

RFT RESULTS					
RUN 1		RUN 3		RUN 5	
DEPTH (KB)	FORMATION PRESSURE	DEPTH (KB)	FORMATION PRESSURE	DEPTH (KB)	FORMATION PRESSURE
TOOL FAILURE		① 4150 m	10455 PSIG	① 4053 m	10229 PSIG
RUN 2		② 4148,5 m	10455 PSIG	RUN 6	
DEPTH (KB)	FORMATION PRESSURE	③ 4145 m	10460 PSIG	DEPTH (KB)	FORMATION PRESSURE
② 4148,5 m	10560 PSIG	④ 4143,5 m	10460 PSIG	④ 4157,5 m	10516 PSIG
RUN 3		⑤ 4055 m	10231 PSIG	RUN 7	
DEPTH (KB)	FORMATION PRESSURE	⑥ 4053 m	10227 PSIG	DEPTH (KB)	FORMATION PRESSURE
③ 4292 m	10682 PSIG	⑦ 4051,5 m	10227 PSIG	① 4157,5 m	10471 PSIG
④ 4271,5 m	TIGHT	⑧ 4049 m	10225 PSIG	② 4157,5 m	10482 PSIG
⑤ 4259 m	10610 PSIG	⑨ 4045,2 m	SEAL FAILURE	RUN 8	
⑥ 4227 m	10562 PSIG	⑩ 4046 m	SEAL FAILURE	DEPTH (KB)	FORMATION PRESSURE
⑦ 4210 m	10538 PSIG	⑪ 3991 m	SEAL FAILURE	② 4157,5 m	10456 PSIG
⑧ 4195,5 m	10528 PSIG	⑫ 3990,5 m	SEAL FAILURE	RUN 4	
⑨ 4186 m	SEAL FAILURE	RUN 4		DEPTH (KB)	
⑩ 4157 m	10456 PSIG	DEPTH (KB)	FORMATION PRESSURE	② 4053 m	
⑪ 4155,5 m	10457 PSIG	② 4053 m	10229 PSIG	FORMATION PRESSURE	
⑫ 4151,5 m	TIGHT				

Segregated sampling was performed as follows:

Run 1 Tool failed

Run 2 at 4148,5 m { Recovery 1 gal. mud filtrate  
2 3/4 gal. mud filtrate

Run 3 at 4145 m { Recovery 1 gal. mud filtrate  
2 3/4 gal. mud filtrate

Run 4 at 4053 m Sampling failed

Run 5 at 4053 m { Recovery 1 gal. mud filtrate  
2 3/4 gal. mud filtrate

Run 6 at 4157,5 m { Recovery 1 gal. failed  
6 gal. mud filtrate

Run 7 at 4157,5 m No recovery, tool malfunction

Run 8 at 4157,5 m { Recovery 1 gal. mud filtrate  
6 gal. mud filtrate

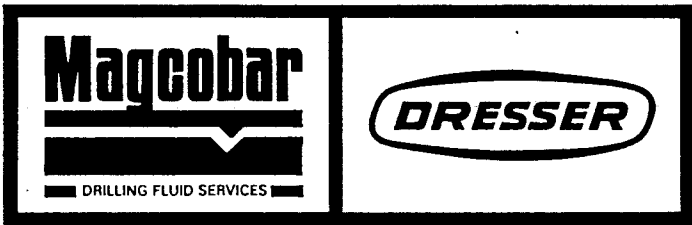
Checked: S. L. Leivestad  
Date: 8.6.79

TABLE 1.1: SAMPLING DATA

Depth. (m)	Hydrost. press(psi)	Formation press(psi)	Salinity cl ppm	Chamber size, gals		Comments
				Lower	Upper	
4148.5	11238	10560	5200	(2 3/4)	(1)	Tool malfunctioned
		(10545)		2 3/4		Pretest before sampling
		(10558)			1	Seal lower chamber
4145	11147	10450	4800			Seal upper chamber
		(10428)		2 3/4		Results from ordinary pressure tests given in table 2
		(10437)			1	Pretest before sampling
4053	10889	10230	5200	(2 3/4)	(1)	Seal lower chamber
4053	10885	10229				Seal upper chamber
		(10221)		2 3/4		Pretest before sampling. Sampling failed due to blocked flowline
4157.5	11175	10516	4900			Pretest before sampling.
		(10450)		6	(2 3/4)	Seal lower chamber. Could not open upper chamber due to burned electrical wire in the RFT-tool.
4157.5	11148	10471				Pretest before sampling. When trying to sample, tool did not seal properly. Tool was set again.
4157.5	11115	10482	5200	(6)	2 3/4	Pretest before sampling. When trying to sample, lower chamber would not open. Opened upper chamber briefly to check for blocked flowline. Turned out that Schlumberger had forgotten to unlock the water cushion on lower chamber.
4157.5	11115	10456	8000			Pretest before sampling. Had to use rig power as the Schlumberger power supply broke down when initiating pretest.
		(10436)		6+2 3/4		Seal lower chamber.
		(10446)			1	Seal upper chamber.

TABLE 1.2: PRESSURE RECORDINGS IN RUN NO. 3

Depth, mRKB	Hydrostatic pressure, psig	Formation pressure, psig	Comments
4294	11548	10682	
4271.5	11479		Tight
4259	11435	10610	
4227	11335	10562	
4210	11276	10538	3 attempts (2 seal failures)
4195.5	11225	10528	
4186	11193		2 seal failures
4157	11128	10456	
4155.5	11124	10457	<u>Very</u> low perm.
4151.5	11109		Tight
4150	11106	10455	
4148.5	11101	10455	
4145	11089	10460	
4143.5	11085	10460	
4055	10857	10231	
4053	10845	10227	
4051.5	10834	10227	
4049	10823	10226	
4045.2	10811		2 seal failures
4045.5	10815		2 seal failures
4046	10817		seal failure
3991	10679		2 seal failures
3990.5	10680		seal failure



