6391-6416 (1)		6200 (3)	<u> 5774 (1)</u> 6150 (1)	_ 16
	E-2 base	6021 (1)	6270 (1)	?	6117 (0)	6450 (3)	6200 (1)	<i>x</i> .
EARLY	F top base		?		6187 (0)		6230 (0)	
MIOCENE	G top base		? 6320 (0)					_ 16.5
	H-l ^{top} base		6330 (0) 6356 (0)					24
LATE	H-2 top base							_ ~ T
OLIGO-	I-1 top base				6268 (0)			
CENE	I-2 top base							2.0
EARLY OLIGO-	J-1 top base	6250 (3) 6289 (1)		6492 (4)		6478 (1) 6528 (1)	6345 (1)	 30
CENE	top base							37.5

1.

CORRELATION OF FLOUNDER SEQUENCES

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Late Neogene omitted as reliable data available only for # 5 & # 6

It is clear from the tabulation (page 4) that Flounder # 6 sequence was anomalous when compared with the other five Flounder sequences; in that:-

- Two disjoint time intervals were not represented by sediment in the first five Flounder wells; these intervals being separated by a veneer of sediment within the Oligocene. These two non-depositional periods coalesced in Flounder # 6 where there is no evidence of Oligocene sedimentation.
- 2) The 8 m.y. span of the early Miocene was represented by continuous sedimentation in Flounder # 6, whilst only the top of the early Miocene, less than 1 m.y., was represented by sediment in the other Flounder sequences.
- 3) No Zone D-1 (mid Miocene) sediment was present in Flounder # 5. The presence or absence of D-1 in Flounder # 6 cannot be confirmed because of lack of samples at the appropriate interval.

The fact, that at least one sidewall core had been given an incorrect depth (i.e. at 6356), does not explain these inconsistencies. Sample spacing is such that Oligocene fauna would have been seen if present.

Late Neogene planktonic foraminiferal sequences were only well developed in Flounder # 5 and # 6. Even so the sequences (from base of Zone B-2 to modern sea floor) was some 1600 feet thicker in Flounder # 5 than in Flounder # 6.

5) MARINE CARBONATE ENVIRONMENTS ON FLOUNDER STRUCTURE.

The basal sediment of the marine carbonate sequence was deposited in the proximity of the base of the slope in all Flounder wells; no matter what was the biostratigraphic level of this initial deposit. The base of the slope, today, is unstable; sediment may not be deposited or retained because of high velocity subsurface currents and continual slumping and scouring may remove any accumulation of sediment. Thus variation of age of initial sediment in the Flounder wells (page 4) was no doubt due to one or both of these mechanisms which would have fluctuated in intensity from site to site.

All the Flounder sequences exhibit features of submarine canyon filling at differing times (e.g. during Zone D in Flounder # 1, but from Zone C into Zone A in Flounder # 5). Also thicknesses of the fill differ, as

5.

is evident in Flounder # 6, where the late Neogene fill is some 2000 feet thinner than that in Flounder # 5. This difference was probably a function of the height of the canyon at the depositional site. Flounder # 5 may have been in a medial canyon position whilst Flounder # 6 was more towards the edge of a canyon.

6) CONCLUSION.

The preservation and thickness of particular time/rock units was dependent on the vagaries of scouring and filling mechanisms of anastomosing and superimposed submarine canyon systems which dissected the continental shelf and slope above the Flounder structure during the Neogene.

6.

BASIN	GIPPSLAND

BY DAVID TAYLOR

Form R 193 3/71

WELL NAME FLOUNDER-6

DATE <u>1/2/78</u>

ELEV. +83'

Foram Zonules

		Highest Data	Quality	2 Way Time	Lowest Data	Quality	2 Way Time
PLEIST.	A ₁ Alternate						
EI		1191	1	+	1256	1	{
밀	A2 Alternate	11.71			12.30		
		1536	2		1762	1	
ш	A3 Alternate	1631	1				
EN		1902	1		2180	1	
PLIOCENE	A ₄ Alternate						
ITI		2332	0	·	2400	0	
	^B 1 Alternate						
	B ₂ Alternate	2625	0		2625	0	<u> </u>
				+			
	C Alternate			<u> </u>			
		· · · · · · · · · · · · · · · · · · ·					<u> </u>
	D ₁ Alternate					1	11
		6139*	1		6200	1	
ម្ព	D ₂ Alternate		_				
CEN		6270	1	<u> </u>	6270	1	
MIOCENE	E Alternate			<u> </u>			
M	F Alternate			╂			
		6320	0	╂{	6320		
	G Alternate	0320		┨────┤	6320		
		6330	0		6340*	+	<u> </u>
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OLIGOCENE	Τ			╂╼╼╼╌╢		· [
	J ₂ Alternate			<u>├</u> }			

COMMENTS: SWC at 6356 feet contains good Hl faunas; but is below top of Flounder Formation.

Note: If highest or lowest data is a 3 or 4, then an alternate 0, 1, 2 highest or lowest data will be filled in if control is available.

If a sample cannot be interpreted to be one zonule, as apart from the other, <u>no</u> entry should be made.

1	SWC or Core	- Complete assemblage (very high confidence). - Almost complete assemblage (high confidence).
2	SWC or Core	- Close to zonule charge but able to interpret (low confidence)
3	Cuttings	- Complete assemblage (low confidence).
4		- Incomplete assemblage, next to uninterpretable or SWC with depth suspicion (very low confidence).

Date Revised ____

MICROPALEONTOLOGICAL MATERIAL

WELL NAME AND NO: FLOUNDER # 6

SHEET NO: 1 of 2

PREPARED BY: DAVID TAYLOR

DRAW:

•		
DEPTH	SAMPLE TYPE	SLIDES ADDITIONAL INFORMATION
7091	SWC 62	N.F.F. Dom c-m ang-subrd qtz
7029	SWC 63	N.F.F. 60-40 f ang qtz sdst & m subrd qtz, lim staining
6750	SWC 68	N.F.F. 50-50 f ang silty qtz sdst & m-f ang qtz
6625	SWC 70	Bathysiphon angleseaensis, Haplophragmoides sp?; 60-40 m-f ang qtz & f ang qtz silty sdst
6546	SWC 71	N.F.F. 60-40 f ang qtz & f ang qtz silty sdst.
6537	SWC 65	Haplophragmoides rotundata;m gy mdst & f ang qtz
6475	SWC 72	N.F.F. 50-50 wh f ang qtz silty sdst & f ang qtz
6410	SWC 103	N.F.F. m gy mdst & f ang qtz
6356	SWC 31	H-1(0) Dom plank r. glauc. r c ang qtz
6354	SWC 32	N.F.F. ?INCORRECT DEPTH f-m qtz sand & sdst.
6340	SWC 34	H-1(1) Poor Pres. 60-40 Planks and mic. r glauc moulds
6335	SWC 35	H-1(2) Pres. poor. Dom mic
6330	SWC 36	H-1(0) 70-30 planks & mic
6320	SWC 37	G(0) 60-40 mic & planks
6270	SWC 38	E-2(1) Poor Pres. Dom calc sh
6200	SWC 39	D-2(1) Poor Pres. Dom calc sh
6139	SWC 40	D-2(1) Poor Pres. Dom calc sh
2925	SWC 1	? Dom mic r. spic
2860	SWC 2	? Dom mic r. c ang qtz
2800	SWC 3	? Dom mic
2769	SWC 4	? Dom mic
2700	SWC 5	? Dom mic, r c ang qtz, r spic
2625	SWC 6	B-2(0) 60-40 planks & benth r mic
2550	SWC 7	B(2) Dom mic,r spic
2475	SWC 8	B(2) Dom mic

MICROPALEONTOLOGICAL MATERIAL

WELL NAME AND NO: FLOUNDER # 6 PREPARED BY: DAVID TAYLOR

.

1.2.78 DATE: XXXXXXXXXXX

SHEET NO: 2 of 2

DRAW:

DEPTH	SAMPLE TYPE	SLIDES ADDITIONAL INFORMATION
2400	SWC 9	B-1(0) 70-30 plank & mic
2332	SWC 10	B-1(0) 50-50 planks & mic
2256	SWC 11	Dom mic
2180	SWC 12	A-4(1) 50-50 planks & mic
2044	SWC 14	A-4(1) 60-40 mic & planks
1974	SWC 15	A-4(1) Dom mic
1902	SWC 16	A-4(1) 60-40 planks & benth
1832	SWC 17	A-4/3(2) Dom mic
1762	SWC 18	A-3(1) Dom mic
1692	SWC 19	A-3(2) Dom mic
1630	SWC 20	A-3(1) Dom mic r glauc
1536	SWC 21	A-3(2) Dom calcar
1475	SWC 22	A-3/2(1) Dom calcar
1400	SWC 23	A(1) Dom calcar + bry
1342	SWC 24	A(2) Dom calcar
1256	SWC 25	A-2(1) Dom calcar + bry
1190	SWC 26	A-2(1) Dom calcar + bry
1120	SWC 27	A(2) bry calcar
1040	SWC 28	A(2) c ang qtz + bry calcar + moll
970	SWC 29	A(2) bry calcar + moll
900	SWC 30	A(2) bry + moll calcar + c ang qtz + och

FLOUNDER # 6

3

. Shèét l of 2 sheets

(Sample gap between 6139 & 2925)

Depth in feet not to scale	900 970	ы1040 ы1120	119 125	134	년 1400 년 1475	H1536	н1630 н1692	ы 1762	н 1832 н 1902	1974 H	2044	2180	2332	12400	2550	2625	27	128	1 2860 1 2925	Samp GAP	191	3 62	29 E	a 6320 a 6330		н 6340 н 6354	
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l.Indeterminant globigerinoids 2. <i>Globigerina bulloides</i>	I I °	II	I I I	I	II		D D I		I]	. 1	I	I	I		a c °	I	ַם ס	D	ממ			I	I		I	и	I
3.Globorotalia inflata	•		IJ	E	II	[I	I																			
4.G. crassaformis			o '		I	[I		3	I I	I	•														F	•
5.Globoquadrina dutertrei			•]	Ε.																							
6.Orbulina universa			0		I	[۰	I	I	. (•	I	• •	I	۰	۰			I	Ι				F	1
7.Globoquadrina humerosa				•	c	•	0	, o																			
8.Globigerina decoraperta			:	I	1 1	E	II	Ι	I 1	I I	I	I	•	I	• •		•										
9.G. falconensis					I 1	Ľ	I			r	I																
10.Globorotalia acostaensis						۰		•	۰		I		I	I		I											
11.G. puncticulata puncticulata							۰		:	1 1	I																
12.G. scitula									٥			I		•	0 0	_											
13.G. miotumida conomiozea											I			I		cf	,										
14.G. miozea conoidea									:		: 1		I	I		Ι.											
15.Globigerina nepenthes 16.Globorotalia puncticulata spheri	icomi	ioze	a							ć			° I														
17.G. miotumida miotumida													۰	I		I											
18.Globigerinella aequilateralis														•											_	_	
19.Globigerina woodi woodi																I								IJ	I	Т	
20.Globorotalia mayeri																											
21.G. foshi peripheroacuta																						,	•	-			
22.Globigerinoides trilobus																								1			
23.G. bisphericus																							т	т.	ΙI		
24.Globorotalia bella																							ī		1 1		
25.G. miozea miozea																							-		I		
26.G. opima nana																							•	-	*		
27.Praeorbulina glomerosa curva																								•			
28.Globorotalia zealandica					,																			I	I	I	
29.G. praescitula 30.G. praescitula-miozea		s	УМВ	OLS																				•			
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31.Globoquadrina dehiscens (S.S.)		I	: =				-		men															0			
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35.G. apertura	N	.F.F	' =	· N	o f	ora	min	ife	era	fo	und														I		
36.Globorotalia kugleri																									•		
37.Globoquadrina altispira																									0	۰	
38.G. dehiscens (S.L.)																										I	
39.Globigerina angulisuturalis																											
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FLOUNDER # 6

Sheet 2 of 2 sheets

Depth in feet not to scale	900 970 1040 1120 1190 11342	년 1400 년 1475 년 1536	1630 1692 1762	1832 1902 1974	2044 2180	2256 2332	2400 2475	2550	2700	2769 2800	2860 2925	Samp	le	6] 39 6200	н6270 н6320	6330 6330	6335 6340	H0334 H6356	0410
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40.Discopulvulina berthelotti 41."Rosalina" australis	•																	N,	N
41. Kosailma australis 42. Nonion victoriense	o 0																	,	
43.Discorbinella biconcava	0																:	F	F
44.Euvigerina bassensis	I I	DII		I	ΙI	I	I	IJ	C										
45.Textularia pseudogramen	0																:	F	F
46.Cibicides lobatulus	I																		
47.C. opacus	I II		•	I						•	•								
48.C. refulgens	I II	•																	
49.Discoanomalina mitchelli 50.Bolivina pseudobeyrichi	I	ĩ	-	I	I														
51.Lenticulina spp.	•	T	I	•	•	•	•									•			
52.Lagena spp.	•	0					•												- 1
53.Nodosaria spp.	0	0	• •	•	•	•	•												
54.Euuvigerina pygmea		DII	•		ΙI	D	I.	1	Ľ										
55.Bolivina robusta		I	IDD	III	I														-
56.Cassidulina carinata		DI	• •	I	, I 。		•		۰	0 0	•							•	
57.Sphaeroidina bulloides		•	_			•		•	0							I			i
58.Gyroidinoides soldani		о о т о	0	0 0			~		•										
59.Fissurina spp.		° I	•				5		·										ļ
60.Astronion sp. Carter		•		•	•	•		0											
61.Bulimina marginata 62.Bolivinita compressa		۰																	
63.B. quadrilatera		•	I °	I		•													
64.Bolivina noblis		٥		II	ιI		,												
65.Pullenia spp.		•														•			
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68.C. subhaigdingerii				· · · ·	, , ,			<u>,</u>	0									Ū	Ì
69. Anomalina colligera						Ŭ													
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71.Virgulina rotundata 72.Notorotalia clathrata						0													
73.Globobulimina pacifica							•	• •	•										
74.Cassidulina subglossa									•.										
75.Bathysiphon sp. B								•	0									۰	
76.Discammina compressa									•										
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78.A. macroglabra	SYMBOLS										0				_				
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81.Lenticulina mamilligera 82.Gyroidinoides zelandica		foran	-										۰			0			
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85.Ammobaculites agglutinans													۰			۰			
86.Siphouvigerina proboscidea																	•		
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88.Ammodiscus mestayeri																	•	0	
89.Reophax scorpiurus																			
90.Vulvulina granulosa		r	· · · ·			<u></u>					÷	1	-					T	
	High energy	SHELF/	UPPER						LOW	ER		Samp	le	I	BASE	of		_	
ENVIRONMENTAL	mid to outer	SLOPE	SLOPE		CA	NYON			SLO	PE		GAI	>	,	SLOPE	2			
INTERPRETATION	CONTINENTAL SHELF		ENERGY	FLUCT	UATING				CAN	YON				-		•			
	& CANYON HEAD	CANYON													_				
Depth in feet to base	1256	1536	1762	1902 2	180	2332	2400	_		_			6	6200					
of		1						26	25	_					E-2		6356	*	
51	? A-2 ?	?	A-3	? ? A	-4	? ? ·		B	-2	?	?		1	D-2	11.		H-1	- 1	
70077		1													G	1			
ZONE												1		_		<u> </u>			

*incorrect depth

APPENDIX 6

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WELL COMPLETION REPORT

FLOUNDER-6

APPENDIX 6

WELL LOG ANALYSIS

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Well Log Analysis

Flounder No. 6

8100'- 8600'

Purpose

This report is a brief explanation of the interpretation method and the assumptions made. The detailed work sheets, crossplots and summary were delivered to Esso on the 16th Dec. 1977.

General

A simple comparison of Density/Neutron and Induction Logs identifies three distinct zones of interest.

8144 - 8233 gas zone 8240 - 8286 oil zone 8286 - 8535 water zone

8286' - 8535' Water Zone

This zone was used to check the tool response and to determine the formation characteristics without the complications introduced by hydrocarbons.

Rw.

Based upon the SP of -50mV (8530') an approximate Rw of 0.065 may be inferred but at 8336' the SP is -40mV and Rw of 0.085 is implied. These are likely to be minimum values.

Based upon porosity/resistivity crossplots.

Fig 1A p b versus Ril, Rw is 0.09 Fig 1B p b versus Ril, has a Gamma Ray cut-off of 75 API units and hence does not include the major shales. Clearly the shales plot above the water line and may lead to too low an Rw.

Fig 2A \triangle t versus Ril, Rw is 0.09 Fig 2B \triangle t versus Ril, with Gamma Ray 75 cut-off. Here the shale points are on the same side as hydrocarbon and lithology effects, so the maximum slope is likely to correspond to Rw.

Fig 3A Øn versus Ril, Rw is .09 if sand lithology correction is made.

Fig 3B Øn versus Ril without major shales. Clearly Rsh 9.

We believe that at 8530' Rw is about 0.065 but at the hydrocarbon level 0.09 seems more appropriate.

- 2 -

This corresponds to a water salinity of 30,000ppm Na Cl.

These crossplots also suggest that there are no gross errors in the readings of the Density/Neutron or Sonic Logs.

Shale characteristics.

 $\rho sh = 2.59 \equiv \rho dsh = 3.6\%$

\emptyset nsh = 24%

The few points which fall below the clean sand line are gas and these naturally occur at the high porosity area.

Although Fig 3A shows a good Rsh of 9, the clay end of the shale resistivity (lowest resistivity) is about 6 and using the usual Rcl = 0.5Rsh we chose Rcl = 3 ohm m.

To check the linearity of the Gamma Ray to clay content we plot Fig 6 \emptyset n - \emptyset d versus Gamma Ray some trend may be inferred. In Fig 7 /b versus \emptyset nc we scale this in clay content (Vclnd). In Fig 8 Vclnd versus Gamma Ray and a similar response to Fig 6 is found- which should not suprise. Since the lithology effect is strong on \emptyset n/ f b plots we plot:

Fig 9 f b versus Δt scaled in clay content (Vclsd).

Fig 10 Vclsd versus Gamma Ray.

Over the cleanest zones (low Gamma Ray) range there is good linearity and we believe that over this range the Gamma Ray may well reflect the clay content.

Saturation.

We then compute β nc and β dc (columns 15 & 16 in Table) corrected for clay content - good agreement is found. We then compute water saturation (column 18). Some hydrocarbons are indicated in the thin shaly zones at the top of this zone. We believe these would be tight and this may well be a transition zone.

oil zone 8240 - 8286

<u>Porosity</u>

Clay correction is made as before (Ødc & Ønc). No hydrocarbon correction is expected. Because these sands contain some Dolomite we plot:

Fig 11 Ødc versus Ønc

Excellent consistency of the points along the clean sand line clearly show that the log quality is good and the clay compensation valid. The Dolomitic points are well defined. A small hydrocarbon effect is evident but hydrocarbon correction would make neglegible change on the porosity.

Saturation

Water saturation is computed (column 19) using the shaly sand relationship:

 $\frac{1}{\sqrt{Rt}} = \begin{bmatrix} \frac{VcI}{\sqrt{L}} & \frac{1-VcI_2}{\sqrt{L}} \\ \sqrt{Rt} & \frac{1}{\sqrt{RcI}} & \frac{1}{\sqrt{L}} \end{bmatrix} \frac{1}{\sqrt{L}}$

gas zone

8144 - 8233

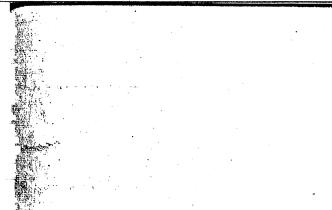
<u>Porosity</u>

We have marked influence of: -hydrocarbons (gas) -lithology (Dolomitic sands) -shale (clay)

Hence we are at the limit of resolution of the available tools.

We make the clay correction as before. To make a hydrocarbon correction we need an approximate porosity \emptyset' (column 16)

 $\phi' = \sqrt{\frac{\phi^2}{2} + \phi^2_n}$



- 4 -

The hydrocarbon corrections are:

 $\Delta f = -1.07 \phi Shr (1.11 - 1.15 f_h)$ $\Delta \phi_n = - \phi Shr(1 - 1.67 \beta_b + .17)$

From the shaly sand saturation equation already given we get an approximate relationship Sxo = 5 Sw

we get Sxo - column 18 and estimate a residual gas saturation in the invaded zone (Shr) of 0.25. Based upon the results of the F.I.T. at 8215' we estimate hydrocarbon density (ρ h) of 0.15.

Thus we find Ønc and Ødc for both clay and hydrocarbons of columns of 19 & 20.

