CONOCO Well No. 6507/7-2
MATERIAL CONSUMPTION & COST ANALYSIS

MATERIAL	UNIT $ COST	UNIT SIZE	36" SECTION	SECTION COSTS $	26" SECTION	SECTION COSTS $	17.5" SECTION	SECTION COSTS $	12.25" SECTION	SECTION COSTS $	8.5" SECTION	SECTION COSTS $	TOTAL CONSUMPTION	TOTAL COSTS $
Baryte	75.00	MT		.00	34	2550.00	331	24825.00	308	23100.00	99	7425.00	772	57900.00
Baryte (Hughes stock)	78.50	MT	18	1413.00	33	2590.50		.00		.00		.00	51	4003.50
Bentonite	200.00	MT									8	1600.00	8	1600.00
Bentonite (Hughes stock)	245.00	MT	30	7227.50	17	4165.00		.00		.00		.00	46.5	11392.50
Caustic Soda	7.50	25Kg					42	315.00	46	345.00	28	210.00	116	870.00
Caustic Soda(Hughes stock)	7.90	25Kg	19	150.10	44	347.60		.00		.00		.00	63	497.70
Soda Ash	9.00	50Kg									2	18.00	2	18.00
Soda Ash (Hughes stock)	8.80	50Kg	5	44.00	1	8.80		.00		.00		.00	6	52.80
Bicarbonate	10.60	50Kg							12	127.20	13	137.80	25	265.00
Gypsum	6.20	40Kg					542	3360.40	165	1023.00		.00	707	4383.40
Spercell C	9.00	25Kg							66	594.00	134	1206.00	200	1800.00
Desco	45.00	25lb									25	1125.00	25	1125.00
Lignite	24.00	25Kg									4	96.00	4	96.00
Poly Lo (Hughes stock)	14.55	25Kg		.00	11	160.05	170	2473.50		.00		.00	181	2633.55
Ancomel	22.00	25Kg					204	4488.00	123	2706.00		.00	327	7194.00
XCD Polymer (Hughes Stock)	297.00	25Kg					12	3564.00		.00	6	1782.00	18	5346.00
XC Polymer (Hughes Stock)	198.60	25Kg					4	794.40					4	794.40
Drispac Regular	76.30	50lb					43	3280.90	11	839.30	11	839.30	65	4959.50
Drispac Superlow	76.30	50lb					29	2212.70		.00		.00	29	2212.70
AA100 Lovis	70.00	25Kg					56	3920.00	44	3080.00	45	3150.00	145	10150.00
AA100 Regular	70.00	25Kg							6	420.00		.00	6	420.00
Staflo Exlo	149.60	25Kg							12	1795.20		.00	12	1795.20
Staflo	78.07	25Kg					10	780.70		.00		.00	10	780.70
Surflo W 300(Hughes stock)	45.00	25l					7	315.00	2	90.00	1	45.00	10	450.00
Antibac (Hughes stock)	57.60	25l					21	1209.60	8	460.80		.00	29	1670.40
Drlg.Detergent	180.00	200l					4	720.00	10	1800.00	12	2160.00	26	4680.00
Lubricant	230.00	200l								.00	12	2760.00	12	2760.00
EP Lube	924.10	200l							11	10165.10	4	3696.40	15	13861.50
Anconol (Defoamer)	100.30	25l							3	300.90		.00	3	300.90
Mica Fine	12.80	25Kg									10	128.00	10	128.00
Walnut	12.80	25Kg									12	153.60	12	153.60
Kwikseal	33.60	40lb									8	268.80	8	268.80
TOTALS				8834.60		9821.95		52259.20		46846.50		26800.90		144563.15
Drilling days			3		5		12		19		15		54	
Cost per day $				2944.87		1964.39		4354.93		2465.61		1786.73		2677.10
Amount drilled in meters			100		554		1080		500		652		2886	
Cost per meter $				88.35		17.73		48.39		93.69		41.11		50.09

ANCHOR DRILLING FLUIDS A/S

CONOCO Well No. 6507/7-2
MATERIAL CONSUMPTION & COST ANALYSIS
ANCHOR DRILLING FLUIDS

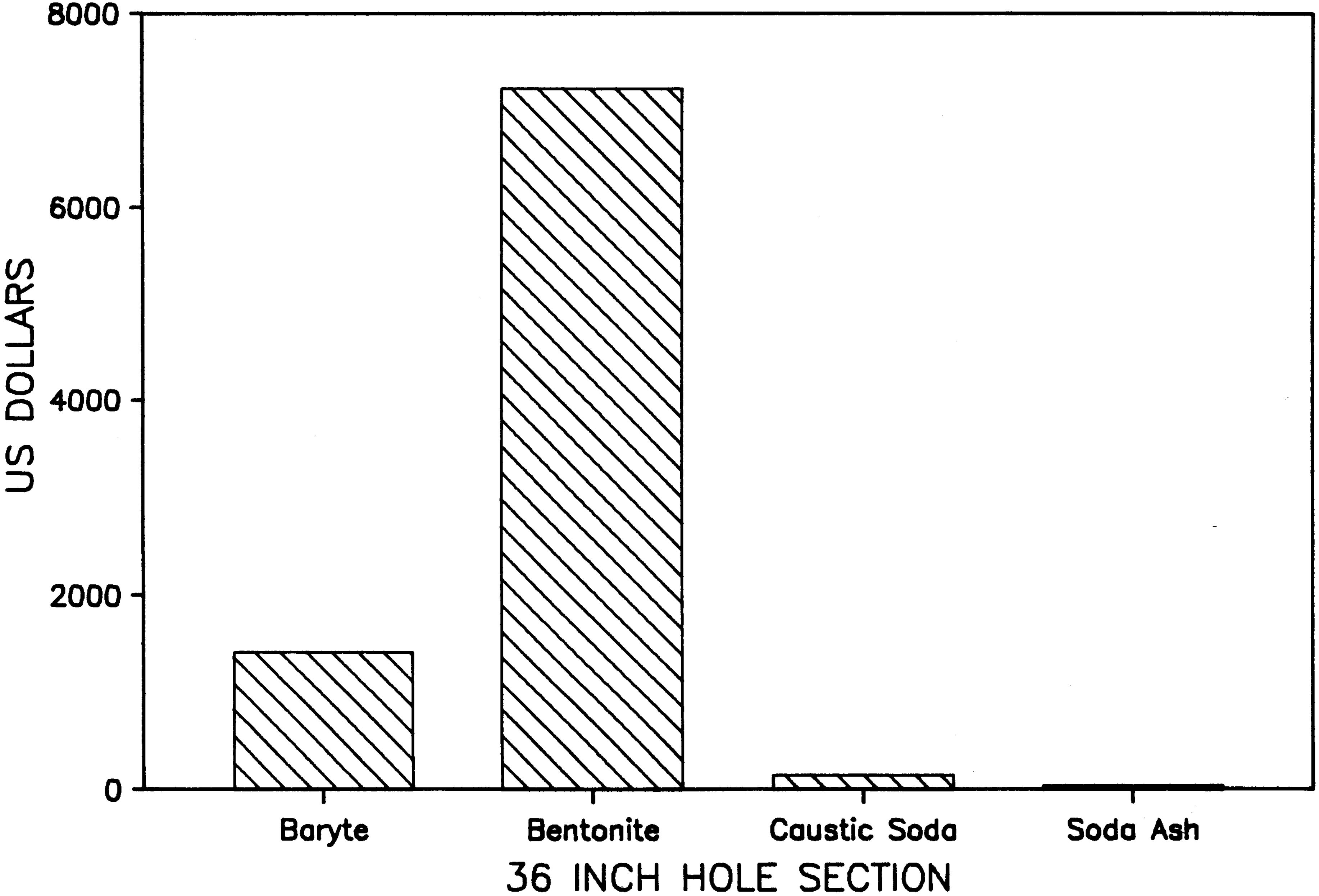
MATERIAL	UNIT $ COST	UNIT SIZE	TESTING	TESTING COSTS $
Baryte	75.00	MT	80	6000.00
Bentonite	200.00	MT	9	1800.00
Caustic Soda	7.50	25Kg	-5	-37.50
Soda Ash	9.00	50Kg	-1	-9.00
Bicarbonate	10.60	50Kg	38	402.80
Gypsum	6.20	40Kg	9	55.80
Lignite	24.00	25Kg	-12	-288.00
Desco	45.00	25lb	3	135.00
Ancomel	22.00	25Kg	18	396.00
XCD Polymer	297.00	25Kg	6	1782.00
Drispac Regular	76.30	50lb	12	915.60
Drispac Superlow	76.30	50lb	9	686.70
AA100 Regular	70.00	25Kg	27	1890.00
Aluminium Stearate	75.65	25Kg	11	832.15
TOTAL WHILE TESTING				14561.55

