SHELL AUSTRALIA

APPENDIX 6-9 SECTION 1

REAL TIME OUTPUTS
&
DEPTH PLOTS

HAMMERHEAD-1
(W775)

82/986

CONTENTS

SECTION 1

END OF WELL DATA

- General Well Data
- Days versus Depth Plot
- Bit Record
- Mud Record
- Well Geometry Plot
- Casing Lists

RECORDS OF OPERATIONS

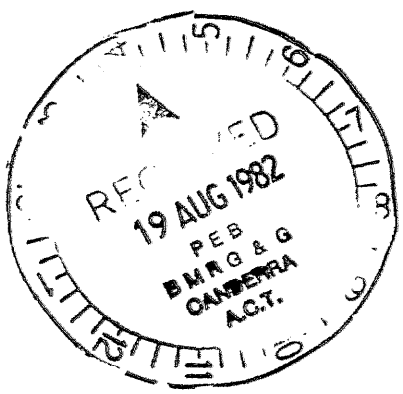
- Well Diary
- WOB/RPM/ROP Practices

OVERPRESSURE SURVEY

- Overpressure Summary
- Dexponent Plot 1/10000,1/5000,1/2000
- Electric Log Data
- Electric Log Composite Plot

GEOLOGY

- Geological summary
- Master Log



CONTENTS

SECTION II

REAL TIME OUTPUTS
AND DEPTH PLOTS

- Real Time Depth Plots
- Bit Performance Plots
- Bit Cost Plots
- Real time Print - Out
  (including Bit Reports and
  Daily Hydraulic Reports)

GENERAL WELL DATA

CLIENT	:	SHELL DEVELOPMENT AUSTRALIA
WELL	:	HAMMERHEAD 1
COUNTRY	:	AUSTRALIA
DISTRICT	:	BASS STRAIT, VICTORIA
BLOCK	:	VIC P19 GIPPSLAND BASIN
FIELD	:	HAMMERHEAD A
LAT	:	38 DEG 10' 34.12"S.
LONG	:	148 DEG 49' 59.30"E
RIG	:	DIAMOND M EPOCH
ELEVATION KB	:	22m
SEA DEPTH	:	121m
PROPOSED TD	:	2120m
ACTUAL TD	:	2130m
LOG TD	:	2126m
SPUDDED ON	:	17/5/82
REACHED TD ON	:	17/6/82
STATUS	:	ABANDONDED

SHELL HAMMERHEAD 1

MAY 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

JUNE 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

5 10 15 20 25 30 35 40

Spudded on 17 ' 5 ' 1982

Reached TD on 17 ' 6 / 1982

500

1000

1500

2000

RUN & CMT 30"

BANG OFF

NUM

DR TO 26"

RUN 20"CSG

RUN STACK

TEST STACK

DRILL CMT

MILLING JUNK

FISH & MILL

FISH

SIDETRACK

LOGGING

RUN CSG

TEST STACK

FISH

T.D.

LOGGING

CONDITION HOLE

WIPER TRIP

400

300

200

100

0

ZERO

Geoservices overseas S.A.

BIT RECORD

NUMBER	TYPE	SIZE	DEPTH IN	DEPTH MET	RUN FLOW LPM	PP KPA	WOB TONS	BOTTOM ROTARY HOURS	JETS/TFA DURS	JETS/TFA 1	JETS/TFA 2	JETS/TFA 3	JETS/TFA 4	WOB TONS	RPM	WEAR T	WEAR B	WEAR G	ROP M/HR	HYD POWER PSI	HYD POWER HP	BIT sq/cm	COST PER FT	COST $/M
1	REED+HD	26.00	143	59	3490	5065	1.03	6.70	3.90	32	32	32	0	2	32	0	0	0.00	6.65	505	64	0.1	12.73	810.1
2	OSC 3AJ	14.75	187	17	2800	4800	1.03	1.40	1.10	32	32	32	0	4	48	0	0	0.00	15.52	334	33	0.2	8.63	1166.5
3	REED FP12	12.25	204	351	2350	17100	1.03	12.30	7.70	13	13	13	0	8	90	1	1	0.00	46.33	1147	723	4.8	63.01	251.9
4	FP12+HD	26.00	202	363	3300	4300	1.03	40.70	34.00	32	32	32	0	5	63	2	2	0.00	10.68	405	55	0.1	13.46	694.2
5	HTC X3A	12.25	540	15	2350	13000	1.03	2.00	1.50	12	12	12	0	18	70	8	2	0.00	9.36	1208	995	6.6	82.44	2063.9
6	HTC J22	12.25	565	3	2400	19400	1.03	4.50	3.70	12	12	12	0	25	60	8	2	0.00	0.82	1261	1061	7.1	84.12	$$$$$*
7	HTC J7	12.25	568	3	2070	15700	1.03	6.50	5.00	13	13	13	0	22	60	8	3	0.00	1.59	923	494	3.3	53.25	7348.1
8	HTC J22	12.25	576	6	2200	17500	1.03	5.90	5.30	9	9	16	0	20	80	8	2	0.00	1.15	1099	873	5.8	79.38	9156.2
9	HTC J1	12.25	582	9	2400	17500	1.03	3.90	2.90	13	13	13	0	15	80	1	1	0.00	3.15	1139	770	5.1	64.21	4774.0
10	HTC X3A	12.25	591	1	2300	13000	1.03	2.90	2.50	12	12	12	0	20	85	2	2	0.00	0.37	1132	933	6.2	73.37	$$$$$*
RR9	HTC J4	12.25	592	1	2250	17700	1.03	2.30	1.90	9	9	16	0	30	65	4	2	0.00	0.43	1137	933	6.2	82.09	$$$$$*
11	HTC J3	12.25	593	1	2300	17900	1.03	1.20	0.30	9	9	16	0	30	80	2	2	0.00	1.14	1175	997	6.6	84.32	$$$$$*
RR2	OSC 3AJ	14.75	530	24	3700	5500	1.04	4.00	1.70	32	32	32	0	7	70	2	2	0.00	14.17	531	73	0.4	13.36	1626.1
RR10	HTC X3A	12.25	554	33	1500	3500	1.04	4.50	3.10	12	12	12	0	3	BR	2	2	0.00	12.29	150	261	1.7	$$$$$	1119.5
12	HTC J1	12.25	591	609	2550	16700	1.12	59.30	45.50	13	13	13	0	9	99	2	5	0.00	13.39	1216	1004	6.7	82.60	613.7
13	REED SL1	8.50	1200	5	2260	17500	1.13	6.50	1.50	12	12	12	0	12	90	1	2	0.00	3.25	1129	972	13.4	86.04	$$$$$*
14	REED SL3	8.50	1205	201	1930	16400	1.15	16.30	9.30	12	12	12	0	9	106	1	1	0.00	21.60	904	616	8.5	58.14	626.7
15	REED HS5L	8.50	1406	317	1360	17500	1.20	50.00	37.50	11	11	11	0	11	113	3	3	0.00	3.45	929	815	11.3	87.66	1027.3
16	SEC S11	8.50	1723	40	1940	15750	1.20	6.00	4.50	12	12	12	0	15	33	8	8	0.32	8.83	873	653	9.0	74.76	1677.5
17	HTC J03	8.50	1763	16	1680	16010	1.21	2.50	2.10	11	11	11	0	12	63	3	2	0.00	7.55	763	605	3.4	73.32	3232.5
18	HTC J7	8.50	1773	36	1690	15920	1.21	9.60	8.20	11	11	11	0	14	99	3	2	0.00	6.34	754	605	8.4	79.26	1703.3
19	HTC J3	8.50	1833	97	1640	15550	1.19	13.60	9.60	11	11	11	0	13	82	7	5	0.32	9.05	723	554	7.7	76.05	1391.9
20	HTC J3	3.50	1921	21	1620	13700	1.19	4.30	2.30	11	11	11	0	12	39	8	8	0.32	9.15	634	534	7.4	84.23	3212.5
21	HTC J33	8.50	1942	55	1970	12750	1.19	11.50	9.50	12	12	12	0	13	61	2	5	0.00	5.73	717	673	9.4	94.50	2005.9
22	HTC J22	3.50	1997	134	1310	12900	1.20	23.40	22.30	12	12	12	0	14	61	5	5	1.00	6.02	667	530	7.3	79.51	1577.2

REMARKS

BIT#4-26"Hole Opener,lost 2 cones.

BIT#5-11 - Slow progress due to junk in the hole.Inter spersed with magnet,junk basket and mill runs.

BIT#RR2 - Drilling cement plug to shoe.

BIT#RR10 - Kickoff turbine run for sidetrack.

BIT#12 - Drilled to 9 5/8" casing point.

BIT#14-18 - Made steady if sometimes slow progress.

BIT#19 - Lost all 3 cones,due to formation change(long tooth bit)

BIT#20 - Very badly worn(long tooth bit).