These values are plotted in: Fig 12 Ønc versus Ødc

from which we infer lithology (% Dol.) and porosity (\emptyset) , (columns 6&5). We recognise that after all these asymptions and estimates, the accuracy of the final porosity is not certain but the distribution of the points on this plot give some assurance that no gross error is involved. Comparison of \emptyset with \emptyset' clearly shows that no reiteration is necessary.

As a check we corrected Sonic Porosity \emptyset s for the lithology, computed (column 10) and then for clay (column 11) and good general agreement with the more rigorous \emptyset is found. This suggests that there is little hydrocarbon influence on the Sonic Log, and adds confidence in our porosity \emptyset computed.

Saturation

Finally we compute the water saturation using the shaly sand equation already given (column 13)

<u>Finally</u>

Although we were not present when these logs were run, and the calibration checks were not available; we believe that these logs have been properly recorded and are reliable. We are confident of this interpretation and believe the results are reliable.

crocker Hugh December 1977

WELL LOG ANALYSIS REPORT

ERATOR E	SSO AUSTRA		WELL FLOUNDEI	<-0	DATE 16 DECEMBER 19					
			STATE		ELEV.					
DEPTH INT	ERVAL	POROSITY ESTIMATE	WATER SAT. ' ESTIMATE		REMARKS					
8525-33	(5)	19.6	95	Water	Productive					
8524-28	(4)	12.1	100	ł1	11					
8520-24	(4)	17.5	86+	п	П					
8476-83	(7)	14.4	100	п	11					
8336-41	(5)	17.4	65	11	11					
8330-36	(6)	15.1	77	н	II					
8319-21	(2)	8.4	73		" - Shaley-thin.					
8311-14	(3)	19.3	42	Shaley	& thin - tight					
8298-03	(5)	13.6	53	1	- low permeability - oil.					
8294-98	(4)	6.2	80	Shaley	- tight.					
8279-81	(2)	4.2	 66	Tight						
8272-76	(4)	18.0	29.7	0il pro	oductive					
8267-72	(5)	16.3	25.6	н	li					
8256-61	(5)	19.6	26.5	11	11					
3251-56	(5)	17.2	20.6	u	31					
3246-51	(5)24'	15.1	47.8	н	" Shaley-low permeability.					
3242-46	(4)30'	14.3	43.2	H	" Shaley-probably tight					
		RANGE:14.3-19.6	RANGE 20.6-47.8							

FORMATION:

LOGS:

OMMENTS:

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WELL LOG ANALYSIS REPORT

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Form R 167, 6/70 Page 2/2 ١

OPERATOR	ESSO AUS	TRALIA	WELL	FLOUNDER-6	DATE 16 DECEMBER L977
a Malina da ang ang kanang ang ang ang ang ang ang ang ang an	- <u> </u>		STATE		ELEV.
DEPTH INTE	RVAL	POROSITY	WATER SAT. ESTIMATE		REMARKS
8232-34	(2)	18.5	23.8	Gas prod	uctive
8229-32	(3)	17	22.7	. 11	II
8226-29	(3)	19.1	24.1	11	H
8223-26	(3)	17.2	20	П	11
8219-23	(4)	21.8	10.5	п	н
8212-19	(7)	17.7	17.2	11	н.
8197-99	(2)	20	17.7	11	н
8193-97	(4)	19.1	17.5		U .
8185-91	(6)	22	8	н	11
8171-75	(4)	17.7	16	. 11	,H
8168-71	(3)	5.4	18.8	п	" -Probably tight
8166-68	(2)	11.9	18.1	u	11
8159-64	(5)	20.1	25.8	Shaley -	probably tight
8147-49	(2)	19.5	26.7	Shaley &	thin.
		40' gas p	orpductive		
		10' proba	bly gas product	ive	•
	RANGE:	11.9-22	RANGE: 8-26.7		
	•				

TESTS:

FORMATION: LOGS:

APPENDIX 7

WELL COMPLETION REPORT

FLOUNDER-6

APPENDIX 7

VELOCITY SURVEY

VELOCITY SURVEY

Well FLOUNDER-6 GIPPSLAND Basin

INTRODUCTION

Gas Gun

Feed	nersonnel	I. Hawkshaw
L330	personner	· · · · · · · · · · · · · · · · · · ·

Contractor Velocity Data Pty.Ltd.

Supplied (1) Instruments

(2) Personnel

Seismic Observer
Marine ShooterR.Doyle
Dynamite

(3) Seismic Souce

(3) Licenced Shooting Boat

name
date loaded
date released
Agent
····
amount of powder lbs
size of cans lbs
number of cans
number of caps
number of boosters

Personnel and Instruments

SURVEY PROCEDURE

Weather: sea calm
rig movementslight
rig noiseslight-moderate
Hydrophones: number
depth below sea level
position2. just above gas gun
l.in moon pool
Shot Positioning and Charges: marker buoys (number
charge depth charge size ft number of shots charge size lbs number of shotscharge size lbs number of misfires amount of powder usedlbs
۲

····					•	
Jepth Rel. S.L.	Av. Vertical Travel Time (check shots)	Ti Check Shots (Sec.)	Ti Sonic Log (Sec.)	(Millisecs)	Depth Interval (ft.)	Error (Microsec per ft.)
- 3129	0.418	0.051	0.048	3	513	5.85
3642	0.469		~			
3642	0.469	0.053	0.052	1	565	1.77
4207	0.522					±•//
4207	0.522	0.067	0.064	3	690	4.35
4897	0.589					4.55
4897	0.589	0.047	0.045	2	470	4.26
5367	0.636	0.047	0.045	۷.	470	4.20
5367	0.636	0.038	0.036	2	372	E 20
5739	0.674	0.030	0.030	2	372	5.38
5739	0.674				E10	F 70
6257	0.725	0.051	0.048	3	518	5.79
6257	0.725	0.045			400	
6717	0.770	0.045	0.043	2	460	4.35
6717	0.770		0.047		F.C.0	
7279	0.817	0.047	0.047	0	562	0.
7279	0.817	0.022			- 240	1.02
7527	0.839	· U.UZZ	0.021	1	248	4.03
7527	0.839	0.012	0.010		110	10.10
7637	0.851	0.012	0.010	2	110	18.18
7637	0.851	0.025				
8079	0.886	0.035	0.035	0	442	0
8079	0.886.				100	10.00
8202	0.895	0.009	0.011	-2	123	-16.26
8202	0.895					
8467	0.915	0.020	0.020	0	265	0
				· ·		
				•		
	······································					

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	Shothole	information	n: - Eleva	ition, Di	istance	& Direction	from Well	c	ompar	1 v		Well			Elev	ation Total	Depth		LOCATION				
								ESSO	EXP	LORATIO		-				k Floor)		Coord	nates		tion, Towns UM :	hip, Range County Area or Field	
Record Shothole Number Number Time	of Shot	Dgm	Ds	tus	tr	Reading	T Polarity Grade	Dgs	н	TAN i	Cos i	Tgs	∆sd	Asd V	Tgd	T gd Average	Dgđ	∆Dgd	∆Tgđ	Vi Interval Velocity	V a Average Velocity	Elevation Shothole	
1		3212				·	NR	DUE	TO T	B PR	OBLEMS							7120	410	= 400	· .	De De Elevation Datum Plane	
2		3212					NR		Ì									3129	418	7486		Elevation Shot	
33		3212				410	DG						40	8	418)	418	3129		51	10059	7486		
32		3212				410	G							8	418)			513	51	10059	-		
31		3725				460	FG							8	468)	469	3642	565	F 7	10((0	7765		
30		3725				461	FG							8	469)			- 303	53	10660	-	S D gm Dga Dg	
_3		4290				514	G							8	522)	522	4207	690	67	10299	8059		
4		4290				514	G							8	522)	000			07	10299	-		
29		4980				581	G								589)	589	4897			10000	8314	7	
28		4980				580	G								588)			470	47	10000			
5		5450				628	FG								636)	636	5367	1		0700	8439	Dgm = Geophone depth measured from well elevation	
6		5450				628	FG								636)			372	38	9789		Dgs = " " " shot "	
27		822				666	G								674)	674	5739]			8515	Digd = • • • dotum •	
26		5822				666	FG			1			1		674)			1				Ds = Depth of shot	
7		6340				718	G			1					726)			518	51	10157		De = Shothole elevation to datum plane	
8		6340				717	G		1						725)	725	6257	1		10000	8630	H = Harlzontal distance from well to shotpoint	
9		6340			1	717	FG		1						725)			460	45	10222		S = Straight line travel path from shot to well geophor	
25		6800			1	762	FG			1					770)	770	6717	 			8723	tus = Uphole time at shotpoint	
24		6800				761	FG			1	-		1		769)			562	47	11957		T = Observed time from shotpoint to well geophone.	
10		7362				808				1			-		816)	817	7279	 		11077	8909	fr = • • to reference geophone.	
11		7362				809	F						+		817)	01/	1615	248	22	11273		Δe = Difference in els∨ation betweer well & shotpoint. Δsd = 4 • • • shot & datum plan.	
23		7610				831	FG		1		1		1		839)	839	7527	 			8971	∆sd = Ds-D •	
22		7610			1	830	FG						1		838)	000	1001				0.271	$Dgs = Dgm - Ds \pm \Delta e$; $tan i = \frac{H}{m}$	
12		7720				842	FG		 				1		850)			110	12	9167		Dgs Tgs = COS i Tæ Vert, travel time from shot ellev to geophoi	
13		7720			1	843	FG						1		851)	851	7637				8974	$T_{gd} = T_{gs} + \frac{\Delta_{sd}}{N} = m$ datum plane.	
14		7720			1.	843	G								851)						03/4	V Dgd = Dgm – ∆md	
15		8162			+	877	PF						1		885)			442	35	12629		$V_i = \text{Interval velocity} = \frac{\Delta D g d}{\Delta T g d}$	
16		8162			1	879	FG								887)	886	8079			·	9110		
17		8162			1	878	PF								886)			124	9	13778	2412	T gđ	
21		8285			1	887										895	8203				9165	Surveyed by:	
20		8285			1	887	G				1				895)			264	20	13200		Dote:	
18		8550			+	907	G								915)	915	8467				9254	Weathering Data :	
19		8550			1	907	G								915)	510					9.654	1	
					1	507																1 · ·	
					1						1											Casing Record	
					†	1 .																	

** ----

DWG 1107/08/3

Well-phone	vositioning:	

Time:

none	positioning:	
	T-bar	• • • • • • • • • • • • • • • • • • • •
	number of depths	14
	first shot	1721 hrs
	last shot	2032 hrs
	rig time	3 hrs 11 minutes

amount of poweder dumped.....lbs.

RESULTS

Quality	of	records(good14
, ,		(fair15
		(poor
		(not used.?

Comparison of Interval Times with sonic log

/ /average.....5.40....microsec/foot

CONCLUSION

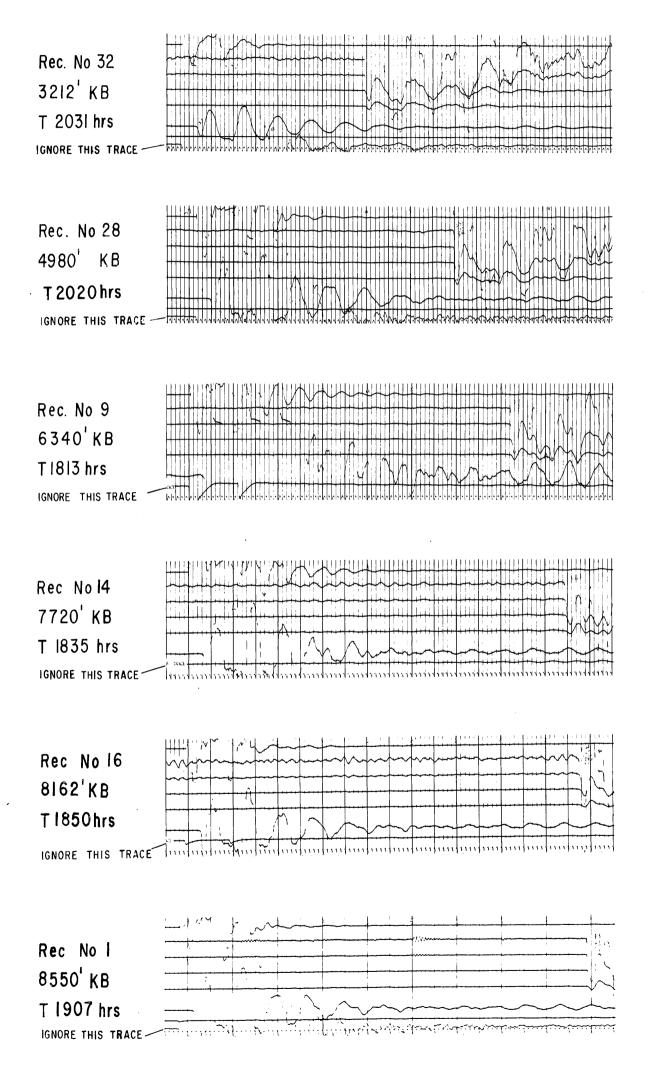
Reliability of T-D curve...Good

COMMENTS

Only problem during survey involved time break phones. Instruments had apparently been modified for platform shooting. At first no T/B on tr 1 and only a small kick on tr 8. First 2 shots no good, so reshot on way out. Problem rectified and we continued. Noticed T/B on tr 8 kicking before Tr 1 - had been wired through Water Break Amplifier with very high gain and was being triggered by spark in gun. Records 18-33 are OK. Had to change out oxygen before reshooting 3212' level.

FLOUNDER-6

WELL VELOCITY RECORD



APPENDIX 8

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WELL COMPLETION REPORT

FLOUNDER-6

APPENDIX 8

FORMATION INTERVAL TESTS RECORD

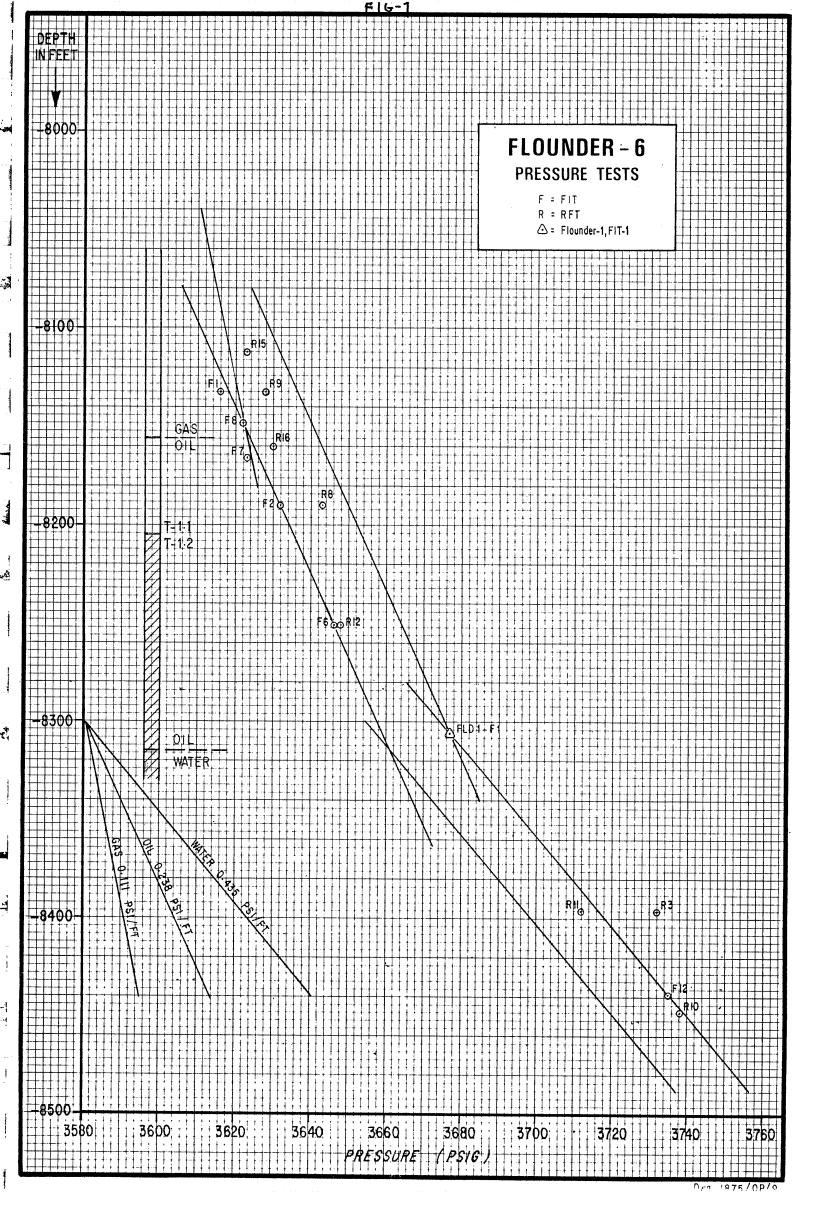
FIT & RFT PRESSURE DATA INTERPRETATION

FLOUNDER-6

Figure 1 summarizes the results of all twelve FITs and sixteen RFTs that were attempted on the Flounder-6 exploration well. Of the total 28 pressure tests, only 6 FITs and 8 RFTs could be regarded as successful in providing the required data for reservoir pressure and permeability determination. Analysis of the pressure data presented in Figure 1 leads us to the following conclusions:

- The lower net/gross water-bearing T-1.2 sands are not in complete hydraulic communication with the T-1.1 sand unit. It appears that the sand tested by FIT-6 is in communication while the lower T-1.2 intervals as tested by FIT-12 and RFT 3, 10 and 11 are not.
- 2. An oil-water contact is interpreted at -8314 ft. ss based upon pressure gradients. This is consistent with the contact interpreted in the T-1.1 sand unit at Flounder-1. Log analysis indicates the T-1.2 to have a high water saturation above the -8314 oil-water contact. This could be explained by capillary pressure forces in the apparently low permeability sands of the T-1.2.
- 3. About 18 psi drawdown has occurred since the Flounder-1 well was drilled. This drawdown can be attributed to hydraulic communication between the T-1.1 sand unit and the aquifer system below existing producing oil and gas fields.

There are some difficulties and uncertainties associated in interpreting pressure data from the RFT tool to obtain permeabilities especially when used in moderate to high permeability formations.



FORMATION INTERVAL TESTS - FLOUNDER 6

Designation	Depth	Details
FIT-1	8215	Recovered 151.3 ft ³ gas, 2450cc. condensate, light brown, 63° API at 61°F; 800cc mud filtrate (9200 ppm Cl -Equiv.) <u>Pressures:</u> Initial hydrostatic 4160 psig. On setting the tool a super charge fluctuating up to 7200 psig but steadying to 4724 psig was recorded. Tool open for 24 minutes, full after 6 min. 32 sec. Sampling pressure ranged from 3141-3168 psig. Pressure increased slowly to 3628 psig, 11 min 29 sec. after tool open, then fluctuated cyclically from a minimum of 3612 psig to a maximum of 3628 psig. Segregator open for 6 minutes, full after 19 sec. Final hydrostatic 4099 psig. Formation pressure = 3616 psig, K = 315 md.
FIT-2	8273	Recovered 65.8 ft ³ gas, 6400 cc oil, light brown, 50° API @ 72°F, 7750 cc mud filtrate, 6800 ppm Cl - Equiv., <u>Pressures</u> :Initial hydrostatic 4163 psig. On setting the tool an initial maximum supercharge of 4657 psig was recorded, then fluctuating between 4596 to 4635 psig. Tool open for 21 minutes 30 sec, full after 14 mins. Sampling pressure dropped initially to 17 psig and built up to 1600 psig in 3 minutes 30 sec. Pressure then stabilized around 1598-1600 psig probably due to a flowline blockage, slowly increasing until after a further 5 min. 9 sec. pressure rose rapidly to 3613 psig. Final shut-in pressure: 3625 psig. Segregator open for 8 min 14 sec. and full after 1 min. 22 sec. Final hydrostatic 4170 psig, formation pressure 3632 psig, K = 34 md
FIT-3	8301	Tool failed to open. <u>Pressure</u> : Initial build up pressure 3633 psig; fluctuating within 5 psig. No accurate hydrostatic pressure due to gauge fluctuating up to 8638 psig at high pressures.
FIT-4	8301	Dryrum O psig surface pressure, (Recovered 100cc mud, 6500 ppm Cl - equiv, 30.8 ppm No3) Pressure: Initial hydrostatic pressure not valid: pressure fluctuating around 6000 psig. On setting the tool supercharge: 4904-4809 psig. Tool open for 15 min 54 sec and did not fill. Sampling pressure dropped to 0 psig and only increased fractionally. Main chamber and segregator were sealed and a pressure built up to 3711 psig rapidly, with a very slow increase to a final maximum of 3723 psig fluctuating slightly. Final hydrostatic pressure not valid.
FIT5	8312.5	Dry run. 0 psig surface pressure, (recovered 3500cc mud filtrate 22 ppm NO3). <u>Pressures</u> : Initial hydrostatic pressure 4153 psig, fluctuating slightly. On setting tool supercharge: up to 4882 psig, settling to around 4713 psig. Tool was open for 16 min 53 sec. and did not fill. Sampling pressure dropped to 0 psig and increased very slowly to 28.8 psig. Main chamber and segregator were sealed and pressure increased exponentially to 3669 psig but began fluctuating up to 5527 psig due to gauge malfunction. A final hydrostatic pressure: 4200 psig fluctuating.
FIT-6	8334	Dry run: 0 psi surface pressure. Recovered 1500 cc mud filtrate, 4000 ppm Cl -, 8ppm NO3, Pressures: Initial hydrostatic 4175 psig. On setting tool: an initial maximum supercharge of 4616 psig recorded initially, decreasing to 4601 psig. Tool open for 10 min. 9 sec. and did not fill. Sampling pressure dropped to 0 psig initially and increased very slowly to 76 psig. Main chamber segregator were sealed and pressure increased exponentially to 3645 psig. final hydrostatic pressure: 4357 psig. Formation pressure: 3646 psig K = 65 md.

