

DA-1129

FORWARD ET AL CAMP M-61

COLVILLE HILLS, N.W.T.

FINAL DRILLING SUMMARY

PREPARED FOR:

FORWARD RESOURCES LTD.

MARCH 1984

PREPARED BY:

INTRODUCTION

Winterhawk Petroleum Consulting Services Ltd., acting as agents for Forward Resources Ltd., co-ordinated the logistics and drilling of the Forward et al Camp M-61 well, which was drilled in January of 1984.

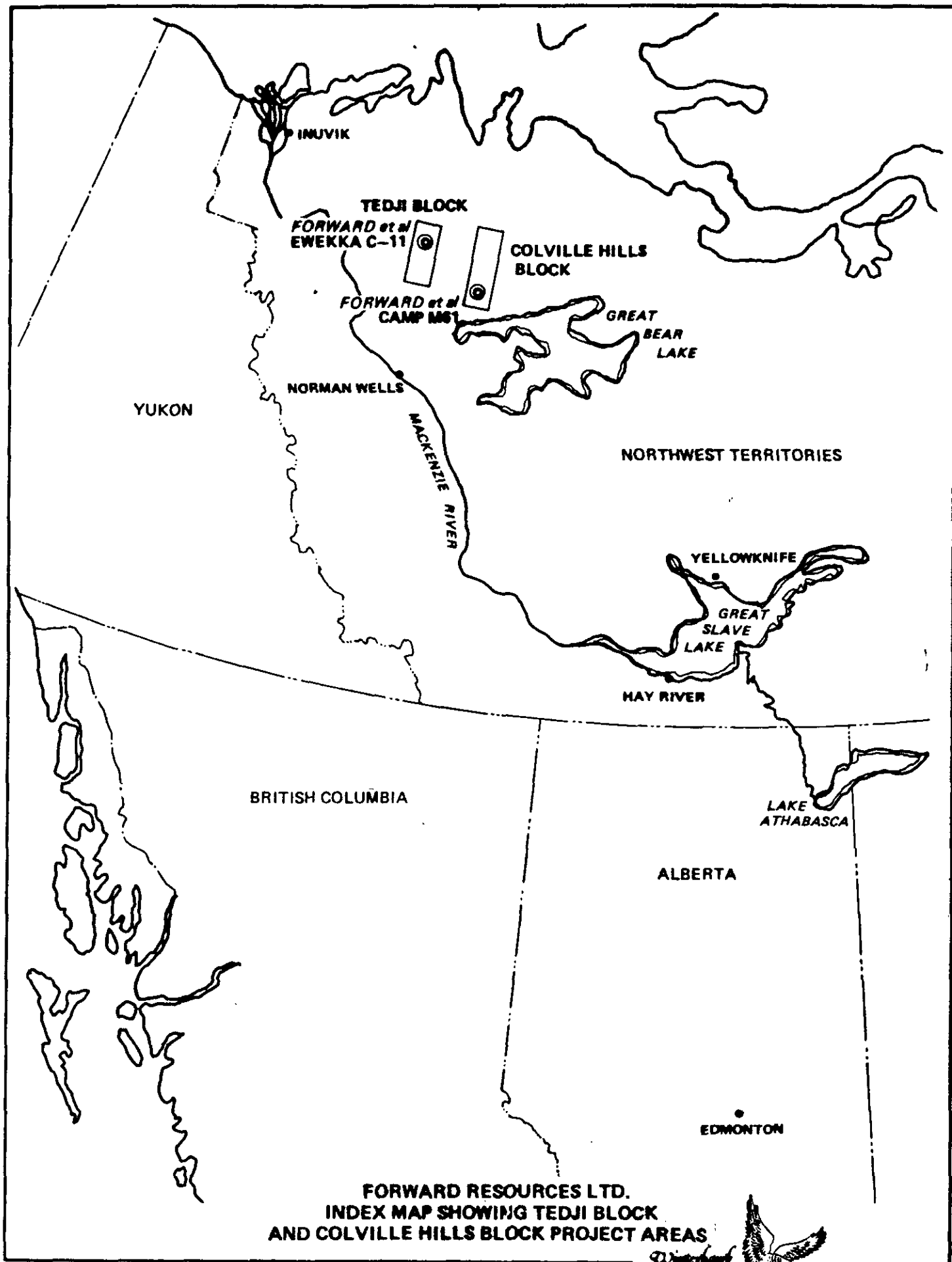
The 1983-84 drilling of Camp M-61 represented a continuance of the exploration activity which began in 1981-82 pursuant to a farmout agreement between Esso Canada Resources Ltd. and Forward Resources Ltd. In 1981-82, an extensive seismic operation was conducted in the Colville Hills area of the N.W.T., with Norman Wells acting as the base station. During the winter drilling season of 1982-83, both the Izok M-20 and the Anderson C-51 wells were drilled in the Esso block. The drilling of the Camp M-61 well in January 1984 completed the terms of the farm-in agreement between Forward Resources Ltd. and Esso Canada Resources Ltd.

Additional supplies and support services for this well were transported by barge to Norman Wells, N.W.T., in September 1983, in anticipation of a project start-up in early December, 1983.

The rig and related components had been racked from the previous year's operation, at a storage site in the northern block of the Esso Land, in close proximity to the Anderson C-51 location.

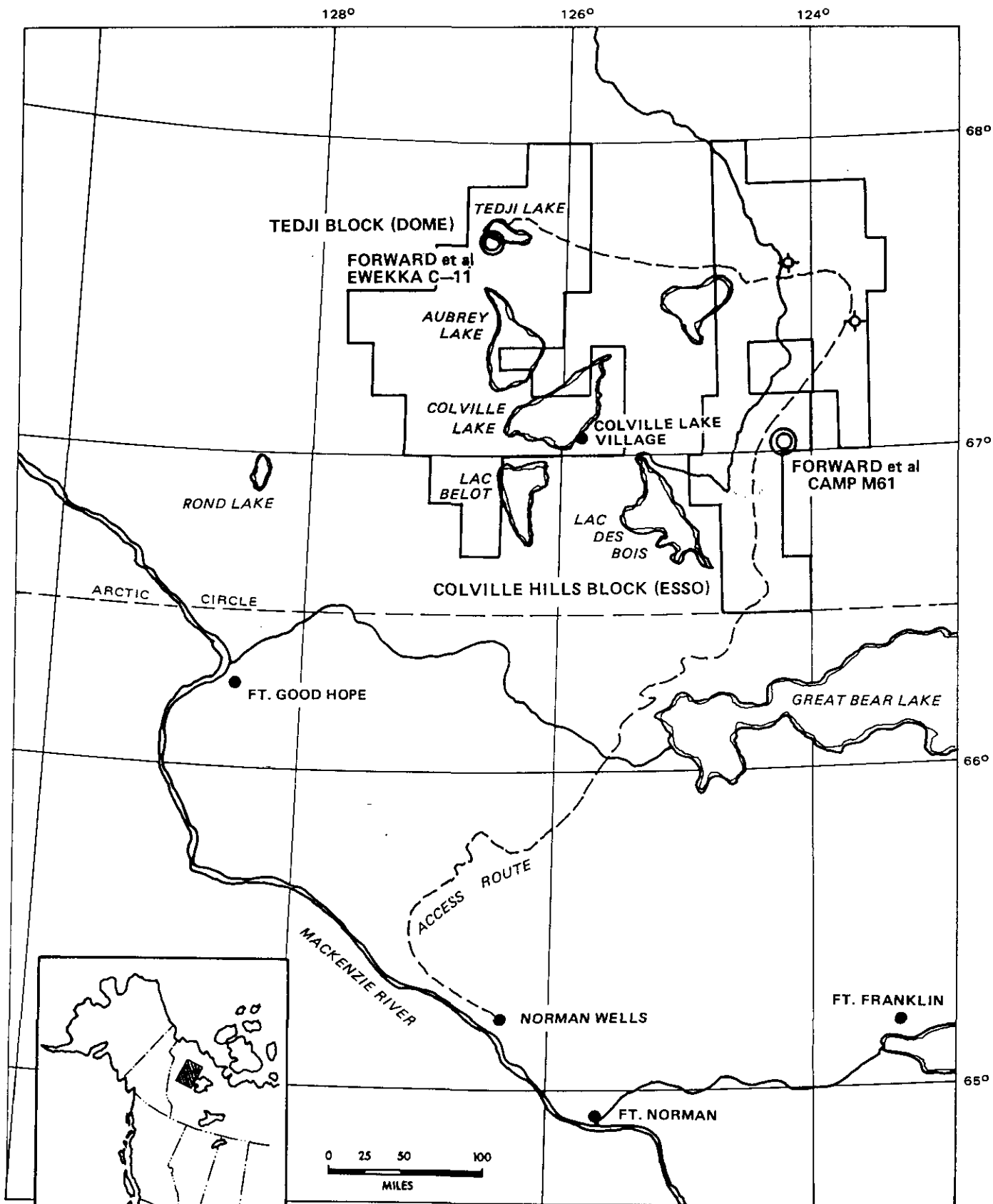
Transportation of the rig and related equipment was carried on simultaneously from the Norman Wells base station and from the racking site in early December of 1983. Drilling commenced on the Camp M-61 well location in early January of 1984 and was completed by the end of the month. All supplies and equipment were subsequently moved to the next drilling location, Forward et al Ewekka C-11.

Forward Resources Ltd. hereby gives notices that the enclosed report is to be considered as the **final well summary for the Camp M-61 well location.**



**FORWARD RESOURCES LTD.
INDEX MAP SHOWING TEDJI BLOCK
AND COLVILLE HILLS BLOCK PROJECT AREAS**





FORWARD RESOURCES LTD.
COLVILLE HILLS – TEDJI PROJECT AREAS



TABLE OF CONTENTS

1. SUMMARY OF WELL DATA
2. GEOLOGICAL SUMMARY
 - Formation Tops
 - Cored Intervals, Description and Sample Description
 - Palaeontological Determinations
3. ENGINEERING SUMMARY
 - Drill Stem Tests
 - Casing Summary
 - Bit Record
 - Mud Report
 - Deviation Record
 - Abandonment Report
 - Lost Circulation Zones
4. LOGGING SUMMARY
5. DRILLING CURVE
6. DAILY DRILLING REPORTS
7. LOGS
 - DIL-GR
 - BHC/AC-GR-CAL
 - CN-CDL-GR-CAL
 - Mud
 - Lithology

SECTION I

SUMMARY OF WELL DATA

FINAL WELL REPORT CAMP M-61

The information noted below complies with the "Section I - Summary of Well Data" requirements of the Canada Oil and Gas Lands Administration report format.

WELL NAME: Forward et al Camp M-61

LESSEE: Esso Canada Resources Ltd., farm out to
Forward Resources Ltd.

OPERATOR: Forward Resources Ltd.
6 flr., 700 - 4th Avenue S.W.
Calgary, Alberta
T2P 3J4

LOCATION: M-61 67-10-124-00

CO-ORDINATES: 67° 00' 55.83"
124° 13' 00.81"

LEASE NO.: N/A

DRILLING CONTRACTOR: Three Hundred Drilling Ltd.
"Mr. Ben" National 370 drawworks

DRILLING AUTHORITY: No. 1129 issued 83-12-30

CLASSIFICATION: New Field Exploratory (Northern)

ELEVATIONS: G.L. 338.40 m
K.B. 342.64 m

SPUD DATE: 84-01-03

COMPLETED DRILLING DATE: 84-01-23

TOTAL DEPTH, PLUG BACK: 1145 m T.D., 0 m P.B.T.D.

WELL STATUS: Dry and Abandoned

RIG RELEASED: 84-01-30

HOLE SIZES: 444 mm to 108 m
311 mm to 635 m
215 mm to 1145 m

CASING SIZES: 339 mm to 106.5 m
244 mm to 631.0 m

124-00-13-00 M-61 67-10-124-00





WELL SUMMARY

DATE 84 01 01Well Forward et al Camp M-61 Location _____Elevations: KB 342.64 m GL 338.4 m CF 2.58 mHistory: Spud Date 84 01 03 R.R. Date 84 01 30 TD 1145 mStatus Dry and Abandoned Producing Zone(s) _____

A. DRILLING DETAILS

Hole Size 444.5 mm Depth 108 m Logs _____Hole Size 311 mm Depth 635 m Logs _____Hole Size 215 mm Depth 1145 m Logs DIL, BHCS, CDCN, ACB, Lithology

Hole Size _____ Depth _____ Logs _____

Casing Size 339.7 mm Grade K-55 Depth 106.5 - 47.1 Cement Vol. 10.36 m³Casing Size 339.7 mm Grade H-40 Depth 47.1 - surface Cement Vol. 5.77 m³Casing Size 244.5 mm Grade MN-80 Depth 631 - surface Cement Vol. 8.9 T "G"Casing Size _____ Grade _____ Depth _____ Cement Vol. 9.9 permafrostDST No. None Int _____ Zone _____

DST No. _____ Int _____ Zone _____

DST No. _____ Int _____ Zone _____

DST No. _____ Int _____ Zone _____

DST No. _____ Int _____ Zone _____

Core No. _____ Int _____ Zone _____ Rec. _____

Core No. _____ Int _____ Zone _____ Rec. _____

Core No. _____ Int _____ Zone _____ Rec. _____

Plug No. 1 Int TD - 900 m Cement Vol. 9 T Felt NoPlug No. 2A Int 610 Cement Vol. Bridge Plug Felt P.T.Plug No. 2B Int 610 - 58F Cement Vol. 1.6 T Felt NoPlug No. 3 Int 50 - surface Cement Vol. 2 T Felt No

B. COMPLETION DETAILS

COMPLETION DATE: _____

Perforations: Int _____ Zone _____ Type _____

Int _____ Zone _____ Type _____

Int _____ Zone _____ Type _____

Stimulations: Formation _____

Tubing Details: _____

Anchor/Packer Details: _____

Pumping Equipment: _____

Remarks: _____

See specific forms for more detail.