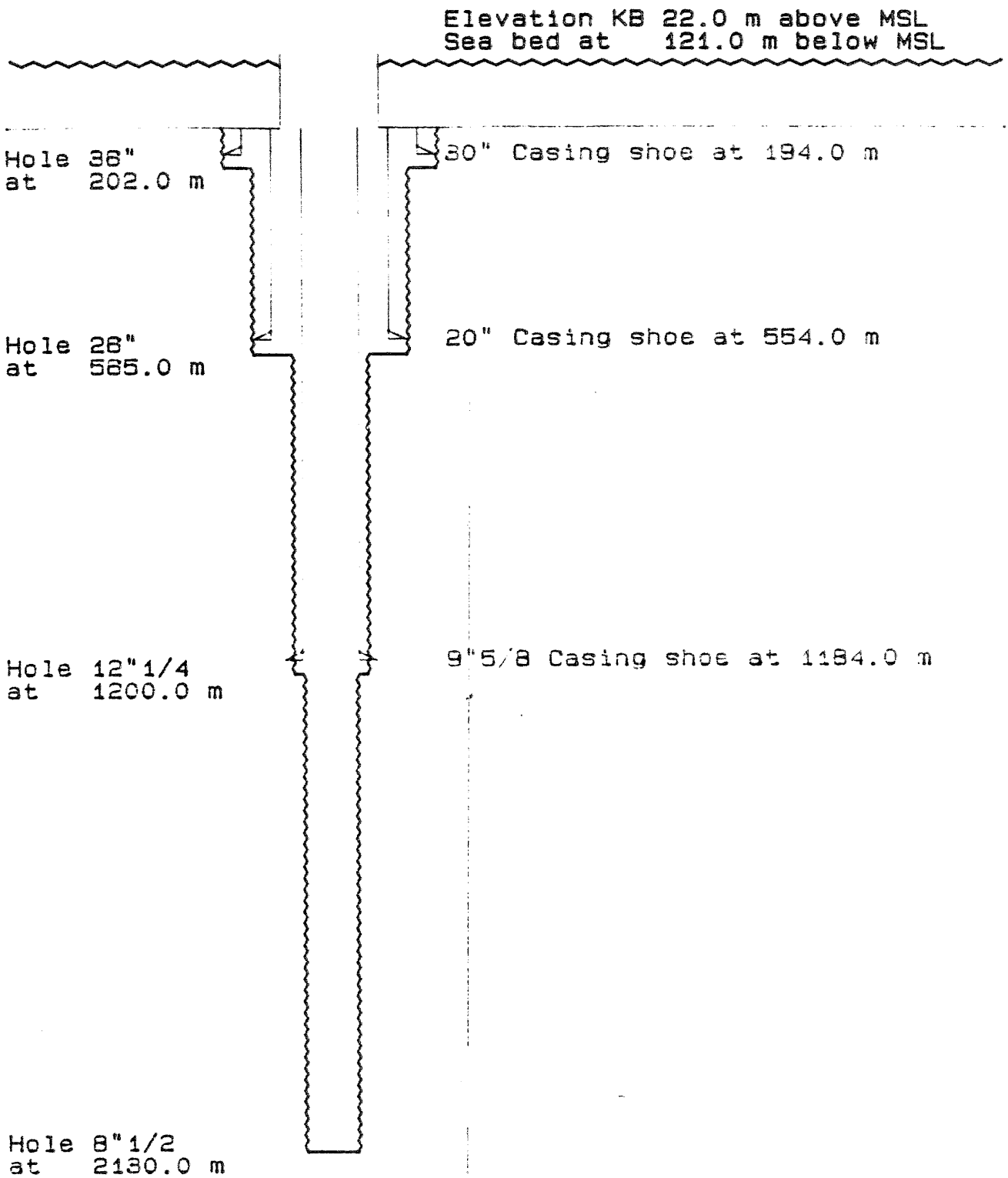
BIT#21-22 - Insert bits made steady hole to TD.

GEOSERVICES P.O.C. HAMMERHEAD#1

MUD RECAP FOR WATER BASE

DEPTH MET	TEMP deg C	W.W sg	VIS sec/qt	PV/YP cp	GELS 10 sec/10 min	FILTRATE API cc	FILT. CAKE	FILTRATE ANALYSIS Ca ppm	Cl ppm	SAND %	RETORT ANALYSIS OIL %	WATER %	SOLS %	pH	pF	MF	HF
565	20	1.03	37	4/9	3/5	0.0	2/32	0	17000	0.50	0	96	4	8.0	0.1	0.0	0
576	21	1.03	34	4/11	4/5	0.0	4/32	60	13500	Trc	0	97	3	8.0	0.0	0.2	13
532	22	1.04	33	4/6	3/5	0.0	3/32	52	13000	Trc	0	97	3	8.5	0.1	0.2	13
593	24	1.04	32	4/5	3/4	0.0	3/32	48	13000	Trc	0	97	3	9.0	0.1	0.2	13
603	22	1.04	37	5/21	6/8	0.0	6/32	68	13500	Trc	0	96	4	12.0	0.4	0.5	13
778	26	1.03	31	3/4	3/4	0.0	4/32	54	14000	Trc	0	94	6	9.0	0.1	0.2	14
865	23	1.10	33	5/4	2/5	22.8	3/32	28	13000	Trc	0	94	6	8.5	0.1	0.2	18
975	33	1.10	40	10/8	3/14	9.4	1/32	4	13000	Trc	0	93	7	10.0	0.3	0.7	20
1050	34	1.11	38	9/7	4/16	12.0	1/32	12	15000	Trc	0	91	9	9.0	0.1	0.3	19
1178	33	1.14	44	10/12	5/19	11.2	2/32	6	15000	Trc	0	90	10	10.0	0.3	0.6	21
1200	34	1.15	45	11/12	7/22	0.0	2/32	6	15000	0.20	0	90	10	10.0	0.5	1.0	23
1221	30	1.14	50	16/9	3/23	14.0	2/32	2	15000	Trc	0	91	9	11.0	0.8	1.2	25
1350	31	1.15	41	10/10	2/12	11.0	2/32	2	13000	Trc	0	92	8	10.0	0.9	1.3	22
1423	33	1.17	43	19/9	2/23	3.0	2/32	1	12000	Trc	0	90	10	10.0	0.5	0.8	22
1505	35	1.20	55	13/29	2/27	6.0	2/32	1	12000	Trc	0	88	12	11.5	0.9	1.9	20
1546	33	1.20	50	17/12	2/25	6.0	2/32	8	12000	Trc	0	90	10	11.0	0.8	1.6	20
1633	33	1.20	42	14/8	2/12	7.0	2/32	8	14000	Trc	0	91	9	11.5	0.7	1.5	20
1750	33	1.20	42	15/15	2/27	6.0	2/32	16	14000	Trc	0	91	9	10.0	0.1	0.9	20
1760	40	1.20	50	14/20	3/30	6.0	2/32	32	14000	0.50	0	91	9	11.0	0.4	1.2	20
1773	40	1.21	48	14/16	2/20	7.0	2/32	34	14000	1.25	0	91	9	10.0	0.5	0.9	18
1835	40	1.18	48	15/15	2/23	8.0	2/32	32	14000	Trc	0	92	8	10.0	0.2	0.5	17
1881	40	1.18	49	16/13	2/26	6.0	2/32	12	14000	Trc	0	92	8	11.0	1.2	1.4	17
1921	32	1.20	49	16/9	2/20	6.0	2/32	12	14000	Trc	0	92	8	11.0	1.0	1.5	17
1946	32	1.20	50	14/9	2/17	6.0	2/32	12	14000	Trc	0	92	8	10.5	0.9	1.7	17
1997	32	1.20	45	14/13	2/16	7.0	2/32	12	14000	Trc	0	92	8	11.0	1.1	1.5	17
2050	32	1.17	40	12/12	2/12	7.0	2/32	2	15000	Trc	0	92	8	11.0	1.0	1.4	17
2094	40	1.17	44	12/13	2/20	7.0	2/32	12	14000	Trc	0	92	8	10.0	0.2	0.5	17
2131	40	1.17	40	11/12	2/17	8.0	2/32	13	14000	Trc	0	92	8	11.0	1.4	1.8	17

WELL GEOMETRY



GEOSERVICES T.D.C

SHELL HAMMERHEAD#1 23/5/32

CASING LIST

CASING SIZE: 20 TYPE: X-56 WEIGHT(lbs/ft): 133

CASING LENGTH: 411.54
SHOE DEPTH : 554.00

Jt #	LENGTH	TOTAL LENGTH	Depth From K3	Remarks
	6.95	6.95	547.05	WELLHEAD HOUSING
1	11.75	18.70	535.30	
2	11.90	30.60	523.40	
3	11.90	42.50	511.50	
4	11.92	54.42	499.58	
5	11.88	66.30	487.70	
6	11.86	78.16	475.84	
7	11.89	90.05	463.95	
8	11.89	101.94	452.06	
9	11.89	113.83	440.17	
10	11.90	125.73	428.27	
11	11.89	137.62	416.38	
12	11.90	149.52	404.48	
13	11.90	161.42	392.58	
14	11.89	173.31	380.69	
15	11.89	185.20	368.80	
16	11.89	197.09	356.91	
17	11.89	208.98	345.02	
18	11.90	220.88	333.12	
19	11.89	232.77	321.23	
20	11.89	244.66	309.34	
21	11.88	256.54	297.46	
22	11.88	268.42	285.58	
23	11.89	280.31	273.69	
24	11.89	292.20	261.80	
25	11.89	304.09	249.91	
26	11.90	315.99	238.01	
27	11.90	327.89	226.11	
28	11.90	339.79	214.21	
29	11.90	351.69	202.31	
30	11.90	363.59	190.41	
31	11.89	375.48	178.52	
32	11.89	387.37	166.63	
33	11.89	399.26	154.74	
34	12.23	411.54	142.46	SHOE JOINT

GEOSERVICES T.D.C

SHELL HAMMERHEAD#1 8/6/82

CASING LIST

CASING SIZE: 9 5/8 TYPE: N80 WEIGHT(lbs/ft): 47

CASING LENGTH: 1040.32
SHOE DEPTH : 1184.00

Jt #	LENGTH	TOTAL LENGTH	Depth From K3	Remarks
1	3.12	3.12	1130.88	HANGER
2	11.80	14.92	1169.08	
3	12.04	26.96	1157.04	
4	12.00	38.96	1145.04	
5	11.72	50.68	1133.32	
6	12.03	62.71	1121.29	
7	11.84	74.55	1109.45	
8	11.95	86.50	1097.50	
9	11.83	98.33	1085.67	
10	11.97	110.30	1073.70	
11	11.93	122.28	1061.72	
12	12.00	134.28	1049.72	
13	11.91	146.19	1037.81	
14	11.91	158.10	1025.90	
15	11.89	169.99	1014.01	
16	11.94	181.93	1002.07	
17	11.93	193.91	990.09	
18	11.86	205.77	978.23	
19	11.87	217.64	966.36	
20	11.89	229.53	954.47	
21	11.90	241.43	942.57	
22	12.00	253.43	930.57	
23	11.77	265.20	918.80	
24	11.87	277.07	906.93	
25	12.00	289.07	894.93	
26	11.92	300.99	883.01	
27	11.92	312.91	871.09	
28	11.93	324.89	859.11	
29	11.74	336.63	847.37	
30	11.87	348.50	835.50	
31	11.86	360.36	823.64	
32	11.99	372.35	811.65	
33	12.02	384.37	799.63	
34	11.93	396.35	787.65	
35	11.96	408.31	775.69	
36	11.70	420.01	763.99	
37	11.93	431.99	752.01	
38	11.94	443.93	740.07	
39	11.75	455.68	728.32	
40	11.92	467.60	716.40	
41	11.84	479.44	704.56	
42	12.02	491.46	692.54	
43	11.97	503.43	680.57	
44	11.97	515.40	668.60	
45	11.33	527.23	656.72	
46	11.92	539.20	644.80	
47	11.83	551.03	632.97	
48	12.16	563.19	620.81	
49	11.91	575.10	608.90	
50	11.75	586.85	597.15	