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FIT-7	8249	Recovered. 38.36 ft ³ gas, 2870cc oil, medium brown, 48°API @ 72°F, 14,500cc mud filtrate, 6800 ppm Cl ⁻ equiv., 8 ppm NO3, <u>Pressures</u> :(Initial hydrostatic 4094 psig). On setting tool a maximum supercharge of 4636 psig was recorded, decreasing slowly to 4605 psig. The tool was open for 18 min 35 sec and filled in 8 min 6 sec. Sampling pressure dropped to 22 psig initially then built up slowly to 1998 psig when chamber full. Final shut-in pressure 3621 psig. Segregator open for 5 min 2 sec and full after 54 sec. with a final shut-in pressure: 3622 psig. Final hydrostatic pressure: 4108 psig Formation pressure 3623 psig, K = 170 md.
FIT-8	8231	Recovered 130.5 ft ³ gas, 2870 cc condensate, light green, 63 ^o API @ 64 ^o F, 2,200 cc mud filtrate, 7400 ppm Cl - equiv. 16 ppm NO3. <u>Pressures</u> : Initial hydrostatic: 4200 psig. On setting tool: initial supercharge 4607 psig decreasing to 4534 psig. Tool was open for 4 min 28 sec and was full after 6 min 59 sec. Sampling pressure: 241-3005 psig. Final build up pressure: 3617 psig. Segregator open for 4 min 28 sec and was full after 16 sec. Final shut in pressure: 3620 psig. Final hydrostatic pressure: 4191 psig. Formation pressure: 3622 psig, K = 7 md.
FIT-9	8243	Misrun. Lost seal. <u>Pressures</u> : Initial hydrostatic pressure: 4188 psig. On setting tool supercharge: 4722-4703 psig. Lost seal 1 min 32 sec after set tool. Final hydrostatic pressure: 4178 psig.
FIT10	8531	Misrun. Lost seal. <u>Pressures:</u> ,Initial hydrostatic 4315 psig On setting tool supercharge: 4378-4428 psig. Lost seal when opened tool 24 sec after set tool. Final hydrostatic: 4323 psig.
FIT-11	8334	Misrun. Lost seal. Pressures: Did not run Hewlett Packard Gauge.
FIT-12	8522	Recovered 21,000 cc water; 14,000 ppm Cl- equiv., 4ppm NO3 ⁻ . <u>Pressures</u> : Initial hydrostatic 4291 psig. On setting tool supercharge: 4470-4457 psig. Tool opened for 26 min 33 sec and filled in 19 min 28 sec. Sampling pressure: 0-493 psig. Segregator open for 4 min and was full in 2 min. Final shut-in pressure 373 psig. Final hydrostatic pressure: 4294 psig fluctuating slightly. Formation pressure 3735 psig K = 108 md.
RFT-1	8531	Pressures: Initial hydrostatic 4296 psig. Tool open for 24 min 44 sec. Hewlett Packard gauge erratic. Formation pressure: approx, 3767 psig. Schlumberger pressure: 3749 psig. Final hydrostatic pressure: 4252 psig.
RFT-2	8479	Pressures: Initial hydrostatic 4257.5 psig. Tool open for 13 min 10 sec. Hewlett Packard gauge erratic. Formation pressure: approximately 3764 psig. Schlumberger pressure: 3776 psig. Final hydrostatic: 4239 psig.
RFT-3	8479.5	Pressure: Initial hydrostatic: 4329 psig, fluctuating. Tool open for 3 min 56 sec. Pressure dropped to 24 psig then rose to 3731 psig maximum. Final hydrostatic 4266 psig fluctuating. Formation pressure: 3732 psig K = 1.5 md.
RFT-4	8301	Run aborted - very tight zone. <u>Pressures</u> : Initial hydrostatic 4204-4314 psig, fluctuating. Tool open for 3 min 28 sec. Pressure dropped to -6 psig, slowly increased to 61 psig. Final hydrostatic 4186 psig.
RFT-5	8300	Run aborted - very tight zone Pressures: Initial hydrostatic 4181 psig. Tool open for 2 min 26 sec. Pressure dropped to -98 psig. Final hydrostatic: 4178-4210 psig.

RFT-6	8312.5'	Run aborted - very tight zone <u>Pressures</u> : Initial hydrostatic 4181 psig. Tool opened for 2 min 2 sec. Pressure dropped to -93 psig. Final hydrostatic: 4210 psig.
RFT-7	8283	Run aborted - very tight zone. <u>Pressures</u> : Initial hydrostatic 4249 psig. Tool open for 2 min 11 sec. Pressure dropped to -94 psig, increased slowly to 170 psig. Final hydrostatic: 4157 psig.
RFT-8	8273	Pressure: Initial hydrostatic 4150 psig. Tool open for 3 min 2 sec. Pressure stabilized @ 3642 psig. Sample chamber was then opened for 12 min 4 sec. Sampling pressure 30-250 psig. Final hydrostatic 4150 psig. Formation Pressure: 3643 psig K = 1.2 md
RFT-9	8215	Recovered: 100 ft ³ 1600 cc condensate, medium brown, 61°- API at 62°- F, 1900 cc mud filtrate, 26 ppm NO ₃ . Recovery is combination of gas - condensate from 8215' and oil from 8273'. <u>Pressures</u> : Initial hydrostatic 4132 psig. Tool open for 2 min 14 sec. filled in 15 sec. Pre test chamber pressure 3622 psig. Sample chamber open for 12 min 56 sec. and was filled in 7 min 46 sec. Sampling pressure 127-3610 psig. Final shut in pressure: 3663 psig. Final hydrostatic 4115 psig. Formation pressure: 3628 psig, K = 1.3 md
RFT-10	8531	Pressures: Initial hydrostatic 4232 psig, fluctuating slightly. Tool open for 10 min 25 sec, filled in 25 sec. Initial supercharge up to 4300 psig, then pressure dropped to 3649 before building up rapidly to 3738 psig. Final hydrostatic: 4230 psig. Formation Pressure: 3738, K = 29 md.
RFT-11	8479	Pressures: Initial hydrostatic 4202 psig, fluctuating slightly. Tool open for 4 min 27 sec, filled in 24 secs. Pressure range 3220-3712 psig. Final hydrostatic 4193 psig. Formation pressure 3712 psig, K = 9 md
RFT-12	8334	Pressures: Initial hydrostatic pressure 4095 psig, fluctuating Tool open for 27 min 32 sec. full after 31 sec. Pressure range: 2617-3647 psig. Final hydrostatic pressure not valid. (4149 psig Schlumberger). Formation Pressure: 3648 psig, K = 7md.
RFT-13	8148	Pressures: Initial hydrostatic pressure 4147 psig, fluctuating slightly. Set tool but no seal.
RFT-14	8148.5	Run aborted. Very tight zone <u>Pressure</u> : Initial hydrostatic Pressure: 4155 psig. Tool open for 11 min 36 sec and did not fill. Initial supercharge to 4234 psig, pressure then dropped to 6 psig and built up slowly to 95.3 psig. Final hydrostatic pressure: 4153 psig.
RFT-15	8195.5	Pressures: Initial hydrostatic pressure 4179 psig. Tool open for 4 min 6 sec., full in 27 sec. Initial supercharge to 4251 psig, pressure then dropped to 3302 psig, and built up rapidly to 3622 psig. Final hydrostatic pressure 4177 psig. Formation Pressure: 3623 psig, K = 1.5 md
RFT-16	8243	Pressures: Initial hydrostatic pressure 4198 psig. Tool open for 2 min 40 sec, full in 38 sec. Initial supercharge to 4260 psig, pressure then dropped to 1546 psig and built up rapidly to 3628 psig. Final hydrostatic pressure: 4199 psig.Formation pressure: 3630 psig K = 5 md.

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			F.I.T.	RECORD			BENEDEK	•
					P.	GEOLOGIST	DO ROZARIO, KJELLGREN	
W	FLOUNDER #6		T. No.	1 0	8215 f†		ang a gamantanan mananan ay an amin'ny galanana kaonina amin'ny fisiana	
	ALID TEST : Yes					(unit bept	11) DATE 3.1.12	
	IRING METHOD	•	СНО	KE STZES	0.30"			
	IMES : Tool Set						Full Aftor	00.25.40
-				at				
						Full A-	fter <u>22:53:30</u>	•
				Tool Off 2			22:53:30	and a start biother off
M	UD DATA :			1001 011 22			·	
		672 A	66 ⁰ F	Fouriv C	ı-	0500 ppm	(Resistivity)	
							(Titration)	
				CIRCULATIO		<u> </u>	(TILPALION)	
	JAHLL I	ANEN AT EI	VD OF LAST	UIKUULAIIU	IN	· .		
R	ECOVERY - MAIN C	HAMBE R						
		2200	o.s.i. SUR	FACE PRESSU	RE	800	CC WAXE	FILTRAT
	1	51.3 (cft. GAS				cc MUD	(TR. MU
			cc. XXX Cor	IDENSATE			cc SAND	
Di	***************************************						· · · · · · · · · · · · · · · · · · ·	
<u>P1</u>	ROPERTIES - MAIN	CHAMBER						
	GAS	Cl	C ₂	C3	C4	C5	H ₂ S	•
	(ppm)	294912	58726	34560	5606			
		285081	53043	32256	7475	, 		
		147456	15363	28800	4672			
		294912	54937	23040	7400			
	CONDENSATE 01L	= <u>9830</u> 63 ⁰ AP	189440	119808 61 F; Pour	14950 Point	0	F	
		Amber	Colour;			escent Colo	•	
		9820	G.O.R.					
		**************************************			_			_
	WATER		681 0		uiv. Cl		ppm (Resist	ivity)
		c1 ⁻	ppm	N03 _		ppm (T	itration)	
PR	RESSURES - MAIN (CHAMBER			•		•	
		Schlumb	00000		jnew Amount	- d	Haulatte Deal	ماد المري
		SCITTUIND	erger	Amerada	Ameri	40d	Hewlett Pack	aru*
Sa	mpling (psi)	302	25				3141-3168	
Fi ial Hv	nal Shut-in (psi drostatic (psi)	i) $\frac{350}{425}$					3613	
i Hy	drostatic (psi)	405					4160 4099	
Sa	mpling Time (Mir	n)			t		6 ' 32"	
Sh	ut-in Time (Min)				•		17' 23"	
•		(*Corre	cted for A	tmospheric	pressure)		
TE	MPERATURES : (ma	ix recorde	d)	201 ^C F,		°F		
	X. DEPTH TOOL RE			8350 Ft.	Geraganisan mineri of sanaya ang			
	ON BOTTOM: ME XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX			22:00 Hrs.	14/12/7	7		• .
TI	· · · · · · · · · · · · · · · · · · ·							
TI	ME SINCE CIRCULA	TION:		26:10 Hrs.				•
TI	ME SINCE CIRCULA	TION: $K = 31$		26:10 Hrs.		amber 22 L:	itree	

Successful gas/condensate test

		<u>F.I.T.</u>	SEGRE	GATOR	REPORT		OGIST	BENEDEK DO ROZA KJELLGR	
FLOUND WELL : SIDETR	ER #6 ACK	F.I.T. N	0.	1. @	8215				
SEGREGATOR TYP									
<u>RECOVERY - SEC</u>	REGATOR								
		p.s.i. SU	RFACE	PRESS	URE			cc	WATER
		cft. GAS						cc	MUD
·		cc. OIL				Marine - Marine - Anna - Anna - Anna - Anna - Anna - Anna - Anna - Anna - Anna - Anna - Anna - Anna - Anna - An		cc	SAND
PROPERTIES - S	EGREGAT	DR							
GAS	C ₁	C ₂	C ₃	• .	C4	C5	H ₂ S		•

OIL		PAPI @	°F;	Pour	Point _		^o F		и . •
•		Colour			Flu	orescent (Colour		:
•		G.O.R.							·
WATER	Rrf	0		°F	, Equiv.	C1 ⁻		_ppm (Res	sistivity)
	c1 ⁻	ppr	n	NO	3	J	opm (Tit	tration)	
	COFCATO	,			•				
PRESSURES - SE	GREGATUR	<u> </u>			Agı	new			
		Schlumberg	ger	Ame	rada	Amerac	la	Hev	/lett Packard*
Sampling (psi)		3560							27-3540
Final Shut-in	(psi)	3650						30	512
Hydrosiatic (p	si)	4050						4()96
Sampling Time	(Min)	-		•				0	' 19"
Shut-in Time (Min)					•		05	5.' 42"
•		(*Correcte	ed for	Atmos	spheric [pressure)			
REMARKS :	•					. ,			

Segregator stored for later analysis

F.I.T. RECORD

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•			•	F.I.T.	KELUKU	۰.			
				ing, in the second second second second second second second second second second second second second second s			GEOLOGIST R	DR/GMK/SB	
	WFI1:	FLOUNDER SIDETRACK	#6 F.T.	T. No.	2 @	8273 ft.		DATE 15.12.77	
		ST : Yes					(
				CHC	KE SIZES _	0,30 11			
•								Full After <u>14 mi</u>	ins
					at				
	1	•	0				Full Aft	er <u>18:44:20</u>	
					Tool Off				
	MUD DATA	-	, ,	0		~1 -	0000	D	
							<u>9200</u> ppm (
			00 p	•			100 ppm (litration)	
•		SAMPLE T	AKEN AT EN	D OF LAST	CIRCULATI	ON	· ·		
	RECOVERY	- MAIN C	HAMBER						
			1600 n	s i SUR	FACE PRESS	URF	175	O CC KAXER FIL	LTRAT
				ft. GAS			600		
				c. OIL				cc SAND	
		······································			·			00 07.110	
	PROPERTI	<u>ES - MAIN</u>	CHAMBER	·	· · ·	. ·			
		GAS	C ₁	C ₂	C ₃	C4	С ₅	H ₂ S	
			152371	60620		14950			
·			154828	56832	32256	7475_			
			154800	56800	46080	11212			
		BLENDER	9830	49254	94464	59801	11773	ang pang ang ang ang ang ang ang ang ang ang	
		OIL	₅₀ 0 _{AP}	0 1	72 ⁰ F; Po	ur Point	٥ _٢		
							escent Colou	r	
			1635	G.O.R		· · ·			
•						- · •1 ⁻		o nom (Decistivit	L
		WATER		886 @		•		o_ppm (Resistivit	-91
			C1 ⁻	ppm	NO3		ppm (Ti	tration	
	PRESSURE	S - MAIN	CHAMBER					•	• •
	•		Schlumb	erger	Amerada	Agnew Amera	ada	Hewlett Packard*	*
	1. . .	<i>i</i>		•				17 2612	
	Sampling		1400	anna ann an ta atharna ab				17-3613	
	Final Shu 1 Hydrosta	ut-in (pş atic (psi)	i) $\frac{2150}{2250}$					3625 4165	· .
nal	•	tic (psi)			•				
.		Time (Mi				•	• .	14 mins	•
	Shut-in	Time (Min					· ·	7 mins 30 secs	3.
•			(*Corre	cted for	Atmospheri	c pressure			
	TEMPERATI	URES : (m	ax recorde	d)	216 ⁰ F	, <u> </u>	217 ⁰ F	· ·	
	MAX. DEP	TH TOOL R	EACHED:		8370 Ft	•			
		CE CIRCUL	ATION :		<u>6:51 H</u> r			•	
	CHOD OTD	CULATING			11:30 Hr	s. (15/12/	77)	•	
•	REMARKS	:	K = 34 M)					

Successful Oil test

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F.I.T. SEGREGATOR REPORT

	FLOUND	FR #6					GEO	LOGIST _:	RDR/GMK/SB
WELL	: SIDETF	RACK	F.I.T. N	02			ft.(G.R	. Depth)	DATE 15.12.77
									کر میں اور اور اور اور اور اور اور اور اور اور
RECOV	ERÝ – SEC	GREGATOR	<u>.</u>						
			p.s.i. SU	RFACE I	PRESSUR	E			cc WATER
			cft. GAS						cc MUD
			cc. OIL						cc SAND
PROPE	RTIES - S	SEGREGAT	OR						
	GAS	C1	C ₂	Ca	C	4	C5	H ₂ S	
	•		6	5	•	- t	. •	6	
	•								
						•			· · ·
						1			
	OIL	1997 - A.	• API @	° _F ;	Pour P	oint		°F	
			Colour						:
			G.O.R.						• • • • • •
	WATER	Rrf	0		° _F .	Fouiv.	c1 ⁻		_ppm (Resistivity)
	III TEIX	c1 ⁻							
		···	J'P'					_pp (11.	
PRESS	URES – SE	GREGATO	<u>R</u> ·			٩.			
		•	Schlumber	ger	Amera	da	new Ameri	ada	Hewlett Packard*
Samp1	ing (psi)								393-3619
Final	Shut-in	(psi)							3630.84
Hydro	static (p	osi)					1		4170
Samp1	ing Time	(Min)			•				01:22
Shut-	in Time (Min)					·		06:52
	•		(*Correcte	ed for	Atmosp	heric	pressure)	•

REMARKS :

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Segregator stored for later analysis

F.I.T. RECORD

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		LOUNDER			_			-	RDR/GMK/	
				.I.T. No.	3 ()	8301	ft. (G.R.	Depth) DATE <u> </u>	15.12.77
		ST: XX	•	0	JOVE STRES		•			
				CI					Full Af	FAILED T ter <u>OPE</u> N
				Shot: Yess/No				98-1999 - 49-1999 - 49- Award Aren - Arp		
		•	-	22:47:17			-	ull Afr	ter FAIL	ED TO OPEN
				22:49:44					•	
MUI) data			•						
		-	0.681 (68 (^D F, Equiv	. c1-	9200	ppm	(Resistiv	ity)
				ppm						
		SAMPLE	TAKEN AT	END OF LAS	ST CIRCULA	TION				
REC	COVERY	- MAIN	CHAMBER							
Q anipund 1.1111		n an an an an an an an an an an an an an		p.s.i. Sl		SCHDE	•		cc. 1	ATER
				cft. GAS		SONE			CC 1	
				cc. OIL		·	Basic (Ind. & Carl Spin State Algorith. Basic Spin State		cc :	
	חרסדו					• •	Bandagir array karakatik jan katalar (Baarag			·
PRL	PERII	ES - MAI			•					
		GAS	C_1	C ₂	c3	C4	C	5	H ₂ S	
			Barrows (1999) - 12, F1 (1999) - 10, F1	• •					•	
					Designed the sector and sector and					
			••					- 	*	
			4	0401.0	0,- , ,			 0 _F		
		OIL		OAPI @ Colour;		Pour Poin	luorescent			•
				0.01, G.O.			·			
						F	6] ⁻)	
		WATER	Rrf	0.841 @		•				esistivity)
	•	•	UI	ht	om NO	3	·	· ·	tration)	
PRE	SSURE	S - MAIN	CHAMBER	<u>.</u>		Agnew		·		
			Sch1	umberger	Amerada		Amerada		Hewleti	Packard*
Buj	ld-up	(psi)	3	650			BUILD U	р		
Fin	al Shi	ut-in (ps	si)		•				-	
L Hyd Hyd	rosta	tic (psi) tic (psi)		500 250					4434?	• •
Sam	pling	Time (M	in)	97-87-944, April 197-198 (Strategy and Strategy	· . •	. 1		· .	No final gauge fl	.HP uctuating
Shu	t-in	Time (Min	and show the sharehold	1					J J -	j
			-	rrected for		-		r i		
TEM	PERATI	JRES : (r	nax reco	rded)	215	°F,	. 217	F		
		TH TOOL P			8420					•
TIM	E SING	CE CIRCUI	ATION :	an diterior and a	9:30	lrs.			•	

<u>REMARKS</u> : MISRUN TOOL FAILED TO OPEN.