ENGINEER John Ross

SECTION II

GEOLOGICAL SUMMARY

FORWARD ET AL CAMP M-61

Lat. $67^{\circ}00'55.83''\text{N}$, Long. $124^{\circ}13'00.81''\text{W}$

GEOLOGICAL REPORT

A. J. Williams
Dawson-Long & Associates Ltd.

FORMATION TOPS

GEOLOGICAL MARKERS

Ground: 338.4 m K.B.: 342.64 m

<u>Formation</u>	<u>Sample Top</u>	<u>Subsea (Sample)</u>	<u>Log Top</u>	<u>Subsea (Log)</u>
Till	0	+342.64		
Detrital	102	+240.64		
Mount Kindle	107.5	+235.14		
Franklin Mtn.				
-Cherty Unit	132	+210.64		
-Rhythmic Unit	290	+ 52.64		
-Cyclic Unit	576	-233.36		
Saline River Shale	625	-282.36		
Saline River Salt	701	-358.36	701	-358.36
Mount Cap Upper	862.5	-519.86	859	-516.36
Mount Cap Lower	937	-594.36	930	-587.36
Mt. Cap Basal Ss	1048.6	-705.96	1050	-707.36
Old Fort Island	1067	-724.36	1067	-724.36
Proterozoic	1115	-772.36	1115	-772.36
T.D.	1145	-802.36		

CORED INTERVALS
CORE DESCRIPTIONS
SAMPLE DESCRIPTIONS

NO CORES WERE CUT

PALAEONTOLOGICAL DETERMINATIONS

GEOLOGICAL SUMMARY

GEOLOGICAL SUMMARY

The well was spudded in a pleistocene glacial till. It consists of blue-grey clay and rounded pebbles, cobbles and boulders of igneous metamorphic and sedimentary origin. The till is 102 meters thick and contains some rounded, medium to coarse grained quartz and chert sands. There is a possibly bedded, detrital chert and pyrite zone at the base of the till from 102 to 107.5 meters. The entire unit is permafrosted.

Mount Kindle Formation @ 107.5 m

The Mount Kindle top is marked by the presence of light grey, very fine to finely crystalline, slightly argillaceous and slightly silty dolomite. Sample coverage is very poor so the exact top and thickness of this unit may be different. There is very little porosity and no shows in this unit.

Franklin Mountain Chert Unit @ 132 m

The exact top of this unit is open to question because of poor sample coverage. The top, as called, is marked by an increase in penetration rate and an 18 meter thick bedded cherty zone. The unit consists of interbedded, vuggy chert showing 5 to 10% vuggy porosity and light grey to light brown, microcrystalline to very finely crystalline or medium to coarsely crystalline, slightly argillaceous dolomite. There is 25 to 30% porosity and considerable stream debris at 203, 213 and 240 meters. There was water entering the hole from these locations also. There was considerable dark brown, tarry, dead oil shows but no live cut or fluorescence.

Franklin Mountain Rhythmic Unit @ 290 m

The Rhythmic unit consists of a clean, slightly porous, light grey to light brown, microcrystalline to very fine crystalline dolomite. There is very good porosity in this unit at 303, 312, 315, 326 to 311, 460, 469 to 474, and 492 to 497 meters. There is much black, tarry oil staining throughout the unit. Some shows of faint yellow fluorescence and no cut but most is dead. There is some heavy oil staining at 447 meters showing faint yellow fluorescence and good yellow fluorescent cut. There is a tarry show at 483 to 492 meters with faint yellow fluorescence and poor, faint yellow fluorescent cut. There are minor gas peaks and porosity at 531 to 534 meters and 549 to 552 meters indicating gas or very light oil which contaminated the samples through a venturi effect to the depth of 620 meters.

Franklin Mountain Cyclic Unit @ 576 m

The Cyclic unit consists of interbedded, argillaceous, very silty, light to medium grey and light to medium brown, cryptocrystalline to microcrystalline, tight dolomite, minor light to medium brown, microcrystalline, dolomitic, argillaceous limestone and medium grey, greenish, dolomitic shales increasing with depth. There is no significant porosity or shows but the wet sample did show some fluorescence and cut. This was gas contamination from around 490 meters. The gas readings were high due to this contamination also.

Saline River Formation @ 625 m

The Saline River shale is interbedded, multicolored, dolomitic shales, mostly red and green, light grey to light brown, crystalline gypsum, minor white anhydrite, and buff to pink, microcrystalline, silty, anhydritic, light dolomite. There are no shows or porosity in this unit.

Saline River Formation Salt @ 701 m

There are some minor salt stringers at 684 meters, but the massive salt beds start with a drilling break and salt in the samples at 701 meters. The formation is salt with considerable soft, dolomitic, fissile, light grey and light green shales. There are some minor gypsum and dolomite beds in this unit also. There are no shows or porosity in this unit.

Mount Cap Formation - Upper @ 862.5 m

The Upper Mount Cap is interbedded, grey and green, dolomitic shales and light brown, dolomitic siltstones with minor light brown, cryptocrystalline limestone and light grey, microcrystalline dolomites. The carbonates have some porosity and dark brown, tarry dead oil stain.

Mount Cap Formation - Lower @ 937 m

The Mount Cap top was picked low due to fast penetration and poor returns. The unit consists mostly of dark green, grey green and dark grey shales with interbedded, light grey and light brown, dolomitic siltstone and minor dark brown, fine to medium crystalline, slightly vuggy dolomite. There is some tarry dead oil staining in the dolomites. There are also some scattered fine to medium grained, argillaceous, glauconitic tight sands. A basal sandstone consisting of a very fine grained, silty, siliceous matrix and fine to coarse grained quartz and glauconitic pebbles suspended in it, has, in the coarser parts, 5 to 10% intergranular porosity but it is wet with a trace of dark brown, dead oil staining. There is three meters of soft dolomitic shale at the base. Gas readings were very low over this unit.

Old Fort Island @ 1067 m

The Old Fort Island sandstone top is marked by a slowdown in the penetration rate. It consists almost entirely of a light grey to cream, in part pink, sandstone with a very fine grained siliceous matrix and fine to very coarse grained, subrounded quartz pebbles suspended in it. In the coarser fractions of this sand there is some intergranular porosity in the three to eight percent range. There is a lot of faint yellow fluorescence with no cut but a much brighter fluorescence and some minor cut in the wet samples. There is some minor slow, faint yellow fluorescent cut in the 1089 to 1095 meter samples and some buildup in the gas readings from there also. There is a five meter maroon, dolomitic, silty shale at the base of this unit.

Shaler Group - Proterozoic @ 1115 m

The top is marked by a slowdown in the penetration rate and a bedded chert. The unit is an argillaceous, silty, red and brown, microcrystalline to medium crystalline, tight dolomite. It is very cherty throughout with minor sandy and shaley sections. There are no shows or porosity in this unit.

SECTION III

ENGINEERING SUMMARY



DRILL STEM TESTS

No drill stem tests were run on Camp M-61 as the well was drilled to total depth with Durafoam and air.

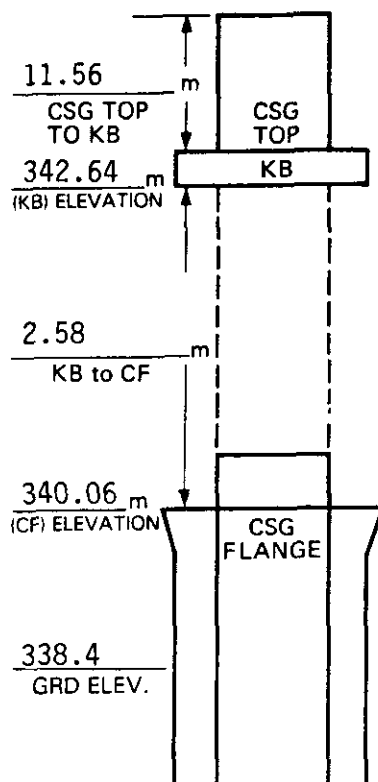
CASING SUMMARY



CASING SUMMARY

WELL Forward et al Camp M-61 LOCATION _____ DATE 84 01 06Conductor SIZE 339 mm KB 342.64 m KB to CF 2.58 mNew/Used _____ Inspected By: John Ross Drifted To: _____ API diam. _____

		NO.	DESCRIPTION	MEASURED LENGTH	KB DEPTH
11.56	m	1	New import tool guide shoe	.55	105.95
CSG TOP TO KB		1	81.1 kg/m K-55 new casing	11.57	94.38
342.64 m		1	New import tool float collar	.45	93.93
(KB) ELEVATION		9	casing, jts. 2 - 5; 81.1 kg/m		
			K-55; jts. 6 - 10; 71.4 kg/m		
			H-40, all new casing	105.49	+ 11.56
2.58	m				
KB to CF					
340.06 m	m		Scratchers		
(CF) ELEVATION		3	Centralizers		
			Total String	118.06	Cut-off Jt. Length
338.4		minus	KB to Csg Top (STICK UP)	11.56	
GRD ELEV.			Landed Depth KB	106.50	
			Hole Depth KB	108.60	
			Distance Csg Landed Off Bottom	2.10	

Cementing Company HalliburtonWash - Type: Fresh Water Volume 4.13 m³Cement Type - Lead Slurry Permafrost cement 14.0 T Volume: 10.36 m³

Additives _____ Volume: _____

Cement Type - Tail Slurry N/A Volume: _____Additives N/A Volume: _____Cement Type - Above Stage Collar N/A Volume: _____Additives N/A Volume: _____Displacement Rate: Max. .9 m³/min. Avg. .7 (m³/min)Calculated Cement Top(s) Surface KB 85.6 m actual KBReturns: Mud Air Drilling m³ Cement None m³String Wt. in a mud wt. of: Air kg/m³ = 8.000 daN daNWt. set on Slips: All daN

Remarks: Plug did not drop, float did not hold. Waiting on cement for 13 hours, cemented down annulus with 7.0 T permafrost - full returns to surface, then cement dropped to a depth of 3.6 m. Waiting on cement for 10.5 hours, then cement top 3.6 m with 0.8 T.

Engineer: John Ross



PIPE TALLY SHEET

PAGE 1 OF 1

WELL Forward et al Camp M-61

LOCATION _____

SIZE 339.7 mm WT. 1-5 81.1 kg/m GRADE 1-5 K-55
6-10 71.4 kg/m 6-10 H-40

COUPLING ST & C THRD 8RD

DATE 84 01 05

JOINT	LENGTH	JOINT	LENGTH	JOINT	LENGTH	JOINT	LENGTH	JOINT	LENGTH
1	11 57	11		21		31		41	
2	11 34	12		22		32		42	
3	11 86	13		23		33		43	
4	12 11	14		24		34		44	
5	11 51	15		25		35		45	
6	11 02	16		26		36		46	
7	12 07	17		27		37		47	
8	11 79	18		28		38		48	
9	11 86	19		29		39		49	
10	11 93	20		30		40		50	
A	117 06	B		C		D		E	
51		61		71		81		91	
52		62		72		82		92	
53		63		73		83		93	
54		64		74		84		94	
55		65		75		85		95	
56		66		76		86		96	
57		67		77		87		97	
58		68		78		88		98	
59		69		79		89		99	
60		70		80		90		100	
F		G		H		I		J	
A		SUB TOTAL						JOINTS	LENGTH
B							10	117.06	
C								1.00	
D								118.06	
E							JOINTS ON LOCATION _____		
F							Remarks: <u>Jts. 1 - 5 from Norman Wells, Jts. 6 - 10 from</u>		
G							<u>Patti Dan from 82 season</u>		
H							_____		
I							_____		
J							_____		
TOTAL							ENGINEER <u>John Ross</u>		

NOTE: Use a new page for each casing type. Number joints in order of running.
Indicate joints not run by * and do not include in total length.

HALLIBURTON

CEMENTING AND/OR SPECIAL TOOLS SERVICE REPORT

 ATTACH TO
INVOICE No. **35 286/35 287**

 HALLIBURTON DISTRICT
Frontier

 JOB
DATE **1984 01 05-06**
YEAR MONTH DAY

OWNER, OPERATOR OR HIS AGENT STATES THE WELL IS IN GOOD CONDITION FOR THE SERVICE JOB TO BE PERFORMED AND SUBMITS THE FOLLOWING DATA.