# MATERIAL CONSUMPTION BY INTERVAL

Hole size: 36"  
0 - 194.5 meters

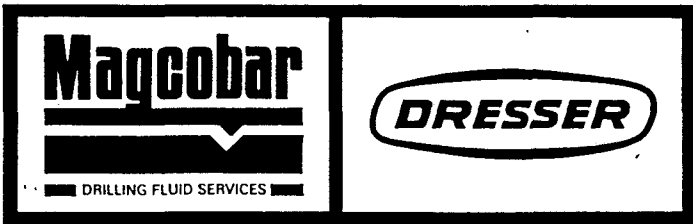
<u>PRODUCT</u>	<u>UNIT</u>	<u>UNIT COST</u>	<u>COST</u>
Barite	33 ton	\$ 112.97	\$ 3,728.01
Bentonite	39 ton	\$ 271.38	\$ 10,854.09
Caustic Soda	17 sacks	\$ 14.82	\$ 251.94
Lime	13 sacks	\$ 7.13	\$ 92.69
Soda Ash	8 sacks	\$ 20.00	\$ 160.00
Spersene	4 sacks	\$ 14.73	\$ 58.92
Total cost			\$ 15,145.65

Cost per BBL 1503 BBLS: \$ 10.076

Cost per meter<sup>3</sup> : \$ 63.37

Cost per foot was : \$ 23.79

1500 bbls was mixed up during spud and mud was used for next Interval.



# MATERIAL CONSUMPTION BY INTERVAL

Hole size: 26"

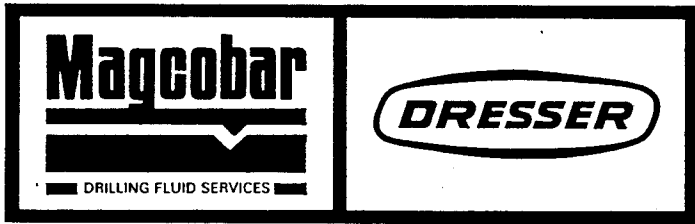
194.5 - 454 meters

<u>PRODUCT</u>	<u>UNIT</u>	<u>UNIT COST</u>	<u>COST</u>
Barite	27 tons	\$ 121.34	\$ 3,276.13
Bentonite	7 tons	\$ 278.31	\$ 1,948.17
Spersene	10 sacks	\$ 14.37	\$ 143.70
Caustic Soda	34 sacks	\$ 14.82	\$ 503.88
Drilling Detergent	1 drum	\$ 390.00	\$ 390.00
Magconol	1 drum	\$ 886.94	\$ 886.94
Soda Ash	2 sacks	\$ 20.00	\$ 40.00
		Total cost	\$ 7,188.82

Total Cost : \$ 7,188.82

Cost per foot 851': 8.44

Cost per meter 259m: \$27.68



# MATERIAL CONSUMPTION BY INTERVAL

Hole size: 17 1/2"  
 454 - 1598 meters  
 Drilling depth 1616 meters.

<u>PRODUCT</u>	<u>UNIT</u>	<u>UNIT COST</u>	<u>COST</u>
Barite	43 ton	\$ 112.97	\$ 4857.71
Bentonite	17 ton	\$ 278.31	\$ 4731.27
Caustic Soda	136 sacks	\$ 14.82	\$ 2015.52
Spersene	221 sacks	\$ 14.37	\$ 3175.77
XP-20	120 sacks	\$ 20.44	\$ 2452.80
CMC LV.	85 sacks	\$ 53.95	\$ 4585.75
Lime	50 sacks	\$ 7.13	\$ 356.50
Soda Ash	2 sacks	\$ 20.00	\$ 40.00
Tannathin	88 sacks	\$ 12.37	\$ 1088.56
			<u>\$ 23303.88</u>

Total Cost. : \$ 23303.88  
 Cost per foot 3753 feet : \$ 6.20  
 Cost per meter 1144m : \$ 20.37

**Magcobar**

DRILLING FLUID SERVICES

**DRESSER****MATERIAL  
CONSUMPTION  
BY INTERVAL**

Hole size: 12 1/4"

1598 - 3696 meters

Drilling depth 3713 meters

<u>PRODUCT</u>	<u>UNIT</u>	<u>UNIT COST</u>	<u>COST</u>
Barite	479 tons	\$ 112.97	\$ 54112.63
Bentonite	92	\$ 278.31	\$ 25604.52
Caustic Soda	366 sacks	\$ 14.82	\$ 5424.12
Spersene	919 sacks	\$ 14.37	\$ 13206.03
XP-20	446 sacks	\$ 20.44	\$ 9116.24
CMC L.V.	236 sacks	\$ 53.95	\$ 12732.20
Magcolube	17 drums	\$ 788.96	\$ 13412.32
Drilling Detergent	6 drums	\$ 390.00	\$ 2340.00
Lime	60 sacks	\$ 7.13	\$ 427.80
Drispac	67 sacks	\$ 131.05	\$ 8780.35
Magconol	1 drum	\$ 886.94	\$ 886.94
Soda Ash	11 sacks	\$ 20.00	\$ 220.00
Aluminium Stearate	1 sack	\$ 15.04	\$ 15.04
Soltex	140 sacks	\$ 45.31	\$ 6343.40
Resinex	195 sacks	\$ 44.00	\$ 8580.00
			<u>\$161201.49</u>

Total Cost :161,201.49

Cost per foot 6939 feet : 23.23

Cost per meter 2115 meter : 76.20



# MATERIAL CONSUMPTION BY INTERVAL

Hole size: 8 3/4"<sup>8</sup>  
3696 - 4292 meters  
Drilling Depth 4323 meters

<u>PRODUCT</u>	<u>UNIT</u>	<u>UNIT COST</u>	<u>COST</u>
Baryte	597 M/Ton	\$ 117.76	\$ 70,305.62
Bentonite	23 M/Ton	\$ 295.64	\$ 6,799.71
Spersene	224 50 lb	\$ 15.03	\$ 3,365.87
Caustic Soda	174 25 kg	\$ 12.42	\$ 2,160.54
XP-20	448 50 lb	\$ 20.96	\$ 9,391.12
CMC L.V.	1	\$ 55.87	\$ 55.87
Bit Lube	2 55 gal	\$ 800.25	\$ 1,600.50
Lime	50 40 kg	\$ 9.07	\$ 453.71
Drispac	27 50 lb	\$ 135.25	\$ 3,651.69
Soda Ash	5 50 kg	\$ 20.00	\$ 100.00
Resinex	400 50 lb	\$ 52.04	\$ 20,814.00
			<u>\$118,698.63</u>
Total	:	\$ 118,698.63	
2057' per foot	:	\$ 57.70	
627m meters	:	\$ 189.31	