GEOSERVICES T.D.C

SHELL — HAMMERHEAD#1 — 8/6/82

CASING LIST

CASING SIZE: 9 5/8 TYPE: N80 WEIGHT(lbs/ft): 47

CASING LENGTH: 1040.32
SHOE DEPTH : 1184.00

Jt #	LENGTH	TOTAL LENGTH	Depth From KB	Remarks
51	11.98	598.83	585.17	
52	11.95	610.78	573.22	
53	11.56	622.34	561.66	
54	11.85	634.19	549.81	
55	11.85	646.04	537.96	
56	11.94	657.98	526.02	
57	11.95	669.93	514.07	
58	11.95	681.88	502.12	
59	12.04	693.92	490.08	
60	11.97	705.89	478.11	
61	12.07	717.96	466.04	
62	11.94	729.90	454.10	
63	11.72	741.62	442.38	
64	11.93	753.55	430.45	
65	11.92	765.47	418.53	
66	11.96	777.43	406.57	
67	11.38	789.31	394.69	
68	11.75	801.06	382.94	
69	11.95	813.01	370.99	
70	11.86	824.87	359.13	
71	11.81	836.68	347.32	
72	11.90	848.58	335.42	
73	11.94	860.52	323.48	
74	11.39	872.41	311.59	
75	11.99	884.40	299.60	
76	11.94	896.34	287.66	
77	11.39	908.23	275.77	
78	11.33	920.06	263.94	
79	11.70	931.76	252.24	
80	11.95	943.71	240.29	
81	11.71	955.42	228.58	
82	11.73	967.20	216.80	
83	12.18	979.38	204.62	
84	12.02	991.40	192.60	
85	11.90	1003.30	180.70	
86	11.85	1015.15	168.85	
	0.55	1015.70	168.30	FLOAT COLLAR
87	11.93	1027.68	156.32	
88	12.64	1040.32	143.68	SHOE JOINT

WELL DIARY - HAMMERHEAD #1

Drilling Day 1 17/5/82
Run temporary guide base. Pick up 26"Bit and 36"Hole Opener. Drill 143-151 met

DD 2 18/5/82
Drill 151 to 202 met. Survey at 197 met. Ream to bottom. P.O.O.H. Run 30"casing

DD 3 19/5/82
Running 30" casing. Cement with 954 sacks class G cement. P.O.O.H. Wash around wellhead. Drill cement and shoe with 14.75"Bit from 187-202 met. Run 12.25"Bit. Drill 202-260 met.

DD 4 20/5/82
Drill 260-565 met. Circulate, Survey at 565. Pull up to BHA. Unlatch pin connector due to bad weather. WOW.

DD 5,6,7 21/5/82 to 23/5/82
Waiting on Weather

DD 8 24/5/82
W.O.W. rig up 26"Hole opener, tag cement at 137met. Open hole 187-363 met

DD 9 25/5/82
Open hole to 26" from 363-546 met

DD 10 26/5/82
Open hole to 26" 546-565 met. Survey, wiper trip. Circ for 3 hours with visco mud. Chain out of hole. 2 cones lost from hole opener. Run 20"casing.

DD 11 27/5/82
Finnish running 20"casing. Test pull 200001bs. Cement with 45m. tons class A and 16m. tons class G, followed by 673 sacks class G cement. Running tool stuck, work 15 hrs. Rig up guide frames.

DD 12 28/5/82
Wash around well head. Relocate rig. Run BOP stack and 2 joints riser. Test and blow kill line. Repair kill line.

DD 13 29/5/82
Tag cement at 550 met. Drill out shoe at 554 met. Run 12.25"Bit, torques up. Run J22 and junk basket three times, no progress.

DD 14 30/5/82
Run milling tool. Run reverse circ junk basket(no junk). Run J22 making 5 me

DD 15 31/5/82
Four magnet and junk basket runs. Bit run 532-591 met. Pull to change BHA.

DD 16 1/6/82
Two magnet and junk basket runs. Bit run 532-591 met. New Bit, run 591-591.5m One magnet run. RIH with Bit and junk basket.

DD 17 2/6/82
Run junk basket. So far 90-100 lbs of junk. Set cement plug to sidetrack.

DD 18 3/6/82
Wait on cement. Drill cement 530-554 met. Pick up Dyna Drill and bent sub. Dr 554-593 met. Survey. Run 12.25"Bit. Drill 592-639 met.

WOB/RPM/ROP PRACTICES

BIT#1-REED+HOLE OPENER
Hole was opened with this 36"Bit with 0.5 tons on bit and about 32 RPM for ROP of 10-40 m/hr,through unconsolidated top hole.

BIT#3-REED FP12
Pilot 12.25" hole drilled to the 20" casing depth.ROP was approx.150-200 m/hr till about 350 met with 3-5 tons on the bit and 85 RPM.ROP steadily decreased to 565 met to 30-40 m/hr for increasing WOB of 6-9 tons and RPM 90-95,but all fluctuating values.

BIT#4-REED FP12+HOLE OPENER
Made ROP of 50-20 m/hr till around 450 met for 2-4 WOB and 75 RPM.2 cones were lost from the hole opener probably at 400-450 met as after increasing torque for a lower RPM 60-65 and increased WOB 4-6 tons was required to maintain an ROP of 5-15 m/hr till 565 met.

BIT#5-11
Were all unsuccessful attempts to make hole after various mill,junk basket and magnet runs to try and fish the two cones from hole opener.They all drilled on junk making 1-9 met hole at best.

BIT#12-HTC J1
Drilled the complete section to 1200 met and the 9 5/8" casing depth. ROP fell if eratically in a trend from 40 to 8 m/hr at 1050 met.Thereafter it picked up a little at 10-20 m/hr to 1200 met.All section was at steady 90-110 RPM but WOB average at 7 tons to 1050 met,then 9 tons to 1200 met. Section was through relatively uniform Gippsland Limestone Formation.

BIT#14-REED S13
Made increasing ROP from 1204 to 1230 met of 5-20 m/hr for average 10 tons on bit and 100-110 RPM through the Lakes Entrance Formation.Slowed for 50 met in Oligocene section before hitting the unconformity and Latrobe sands with ROP of 40-100 m/hr for WOB of 7-8 tons and 110-115 RPM.

BIT#15-REED HS51
Drilled 1406-1723 met with a very steady 120 RPM and WOB of 9-13 tons, but the ROP was very variable due to the interbedded lithology eg 1500 to 1550 met where calcareous mudstone and shale was interbedded with the pure Quartz Latrobe sand.In general the purer sand sections drilled 15-35 m/hr eg 1600-1700 met and the Mudstone/Shale at 5-10 m/hr.

BIT#16-SEC S11
Only made 40 met for a steady 85 RPM and WOB of 13-16 tons.The ROP fell steadily from start of 20 m/hr to around 5 m/hr at end of run.Bit was badly worn.Probably a bad choice of Bit as it was a soft formation Mill tooth Bit drilling Lithic Sandstone Formation.

BIT#17-HTC JD8
A Mill tooth hard formation bit which only made 16 met for 30 RPM,15 tons on Bit before sharp increase in torque and falling ROP 20-2 m/hr.When pulled had lost one cone.

DD 19 4/6/82
Drill 639-667 met.Survey.Drill 667-769 met.Survey.Short trip.Drill 769-857 met.Rig service.Drill 857-891 met.

DD 20 5/6/82
Drill 891-917 met.Survey.Drill 917-935 met.Short trip.Drill 935-1033 met.

DD 21 6/6/82
Drill 1033-1200 met.Wiper trip to shoe.Schlumberger log,first run hung up twice at 667 and 1031 met.Wiper trip.

DD 22 7/6/82
Circulate around hang up points and on bottom.Schlumberger log,run ISF sonic and FDC-CNL.Wiper trip,circulate and condition.

DD 23 8/6/82
Run and cement 9 5/8"casing.Shoe at 1184 met.W.O.C

DD 24 9/6/82
Test stack.Tag cement at 1068 met.Drill cement,float collar 1162 met,shoe at 1184 met,formation from 1200 met.Formation intake test to 1.35sg. Drill break at 1296 met up to 260 m/hr-fine sand.Pull out at 1405 met

DD 25 10/6/82
Drill ahead from 1405 met.Few drilling breaks and flow checks.Survey.

DD 26 11/6/82
Drill anead from1530 met.Survey at 1684 met.Short trip to shoe.

DD 27 12/6/82
Drill ahead from 1684-1763 met with 2 Bit runs.Torqueing up so P.O.O.H Bit lost one cone.Run reverse circ basket.

DD 28 13/6/82
Drill 1763-1773 met.New Bit#19 drill to 1871 met.Survey.Drill to 1921 met. Bit lost all 3 cones.

DD 29 14/6/82
Run another long tooth J3.Drill to 1942 met.Bit worn smooth when pulled. Run soft formation insert drill 1942-1930 met.

DD 30 15/6/82
Drill to 1997 met.Two teeth lost when pulled.

DD 31 16/6/82
Run J22 drill steadily 1997-2063 met.

WOB/RPM/ROP PRACTICES

BIT#18-HTC J7
Another Mill tooth hard formation bit ran with 80-100 RPM and WOB increase over the 56 met run(1773-1833)from 12-16 tons.ROP was erratic due to Lithology with varying amounts of clay in the sandstone matrix.ROP fell from 35-2 m/hr and Bit was pulled due to slow ROP.