CUSTOMER Forward Resources Ltd.				FIELD OR AREA Lone Moose Lake				WELL No. AND LEASE Forward et al Camp M-61			
CALLED OUT 83-12-29 DATE TIME	ON LOCATION 83-12-29 DATE TIME	JOB STARTED 84-01-05 DATE TIME	JOB COMPLETED 84-01-06 DATE TIME	PROVINCE N.W.T.	LSD	SEC	TWP	RANGE	MERIDIAN W		

TYPE OF JOB Conductor ✓	WELL OR HOLE DATA										PRODUCTS	
											EQUIPMENT	QUANTITY
SURFACE	HOLE DATA: SIZE 444.5 mm TOTAL DEPTH 108 m TYPE MUD Air/Mist VISC. _____ DENSITY _____ CASING, TUBING OR LINDER DATA: NEW ☒ USED ☐ SIZE 339.73 mm kg/m 81.1 GRADE _____ DEPTH 106.5 m										BASKETS	
INTERMEDIATE											CENTRALIZERS	
PRODUCTION											CLAMPS	
LINER											FLOAT COLLAR	X
SQUEEZE											FLOAT SHOE	
PLUG											GUIDE SHOE	X
PUMP	WASH FLUID TYPE: H₂O VOL. 1.6 m³ DISPLACING FLUID TYPE: H₂O VOL. 7.8 m³ TEMP MIXING _____ °C SLURRY _____ °C DISPLACING FLUID _____ °C RETURNS _____ °C										INSERT FLOAT	
PRESSURE TEST											SCRATCHERS	
OTHER											OTHER	

EQUIPMENT		
PACKER TYPE _____ SIZE _____ mm DEPTH _____ m TAIL PIPE _____ m SET _____	TOP PLUG TYPE LA-10 Wood BOTTOM PLUG TYPE _____	CEMENT HEAD CONTINUOUS ☒ KNOCK OFF ☐ SWAGE ☐ OTHER _____

CEMENT DATA						
TONNE	API CLASS	BRAND	BULK OR SACKED	CEMENT BLEND	ADDITIVES TYPE AND PERCENT	kg/m ³ m ³ /tonne
21.8	G	Oilwell	Bulk	Permafrost		1880 0.74

HALLIBURTON OPERATOR G. McCleod	CUSTOMER REP. _____
--	---------------------

TREATING LOG							
CHART POSITION	TIME	RATE m ³ /min	VOLUME m ³		PRESSURE MPa		REMARKS
			PUMPED	IN FORMATION	TUBING	CASING	
1	13:00 13:05						Rig in - 3.18 m ³ wash.
2	13:05 13:22						Mix slurry.
3	13:22 13:29						Release plug.
4	13:29 13:39	0.8				2.8	Displace - 9.54 m ³ bleed back 0.79 m ³
5							Rig out.
							Plug forzen in head, float did not hold
							No returns, cement outside surface casing with 35 sks permafrost.
							Depth approximately - 22.8 m.

CASING SUMMARY

WELL Forward et al Camp M-61 LOCATION _____ DATE 84 01 17

SURF/INT/PROD/LINER SIZE 244.5 mm KB 342.64 m KB to CF 2.58 m

New/Used _____ Inspected By: John Ross Drifted To: 220.4 mm API diam. _____

	NO.	DESCRIPTION	MEASURED LENGTH	KB DEPTH
	1	float collar	.57	629.93
	1	244.5 mm casing	9.50	620.43
	1	float collar	.52	619.91
	34	244.5 mm casing	424.18	195.73
	1	Tam ECP	1.09	194.64
	1	DV stage tool	2.31	192.33
	16	244.5 mm casing	197.23	+ 4.9
	2	cement baskets		
		Scratchers		
		Centralizers		
		Total String	635.4	Cut-off Jt. Length
		minus KB to Csg Top (STICK UP)	4.9	
		Landed Depth KB	630.5	
		Hole Depth KB	634.77	
		Distance Csg Landed Off Bottom	4.27	

Cementing Company Howco

Wash - Type: Water Volume 1.5 m³

Cement Type - Lead Slurry 8.3 T Oilwell Class "G" Volume: 8.9 T

Additives _____ Volume: _____

Cement Type - Tail Slurry _____ Volume: _____

Additives _____ Volume: _____

Cement Type - Above Stage Collar Permafrost Volume: 9.9 T

Additives _____ Volume: _____

Displacement Rate: Max. .8 Avg. .7 (m³/min)

Calculated Cement Top(s) 490 m first stage KB surface KB

Returns: Mud 3 m³ Cement cementy water returns m³

String Wt. in a mud wt. of: Air kg/m³ = 38,000 daN

Wt. set on Slips: All daN

Remarks: First stage cement job went well. Float held. Also ECP inflated and DV tool opened after bomb went through. No pressure required.

Engineer: John Ross



PIPE TALLY SHEET

PAGE 1 OF 1

WELL Forward et al Camp M-61 LOCATION _____
SIZE 244.5 mm WT. 59.5 kg/m GRADE MN-80 COUPLING LT & C THRD 8RD
DATE 84 01 16

JOINT	LENGTH	JOINT	LENGTH	JOINT	LENGTH	JOINT	LENGTH	JOINT	LENGTH
1	9 50	11	13 33	21	11 86	31	13 53	41	11 46
2	13 59	12	13 13	22	13 09	32	12 27	42	12 83
3	12 08	13	13 16	23	11 64	33	12 46	43	12 25
4	13 71	14	11 75	24	11 66	34	12 57	44	12 25
5	12 27	15	13 26	25	12 09	35	11 86	45	12 33
6	11 17	16	12 45	26	13 48	36	12 17	46	12 92
7	10 52	17	12 15	27	13 01	37	12 04	47	12 89
8	12 47	18	11 38	28	11 52	38	11 67	48	12 90
9	13 47	19	13 80	29	13 09	39	12 70	49	12 79
10	11 85	20	13 01	30	11 50	40	12 03	50	11 91
A	120 63	B	127 42	C	122 94	D	123 30	E	124 53
51	12 09	61		71		81		91	
52		62		72		82		92	
53		63		73		83		93	
54		64		74		84		94	
55		65		75		85		95	
56		66		76		86		96	
57		67		77		87		97	
58		68		78		88		98	
59		69		79		89		99	
60		70		80		90		100	
F	12 09	G		H		I		J	
A	120 63	SUB TOTAL						JOINTS	LENGTH
B	127 42						1-51	630.91	
C	122 94						tools	4.49	
D	123 30							635.40	
E	124 53						JOINTS ON LOCATION 51		
F	12 09						Remarks: ECP immediately on top of joint #35		
G							DV tool immediately on top of ECP		
H									
I									
J									
TOTAL	630 91						ENGINEER <u>John Ross</u>		

NOTE: Use a new page for each casing type. Number joints in order of running. Indicate joints not run by * and do not include in total length.

HALLIBURTON**CEMENTING AND/OR SPECIAL TOOLS
SERVICE REPORT**ATTACH TO
INVOICE No. **25 751**HALLIBURTON DISTRICT
FrontierJOB
DATE **1984 01 18**
YEAR MONTH DAY

OWNER, OPERATOR OR HIS AGENT STATES THE WELL IS IN GOOD CONDITION FOR THE SERVICE JOB TO BE PERFORMED AND SUBMITS THE FOLLOWING DATA.

CUSTOMER Forward Resources Ltd.		FIELD OR AREA Moose Lake		WELL No. AND LEASE Forward et al Camp M-61					
CALLER OUT DATE TIME	ON LOCATION 84-01-15 DATE TIME 16:00	JOB STARTED 84-01-17 DATE TIME 09:00	JOB COMPLETED 84-01-17 DATE TIME 10:50	PROVINCE N.W.T.	LSD	SEC	TWP	RANGE	MERIDIAN

TYPE OF JOB	WELL OR HOLE DATA	PRODUCTS
☒ SURFACE		EQUIPMENT
☐ INTERMEDIATE		QUAN
☐ PRODUCTION		BASKETS 2
☐ LINER		CENTRALIZERS 4
☐ SQUEEZE		CLAMPS
☐ PLUG		FLOAT COLLAR 1
☐ PUMP		FLOAT SHOE
☐ PRESSURE TEST		GUIDE SHOE 1
☐ OTHER DV		INSERT FLOAT
		SCRATCHERS
		OTHER DV

HOLE DATA: HOLE SIZE **311.15 mm** TOTAL DEPTH **635 m** TYPE MUD **Air** VISC. **59.5** DENSITY **631 m**

CASING, TUBING OR LINER DATA: SIZE **244.48 mm** kg/m **59.5** GRADE **MN-80** DEPTH **631 m**

PERFORATIONS: FROM **m** TO **m** FROM **m** TO **m** FROM **m** TO **m**

WASH FLUID TYPE: **Vol** **m³** DISPLACING FLUID TYPE: **Vol** **m³**

TEMP MIXING **°C** SLURRY **°C** DISPLACING FLUID **°C** RETURNS **°C**

EQUIPMENT

PACKER	CEMENT HEAD
TYPE Formation SIZE 244.48 mm	CONTINUOUS ☐ KNOCK OFF ☒ SWAGE ☐
DEPTH Formation TAIL PIPE	OTHER
SET	
TOP PLUG TYPE Davis	
BOTTOM PLUG TYPE Stage Plugs	

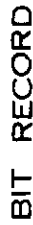
CEMENT DATA

TONNE	API CLASS	BRAND	BULK OR SACKED	CEMENT BLEND	ADDITIVES TYPE AND PERCENT	kg/m ³	m ³ /tonne
9	G		Bulk	Neat		1895	0.76
10		Halliburton		Permafrost		1880	0.74

HALLIBURTON OPERATOR **G. McLeod** CUSTOMER REP.**TREATING LOG**

CHART POSITION	TIME	RATE m ³ /min	VOLUME m ³		PRESSURE MPa		REMARKS
			PUMPED	IN FORMATION	TUBING	CASING	
1							Rig up.
2							Pump 0.795 m ³ H ₂ O, test line 10.3 MPa.
3							Mix stage No. 1 225 sax - Oilwell.
4							Displace to float with 24.6 m ³ water.
5							Bump plug with 13.8 MPa repeat to set packer.
6							Drop bomb. Open stage collar.
7							Mix stage No. 2 with 250 sax permafrost.

BIT RECORD



BIT RECORD

WELL NAME	Forward et al Camp M-61	LOCATION	
Contractor	300 Drilling	Rig No.	Mr. Ben
Spud Date	84 01 03	T.D. Date	84 01 23
		Field	Colville?
		Rig Release Date	84 01 30

[illegible]

REMARKS Drilled 20 m of pilot conductor with 311 mm new JD-7 bit; attempted at 173 m to drill with Cubex air hammer
311 mm bit - not enough air volume and pressure - no success.

MUD REPORT



JAN.	DURAFLOW BBL.	VANFOAM BBL.	DURAPLEX 50 LBS.	DURAGUARD BBL.	CAUSTIC 50 LBS.	STAFLO 25 KGS.	SALT 40 KGS.	SODA ASH 40 KGS.	KELZAN 50 LBS.	BARITE 40 KGS.	GEL 100 LBS.
3	1/2										
4	1/2										
5											
6											
7											
8		1/2									
9											
10		1									
11	1/2	1	6								
12	1		8								
13	2		8								
14	2		10								
15	2 1/2		18								
16	2		12								
17											
18											
19	1		6								
20	3		16								
21	2		12			8					
22	1		16	1		16	405		5		
23			5			2					
24						2			2	160	
25					5						32
26					5			2			114
27								3	7		
28					4				5		
29											
30											

DEVIATION RECORD

SURVEYS

DEPTH (m)	Deviation (°)
50	1/2
90	1/2
127	3/4
164	3/4
192	3/4
220	3/4
267	3/4
295	1
323	3/4
352	1 1/4
390	1 1/4
437	1/4
475	1/2
512	3/4
541	3/4
607	3/4
728	3/4
840	7/8
964	1/4

ABANDONMENT REPORT



PAGE _____

ABANDONMENT REPORT

DATE 84 01 30Well Forward et al Camp M-61

Location _____

A. WELL DATA

KB Elevation 342.64 m KB to CF 2.58 m FTD 1145 m

Hole Size	Hole Depth	Casing Size	Casing Depth	Cement Top(s)	Perfs
215.9	1145	--	--	900	--
311.2	635	244.5	631	580	--
444.5	108	339.7	106.5	Surface	--

B. ABANDONMENT DATA

Fluid in Hole Gel Chemical Abandonment Company Forward ResourcesCementing Company Halliburton Gov't Official John Hamilton

Plug	Interval	Formation	Cem Vol	Cem Type	Cem Wt.	Plug Down	Felt Plug Time	Depth
1	TD - 900	Old Ft. Island	9 T	"G"	1895	1345	--	No
2	610	9-5/8 Casing		Bridge	Plug	Pressured	4000 kPa	OK
2	610 - 580	9-5/8 Casing	1.6 T	"G"	1895	2000	--	No
3	50-surface	9-5/8 Casing	2 T	Permafrost	1880	0230	--	No

Method of Feeling Plugs Not required, bridge plug setSurface Casing Cut 1 m below surface Surface Plug Yes Plate Welded Yes and well sign