**Magcobar**

DRILLING FLUID SERVICES

**DRESSER****TOTAL MATERIAL  
CONSUMPTION**

<u>PRODUCT</u>	<u>UNIT</u>	<u>UNIT COST</u>	<u>COST</u>
Baryte	1181 M/ton	\$ 114.55	\$ 135,280.10
Bentonite	178 M/Ton	\$ 280.55	\$ 49,937.76
Resinex	595 50 lb/sx	\$ 49.40	\$ 29,394.00
XP-20	1014 50 lb/sx	\$ 20.67	\$ 20,960.16
Spersene	1378 50 lb/sx	\$ 14.48	\$ 19,950.29
CMC L.V.	322 25 kg	\$ 53.96	\$ 17,373.82
Magcolube	17 Drums	\$ 788.96	\$ 13,412.32
Drispac	94 50 lb/sx	\$ 132.25	\$ 12,432.04
Caustic	728 25 kg/sx	\$ 14.23	\$ 10,356.00
Soltex	140 50 lb/sx	\$ 45.31	\$ 6,343.00
D-D	7 Drums	\$ 390.00	\$ 2,730.00
Magconol	2 Drums	\$ 886.94	\$ 1,773.88
Bit Lube	2 Drums	\$ 800.25	\$ 1,600.52
Lime	160 40 kg/sx	\$ 8.32	\$ 1,330.70
Tannathin	88 50 lb/sx	\$ 12.37	\$ 1,088.56
Soda Ash	28 50 kg/sx	\$ 20.00	\$ 560.00
Al. St.	1 25 kg/sx	\$ 15.04	\$ 15.04
			<u>\$ 324,538.19</u>

Total Cost : \$ 324,538.19  
Per meters 4323 : \$ 75.05  
Per foot : \$ 22.88

**WELL DATA SHEET**

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EQUIPMENT		MAKE		CHOKE (L.P.)		PVT										
DESANDER	<input checked="" type="checkbox"/> Pioneer	4/12"		<input type="checkbox"/>		<input checked="" type="checkbox"/> Logging Unit										
DESILTER	<input checked="" type="checkbox"/> Pioneer	14/4"		<input type="checkbox"/> CHOKER (SUPER)		FLOW SENSOR <input checked="" type="checkbox"/> " "										
CENTRIFUGE	<input checked="" type="checkbox"/> Swaco			<input type="checkbox"/> CLAYJECTOR		ROP <input checked="" type="checkbox"/> " "										
DEGASSER	<input checked="" type="checkbox"/> Demco			<input checked="" type="checkbox"/> FINE SCREEN Brandt 100 mesh.		OTHER <input checked="" type="checkbox"/> " "										
						TOTAL MUD COST:	TOTAL DEPTH:									
						\$ 314,968.44	4323 mt.									
														REMARKS		
	MAGCOBAR	MAGCOGEL	SPERSENE	XP-20	CAUSTIC	Soda Ash	Lime	D.D.	Magconol	CMC LV	Tannathin	Drispac	Magcolube	COST	TOTAL MUD COST	
Aug 18	13	8			7	4	7							3929	3929	Mixed 90m <sup>3</sup> spud mud and weighted to 1200
18	20	31	4		10	4	6							11217	15146	Drld to 194.5m. and run 30" csg.
19			-											0	15146	Run riser. Drlg Cement and New hole. 17 1/2"
20	2	5	4		12			1	1					3130	18275	Drld. to 469m. and condition hole and log
21	27	2	6		2	2								3973	22248	Open hole to 26" and pull riser
22				-												Run 20" Csg. Mix prehydrated gel.
23		2			3											Run 20" Csg. Prehydrate 1 pit (50m <sup>3</sup> ) gel.
24	8	7	5		6		10		4					3299	26148	Drld. building volume. Losing (faulty valve)
25	27	4			9	1	15							4443	30592	Drld wt up
26	4	6	15		18	1	10							2675	33268	Drld trip backoff fished. Trip.
27			15		4									274	33542	Drld.
28		5	60		30				41	40				5405	38947	Drld. Lowering filtrate. Control Pv/YP
29			96	40	32				16	48				4129	43076	Drld. T.D. Tight hole. Reamcirc.
30	4			40	14				9					1963	45038	Circ. Log. Tight RIH. Circ. Wt up 10 ppg 6cc CW loss
31			30	40	10				15					2206	47245	POH to log. No hole problems. Tool problems
sept 1					10		15							255	47500	logs - RIH condition for Casg.
2														0	47500	Running Casg.
3		2.5			1									741	48241	Pressure test BOP
4			30	15	10				10					1425	49667	Drilling test for high solids
5			20	10	10				20			1		2509	52176	Drill high torque on bit
6	6	9.0	40	20	5		10	2						5204	57380	Drill junk in the hole. Trip
7	10	9	41	40	7		6	3			5			6465	63844	Drill
8	15	5	15				6		1	9	3			4828	68672	Drill. Trip. Stuck at 1947 Fishing. Backed off
9		3	11		5				10		1			1569	70240	Fishing. for Schlumberger cable in pipe
10														-	70240	Fishing
11	10	2							10					2112	72353	Fishing set cement plug 1780m.
12			30		5									506	72353	W.O.C.