TOTAL COST TO DRILL	144563.15
TOTAL WELL COST	146180.40

Credits followed final stock check

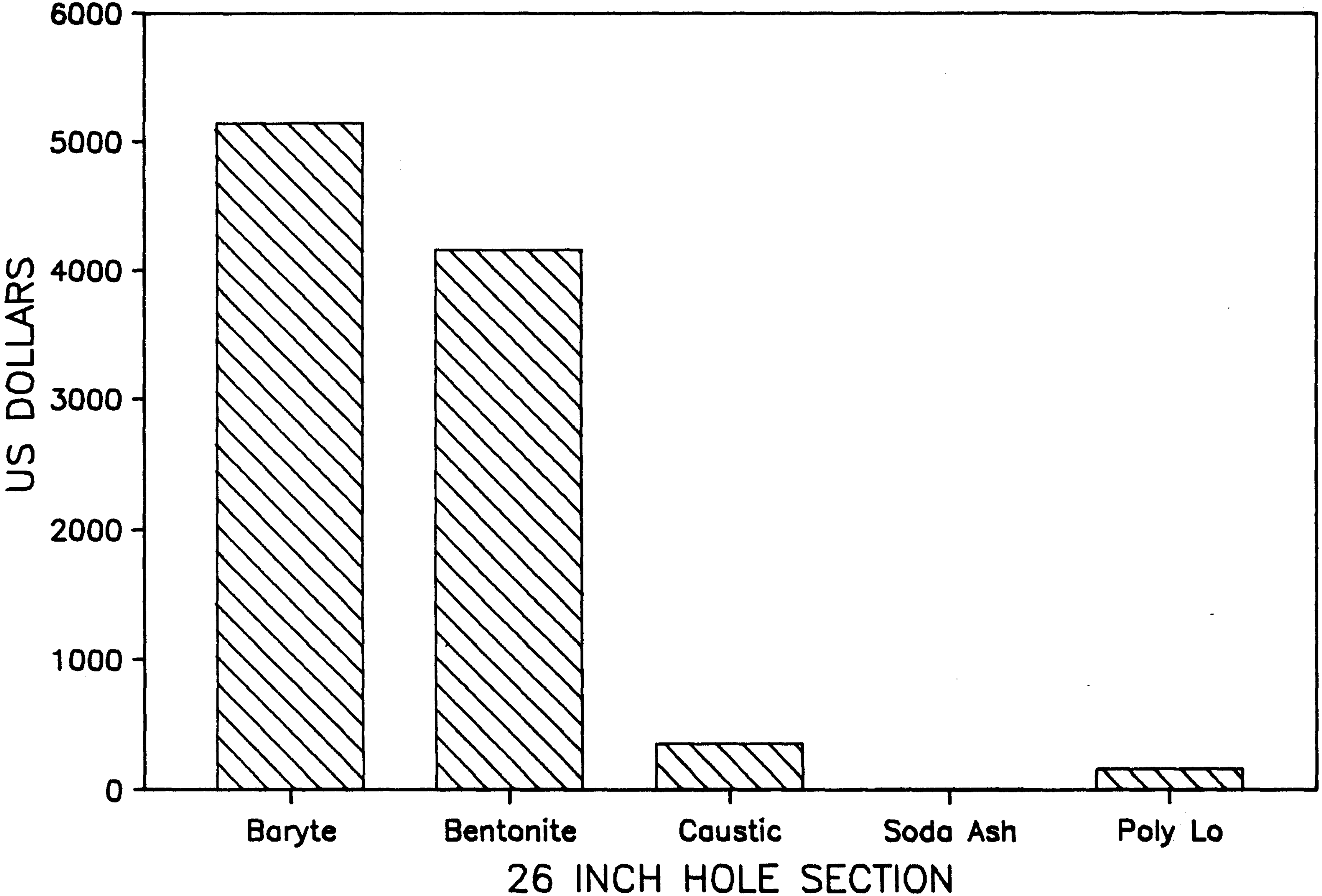
CONOCO Well No. 6507/7-2

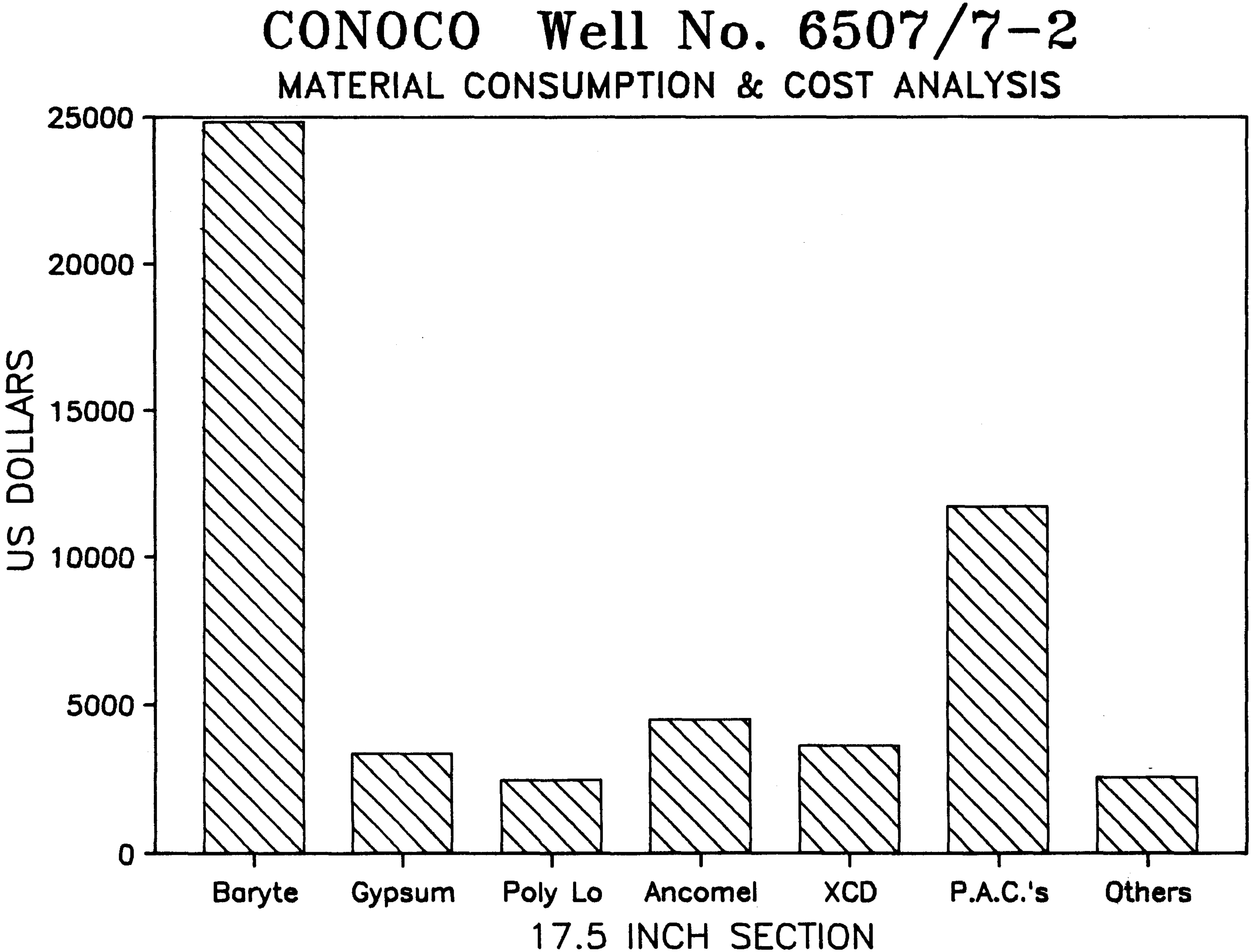
MATERIAL CONSUMPTION & COST ANALYSIS



CONOCO Well No. 6507/7-2

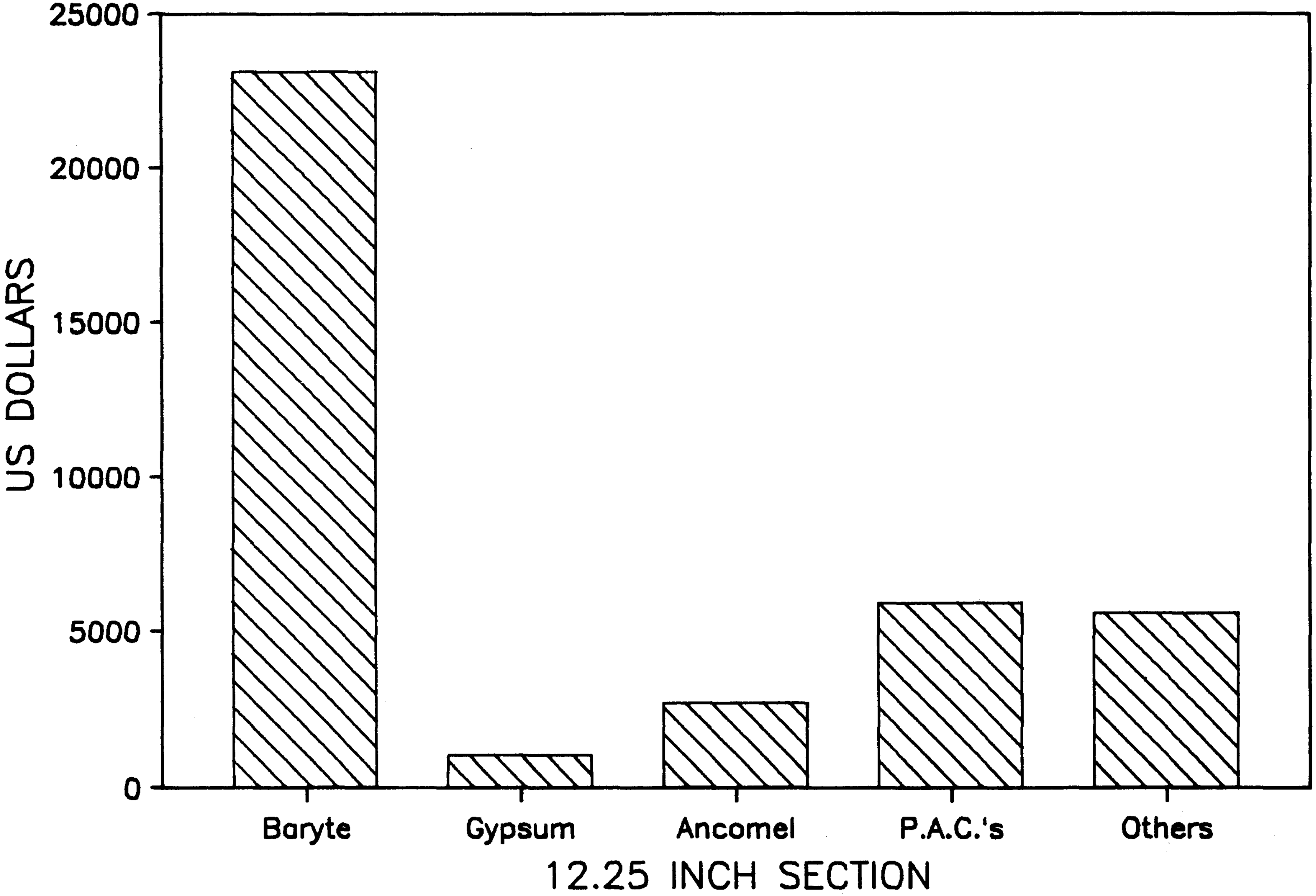
MATERIAL CONSUMPTION & COST ANALYSIS




CONOCO Well No. 6507/7-2
MATERIAL CONSUMPTION & COST ANALYSIS
US DOLLARS
25000
20000
15000
10000
5000
0
Baryte
Gypsum
Poly Lo
Ancomel
XCD
P.A.C.'s
Others
17.5 INCH SECTION