C. SALVAGE DATA

Casing Salvaged None

D. REMARKS _____

ENGINEER Bill Schaffer

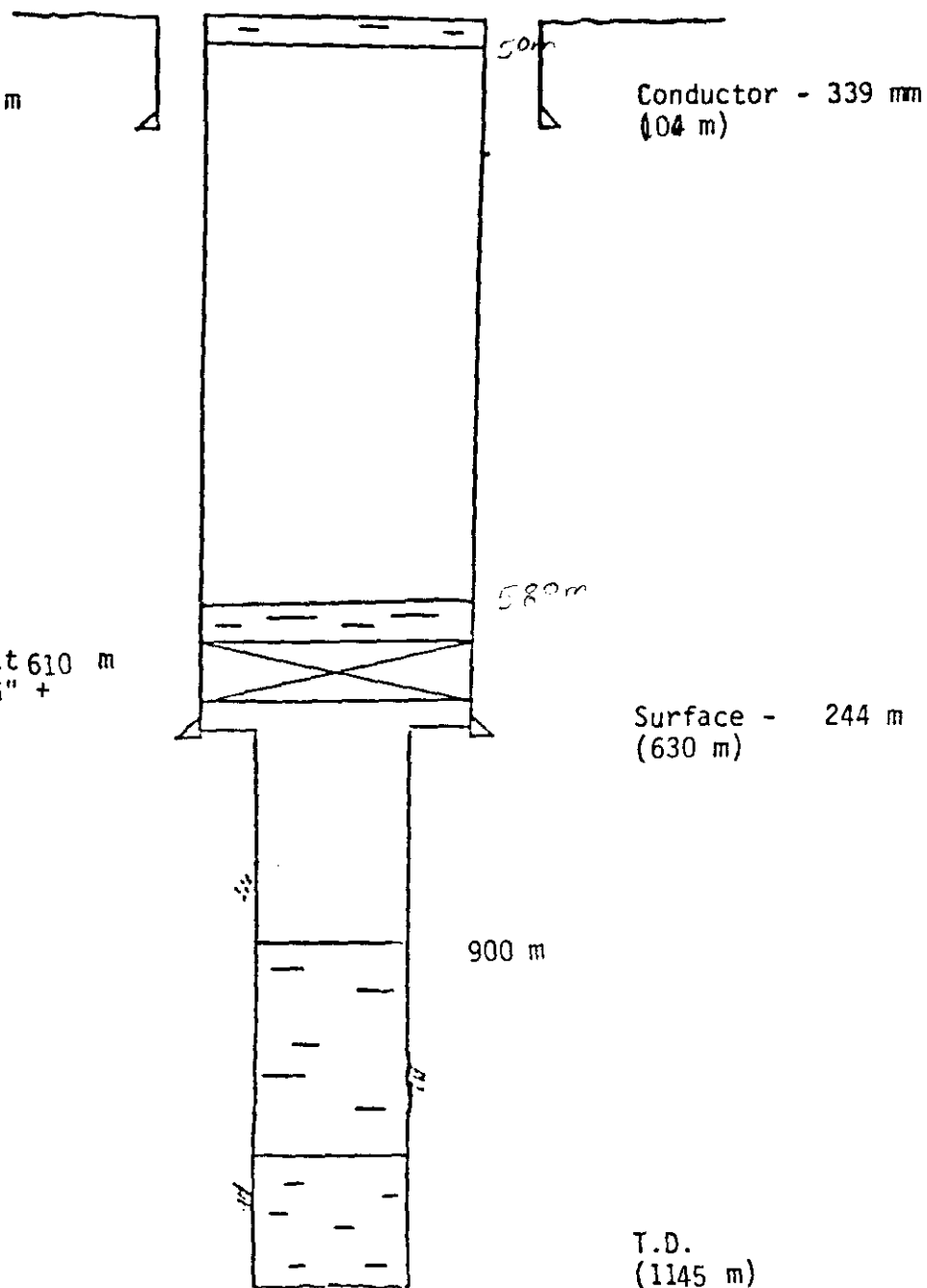
Forward Resources Colville Hills Project 1983-84

Camp M-61 Abandonment Program 1983-84

- cap casing
- permafrost plug from surface to approximately 50 m

- 244 mm wireline bridge plug set at 610 m
- cap with Class "G" + 3% CaCl_2

- porous section Class "G" + 3% CaCl_2



G. Laviolette
Winterhawk Petroleum Consulting
Services Ltd.
January 28/84 @ 1500 hrs.



CEMENTING AND/OR SPECIAL TOOLS SERVICE REPORT

ATTACH TO
INVOICE No. 43 102HALLIBURTON DISTRICT
FrontierJOB
DATE 1984 01 29
YEAR MONTH DAY

OWNER, OPERATOR OR HIS AGENT STATES THE WELL IS IN GOOD CONDITION FOR THE SERVICE JOB TO BE PERFORMED AND SUBMITS THE FOLLOWING DATA.

CUSTOMER Forward Resources Ltd.				FIELD OR AREA Norman Wells				WELL No. AND LEASE Forward et al Camp M-61			
DATE TIME	DATE TIME	DATE TIME	DATE TIME	DATE TIME	DATE TIME	DATE TIME	DATE TIME	DATE TIME	DATE TIME	DATE TIME	
13:00	13:00	13:00	13:00	02:30	02:30	02:30	02:30	02:30	02:30	02:30	
PROVINCE N.W.T.				LSD				SEC			
TWP				RANGE				MERIDIAN W			

TYPE OF JOB	WELL OR HOLE DATA	PRODUCTS
SURFACE	HOLE DATA: HOLE SIZE 216 mm TOTAL DEPTH 1145 m TYPE MUD Gel VISC. 60 DENSITY	EQUIPMENT
INTERMEDIATE	CASING, TUBING OR LINER DATA NEW ☐ USED ☐ SIZE mm kg/m GRADE DEPTH m	BASKETS
PRODUCTION	PERFORATIONS: FROM m TO m FROM m TO m	CENTRALIZERS
LINER	WASH FLUID TYPE: Water VOL. 0.8 m ³ DISPLACING FLUID TYPE: Water VOL. m ³	CLAMPS
SQUEEZE	TEMP MIXING °C SLURRY °C DISPLACING FLUID °C RETURNS °C	FLOAT COLLAR
PLUG		FLOAT SHOE
PUMP		GUIDE SHOE
PRESSURE TEST		INSERT FLOAT
OTHER		SCRATCHERS
		OTHER

EQUIPMENT

PACKER	CEMENT HEAD
TYPE Baker SIZE 245 mm	CONTINUOUS ☐ KNOCK OFF ☐ SWAGE ☐
DEPTH 610 m TAIL PIPE	OTHER 114.3 FH
SET	

CEMENT DATA

TONNE	API CLASS	BRAND	BULK OR SACKED	CEMENT BLEND	ADDITIVES TYPE AND PERCENT	kg/m ³	m ³ /tonne
9.0	G	Inland	Sacked	Neat Oilwell	3% CaCl ₂ prehydrated	1895	0.76
1.6	G	Inland	Sacked	Neat Oilwell	3% CaCl ₂ prehydrated	1895	0.76
2.0	P.F.	Inland	Sacked	P.F.C. Blend		1880	0.74

HALLIBURTON OPERATOR K. Town CUSTOMER REP.

TREATING LOG

CHART POSITION	TIME	RATE m ³ /min	VOLUME m ³		PRESSURE MPa		PLUG 1	REMARKS
			PUMPED	IN FORMATION	TUBING	CASING		
								Pressure test Howco lines.
								Pump spacer.
								Mix slurry.
								PLUG 2
								Pump spacer.
								Mix slurry.
								Displace.
								PLUG 3
								Pump spacer.

TICKET NO.: 43 102

PLUG BACK JOB DATA

PLUG NO.	TOP	DEPTH BOTTOM	TONNE	DISPLACEMENT (m ³)	TIME (min)
1	900	1132	9.0	8.38	18
2	580	610	1.6	4.50	7
3	Surface	50	2.0	0.37	4

LOST CIRCULATION

LOST CIRCULATION

Lost circulation was not encountered as the Durafoam/Air Drilling System was utilized throughout the hole.

However, porous sections were encountered while drilling 311 mm surface hole at 203 m, 213 m and 240 meters. In this same section, a considerable influx of wellbore water was noted.

On 215.9 mm hole, a water zone was encountered between 1048 m and 1060 m.

SECTION IV
LOGGING SUMMARY

Dual Laterolog Gamma Ray

Run 1

January 27, 1984

1127.7 m - 630.0 m

BHC Acoustilog Gamma Ray

Run 1

January 27, 1984

1128.6 m - 630.0 m

**Compensated Densilog
Compensated Neutron Gamma Ray**

Run 1

January 27, 1984

1124.0 m - 630.0 m

Mud Log

Lithology Log



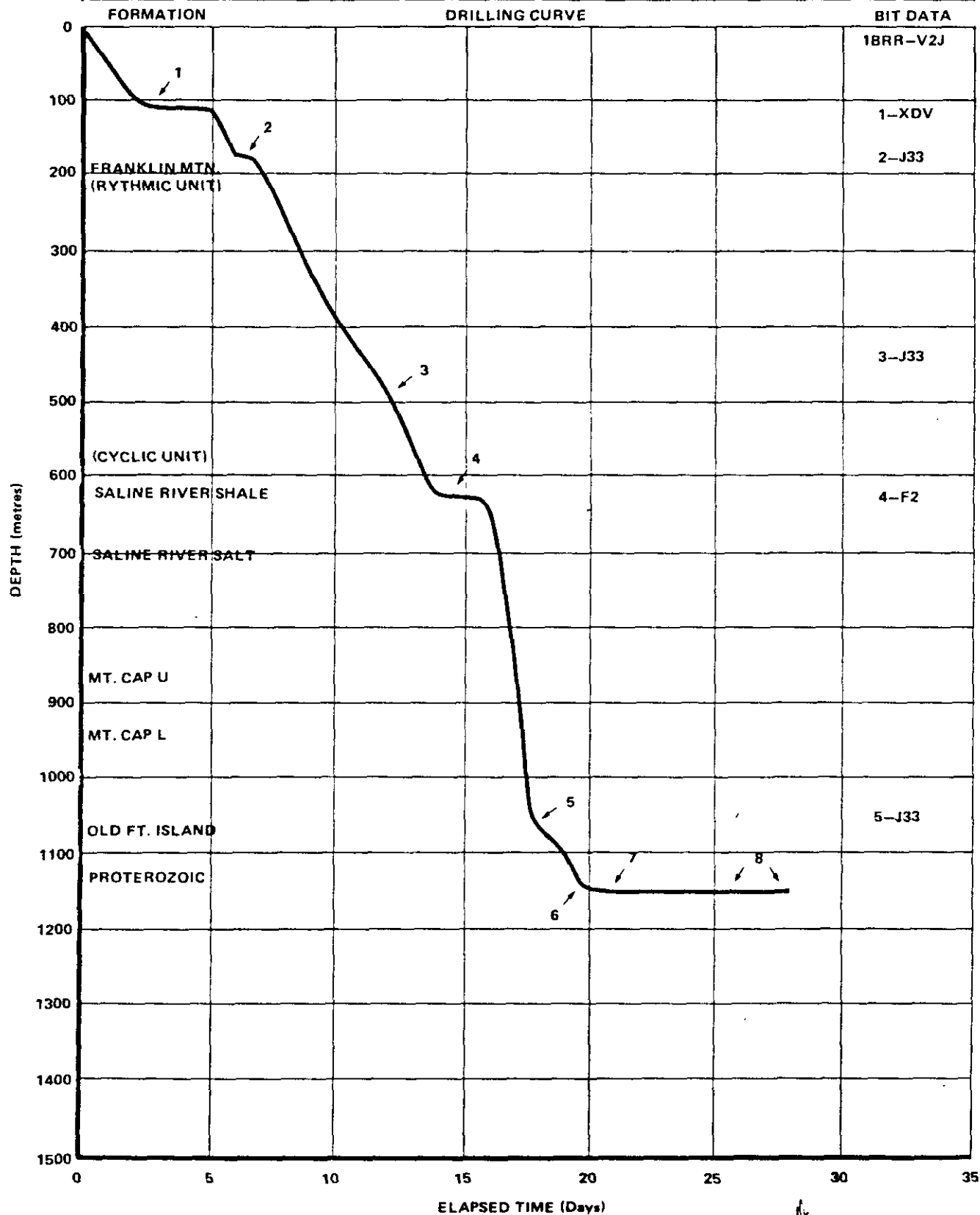
SECTION V
DRILLING CURVE

DRILLING CURVE FOR: FORWARD at #1 CAMP M-61

LAT.: 67°00'55.83" LONG.: 124°13'00.84" SPUDDED: 0500 JAN. 3, 1984 RIG RELEASED: 0800 JAN. 30, 1984

CONTRACTOR: 300 DRILLING "MR. BEN" DRAWWORKS: NATIONAL TYPE 370 550 HP

PUMPS: 2 - NATIONAL 7-P-50 6 1/2" x 7 1/2" TRIPLEX D.P.: 4 1/2" O.D. D.C.: 6 1/4" O.D.



DRILLING CURVE

1. Ran 339 mm casing, landed at 106.5 m.
2. Ran in and drilled with air hammer.
3. Lost circulation, water influx from 203 m, large cavity at 312 m.
4. Ran 244.5 mm casing, landed at 631 m.
5. Hole making water from 1045 - 1060 m.
6. Displace hole to salt saturated polymer system.
7. Attempted to log, bridged off.
8. Displaced hole to fresh gel system, ran logs and plugs.

SECTION VI
DAILY DRILLING REPORTS





DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 01 04 2400

Year · Month · Day · Time

WELL NAME Foward et al Camp M-61 LOCATION M-61

DAY 2 DEPTH 108 METRES LAST 24 HRS. 42 ROTATING HRS. 6.25

ACTIVITY AT REPORT TIME Running surface casing

Air Drilling DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. _____ VIS _____ WL. _____ GELS _____ % SOLIDS _____ PV _____ YP _____ pH _____

% OIL _____ %SAND _____ CAKE _____ PPMCL _____ PPMCa _____

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER. NO.	BIT		DEPTH OUT m	m DRLD TODAY	CUM. m DRLD	Rot. hrs. TODAY	CUM. Rot. hrs.	m/HR	DULL COND		
				WT.	RPM							T	B	G
1B-RR	444.5	V2J STC	SAW476	6/8	70	108	42.0	108	6.25	19.75	6.81			

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP				ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER	m ³ /min	DP	DC			

DEVIATION SURVEYS

1/2 ° at 90 m _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

Durafoam - 1/2 barrel _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit			.40	
1 BS			1.18	
3 x DC's		229	28.40	
1 x X/O			.70	
7 x DC's		159	65.80	
Kelly			12.05	
			108.53	
				23,000

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	6.25	19.75
2. TRIPS	1.50	1.50
3. RIG SERVICE	.50	.75
4. DEVIATION SURVEY	.50	.75
5. REAM & COND. HOLE	1.50	5.25
6. MIX & COND. MUD		
7. CIRCULATING	1.75	1.75
8. RIG REPAIR		
9. RUN CASING & CEMENT		
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON: Casing	8.00	8.00
15. NIPPLE UP & TEST BOP		
16. DRILLING OUT		
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. Stand Pipe (Unthaw)	4.00	10.25
TOTALS	24.00	48.00

COSTS

DAILY _____
 CUM. _____

SUPERVISOR: John Ross

PLEASE TURN OVER



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 01 03

Year - Month - Day - Time

WELL NAME Forward et al Camp

LOCATION M-61

DAY 1 DEPTH 66 METRES LAST 24 HRS. 66 ROTATING HRS. 13.5

ACTIVITY AT REPORT TIME Drill 444 mm hole with air

Air Drilling

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT.