FINAL COST \$ 314,968.44

**WELL DATA SHEET**

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PAGE 2

EQUIPMENT		CHOKE (L.P.)		PVT											
DESANDER	<input checked="" type="checkbox"/> Pioneer <sup>MAKE</sup> 4X12"	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	Exploration Logging										
DESILTER	<input checked="" type="checkbox"/> Pioneer 14X4	CHOKE (SUPER)	<input checked="" type="checkbox"/> Cameron 15,000	FLOW SENSOR	<input checked="" type="checkbox"/> " "										
CENTRIFUGE	<input checked="" type="checkbox"/> Swaco	CLAYJECTOR	<input type="checkbox"/>	ROP	<input checked="" type="checkbox"/> " "										
DEGASSER	<input checked="" type="checkbox"/> Demco	FINE SCREEN	<input checked="" type="checkbox"/> Brandt 150 mesh	OTHER	<input checked="" type="checkbox"/> Data Unit Eploration Logging										
				TOTAL MUD COST:	TOTAL DEPTH:										
				\$ 314,968.44	4323 meters										
REMARKS															
13/9	5	3	60	10	8	5		20					3595	72453	Drill cement. Hit fish POOH
14	No additives												0	72858	
15	3	4.5	10	5	2				1	3					Hurricane warning
16	46	4.5	20	10	5	4		5							W.O.W.
17	No additives														Hung off W.O.W.
18	8	7	30	15	8			5							Latch up and drill
19	12	4.5	40	20	12		15	6					3943	89866.12	Drilling
20	26				4			10				7	9058	98924	Shale problems
21								10					540	99464	Trip Ream. Drill
22	9		30	40	5		23	15				2	5771	105235	Trip. Drill. Building Volume
23	5							30		95	2	10	8596	113741	Lower W. Loss
24	6		50		10			15	4	10	1	10	4334	118074	Drilled. Trip. Drilled trip
25	6	2½	32	40	2			15	4	15	2		7061	125135	Drill. Trip
26	7		30		5			5			1		2355	127489	Drill. Trip
27					10			10					688	128178	Drill. Trip
28														128178	Drill Trip. Diamond vit Turbine wash + Ream
29		3			7	2							979	129156	Wash Ream drill
30	2		18		7			5					859	130014	Drill Wiper Trip. Ream
1/10	7	2	10	5	15			10					2357	132370	Drill. Built Pit of Kill Mud (1.38) (11.6)
2			40	20	15			5					1476	133845	Drill Diamond Bit
3			30	25	20			5					1508	135354	
4			40	35	15			6					2491	137845	Drill Diamond Bit
5	4	3	10	10	18				8	15			3629	141475	Drilling
6	25	1	30	17	12				3	5			4678	141653	Drilling with Diamond Bit
7	20	1	10	7	2				3				3247	149401	Trip our lay down Turbo and Diamond Bit
													<b>FINAL COST</b>	<b>\$ 314,968.44</b>	



WELL DATA SHEET

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EQUIPMENT		MAKE		CHOKE (L.P.)		PVT							
DESANDER	<input checked="" type="checkbox"/>	Pioneer	4 1/2"	CHOKE (L.P.)	<input checked="" type="checkbox"/>	Logging Unit							
DESILTER	<input checked="" type="checkbox"/>	Pioneer	14/4"	CHOKE (SUPER)	<input checked="" type="checkbox"/>	" "							
CENTRIFUGE	<input checked="" type="checkbox"/>	Swaco		CLAYJECTOR	<input type="checkbox"/>	" "							
DEGASSER	<input checked="" type="checkbox"/>	Demco		FINE SCREEN	<input checked="" type="checkbox"/>	" "							
						TOTAL MUD COST:	TOTAL DEPTH:						
						314,968.44	4323 meters						
											REMARKS		
	MAGCOBAR	MAGCOGEL	SPERSENE	XP-20	CAUSTIC	Drispac	Resinex	Soda Ash	Lime		COST	TOTAL MUD COST	
Oct 8			15	8	5	5					1108	150509	Trip out of hole 24 hrs. no fill
9	49 T	8T	59	20	17	4					9794	160304	Raise wt. to 10.8 lbs/gal mix kill mud. 11.9
10	19 T	1T			7	8					2528	162832	Trip for bit
11	28.5	3		12	10						4449	167280	Trip for bit
12	25		21	12	10	3					3912	171193	P.O.H. for washout X-over.
13	13.5	5.5	20	10	3						3592	174785	Raise Y.P. for logging
14		3	20	10	8	5					2100	176886	Circ. prior to logging
15		1			1						293	177179	Logging. Testing B.O.P. Stack
16	31				7	100					9457	186637	Drig. ahead
17	19.5	2	40	20	18	40					6350	192987	Drig.
18	54	2	20	10	12	3	15				8598	201585	Raise weight to 1.34 R.D. Built 40m <sup>3</sup> Volume
19											0	0	Reached 9 5/8" Depth Ran Logs
20											-	201585	Logging - Fishing (2 cones)
21												201585	Fishing
22	4		17		13						889	202474	Fishing
23	4		30		30						1328	203802	Retrieved junk - Running 9 5/8" casing
24												203802	Running 9 5/8" casing
25	4	2			1		1				1100	204902	W.O.C.
26	16										1808	206710	Weighted up kill mud 1500 kg/m <sup>3</sup> . Test B.O.P.
27	23		25	28	29		4				4039	210749	Drill out cmt. drill 10 m formation.
28	17	5	20	10	6	30					5648	216398	Raise Y.P. drill ahead
29	9	2				30					3328	219726	POH Rig repairs.
30	37		20	10	4	6					5568	225295	Raise mud wt. to 12.0 build volume
31			10	10	3	6					1229	226524	Lower F.L. to 3.cc.
Nov 1		2	30	20	3	2					1720	228245	Build volume. Trip
2	1				6	40		20			3433	231678	Gas. Coal. Stand. Circ. W.O.O.
3	71				18	7					9264	240942	Circ. Raising mw. to 1590 kg/m <sup>3</sup>
											FINAL COST \$ 314,968.44		