BIT#19-HTC J3
A longer tooth soft formation bit for the clay.Drilled steadily for 87 met (1833-1921)for 80-95 RPM and decreasing WOB 17-12 tons.ROP was 4-20 m/hr. When pulled it had lost all 3 cones,probably happened around 1910 met with torque increase.Also a few interbedded coal seams damaged it.

BIT#20-HTC J3
Same as last bit.It ran only 21 met(1921-1942)slowing down rapidly from 15-5 m/hr despite increasing the RPM after 15 met to 120 from 95 for lowered WOB of 12-10 tons.Pulled bit after increase in torque,very badly worn(lost all teeth)Formation was Lithic and Pebbly.

BIT#21-HTC J33
A soft formation insert bit,drilled 55 met(1942-1997)with60 RPM,17-20 WOB and after a slow section from 1950-1960 met in conglomerate made steady hole through Lithic Sandstone at 5-15 m/hr.

BIT#22-HTC J22
Also soft formation insert drilled 1997-2131 met for 55-65 RPM,14-16 WOB It made 8-10 m/hr through Lithic Sands till 2050 met.Slowed in Mudstone to steady 4-5 m/hr till 2115 met then broke 10-15 m/hr in Lithics again. Made TD at 2131 meters.

OVERPRESSURE SURVEY

D exponent was computed throughout the well to monitor formation pressure.

From the sea-bed (143m) to 600m, formations were insufficiently consolidated to give valid readings. From 600m down to 1040m a sequence of marlstone/claystone provided an adequate baseline for a trend.

At around 1060m the D exponent moved sharply to the left, implying the beginning of abnormal pressure. However, the leftward shift did not continue, and the D exponent plot ran parallel to the established trend. Since there was no signifcant change in the hydraulic parameters at that point this anomaly must be attrbuted to a change in the drillability of the formation. This was in fact the case, since the formation changed from Marlstone to Mudstone at this point.

The anomaly around 1200-1220m is due to junk in the hole. Once this problem had been solved the D exponent again followed the normal trend.

At 1296 a sharp break occurred on entering a sand. ROPs exceeding 200m/hr were recorded. From 1296 downwards the lithology was predominantly Sand/Sandstone with only thin beds of Shale/Mudstone Consequently D exponent was of little significance in this section

Further complications were created by the loss of all three cones from Bit 15. This and other junk in the hole greatly reduced the validity of the D exponent in certain sections of the hole.

In general all the formations were relatively unconsolidated, especially the Claystone/Marlstone/Mudstone sequence from 600 to 1200m. This is significant for D exponent evaluation as rates of penetration are greatly affected by changes in the hydraulics. Since D exponent does not take these changes into account a change in the D exponent may simply be a change in the hydraulics. This would account to a considerable extent for the erratic nature of the D exponent from 1540m on as recurrent pump problems and mud problems made flow rates and pump pressures vary considerably.

Apart from the D exponent survey other indicators of over-pressure were monitored, notably connection gas and overpull during connections. Throughout the well there were no indications of either

Flowline temperature and mud resistivity were also monitored but gave inconclusive results. In the case of flowline temperature the cooling effect of the riser and the frequent trips made the measurements largely meaningless. In the case mud resistivity no significant changes were observed. However since the wireline logs showed notable changes in Rw it might well have proved useful had overpressure been present.

All indications were that pore pressures were normal, in the in the range 1.03-1.07. This was confirmed by the RFT readings, and also indirectly by mud losses to the formation whilst drilling the section from 1300-1700m

GAS

Gas was monitored throughout the well both on a hotwire gas detector (GD12) and a chromatograph (GAL31).

From the surface to 1524m no measureable amounts of gas were detected. From 1524 to 1701 traces of gas were recorded. The highest levels recorded were C1, 0.24%; C2, 0.03%; C3, 0.02%

In general the only conclusions that can be drawn from the gas readings are:-

1: The C1/C2 and C2/C3 ratios are very high.

2: Considering the porosity of the sands drilled it is clear that the true gas levels in the sands are very low.

3: On the basis of 1 and 2 it is clear that the sand has been flushed and the gas is residual.

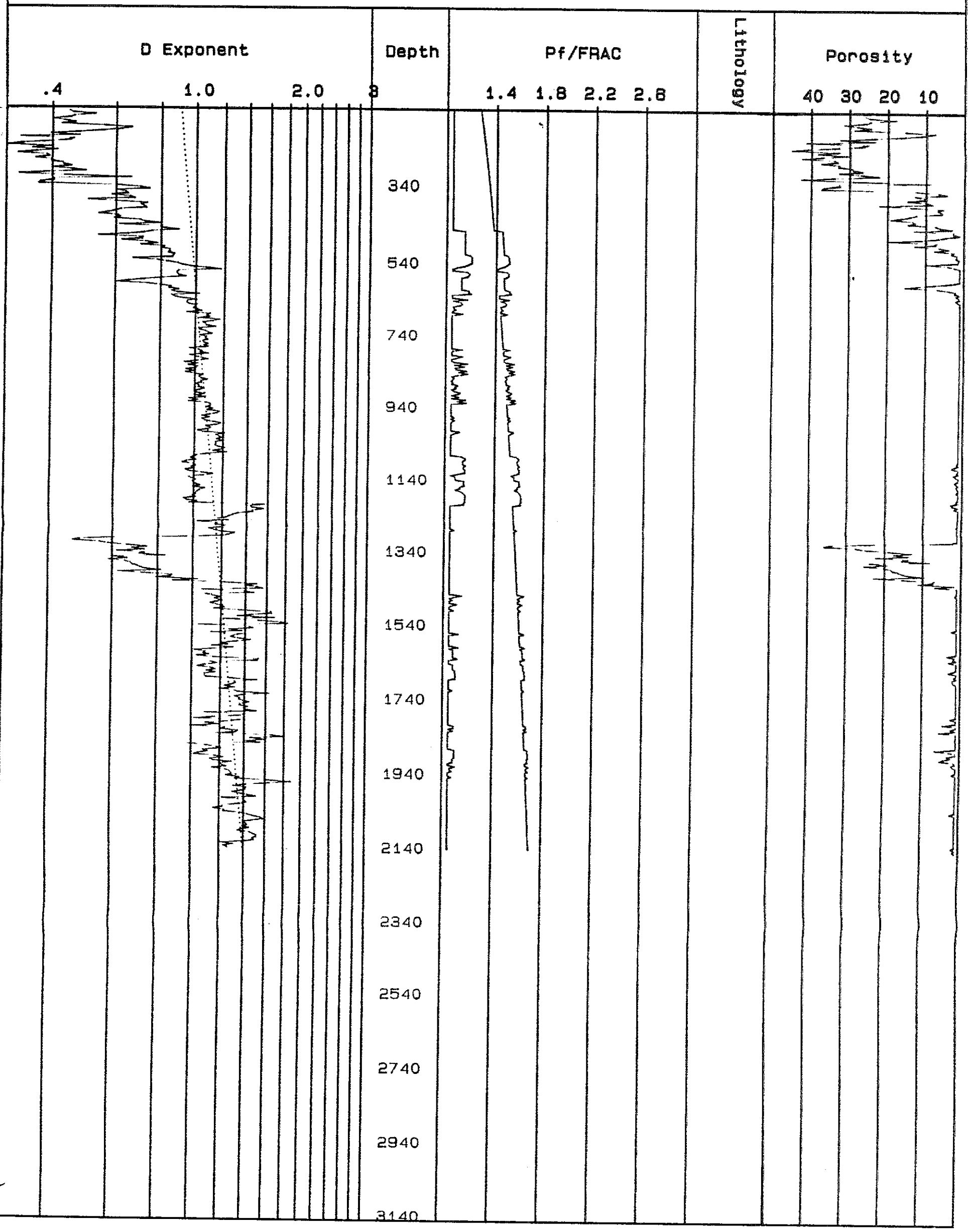
4: The presence of C3 is suggestive of heavier hydrocarbons.

Geoservices overseas S.A.