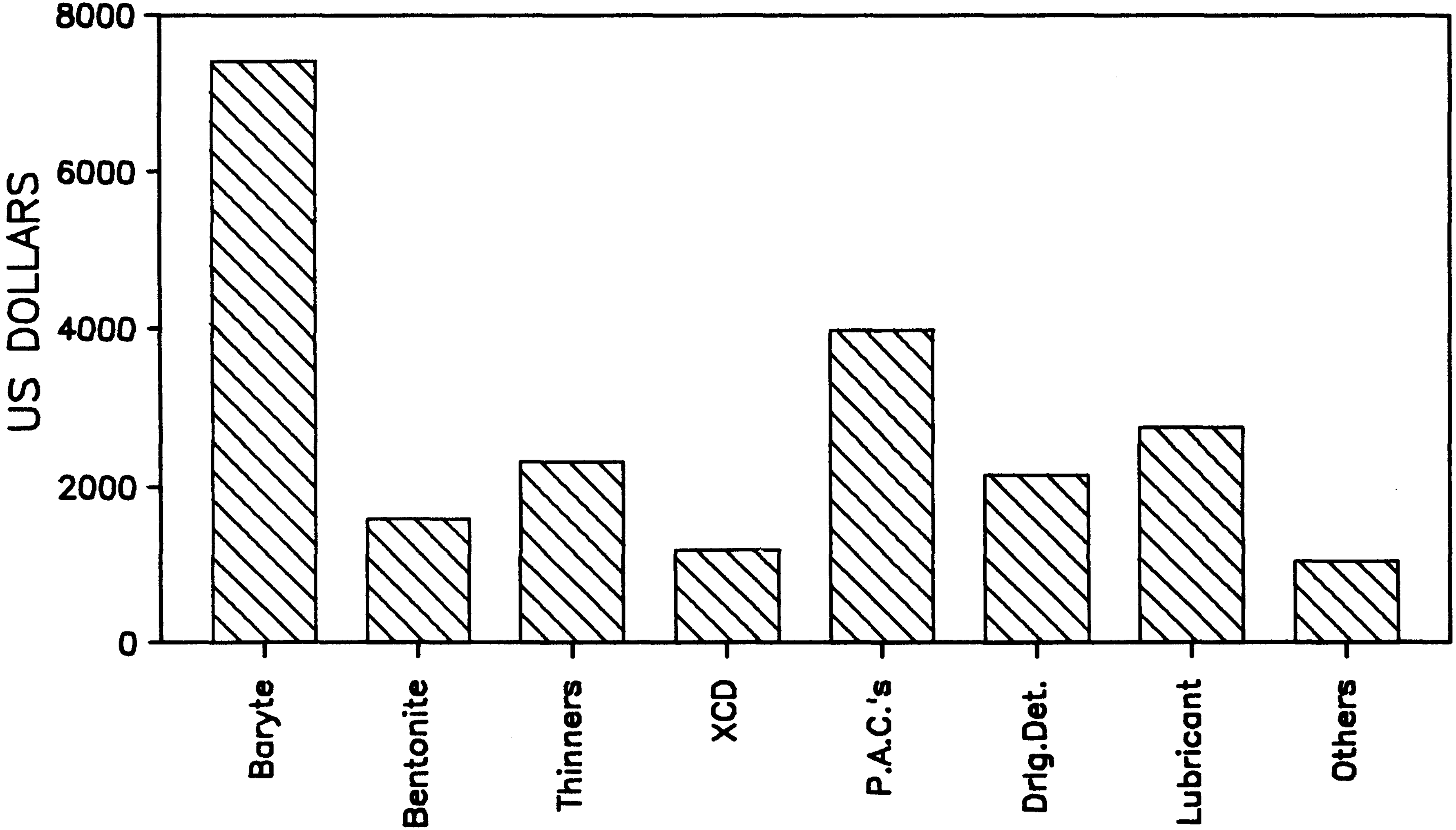
CONOCO Well No. 6507/7-2

MATERIAL CONSUMPTION & COST ANALYSIS



CONOCO Well No. 6507/7-2

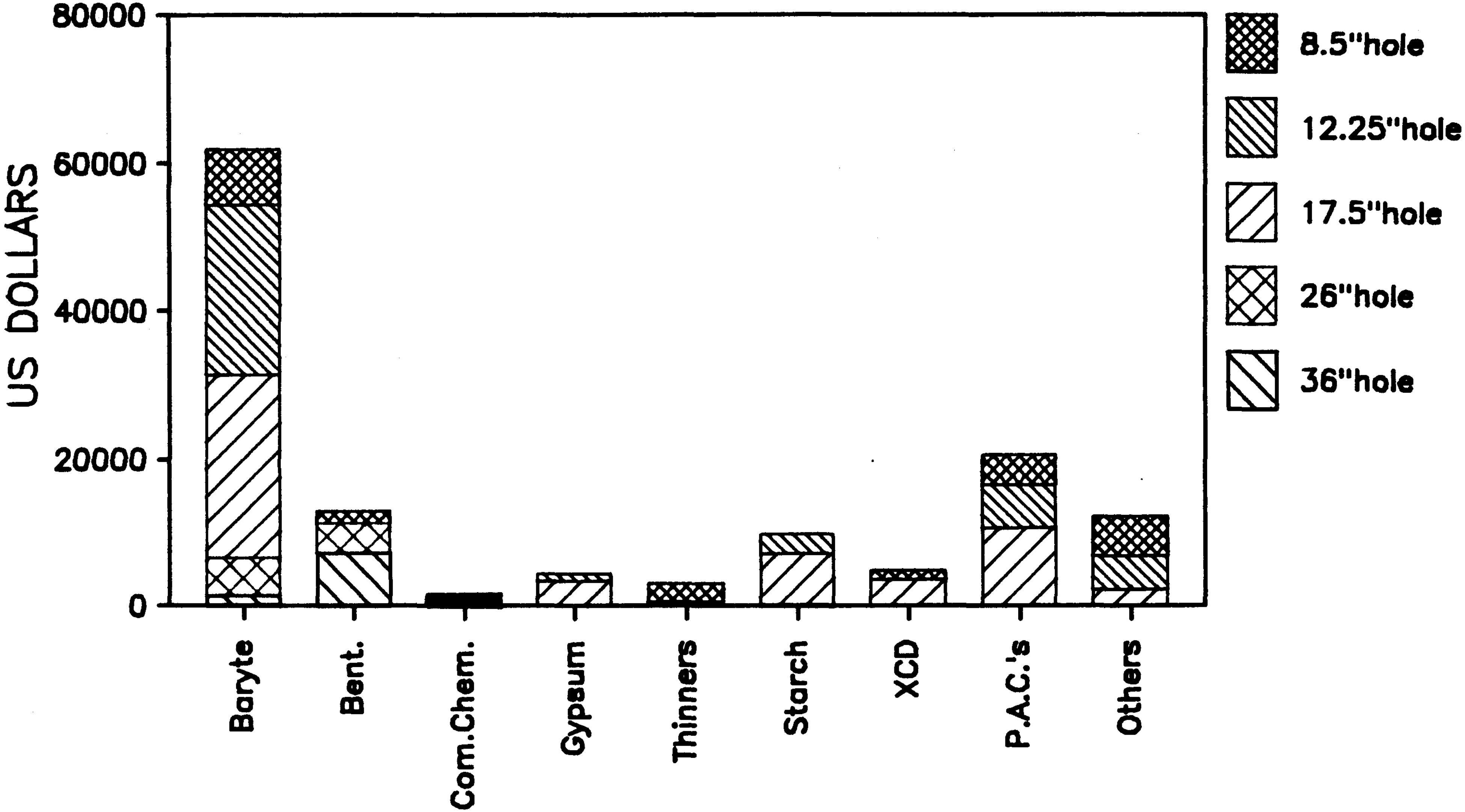
MATERIAL CONSUMPTION & COST ANALYSIS



8.5 INCH SECTION

CONOCO Well No. 6507/7-2

MATERIAL CONSUMPTION & COST ANALYSIS



TOTAL WELL COST US Dollars 144,563

ANCHOR DRILLING FLUIDS A/S

[partly hidden by punch hole]OCO Well No.6507/7-2
[partly hidden by punch hole]RILLING MUD PROPERTIES RECORD

ANCHOR DRILLING FLUIDS | Area: Haltenbanken | Engineers
Mud System: Bentonite Spud Mud / Gyp-Polymer | Rig: Nortrym | M.Alison / I.Torgersen
T.Vastveit / R.J.Waters