WELL DATA SHEET

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EQUIPMENT		MAKE		CHOKE (L.P.)		PVT							
DESANDER		<input checked="" type="checkbox"/> Pioneer 4X12"		<input type="checkbox"/>		<input checked="" type="checkbox"/> Logging Unit							
DESILTER		<input checked="" type="checkbox"/> Pioneer 14X4		CHOKE (SUPER) <input checked="" type="checkbox"/> Cameron 15,000 psi		FLOW SENSOR <input checked="" type="checkbox"/> " "							
CENTRIFUGE		<input checked="" type="checkbox"/> Swaco		CLAYJECTOR <input type="checkbox"/>		ROP <input checked="" type="checkbox"/> " "							
DEGASSER		<input checked="" type="checkbox"/> Demco		FINE SCREEN <input checked="" type="checkbox"/> Brant 150 mesh		OTHER <input checked="" type="checkbox"/> " "							
						TOTAL MUD COST:	TOTAL DEPTH:						
						\$ 314,968.44	4323 meters						
	MAGCOBAR	MAGCOGEL	SPERSENE	XP-20	CAUSTIC	Resinex	Bit Lube	CMC L.V.			COST	TOTAL MUD COST	REMARKS
Nov 7		1			4						172	241114	Test BOP
4				40	18	40	5				6172	427286	Raised mw to 1630 kg/m <sup>3</sup> - Coreing
5											4858	252144	Raised m.w. to 18000 kg/m <sup>3</sup> - Circ out gas
6			40	40	24						8300	260444	Increased m.w. to 1800 and kill mud to 1920 kg/m <sup>3</sup>
7				40			14				3742	264186	increased m.w. to 1820 kg/m <sup>3</sup> - Drilled to 4069m
8											1243	265429	Drig. to 4113m.
9				38	10		10				1900	267329	Logging.
10											1355	268684	Drilling no problems after logging
11			10			20	10				7769	276453	Raise mud wt. to 1.9 sr. gr.
12		2	20	20		20					4795	281249	Drill to 4270. ( ) bit would not drill.
13							2			2142	2142	283392	P.O.H. R.I.H. with insert bit. ( ) wore out.
14			20		5							283754	WOW
15												283754	WOW
16													WOW
17													
18	40	8	29	72	20						9391	293145	Circulate and condition before logs.
19	17			90							3913	297058	Logging and condition mud.
20	23										2732	299790	Logs
21	27				18	80					8221	308011	Logs and conditioning
26	16			30	5						2589	310600	Testing
28	27										3207	313808	Testing
29											0	313808	Circ 4 hrs P.O.H. to test.
30					5						58		R.I.H. Circ. prepare to run the 7"
Dec. 1	6	1		20			1				1103	314968	RIH with the 7" cement. Hole temporarily abandoned
												FINAL COST \$ 314,968.44	



WELL DATA SHEET

MAG-545-A

OPERATOR Norsk Hydro	SURVEY SEC. T R	CASING SIZE 20"	DEPTH 454	DRLG. DAYS 6	BIT SIZE 26"
WELL 15/5-2	FIELD 15	SURFACE	INTERMEDIATE 13 3/8	1598	6
CONTRACTOR Wilhelmsen,	COUNTY	STATE	COUNTRY Norway	PRODUCTION	17 1/2"
ENGINEER B. Brown, B. Jackson, H. Yttri					

DATE	kg/m <sup>3</sup>	WT.	VISCOSITY		CORR. 115°F	GELS		pH	FLUID LOSS		CL CACL NACL	ALKALINITY			Mg ppm	RETORT			ACTIVITY		RATIO		# Bbl		
			SEC.	CPS.		PV	YP		0	10		100 PSI API	500 PSI 300 °F HT-HP	PF		PM	MF	CA ppm	% OIL	% SOL	% WATER	As		Am	OIL
8-17	0	1040	100	-	10	25	7	13	9.5	n/c	2,500	.5	-	-	160	0	3	97					32		
18	194.5	1050	48	-	8	11	6	15	10.0	n/c	3,000	.2	-	-	160	0	3	97					22	Run 30	
19	297	1080	42	-	4	8	2	9	9.5	n/c	14,000	.2	-	-	240	0	3.5	96.5					18	Drlg	
20	469	1140	35	-	6	11	3	15	10.0	n/c	15,000	.4	-	-	320	0	5	95					21	Drlg	
21	469	1160	40	-	7	12	2	14	10.0	n/c	15,000	.3	-	-	250	0	7	93					24	Und.r	
22	469	1160	40	-	7	15	3	15	10.0	n/c	16,000	.3	-	-	400	0	6	94					22	20"	
23	469	1030	50	-	7	20	4	20	9.5	n/c	500	.2	-	-	160	0	3	97					21	Prehy	
24	608	1129	34	15.5	3	9	6	20	9.5	n/c	20,000	.2	.6	0	1800	0	3	97					19		
25	1016	1129	34	30	8	14	6	20	9.5	n/c	20,000	.2	.6	0	1200	0	6	94					20		
26	1267	1168	43	34	10	14	3	16	9.5	n/c	18,000	.2	.4	0	1000	0	7	93					28		
27	1462	1164	65	32	9	14	3	10	9.5	9	16,500	.2	.3	0	400	0	8	92					40		
28	1462	1164	65	32	9	14	3	10	9.5	9	16,500	.2	.3	0	400	0	8	92					40		
29	1616	1177	50	24	8	8	2	9	9.5	9	19,000	.1	.2	0	700	0	10	90					40		
30	1616	1200	49	27	9	9	2	7	10.5	6.5	15,000	.2	.4	0	360	0	11	89					40		
31	1616	1200	48	26	8	10	2	9	9.5	5.0	15,000	.1	.4	0	360	0	11	89					40	Logs	
1	1616	1200	72	-	12	11	14	58	10.5	6.3	14,000	.25	.45	0	360	0	12	88						Circ	
2	1616	1200	68	-	11	12	6.7	41.2	10.0	6.2	14,000	.3	.2	0	360	0	12	88						13 3/8	
3	1598	1200	68	-	12.5	11.5	1.6	18.2	9.5	6.6	14,000	.2	-	0	460		-	-						BOA	
4	1802	1200	75	-	15	12	4	6	11.0	5.8	13,000	.2	-	0	400		10	90						Drill	
5	1884	1200	47	-	9	10	3	20	10.5	5.7	11,000	.7	1.2	1.9	360		11	89					32	Drill	
6	1902	1200	44	-	11	9	3	21	11.5	5.8	12,000	.8	1.8	2.6	350		10	90					40		
7																									
8	2199	1200	51	30	10	10	3	8	10.5	5.4	8,000	1.0	1.9	1.3	200	0	11	89					28	Drill	
9	2294	1220	48	20	6	8	2	5	10.5	6.0	8,000	.8	1.4	1.9	200	0	10	90					26	Stuck	
10	2294	1220	46	19	5	7	2	4	10.0	6.0	7,800	.5	.9	.8	200	0	9	91					25	Stuck	
11	2294	1220	46	19	5	7	2	4	9.5	6.5	7,800	.3	.6	.5	200	0	9	91					25	Stuck	
12	2294	1220	47	16	5	6	2	4	8.5	6.0	7,500	.1	.3	.2	180	0	9	91					26	Stuck	