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F.I.T. RECORD
FLOUNDER #6 GEOLOGIST GMK/RDR/SB
WELL: SIDETRACK F.I.T. No. <u>4</u> 0 <u>8301</u> ft. (G.R. Depth) DATE <u>16.12.77</u>
VALID TEST : Yes/XX
FIRING METHOD Normal CHOKE SIZES 0.30 " NOT FULL
TIMES : Tool Set 1:15:15 Tool Open 1:16:53 Min. Open 15:54 Full After (SEAL MAI
Shaped Charge Shot: XXXXX No at SEGREGATO
<u>\$233×2532×253×253×253×253×253×253×253×253</u>
Tool Closed 1:54:11 Tool Off
MUD DATA :
Rmf 0.681 @ 68 ⁰ F, Equiv. Cl ⁻ 9200.0 ppm (Resistivity)
Cl 2000 ppm NO ⁻ 3 100 ppm (Titration)
SAMPLE TAKEN AT END OF LAST CIRCULATION
<u>RECOVERY - MAIN CHAMBER</u>
p.s.i. SURFACE PRESSUREcc WATER
cft. GAS100_cc MUD
cc. OILcc SAND
PROPERTIES - MAIN CHAMBER
C_2 C_3 C_4 C_5 H_2S
$GAS C_1 C_2 C_3 C_4 C_5 H_2S$
OIL ^O API @ ^O F; Pour Point ^O F
Colour; Fluorescent Colour
G.O.R.
WATER Rrf 0.897 @ 74 ^O F, Equiv. Cl 6500 ppm (Resistivity)
C1ppm NO330.8ppm (Titration)
PRESSURES - XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
Recorded with main Chamber and segregator/ Agnew Schlumberger Amerada Amerada Hewlett Packard*
Sampling (psi)
Final Shut-in (psi) 3723
Hydrostatic (psi) Fluctuating
Sampling Time (Min)
Shut-in Time (Min) 21:24
(*Corrected for Atmospheric pressure)
TEMPERATURES : (max recorded)OF,OF
MAX. DEPTH TOOL REACHED: 8390 Ft.
TIME SINCE CIRCULATION : 14.24 Hrs.
REMARKS : DRY RUN - ONE THERMOMETER USED.
With main Chamber open, Schlumberger pressures =
Sampling: 15 psig, Final shut in: 22 psig

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	•			<u>r.1.</u>	NECOND	•.			
							GEOLOGIS	SB/RDR/G	MK
		LOUNDER #6 IDETRACK		I. No.	5 0	8312.5ft.	(G.R. Dep	th) DATE	16.12.77
		ST : Yes/		-	ng an ann an ann an Allandi (genil) a	annaharanda, a-da nadara da quadaranda	·		IN CHAMBER
		ETHOD		СНС	KE SIZES	0.30"		AND SEG	REGATOR. Ø
•								<u>53</u> &&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&	XXX 6:38:22
·	111110	•			at				
_	• .						Full /	\fter	• •
					Tool Off				
		1001 0105	eu	<u></u>	1001 011 -	0.00.40		•	
	MUD DATA	-	•	0	•				
-		Rmf 0.0	581 0	<u>68</u> F				n (Resistiv	
_	•	C1 <u>20</u>	200pr	om	N0 ⁻ 3 _		<u> 100 pp</u> r	n (Titration	n)
. •		SAMPLE TA	KEN AT END) OF LAST	CIRCULAT	ION			
	RECOVERY	- MAIN CH	AMBER						
6			and the second second second second second second second second second second second second second second second		RFACE PRESS	SURE			VATER
			cf	t. GAS				3500 cc	
			cc	. OIL	·.			CC \$	SAND
	PROPERTI	ES - MAIN	CHAMBER						
		**************************************		•	•	C	C	U- C	
		GAS	C1	C ₂	C3	C4	С ₅	H ₂ S	
•••		•							
		-		<u></u>			<u></u>		
						· · ·			
	•	· .							
		OIL	o _{AP I}	0	⁰ F; Po	our Point _		°F	
		-	anda ograp og kanden offendet			Fluor			
	•	•		G.O.R	······································				
		-				E	•	nnm (D	
			Rrf	0		•		ppm (Re	esistivity)
		-	c1 ⁻	ppm	1 NO3	<u> </u>	22_ppm (Titration)	
		s - maxnxri			sea				
	REcorded	with main					e h e	Hewlott	Packard*
			SCHTUIIDE	ryer	Amerada _	Amer	aua	- Hewlett	Tackaru
	Sampling	(psi)	0					0-28	.8 psi
	Final Sh	ut-in (psi) 3500						Not stabl
rinal	Hydrost	ut-in (psi atic (psi) tic (psi)						4153	
	Samp]ing	Time (Min)		• .	N.	,		
, 4		Time (Min)							ns. 24 secs
··· .			(*Correc	ted for	Atmospheri	ic pressure	e) · ·		LOB CH SECS
			•				-		
		URES : (max		U			F		
-	TIME AT				8450 F1				
•		CE CIRCULA	TION :		<u>18:49</u> Hr	rs.			
	REMARKS	•	DRY TEST						·

		•	<u>F.I.T.</u>	<u>ECORD</u>			,	
	FLOUNDER #	6			G	EOLOGIST F	RDR/GMK/SB	
	WELL: SIDETRACK	F.	I.T. No.	60	<u>8334</u> ft. (G	.R. Depth)	DATE 16	.12.77
	VALID TEST : Yes							
	FIRING METHOD						·	
	TIMES : Tool Set	10:47	:15 Tool Op	en <u>10:48:5</u>	<u>1</u> Min. Opc	n <u>9 secs</u>		
	Shaped (Charge Sh	ot: 🗱 /No	at	and a special state of the state of the special states			IN CHAMBER & R @ 10:59:02
	Segregat	or Open	M	ins. Open		Full Aft	er	
	Tool Clc	osed <u>11</u>	:04:39 T	ool Off	11:06:09		• • • •	,
	MUD DATA :		•					
		0.681 0	68 ⁰ F,	Equiv. (C1 ⁻	_ <u>9200</u> ppm (Resistivit	y)
	•	2000						
	SAMPLE T	AKEN AT	END OF LAST	CIRCULATIO)N		•	
	RECOVERY - MAIN C	ΉΔMREQ				• •		
	RECOVERT - MAIN C							
	0)	_p.s.i. SURF	ACE PRESSU	JRE		cc WA ⁻	
			_cft. GAS			15		
,	·	+	_cc. OIL	. •			cc SAN	4D
	PROPERTIES - MAIN	CHAMBER					·	
	GAS	C ₁	C2	C ₃	C4	C ₅	H ₂ S	•
			2	5		5	-	
•								
	• · · · ·		angenera di secondo sirroftano di					
	OIL	0	API @	⁰ F: Pou	ur Point	٥ _F		1. A. A. A. A. A. A. A. A. A. A. A. A. A.
					Fluores	cent Colou	r ·	•
.'		<u>.</u>	G.O.R.				•	
		Rrf	0			•	nnm (Post	(ctivity)
-	WATER	Č1	4000 ppm					SCIVICY/
			phil	103		ppm (11	craciony	
	PRESSURES - MAXAX Recorded with mai		r & segregato	or sealed A	anew			
•			mberger			a	Hewlett Pa	ackard*
	Sampling (psi)		0			•	· _	
	Final Shut-in (ps 1 Hydrostatic (psi	Construction of the local data		•	, , , , , , , , , , , , , , , , , , , 	•	3645	
	l'Hydrostatic (psi) Hydrostatic (psi)				анын түүлэлэг түүлэг түүлэг түүлэг түүлэг түүлэг түүлэг түүлэг түүлэг түүлэг түүлэг түүлэг түүлэг түүлэг түүлэг		4175	
	Sampling Time (Mi BUILD-UP					1		· · · ·
. 1	BUILD-UP XXXXXXX Time (Min)					5 mins	, 37 secs.
		Berlinsen und and gestimenten	rected for A	tmospheric	pressure)	· · ·		
	TEMPERATURES : (m	ax recor	ded)	206 ⁰ F	•	0 _F		
	MAX. DEPTH TOOL R			, 8450 Ft.		·····		
	TIME SINCE CIRCUL		Manadalis an Antonia an A	22:00 Hrs			•	
			6.00 mm m m m m m m m m m m m m m m m m m		-			
			VERY LOW K -	- 65 MD				
	Po	- 3646 j	Чат •					

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F.1.T. RECORD

			•				CENI OCIST	RDR/GMR /S	20	
	E MF11 · g	LOUNDER #	:6 F I	T No	70	8249 ft.	(G.R. Depth			
		ST : Yes				0215101	Yaini Depen	/ 0///2		
			-	CHO	OKE SIZES _	0.30 "		•		
•							pen 18' 35"	Full Afte	r 14:04:29	
			***********************		at				· · ·	•
	•	•	-			5' 02"	Full Af	ter <u>14:15</u> :	52	
					Tool Off			•		
•	MUD DATA									
			0.681 @	68 ⁰	F. Equiv.	c1 ⁻	9200 ppm	(Resistivit	;y)	
		C1	2000				100 ppm			
		SAMPLE T			r circulati		and and the second second second second second second second second second second second second second second s			
	DECOVEDV	′- MAIN C					· ·			
	KEUVERI	- PAIN C								
					RFACE PRESS		1,25		REFILTRAT	Œι
		and a state of the			5664 cc @ 1 P.T. & V.		13,25			
, · ·			2870	cc. OIL	·.			cc SA	טא ו.	
	PROPERTI	ES - MAIN	CHAMBER							
		GAS	C_1	C ₂	C3	C4	C ₅	H ₂ S		
			113050	35994	43776	10862	5	Same again taken dalamata again dalamata		
••			159744	60621	34560	7534	• •			
			164659	56832	32256	4672				
		BLENDER SAMPLE	12211	21312	71424	27648	19584			
		OIL	48 OA	0 I 0	72 ⁰ F; Po	ur Point	0	F		
		Me	dium Brown	Colour;	Pale White	to_Fluor	escent Colo	ur ·		
•			2127 SCI	<i>STB</i> G.O.F	B]	lue			•	
•		WATER	Rrf 0.78	39 (d	78 ⁰ F	Equiv. Cl ⁻	680	o ppm (Res	istivity)	
				00 ppn			ppm (T		07	
	DDF COUDF				J		1	•		
	PRESSURE	<u>S - MAIN</u>	CHAMBER			Agnew				
				berger	Amerada _	Amer	ada	Hewlett P	ackard*	
Avg.	Sampling	(psi)	1999 198			1-11-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1		1900 ps	ig	
	Final Sh	ut-in (ps atic (psi	i) <u>3600</u>	****				3621	an 1974 an 1989 an 1989 an 1989 an 1989 an 1989 an 1989 an 1989 an 1989 an 1989 an 1989 an 1980 an 1980 an 1980	
rinal	Hydrost Hydrosta	tic (psi)) <u>N/A</u>					$4094 \\ 4108$		
	Sampling	Time (Mi	n)		•	ч.,	۰.	8' 06"		
•	XXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	Time (Min)			• •		10' 29"		
. .			(*Corre	ected for	Atmospheri	c pressure)			
	TEMPERAT	URES : (m	ax recorde	ed)	206 ⁰ F	>	°F			
	MAX. DEP	TH TOOL R	EACHED:		8389 ⁻ t	•				
	TIME SIN	CE CIRCUL	ATION :		26:00Hr	S.				
	REMARKS	: 1	K = 170 ME)					•	
		•	= 3623							
				•				-		
		Successfu	l oil test							
			0000							

F.I.T. SEGREGATOR REPORT

FLOIR	DER #6				GE	EOLOGIST	RDR/GMK
WELL : SIDET	TRACK	F.I.T. No	o. <u>7</u>	<u> </u>	<u>3249</u> ft.(G.	.R. Depth)	DATE 16/12/77
SEGREGATOR TY	PE	Monel	NUMBER	2907	. D/	NTE OPENEL)
RECOVERY - SEC	GREGATOF	2					
		p.s.i. SUI	RFACE PR	ESSURE			cc WATER
		cft. GAS					cc MUD
		cc. OIL					cc SAND
PROPERTIES - S	SEGREGAT	OR					
GAS	C_1	C ₂	C ₃	C4	C5	H ₂ S	
	.	• Regarifications address address address and	-	mage quantification of restore quantific		Sector - Andrew - Sector Management	
••			-			4	
	Serve Britsham sata an ing an ing ang ting			••••••••••••••••••••••••••••••••••••••			
		0	0			0	
0IL		О _{АРІ @}			•		. · · · ·
				F	luorescen	t Colour	
		G.O.R.				•	
WATER	Rrf			^O F, Equi	v. C1		_ppm (Resistivity)
	C1 ⁻	ppm	1	N03		ppm (Ti	tration)
PRESSURES – SE	GREGATO	R					
······································	•	Schlumberg	er l	/ Amerada	Agnew Ame	rada	Hewlett Packard*
g.Sampling (psi)		500 -3500					~ 1900 psi
Final Shut-in	(psi)	3600					3622
Hydrostatic (p	si)	4120					4108 final.
Sampling Time	(Min)	, 				•	(Fluctuating) 0' 54"
Skutzinx Time (· .		4' 04"
•		(*Correcte	d for At	tmospheric	c pressur	e)	
REMARKS :					•		

Segregator kept for later analysis

PECOPD

F.I.T. RECORD	
FLOUNDER #6	GEOLOGIST RDR/GMK/SB
WELL: <u>SIDETRACK</u> F.I.T. No. <u>8</u> 0 <u>8231</u> ft	. (G.R. Depth) DATE <u>17/12/77</u>
VALID TEST : Yes/₩₩	
FIRING METHOD Normal CHOKE SIZES .030"	
<u>TIMES</u> : Tool Set 10:10:19 Tool Open 10:12:25 Min.	Open 0:19:00 Full After 10:19:24
Shaped Charge Shot: 🕸 at	
Segregator Open <u>10:31:25</u> Mins. Open <u>0:4:28</u>	
Tool Closed Tool Off	
MUD DATA :	
Rmf 0.672 @ 80 ⁰ F, Equiv. Cl ⁻	8000 ppm (Resistivity)
C1 2000 ppm NO 3	100 ppm (Titration)
SAMPLE TAKEN AT END OF LAST CIRCULATION	
RECOVERY - MAIN CHAMBER	
	CC WATER
p.s.i. SURFACE PRESSURE 130.5 cft. GAS	CC WATER 2,200 CC MXM FILTRATE
2,300 CC. XXX CONDENSATE	cc SAND
	4,500 cc TOTAL
PROPERTIES - MAIN CHAMBER	00000 101111
$GAS C_1 C_2 C_3 C_4$	C ₅ H ₂ S
Run 1 179,404 64,409 48,384 11,913	2,937
2 181,862 58,726 38,864 8,292	2 1,958
3 186,777 62,515 34,560 5,606	TRACE
Blender <u>4,915</u> 1 <u>08,928</u> <u>102,528</u> <u>24,294</u>	TRACE
OIL <u>63</u> OAPI 0 <u>64</u> F; Pour Point	°F
Light green Colour; pale blue Fluc	orescent Colour
<u> </u>	• • •
WATER Rrf 0.786 0 74 ^O F, Equiv. C	7400 ppm (Resistivity)
C1 3000 ppm NO3	
PRESSURES - MAIN CHAMBER	
Agnew	
Schlumberger Amerada Ame	erada Hewlett Packard*
Avg.Sampling (psi) <u>1600</u>	2800
Final Shut-in (psi) 2000 Initial Hydrostatic (psi) 2200 Final Hydrostatic (psi)	3617
Final Hydrostatic (psi)2200	<u>4200</u> <u>4191</u>
Sampling Time (Min)	6' 59"
Shut-in Time (Min)	12' 01 secs.
(*Corrected for Atmospheric pressu	re)
TEMPERATURES : (max recorded)OF,	⁰ F
MAX. DEPTH TOOL REACHED: 8250 Ft.	
TIME SINCE CIRCULATION : 4:40 Hrs.	
REMARKS : CIRCULATION FINISHED 0:5:00 HOURS 17/12/77	
FORMATION PRESSURE: 3622 psi K: 7 MD	• • • • •

Successful gas/condensate test

F.I.T. SEGREGATOR REPORT

FLOIM	DER #6					GEOL	OGIST _	RDR/GMK	
WELL : SIDETI	RACK	F.I.T. No)8	0	<u>8231</u> f	^t t.(G.R.	Depth)	DATE _	17/12/77
SEGREGATOR TY	PE M	onel	NUMBER	2	4	DATE	OPENED		
RECOVERY - SE	GREGATOR	l							
		- p.s.i. SUF	REACE PR	FSSURF				cc	WATER
		p.s.r. sor cft. GAS		LJJUNL			ur a djeren generale na far digerer		MUD
Been we want to provide the second second second second second second second second second second second second		Crc. UKS			•				SAND
					••••				
PROPERTIES -	SEGREGAT	OR					,		
GAS	C_1	C ₂	C ₃	C4		C5	H ₂ S		•
•									
		-	·····						· · · ·
			-	and a second strate of the sec					
OIL		OAPI @							
•		Colour			Fluor	rescent	Colour		
• •	·	G.O.R.					•		
WATER	Rrf	@		⁰ F, Eq	uiv. C	:1		_ppm (Re	sistivity)
	C1 ⁻	ppn						tration)	
PRESSURES - S	EGREGATO	R							• •
a yang katalan dari daka yakan dirin daga tang dirina da da				Anonodo	Agne	W	da	Цо	wlatt Dackand
		Schlumberg 760	jer i	Amerada		Amera	ud	пе	wlett Packard*
g.Sampling (psi)	-1900							779-2781
Final Shut-in	(psi)	2000	-						3618
Hydrosiatic (psi)	2200							4191
Sampling Time	(Min)						•	-	0'16"
Shut-in Time	(Min)	-	•						4'12"
•		(*Correcte	ed for A	tmosphe	ric pr	ressure)			•

REMARKS :

Segregator kept for later analysis

		•	<u>F.I.T.</u> R	ECORD				
	LOUNDER #6						ST <u>SB/RDF</u>	
WELL: S	IDETRACK	F.I.1	r. No	90	<u>8243</u> ft.	(G.R. Dep	oth) DATE <u>17</u>	/12/77
	ST : Yes/I							
FIRING M	ETHOD 1	lormal	СНОК	E SIZES _	0.30 "			
TIMES :	Tool Set	19:29:05	_ Tool Op	en <u>SEAL</u> @	Min. 0	pen	Full Aft	er
· · · · ·	Shaped Cha	arge Shot:	Yes /No	at	57			·
	Segregator	o Open	M	ins. Open		Full	After	
	Tool Close	ed	Ţ	ool Off _		*******	•••	
MUD DATA	:							
	Rmf 0.6	72 @	80 ⁰ F,	Equiv.	c1 ⁻	8000 pp	om (Resistivi	ty)
							m (Titration	
	SAMPLE TAN					······································		
RECOVERY	- MAIN CHA	MRED				•		•
<u>MCOUTINT</u>	- MAIN ONA						· · · ·	
			s.i. SURF	ACE PRESSI	JRE		cc W	ATER
	الاراد ماه ماه الارور و الارور و الارور و المرور و المرور و المرور و المرور و المرور و المرور و المرور و الم		t. GAS				cc M	
	1979 - Marine Marine - M Marine - Marine	cc	. 0IL	•			cc S/	AND
PROPERTIE	S - MAIN C	HAMBER						
	GAS	C1	C2	C ₃	C4	С ₅	H ₂ S	
•		0 I	2°	°3		05	1120	
	•				800070-000-0003-0-0-0-0-0-0		6	
•	· · · ·		hannen er het - Ger (Ger gesand g					
	OIL		0	0, , , , , , , , , , , , , , , , , , ,	De la t		0 _F	
		OAP I		F; Pol	r Point		·	
			Colour;		Fluore	escent Co	Iour	
•	•		G.O.R.			:		
	WATER R	rf	0	⁰ F, E	quiv. Cl ⁻		ppm (Res	sistivity
	C	1	ppm	N03		ppm	(Titration)	
PRESSURES	- MAIN CH	AMBER			•		· ·	
•		Soblumbo			gnew	, da	Unulate D	
		Schlumbeı	iyer P	ineraua	Amera		_ Hewlett P	ackarun
Sampling					n an an an an an an an an an an an an an			
Final Shu al Hydrostat Hydrostat	t-in (psi) ic (psi)	N/A						
		<u>_</u>					<u>4188</u> 4178	
	Time (Min)		· .	•	<u>.</u>	•		•
Shut-in T	ime (Min)							
		(*Correct	ted for At	mospheric	pressure)	•		
TEMPERATU	RES : (max	recorded)		⁰ F,		°F		•
MAX. DEPTI	H TOOL REA	CHED:	8	<u>540 Ft.</u>				• · ·
TIME SINC	E CIRCULAT	ION :	12	:19 Hrs	•		•	