DAY No.	DATE	DEPTH metre	WGT. ppg	F.V. s/qt	A.V. cps	P.V. cps	Y.P.	Gel 0	Gel 10	API Filt.	Cake 32nds	HPHT Filt.	pH	Chl.ppm *1000	Calc. ppm	Pf	%Oil	%sol.	%Sand	MBT	Gyp. ppb	Operation
1	25,2	383	8.5	180																		Spud
2	26,2	424	8.5	180																		Drlg
3	27,2	476	8.5	180																		Csg
4	28,2	476	8.5	180																		WOC
5	1,3	836	9.3	33	13	5	16	12	17				9.8									Drlg
6	2,3	1030	9.5	40	21.5	6	31	20	22				9.6									Log
7	3,3	1030	9.5	39	19	7	24	15	17				9.6	18.50								Drlg
8	4,3	1030	10.5	40	22	9	26	16	21	11.5	3		9.6									Drlg
9	5,3	1030	9	45	23.5	15	17	2	4	11.5												Csg
10	6,3	1030	9	45	23.5	15	17	2	4	11.5	1		9.8	19.00	2400	.1		3.5			8.6	BOP
11	7,3	1030	9	45	23	15	16	2	4	11.5	1		9.7	19.00	2400	.1		3.5			8.6	BOP
12	8,3	1030	9	43	22	15	14	2	3	12	1		9.6	19.00	2300	.1		3			8.6	BOP
13	9,3	1072	9	40	23	16	14	2	3	11.4	1		9.5	19.00	2300	.1		4		2.5	8	Drlg
14	10,3	1486	11.2	45	21	12	18	14	42	6.2	1		9.8	15.00	2400	.05		15		10	6.1	Drlg
15	11,3	1646	11.6	47	20	11	18	17	34	8	1		8.7	19.00	2600	.05		16	TR	15	5.1	Drlg
16	12,3	1862	11.9	50	20.5	11	19	19	39	9	1		8.9	19.00	2800	.05		19	TR	17	5.3	Drlg
17	13,3	2052	12.1	58	26	14	24	26	37	6.6	1		8.8	19.00	2000	.05		19	TR	20	4.7	Drlg
18	14,3	2110	12.3	57	27	14	26	27	38	5.6	1		9	19.00	2100	.1		19	TR	19	5.8	Drlg
19	15,3	2110	12.3	55	25.5	14	23	21	37	5.6	1		9	19.00	2000	.1		19	TR	17.5	5.8	Log
20	16,3	2110	12.3	58	26.5	14	25	22	36	5.8	1		8.8	19.00	1800	.1		19	TR	20	5.8	Csg.
21	17,3	2110	12.3	50	24	12	24	18	32	6.2	1		9	19.00	2000	.1		18	TR	15	6.4	BOP
22	18,3	2075	12.3	44	21.5	12	19	19	34	5.6	1		8.8	19.00	2100	.05		18	TR	17.5	6.6	BOP
23	19,3	2179	12.8	54	26.5	14	25	25	55	6.5	1		10.4	19.00	1900	.05		21	TR	17.5	5.6	Drlg
24	20,3	2228	13	47	22.5	14	17	5	21	5.9	1		10	19.00	1900	.1		21	TR	17.5	5.8	Drlg
25	21,3	2284	13.2	53	26	16	20	22	50	5.4	1		9.4	19.00	2000	.1		22	TR	17.5	5.1	Drlg
26	22,3	2314	13.2	56	26	16	20	22	50	4.8	1		9.4	19.00	1880	.1		22	TR	17.5	5.1	Core
27	23,3	2327	13.2	54	26	16	20	29	54	4.8	1		9.6	18.00	1880	.1		23	TR	17.5	5.8	Core
28	24,3	2363	13.2	54	27	16	22	30	60	4.9	1		9.8	18.00	1880	.05		23	TR	17.5	5.5	Core
29	25,3	2379	13.2	53	26	17	19	21	56	4.9	1		9.5	18.00	1720	.05		23	TR	17.5	5	BOP
30	26,3	2409	13.2	55	26	16	20	27	57	4.6	1		9.8	18.00	1680	.05	TR	23	TR	15	5.1	Core
31	27,3	2423	13.2	56	26	16	21	22	56	4.5	1		9.9	18.00	1720	.1	TR	23	TR	15	4.8	Core
32	28,3	2440	13.2	58	26	16	20	27	58	4.7	1		10.2	17.50	1640	.1	TR	23	TR	15	4.6	Core
33	29,3	2452	13.2	55	25	16	19	16	54	4.7	1		10	17.00	1640	.1	TR	23	TR	15	4.9	Core
34	30,3	2582	13.2	57	27	16	22	20	58	4.8	1		9.7	17.00	1640	.1	TR	23	TR	15	4.7	Drlg
35	31,3	2605	13.2	54	26.5	18	17	15	50	4.8	1		9.5	17.00	1560	.05	TR	23	TR	15	4.9	Drlg
36	1,4	2605	13.2	54	25.5	16	19	13	49	4.9	1		10	17.00	1560	.1	TR	23	TR	15	4.7	Log
37	2,4	2605	13.3	60	27.5	18	19	20	58	4.8	1		10.3	17.00	1480	.1	TR	23	TR	15	4.6	Log
38	3,4	2610	13.2	49	22	15	14	8	38	4.6	1		9.3	17.00	1600	.05	TR	22	TR	15	4.8	Trip
39	4,4	2610	13.2	51	23	17	12	6	45	4.8	1		9.2	17.00	1640	.05	TR	22	TR	15	4.4	Csg.
40	5,4	2610	13.2	50	20	14	12	6	38	4.8	1		9.2	17.00	1600	.05	TR	22	TR	15	4.5	Csg
41	6,4	2610	13.3	55	23	18	10	5	45	4.8	1		9	17.00	1560	.05	TR	22	TR	15	4.7	Csg
42	7,4	2627	12.5	48	20	13	14	6	47	4.4	1		10.2	17.00	1740	.1	TR	19	TR	12	4.4	Drlg
43	8,4	2645	12.3	52	21.5	15	13	6	42	4.4	1	14	10.1	17.00	1760	.05	TR	20	TR	12	4.8	Drlg
44	9,4	2680	12	47	21.5	15	13	7	43	4.3	1	14	9.8	16.50	1760	.1	TR	17	TR	12	4.7	Drlg
45	10,4	2740	11.8	50	23.5	16	15	7	48	4.7	1	14.6	10.1	15.00	1680	.1	TR	17	TR	12	4.3	Drlg
46	11,4	2810	11.6	48	22.5	15	15	8	38	4.9	1	16.4	10.3	14.00	1540	.05	TR	16	TR	13	3.2	Drlg
47	12,4	2910	11.6	52	23.5	17	13	5	34	4.2	1	14.8	9.4	14.00	1600	.05	TR	16	TR	14	3	Drlg
48	13,4	2989	11.6	53	22	15	14	5	36	4.3	1	14.8	10.1	13.50	1560	.1	TR	16	TR	13	3.4	Drlg
49	14,4	3135	11.6	53	23	16	14	5	33	3.9	1	14.2	9.4	13.00	1560	.05	TR	16	TR	13	2.6	Drlg
50	15,4	3262	11.6	55	24	16	16	5	36	4	1	14	10	12.50	1520	.1	TR	16	TR	15	2	Drlg
51	16,4	3262	11.6	56	24	16	16	5	37	4.1	1	14.4	10.1	12.50	1520	.1	TR	16	TR	15	2	Log
52	17,4	2820	11.6	70	30	20	20	6	42	4.7	1		11.8	12.50	1560	.5	TR	16	TR	15	1.8	Plug
53	18,4	2600	11.6	65	29	22	14	5	30	5.2	1		11.5	12.50	1520	.4	TR	16	TR	15	1.8	Plug