DATE SPUD: 16/8/78      DATE T.D.: 15.11.78      T. 118°C      COMPLETION FLUID TYPE: None      COST: 0  
 PACKER MUD TYPE: Active mud      COST: 0



WELL DATA SHEET

MAG-545-A

OPERATOR			SURVEY SEC.										CASING SIZE		DEPTH		DRLG. DAYS		BIT SIZE						
Norsk Hydro			T R										20		454		6		26"						
WELL			FIELD										SURFACE												
15/			15										13 3/8		1598		6		17 1/2"						
CONTRACTOR			COUNTY										INTERMEDIATE												
Wilhelmson													9 5/8"		3696		46		12 1/4"						
ENGINEER			STATE					COUNTRY					PRODUCTION												
Jackspn/Brown/Yttri			North Sea					Norway																	
DATE	DEPTH	SpGr	VISCOSITY		CORR. 115°F		GELS		pH	FLUID LOSS		CL <input checked="" type="checkbox"/> CACL <input type="checkbox"/> NACL <input type="checkbox"/>	ALKALINITY			CA ppm	Mg ppm	RETORT			ACTIVITY		RATIO		# Bbl CEC
			SEC.	CPS.	PV	YP	0	10	BECK STRIP <input checked="" type="checkbox"/>	100 PSI API	500 PSI 300 °F HT-HP		PF	PM	MF			% OIL	% SOL	% WATER	As	Am	OIL	H2O	
Sept 13	1780	1220	48	16	5	6	2	3	9.5	7.0		8000	.2	.5	.4	200		9	91				25		
14	1840	1220	46	15	5	5	2	4	11.5	6.8		6000	.9	2.8	1.7	500		9	91				30		
15	1740	1220	44	14	4	6	2	4	11.0	6.2		6500	.8	1.6	2.3	500	1500	8	92				30		
16	1829	1220	46	21	7	7	6	27	10.0	6.1		7500	3.1	4.2	3.8	560	1640	10	90				29		
17	1874	1220	46	18	6	6	2	22	10.5	6.0		6000	1.1	2.6		300	1100	8	92				31		
18	1874	1220	41	18	6	6	2	22	9.5	6.2		6000	2.1		2.8	300	1100	9	91	Hung Off					
19	1966	1210	44	11	5	6	2	20	11.0	5.8		6000	1.3		2.4	330	1070	8	92				31		
20	2172	1210	48	19	9.5	9.5	4	26	11.0	6.0		5000	1.1		2.2	330	970	3	9	88			28		
21	2232	1260	54	23	10		7	26	11.0	4.6		5000	.9	1.2	2.1	350		4	12	84			28		
22	7000	1260	62	29	9	10	4	6	10.2	4.1		5000	.6	2.1	1.4	260	98	4	11	85			30		
23	2345	1270	52	25	8	9	3	6	11.0	4.0	10	5000	1.2	2.6	1.9	400	95	4	11	85			29		
24		1260	49	23	8	7	2	5	9.9	3.4	10	5000	.4	1.8	.9	160	73	4	9	87			25		
25	2639	1260	60	36	14	8	4	9	10.4	2.8	10	5000	1.1	2.5	1.3	200	80	4	10	86			20		
26	2723	1260	51	33	12	9	2	6	10.7	2.8		5000	.4	2.6	1.1	160	145	4	9	87			25		
27	2754	1270	52	30	11	8	2	6	10.4	3.0		5000	.6	1.9	1.8	320	290	4	9	87			25		
28	2826	1270	46	23	9	5	2	4	11.5	3.2		5000	1.2	2.4	1.9	450	260	4	9	87			23		
29	2826	1260	55	30	9	7	3	7	10.0	3.4	10.5	4800	.8	1.5	1.3	500	300	4	9	87			23		
30	2855	1260	48	30	9	7	3	6	10.9	3.2	12.0	6000	.7	2.5	1.6	150	50	4	8	88			27		
Oct 1	2938	1270	45	25	10	5	2	4	10.2	3.6	13	6500	.6	2.3	1.6	160	210	4	9	87			23		
2	3016	1270	50	36	14	8	3	7	11.0	3.6	12	4800	1.2	3.0	2.0	160	146	4	10	87			30		
3	3081	1270	48	34	12	10	2	8	10.3	3.6	8	5000	.8	2.2	2.3	180	140								
4	3156	1270	52	38	13	7	4	7	10.0	3.8	11.0	4600	.5	2.6		80		4	12.5	83.5			30		
5	3223	1270	47	29.5	9.5	7.5	2	9	9.5	4.0	15.0	5000	.5	2.0		160		3	15	82					
6	3285	1270	51	37	20	7.5	3	6	10.5	4.4	8.0	5000	1.2	3.0	3.8	200		3	16	81			28		
7	3359	1270	46	27	16	7.5	3	16	9.5	4.4	9.0	5000	.8		2.4	160	140	3	14	83			28		