ZERO

SHELL AUSTRALIA HAMMERHEAD 1

Scale 1/ 10000

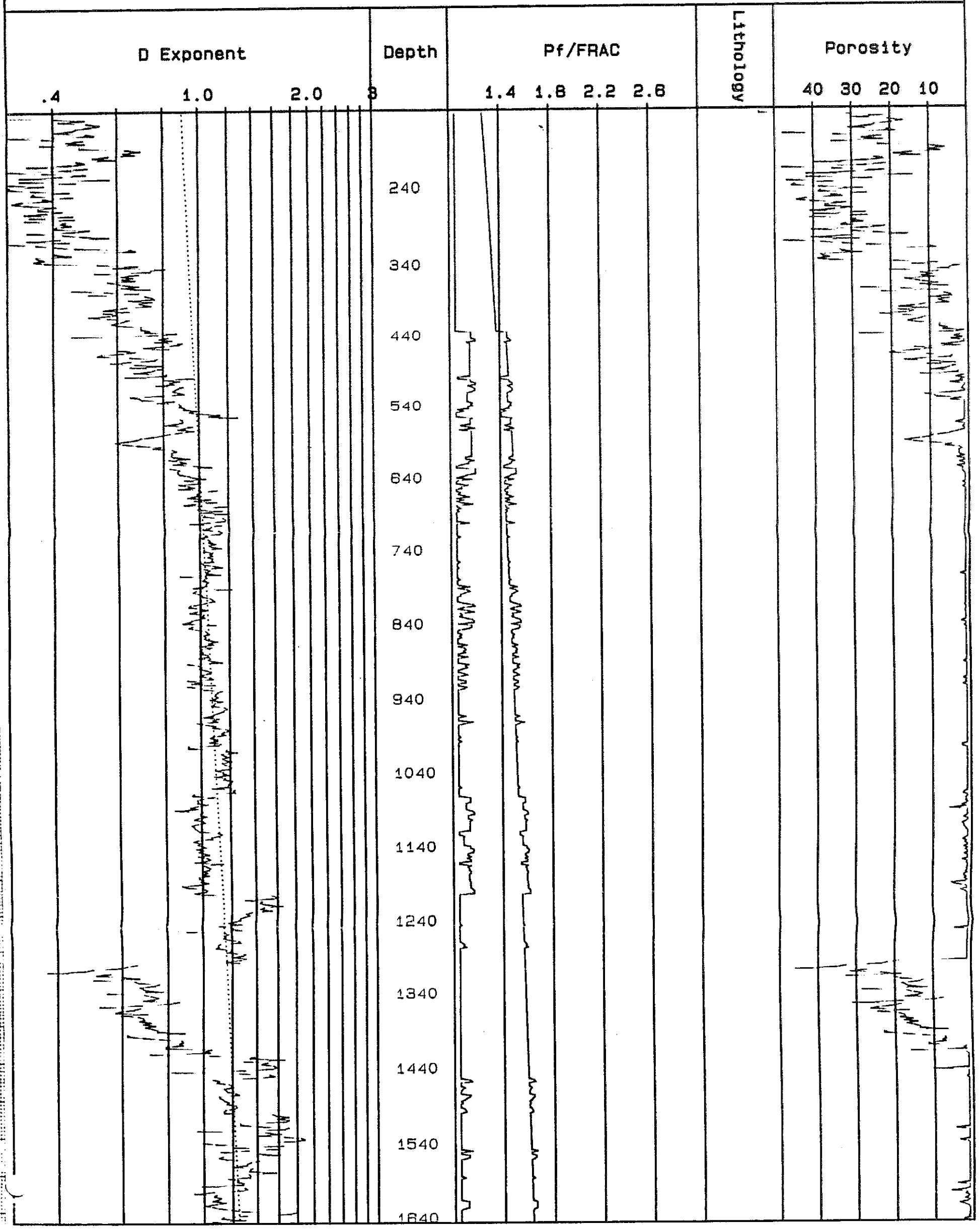


Geoservices overseas S.A.

ZERO

SHELL AUSTRALIA HAMMERHEAD 1

Scale 1/ 5000

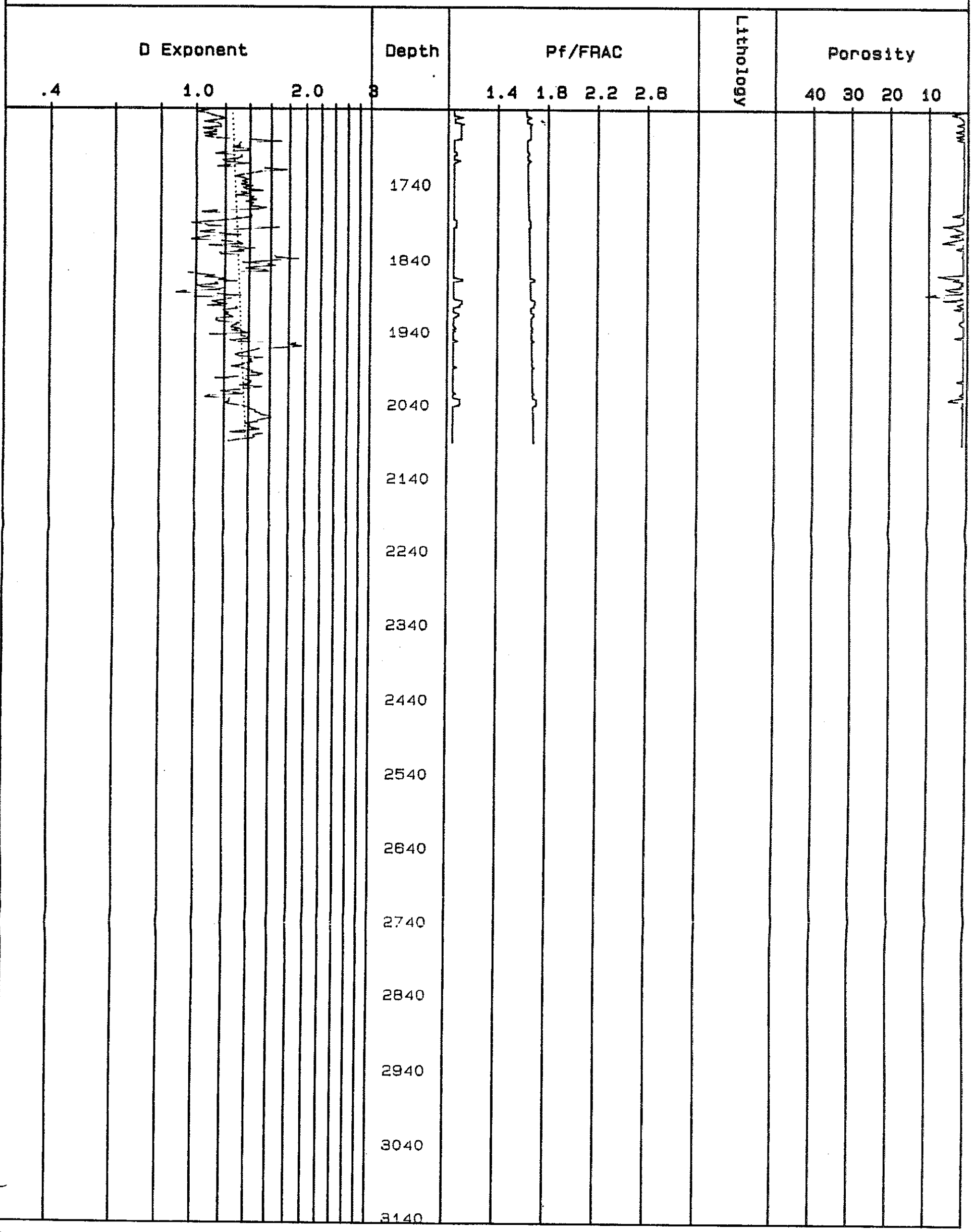


ZERO

Geoservices overseas S.A.

SHELL AUSTRALIA HAMMERHEAD 1

Scale 1/ 5000

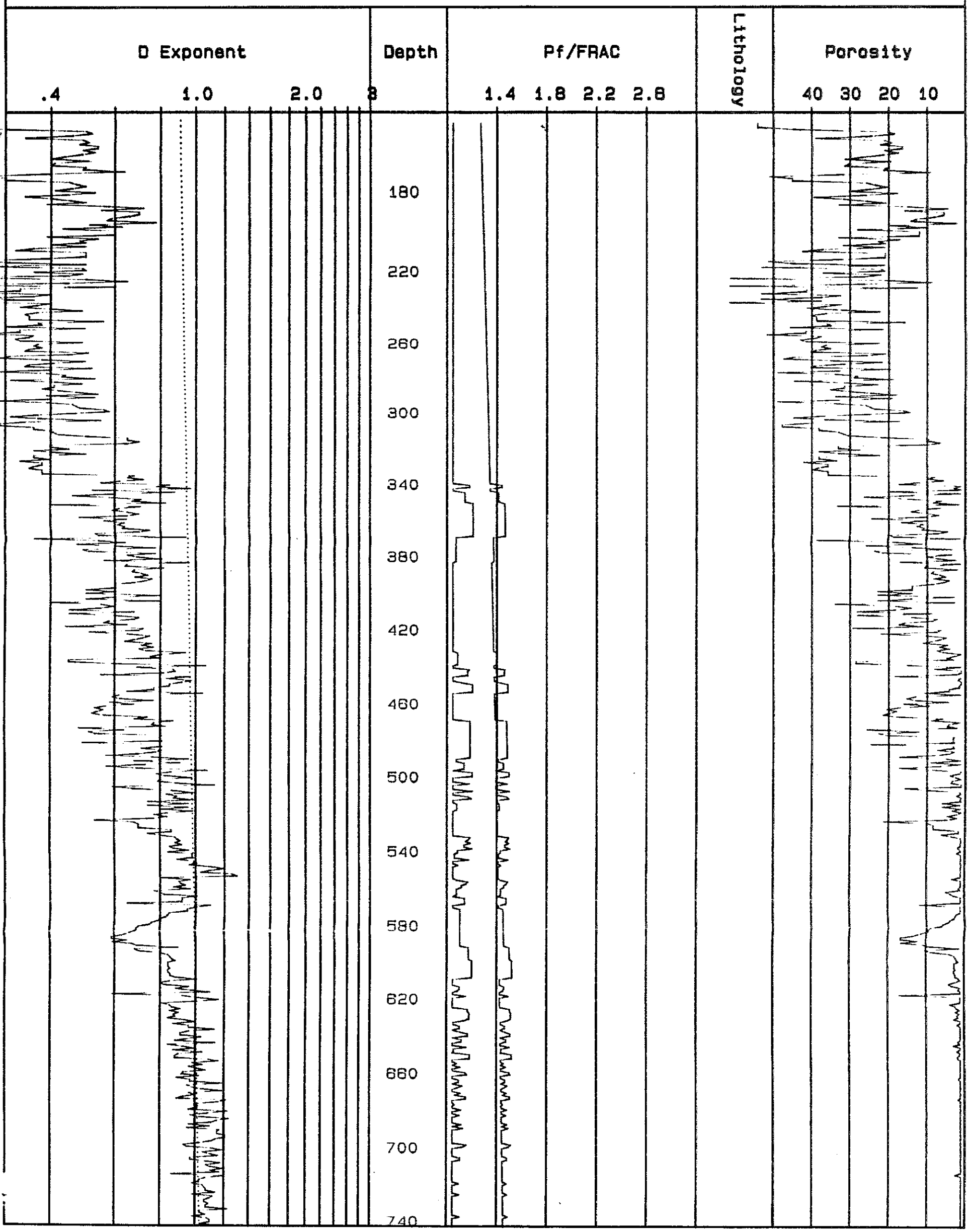


Geoservices overseas S.A.