54	19,4	2565	11.6	63	27	19	16	5	32	5.4	1		11.4	12.50	1520	.4	TR	16	TR	15	1.8	Cmt
55	20,4	2565	10	38	10	6	8	4	18	11	2		10.4	13.50	1600	.15	TR	10	TR	11	1.6	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	DST

ANCHOR DRILLING FLUIDS A/S

CONOCO Well No.6507/7-2
DRILLING MUD PROPERTIES RECORD

Area Haltenbanken
Rig Nortrym

Engineers
M.Alison / I.Torgersen
T.Vatveit / R.J.Waters

Mud System TESTING

DAY No.	DATE	DEPTH metre	WGT. ppg	F.V. s/qt	A.V. cps	P.V. cps	Y.P.	Gel 0	Gel 10	API Filt.	Cake 32nds	HPHT Filt.	pH	Chl.ppm *1000	Calc. ppm	Pf	%Oil	%sol.	%Sand	MBT	Gyp. ppb	Operation
57	22.4	2565	10	39	10	6	8	4	16	11.5	2		10.3	13.50	1560	.1	TR	10	TR	11	1.6	DST NO.1
58	23.4	2502	10	40	12.5	7	11	6	16	12.5	2		10.7	14.00	1640	.2	TR	10	TR	12	1.5	CMT PLUG
59	24.4	2502	10	40	12.5	7	11	6	16	12.5	2		10.7	14.00	1640	.2	TR	10	TR	12	1.5	WOW
60	25.4	2502	10	40	12.5	7	11	6	16	12.5	2		10.7	14.00	1640	.2	TR	10	TR	12	1.5	WOW
61	26.4	2502	10	39	15.5	10	11	6	24	10.2	1		10.8	14.30	1600	.1	TR	10	TR	12		RAN RISER
62	27.4	2502	10	39	15.5	10	11	6	24	10.2	1		10.8	14.30	1600	.1	TR	10	TR	12		RIH
63	28.4	PIT	10	39	13	9	8	3	19	10	1		10.7	14.20	1600	.1	TR	10	TR	11		PERF.
64	29.4	PIT	10	39	13	9	8	3	19	10	1		10.7	14.20	1600	.1	TR	10	TR	11		TESTED
65	30.4	PIT	10	39	13	9	8	3	19	10	1		10.7	14.20	1600	.1	TR	10	TR	11		TESTED
66	1.5	PIT	10	40	13.5	9	9	3	20	10	1		10.7	14.20	1600	.1	TR	10	TR	11		KILL WELL
67	2.5	PIT	10	40	13.5	9	9	4	18	10	1		10.8	14.30	1600	.1	TR	10	TR	12		SQUEEZED
68	3.5	PIT	10	40	13.5	9	9	4	18	10	1		10.8	14.30	1600	.1	TR	10	TR	12		RAN
69	4.5	PIT	10	39	13.5	9	8	3	18	10	1		10.8	14.30	1600	.1	TR	10	TR	12		TESTED
70	5.5	PIT	10	39	13	9	8	3	18	10	1		10.8	14.30	1600	.1	TR	10	TR	12		TESTED
71	6.5	PIT	10	38	13	9	8	3	17	9.5	1		10	14.30	1600	.05	TR	10	TR	12		KILLED
72	7.5	PIT	10.1	40	14	9	10	3	16	9	1		10.2	13.50	1600	.1	TR	10	TR	12		CMT
73	8.5	2350	10.1	40	14	9	10	3	16	9	1		10.2	13.50	1600	.1	TR	10	TR	12		PERF.
74	9.5	2350	10.1	37	13	9	8	3	12	9.5	1		10	12.50	1100	.1	TR	10	TR	11		SET BAL.
75	10.5	2350	10	40	15.5	10	11	3	10	9.2	2		11.2	12.00	1100	.25	TR	10	TR	11		CMT.
76	11.5	2350	10.2	38	14	9	10	3	9	9.8	2		11.4	12.00	1150	.4	TR	10.5	TR	10		CMT.
77	12.5	2350	10.2	48	15	11	8	2	9	9.2	2		12.1	12.50	900	.45	TR	10	TR	11		CMT.
78	13.5	2350	11	39	13.5	9	9	3	10	10.8	2		12.2	13.50	250	1.1	TR	11.5	TR	10		CMT.
79	14.5	2350	10	41	13	9	8	2	8	8.4	2		11.8	14.50	680	.35	TR	10	TR	5		CMT.
80	15.5	2350	10	41	13.5	9	9	3	8	8.2	2		11.8	14.00	640	.35	TR	10	TR	5		RAN
81	16.5	2350	10	41	13	9	8	2	8	8.2	2		11.8	14.00	640	.3	TR	10	TR	5		CMT.
82	17.5	2350	10	40	12.5	9	8	2	7	8.5	2		11.8	14.00	640	.3	TR	10	TR	5		BOP
83	18.5	2350	10	40	12.5	9	8	2	7	8.5	2		11.8	14.00	640	.3	TR	10	TR	5		LANDED
84	19.5	2350	10	40	12.5	9	8	2	7	8.2	2		12.2	14.50	940	.45	TR	10	TR	5		CIRC.
85	20.5	2350	10	40	12.5	9	8	2	7	8	2		12.3	14.00	960	.45	TR	10	TR	5		SERVICED
86	21.5	2350	10	40	12.5	9	8	2	7	8	2		12.4	14.50	960	.45	TR	10	TR	5		SERVICED
87	22.5	2350	10	40	12.5	9	8	2	8	8.2	2		12.4	14.50	940	.45	TR	10	TR	5		SERVICED
88	23.5	2350	10	45	16	12	8	2	8	8.2	2		12.0	14.00	900	.3	TR	10	TR	8		PERF.
89	24.5	PIT	10	45	16	12	8	2	8	8.2	2		11.9	14.00	900	.3	TR	10.5	TR	8		TESTED
90	25.5	PIT	9.9	45	15	10	10	3	29	10	2		11.7	9.00	600	.2	TR	10	TR	11		TESTED
91	26.5	PIT	9.9	45	14.5	10	9	3	19	10	2		11.8	9.00	680	.2	TR	10	TR	10		KILLED
92	27.5	2325	9.9	42	12.5	9	7	2	15	10	2		11.8	10.00	600	.1	TR	10	TR	10		SQUEEZED
93	28.5	PIT	10	43	11.5	8	7	2	12	10	2		11.8	10.00	600	.1	TR	10	TR	9		PERF.
94	29.5	PIT	10	45	15	10	10	3	15	10	2		11.8	10.00	600	.1	TR	10	TR	10		TESTED
95	30.5	2285	10	45	14	9	10	4	18	10.5	2		11.9	10.00	680	.15	TR	10	TR	10		KILLED
96	31.5	2285	10	45	14	9	10	4	17	10.5	2		11.9	10.00	680	.15	TR	10	TR	10		PERF.
97	1.6	PIT	10	42	13	9	8	3	15	9.5	2		11.9	9.00	640	.2	TR	10	TR	10		TESTED
98	2.6	2285	10.1	44	15	10	10	4	20	9.4	2		11.8	9.00	600	.1	TR	10	TR	10		KILLED
99	3.6	PIT	10.1	45	14	10	8	3	14	10.2	2		11.9	9.00	640	.2	TR	10	TR	10		CMT
100	4.6	PIT	10.1	43	13	9	8	3	12	10.2	2		11.9	9.00	640	.2	TR	10	TR	10		PERF.
101	5.6	2230	10.4	40	13.5	9	9	4	22	11	2		11.8	9.00	600	.15	TR	11	TR	10		KILLED
102	6.6	2195	10.4	40	13.5	9	9	4	22	11	2		11.8	9.00	600	.15	TR	11	TR	10		SET RET.
103	7.6	425	10.4	41	12	8	8	3	15	11.3	2		11.8	9.00	600	.15	TR	10.5	TR	10		SQUEEZED