DATE SPLD: 16/8/78      DATE T.D.: 15/11/78      T: 118°C      COMPLETION FLUID TYPE: None      Packer Mud Type: Active Mud      COST: \$-0      COST: \$-0



WELL DATA SHEET

MAG-545-A

OPERATOR Norsk Hydro	SURVEY SEC. T R	CASING SIZE	DEPTH	DRLG. DAYS	BIT SIZE	
WELL 15/5-2	FIELD 15	SURFACE 20	454	6	26"	
CONTRACTOR Willhelmsen	COUNTY	INTERMEDIATE 13 3/8"	1598	6	17 1/2"	
ENGINEER H. Yttri/W. Brown	STATE North Sea	COUNTRY Norway	PRODUCTION 9 5/8"	3696	46	12 1/4"

Oct

DATE	DEPTH	WT.	VISCOSITY		CORR. 115°F		GELS		pH		FLUID LOSS		CL <input checked="" type="checkbox"/>			ALKALINITY			RETORT			ACTIVITY		RATIO		# Bbl		
			SEC.	CPS.	PV	YP	Beck Strip <input checked="" type="checkbox"/>	100 PSI API	500 PSI 300 °F HT-HP	CACL <input type="checkbox"/>	NAACL <input type="checkbox"/>	PF	PM	MF	CA ppm	Mg ppm	% OIL	% SOL	% WATER	As	Am	OIL	H2O	CEC				
		Aug 78 kg/m <sup>3</sup>																										
8	3359	1270	56		21	3	3	16.5	9.0	4.2	16.0	5000	.6	1.2	1.8	150				2	13	85				27	Trip	
9	3375	1270	45	23	18	10	6	28	9.5	4.4	11.0	4800	.9	2.0	3.8	160				2.5	12	85.5				26	Trip	
10	3415	1300	43	21	16	10	5	23	9.5	4.4	14.0	4600	.9	1.8	3.1	180				3	13	84				25	Drlg.	
11	3439	1300	42	21	16	10	6	21	9.5	4.6	-	5000	1.0	1.7	3.4	200				4	12	84				24	Trip	
12	3470	1300	45	25	19	12	6	22	9.0	5.0	10.8	4900	.6	1.1	2.0	180				4	13	83				26	Trip	
13	3504	1300	43	27	19	12	6	20	10.0	4.2	11.0	4800	1.1	1.5	3.4	180				4	12	84				25	Trip	
14	3550	1300	44	26	18	16	6	24	9.0	4.2	16.0	4600	.8	1.7	2.4	180				4	14	82				24		
15	3606	1300	52	34	21	26	9	38	9.0	4.8	16.0	4600	.8	1.6	3.0	200				3	14	83				27.5	Log	
16	3606	1300	49						9.0	4.4																		
17	3630	1300	48	25.5	19	13	6	30	9.5	4.4	16.0	4600	.7	1.7	2.6	280				3	17	80				28	Drlg.	
18	3682	1300	47	23	18	10	6	26	9.5	4.4	14.0	4600	.7	1.9	2.6	200				4	14	82				25		
19	3712	1340	43	25	18	14	5	16	9.5	4.4	14.4	4600	.8	1.6	2.2	180				3	16	81				28	Loggin	
20	3712	1340	45	25	18	14	6	16	9.5	4.4	15	4600	.8	1.6	2.2	180				3	16	81				28	"	
21	3712	1340	45	25	18	14	6	16	9.5	4.4	15	4600	.8	1.6	2.2	180				3	16	81				28	Fishing	
22	3712	1340	50	25	20	10	6	20	10	4.4	15	4600	1.0	1.6		160				3	16	81				28		
23	3713	1340	45	22	18	8	4	16	11	4.0	14.6	4600	1.4	1.6		100				3	16	81				28	Run C.	
24	3713	1340	45	22	18	8	5	16	11	4.0	14.6	4600	1.4	1.6		100				3	16	81				28	Csg	
25	3713	1400	50	21	21	12	6	20	11	4.0	15	5000	1.4	1.6		100				3	16	81					WOC	
26	3713	1400	50	23	18	10	6	16	10.5	4.2	15	5000	1.2	1.6		100				3	16	81					Test BO	
27	3735	1400	43	24	21	6	3	9	10.5	4.8	15	4500	2.7		3.1	250				3	17	80				27	Drlgou	
28	3771	1400	42	25	22	10	5	16	10.5	4.6	5	4500	1.4		2.6	250				2	14	84				26	Drlg	
29	3813	1400	47	22.5	17	11	18	110	10.5	4.8	18.0	4500	1.6		2.2	180				2	14	84				31	Drlg	
30	3873	1438	44	21.5	17	9	5	66	11.0	4.2	17.0	4400	2.0		3.4	160				2	16	82				30	Drlg	
31	3925	1438	49	24	21	10	5	38	10.0	3.4	15.0	4400	1.8		2.6	260				2	17	81				35		
Nov 1	3941	1438	52	24	18	12	4	36	9.5	3.4	-	4500	1.4		2.8	260				2	16	82				33		
2	4013	1438	48	20	16	8	5	14	9.5	3.5	16.0	4500	1.2		2.8	300				2	16	82				30		
3	4013	1590	52	27	27	7	2	16	10	3.5	6	4500	1.2			160				2	18	80				30	Raiso	

Nov

DATE SPUD: 16 August, 1978	DATE T.D.: 15/11/78	T. 118°	COMPLETION FLUID TYPE: None	COST: 0
			PACKER MUD TYPE: Active Mud	COST: 0





WELL DATA SHEET

MAG-545-A

OPERATOR Norsk Hydro	SURVEY SEC. T R	CASING SIZE 13 3/8"	DEPTH 1598	DRLG. DAYS 6	BIT SIZE 17 1/2"
WELL 15/5-2	FIELD 15	SURFACE 9 5/8"	INTERMEDIATE 3696	46	12 1/4"
CONTRACTOR Wilhelmson	COUNTY	PRODUCTION 7"	4292	22	8 3/8"
ENGINEER B. Brown/H. Yttri	STATE North Sea	COUNTRY Norway			

Nov.