ZERO

SHELL AUSTRALIA HAMMERHEAD 1

Scale 1/ 2000

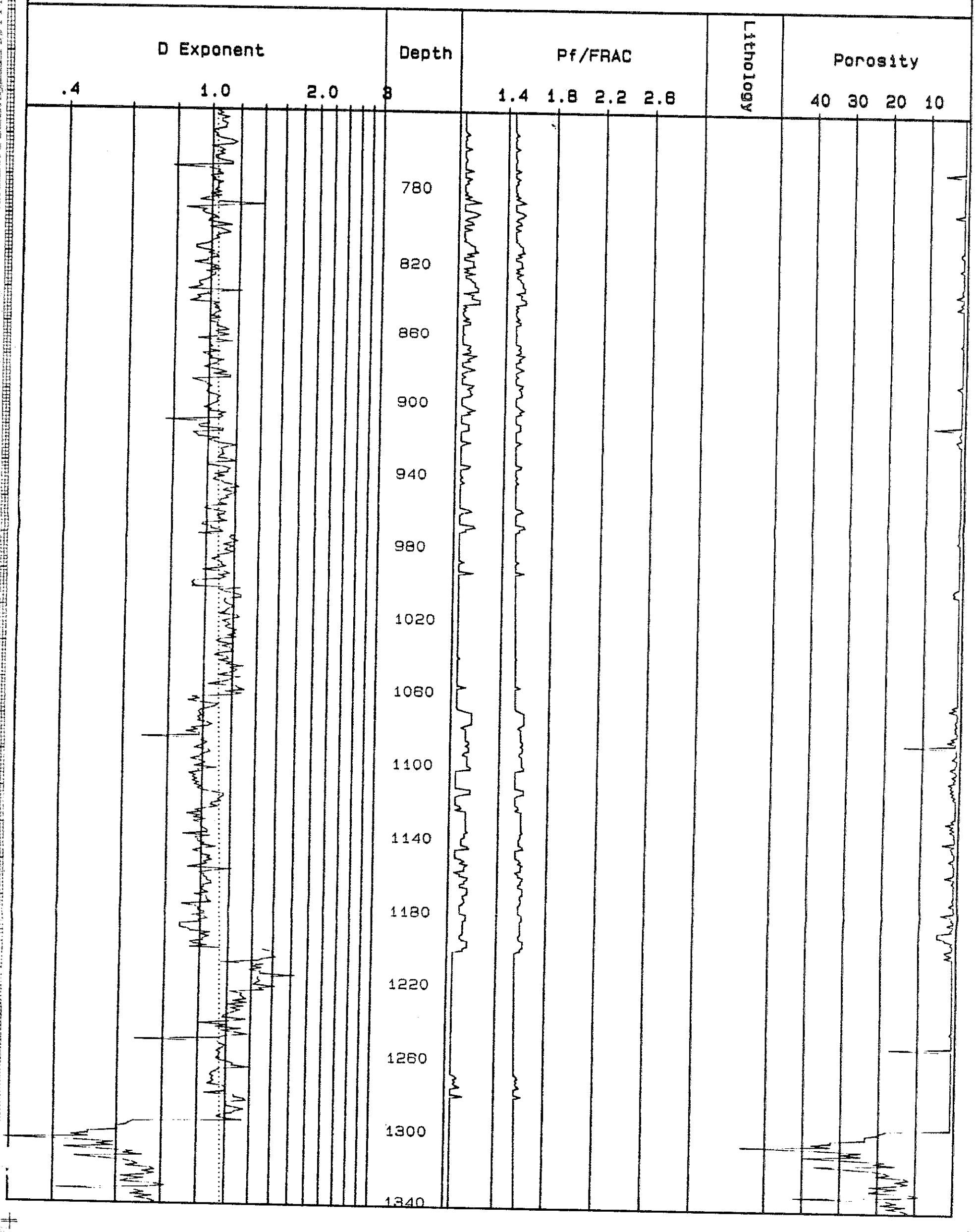


ZERO

Geoservices overseas S.A.

SHELL AUSTRALIA HAMMERHEAD 1

Scale 1/ 2000

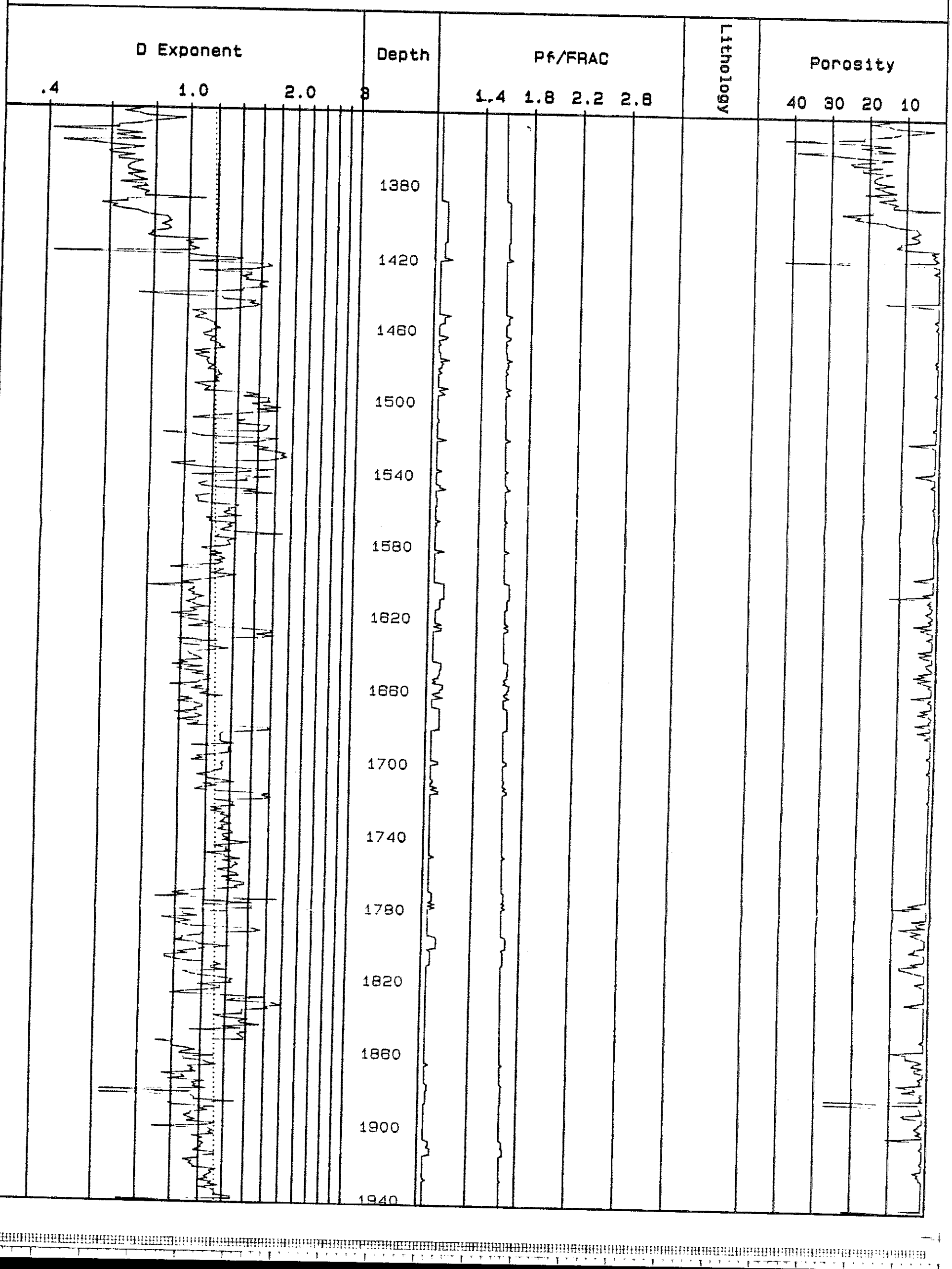


Geoservices overseas S.A.

ZERO

SHELL AUSTRALIA HAMMERHEAD 1

Scale 1/ 2000

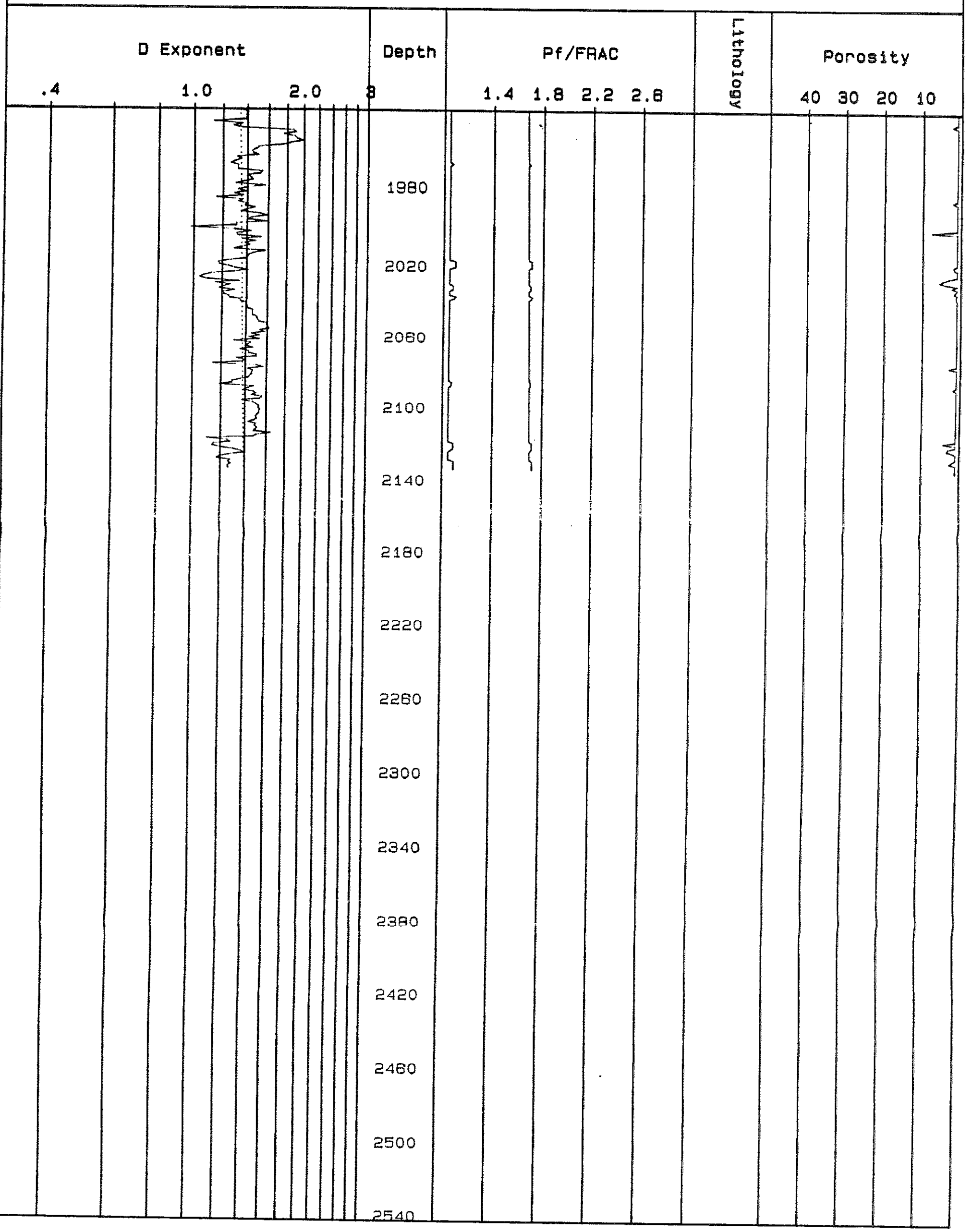


ZERO

Geoservices overseas S.A.