4.7 Formation Temperature

Bottomhole temperatures were recorded on a number of electric logs, the results of which are summarised in table 4.7A. A maximum temperaturae of 204°F/96°C was recorded on the SHDT log, run no. 3. Horner plots were used to extrapolate log temperatures to true bottomhole temperatures, a maximum of 235°F/113°C being estimated at T.D (3262m).

Maximum thermometers were included in the gauge carriers on DSTs. The results are summarised in table 4.7B. Low temperatures are recorded from tests in the gas zone due to gas expansion and the consequent cooling effect.

Extrapolated log temperatures were used in conjuction with DST temperatures in establishing the formation temperatures gradient as indicated in figure 4.7.

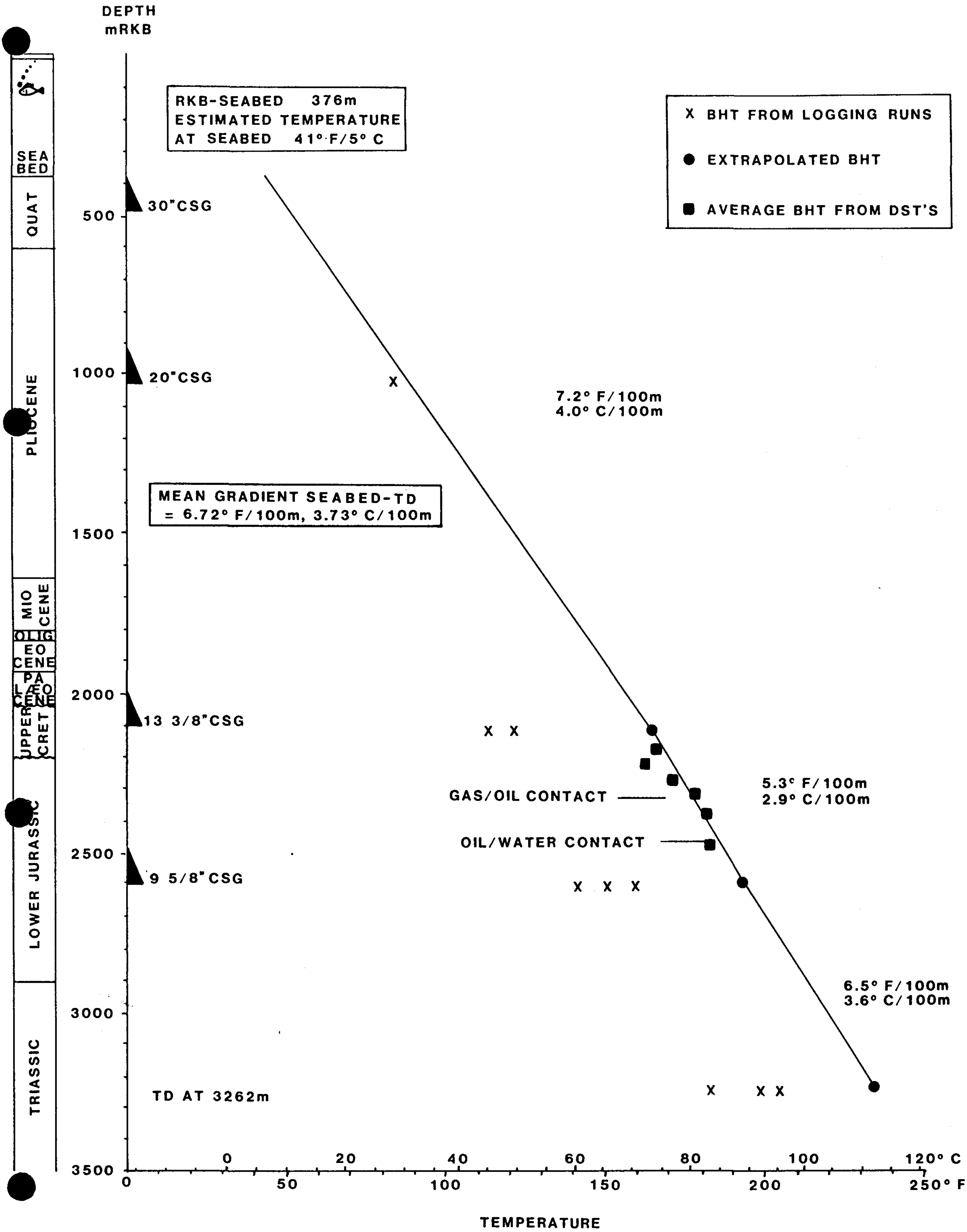
Table 4.7A

Log	Run	Depth (m RKB)	Temperature °F/°C	Hours Since Circulation
ISF	1	1030	84/29	4.4
ISF	2	2111	114/46	10.7
LDT	1	2111	121/49	14.2
ISF	3	2605.3	141/61	6.6
LDT	2	2606.5	152/67	10.5
DLL	1	2602.7	158/70	15.8
SHDT	2	2602.7	158/70	19.4
ISF	4	3250	183/84	7.6
LDT	3	3250	198/92	13.3
SHDT	3	3250	204/96	16.5