WT. _____ VIS _____ WL. _____ GELS _____ % SOLIDS _____ PV _____ YP _____ pH _____

% OIL _____ % SAND _____ CAKE _____ PPMCL _____ PPMCa _____

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER. NO.	BIT		DEPTH OUT m	m DRLD TODAY	CUM. m DRLD	Rot. hrs. TODAY	CUM. Rot. hrs	m/HR	BULL COND		
				WT.	RPM							T	B	G
1B-RR	444.5	STC-V2J	SAW476	18000	60-70	in	66	66	13.5	13.5	4.88	-	-	-

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP				ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER	m ³ /min	DP	DC			
1B-RR	O	P	E	N	1600	CFM						700

DEVIATION SURVEYS

1/2 ° at 50 m ° at _____
 ° at _____ ° at _____
 ° at _____ ° at _____
 ° at _____ ° at _____

MUD & CHEMICALS ADDED

1/2 barrel Durofoam _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
1 x BS	74	229	1.18	
1 x 9" DC	75	227	9.55	
1 x 9" DC	73	228	9.55	
1 x 9" DC	74	228	9.30	
1 X/O Bell Sub	74	229	0.70	
1 x 6-1/4" DC	60	159	9.42	
1 x 6-1/4" DC	59	159	9.35	
1 x 6-1/4" DC	58	159	9.49	18,000

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	13.50	13.50
2. TRIPS		
3. RIG SERVICE	.25	.25
4. DEVIATION SURVEY	.25	.25
5. REAM & COND. HOLE	3.75	3.75
6. MIX & COND. MUD		
7. CIRCULATING		
8. RIG REPAIR		
9. RUN CASING & CEMENT		
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		
15. NIPPLE UP & TEST BOP		
16. DRILLING OUT		
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. Extra	6.25	6.25
TOTALS	24.00	24.00

Kelly 12.45 m COSTS

DAILY

CUM.

SUPERVISOR: John Ross

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 01 03

Year - Month - Day - Time

Well spudded 0500 hours 84 01 03. Drill and ream conductor hole then drill 444 mm hole ahead. Work mud ring at 20 m. Rig to drill with stiff foam and drill ahead.

0700 - 98 m and surveying, no sign of cap rock.

Latitude $67^{\circ} 00' 58.53''$

Longitude $124^{\circ} 13' 00.81''$

Ground 338.4 m

KB - GL 4.24 m

KB 342.64 m

WANT LIST: _____

WEATHER -23°C

ROAD _____

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 01 04 2400

Year - Month - Day - Time

WELL NAME Foward et al Camp M-61

LOCATION M-61

DAY 2 DEPTH 108 METRES LAST 24 HRS. 42

ROTATING HRS. 6.25

ACTIVITY AT REPORT TIME Running surface casing

Air Drilling

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. _____ VIS _____ WL. _____ GELS _____ % SOLIDS _____ PV _____ YP _____ pH _____

% OIL _____ % SAND _____ CAKE _____ PPMCL _____ PPMCa _____

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER. NO.	BIT		DEPTH OUT m	m DRLD TODAY	CUM. m DRLD	Rot. hrs. TODAY	CUM. Rot. hrs.	m/HR	DULL COND		
				WT.	RPM							T	B	G
1B-RR	444.5	V2J STC	SAW476	6/8	70	108	42.0	108	6.25	19.75	6.81			

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP				ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER	m ³ /min	DP	DC			

DEVIATION SURVEYS

1/2 ° at 90 m _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

Durafoam - 1/2 barrel _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit			.40	
1 BS			1.18	
3 x DC's		229	28.40	
1 x X/O			.70	
7 x DC's		159	65.80	
Kelly			12.05	
			108.53	
				23,000

COSTS

DAILY

CUM.

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	6.25	19.75
2. TRIPS	1.50	1.50
3. RIG SERVICE	.50	.75
4. DEVIATION SURVEY	.50	.75
5. REAM & COND. HOLE	1.50	5.25
6. MIX & COND. MUD		
7. CIRCULATING	1.75	1.75
8. RIG REPAIR		
9. RUN CASING & CEMENT		
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON: Casing	8.00	8.00
15. NIPPLE UP & TEST BOP		
16. DRILLING OUT		
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. Stand Pipe (Unthaw)	4.00	10.25
TOTALS	24.00	48.00

SUPERVISOR: John Ross

PLEASE TURN OVER

84 01 04 2400

Year - Month - Day - Time

Drilled ahead. 2 hours thawing goose neck and kelly hose. Drill and survey to 108 m. Pull out of hole. Wait on casing and permafrost cement. Run in hole and circulate. Thaw goose neck and kelly hose. Clean hole.

0700 Running 339 mm casing using rope to tie in. Six (6) joints to go.

WANT LIST:

WEATHER -30°C Clear

ROAD Good

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)

[illegible]

DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 01 05 2400

Year - Month - Day - Time

WELL NAME Forward et al Camp M-61

LOCATION M-61

DAY 3 DEPTH 108

METRES LAST 24 HRS. -

ROTATING HRS. -

ACTIVITY AT REPORT TIME Wait on cement and feel for cement outside casing

Air

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. _____ VIS _____ WL. _____ GELS _____ % SOLIDS _____ PV _____ YP _____ pH _____

% OIL _____ % SAND _____ CAKE _____ PPMCL _____ PPMCa _____

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER. NO.	BIT		DEPTH OUT m	m DRLD TODAY	CUM. m DRLD	Rot. hrs. TODAY	CUM. Rot. hrs.	m/HR	DULL COND		
				WT.	RPM							T	B	G

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP				ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER	m ³ /min	DP	DC			

DEVIATION SURVEYS

_____ ° at _____	_____ ° at _____
_____ ° at _____	_____ ° at _____
_____ ° at _____	_____ ° at _____
_____ ° at _____	_____ ° at _____

MUD & CHEMICALS ADDED

_____	_____
_____	_____
_____	_____
_____	_____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		19.75
2. TRIPS		1.50
3. RIG SERVICE		.75
4. DEVIATION SURVEY		.75
5. REAM & COND. HOLE		5.25
6. MIX & COND. MUD		
7. CIRCULATING		1.75
8. RIG REPAIR		
9. RUN CASING & CEMENT	10.50	10.50
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON: cement	13.50	21.50
15. NIPPLE UP & TEST BOP		
16. DRILLING OUT		
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. WOO & feel for cement		10.25
TOTALS	24.00	72.00

COSTS

DAILY

CUM.

SUPERVISOR: John Ross

OPERATIONS DETAILS: PERIOD ENDING _____

84 01 05 2400

Year - Month - Day - Time

Clean 1 m of fill, unable to clean last 2 m of fill to bottom. Ran 5 joints of 339 mm K-55 81.0 kg/m ST & C and 4 joints of 339 mm H-40 71.4 kg/m new casing. Landed at 106.5 m. Cement with 380 sacks of permafrost cement and displace with 8.6 m³ of fresh water. No cement returns. Float did not hold. Wait on cement. Holding back pressure. Wait on cement and search for cement top down annulus. Found at 20 m depth.

WANT LIST: _____

WEATHER -30°C

ROAD Good

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 01 06 2400

Year · Month · Day · Time

WELL NAME Forward et al Camp M-61

LOCATION M-61

DAY 4 DEPTH 108 METRES LAST 24 HRS.

ROTATING HRS. _____

ACTIVITY AT REPORT TIME Nipple up conductor

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. _____ VIS _____ WL. _____ GELS _____ % SOLIDS _____ PV _____ YP _____ pH _____

% OIL _____ %SAND _____ CAKE _____ PPMCL _____ PPMCa _____

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER. NO.	BIT		DEPTH OUT m	m DRLD TODAY	CUM. m DRLD	Rot. hrs. TODAY	CUM. Rot. hrs.	m/HR	DULL COND		
				WT.	RPM							T	B	G

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP				ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER	m ³ /min	DP	DC			

DEVIATION SURVEYS

_____ ° at _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		19.75
2. TRIPS		1.50
3. RIG SERVICE		.75
4. DEVIATION SURVEY		.75
5. REAM & COND. HOLE		5.25
6. MIX & COND. MUD		
7. CIRCULATING		1.75
8. RIG REPAIR		
9. RUN CASING & CEMENT	2.50	13.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON: cement	13.00	34.50
15. NIPPLE UP & TEST BOP	6.00	6.00
16. DRILLING OUT		
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. Waiting on orders	2.50	12.75
TOTALS	24.00	96.00

COSTS

DAILY _____

CUM. _____

SUPERVISOR: John Ross

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 01 06 2400

Year - Month - Day - Time

Cement top in annulus at 25 m. Cemented to top with 5 barrels water ahead and 135 sacks permafrost cement. Good returns. Cement top 3 m of casing annulus with 15 sacks permafrost cement. Waiting on cement. Cut casing, weld on bowl and nipple up preventor.

WANT LIST: _____

WEATHER -25°C Clear

ROAD Good

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)

DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 01 07 2400

Year - Month - Day - Time

WELL NAME Forward et al Camp M-61

LOCATION M-61

DAY 5 DEPTH 108 METRES LAST 24 HRS. 0

ROTATING HRS. 0

ACTIVITY AT REPORT TIME Drill out float collar (Make up BHA)

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

N/A

WT. _____ VIS _____ WL. _____ GELS _____ % SOLIDS _____ PV _____ YP _____ pH _____

% OIL _____ %SAND _____ CAKE _____ PPMCL _____ PPMCa _____

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER. NO.	BIT		DEPTH OUT m	m DRLD TODAY	CUM. m DRLD	Rot. hrs. TODAY	CUM. Rot. hrs.	m/HR	DULL COND		
				WT.	RPM							T	B	G
1	311	HWXDV	51318											

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP				ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER	m ³ /min	DP	DC			
1	0	P	E	N								

DEVIATION SURVEYS

_____ ° at _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		19.75
2. TRIPS	1.25	2.75
3. RIG SERVICE	.75	1.50
4. DEVIATION SURVEY		.75
5. REAM & COND. HOLE		5.25
6. MIX & COND. MUD		
7. CIRCULATING		1.75
8. RIG REPAIR		
9. RUN CASING & CEMENT		13.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		34.50
15. NIPPLE UP & TEST BOP	12.25	18.25
16. DRILLING OUT		
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21.	9.75	22.50
TOTALS	24.00	120.00

COSTS

DAILY

CUM.

SUPERVISOR: John Ross

OPERATIONS DETAILS: PERIOD ENDING _____

84 01 07 2400

Year - Month - Day - Time

Pressure test bowl to 2500 PSI - OK. Re-drill mousehole due to sloughing and cement in hole.

WANT LIST: _____

WEATHER -32°C Clear

ROAD Good

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 01 08 2400

Year - Month - Day - Time
Camp M-61

WELL NAME Forward et al Camp M-61

LOCATION

DAY 6 DEPTH 173 METRES LAST 24 HRS. 65 m ROTATING HRS. 8.75

ACTIVITY AT REPORT TIME Survey at 164 m

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

Air Drilling

WT. _____ VIS _____ WL. _____ GELS _____ % SOLIDS _____ PV _____ YP _____ pH _____

% OIL _____ % SAND _____ CAKE _____ PPMCL _____ PPMCa _____

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER. NO.	BIT		DEPTH OUT m	m DRLD TODAY	CUM. m DRLD	Rot. hrs TODAY	CUM. Rot. hrs	m/HR	DULL COND		
				WT.	RPM							T	B	G
1	311	HW XDV	51318	9-10	80	In	65	65	8.75	8.75	7.4	Drilling		

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP				ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER	m ³ /min	DP	DC			
1	0	P	E	N		Air Drilling	30					700

DEVIATION SURVEYS

3/4 ° at 127 m ° at _____
 3/4 ° at 164 m ° at _____
 ° at _____ ° at _____
 ° at _____ ° at _____

MUD & CHEMICALS ADDED

1/2 barrel Vanfoam

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit		311	0.40	
Shock Sub			4.61	
3x 9" D.C.		229	28.40	
Jars			5.77	
1 x 9" D.C.		229	9.45	
1 x Cross Over			0.70	
12 x 6-1/4" D.C.		159	112.04	
Kelly			12.45	33,000

COSTS

DAILY

CUM.