SHELL AUSTRALIA HAMMERHEAD 1

Scale 1/ 2000



eoservices F.D.C

SHELL

HAMMERHEAD 1

E-LOG DATA

DEPTH m	TVD m	FDC g/cc	CNL lpu	SONIC usec/ft	GR	RILD Ohm-m	DEPTH m	TVD m	FDC g/cc	CNL lpu	SONIC usec/ft	GR	RILD Ohm-m
555	555	2.00		103	31	2.0							
560	560	2.05		110	32	2.0	780	780	2.36	37	115	45	2.0
565	565	2.27		110	28	2.0	785	785	2.39	33	109	45	5.0
570	570	2.25		120	43	1.9	790	790	2.39	34	111	42	2.0
575	575	2.30		102	30	3.0	795	795	2.40	34	100	42	3.0
580	580	2.30		102	30	3.0	800	800	2.33	34	105	40	2.0
5	585	2.26		109	31	3.0	805	805	2.38	35	110	45	3.0
590	590	2.31		112	35	2.5	810	810	2.36	33	101	43	4.0
595	595	2.30	36	110	35	2.0	815	815	2.42	31	100	40	4.0
600	600	2.30	43	110	45	2.5	820	820	2.35	33	100	42	2.0
605	605	2.33	33	111	31	2.5	825	825	2.45	32	110	48	7.0
610	610	2.32	34	109	31	2.0	830	830	2.36	21	86	35	2.0
615	615	2.35	37	100	35	3.0	835	835	2.35	27	110	45	4.0
620	620	2.35	33	111	42	3.5	840	840	2.38	28	102	35	4.0
625	625	2.36	31	105	35	2.5	845	845	2.40	30	101	40	4.0
630	630	2.30	31	100	40	3.0	850	850	2.36	31	100	45	4.0
635	635	2.35	29	103	40	3.0	855	855	2.40	33	100	43	3.0
640	640	2.30	36	111	45	2.0	860	860	2.40	33	100	42	3.0
645	645	2.36	34	111	40	2.1	865	865	2.36	30	100	45	3.0
650	650	2.34	33	110	45	2.2	870	870	2.40	30	100	40	4.0
655	655	2.35	33	110	45	2.0	875	875	2.35	36	99	55	4.0
660	660	2.40	30	100	50	4.0	880	880	2.43	30	105	40	3.0
665	665	2.23	29	125	50	2.0	885	885	2.42	33	100	45	4.0
670	670	2.40	25	105	40	4.0	890	890	2.37	30	110	45	3.0
675	675	2.33	32	101	40	4.0	895	895	2.40	33	105	45	3.0
0	680	2.34	30	105	45	4.0	900	900	2.38	35	105	45	3.0
685	685	2.38	34	110	45	2.0	905	905	2.42	27	100	45	4.0
690	690	2.40	30	102	31	3.0	910	910	2.25	33	120	50	1.9
695	695	2.33	40	102	45	2.0	915	915	2.42	33	120	48	2.0
700	700	2.38	27	112	40	5.0	920	920	2.43	31	100	40	3.0
705	705	2.35	32	95	40	5.0	925	925	2.45	30	100	45	3.5
710	710	2.48	26	102	30	5.0	930	930	2.44	28	95	40	4.0
715	715	2.37	31	90	30	4.0	935	935	2.42	27	91	35	5.0
720	720	2.34	32	100	30	3.0	940	940	2.41	29	98	35	3.5
725	725	2.40	27	100	30	4.0	945	945	2.40	28	100	40	4.0
730	730	2.40	26	104	35	4.0	950	950	2.45	32	110	45	2.0
735	735	2.35	32	100	33	4.0	955	955	2.40	33	110	55	2.0
740	740	2.37	33	100	35	4.0	960	960	2.40	32	95	40	4.0
745	745	2.37	30	95	30	4.0	965	965	2.40	37	110	50	2.0
750	750	2.35	29	98	35	4.0	970	970	2.35	27	90	37	5.0
755	755	2.43	28	93	30	5.0	975	975	2.40	33	98	30	4.0
760	760	2.39	33	100	40	4.0	930	930	2.40	33	102	43	3.0
765	765	2.38	30	95	40	4.0	935	935	2.44	27	95	32	4.0
770	770	2.33	30	95	40	4.0	990	990	2.46	22	85	33	6.0
75	775	2.35	30	95	40	5.0	995	995	2.34	33	100	50	4.0
							1000	1000	2.45	27	90	30	4.0

Geoservices T.D.C | SHELL | HAMMERHEAD 1

E-LOG DATA

DEPTH m	TVD m	FDC g/cc	CNL lpu	SONIC usec/ft	GR	RILD Ohm-m	DEPTH m	TVD m	FDC g/cc	CNL lpu	SONIC usec/ft	GR	RILD Ohm-m
1005	1005	2.43	30	100	40	3.0	1230	1230	2.43	24	100	40	2.0
1010	1010	2.43	25	90	30	5.0	1235	1235	2.45	25	105	45	1.9
1015	1015	2.38	30	98	45	2.0	1240	1240	2.35	33	135	50	1.9
1020	1020	2.45	29	98	40	3.0	1245	1245	2.38	30	100	40	1.9
1025	1025	2.42	23	95	45	4.0	1250	1250	2.33	31	115	50	1.8
1030	1030	2.37	33	101	45	3.0	1255	1255	2.40	30	100	50	1.9
1035	1035	2.40	31	100	45	3.0	1260	1260	2.31	36	120	55	1.8
1040	1040	2.35	32	100	47	3.0	1265	1265	2.35	33	115	45	1.8
1045	1045	2.44	27	100	50	2.0	1270	1270	2.35	33	120	50	1.8
1050	1050	2.20	36	100	50	2.0	1275	1275	2.44	22	90	40	3.0
1055	1055	2.55	24	100	40	2.0	1280	1280	2.46	23	95	40	2.0
1060	1060	2.20	36	100	50	2.0	1285	1285	2.37	36	105	40	2.0
1065	1065	2.35	38	100	50	2.0	1290	1290	2.35	33	100	50	1.9
1070	1070	2.20	30	100	55	2.0	1295	1295	2.27	19	95	20	1.2
1075	1075	2.20	36	100	48	2.0	1300	1300	2.20	24	100	45	1.3
1080	1080	2.23	36	100	60	2.0	1305	1305	2.27	20	100	45	1.8
1085	1085	2.33	39	100	50	2.0	1310	1310	2.13	28	95	60	1.2
1090	1090	2.40	33	100	50	2.0	1315	1315	2.18	29	102	60	1.2
1095	1095	2.35	36	100	50	2.0	1320	1320	2.16	31	105	55	1.2
1100	1100	2.35	36	100	57	2.0	1325	1325	2.17	29	105	45	1.2
1105	1105	2.27	39	100	48	2.0	1330	1330	2.14	30	105	45	1.2
1110	1110	2.36	39	100	55	2.0	1335	1335	2.15	30	105	45	1.2
1115	1115	2.44	37	100	48	2.0	1340	1340	2.33	28	95	90	2.0
1120	1120	2.30	30	100	50	2.0	1345	1345	2.33	28	100	60	1.
1125	1125	2.37	37	100	55	2.0	1350	1350	2.22	27	100	45	1.
1130	1130	2.37	37	100	55	2.0	1355	1355	2.25	27	102	40	1.
1135	1135	2.25	36	100	55	2.0	1360	1360	2.17	30	102	50	1.
1140	1140	2.38	40	100	55	2.0	1365	1365	2.15	30	102	50	1.
1145	1145	2.40	36	100	50	2.0	1370	1370	2.15	27	100	45	1.
1150	1150	2.40	35	100	57	2.0	1375	1375	2.15	31	102	60	1.
1155	1155	2.35	38	100	50	2.0	1380	1380	2.18	29	102	70	1.
1160	1160	2.36	32	100	58	2.0	1385	1385	2.45	20	85	35	1.
1165	1165	2.42	36	100	55	2.0	1390	1390	2.30	21	92	20	1.
1170	1170	2.38	36	100	50	2.0	1395	1395	2.25	27	95	90	1.
1175	1175	2.25	34	100	58	2.0	1400	1400	2.27	26	92	75	1.
1180	1180	2.25	34	100	55	2.0	1405	1405	2.27	21	92	45	1.
1185	1135	2.25	34	105	50	2.0	1410	1410	2.27	26	95	120	1.
1190	1190	2.25	34	100	55	2.0	1415	1415	2.40	30	95	75	3.
1195	1195	2.20	33	105	55	2.0	1420	1420	2.20	34	105	75	4.
1200	1200	2.25	33	105	55	2.0	1425	1425	2.35	24	93	75	2.
1205	1205	2.10	33	115	45	1.9	1430	1430	2.10	36	125	60	4.
1210	1210	2.23	31	110	45	1.9	1435	1435	2.45	9	70	20	4.
1215	1215	2.40	24	112	40	1.9	1440	1440	2.60	3	65	20	18.
1220	1220	2.40	30	115	55	1.9	1445	1445	2.33	18	90	30	1.
1225	1225	2.43	27	110	45	1.9	1450	1450	2.33	18	90	40	1.