Table 4.7B

DST No.	Carrier Depth (m RKB)	Average Temperature °F/°C
1	2485 - 2494	182.1/83.4
2	2377 - 2386	181.1/82.8
3	2316 - 2325	177.7/80.9
4A	2312 - 2320	177.4/80.8
5	2270 - 2278	171.0/77.2
6	2217 - 2225	162.4/72.4
7	2180 - 2193	167.9/75.5

WELL 6507/7-2 FORMATION TEMPERATURE VS DEPTH



4.8 Formation Pressure

With connection to the seabed, a normal compaction trend and a normal hydrostatic gradient was assumed in a tophole. There was no evidence to suggest any change from this gradient down to 1450m. From this point decreasing shale density and D exponent and increases in the delta-chlorides and ROP indicate an increase in pressure to a maximum of 11.6ppg at 1840m. With a mud weight of 11.6ppg in the hole connection gasses occured from 1777m to 2110m, confirming near balanced or balanced hole conditions. To enable logging to proceed, mud weight was raised to 12.3ppg at 2110m, this was not solely due to high pore pressure but was at least in part a response to the swelling of hydrating claystones. From 1840m, mudlogging parameters indicated pore pressure slowly declined to 9.4ppg at 2200m.

A RFT run was made taking pressure readings at 41 points (see table 4.8). This showed the formation pore pressure gradient to decrease from 9.5ppg at 2205m to 8.9ppg at 2574m. The instantaneous pore pressure gradient over the same interval indicated a gas gradient to 2317.5m, an oil gradient to 2455m and, underlying this, the normal hydrostatic gradient of water. Two permeability barriers are evident within the oil section at 2340m and 2385m. These each cause a step to lower pore pressures below though all points continue to plot on the oil gradient. These permeability barriers coincide precisely with thicker shales observed in core no's 5 and 8. A mud weight of 13.0 - 13.3ppg was used to drill this section causing an overbalance of up to 4.5ppg. This undoubtedly caused flushing ahead of the bit and was responsible for the low gas readings through the reservoir.

Below 2574m the pore pressure remained close to the normal hydrostatic gradient to 3000m. After drilling out the 9 5/8" shoe at 2611m, partial returns of mud were lost. Mud weight was reduced to 11.6ppg and no further problems were experienced. From 3000m decreases in the shale density and D exponent and increases in the ROP and delta-chlorides suggest increasing pore pressure to a maximum of 10.3ppg at T.D.

The Anadrill pore pressure summary is included as figure 4.8.

Table 4.8

RFT data with pressure gradients calculated from MSS. (-25m RKB).

MEASURED DEPTH m(RKB)	FORMATION PRESSURE PSI	FORMATION PRESSURE GRADIENT ppg (EQMW)	*	MEASURED DEPTH m (RKB)	FORMATION PRESSURE PSI	FORMATION PRESSURE GRADIENT ppg (EQMW)
2205	3537.6	9.53	*	2382	3624.4	9.03
2209	3538.1	9.51	*	2388	3618.3	8.99
2213	3540	9.50	*	2393.5	3630.7	9.00
2217	3541.5	9.49	*	2402	3641.6	9.00
2221	3541.1	9.47	*	2413	3653.3	8.98
2290	3557.6	9.22	*	2423	3665.3	8.98
2293	3559.8	9.22	*	2431	3675.5	8.97
2296.5	3561.1	9.21	*	2437	3682	8.97
2302	3561.5	9.19	*	2450	3698.1	8.96
2304	3562.3	9.18	*	2454	3703.6	8.95
2310	3563.6	9.16	*	2459	3713.7	8.96
2316	3563.6	9.14	*	2471	3729	8.95
2320	3568.3	9.13	*	2477	3737.2	8.95
2323	3571.9	9.13	*	2482	3741.7	8.94
2326	3574.4	9.12	*	2489.5	3752.8	8.94
2332	3581.1	9.12	*	2508	3778.7	8.94
2335.5	3584.7	9.11	*	2523	3799.8	8.93
2346	3581.1	9.06	*	2528	3807	8.93
2348.5	3586.6	9.07	*	2553	3842.5	8.93
2358	3597.4	9.06	*	2574	3873.7	8.92
2370	3612	9.05	*			

5.4 RFT Pressure

RFTs were performed in 12 1/4" hole from 2205 meters to 2574 meters. 41 pressure tests were undertaken in Jurassic sands and all were successful. The results are presented in table 5.4 and figure 5.4.

The measurements indicate good to excellent permeability in the sands throughout the open hole interval.

A clear gas/oil contact is present at 2317.5 meters (-2292.5m MSL). The gas gradient is 0.075 psi/ft giving an average gas gravity of 0.17 g/cc.

The oil/water contact is indicated to occur between 2476 and 2482 meters (-2451 to -2457m MSL) dependent on the gradient taken through the oil zone. This compares with the 2455 meters (-2430m MSL) calculated from logs. The oil gradient ranges from 0.3266 psi/ft to 0.3582 psi/ft giving an oil specific gravity of 0.7542 g/cc to 0.8272 g/cc.

The underlying water zone has a normal hydrostatic gradient of 0.045 psi/ft giving a specific gravity of 1.04 g/cc.

Two permeability barriers are evident within the oil zone at 2340 meters and 2385 meters (-2315m and -2360m MSL). These each cause a step to more subnormal pressures below, but all points continue to plot along an oil gradient. These permeability barriers coincide precisely with thicker shales observed in core nos 5 and 8. No pressure readings show evidence of superchanging even in the thinnest sands of the sand/shale section. Had there been sands of limited lateral extent, they would have been proned to supercharging in view of the excessive mud overbalance in the hole: 1700-2000 psi.

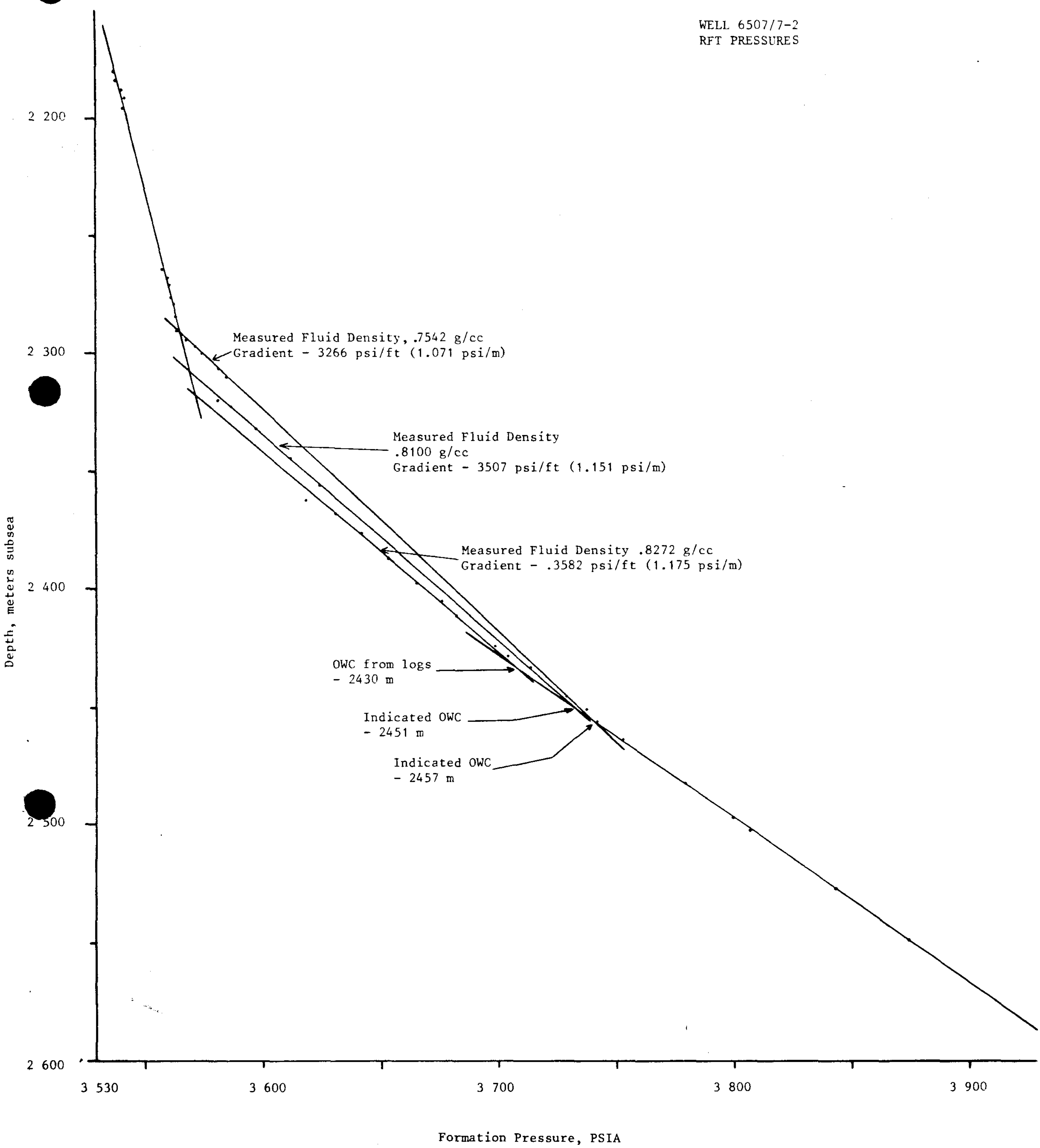
Four segregated formation samples were taken at 2220.5m, 2303m, 2331.5m and 2382.7m. The 2382.7m was attempted first but the friable sands were pulled in by the drawdown, losing the seal. The tool was fitted with smaller chokes to reduce the piston rate and four successful samples were taken. The fourth sample initially proved difficult with probe plugging and seal failures, but worked on the fourth attempt.