Final Hydrostatic (psi) 4300 4323 Sampling Time (Min)					<u>F.I.T.</u> F	RECORD				
VALID TEST : Yes/NØ FIRING METHOD Normal GHOKE SIZES _ 0.30 " TIMES : Tool Set 22:07:37 Tool Open 22:08:01 Min. Open <u>SNAPE</u> Full After	F			6				GEOL.OGIST	SB/GMK/RDR	
FIRING METHOD		WELL: SI	IDETRACK	F.	I.T. No	10 @	8531 ft.	(G.R. Depth) DATE <u>17/12/</u>	77
TIMES : Tool Set 22:07:37 Tool Open 22:08:01 Min. Open 10557 Shaped Charge Shot: Yee/No at		VALID TE	ST : Yes	/NU			• *			
Shaped Charge Shot: Yes/No at		FIRING M	ETHOD	Normal	СНОК	KE SIZES _	0.30 "	TOCI		
Segregator Open Mins. Open Full After Tool Closed Tool Off 22:11:38 MUD_DATA : Rnf 0.672 0 90 No"3 100 ppm (Resistivity) C1" 2000 ppm NO"3 100 ppm (Resistivity) C1" 2000 ppm NO"3 100 ppm (Titration) SAMPLE TAKEN AT END OF LAST CIRCULATION RECOVERY - MAIN CHAMBER cft. GAS cc MID cft. GAS ct. SAND cc MID cc. OIL cc SAND PROPERTIES - MAIN CHAMBER cc. GIL cc SAND cl. GAS C1 C2 C3 C4 C5 H2S Cl. GAS		<u>TIMES</u> :	Tool Set	22:07:	37 Tool Op	en <u>22:08</u> :	<u>01</u> Min. 0	pen <u>SEAL</u>	Full After	
Tool Closed Tool Off _22:11:38			•	-						
$\begin{array}{c c c c c c c c c c c c c c c c c c c $									`ter	
Rmf 0.672 0 P, Equiv. C1" 3000 ppm (Resistivity) C1 2000 ppm NO"3 100 ppm (Titration) SAMPLE TAKEN AT END OF LAST CIRCULATION RECOVERY - MAIN CHAMBER			Tool Clo	sed	ΤΤ	ool Off _	22:11:38		te.	
C1	-	MUD DATA	:						• •	
SAMPLE TAKEN AT END OF LAST CIRCULATION RECOVERY - MAIN CHAMBER			RmfO	.672 0	⁰ F,	Equiv.	C1 ⁻	<u>8000</u> ppm	(Resistivity)	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			C1 ⁻	2000	_ppm	N0 ⁻ 3		<u> 100 </u> ppm	(Titration)	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			SAMPLE T	AKEN AT	END OF LAST	CIRCULATI	ON			
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		RECOVERY	- MAIN C	HAMBER						
$\begin{array}{c c c c c c c c c c c c c c c c c c c $						ACE DDECC			CC WATED	
$\begin{array}{c ccc} C & C & C & C & C & C & C & C & C & C $	a		•			ALE PRESS	URE			
PROPERTIES - MAIN CHAMBER GAS C1 C2 C3 C4 C5 H2S OIL OAPI @ OF; Pour Point OF OIL OF; Pour Point OF Colour; Fluorescent Colour			•						······································	
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$									CC SAND	:
OIL OAPI @ OF; Pour Point OF OIL OAPI @ OF; Pour Point OF Colour; Fluorescent Colour		PROPERTIE	<u>ES - MAIN</u>	CHAMBER						
Colour;			GAS	c_1	C ₂	C3	C4	C ₅	H ₂ S	
Colour;						-				
Colour;					ana damarka - 1070 Watalana d					
Colour;									ana manana ila fari al fara da ang	
Colour;							· ·			
Colour;Fluorescent Colour G.O.R. WATER Rrf@OF, Equiv. C1 ⁻ ppm (Resistivity C1 ⁻ ppm NO3 ⁻ ppm (Titration) <u>PRESSURES - MAIN CHAMBER</u> Schlumberger AmeradaAmeradaHewlett Packard* Sampling (psi) Initial Shut-in (psi) Final Shut-in (psi) Final Hydrostatic (psi) Sampling Time (Min) Shut-in Time (Min) Shut-in Time (Min) TEMPERATURES : (max recorded)0F,OF MAX. DEPTH TOOL REACHED:S540Ft. TIME SINCE CIRCULATION :Hrs.			OIL	0	API @	^O F; Po	ur Point	C	°F	
WATER Rrf @^F, Equiv. C1 ⁻ ppm (Resistivity C1 ⁻ ppm NO3 ⁻ ppm (Titration) PRESSURES - MAIN CHAMBER Schlumberger Amerada Agnew Schlumberger Amerada Agnew Sampling (psi) Initial Hydrostatic (psi) 4300 Final Hydrostatic (psi) 4300 Final Hydrostatic (psi) 4300 Sampling Time (Min) Shut-in Time (Min) Shut-in Time (Min) TEMPERATURES : (max recorded) 198 °F, °F MAX. DEPTH TOOL REACHED:8540 Ft. TIME SINCE CIRCULATION : Hrs.		•			Colour;			escent Colc	ur	
C1 ⁻ ppm NO3 ⁻ ppm (Titration) PRESSURES - MAIN_CHAMBER Agnew Schlumberger Amerada Agnew Amerada Hewlett Packard* Sampling (psi)					G.O.R.					
C1 ⁻ ppm NO3 ⁻ ppm (Titration) PRESSURES - MAIN_CHAMBER Agnew Schlumberger Amerada Agnew Amerada Hewlett Packard* Sampling (psi)			WATER	Rrf	0	° _F	Fauiv Cl		ppm (Resist	ivitv)
PRESSURES - MAIN_CHAMBER Agnew Schlumberger Amerada Amerada Hewlett Packard* Sampling (psi)							•			
Agnew Agnew Sampling (psi) Final Shut-in (psi) Hydrostatic (psi) Hydrostatic (psi) Agnew					ppm		••••••••••••••••••••••••••••••••••••••			
Schlumberger Amerada Amerada Hewlett Packard* Sampling (psi)		PRESSURES	<u>5 - MAIN</u>	CHAMBER			Agnew			
Final Shut-in (psi) 4300 Initial Hydrostatic (psi) 4300 Hydrostatic (psi) 4300 Sampling Time (Min) 4323 Shut-in Time (Min) 4323 (*Corrected for Atmospheric pressure) 6 TEMPERATURES : (max recorded) 198 0 MAX. DEPTH TOOL REACHED: 8540 Ft. TIME SINCE CIRCULATION : 16:57 Hrs.				Schlu	nberger			ada	Hewlett Packa	ard*
Final Hydrostatic (psi) 4300 4323 Sampling Time (Min)		Sampling	(psi)							
Final Hydrostatic (psi) 4300 4323 Sampling Time (Min)		Final Shu	ut-in (ps	j)						
Sampling Time (Min) Shut-in Time (Min) (*Corrected for Atmospheric pressure) TEMPERATURES : (max recorded)98 OF,OF MAX. DEPTH TOOL REACHED:8540 Ft. TIME SINCE CIRCULATION :16:57 Hrs.	Final	Hydrosta	tic (psi)	4.20		•				
(*Corrected for Atmospheric pressure) TEMPERATURES : (max recorded) <u>198</u> ^O F, OF MAX. DEPTH TOOL REACHED: <u>8540</u> Ft. TIME SINCE CIRCULATION : <u>16:57</u> Hrs.		Sampling	Time (Mi				¥.,			
TEMPERATURES : (max recorded)198OF,OFMAX. DEPTH TOOL REACHED:8540Ft.TIME SINCE CIRCULATION :16:57Hrs.		Shut-in 1	Гіте (M <mark>in</mark>)		•	•			
TEMPERATORES(max recorded)1981,MAX. DEPTH TOOL REACHED: 8540 Ft.TIME SINCE CIRCULATION : $16:57$ Hrs.				(*Cor	rected for A	tmospheri	c pres <mark>sure</mark>)		
MAX. DEPTH TOOL REACHED: <u>8540</u> Ft. TIME SINCE CIRCULATION : <u>16:57</u> Hrs.		TEMPERATI	JRES : (m	ax recor	ded)	198 ⁰ F	,	٥ _F		
TIME SINCE CIRCULATION : 16:57 Hrs.										
							S.			
REMARKS : * LOST SEAL . Unsuccessful test.		REMARKS	• •• •		Insucces	ssful tect				

				<u>F.I.T.</u>	RECORD	· ·						
	FLOUND	ER #6						GEOL	OGIST	SB/RDR	/GMK	
WELL:	SIDETR	ACK	F.I.T.	No.	11	@	<u>ft.</u>	(G.R.	Depth)	DATE	17/12	./77
VALID TE												
FIRING M	IETHOD _			_ СНО	KE SIZ	ES	0.30					SEAL
TIMES :	Tool S	et	42:40	Too1 0	pen		Min.	Open _		Full A	fter _	FAILURE
Second	Shaped Shaped	Charge Charge	Shot: Shot: XX 21	Yes/和約 3:49:00	at _2 Mins.(23:43:40 Open)	Fi	ull Aft	er		
		losed									· . · ·	
MUD DATA			•									
	- Rmf	0.672	0	80 ⁰ F	, Equ	iv. C1 ⁻		8000) mag	Resisti	vitv)	
	C1	2000										
		TAKEN										
RECOVERY	- MAIN	CHAMBE	2									
				; CHD							Λ. 	, ,
					FACE FI	AE33URE					WATEF MUD	κ.
				012							SAND	
PROPERTI	<u>ES - MA</u>	IN CHAME					÷				a.	
	GAS	· C1		с ₂	с ₃		C4	С _Б	5	H ₂ S		
					an an an an an an an an an an an an an a							
										•		
												
		•				allen alle gebooken			 	-		
	OIL					; Pour F	_		•F		• • .	
			Cc	olour;			Fluor	rescent	: Colour	•		
•		Antonia da Constante	**************************************	G.O.R		`	_					
	WATER	-				°F, Equi						ivity)
		c1 ⁻ _		ppm	N	103		р	opm (Tit	ration)	
PRESSURE	S - MAIN	CHAMBE	R		•							
		Sch	lumberg	ler	Amerad	Agne la	w Amer	rada		Hewlet	t Pack	ard*
Sampling	(nsi)								,			-
Final Shu												
Hydrosta			*****									
Sampling						ц.						
Shut-in T												
		(*(orrecte	d for A	ltmosph	eric pr	essure	e)				
TEMPERATU	JRES : (max rec	orded)		208	°F,			٥ _F			
MAX. DEPT												
TIME SINC					18:42			•	•			·
REMARKS :		TESTE	D MUD .	Unsuc	Cessfu	1 test						
			seal af			d. rd Gauqu	<u>م</u>					

F.I.T. RECORD

GEOLOGIST SB/GMK/RDR	
FLOUNDER #6 WELL: <u>SIDETRACK</u> F.I.T. No. <u>12</u> @ <u>8522</u> ft. (G.R. Depth) DATE <u>18/12/77</u>	
VALID TEST : Yes/Nø	
FIRING METHOD Normal CHOKE SIZES 0.30"	
<u>TIMES</u> : Tool Set 01:56:50 Tool Open 01:58:47 Min. Open 26:33 Full After 02:18:1	<u></u> 5
Shaped Charge Shot: XEX/No at	
Segregator Open <u>02:25:20</u> Mins. Open <u>4 mins</u> Full After <u>02:27:20</u>	
Tool Closed 02:29:20 Tool Off 02:29:36	
MUD DATA :	
Rmf <u>0.672</u> @ <u>80⁰</u> F, Equiv. Cl ⁻ <u>8000</u> ppm (Resistivity)	
C1 <u>2000</u> ppm NO ⁻ 3 <u>100</u> ppm (Titration)	
SAMPLE TAKEN AT END OF LAST CIRCULATION	
RECOVERY - MAIN CHAMBER	
210 p.s.i. SURFACE PRESSURE21,000 _cc WATER	
cft. GAScc MUD	
cc. OILcc SAND	
PROPERTIES - MAIN CHAMBER	
$GAS C_1 C_2 C_3 C_4 C_5 H_2S$	
$GAS C_1 C_2 C_3 C_4 C_5 H_2S$	
	•
· · · · · · · · · · · · · · · · · · ·	
OIL ^O API @ ^O F; Pour Point ^O F	
Colour; Fluorescent Colour	
G.O.R.	
WATER Rrf 0.462 @ 67 ^O F, Equiv. Cl ⁻ 14,000 ppm (Resistivity)) -
$C1^{-}$ 7000 ppm NO_{3}^{-} <u>4</u> ppm (Titration) PH = 7	
PRESSURES - MAIN CHAMBER Agnew	
Schlumberger Amerada Amerada Hewlett Packard*	
Sampling (psi)0-4300-493	
Final Shut-in (psi) 3650 3732	
Hydrostatic (psi) 4370 4290	
Sampling Time (Min) 26'33"	
Shut-in Time (Min) 7'05"	
(*Corrected for Atmospheric pressure)	
TEMPERATURES : (max recorded) NOT RUN ^O F, ^O F	
MAX. DEPTH TOOL REACHED: 8540 Ft.	
TIME SINCE CIRCULATION : 20:56 Hrs.	
$\frac{\text{REMARKS}}{\text{REMARKS}} : \qquad \qquad \text{K} = 108 \text{ MD}$	
Formation $P_0 - 3735$	

* Tested water.

F.I.T. SEGREGATOR REPORT

	FLOUND	ER #6					GE	EOLOGIST _	SB/RDR/	′GK	
WELL :	SIDETF	ACK	F.I.T. N	0. 12	0	8522	<u>2</u> ft.(G.	.R. Depth)	DATE	18/12/77	
RECOVERY	- SEGF	REGATOR	2								
			p.s.i. SU	RFACE PR	ESSURE				Ċ	c WATER	
			cft. GAS		. 1					c MUD	
			cc. OIL						C	c SAND	
PROPERTIE	es - se	GREGAT	OR		•						
GAS	S	C_1	C ₂	C ₃	C4		C5	H ₂ S	,	•	
· .					•					1 .	
				•		······ ·		1			
		••••••••••	-								
OII	•		°API 0	• • • • • • •	our Pot	int.		° _F			
	•	······································	Colour								
			G.O.R.	:						· ·	
WAT	ΓER	Rrf	0		⁰ F, Ed	quiv.	c1 ⁻		_ppm (R	esistivity)	
			ppr								
PRESSURES		DECATO	ıD ,								
I REJJURE	<u>) - JLU</u>					Ag	new				
		•	Schlumberg	jer i	Amerada	l	Ame	erada	Н	ewlett Packard]×
Sampling	(psi)		70-3500							55-3716	
Final Shu	ıt-in (psi)	3700							3732	
Hydrostat	cic (ps	i)	4370							4261	
Sampling				· · ·					·	04:00	
Shut-in 1	ime (M	lin)								02:00	
,			(*Correcte	ed for A	tmosphe	ric	pressur	e)			

REMARKS :

Segregator kept for later analysis

			•	$\frac{\mathbf{R} \cdot \mathbf{F} \cdot \mathbf{T} \cdot \mathbf{R}}{\mathbf{R}}$	CORD R	un #1 .			
	FI	OUNDER #6	5					SB/GMK/RDR	
				T.No. <u>1</u>		<u>8531</u> ft.	(G.R. Dept	h) DATE <u>1</u>	5/12/77
		ST: 兹兹	-	<u>.</u>	61216			<i>.</i> .	
•			Normal			•		5.11) Aft	0 0
	1111125 :		Charge Shot				pen <u>24 44</u>	Full Aft	
							Full A	fter	
			osed 03:13						
	MUD DATA		-			•		•	
•	100 0111		.61 @	66 ⁰ F,	Equiv.	C1 ⁻	9500 ppm	(Resistivi	ty)
	٩							(Titration	
	•	SAMPLE	TAKEN AT EN	D OF LAST (CIRCULATI	ION	· ·		х
	RECOVERY	′ - MAIN I	CHAMBE R			· · ·		•	
			n	.s.i. SURF/	CF PRESS	SHRF	:	cc W	ATER
				ft. GAS					· · ·
	•			c. OIL	•			cc S	AND
	PROPERTI	ES - MAII	N CHAMBER			·	· .		
	•••	GAS	•	C C	C ¹	C .	C ₅	Hac '	•
 ••	* : : • : :	GAS	C_1	с ₂	L3	C4	05	H ₂ S	
	•	•							
•									•
·. ·	<u>د</u> . ب			and a start of the					
	. •	01L	o _{AP}	I @	⁰ F; Pa	our Point _		°F	
	•			_Colour;		Fluor	rescent Col	our	•
	-			G.O.R.			•		
•		WATER	Rrf	0	⁰ F,	Equiv. Cl ⁻		ppm (Re	sistivity)
		, ^{, ,} , , ,	C1 ⁻	ppm	NO3		ppm (Titration)	
	PRESSURE	ES - MAIN	CHAMBER		•				
•	• • .		Sch1umb	erger /	Amerada	Agnew Amer	rada	Hewlett	Packard*
	Sampling	n (nc i)							· .
···			si) 3749		•	anganang penghanak diadaranaka	1	3767 fl	uctuating
tial .nal	Hydrosta Hydrosta	atic (psi atic (psi	si) <u>3749</u>) <u>4296</u>) <u>4252</u>					4392 4432	
	Sampling	g Time (M							
	Shut-in	Time (Mi	n)				,		
•				cted for A					. •
	TEMPERA	TURES : (max recorde	d)	0 214	F,	216 ⁰ F		-
•		TH TOOL			8550 F				
	TIME SI	NCE CIRCU	LATION :		30:10 H	rs.			
	REMARKS	: * Scl	nlumberger = 3749	Hewlet $P = 37$	t-Packar	d . Nating		•	
	•								
*			able to cal cl, hence u		pressure	e results		•	1
				•				1	
· · ·							1.		•
						×			

		R.F.T. R	ECORD 1	Run #1		•	
	FLOUNDER #6				•	SB/RDR/GMK	
	WELL: SIDETRACK R.F	.T.No. 2	(°	<u>8479</u> ft.	(G.R. Depth	h) DATE <u>15.12.7</u>	7
	VALJD TEST : XRX/NO	. •				• • •	
	FIRING METHOD Normal						
	<u>TIMES</u> : Tool Set <u>03:25:00</u>)pen <u>13'10</u>	<u> </u>	
	Shaped Charge Sho						
•	Segregator Open	M	ins. Open		Full Λ	fter	
	Tool Closed 03:3	<u>3:10</u> T	001 Off _	same			
• •	MUD DATA :	· ·		•			•••
-	Rmf 0.61 0	66 ⁰ F,	Equiv.	c1 ⁻	9500 ppm	(Resistivity)	
• .	Cl 2000					(Titration)	
	SAMPLE TAKEN AT E	, ,				S S	
					• •		•
•	RECOVERY - MAIN CHAMBER		•		•		
•		p.s.i. SURF	ACE PRESS	URE		cc WATER	
	Maria at angle water and a first and the same design a statement of	cft. GAS	•			cc MUD	•
		cc. OIL				cc SAND	•
••••	PROPERTIES - MAIN CHAMBER						
•	roreaties - main chamber	•		•	• •		
•	GAS C ₁	C ₂	C ₃	C4	С ₅	H ₂ S	. •
			• .				
•							
	•						. •
-		·	••••••••••••••••••••••••••••••••••••••	<u></u>	·		
	01L ⁰ A	PI @	^O F; Po	ur Point	C	^D F	
:	•	Colour;			rescent Cold	our	· ·
		G.O.R.					
•			•	r	•	: Docieti	
		0				ppm (Resisti	vity)
	C1 ⁻	ppm	NU3		ר) ppm (ח	litration)	•
	PRESSURES - MAIN CHAMBER					• • • • •	
•	Schlum	berger	Amerada	Agnew Amer	rada	Hewlett Packa	rd*
	· · ·	berger				new rett rucku	
	Sampling (psi)					3742-3764	
tial	Final Shut-in (psi) 3776 Hydrostatic (psi)					3764-3781	
inal	Hydrostatic (psi) $\frac{4257}{-4239}$.5				_4432 -fluctuating-	·· ·
	Sampling Time (Min)						•
	Shut-in Time (Min)						
	(*Corr	ected for A	tmospheri	c pressure	2)	·	
•			-		0		
	TEMPERATURES : (max record	ed)	214 ⁰ F		· 216 °F		
	TEMPERATURES : (max record MAX_DEPTH_TOOL_REACHED:		214 ⁰ F 8550 Ft		· 216 °F		
	MAX. DEPTH TOOL REACHED:		8550 Ft	•	216F		•
·	MAX. DEPTH TOOL REACHED: TIME SINCE CIRCULATION :			•	216 ⁰ F		•
	MAX. DEPTH TOOL REACHED: TIME SINCE CIRCULATION : <u>REMARKS</u> : schlumberger	 	8550 Ft 30:45 Hr (Corelab)	• S.			• • • • •
• •	MAX. DEPTH TOOL REACHED: TIME SINCE CIRCULATION :	 	8550 Ft 30:45 Hr (Corelab)	•			
	MAX. DEPTH TOOL REACHED: TIME SINCE CIRCULATION : <u>REMARKS</u> : schlumberger	 	8550 Ft 30:45 Hr (Corelab)	• S.			
	MAX. DEPTH TOOL REACHED: TIME SINCE CIRCULATION : <u>REMARKS</u> : schlumberger		8550 Ft 30:45 Hr (Corelab)	• S.		1	
· · ·	MAX. DEPTH TOOL REACHED: TIME SINCE CIRCULATION : $\frac{\text{REMARKS}}{\text{P}} : \qquad \begin{array}{l} \text{Schlumberger} \\ \text{P} \\ \text{o} \end{array} = 3776 \end{array}$		8550 Ft 30:45 Hr (Corelab)	• S.		1	