SUPERVISOR: John Ross

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	8.75	28.50
2. TRIPS	4.00	6.75
3. RIG SERVICE	.25	1.75
4. DEVIATION SURVEY	.75	1.50
5. REAM & COND. HOLE		5.25
6. MIX & COND. MUD		
7. CIRCULATING		1.75
8. RIG REPAIR		
9. RUN CASING & CEMENT		13.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		34.50
15. NIPPLE UP & TEST BOP	2.50	20.75
16. DRILLING OUT	1.75	1.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. Misc.	6.00	28.50
TOTALS	24.00	144.00

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 01 08 2400

Year - Month - Day - Time

Run in hole with BHA, float collar at 95.84 m. Pressure test 1500 and 3000 kPa for 15 minutes - OK. Check motor kills. Blow kill line and install rotary bushing. Drill out float collar. Drill out 1.5 m cement and shoe, clean 1.5 m fill. Perform passive integrity test on cement and formation - hydrostatic pressure of 1073 kPa - held OK for 15 minutes. Drill 311 mm hole and survey.

WANT LIST: _____

WEATHER -36°C

ROAD Clear

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)

DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 01 09 2400

Year - Month - Day - Time

WELL NAME Forward et al Camp M-61 LOCATION Colville Hills, NWT

DAY 7 DEPTH 174 METRES LAST 24 HRS. 1 m ROTATING HRS. .5

ACTIVITY AT REPORT TIME Unplug DC Drilling ahead in 311 mm hole - estimated depth of 195 m

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

Air Drilling with Downhole Air Hammer

WT. _____ VIS _____ WL. _____ GELS _____ % SOLIDS _____ PV _____ YP _____ pH _____

% OIL _____ % SAND _____ CAKE _____ PPMCL _____ PPMCa _____

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER. NO.	BIT		DEPTH OUT m	m DRLD TODAY	CUM. m DRLD	Rot. hrs. TODAY	CUM. Rot. hrs.	m/HR	DULL COND		
				WT.	RPM							T	B	G
1	311	HW XDV	51318	10	80	174	1	66	.5	9.25	2	6	4	I
2	311	J-33	53462											

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP				ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER	m ³ /min	DP	DC			

DEVIATION SURVEYS

_____ ° at _____ ° at
 _____ ° at _____ ° at
 _____ ° at _____ ° at
 _____ ° at _____ ° at

MUD & CHEMICALS ADDED

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit			.30	
SS			4.61	
3 x DC's		229	28.40	
1 x JH		299	5.77	
1 x X/O			.70	
12 x DC's		159	112.00	
1 x HWDP			9.57	
Kelly Down			12.45	41,000

COSTS

DAILY

CUM.

SUPERVISOR John Ross

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	.50	29.00
2. TRIPS	15.75	22.50
3. RIG SERVICE		1.75
4. DEVIATION SURVEY		1.50
5. REAM & COND. HOLE	.75	6.00
6. MIX & COND. MUD		
7. CIRCULATING		1.75
8. RIG REPAIR		
9. RUN CASING & CEMENT		13.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		34.50
15. NIPPLE UP & TEST BOP		20.75
16. DRILLING OUT		1.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21.	7.00	35.50
TOTALS	24.00	168.00

OPERATIONS DETAILS: PERIOD ENDING _____

84 01 09 2400

Year - Month - Day - Time

Pulled out of hole to run Downhole Air Hammer. Run in hole with Air Hammer. Trip out to unplug string - frozen solid. Run in hole with Air Hammer. Attempt to drill - no success in correct air volumes and pressures. Pulled out of hole by midnight January 9, 1984. Laid down Air Hammer and run in hole with J-33 bit, drill ahead 0415 hours January 10, 1984. Depth at 0800 hours - 195 m estimated. ROP at 0730 hours is 7.5 m/hour.

WANT LIST: _____

WEATHER _____ -36°C

ROAD _____

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 01 10 2400

Year - Month - Day - Time

WELL NAME Forward et al Camp M-61 LOCATION Colville Hills, NWT

DAY 8 DEPTH 248 METRES LAST 24 HRS. 74 ROTATING HRS. 17

ACTIVITY AT REPORT TIME Drill 311 mm hole at 270 m, hole making water from 203 m

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

Air Drilling

WT. _____ VIS _____ WL. _____ GELS _____ % SOLIDS _____ PV _____ YP _____ pH _____

% OIL _____ %SAND _____ CAKE _____ PPMCL _____ PPMCa _____

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER. NO.	BIT		DEPTH OUT m	m DRLD TODAY	CUM. m DRLD	Rot. hrs. TODAY	CUM. Rot. hrs.	m/HR	DULL COND		
				WT.	RPM							T	B	G
2	311	HW J-33	53462	15/20	50/70	IN	74	74	17	17	4.4		IN	

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP				ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER	m ³ /min	DP	DC			
2	0	P	E	N			30					1723

DEVIATION SURVEYS

3/4 ° at 192 _____ ° at _____
 3/4 ° at 220 _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

1 barrel Vanfoam

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit		311	.40	
Shock Sub		229	4.61	
3 x Drill Collars		229	28.40	
Jar		229	5.77	
Cross Over			.70	
9 x HWDP		114	84.00	
Kelly In (Down)			12.45	
			136.33	41 m

COSTS

DAILY

CUM.

SUPERVISOR: John Ross

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	17.00	46.00
2. TRIPS	4.25	26.75
3. RIG SERVICE	.50	2.25
4. DEVIATION SURVEY	.50	2.00
5. REAM & COND. HOLE		6.00
6. MIX & COND. MUD		
7. CIRCULATING		1.75
8. RIG REPAIR		
9. RUN CASING & CEMENT		13.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON		34.50
15. NIPPLE UP & TEST BOP		20.75
16. DRILLING OUT		1.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. Work on Grant Head	1.75	37.25
TOTALS	24.00	192.00

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 01 10 2400

Year - Month - Day - Time

Pulled out of hole and checked drill collars for ice plugs. Break circulation and clean to bottom. Drill and survey ahead. Extend blooie line and work on head.

Drilling and surveying ahead. Drill - ROP picked up from + 20 minutes/m at 2000 hours to 9 minutes/m at 2400 hours.

0700 Hours Update - Drilling at 270 m at 0700 hours. ROP + 15 minutes/m. Hole making water from 203 m (3 - 5 barrels per minute).

WANT LIST: _____

WEATHER -26°C

ROAD Good

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 01 11 2400

Year - Month - Day - Time

WELL NAME Forward et al Camp M-61

LOCATION M-61

DAY 9 DEPTH 318 m METRES LAST 24 HRS. 70

ROTATING HRS. 18.25

ACTIVITY AT REPORT TIME 333 m, working on blooie line, drill ahead

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

Air

WT. _____ VIS _____ WL. _____ GELS _____ % SOLIDS _____ PV _____ YP _____ pH _____

% OIL _____ % SAND _____ CAKE _____ PPMCL _____ PPMCa _____

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER. NO.	BIT		DEPTH OUT m	m DRLD TODAY	CUM. m DRLD	Rot. hrs. TODAY	CUM. Rot. hrs.	m/HR	DULL COND		
				WT.	RPM							T	B	G
2	311	J33	53462	15/20	45/70		70	144	18.25	35.25	3.8			

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP				ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER	m ³ /min	DP	DC			
2	OPEN						19					3500

DEVIATION SURVEYS

3/4 ° at 267 ° at _____
 1 ° at 295 ° at _____
 ° at _____ ° at _____
 ° at _____ ° at _____

MUD & CHEMICALS ADDED

Vanfoam 1 bbl

Duraplex 6 sx

Durafoam 1/2 bbl

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
BHA			29.88	
12 x DC's		159	112.00	
9 HWDP			84.00	
8 jts. DP			75.45	
Kelly Down			6.67	
			318.00	
				43,000

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	18.25	64.25
2. TRIPS	1	27.75
3. RIG SERVICE	.5	2.75
4. DEVIATION SURVEY	.5	2.5
5. REAM & COND. HOLE		6
6. MIX & COND. MUD		
7. CIRCULATING		1.75
8. RIG REPAIR		
9. RUN CASING & CEMENT		13
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		34.50
15. NIPPLE UP & TEST BOP		20.75
16. DRILLING OUT		1.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21.	3.75	41
TOTALS	24	216

COSTS

DAILY

CUM.

SUPERVISOR: J. Ross

OPERATIONS DETAILS: PERIOD ENDING _____

84 01 11 2400

Year - Month - Day - Time

Drill and survey. Change fan belts in air driller compressor. Drill.

Re-direct blooie line to sump.

Drill and survey ahead.

0700 update: Work on blooie line.

ROP 10-13 min/m

333 m

WANT LIST: _____

WEATHER _____ - 28⁰ C

ROAD _____

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 01 12 2400

Year · Month · Day · Time

WELL NAME Forward et al Camp M-61

LOCATION M-61

DAY 10 DEPTH 377 m METRES LAST 24 HRS. 59 ROTATING HRS. 18.5

ACTIVITY AT REPORT TIME Drilling at 400 m (drill 311 mm hole)

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

AIR

WT. VIS 45 (polymer) WL.

GELS % SOLIDS PV YP pH

% OIL %SAND CAKE PPMCL PPMCa

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER. NO.	BIT		DEPTH OUT m	m DRLD TODAY	CUM. m DRLD	Rot. hrs. TODAY	CUM. Rot. hrs.	m/HR	DULL COND		
				WT.	RPM							T	B	G
2	311	J33 HW	53462	15/20	45/75		59	203	18.5	53.75	3.2			

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP				ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER	m ³ /min	DP	DC			
2	OPEN			AIR			12/18.6					2800/4200

DEVIATION SURVEYS

.75 ° at 323 ° at

1.25 ° at 352 ° at

° at ° at

° at ° at

MUD & CHEMICALS ADDED

Duraplex 8 sx

Durafoam 1 bbl

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
BHA			235.88	
4 stands DP			113.83	
2 singles DP			19.18	
Kelly			8.11	
String Float	70	157	.59	
			377.59	43.000

COSTS

DAILY

CUM.

SUPERVISOR:

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	18.5	82.75
2. TRIPS		27.75
3. RIG SERVICE	.5	3.25
4. DEVIATION SURVEY	.75	3.25
5. REAM & COND. HOLE		6
6. MIX & COND. MUD		
7. CIRCULATING		1.75
8. RIG REPAIR		
9. RUN CASING & CEMENT		13
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		34.50
15. NIPPLE UP & TEST BOP		20.75
16. DRILLING OUT		1.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21.	4.25	45.25
TOTALS	24	240

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 01 12 2400

Year - Month - Day - Time

Re-route blooie line to flare pit. Drill and survey. Re-route blooie -
extended line, Delta 3 down, unable to work with blooie line. Drill.
Extend blooie line. Drill and survey ahead.

Durafoam injection ratio: 36-46 L/minute

0700: 400 m Drilling

ROP 12 - 16 min/m

WANT LIST: _____

WEATHER _____

-18⁰ C

ROAD _____

Good

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING
84 01 13 2400

Year - Month - Day - Time
M-61

WELL NAME Forward et al Camp M-61

LOCATION

DAY 11 DEPTH 432 m METRES LAST 24 HRS. 55

ROTATING HRS. 17

ACTIVITY AT REPORT TIME Circulate and wait on returns

AIR

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. _____ VIS _____ WL. _____ GELS _____ % SOLIDS _____ PV _____ YP _____ pH _____

% OIL _____ % SAND _____ CAKE _____ PPMCL _____ PPMCa _____

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER. NO.	BIT		DEPTH OUT m	m DRLD TODAY	CUM. m DRLD	Rot. hrs. TODAY	CUM. Rot. hrs.	m/HR	DULL COND		
				WT.	RPM							T	B	G
2	311	J33 HW	53462	15/20	45/65	432	55	258	17	70.75	3.2	6	6	1/8
3	311	J33 HW	89167				0							

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP				ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER	m ³ /min	DP	DC			
3	0	P	E	N			17.9					4200

DEVIATION SURVEYS

1-1/4° at 390 _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

8 sax Duraplex
 2 bbls Durafoam

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
BHA				
15 x DC		159	140.05	
			263.33	
5 stands DP		114	142.33	
2 singles			18.91	
Kelly Down			7.43	
			572.05	51,000

COSTS

DAILY

CUM.

SUPERVISOR: J. Ross

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	17	99.75
2. TRIPS	4.5	32.25
3. RIG SERVICE	.25	3.5
4. DEVIATION SURVEY	.50	3.75
5. REAM & COND. HOLE		6
6. MIX & COND. MUD		
7. CIRCULATING	1.0	2.75
8. RIG REPAIR		
9. RUN CASING & CEMENT		13
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		34.50
15. NIPPLE UP & TEST BOP		20.75
16. DRILLING OUT		1.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. Blotite line	.75	46
TOTALS	24	264

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 01 13 2400

Year - Month - Day - Time

Drill and survey ahead. Change seal on rotating head. Run in hole with Bit #3, circulate and wait on returns.

0800 a.m. Attempt regain and maintain circulation. Bit at 413 m at 0800 hours.

1st water at 203 m.

Maximum flow at 1 - 2 m³/minute

Cavity at approximately 312 m.