A brief fluid analysis of the samples is to be found in section 5.6. A full analysis of fluids from well 6507/7-2 is found in the reports compiled by GECO, Dowell Schlumberger, and Core Laboratories as listed in Special Studies, Section 4.4

Table 5.4

RFT measurements (from RKB)

MEASURED DEPTH	TVD	FORMATION PRESSURE	MUD HYDROSTATIC PRESSURE	RESULT
2205	2205	3537.6	5018.7	GOOD
2209	2209	3538.1	5033.9	GOOD
2213	2213	3540	5044.2	GOOD
2217	2217	3541.5	5053.9	GOOD
2221	2221	3541.1	5068.7	
2290	2290	3557.6	5226	GOOD
2293	2293	3559.8	5225	GOOD
2296.5	2296.5	3561.1	5235	GOOD
2302	2302	3561.5	5246	GOOD
2304	2304	3562.3	5250	GOOD
2310	2310	3563.6	5272	GOOD
2316	2316	3563.6	5277	GOOD
2320	2320	3568.3	5292	GOOD
2323	2323	3571.9	5305	GOOD
2326	2326	3574.4	5306	GOOD
2332	2332	3581.1	5322	GOOD
2335.5	2335.5	3584.7	5326	GOOD
2346	2346	3581.1	5322	MEDIUM
2348.5	2348.5	3586.6	5357	EXCELLENT
2358	2358	3597.4	5381	GOOD
2370	2370	3612	5409	GOOD
2382	2382	3624.4	5441	GOOD
2388	2388	3618.3	5453	LOW
2393.5	2393.5	3630.7	5473.4	LOW
2402	2402	3641.6	5492.4	GOOD
2413	2413	3653.3	5517.8	GOOD
2423	2423	3665.3	5544.3	GOOD
2431	2431	3675.5	5562	GOOD/MED
2437	2437	3682	5576.4	V.GOOD
2450	2450	3698.1	5607.4	V.GOOD
2454	2454	3703.6	5617.6	GOOD
2459	2459	3713.7	5628.4	GOOD/MED
2471	2471	3729	5657.1	MEDIUM
2477	2477	3737.2	5671.6	GOOD
2482	2482	3741.7	5683.5	GOOD
2489.5	2489.5	3752.8	5698.6	GOOD
2508	2508	3778.7	5740.7	V.GOOD
2523	2523	3799.8	5775.3	V.GOOD
2528	2528	3807	5785.1	GOOD
2553	2553	3842.5	5840.1	V.GOOD
2574	2574	3873.7	5888	GOOD


WELL 6507/7-2
RFT PRESSURES
Measured Fluid Density, .7542 g/cc
Gradient - 3266 psi/ft (1.071 psi/m)
Measured Fluid Density
.8100 g/cc
Gradient - 3507 psi/ft (1.151 psi/m)
Measured Fluid Density .8272 g/cc
Gradient - .3582 psi/ft (1.175 psi/m)
OWC from logs
- 2430 m
Indicated OWC
- 2451 m
Indicated OWC
- 2457 m
Depth, meters subsea
2 200
2 300
2 400
2 500
2 600
3 530
3 600
3 700
3 800
3 900
Formation Pressure, PSIA

5.5 DST Analysis

A total of seven drillstem tests were performed between 21st April and 6th June 1985 on Lower and Middle Jurassic age sands.

The following intervals were perforated:

DST No.	Interval	Zone	Formation
1	: 2521 - 2529m	: water	Hitra fm - L.Jurassic
2	: 2417 - 2439m	: oil	Aldra fm - L.Jurassic
3	: 2356.5 - 2376m	: oil	Aldra fm - L.Jurassic
4A	: 2330 - 2340m	: oil	Aldra fm - L.Jurassic
5	: 2290 - 2310m	: gas	Aldra fm - L.Jurassic
6	: 2232 - 2245m	: gas	Leka fm - L.Jurassic
7	: 2203 - 2222m	: gas	Leka/Tomma fm - M.Jurassic

Full details may be found in the "Drillstem Test Report" to be found in Enclosure II, and also in reports prepared by OTIS, Sperry-Sun and Flopetrol, as listed in section 4.4.

5.6 Fluid Analysis

Fluid samples were collected from both RFTs and DSTs.

5.6.1 RFT samples.

Sample	Depth		Recovery/Remarks
1A	2220.5m	:	28 cu/ft gas and 0.5 litres liquid. Mainly water and mud. A small amount of light coloured oil/condensate was separated by centrifugation.
1B	2220.5m	:	22 cu/ft gas.
2A	2303.0m	:	14.5 cu/ft gas and 0.1 litres liquid. Predominantly mud filtrate, but a small amount of oil/condensate was found.
2B	2303.0m	:	13.6 cu/ft gas and 60cc of freshwater mud filtrate.
3A	2331.5m	:	1.5 litres high API gravity oil with some gas sample.
3B	2331.5m	:	2.5 litres high API gravity oil with minimal gas sample.
4A	2382.7m	:	9 litres of oil with some water and moderate gas sample.
4B	2382.7m	:	3 litres of water/mud with some particles, sediments and traces of oil not possible to analyse.

Densities, viscosities and molecular weights are included in table 5.6.1.

Table 5.6.1.

Sample	Density (59°F) kg/m^3	Viscosity (60°F) CP	Mean Molecular Weight	Molecular Weight C10+
1A	796.6	-	142	184
2A	805.6	-	147	187
3A	880.3	5.6	241	281
3B	877.2	5.1	244	304
4A	921.1	13.1	296	321

5.6.2 DST samples.

Analysis of crude oil samples recovered from DSTs' 2, 3 and 4A.

	DST 2	DST 3	DST 4A
API Gravity (conversion)	21.8	21.9	28.2
Sulphur Content (% WT)	0.55	0.66	0.43
Pour Point (^{O}C)	- 36	- 42	- 21
Asphaltines (%)	0.14	0.15	0.15
Kinematic Viscosity			
i) Centistokes at 50^{O}C	20.44	16.84	7.56
ii) Centistokes at 25^{O}C	61.89	46.81	15.92
Salt Content (lbs/1000bbl)	5.3	56	5.7
Ash Content (% WT)	0.01	0.02	0.01
Wave Content (% WT)	3.0	1.0	5.0

Full fluid analyses are found in the reports prepared by Core Laboratiories, Dowell Schlumberger and GECO, as listed under Special Studies, Section 4.4.

API gravities may differ from the preliminary analysis performed at the wellsite.