	•			R.F.T.	RECORD Run	#1.			
		FLOUNDER	# <i>C</i>	•		GE(OLOGIST SE	B/RDR/GMK	
X	WELL:	SIDETRACK	R.F	.T.No.	3 @ 847	<u>9.5</u> ft. (G.1	R. Depth)	DATE 15.12.77	
		ST : Yes		•		•			
	FIRING M	ETHOD NO	rmal	CHOK	E SIZES	0.30 "		د. کر	
•	TIMES :	Tool Set	03:36:1	<u>3</u> Tool Op	0011same	Min. Open	03'56"	Full After	
• •					at				
		Segregat	or Open _	۷	lins. Open		Full Afte	r	
	•	Tool Clo	sed 03:4	0:09 7	001 Off sa	ne			
	MUD DATA	:	• .			· .	•		
· · ·		Rmf	0	°Ę,	Equiv. Cl ⁻	•	ppm (R	lesistivity)	
• -				•	N0 ⁻ 3			· · · · · · · · · · · · · · · · · · ·	
	۴.	SAMPLE T	AKEN AT E	ND OF LAST	CIRCULATION		24	N 4	
	RECOVERY	- MAIN C	HAMBER	•		•	•		
•	<u>ILCOTLINI</u>								:
•	•				ACE PRESSURE			CC WATER	ľ
	•			cft. GAS	• •			cc MUD	
Ţ,				cc. OIL	•	————————————————————————————————————		cc SAND	
· · .	PROPERTI	ES - MAIN	CHAMBER			•			
•	- 	GAS	C_1	C ₂	C ₃	C4	С ₅	H ₂ S	
•			- T	-Ζ	-3	- T	5	C	
····		· · ·			· .		••••••••••••••••••••••••••••••••••••••		
3 	•								•
			<u> </u>						
		01L	O_	 סו פ	^O F; Pour	Point	0 _F		
		UIL	<u> </u>	Colour;		Fluoresc			
- 1		•	<u></u>	G.O.R.					
- ·			•		•.	· · ·	•		、
	•	WATER	-	@				ppm (Resistivity)
			C1 ⁻	ppm	NO3		ppm (lit	(ration)	
	PRESSURE	S - MAIN	CHAMBER						
•			Schlun	iberger	Agr Amerada		•	Hewlett Packard*	
			Contrai						
•••	Sampling	(psi)	• • •		•				
tial	Final Sh			F				3731	-
-	nyurosce	ut-in (ps tic (psi)	i) 3720 4264	.5				4329-4266	
ınal		ut-in (ps tic (psi) tic (psi)						4329-4266 fluctuating	
inal	Sampling	ı Time (Mi	n)					4329-4266	•
inal	Sampling		n)					4329-4266	•
inal	Sampling Shut-in	g Time (Mi Time (Min	n)) (*Corr	rected for /	\tmospheric			4329-4266	•
inal	Sampling Shut-in	g Time (Mi Time (Min	n)) (*Corr	rected for /	\tmospheric 214 ⁰ F,		<u>216</u> ⁰ F	4329-4266	
inal	Sampling Shut-in TEMPERAT	g Time (Mi Time (Min	n)) (*Corr	rected for /			<u>216</u> ⁰ F	4329-4266	•
inal	Sampling Shut-in TEMPERAT MAX. DEF	y Time (Mi Time (Min TURES : (m	n) (*Corr max record REACHED:	rected for /	<u>214</u> ⁰ F,		<u>216</u> ⁰ F	4329-4266	•
inal	Sampling Shut-in TEMPERAT MAX. DEF TIME SIM	y Time (Mi Time (Min TURES : (m PTH TOOL R NCE CIRCUL	n) (*Corr max record REACHED:	rected for /	<u>214</u> ^O F, <u>8550</u> Ft. <u>30:58</u> Hrs. HP (Con	relab)		4329-4266 fluctuating	
inal	Sampling Shut-in TEMPERAT MAX. DEF	y Time (Mi Time (Min TURES : (m PTH TOOL R NCE CIRCUL :	n) (*Corr ax record EACHED: ATION :	rected for /	<u>214</u> ^O F, <u>8550</u> Ft. <u>30:58</u> Hrs. HP (Con			4329-4266 fluctuating	•
inal	Sampling Shut-in TEMPERAT MAX. DEF TIME SIM	y Time (Mi Time (Min TURES : (m PTH TOOL R NCE CIRCUL	n) (*Corr max record EACHED: ATION : Schlumber P = 3720	rected for / led)	<u>214</u> ^O F, <u>8550</u> Ft. <u>30:58</u> Hrs. HP (Con	relab) fluctuation	s in press	4329-4266 fluctuating	
inal	Sampling Shut-in TEMPERAT MAX. DEF TIME SIM	y Time (Mi Time (Min TURES : (m PTH TOOL R NCE CIRCUL : F	n) (*Corr max record EACHED: ATION : Schlumber P = 3720 Formation	ger	<u>214</u> ⁰ F, <u>8550</u> Ft. <u>30:58</u> Hrs. HP (Con (Wild '32 psig	relab) fluctuation	s in press	4329-4266 fluctuating	•
inal	Sampling Shut-in TEMPERAT MAX. DEF TIME SIM	y Time (Mi Time (Min TURES : (m PTH TOOL R NCE CIRCUL : F	n) (*Corr max record EACHED: ATION : Schlumber P = 3720 Formation	rected for / led)	<u>214</u> ⁰ F, <u>8550</u> Ft. <u>30:58</u> Hrs. HP (Con (Wild '32 psig	relab) fluctuation	s in press	4329-4266 fluctuating	-

			R.F.T. Rl	RU				· ·
,		н.с.	•				SB/GMK/RDR	
WULL: -	flounder sidetrack EST : Xr	<u>I</u> (• F)	.T.No	4 (1)	8301 ft.	(G.R. Dept	h) DATE <u>15/1</u>	2/77
•			CHOKE	STRES	0'. 30	· ·	,	
							Full After	•
Bearry			.: Yes /No a					
•		-		Baderite en la cardarasan de a		Full A	fter	
			6:41 To					
MUD DATA	۱:		· · ·			· .		* +
.	~~	0.61 @	66 ⁰ F,	Equiv.	C1 ⁻	9500 ppm	(Resistivity	/)
•			•				(Titration)	
	SAMPLE	TAKEN AT EN	ID OF LAST (CIRCULATI	ON	· ·		
RECOVERY	(- MAIN	CHAMBE R			• • • •			· · · ·
	•	D	.s.i. SURF/	VCE PRESS	URE	·	cc WAT	ER
	· · · · · · · · · · · · · · · · · · ·		ft. GAS	•			cc MUE	•
	· · · · · · · · · · · · · · · · · · ·	C	c. OIL	•			cc SAN	
PROPERTI	IES - MAII	N CHAMBER	•		·			
•••		•	^	, C	C	· · · · ·		
	GAS	C_1	C ₂	C ₃	C4	C ₅	H ₂ S	•
1. A. A. A. A. A. A. A. A. A. A. A. A. A.							·	•
				•				
•								
	• •							· .
	011	 O _{AP}	0 10	 OF: Po	ur Point		 D _F	•
	OIL	 OAP				rescent Cold		· .
	OIL		21 @ Colour; G.O.R.			rescent Cold		•
	• • •		_Colour; G.O.R.		F1uo	rescent Cold	our.	stivit
	OIL WATER	 Rrf	_Colour; G.O.R. 0	⁰ F,	Fluo Equiv. Cl	rescent Cold	our ppm (Resi	stivit
	WATER	Rrf	_Colour; G.O.R. 0	⁰ F,	Fluo Equiv. Cl	rescent Cold	our ppm (Resi	stivit
<u>PRE SSURE</u>	• • •	Rrf C1 ⁻ CHAMBER	_Colour;G.O.R. 0 ppm	°F, N03 ⁻	Fluo Equiv. Cl 	rescent Cold ppm (our ppm (Resi Titration)	
<u>PRE SSURE</u>	WATER	Rrf C1 ⁻ CHAMBER	_Colour;G.O.R. 0 ppm	°F, N03 ⁻	Fluo Equiv. Cl 	rescent Cold ppm (our ppm (Resi	
<u>PRESSURE</u> Sampling	WATER <u>ES - MAIN</u>	Rrf C1 ⁻ CHAMBER	Colour; G.O.R. 0 ppm ppm	°F, N03 ⁻	Fluo Equiv. Cl 	rescent Cold ppm (our ppm (Resi Titration)	
Sampling IFinal St	WATER <u>ES - MAIN</u> g (psi) pution _{(p} g	Rrf C1 ⁻ <u>CHAMBER</u> Schlumb <u>8</u> Schlumb	Colour; G.O.R. @ ppm ppm p	°F, N03 ⁻	Fluo Equiv. Cl 	rescent Cold ppm (our ppm (Resi Titration) Hewlett Pa 6-61	ickard*
Sampling 1Final St Hydrosta	WATER <u>ES - MAIN</u> g (psi) <u>put</u> ion ₍ psi atic (psi	Rrf C1 ⁻ <u>CHAMBER</u> Schlumb <u>Schlumb</u> <u>Schlumb</u> <u>8</u> <u>1</u> <u>423</u> <u>417</u>	Colour;G.O.R. @ ppm ppm 	°F, N03 ⁻	Fluo Equiv. Cl 	rescent Cold ppm (our ppm (Resi Titration) Hewlett Pa	ickard*
Sampling IFinal St Hydrosta Sampling	WATER <u>ES - MAIN</u> g (psi) pution _{(p} s atic (psi g Time (M	Rrf C1 ⁻ <u>CHAMBER</u> Schlumt <u>Schlumt</u> <u>8</u> <u>1</u> <u>1</u> <u>1</u> <u>1</u> <u>1</u> <u>1</u> <u>1</u> <u>1</u>	Colour;G.O.R. @ ppm ppm 	°F, N03 ⁻	Fluo Equiv. Cl 	rescent Cold ppm (ppm (Resi Titration) Hewlett Pa 6-61 4204-4314	ickard*
Sampling IFinal St Hydrosta Sampling	WATER <u>ES - MAIN</u> g (psi) <u>put</u> ion ₍ psi atic (psi	Rrf C1 ⁻ <u>CHAMBER</u> Schlumb <u>s</u> i) <u>423</u> <u>417</u> in) <u>17</u>	Colour; G.O.R. 0 ppm ppm 	⁰ F, NO3 [~] Amerada	Fluo Equiv. Cl Agnew Ame	rescent Cold	ppm (Resi Titration) Hewlett Pa 6-61 4204-4314	ickard*
Sampling Final St Hydrosta Sampling Shut-in	WATER <u>ES - MAIN</u> <u>putin</u> (psint) <u>putic</u> (psint) <u>putic</u> (psint) <u>putic</u> (psint) <u>putic</u> (psint) <u>putic</u> (mit) <u>putic</u> (Mit)	Rrf C1 ⁻ <u>CHAMBER</u> Schlumb <u>s</u> i) <u>423</u> <u>417</u> (*Corre	Colour;G.O.R. @ ppm berger / 8 8 2 ccted for At	^O F, NO3 [~] Amerada 	Fluo Equiv. Cl Agnew Ame	rescent Cold	ppm (Resi Titration) Hewlett Pa 6-61 4204-4314	ickard*
Sampling IFinal St Hydrosta Sampling Shut-in TEMPERAT	WATER <u>ES - MAIN</u> g (psi) <u>pution (psi</u> atic (psi g Time (Mi Time (Mi TURES : (Rrf C1 ⁻ C1 ⁻ CHAMBER Schlumb 8 Schlumb 423 1 423 417 (*Corrol max	Colour; G.O.R. 0 ppm ppm 	^O F, NO3 [~] Amerada tmospheri ^O F	Fluo Equiv. Cl Agnew Ame Ame 	rescent Cold	ppm (Resi Titration) Hewlett Pa 6-61 4204-4314	ickard*
Sampling Hydrosta Sampling Shut-in TEMPERAT	WATER <u>ES - MAIN</u> g (psi) <u>pution(psi</u> atic (psi g Time (M Time (Mi TURES : (PTH TOOL	Rrf C1 ⁻ C1 ⁻ CHAMBER Schlumb 8 Schlumb 8 10 423 417 110 111 (*Corror max REACHED:	Colour; G.O.R. 0 ppm berger / 8 8 4 ccted for At ed)	⁰ F, N03 ⁻ Amerada tmospheri ⁰ F 8550 Ft	Fluo Equiv. Cl Agnew Ame Ame c pressur ,	rescent Cold	ppm (Resi Titration) Hewlett Pa 6-61 4204-4314	ickard*
Sampling Hydrosta Sampling Shut-in TEMPERAT	WATER <u>ES - MAIN</u> g (psi) <u>pution (psi</u> atic (psi g Time (Mi Time (Mi TURES : (Rrf C1 ⁻ C1 ⁻ CHAMBER Schlumb 8 Schlumb 8 10 423 417 110 111 (*Corror max REACHED:	Colour; G.O.R. 0 ppm berger / 8 8 4 ccted for At ed)	^O F, NO3 [~] Amerada tmospheri ^O F	Fluo Equiv. Cl Agnew Ame Ame c pressur ,	rescent Cold	ppm (Resi Titration) Hewlett Pa 6-61 4204-4314	ickard*

1		R.F.T.	RECORD Run #	1.			
	FLOUNDER #6	•		GLO	LOGIST SB/G	MK/RDR	
···· ·	WELL: <u>SIDETRACK</u>	R.F.T.No.	5 () 83	<u>oo</u> ft. (G.R	.Depth) D	ATE 15.12.7	7
·	VALID TEST : Yes/No						
•	FIRING METHOD Norn						,
	TIMES : Tool Set	<u>3:49:19</u> 10010 ge Shot: Yes/ No			<u> </u>	II After Not	
	•	Open I			Full After	•	
· .		03:51:45					
	MUD DATA :	· ·					
- · ·	the second	66 ⁰ F	, Equiv. Cl ⁻	950	o ppm (Res	istivity)	
•		00 ppm i					
•	SAMPLE TAKE	N AT END OF LAST	CIRCULATION	:	· •	ે. હ	
	RECOVERY - MAIN CHAN	IBER	• • •		•	· · · ·	
•		p.s.i. SURI	ACE PRESSURE			cc WATER	1
		cft. GAS	•			cc MUD	•
•		cc. OIL	· · · .	••••••••••••••••••••••••••••••••••••••		cc SAND	•
	PROPERTIES - MAIN CH	IAMBER					
•	GAS	C ₁ C ₂	C ₃	C4	С ₅ Н	2S	
		ο ₁ ο ₂	-3	V4	~5 ···	۷.	•
- ·							
-	•		<u> </u>	<u></u>		: :	
	01L	OAPI 0	⁰ F; Pour I	Point	•F		
		Colour;		Fluoresce	nt Colour		•
··· ·		G.O.R		•	•	:	•
	WATER R	^f @					/ity)
···	C	ppm	N03		_ppm (Titra	tion)	
	PRESSURES - MAIN CHA	MBER	٨٩٩				
•		Schlumberger	Agne Amerada		Не	wlett Packar	rd*
- ,	Sampling (psi)	61				-85-98	
		Compared and the second second second second	•	· ·			
_nal	ıFinal Shut-in (psi) Hydrostatic (psi) Hydrostatic (psi)	4183				4178-4210	· · ·
	Sampling Time (Min)						•
· •	Shut-in Time (Min)		•				1
•		(*Corrected for		•	0	•	
	TÉMPERATURES : (max	récorded)	914 ⁰ F,	216	°F		
	MAX. DEPTH TOOL READ		<u>8550</u> ft.				•
•	TIME SINCE CIRCULAT	ION :	<u>31:21</u> lrs.		•		•
	REMARKS : Dry tes	it.		•	•		•
•							

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GEOLOGIST SB/GMK/RDR GEOLOGIST SB/GMK/RDR WELL: SIDETRACK R.F.T.NO. 6 @ 8312.5ft. (G.R. Depth) DATE 15.12.77 VALID TEST : XXXX/NO FIRING METHOD Normal CHOKE SIZES 0:30 " TIMES : Tool Set 03:55:01 Tool Open Shaped Charge Shot: Yes/No at Segregator Open Mins. Open Full After MUD DATA : Rmf 0.61 @ GEOLOGIST SB/GMK/RDR MUD DATA : Rmf
WELL: SIDETRACK R.F.T.No. 6 @ 8312.5ft. (G.R. Depth) DATE 15.12.77 VALID TEST : XXXX/NO FIRING METHOD Normal CHOKE SIZES 0:30 " TIMES : Tool Set 03:55:01 Tool Opensame Min. Open2:02 Full After Not free Shaped Charge Shot: Yes/No Segregator Open Mins. Open Full After Tool Closed Tool Off 03:57:03 MUD DATA : 9500ppm (Resistivity) C1 2000 ppm NO^3 100 ppm (Titration) \}
FIRING METHOD Normal CHOKE SIZES 0:30 " TIMES: Tool Set 03:55:01 Tool OpensameMin. Open2:02 Full Afterfriction Shaped Charge Shot: Yes/No at Segregator Open Mins. Open Full After Tool Closed Tool Off 03:57:03 MUD DATA : Rmf 0.61 @ 66 Full No_3 100ppm (Titration) `
TIMES: Tool Set 03:55:01 Tool OpensameMin. Open2:02 Full Afterfind the product of th
TIMES: Tool Set 03:55:01 Tool OpensameMin. Open2:02 Full Afterfind the product of th
Shaped Charge Shot: Yes/No at
Tool Closed Tool Off 03:57:03 MUD DATA : Rmf 0.61 @ 66 OF, Equiv. Cl ⁻ 9500ppm (Resistivity) Cl ⁻ 2000 ppm NO ⁻ 3 100ppm (Titration)
MUD_DATA : Rmf 0.61 0 66 0 F, Equiv. C1 9500ppm (Resistivity) C1 2000 ppm NO ⁻ 3 100ppm (Titration)
Rmf 0.61 0 66 ⁰ F, Equiv. C1 9500ppm (Resistivity) C1 2000 ppm 1 NO ⁻ 3 100ppm (Titration)
Rmf 0.61 0 66 ⁰ F, Equiv. C1 9500ppm (Resistivity) C1 2000 ppm 1 NO ⁻ 3 100ppm (Titration)
Cl 2000 ppm 1 NO ⁻ 3 <u>100</u> ppm (Titration)
<u>RECOVERY - MAIN CHAMBER</u>
p.s.i. SURFACE PRESSUREcc WATER
cft. GAS ·cc MUD
cc. OILcc SAND
PROPERTIES - MAIN CHAMBER
$GAS C_1 C_2 C_3 C_4 C_5 H_2S$
OIL OAPI @ F; Pour Point F
Colour;Fluorescent Colour
G.O.R.
WATER Rrf@^F, Equiv. Cl ⁻ ppm (Resistivity
Cl ⁻ ppm NO ₃ ⁻ ppm (Titration)
PRESSURES - MAIN CHAMBER
Agnew
Schlumberger Amerada Amerada Hewlett Packard*
Sampling (psi)58
Final Shut-in (psi)
Final Shut-in (psi) 4200 4201 tial Hydrostatic (psi) 4200 4201 al Hydrostatic (psi) 4189 4210
Sampling Time (Min)
Shut-in Time (Min)
(*Corrected for Atmospheric pressure)
TEMPERATURES : (max recorded) 214°F, 216°F
MAX. DEPTH TOOL REACHED: 8550Ft.
TIME SINCE CIRCULATION : 31:27Hrs.
<u>REMARKS</u> : Dry test.