DATE	DEPTH	WT. kg/m <sup>3</sup>	VISCOSITY		CORR. 115°F		GELS		pH	FLUID LOSS		CL <input checked="" type="checkbox"/> CACL <input type="checkbox"/> NACL <input type="checkbox"/>	ALKALINITY			Mg ppm	RETORT			ACTIVITY		RATIO		# Bbl CEC
			SEC.	CPS.	PV	YP	0	10		100 PSI API	500 PSI 300 °F HT-HP		PF	PM	MF		CA ppm	% OIL	% SOL	% WATER	A <sub>s</sub>	A <sub>m</sub>	OIL	
			BECK <input type="checkbox"/> STRIP <input checked="" type="checkbox"/>	100 PSI API	500 PSI 300 °F HT-HP	PF	PM	MF	CA ppm	% OIL	% SOL	% WATER	A <sub>s</sub>	A <sub>m</sub>	OIL	H <sub>2</sub> O								
4	4013	1590	50		28	14	4	16	10	3,5	16	4500	1.2			160	2	18	80					30
5	4020	1630	47		26	14	4	16	10	3,5	14	4000	1.8			160	2	19	79					20
6	4030	1800	48		35	14	6	16	10,5	3,5	14	4000	1.6			160	2	23	75					20
7	4036	1800	47		31	14	4	14	10,5	3,5	14	4500	1.6			160	1	25	74					30
8	4066	1820	47		30	12	4	12	11	3,5	12	4500	1.8			160	1	26	73					30
9	4113	1820	49		29	11	4	10	10,5	3,5	12	5000	1.5			160	1	26	73					30
10	4130	1820	49		29	11	4	10	10	3,5	-	5000	1.5		3.8	160	1	26	73					30
11	4156	1820	54		22	10	5	18	10	4,0	13,6	5000	1.8		2.2	190	1	23	76					20
12	4200	1900	54		24	14	6	26	10,5	3,8	13,2	5000	1.5		1.9	160	1	29	70					26
13	4270	1900	53		26	14	7	82	10	3,8	13,6	5200	1.9		2.6	240	TR	32	68					26
14	4290	1900	55		22	14	6	20	11	4,0	8,6	5000	2.4		3.0	230	TR	32	68					26
15	4322	1900	55		42	12	9	32	10	3,4	-	5200	2.2		2.8	220	TR	33	67					26
16	4322	1900	55		42	12	9	32	10	3,4	13	5200	2.2		2.8	220	TR	33	67					26
17	4322	1900	55		42	12	9	32	10	3,4	13	5200	2.2		2.8	220	TR	33	67					26
18	4322	1900	55		42	12	9	32	10	3,4	13	5200	2.2		2.8	220	TR	33	67					26
19	4322	1900	45		30	12	4	14	10,5	3,2	11	5200	2.0		2.6	220	TR	33	67					26
20	4322	1900	43		27	10	3	12	10	3,4	11	5000	1.0			220	TR	32	68					24
21	4322	1900	43		27	10	3	12	10	3,4	11	5000	1.0			220	TR	32	68					24
22	4322	1900	40		24	8	2	6	10	3,0	7	4000	1.0			160	TR	30	70					22
23	4322	1900	40		24	4	2	6	10	3,0	7	4000	1.0			160	TR	30	70					24
24	4322	1900	56		18	7	3	8	9,5	3,2	-	4000	1.0		2.8	160	TR	31	69					24
25	4322	1900	44		24	8	2	6	9,5	3,0	11,2	4000	1.0		-	160	TR	30	70					24
26	4322	1900	43		31	15	2	6	9,5	3,1	-	4000	1.0		-	160	TR	30	70					24
27	4322	1900	54		16	8	2	8	10	2,8	-	4100	1.2		3.1	160	TR	31	69					24
28	4322	1900	43		31	15	2	6	10	2,8	10,2	4000	1.0		3.2	160	TR	30	70					24
29	4322	1900	45		12	10	4	14	14	3,6	10,0	4400	.9		2.7	160	TR	31	69					-
30	4322	1900	47		25	13	6	16	9,3	3,4	14,0	4400	.9		2.8	160	TR	30	70					25

DATE SPUD: 16 August 1978	DATE T.D.: 15 November 1978	COMPLETION FLUID TYPE: None	COST: 0
	118°	PACKER MUD TYPE: Active Mud	COST: 0

TESTING

WOW  
WOW  
WOW  
WOW  
CIRC  
Logg  
Log



# WELL DATA SHEET

MAG-545-A

OPERATOR Norsk Hydro		SURVEY SEC. T R		CASING SIZE		DEPTH		DRLG. DAYS		BIT SIZE	
WELL 15/5-2		FIELD 15		SURFACE 20		454		6		26"	
CONTRACTOR Wilhelmsob		COUNTY		INTERMEDIATE 13 3/8"		1598		6		17 1/2"	
ENGINEER Jacksob/Brown/Yttri		STATE North Sea		COUNTRY Norway		PRODUCTION 9 5/8"		3696		46 12 1/4"	

DATE	DEPTH	WT.	VISCOSITY		CORR. 115°F		GELS		pH		FLUID LOSS		ALKALINITY			CA ppm	Mg ppm	RETORT			ACTIVITY		RATIO		# Bbl
			SEC.	CPS.	PV	YP	0	10	100 PSI API	500 PSI 300 °F HT-HP	CL <input type="checkbox"/>	CACL <input type="checkbox"/>	NACL <input type="checkbox"/>	PF	PM			MF	% OIL	% SOL	% WATER	As	Am	OIL	
Dec 1	4322	1.9	43		30	7	3	10	9.3	3.5	14	4400	.9	2.9	1.3	100		TR	30	70					25
2	4322	1.9	46		25	8	3	9	11.5	3.6	16	4800	1.3	2.5	3.2	100		TR	31	69					25
3	4322		The hole temporarily abandoned																						

DATE SPUD: 16.8.78      DATE T.D.: 15.11.78      118°C      COMPLETION FLUID TYPE: None      Packer Mud Type: Active Mud      COST: 0