WANT LIST: _____

WEATHER -10° C

ROAD Good

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 01 14 2400

Year - Month - Day - Time

M-61

WELL NAME Forward et al Camp M-61

LOCATION

DAY 12 DEPTH 471 m METRES LAST 24 HRS. 39

ROTATING HRS. 13.75

ACTIVITY AT REPORT TIME Drilling at 503 ROP 4.3

AIR

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. _____ VIS _____ WL. _____ GELS _____ % SOLIDS _____ PV _____ YP _____ pH _____

% OIL _____ %SAND _____ CAKE _____ PPMCL _____ PPMCa _____

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER. NO.	BIT		DEPTH OUT m	m DRLD TODAY	CUM. m DRLD	Rot. hrs. TODAY	CUM. Rot. hrs.	m/HR	DULL COND		
				WT.	RPM							T	B	G
3	311	HW J-33	89167	12/18	60/65		39	39	13.75	13.75	2.8			

CIRCULATION RECORD

BIT NO.	JETS -- mm			PUMP AIR				ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER	m ³ /min	DP	DC			
3	0	P	E	N			14					4200

DEVIATION SURVEYS

.25 ° at 437 ° at _____
 .50 ° at 475 ° at _____
 ° at _____ ° at _____
 ° at _____ ° at _____

MUD & CHEMICALS ADDED

Durafoam 2 bbl

Duraplex 10 sax

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
BHA			263.33	
7 Stands DP			199.23	
Singles				
Kelly			8.44	
			471.00	50,000

COSTS

DAILY

CUM.

SUPERVISOR:

J. Ross

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	13.75	113.5
2. TRIPS	9.75	42
3. RIG SERVICE	.25	3.75
4. DEVIATION SURVEY	.25	4
5. REAM & COND. HOLE		6
6. MIX & COND. MUD		
7. CIRCULATING		2.75
8. RIG REPAIR		
9. RUN CASING & CEMENT		13
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		34.50
15. NIPPLE UP & TEST BOP		20.75
16. DRILLING OUT		1.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21.		46
TOTALS	24	288

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 01 14 2400

Year - Month - Day - Time

Wait on returns, unload hole and POH. Stage back in and try to regain circulation.

203 m - water influx

312 m - Large cavity

45 L/m injection rate

45 sec/L polymer

GEOLOGY

230 - 290m Interbedded dolomite and chert with vuggy porosity to 15% and minor dead oil stains.

290 m Franklin Mountain Red Neck unit.

290 - 498m Clean tight dolomite with good porosity at 303 m, 312 m, 315 m, 326 - 331 m, 458 m, 473 m, 488 m,

Much dead oil stain and some heavy oil staining.

477, 483 - 490. Showing faint yellow fluorescence and poor to moderate fluorescence.

WANT LIST: _____

WEATHER -25⁰ C

ROAD _____

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 01 15 2400

Year - Month - Day - Time

WELL NAME Forward et al Camp M-61

LOCATION M-61

DAY 13 DEPTH 558 m METRES LAST 24 HRS. 87

ROTATING HRS. 21.75

ACTIVITY AT REPORT TIME Drilling ahead

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

AIR

WT. _____ VIS _____ WL. _____ GELS _____ % SOLIDS _____ PV _____ YP _____ pH _____

% OIL _____ % SAND _____ CAKE _____ PPMCL _____ PPMCa _____

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER. NO.	BIT		DEPTH OUT m	m DRLD TODAY	CUM. m DRLD	Rot. hrs. TODAY	CUM. Rot. hrs.	m/HR	DULL COND		
				WT.	RPM							T	B	G
3	311	HW J-33	89167	12/19	55/65		87	126	21.75	35.5	4			

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP				ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER	m ³ /min	DP	DC			
3	OPEN						15					5000

DEVIATION SURVEYS

.75 ° at 512 _____ ° at _____
 .75 ° at 541 _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

Duraplex 18 sax _____
 Durafoam 2.50 bbl _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
BHA			263.33	
10 stands DP			284.45	
Kelly Down			10.24	
			558.00	
				50,000

COSTS

DAILY
CUM.

SUPERVISOR: J. Ross

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	21.75	135.25
2. TRIPS		42
3. RIG SERVICE	.5	4.25
4. DEVIATION SURVEY	1.5	5.5
5. REAM & COND. HOLE		6
6. MIX & COND. MUD		
7. CIRCULATING	.25	3
8. RIG REPAIR		
9. RUN CASING & CEMENT		13
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		34.5
15. NIPPLE UP & TEST BOP		20.75
16. DRILLING OUT		1.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21.		46
TOTALS	24	312

OPERATIONS DETAILS: PERIOD ENDING 84 01 15 2400
Year - Month - Day - Time

Drilled and surveyed.

Wait on returns - 3 m fill. Drilled ahead.

0700: 595 m ROP 8-12 min/m

2400-0700 Drill and service air driller.

WANT LIST: _____

WEATHER -26⁰ C ROAD Good

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 01 16 2400

Year - Month - Day - Time

WELL NAME Forward et al Camp M-61

LOCATION M-61

DAY 14 DEPTH 635 m METRES LAST 24 HRS. 77 ROTATING HRS. 14.5

ACTIVITY AT REPORT TIME Run 244.5 mm casing

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. VIS. WL. GELS % SOLIDS PV YP pH
% OIL %SAND CAKE PPMCL PPMCa

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER. NO.	BIT		DEPTH OUT m	m DRLD TODAY	CUM. m DRLD	Rot. hrs. TODAY	CUM. Rot. hrs.	m/HR	DULL COND		
				WT.	RPM							T	B	G
3	311	HW J-33	89167	15/20	55/65	635	77	203	14.5	50	5.3	6	4	1/4

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP				ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER	m ³ /min	DP	DC			
3	OPEN						15					5500

DEVIATION SURVEYS

.75 ° at 607 ° at
° at ° at
° at ° at
° at ° at

MUD & CHEMICALS ADDED

Duraplex 12
Durafoam 2 bbl

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
BHA			263.33	
12 Stands & 2 Singles			360.13	
Kelly Down			12.45	
			635.91	
				51,000

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	14.5	149.75
2. TRIPS	3.5	45.5
3. RIG SERVICE		4.25
4. DEVIATION SURVEY	.75	6.25
5. REAM & COND. HOLE		6
6. MIX & COND. MUD	2.25	2.25
7. CIRCULATING		3
8. RIG REPAIR		
9. RUN CASING & CEMENT	2.75	15.75
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		34.5
15. NIPPLE UP & TEST BOP		20.75
16. DRILLING OUT		1.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21.	.25	46.25
TOTALS	24	336

COSTS

DAILY

CUM.

SUPERVISOR: J. Ross

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 01 16 2400

Drill. Service air drillers - compressor. Drill.

Year - Month - Day - Time

POH 2 stands to retrieve string float. RIH 2 stands and survey. Clean 4 m fill to bottom. Drill. Pull up 20 m, wait 15 minutes, circulate back to bottom, clean 3 m fill to bottom. Strap out.

Strap 636.51

Board 635.91

.6

0800: Tried to clean 5 m fill to bottom. Unable to clean last 3 m. Rig to run casing 3 m off bottom, ran 51 joints 244.5 mm N-80 59.5 kg/m.

FORWARD GEOLOGY

498 - 625 m Fairly tight dolomite micro-crystalline to crypto-crystalline, getting more argillaceous and shaly with depth.

625 - 635 m Saline River Formation.

Red and green shales and pink tight dolomite.

WANT LIST: _____

WEATHER _____ -18⁰ C

ROAD _____ Good

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)

DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING
84 01 17 2400

Year - Month - Day - Time

WELL NAME Forward et al Camp M-61

LOCATION M-61

DAY 15 DEPTH 635 m METRES LAST 24 HRS. - ROTATING HRS. -

ACTIVITY AT REPORT TIME Nipple up BOPs - cut off casing, cement down annulus

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. VIS WL. GELS % SOLIDS PV YP pH

% OIL %SAND CAKE PPMCL PPMCa

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER. NO.	BIT		DEPTH OUT m	m DRLD TODAY	CUM. m DRLD	Rot. hrs. TODAY	CUM. Rot. hrs.	m/HR	DULL COND		
				WT.	RPM							T	B	G

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP				ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER	m ³ /min	DP	DC			

DEVIATION SURVEYS

_____ ° at _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		149.75
2. TRIPS		45.50
3. RIG SERVICE		4.25
4. DEVIATION SURVEY		6.25
5. REAM & COND. HOLE		6.00
6. MIX & COND. MUD		2.25
7. CIRCULATING		3.00
8. RIG REPAIR		
9. RUN CASING & CEMENT	12.25	28.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:	8.00	42.50
15. NIPPLE UP & TEST BOP	3.75	24.50
16. DRILLING OUT		1.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. TOTALS	24	46.25
		360.00

COSTS

DAILY

CUM.

SUPERVISOR: J. Ross

OPERATIONS DETAILS: PERIOD ENDING _____

84 01 17 2400

Year - Month - Day - Time

Run casing

Rig to and clean 6 m fill to bottom, unable to clean last
4 m fill

Ran 51 joints of 244.5 mm casing, 635.4 m of 59.5 kg/m; MN-80 casing,
with float shoe and collar. Casing landed at 631 mKB. Cemented first
stage - estimated 631 m to 490 m with 8.3 T oilwell neat, displaced with 27.74 m³
fresh water. Plug for first stage down at 1015 hours 84 01 17. Plug held OK.
Cemented 2nd stage with DV tool at 195.14 m with 9.9 T permafrost cement.
Displaced with 7.78 m³ fresh water. Plug for second stage down at 1215 hours
on 84 01 17. Tool held OK. 2.5-3.0 m³ returns of cementy water.

Nipple up, cut off casing. Mix and cmt 15 sacks permafrost down
the annulus.

WANT LIST: _____

WEATHER -20⁰ C

ROAD Good

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 01 18 2400

Year - Month - Day - Time

M-61

WELL NAME Forward et al Camp M-61

LOCATION

DAY 16 DEPTH 635

METRES LAST 24 HRS.

ROTATING HRS.

ACTIVITY AT REPORT TIME Change Blooie Line (pressure test casing)

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. VIS. WL. GELS % SOLIDS PV YP pH

% OIL %SAND CAKE PPMCL PPMCa

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER. NO.	BIT		DEPTH OUT m	m DRLD TODAY	CUM. m DRLD	Rot. hrs. TODAY	CUM. Rot. hrs.	m/HR	DULL COND		
				WT.	RPM							T	B	G
4	215.9	F-2 STC	EA 2860											

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP				ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER	m ³ /min	DP	DC			
4	O P E N											

DEVIATION SURVEYS

° at ° at
° at ° at
° at ° at
° at ° at

MUD & CHEMICALS ADDED

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit		215.9	.25	
SS	55	153	4.18	
3 x DC		159	28.16	
JH	58	157	4.21	
12 x DC		159	111.89	
9 x HWDP			84.00	

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		149.75
2. TRIPS		45.50
3. RIG SERVICE		4.25
4. DEVIATION SURVEY		6.25
5. REAM & COND. HOLE		6.00
6. MIX & COND. MUD		2.25
7. CIRCULATING		3.00
8. RIG REPAIR		
9. RUN CASING & CEMENT		28.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		42.50
15. NIPPLE UP & TEST BOP	22.25	46.75
16. DRILLING OUT	1.25	3.00
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. Re-drill Mousehole	.50	46.75
TOTALS	24.00	384.00

COSTS

DAILY

CUM.

SUPERVISOR: John Ross

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 01 18 2400

Year - Month - Day - Time

Clean out cellar and prepare to weld on bowl. Nipple up BOP's. Pressure test blind rams and manifold. Re-drill mousehole. Run in hole to drill out DV tool. Install rotary head. Pressure test hydril and pipe rams. Drill out stage collar plug. Pressure test casing below stage collar. Run in hole and blow hole dry. Drill out cement 607 to 638 m. Run leak off test and change blooie line. Pressure test kill and choke line valves and BOP stack to combination of 2100 - 6500 kPa for either 15 minutes with pressure drop of less than 5% or 5 minutes with no pressure drop. OK. Leak off. Hydrostatic 5700 kPa and surface induced pressure of 2500 kPa. No formation breakdown.

WANT LIST: _____

WEATHER -20°C Light snow

ROAD Good

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 01 19 2400

Year - Month - Day - Time

M-61

WELL NAME Forward et al Camp M-61

LOCATION

DAY 17 DEPTH 860

METRES LAST 24 HRS.

225

ROTATING HRS. 12.75

ACTIVITY AT REPORT TIME Survey 974 m - drill and circulate tight hole

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. _____ VIS _____ WL. _____ GELS _____ % SOLIDS _____ PV _____ YP _____ pH _____

% OIL _____ %SAND _____ CAKE _____ PPMCL _____ PPMCa _____

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER. NO.	BIT		DEPTH OUT m	m DRLD TODAY	CUM. m DRLD	Rot. hrs. TODAY	CUM. Rot. hrs.	m/HR	DULL COND		
				WT.	RPM							T	B	G
4	215.9	F-2 STC	EA 2860	9,000	100	IN	225	225	12.75	12.75	17.6		IN	

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP				ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER	m ³ /min	DP	DC			
4	0	P	E	N								

DEVIATION SURVEYS

3/4 ° at 728 m ° at _____
 7/8 ° at 840 m ° at _____
 ° at _____ ° at _____
 ° at _____ ° at _____

MUD & CHEMICALS ADDED

1 barrel durafoam
6 sacks duraplex

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
BHA			232.69	
21 Stds. D.P.			596.60	
2 Singles			18.73	
Kelly Down			11.98	
			860	
Weight				54,000

COSTS

DAILY

CUM.

SUPERVISOR: John Ross

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	12.75	162.50
2. TRIPS	2.00	47.50
3. RIG SERVICE	.50	4.75
4. DEVIATION SURVEY	1.00	7.25
5. REAM & COND. HOLE		6.00
6. MIX & COND. MUD		2.25
7. CIRCULATING	.50	3.50
8. RIG REPAIR		
9. RUN CASING & CEMENT		28.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		42.50
15. NIPPLE UP & TEST BOP		46.75
16. DRILLING OUT	2.75	5.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21.	4.50	51.25
TOTALS	24.00	408.00

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 01 19 2400

Year - Month - Day - Time

Run in hole and blow dry. Drill out cement from 607 m. Run leak off test. Pull out of hole to blow dry. Change blooie line to flare pit. Run in hole and blow dry. Drill and survey. Check BOP's and motor shut-offs.