Geoservices T.D.C

SHELL

HAMMERHEAD 1

E-LOG DATA

DEPTH m	TVD m	FDC g/cc	CNL lpu	SONIC usec/ft	GR	RILD Ohm-m	DEPTH m	TVD m	FDC g/cc	CNL lpu	SONIC usec/ft	GR	RILD Ohm-m
1455	1455	2.25	24	95	60	1.8	1680	1680	2.35	15	75	50	8.0
1460	1460	2.20	26	98	45	1.4	1685	1685	2.45	21	78	50	6.0
1465	1465	2.12	29	98	45	1.4	1690	1690	2.40	21	85	45	3.0
1470	1470	2.18	28	98	50	1.4	1695	1695	2.40	21	78	55	5.0
1475	1475	2.17	23	99	50	1.4	1700	1700	2.40	20	88	40	2.0
1480	1480	2.18	27	98	55	1.6	1705	1705	2.42	21	85	40	4.0
1485	1485	2.20	27	100	75	1.8	1710	1710	2.54	20	80	75	7.0
1490	1490	2.40	27	95	80	2.0	1715	1715	2.40	21	80	60	7.0
1495	1495	2.70	39	95	75	0.8	1720	1720	2.40	18	80	60	6.0
1500	1500	2.20	36	95	100	8.0	1725	1725	2.42	22	80	70	6.0
1505	1505	2.30	24	95	70	3.0	1730	1730	2.40	20	80	60	6.0
1510	1510	2.25	42	110	100	12.0	1735	1735	2.38	18	80	70	4.0
1515	1515	2.05	33	95	110	4.0	1740	1740	2.44	21	80	75	6.0
1520	1520	2.32	27	90	90	6.0	1745	1745	2.42	20	78	70	6.0
1525	1525	2.35	30	90	110	6.0	1750	1750	2.40	18	78	60	6.0
1530	1530	2.28	23	95	45	1.8	1755	1755	2.43	19	78	70	6.0
1535	1535	2.35	24	90	60	1.9	1760	1760	2.45	18	90	60	6.0
1540	1540	2.33	24	90	70	2.0	1765	1765	2.37	21	88	30	2.0
1545	1545	2.60	12	70	45	7.0	1770	1770	2.36	18	99	30	3.0
1550	1550	2.35	18	90	60	2.0	1775	1775	2.35	24	90	30	1.9
1555	1555	2.40	18	80	45	4.0	1780	1780	2.35	20	90	20	1.9
1560	1560	2.40	18	85	45	2.0	1785	1785	2.10	27	100	60	6.0
1565	1565	2.45	15	80	45	4.0	1790	1790	2.35	19	90	30	1.9
1570	1570	2.42	16	78	45	5.0	1795	1795	2.35	21	85	40	4.0
1575	1575	2.40	18	80	45	6.0	1800	1800	2.35	16	85	30	3.0
1580	1580	2.40	18	80	40	4.0	1805	1805	2.32	18	90	30	2.0
1585	1585	2.43	16	80	45	4.0	1810	1810	2.35	18	90	30	2.0
1590	1590	2.40	15	80	60	5.0	1815	1815	2.33	20	90	30	2.0
1595	1595	2.35	21	88	40	3.0	1820	1820	2.38	15	82	30	3.0
1600	1600	2.35	19	85	40	2.0	1825	1825	2.30	30	95	75	6.0
1605	1605	2.36	16	85	45	4.0	1830	1830	2.45	30	90	70	6.0
1610	1610	2.40	18	80	45	4.0	1835	1835	2.00	45	90	90	7.0
1615	1615	2.35	19	90	50	2.0	1340	1840	2.35	30	88	90	8.0
1620	1620	2.35	21	90	40	1.9	1845	1845	2.60	30	80	70	9.0
1625	1625	2.45	30	95	120	4.0	1850	1850	2.30	21	90	45	1.9
1630	1630	2.33	19	95	40	2.0	1355	1855	2.25	21	95	40	1.9
1635	1635	2.33	19	90	40	1.9	1860	1860	2.40	19	95	40	3.0
1640	1640	2.27	21	95	40	1.9	1865	1865	2.30	20	90	40	1.9
1645	1645	2.40	16	80	35	3.0	1870	1870	2.40	18	80	45	4.0
1650	1650	2.45	18	80	75	4.0	1875	1875	2.40	21	90	45	1.9
1655	1655	2.38	18	85	45	3.0	1880	1880	2.30	35	90	70	4.0
1660	1660	2.40	21	85	70	3.0	1885	1885	2.25	21	90	40	1.9
1665	1665	2.38	18	80	70	4.0	1890	1890	2.30	23	90	40	2.0
1670	1670	2.35	21	90	45	2.0	1895	1895	2.30	21	90	40	1.9
1675	1675	2.40	21	85	70	70.0	1900	1900	2.30	19	85	40	2.0

Geoservices T.D.C | SHELL | HAMMERHEAD 1

E-LOG DATA

DEPTH m	TVD m	FDC g/cc	CNL lbu	SONIC usec/ft	GR	RILD Ohm-m	DEPTH m	TVD m	FDC g/cc	CNL lbu	SONIC usec/ft	GR	RI Ohm
1905	1905	2.35	18	85	45	2.0							
1910	1910	2.35	18	75	45	4.0							
1915	1915	2.37	21	90	60	2.0							
1920	1920	2.37	19	80	60	4.0							
1925	1925	2.42	17	75	60	8.0							
1930	1930	2.50	21	95	45	4.0							
1935	1935	2.35	21	90	45	2.0							
1940	1940	2.30	18	72	60	9.0							
1945	1945	2.35	27	80	75	10.0							
1950	1950	2.40	27	75	70	10.0							
1955	1955	2.50	12	70	50	16.0							
1960	1960	2.47	16	70	60	12.0							
1965	1965	2.40	24	90	60	6.0							
1970	1970	2.50	15	70	60	16.0							
1975	1975	2.45	18	75	60	8.0							
1980	1980	2.34	21	80	45	4.0							
1985	1985	2.40	15	70	60	8.0							
1990	1990	2.50	13	70	70	18.0							
1995	1995	2.47	16	75	55	10.0							
2000	2000	2.45	15	70	50	13.0							
2005	2005	2.48	15	72	60	16.0							
2010	2010	2.50	13	75	60	18.0							
2015	2015	2.45	15	75	60	10.0							
2020	2020	2.40	13	85	45	4.0							
2025	2025	2.45	16	70	65	12.0							
2030	2030	2.48	15	70	70	14.0							
2035	2035	2.40	23	80	50	5.0							
2040	2040	2.40	21	80	50	7.0							
2045	2045	2.54	12	60	50	13.0							
2050	2050	2.40	30	95	75	10.0							
2055	2055	2.45	30	95	80	8.0							
2060	2060	2.48	27	80	75	10.0							
2065	2065	2.45	30	85	75	10.0							
2070	2070	2.55	21	85	75	10.0							
2075	2075	2.45	24	80	90	10.0							
2080	2080	2.20	24	85	70	10.0							
2085	2085	2.52	26	80	90	8.0							
2090	2090	2.52	27	80	80	10.0							
2095	2095	2.50	27	80	90	10.0							
2100	2100	2.60	25	70	80	11.0							
2105	2105	2.55	30	80	90	12.0							
2110	2110	2.55	21	80	75	9.0							
2115	2115	2.45	17	75	60	8.0							
2120	2120	2.50	13	80	75	3.0							
2125	2125	2.50	14	80	75	14.0							

ZERO

Geoservices overseas S.A.

SHELL

HAMMERHEAD 1

FDC	CNL	DEPTH	SONIC	GAMMA RAY	INDUCTION
gm/cc	% lpu	m	usec/ft	api units	Ohm-m
1.8 2.8	60 0		180 40	0 200	.2 1 5 10 50
		630			
		705			
		780			
		855			
		930			
		1005			
		1080			
		1155			
		1230			
		1305			
		1380			
		1455			
		1530			
		1605			
		1680			
		1755			
		1830			
		1905			
		1980			
		2055			
		2130			
		2205			
		2280			
		2355			
		2430			

GEOLOGICAL SUMMARY

GIPPSLAND LIMESTONE FORMATION

Top hole was a Siltstone being calcareous,fossiliferrus,green-grey, glauconitic,abundant forams,weakly consolidared.Also Sand fine-medium, white-yellow.

From 450 to 550 met get fair amount of Calc Claystone,green,grey,forams, grading into soft Marlstone.

MARLSTONE-dominates the section from 550-1050 met.It tends to argillaceous Limestone,grey,slightly silty and glauconitic,weakly consolidated,finely bioclastic(well preserved small pelagic forams),occ.pyritic.

LAKES ENTRANCE FORMATION

CALC MUDSTONE-from 1050-1300 met being dark grey blocky and moderately consolidated.Also locally very glauconitic(eg band at 1200 met)and silty.

LATROBE GROUP

At 1300 met we hit an unconformity and the begining of our main resevoir prospect.

CLEAN QUARTZ SAND-medium to very coarse,sub angular to sub rounded,quartz being clear to milky and occ.pyritic,unconsolidated.It continues to 1700 m being interbedded especially in section 1400-1550 met with:

SHALE-brown,grey,slightly calcareous,silty,flaky.

COAL-black,hard

CALC MUDSTONE-glauconitic-v.glauc,green-grey,slightly silty,soft

QUARTZ SANDSTONE-slightly lithic,fine,subangular,dolomitic cement

LITHIC SANDSTONE-comes in around 1700 met,being coarse,granular,angular moderately sorted,in light yellow clay matrix,lithics include chert,volcan grading to:

CONGLOMERATE-around 1950 met,coarse to pebbly,poorly to mod sorted,sub rounded.Intrusives,Extrusives,Cherts and Quartzites.

MUDSTONE-from 2050 to 2115 met,dark brown,grey,silty,slightly carbonaceous non calcareous,blocky,soft.

LITHIC SAND-from 2115-2131 met TD,polymict,coarse,mod sorted,sub angular to subrounded,multicoloured.