			6	•			GE OL	.0GIST	SB/GMK	/RDR		
ł	AELL:ST	LOUNDER # IDETRACK	R.I	F.T.No.	7 0	8283 ft.	(G.R.	Depth) DATE	15.12	.77	
		ST : XRX										
				C110ł		•				•	•	•
_	TIMES :			Too1 01			Open_	2:11	_ Full	After .	Not	fu
. •				ot: Yes/No								
				N		-	F	full Af	ter _			
	•	Tool Clo	sed 04:0	1:09	[00] Off	same		•				
. <u>1</u>	UD DATA	,										
•		Rmf	0	°Ę,	, Equiv. C			ppm	(Resist	ivity)		
	· •	C1		_ppm l	N0 ⁻ 3			ppni	(Titrat	ion)		
,÷	24 -	SAMPLE T	AKEN AT E	ND OF LAST	CIRCULATIO	011				i.		
1	RECOVERY	- MAIN C	HAMBE R									•
	•			p.s.i. SURI	ACE PRESSU	IRF	•			c WATE	R	1
	•	*** *********		cft. GAS	•					c MUD	•	
	•			cc. OIL						c SAND		
	DODEDTI					. 					,	
1	RUPERII	ES – MAIN	CHAMBER					•		•		
•	-1 	GAS	C1	C ₂	C ₃	C4	. (5	H ₂ S		,	
										-		
				والمترب بالشاف والميالية المنابعة المنابلة المترارين والم			•					
•		•		9						•		•
							<u></u>			•		•
•										•	• •	•
		01L	or	API @	 OF; Pou	ar Point		 0		•		•
		01L	0	Colour;			orescer	o nt Colo		•		
		01L	0r				orescer			•	· · ·	•
		OIL WATER		Colour;				nt Colo	ur	(Resis	tivit	у)
				Colour; G.O.R.	⁰ F, E	F1uo		nt Colo	ur ppm		tivit	
		WATER	Rrf	Colour; G.O.R.	⁰ F, E	Fluo		nt Colo	ur ppm		tivit	
			Rrf C1 ⁻ CHAMBER	Colour; G.O.R. @ ppm	°F, E NO3	Fluo Equiv. Cl	-	ppm (T	ur ppm itratio	n);		
•	PRE SSURE:	WATER S - MAIN	Rrf C1 ⁻ <u>CHAMBER</u> Schlum	Colour; G.O.R. 0 ppm nberger	°F, E NO3	Fluo Equiv. Cl	-	ppm (T	ur ppm itratio Hewle	n) ; tt Pac	kard'	
•	PRESSURE: Sampling	WATER <u>S - MAIN</u> (psi)	Rrf Cl ⁻ <u>CHAMBER</u> Schlum 5	Colour; G.O.R. @ ppm	°F, E NO3	Fluo Equiv. Cl	-	ppm (T	ur ppm itratio Hewle	n);	kard'	
ial	PRESSURE: Sampling Final Shu Hydrosta	WATER <u>S - MAIN</u> (psi) ut-in (ps atic (psi	Rrf C1 ⁻ <u>CHAMBER</u> Schlum 5 (i) <u>418</u>	Colour; G.O.R. @ ppm nberger	°F, E NO3	Fluo Equiv. Cl	-	ppm (T	ur ppm itratio Hewle 94	n) tt Pac - +170	kard'	
ial	PRESSURE: Sampling Final Shu Hydrosta Lydrosta	WATER S - MAIN (psi) ut-in (ps atic (psi) tic (psi)	Rrf C1 ⁻ <u>CHAMBER</u> Schlum 5 5) <u>418</u> 417	Colour; G.O.R. @ ppm nberger	°F, E NO3	Fluo Equiv. Cl	-	ppm (T	ur ppm itratio Hewle	n) tt Pac - +170	kard'	
ial al (PRESSURE: Sampling Final Shu Hydrosta Lydrosta Sampling	WATER S - MAIN (psi) ut-in (psi atic (psi) tic (psi) Time (Mi	Rrf C1 ⁻ <u>CHAMBER</u> Schlum <u>5</u> 31) <u>418</u> 417 n)	Colour; G.O.R. @ ppm nberger	°F, E NO3	Fluo Equiv. Cl	-	ppm (T	ur ppm itratio Hewle 94	n) tt Pac - +170	kard'	
ial 1	PRESSURE: Sampling Final Shu Hydrosta Lydrosta Sampling	WATER S - MAIN (psi) ut-in (ps atic (psi) tic (psi)	Rrf C1 ⁻ <u>CHAMBER</u> Schlum 5 (i) <u>418</u> 417 (n) 	Colour; G.O.R. @ppm nberger %6	⁰ F, E NO3 ⁻ Amerada	Fluo	erada	ppm (T	ur ppm itratio Hewle 94	n) tt Pac - +170	kard'	
tial al	PRESSURE: Sampling Final Shu Hydrosta Sampling Shut-in	WATER S - MAIN (psi) ut-in (psi tic (psi) tic (psi) Time (Min Time (Min	Rrf C1 ⁻ <u>CHAMBER</u> Schlum 5 5 5 1) <u>418</u> 417 n) (*Corr	Colour; G.O.R. @ppm nberger 66 44 3 rected for A	^O F, E NO3 ⁻ Amerada Amerada	Fluo	erada _	ppm (T	ur ppm itratio Hewle 94	n) tt Pac - +170	kard'	
ial	PRESSURE: Sampling Final Shu Hydrosta Sampling Shut-in	WATER S - MAIN (psi) ut-in (psi tic (psi) tic (psi) Time (Min Time (Min	Rrf C1 ⁻ <u>CHAMBER</u> Schlum 5 5 5 1) <u>418</u> 417 n) (*Corr	Colour; G.O.R. @ppm nberger %6	^O F, E NO3 ⁻ Amerada Amerada	Fluo	erada _	ppm (T	ur ppm itratio Hewle 94	n) tt Pac - +170	kard'	
ial	PRESSURE: Sampling Final Shu Hydrosta Sampling Shut-in TEMPERATM	WATER <u>S - MAIN</u> (psi) ut-in (psi tic (psi) Time (Min Time (Min URES : (m TH TOOL F	Rrf C1 ⁻ C1 ⁻ CHAMBER Schlum 5 Schlum 417 n) 417 n) (*Corr max Rrf	Colour; G.O.R. @ppm nberger 66 44 3 rected for A	^O F, E NO3 ⁻ Amerada Amerada Amerada Atmospheric 214 ^O F, 8550 Ft.	Fluo	erada _	ppm (T	ur ppm itratio Hewle 94	n) tt Pac - +170	kard'	
ial	PRESSURE: Sampling Final Shu Hydrosta Sampling Shut-in TEMPERATM	WATER <u>S - MAIN</u> (psi) ut-in (psi tic (psi) Time (Min Time (Min URES : (m	Rrf C1 ⁻ C1 ⁻ CHAMBER Schlum 5 Schlum 417 n) 417 n) (*Corr max Rrf	Colour; G.O.R. @ppm nberger 66 44 3 rected for A	^O F, E NO3 ⁻ Amerada Amerada Amerada	Fluo	erada _	ppm (T	ur ppm itratio Hewle 94	n) tt Pac - +170	kard'	

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R.F.T. RECORD Run #1.

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and the subscription of the subscription of the

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		FLOUNDER	#6	6 71		·		SB/RDR/GMK	
				•'I'• No.	8	<u>_8273</u> ft.	(G.R. Dept	h) DATE <u>15.12</u>	.77
		ST: Yes	· *	<u>c</u> uov	E CT70C	i a i	r		
•					•	•,		<u>"</u> Full After _	e ^{ke}
				i: xxxxs/No			pen2		
	S						Full A	fter N <u>ot full</u>	
				.8:24 T					
•	MUD DATA	•		•.			•		
•		-	9	°Ę,	Equiv.	C1 ⁻	ppm	(Resistivity)	
	•	c1 ⁻		·····			•	(Titration)	
•		SAMPLE 1	AKEN AT EI	ND OF LAST			· · · ·	N. N. N. N. N. N. N. N. N. N. N. N. N. N	•
	RECOVERY	- MAIN C	CHAMBER			• • • •	• •		
			-			IDE		cc WATER	
		•••••		p.s.i. SURF cft. GAS	• •	UKE		CC WATER	
•				cc. OIL			· · · · · · · · · · · · · · · · · · ·	cc SAND	
	NDODEDTI				•				
	PROPERTI	ES - MAIN							•
•	4-3	GAS	C_1	C ₂	с _з	C4	С ₅	H ₂ S	
		• •					<u></u> *		
• •					<u>.</u>			·	:
.•	•	• •		Example and a second second second second second second second second second second second second second second				<u> Anno 1997 - 19</u>	
		OIL	о ₀	PI @	0 _F . Po	ur Point	<u></u>	0 _F	
		OIL	^			Fluor		our	
	•		**************************************	G.O.R.		1	•		
•		WATER	Rrf		°F	Fouriv Cl	•	ppm (Resist	ivitv)
	:	MATEN.	c1 ⁻						
	DDC CCUDE			(,	5	·	•		i.
v-	PRESSURE	<u>S - MAIN</u>				Agnew			
			Schlum	berger	Amerada _	Amer	ada	Hewlett Pack	ard*
		(psi)	150-3	12				30-250	
' 'tial	XXXXXXX Sr	ut-in (pe	(3675) - 3675	1	• · ·	p	retest	<u>3642</u> 4150	
inal		atic (psi itic (psi						41.56	
		g Time (M [.]	and a second second second second second second second second second second second second second second second				. •		
	Shut-in	Time (Mir	Burgeren eiligerheit anteretrikasier	ected for A	twocnhoni	C	.)		
•	·						•		
				ed)			210 1		
	•	TH TOOL I	LATION :		31:40Hr				•
			•		an an an an an an an an an an an an an a				•
	REMARKS			fluid entry to an alre				c.	
•••	,			re 3643 ps:	-	1	•		
•	۰,							t t	·
		* Succ	essful pre	ssure test.	۰.				
						•	1.		•••••••••••••••••••••••••••••••••••••••

-		•	R.F.T.F	RECORD Rur	1 #1			1
H	LOUNDER #6	•				GEOLOGIST S	B /RDR/GMK	
	DETRACK	R.F.T.	No.	9 0	⁸²¹⁵ ft.	(G.R. Depth)	DATE 15/12	/77
VALID TE	EST : Yes/N	0			<i>t</i> -			
FIRING N	METHOD N	ormal	СНОК	E SIZES	: 0.30 "	I	•	
TIMES :	Tool Set	04:21:34	 Tool Op	en Pretes	st Min. O	pen 02'14"	Full After	15"
						• • • • • • • • • • • • • • • • • • • •		
	Sample Cha SEMKEMAINK	mber X Q pen 04	:23:48 M	lins. Open	12'56"	Full Aft	er 7'46"	
	Tool Close			ool Off (dumped) -				
MUD DAT				(dumped) -			. .	
MUD DATA		67 0	Or	Taula (~	0500	D	
	Rmf	610	i	Equiv. (, I		Resistivity)	
•		2000 ppr		N0 ⁻ 3		ppm (Titration)	
	SAMPLE TAK	EN AI END	OF LAST	CIRCULATIO)N			•
RECOVERY	/ - MAIN CHA	MBER - Fr	com 8273'			<i>,</i>		
TE: Chamber o	pened	n	s i SHRF	ACE PRESSU	IRF	1900	CC WAXER	FTLTRAT
wice:at 8215' a	ind 100	**************************************		esumed fro			cc MUD	
he other at 827	1600	· · · · · · · · · · · · · · · · · · ·	. ONK CON				cc SAND	
			. 6216 CON	DINOATD				
PROPERTI	ES - MAIN C	HAMBER		• •				
an an an an an an an an an an an an an a	GAS	C ₁	C ₂	C ₃	C4	С ₅	H ₂ S	
Blend	ler Sample	9830	12889	115200	22425			
	·	280166	71987	46080	7476			
		240844	73881	50688	11212		· ·	
					::			
	OIL	61 ⁰ API	6	62 ⁰ F; Pou	un Doint	0 _F		
				Light blu		I	÷	
· · · ·	Med.		•			escent Colou	1	•
· · ·	• · · ·		G.O.R.				· ·	•
	WATER R	rf	0	⁰ F, [Equiv. Cl ⁻		ppm (Resist	ivity)
	C	-17	ppm	NO3	26	ppm (Ti	tration)	
PRESSURE	ES - MAIN CH	AMBER	н. Тарана Алана	•		. ·	· · · ·	
					\gnew			1.1.
	•	Schlumber	rger	Amerada	Amer	ada	Hewlett Pack	ard*
Sampling	(psi)	200-233	30	, 			127-3610	
itial Final Sh	ut-in (psi) tic (psi)	<u>3661</u> 3668 4151				etest Chamber nal Shut	3663	
-nal Hydrosta	tic (psi)	4151 4138				· ·	4132 4115	
Sampling	g Time (Min)							•
Shut-in	Time (Min)							
-		(*Correct	ted for A	tmospheric	: pressure)	•	
	「URES : (max			•				
TEMPERAT	UKES : (Max	recorded	/	<u> </u>	•	<u>210</u> L		

MAX. DEPTH TOOL REACHED: AT DEPTH: TIME SAMOON ON ANY CONTAINANT: 8550 Ft. 0200 Hrs. 15.12.77 TIME SINCE CIRCULATING: 31:43 Hrs. **REMARKS** :

FORMATION PRESSURE - 3628 psig k = 1.3md

This test was attempted to test the functioning of the tool. Opened at Formation which produced gas-condensate previously. The slow flow indicated that the fluid entry to the chamber is restricted. Recovery is combination of gas-condensate from 8215' and oil from 8273'.

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		*	• .	R.F.T. R	ECORD - 1	RUN # 2	GEOLOGIST	SB/GMK/RDR	
	WELL: <u>F1</u> VALID TE	ounder 6 ST : Yes	- R idetrack /#XXX	.F.T.No1	.008	8531 ft.	(G.R. Depth) DATE <u>16/1</u> :	2/77
- .	· .			CHOK		•			e ^{ça}
•							pen	Full After	Instantane-
•				t: xXxxxx/No				•••••• •	ous
•		Sermerkar	🗱 Open _	M	ins. Open	10:25	Full Af	ter	
		Tool Clo	sed <u>19</u> :2	20:00 T	001 Off _	Same		•	•
	MUD DATA	:		•		•		•	
	Statistics and designed for the statistics of	Rmf 0.6	581 @	68 ⁰ F,	Equiv.	C1 9200	o ppm	(Resistivity)
	i			•				(Titration)	
÷ .	•			ND OF LAST					•
. •	RECOVERY	- MAIN C	HAMBER		•		· · ·		
• .•				p.s.i. SURF/	ACE PRESS	URE		cc WAT	ER
•		•••••		cft. GAS				cc_MUD	
				cc. OIL	· · ·		· · · · · · · · · · · · · · · · · · ·	cc SAN	D
	PROPERTI	ES - MAIN	CHAMBER	:	· .			•	
	.328 -	GAS	C1	C ₂	C ₃	C4	С ₅	H ₂ S	
				۲.	5	•	J	د	
•						•		•	
		· ·							· · · · · · · · · · · · · · · · · · ·
		01L	ΟΛ	PI @	0 _E . Po	ur Point	0	с	
	•	UIL		Colour;			·····	•	
				G.O.R.		110010			
·	· .	WATER	Ŕrf	0	⁰ F, I	Equiv. Cl ⁻		ppm (Resis	stivity)
			C1 ⁻	ppm	NO3	·	ppm (T	itration)	
•	PRESSURES	S - MAIN (CHAMBER	• • •	· ·	•			
•.		· ·	Schlum	berger 🍐 A		Agnew Amora	da	Hewlett Pac	: zkandt
	Build-up SxxxxxXXXXXXX	(psi)				· · ·		<u></u>	
ial	*সময় Shu	ut-in (ps			•		• 		۵ ۱۰ ۱۰
	Hydrostat	tic (psi)	4256 4237					4232 	
	Sampling	Time (Mir	ı)				• .		
•	Shut-in 1	Time (Min))				•••••	• • •	•
			(*Corre	ected for At	mospheric	c pressure)			
	TÉMPERATU	JRES : (ma	ax recorde	ed)	•F	·	⁰ F		
		TH TOOL RE		8501_	• ••••		•		
	TIME SING	CE CIRCUL/	ATION :	31:39	Hrs	5.		•	•
	REMARKS	:	FOR	MATION PRESS	URE - 373	88 psig	K = 29 md		•
					• •	. 1			1 1
•		* Succes	ssful pres	sure test.				• 1	
							•		

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R.F.T. RECORD - RUN #2

R.F.T. RECORD - RUN #2
GEOLOGIST <u>SB/GMK/RDR</u>
WELL: Flounder #6 R.F.T. No. 11 @ 8479 ft. (G.R. Depth) DATE 16/12/77 Sidetrack VALID TEST : Yes/XXX
FIRING METHOD Normal CHOKE SIZES .30 "
TIMES : Tool Set 19:24:30 Tool Open Same Min. Open 4:27 Full After 24 secs.
Shaped Charge Shot: xXxxs/No at
SegmegraverxXOperx Mins. Open Full After
Tool Closed 19:28:57 Tool Off Same
MUD DATA :
Rmf 0.681 @ 68 ^O F, Equiv. Cl <u>9200</u> ppm (Resistivity)
' Cl 2000 ppm NO ³ 100 ppm (Titration)
SAMPLE TAKEN AT END OF LAST CIRCULATION
RECOVERY - MAIN CHAMBER
p.s.i. SURFACE PRESSURE cc WATER
cft. GAScc MUD
cc.OILcc SAND
PROPERTIES - MAIN CHAMBER
$GAS C_1 C_2 C_3 C_4 C_5 H_2S$
$0_{II} \qquad 0_{ADI O} \qquad 0_{E} Point \qquad 0_{E}$
Colour;Fluorescent Colour
G.O.R.
WATER Rrf 0 ^O F, Equiv. Cl ⁻ ppm (Resistivity)
Clppm NO3ppm (Titration)
PRESSURES - MAIN CHAMBER
Agnew
Schlumberger Amerada Amerada Hewlett Packard*
Sampling (psi)
Final Shut-in (psi) 3717 3712
4200 4202 Hydrostatic (psi) 4199
Sampling Time (Min)
Shut-in Time (Min)
(*Corrected for Atmospheric pressure)
TEMPERATURES : (max recorded) ^o F, ^o F
MAX. DEPTH TOOL REACHED: 8501 Ft. TIME SINCE CIRCULATION : 31:54 Hrs.
THE SINCE CIRCULATION .
<u>REMARKS</u> : FORMATION PRESSURE - 3712 Psig K = 9 md
* Successful pressure test.

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R.F.T. RECORD - RUN #2 .

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	GEOLOGIST SB/RDR/GMK
WELL: Flounder-6 R.F.T. No. 12 @	
VALID TEST : Yes/Max	
FIRING METHOD Normal CHOKE SIZES	. 30 "
	Min. Open27' 32" Full After 31 secs
Shaped Charge Shot: XXXXX/No at	
	en Full After
Tool Closed 20:10:00 Tool Off	
MUD DATA :	
	. Cl 9200 ppm (Resistivity)
	100 ppm (Titration)
SAMPLE TAKEN AT END OF LAST CIRCULA	
RECOVERY - MAIN CHAMBER	
	SSURECC WATER
cft. GAS	cc MUD
cc. OIL	cc SAND
PROPERTIES - MAIN CHAMBER	
GAS C ₁ C ₂ C ₃	С4 С ₅ Н ₂ S
	04 05 1123
OIL ^o API @ ^o F;	Pour Point ^O F
	Fluorescent Colour
G.O.R.	
	, Equiv. Clppm (Resistivity)
C1ppm NO	3ppm (Titration)
PRESSURES - MAIN CHAMBER	Agnew
Schlumberger Amerada	Amerada Hewlett Packard*
Sampling (psi)	2617-3647
Final Shut-in (psi)	
Hydrostatic (psi) 4102	
Sampling Time (Min)	
Shut-in Time (Min)	
(*Corrected for Atmosphe	ric pressure)
TEMPERATURES : (max recorded)	°F,°F
MAX. DEPTH TOOL REACHED:8501	
	Hrs.
<u>REMARKS</u> :	
19:45:06 - attempt open second chamber	(2200cc) - main chamber would not open.
* DRY RUN	Formation Pressure = 3648 psig '
	K = 7 MD

R.F.T. RECORD

		•	R.F.T.	RECORD					• •
						GE	OLOGIST	SB/RDR/GMK	
WELL: F1	ounder	#6R	F.T. No.	13 @	8148) DATE <u>17/</u>	
VALID TES	ST : X¥Xexs	s/No	Lack			•		•	
				IOKE SIZES					Ş.
<u>TIMES</u> :							••••••	_ Full Aftern	No seal
	•		•) at			E N.F	ton	
				Tool Off			TUTT AT	ter	
MUD DATA			•		· · ·				
HOD DATA		672 0	80 C	F. Fouiv	c1 ⁻	8000	กกพ	(Resistivity)	
•				•				(Titration)	
				T CIRCULA			/ (···		
RECOVERY	- MAIN C	HAMBER		•			· · ·	• •	· · ·
	· · ·		p.s.i. Sl	IRFACE PRES	SSURE		•	cc WATE	R
	<u>.</u>		cft. GAS	•				cc MUD	
			_cc. OIL	· .				cc SAND	I
PROPERTIE	S - MAIN	CHAMBER							
	GAS	C ₁	f.o.	C ₃	Cz	n	С ₅	H ₂ S	•
	uns .	01	C ₂	63	02		05	1125	
			· · · · · · · · · · · · · · · · · · ·			· ·		C	
1	•		•						
		•					•		
•	OIL	Ó	API @	⁰ F; F	Pour Poi	int	0	F	
•	•		Colour;		[Fluoresc	ent Colo	ur	
			G.O.			м. -	•	•	
•	WATER	Rrf	0	⁰ F,	Equiv.	. C1		ppm (Resis	tivity)
		C1 ⁻	pp	m NOg	3		ppm (T	itration)	
PRESSURES	– MAIN	CHAMBER						н Н	
· . · .		Sch1ur	nberger	Amerada	Agnew	Amerada		Hewlett Pac	kard*
Sampling	(nsi)		Ũ	•	-	• •			
Final Shu		i):		•		· · ·		.	
Hydrostat								4147	·································
Sampling									
Shut-in T	ime (Min)							•
		(*Cori	rected for	Atmospher	ric pres	ssure)	• •		
TEMPERATU	RES : (ma	ax record	led) <u> </u>	340 C	Ϋ́F,	•	⁰ F		
MAX. DEPT					t.		•	•	
TIME SINC	E CIRCUL	ATION :		8:55 H	lrs.			· ·	•
REMARKS :									•
	No Sea	1		•		}			
	* Unsuc	ccessful	test.					• •	•
	· ·			•	•			,	
					•	, P	•		

Survive a second se second sec

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				•	(GEOLOGIST	SB/RDR/GK	
WELL: Flo	ounder #6	R.F.	.T. No. 1	4 (~ 81) DATE <u>17/12/77</u>	
VALID TE	ST : Yes∦	detrack Nox	میں بیرین میں ایک ایک ایک ایک ایک ایک ایک ایک ایک ایک			·		
FIRING M	ETHOD NO	ormal	C110	KE SIZES	0.30 "			e ^C
						en 11.36	Full After Not F	ull
			•	at				
						- Full Af	ter	
	Tool Close	ed <u>14:21</u> :	31	Tool Off s	ame			
MUD DATA	-	•	<u>_</u>				· · · · · · · · · · · · · · · · · · ·	
			-				(Resistivity)	
€ 1	C1 2000			N0 ⁻ 3		ppm	(Titration)	
	SAMPLE TAI	KEN AI EN	ID OF LAST	CIRCULATION	4	· · ·		•
RECOVERY	- MAIN CH	AMBER				•	·	
•	5	p	.s.i. SUR	FẠCE PRESSUR	₹Ē		cc WATER	ł
		c	ft. GAS		:		cc MUD	
		c	c. OIL	•			cc SAND	
PROPERTI	ES - MAIN (CHAMBER					· · · ·	
	GAS	C1	C ₂	C3	C4	C ₅	H ₂ S	
	-							
	-		<u></u>					•
. · · ·	•	•						
	OIL	o _{AP}	0 I	^O F: Pour	· Point	o c	'F	
			وادين دي در ب ه مي _{ليدي}		6-14-11-1			
•	- -		_Colour;		Fluores		our	
	-		G.O.R	•	Fluores	cent Colc		
		Rrf	G.O.R	 • 0F, Ec	Fluores	cent Colc	ppm (Resistivit	ty)
			G.O.R	 • 0F, Ec	Fluores	cent Colc	ppm (Resistivit	ty)
<u>PRE SSURE</u>		c1 ⁻	G.O.R	• • • • • • • • • • • • • • • • • • •	Fluores	cent Colc	ppm (Resistivit	ty)
<u>PRE SSURE</u>		c1 ⁻	G.O.R @ ppm	• • • • • • • • • • • • • • • • • • •	Fluores	cent Colc	ppm (Resistivit itration)	
••••••••••••••••••••••••••••••••••••••	<u>S – MAIN Cł</u>	Cl ⁻ HAMBER Schlumb	G.O.R @ ppm erger	• • • • • • • • • • • • • • • • • • •	Fluores	cent Colc	ppm (Resistivit itration) Hewlett Packard ²	
Sampling	<u>S – MAIN Cł</u> (psi)	Cl ⁻ HAMBER Schlumb 51-	G.O.R @ ppm erger 148	• • • • • • • • • • • • • • • • • • •	Fluores	cent Colc	ppm (Resistivit itration) Hewlett Packard [,] 0-95.3	
Sampling Final Sh	<u>S – MAIN Cł</u>	Cl ⁻ HAMBER Schlumb 51-	G.O.R @ ppm erger 148	• • • • • • • • • • • • • • • • • • •	Fluores	cent Colc	ppm (Resistivit itration) Hewlett Packard ²	
Sampling Final Sh Hydrosta	<u>S - MAIN C</u> (psi) ut-in (psi	Cl ⁻ <u>HAMBER</u> Schlumb 51-) 419 418	G.O.R @ ppm erger 148	• • • • • • • • • • • • • • • • • • •	Fluores	cent Colc	ppm (Resistivit itration) Hewlett Packard 	
Sampling Final Sh Hydrosta Sampling	<u>S - MAIN CH</u> (psi) ut-in (psi tic (psi)	Cl ⁻ <u>HAMBER</u> Schlumb 51-) 419 418	G.O.R @ ppm erger 148	• • • • • • • • • • • • • • • • • • •	Fluores	cent Colc	ppm (Resistivit itration) Hewlett Packard ² <u>0-95.3</u> 4155	
Sampling Final Sh Hydrosta Sampling	<u>S - MAIN C</u> (psi) ut-in (psi tic (psi) Time (Min	Cl ⁻ <u>HAMBER</u> Schlumb) 419 418) 	G.O.R 0 ppm erger 148 6	• • • • • • • • • • • • • • • • • • •	Fluores	cent Colc	ppm (Resistivit itration) Hewlett Packard 	
Sampling Final Sh Hydrosta Sampling Shut-in	<u>S - MAIN C</u> (psi) ut-in (psi tic (psi) Time (Min	Cl ⁻ <u>HAMBER</u> Schlumb 51-) 419 418) 418) 418	G.O.R @ ppm erger 148 0 6 cted for	• • • • • • • • • • • • • •	Fluores	cent Colc	ppm (Resistivit itration) Hewlett Packard 	
Sampling Final Sh Hydrosta Sampling Shut-in TEMPERAT	<u>S - MAIN C</u> (psi) ut-in (psi tic (psi) Time (Min Time (Min)	Cl ⁻ <u>HAMBER</u> Schlumb) 419 418) 418) 418) 418 (*Corre (*Corre	G.O.R @ ppm erger 148 0 6 cted for	• • • • • • • • • • • • • •	Fluores	cent Colc	ppm (Resistivit itration) Hewlett Packard 	
Sampling Final Sh Hydrosta Sampling Shut-in TEMPERAT MAX. DEP	<u>S - MAIN C</u> (psi) ut-in (psi tic (psi) Time (Min) Time (Min) URES : (max	Cl ⁻ <u>HAMBER</u> Schlumb) 419 418) 418) 418) 418 (*Corre x recorde ACHED:	G.O.R @ ppm erger 148 00 6 cted for	• • • • • • • • • • • • • •	Fluores	cent Colc	ppm (Resistivit itration) Hewlett Packard 	
Sampling Final Sh Hydrosta Sampling Shut-in TEMPERAT MAX. DEP	<u>S - MAIN CH</u> (psi) ut-in (psi tic (psi) Time (Min) Time (Min) URES : (max TH TOOL REA CE CIRCULA	Cl ⁻ <u>HAMBER</u> Schlumb) 419 418) 418) 418) 418 (*Corre x recorde ACHED:	G.O.R erger 148 00 6 cted for 834	• • • • • • • • • • • • • •	Fluores	cent Colc	ppm (Resistivit itration) Hewlett Packard 	
Sampling Final Sh Hydrosta Sampling Shut-in TEMPERAT MAX. DEP TIME SIN REMARKS	<u>S - MAIN C</u> (psi) ut-in (psi tic (psi) Time (Min) Time (Min) URES : (max TH TOOL REA CE CIRCULA :	Cl ⁻ <u>HAMBER</u> Schlumb) 419 418) 418) 418) 418 (*Corre x recorde ACHED:	G.O.R erger 148 00 6 cted for 834	• • • • • • • • • • • • • •	Fluores	cent Colc	ppm (Resistivit itration) Hewlett Packard 	
Sampling Final Sh Hydrosta Sampling Shut-in TEMPERAT MAX. DEP TIME SIN REMARKS	<u>S - MAIN C</u> (psi) ut-in (psi tic (psi) Time (Min) Time (Min) URES : (max TH TOOL REA CE CIRCULA : Dry Test.	Cl ⁻ <u>HAMBER</u> Schlumb <u>51-</u>) <u>419</u> 418) (*Corre x recorde ACHED: TION :	G.O.R erger 148 00 6 cted for 834	• • • • • • • • • • • • • •	Fluores	cent Colc	ppm (Resistivit itration) Hewlett Packard 	
Sampling Final Sh Hydrosta Sampling Shut-in TEMPERAT MAX. DEP TIME SIN REMARKS	<u>S - MAIN C</u> (psi) ut-in (psi tic (psi) Time (Min) Time (Min) URES : (max TH TOOL REA CE CIRCULA :	Cl ⁻ <u>HAMBER</u> Schlumb <u>51-</u>) <u>419</u> 418) (*Corre x recorde ACHED: TION :	G.O.R erger 148 00 6 cted for 834	• • • • • • • • • • • • • •	Fluores	cent Colc	ppm (Resistivit itration) Hewlett Packard 	

R.F.T.	RECORD	- RUN	#3

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GEOLOGIST SB/GMK/RDR
WELL: Flounder-6 R.F.T. No. 15 @ 8195.5 ft. (G.R. Depth) DATE 17/12/77
VALID TEST : Yes ANAS
FIRING METHOD Normal CHOKE SIZES 0.'30"
TIMES: Tool Set 14:26:52 Tool Open Same Min. Open 4:06 Full After 27 secs
Shaped Charge Shot: ¥øs/No at
Segregator Open Mins. Open Full After
Tool Closed 14:30:58 Tool Off Same
MUD DATA :
Rmf 0.672 @ 80 ⁰ F, Equiv. Cl ⁻ 8000 ppm (Resistivity)
Cl ⁻ 2000 ppm NO ⁻ 3 100 ppm (Titration)
SAMPLE TAKEN AT END OF LAST CIRCULATION
RECOVERY - MAIN CHAMBER
p.s.i. SURFACE PRESSUREcc WATER
cft. GAScc MUD
cc. OILcc SAND
PROPERTIES - MAIN CHAMBER
$GAS C_1 C_2 C_3 C_4 C_5 H_2S$
······································
OIL ^O API @ ^O F; Pour Point ^O F
Colour; Fluorescent Colour
G.O.R.
WATER RrfOF, Equiv. Cl ppm (Resistivity)
$C1^{-}$ ppm NO_3^{-} ppm (Titration)
PRESSURES – MAIN CHAMBER Agnew
Schlumberger Amerada Amerada Hewlett Packard*
Sampling (psi)
Final Shut-in (psi) 3656
Hydrostatic (psi) 4208 4173 4177
Sampling Time (Min)
Shut-in Time (Min)
(*Corrected for Atmospheric pressure)
TEMPERATURES : (max recorded)OF
MAX. DEPTH TOOL REACHED: 8340 Ft.
TIME SINCE CIRCULATION : 9:16 Hrs.
REMARKS : Formation Pressure 3623 psig K = 1.5 md

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* Dry Test.

R.	Г	T.	•	RECORD	-	RIN	#3	
-						******	"	

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GEOLOGIST SB/GMK/RDR
WELL: Flounder #6 R.F.T. No. 16 @ 8243 ft. (G.R. Depth) DATE 17/12/77
VALID TEST : Yes/Nox
FIRING METHOD Normal CHOKE SIZES 0.30"
TIMES : Tool Set 14:37:29 Tool Open same Min. Open2' 40" Full After 38secs
Shaped Charge Shot: Koxs/No at Main Chamber Open: 14:40:09 Mins. OpenClosed Segregator Open 14:43:13 Tool Closed 14:46:28 Tool Off same
MUD DATA :
Rmf 0.672 @ 80 ⁰ F, Equiv. Cl ⁻ 8000 ppm (Resistivity)
Cl 2000 ppm NO ⁻ 3 <u>100</u> ppm (Titration)
SAMPLE TAKEN AT END OF LAST CIRCULATION
RECOVERY - MAIN CHAMBER
o p.s.i. SURFÁCE PRESSURE cc WATER
cft. GAS cc MUD
cc. OILcc SAND
PROPERTIES - MAIN CHAMBER
$GAS C_1 C_2 C_3 C_4 C_5 H_2S$
$OII O_{API O} O_{F} Point O_{F}$
Colour;Fluorescent Colour
G.O.R.
WATER Rrf @ OF, Equiv. Clppm (Resistivity)
Clppm NO3ppm (Titration)
PRESSURES - XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
Agnew Schlumberger Amerada Amerada Hewlett Packard*
Sampling (psi) 1546-3629
Final Shut-in (psi) <u>3652-3650</u> <u>4223</u> (100 Tritic)
Hydrostatic (psi) 4198 Initial Sampling Time (Min) 4198 Final
Sampting time (itin)
Shut-in Time (Min)
(*Corrected for Atmospheric pressure)
TEMPERATURES : (max recorded) 204 ^o F, ^o F
MAX. DEPTH TOOL REACHED: 8340 Ft.
TIME SINCE CIRCULATION : 9:27 Hrs.
<u>REMARKS</u> : Formation Pressure 3630 psig $K = 5 \text{ md}$
* Successful pressure test, unsuccessful sampling operation.

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The tool has an opening valve failure.

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ENCLOSURES

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This is an enclosure indicator page. The enclosure PE902760 is enclosed within the container PE902759 at this location in this document.

The enclosure PE902760 has the following characteristics: ITEM_BARCODE = PE902760 $CONTAINER_BARCODE = PE902759$ NAME = Structure Map Top of Latrobe Group BASIN = GIPPSLAND PERMIT = TYPE = SEISMIC SUBTYPE = HRZN_CONTR_MAP DESCRIPTION = Structure Map Top of Latrobe Group REMARKS = $DATE_CREATED = 30/06/1977$ DATE_RECEIVED = $W_NO = W692$ WELL_NAME = Flounder-6 CONTRACTOR = ESSO $CLIENT_OP_CO = ESSO$

This is an enclosure indicator page. The enclosure PE902761 is enclosed within the container PE902759 at this location in this document.

The enclosure PE902761 has the following characteristics: ITEM_BARCODE = PE902761 CONTAINER_BARCODE = PE902759 NAME = Structure Map Base if Coals Horizon BASIN = GIPPSLAND PERMIT = TYPE = SEISMIC SUBTYPE = HRZN_CONTR_MAP DESCRIPTION = Structure Map Base of Coals Horizon REMARKS = $DATE_CREATED = 30/06/1977$ DATE_RECEIVED = $W_{NO} = W692$ WELL_NAME = Flounder-6 CONTRACTOR = ESSO $CLIENT_OP_CO = ESSO$

(Inserted by DNRE - Vic Govt Mines Dept)

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This is an enclosure indicator page. The enclosure PE902762 is enclosed within the container PE902759 at this location in this document.

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1 garage The enclosure PE902762 has the following characteristics: ITEM_BARCODE = PE902762

CONTAINER_BARCODE = PE902759 NAME = Structure Map Top of Pay Sand T Longus BASIN = GIPPSLAND PERMIT = TYPE = SEISMIC SUBTYPE = HRZN_CONTR_MAP DESCRIPTION = Structure Map Top of Pay Sand T Longus REMARKS = $DATE_CREATED = 30/06/1977$ DATE_RECEIVED = $W_NO = W692$ WELL_NAME = Flounder-6 CONTRACTOR = ESSO $CLIENT_OP_CO = ESSO$

This is an enclosure indicator page. The enclosure PE902763 is enclosed within the container PE902759 at this location in this document.

The enclosure PE902763 has the following characteristics: ITEM_BARCODE = PE902763 CONTAINER_BARCODE = PE902759 NAME = Structural Cross Sections Pre Drill & Post Drill BASIN = GIPPSLAND PERMIT = TYPE = WELLSUBTYPE = CROSS_SECTION DESCRIPTION = Structural Cross Sections Pre Drill & Post Drill REMARKS = $DATE_CREATED = 30/06/1977$ DATE_RECEIVED = $W_NO = W692$ WELL_NAME = Flounder-6 CONTRACTOR = ESSO $CLIENT_OP_CO = ESSO$

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This is an enclosure indicator page. The enclosure PE904936 is enclosed within the container PE902759 at this location in this document.

12 J. The enclosure PE904936 has the following characteristics: $ITEM_BARCODE = PE904936$ **CONTAINER_BARCODE = PE902759** NAME = Time Depth Curve BASIN = GIPPSLAND PERMIT = VIC/L11TYPE = WELLSUBTYPE = VELOCITY_CHART DESCRIPTION = Flounder 6 Time Depth Curve. Figure 5 of WCR. REMARKS = DATE_CREATED = 14/12/77DATE_RECEIVED = $W_NO = W692$ WELL_NAME = Flounder-6 CONTRACTOR = CLIENT_OP_CO = Esso Australia

This is an enclosure indicator page. The enclosure PE902764 is enclosed within the container PE902759 at this location in this document.

The enclosure PE902764 has the following characteristics: ITEM_BARCODE = PE902764 CONTAINER_BARCODE = PE902759 NAME = Sonic Calibration Curve BASIN = GIPPSLAND PERMIT = TYPE = WELLSUBTYPE = VELOCITY_CHART DESCRIPTION = Sonic Calibration Curve REMARKS = $DATE_CREATED = 15/02/1978$ DATE_RECEIVED = W_NO = W692 WELL_NAME = Flounder-6 CONTRACTOR = ESSOCLIENT_OP_CO = ESSO

This is an enclosure indicator page. The enclosure PE601420 is enclosed within the container PE902759 at this location in this document.

The enclosure PE601420 has the following characteristics: ITEM_BARCODE = PE601420 CONTAINER_BARCODE = PE902759 NAME = Well Completion Log BASIN = GIPPSLAND PERMIT = TYPE = WELLSUBTYPE = COMPLETION_LOG DESCRIPTION = Well Completion Log REMARKS = DATE_CREATED = 13/12/1977DATE_RECEIVED = $W_NO = W692$ WELL_NAME = Flounder-6 CONTRACTOR = ESSO $CLIENT_OP_CO = ESSO$ (Inserted by DNRE - Vic Govt Mines Dept)

This is an enclosure indicator page. The enclosure PE902765 is enclosed within the container PE902759 at this location in this document.

The enclosure PE902765 has the following characteristics: ITEM_BARCODE = PE902765 CONTAINER_BARCODE = PE902759 NAME = Drilling Program - Days Vs Depth BASIN = GIPPSLAND PERMIT = TYPE = WELLSUBTYPE = DIAGRAM DESCRIPTION = Drilling Program - Days Vs Depth REMARKS = $DATE_CREATED = 14/12/1977$ DATE_RECEIVED = $W_NO = W692$ WELL_NAME = Flounder-6 CONTRACTOR = ESSO $CLIENT_OP_CO = ESSO$