Geological:

636 - 685 m Interbedded red and green shales, minor tight dolomite and gypsum, saline river salt member at 685 m.

685 - 865 m 180 m of salt with minor shale, gypsum and dolomite. Mount cap formation 865 m.

865 - 945 m Interbedded shale and dolomite with minor gypsum, anhydrite and silt stone.

WANT LIST: _____

WEATHER -22⁰C

ROAD Good

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)

DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 01 20 2400

Year - Month - Day - Time

WELL NAME Forward et al Camp M-61 LOCATION Colville Hills

DAY 18 DEPTH 1060 METRES LAST 24 HRS. 200 ROTATING HRS. 11.50

ACTIVITY AT REPORT TIME 0800 84-01-21 Run in hole to clean out bridge out 850 m

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. _____ VIS _____ WL. _____ GELS _____ % SOLIDS _____ PV _____ YP _____ pH _____

% OIL _____ %SAND _____ CAKE _____ PPMCL _____ PPMCa _____

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER. NO.	BIT		DEPTH OUT m	m DRLD TODAY	CUM. m DRLD	Rot. hrs. TODAY	CUM. Rot. hrs.	m/HR	DULL COND		
				WT.	RPM							T	B	G
4	215.9	F-2 STC	EA2860	9,000	100	1060	200	425	11.50	24.25	17.40	2	6	1
5	215.9	J-33 HW	84539											

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP				ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER	m ³ /min	DP	DC			
5	11.9	11.9	11.9									

DEVIATION SURVEYS

1/4 ° at 964 m _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

16 sacks duraplex _____
 3 barrels durafoam _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
BHA			232.69	
Drill Pipe			823.73	
Kelly Down			3.58	
Total			1060.00	
Weight				60,000

COSTS

DAILY

CUM.

SUPERVISOR: John Ross

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	11.50	174.00
2. TRIPS	5.75	53.25
3. RIG SERVICE	.50	5.25
4. DEVIATION SURVEY	.50	7.75
5. REAM & COND. HOLE		6.00
6. MIX & COND. MUD		2.25
7. CIRCULATING	5.75	9.25
8. RIG REPAIR		
9. RUN CASING & CEMENT		28.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		42.50
15. NIPPLE UP & TEST BOP		46.75
16. DRILLING OUT		5.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21.		51.25
TOTALS	24.00	432.00

OPERATIONS DETAILS: PERIOD ENDING _____

84 01 20 2400

Year - Month - Day - Time

Drill and survey and work pressured up hole. Circulate with fluctuating air pressure and returns. No tight hole. Pull out of hole and change bit. One jet plugged. Run in hole with bit 5 to 790 m. Circulate pressured pipe and work pipe. Pull out of hole to unplug bit.

0800 update - midnight to 0800. Unplug two jets. Run in hole to bottom. Try to circulate with no success. Run survey. Pull out of hole to 580 m. Circulate and unplug jets. Run in hole to 635 m to break circulation.

Well making water 1048 - 1060 m. Hydrostatic head at 472 m.

WANT LIST: _____

WEATHER _____

ROAD _____

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 01 21 2400

Year - Month - Day - Time

WELL NAME Forward et al Camp M-61 LOCATION M-61

DAY 19 DEPTH 1093 METRES LAST 24 HRS. 33 ROTATING HRS. 7.5

ACTIVITY AT REPORT TIME Drill ahead at 24 min/m

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. _____ VIS _____ WL. _____ GELS _____ % SOLIDS _____ PV _____ YP _____ pH _____

% OIL _____ %SAND _____ CAKE _____ PPMCL _____ PPMCa _____

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER. NO.	BIT		DEPTH OUT m	m DRLD TODAY	CUM. m DRLD	Rot. hrs. TODAY	CUM. Rot. hrs.	m/HR	DULL COND		
				WT.	RPM							T	B	G
5	216	J-33 HW	84537	11000	65		33	33	7.5	7.5	4.4			

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP				ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER	m ³ /min	DP	DC			
5	11.9	11.9	11.9				25					2,700

DEVIATION SURVEYS

_____ ° at _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

12 sacks duraplex _____
2 sacks durafoam _____
8 sacks staflo _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
BHA			232.69	
Drill Pipe			852.05	
			1085.38	
				60,000

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	7.50	181.50
2. TRIPS	5.00	58.25
3. RIG SERVICE		5.25
4. DEVIATION SURVEY		7.75
5. REAM & COND. HOLE	1.00	7.00
6. MIX & COND. MUD		2.25
7. CIRCULATING	10.50	19.75
8. RIG REPAIR		
9. RUN CASING & CEMENT		28.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		42.50
15. NIPPLE UP & TEST BOP		46.75
16. DRILLING OUT		5.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21.		51.25
TOTALS	24.00	456.00

COSTS

DAILY

CUM.

SUPERVISOR John Ross

OPERATIONS DETAILS: PERIOD ENDING _____

84 01 21 2400

Year - Month - Day - Time

Try to circulate. Pulled out of hole. Unplug bit. Run in hole to 1000 m. Try to circulate. Pulled out of hole 18 stands and circulate, stage back to bottom. Drill ahead.

0800 update - 1123 m. Drilled all night. Project total depth 1145 m at 1800 hours 84 01 22.

WANT LIST: _____

WEATHER -31⁰C

ROAD Good

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)

DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 01 22 2400

Year - Month - Day - Time

WELL NAME Forward et al Camp M-61 LOCATION M-61

DAY 20 DEPTH 1145 TD METRES LAST 24 HRS. 52 ROTATING HRS. 13.75

ACTIVITY AT REPORT TIME Reaming out rathole to bottom

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. _____ VIS _____ WL. _____ GELS _____ % SOLIDS _____ PV _____ YP _____ pH _____

% OIL _____ %SAND _____ CAKE _____ PPMCL _____ PPMCa _____

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER. NO.	BIT		DEPTH OUT m	m DRLD TODAY	CUM. m DRLD	Rot. hrs. TODAY	CUM. Rot. hrs.	m/HR	DULL COND		
				WT.	RPM							T	B	G
5	215.9	HW J-33	84537	14000	65	1145 TD	52	85	13.75	21.25	3.8	7	7	1/2
6	215.9	HW JD7												

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP				ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER	m3/min	DP	DC			

DEVIATION SURVEYS

_____ ° at _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

Staflor 16 sacks Durafoam 1 barrel
Duraplex 16 sacks Duraquad 1
Kelzan XC 5 sacks _____
Salt 405 sacks _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
BHA			232.69	
31 stands D.P.			880.17	
2 singles			19.02	
Kelly Down			12.45	
String Float			.67	
			145.00	
String Weight				60,000

COSTS

DAILY

CUM.

SUPERVISOR: John Ross

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	13.75	195.25
2. TRIPS	3.25	61.50
3. RIG SERVICE	.25	5.50
4. DEVIATION SURVEY		7.75
5. REAM & COND. HOLE		7.00
6. MIX & COND. MUD	4.75	7.00
7. CIRCULATING	1.00	20.75
8. RIG REPAIR		
9. RUN CASING & CEMENT		28.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		42.50
15. NIPPLE UP & TEST BOP		46.75
16. DRILLING OUT		5.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. Thaw stand pipe	1.00	52.25
TOTALS	24.00	480.00

84 01 22 2400

Year - Month - Day - Time

Drill ahead. Mix salt to system. Change pancake in blooie line. Mud up and circulate. Pull out of hole. 18 stands dummy trip to surface casing. Circulate. Pull out of hole to log.

0800 84 01 23 Finish pulling out of hole. Run in hole with #1 log. Bridge at 732 m.
Run in hole and clean out bridge. Run in hole and ream out rathole.

WANT LIST:

WEATHER -32°C

ROAD Good

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)

[illegible]



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 01 23 2400

Year - Month - Day - Time

WELL NAME Forward et al Camp M-61

LOCATION M-61

DAY 21 DEPTH 1145 TD METRES LAST 24 HRS.

ROTATING HRS.

ACTIVITY AT REPORT TIME Circulate to pull out of hole to log

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. 1240 VIS. 72 WL. GELS % SOLIDS PV YP pH

% OIL %SAND CAKE PPMCL PPMCa

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER. NO.	BIT		DEPTH OUT m	m DRLD TODAY	CUM. m DRLD	Rot. hrs. TODAY	CUM. Rot. hrs.	m/HR	DULL COND		
				WT.	RPM							T	B	G
6	215.9	JD-7 HW	58407											

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP				ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER	m ³ /min	DP	DC			
6	11.1	11.1	11.1	197	90	152	.972	28.9	45.5	55.7	34.6	4000

DEVIATION SURVEYS

 ° at ° at
 ° at ° at
 ° at ° at
 ° at ° at

MUD & CHEMICALS ADDED

Staflor 2 sacks

Duraplex 5 sacks

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		195.25
2. TRIPS	5.75	67.25
3. RIG SERVICE	.75	6.25
4. DEVIATION SURVEY		7.75
5. REAM & COND. HOLE	10.25	17.25
6. MIX & COND. MUD		7.00
7. CIRCULATING		20.75
8. RIG REPAIR		
9. RUN CASING & CEMENT		28.00
10. FISHING		
11. LOGGING	7.25	7.25
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		42.50
15. NIPPLE UP & TEST BOP		46.75
16. DRILLING OUT		5.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21.		52.25
TOTALS	24.00	504.00

COSTS

DAILY

CUM.

SUPERVISOR: John Ross

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 01 23 2400

Year - Month - Day - Time

Pull out of hole. Tried to log, bridge off at 732 m. Run in hole and ream. Clean to bottom. Condition mud. Chain out to 730 m. Ream 720 - 760 m. Try to log, bridge 739 m. Run in hole, slip and cut, break circulation at 730 m.

0800 update - Circulate and mix weight material. Ream 1070 - 1090 m, clean 3 m fill to bottom. Mix 160 sacks barite to raise mud density.

WANT LIST: _____

WEATHER -38°C

ROAD Good

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 01 24 2400

Year - Month - Day - Time

WELL NAME Forward et al Camp M-61LOCATION M-61DAY 22 DEPTH 1145 TD

METRES LAST 24 HRS.

ROTATING HRS.

ACTIVITY AT REPORT TIME Stand by to run velocity survey - Waiting on orders

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. _____ VIS _____ WL. _____ GELS _____ % SOLIDS _____ PV _____ YP _____ pH _____

% OIL _____ % SAND _____ CAKE _____ PPMCL _____ PPMCa _____

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER. NO.	BIT		DEPTH OUT m	m DRLD TODAY	CUM. m DRLD	Rot. hrs. TODAY	CUM. Rot. hrs.	m/HR	DULL COND		
				WT.	RPM							T	B	G

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP				ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER	m ³ /min	DP	DC			

DEVIATION SURVEYS

_____ ° at _____ ° at _____
_____ ° at _____ ° at _____
_____ ° at _____ ° at _____
_____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

Barite - 160 sacksStaflor - 2 sacksKelzan - 2 sacks

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

COSTS

DAILY

CUM.

SUPERVISOR: John Ross

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		195.25
2. TRIPS	5.00	72.25
3. RIG SERVICE	.50	6.75
4. DEVIATION SURVEY		7.75
5. REAM & COND. HOLE	7.00	24.25
6. MIX & COND. MUD	4.75	11.75
7. CIRCULATING	3.00	23.75
8. RIG REPAIR		
9. RUN CASING & CEMENT		28.00
10. FISHING		
11. LOGGING	3.25	10.50
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		42.50
15. NIPPLE UP & TEST BOP		46.75
16. DRILLING OUT		5.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. Thaw Kelly	.50	52.75
TOTALS	24.00	528.00

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 01 24 2400

Year - Month - Day - Time

Clean bridge 730 - 780, 1070 - 1090 and 3 m fill on bottom. Mix barite. Log, hit bridge at 788 m. Ran Caliper 788 - 720 m. Run in hole to 641 m, clean to 685 m. Run in hole to 780 m, clean 992 m. Run in hole to circulate.

0800 update: Circulate, pull out of hole, no tight spots. Try to log, hit bridge at 745 m. Rig to run velocity survey and wait on orders.

Lost 7 m³ volume.

WANT LIST: _____

WEATHER -39°C

ROAD Good

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 01 25 0800

Year - Month - Day - Time

WELL NAME Forward et al Camp M-61

LOCATION M-61

DAY 23 DEPTH 1145 METRES LAST 24 HRS.

ROTATING HRS. _____

ACTIVITY AT REPORT TIME Run in hole with 13 singles to total depth open ended to + 910

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. _____ VIS _____ WL. _____ GELS _____ % SOLIDS _____ PV _____ YP _____ pH _____

% OIL _____ % SAND _____ CAKE _____ PPMCL _____ PPMCa _____

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER. NO.	BIT		DEPTH OUT m	m DRLD TODAY	CUM. m DRLD	Rot. hrs. TODAY	CUM. Rot. hrs.	m/HR	DULL COND		
				WT.	RPM							T	B	G

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP				ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER	m ³ /min	DP	DC			

DEVIATION SURVEYS

_____ ° at _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

Gel - 32 sacks _____
Caustic - 5 sacks _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

COSTS

DAILY

CUM.

SUPERVISOR: John Ross

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		195.25
2. TRIPS	12.25	84.50
3. RIG SERVICE	.25	7.00
4. DEVIATION SURVEY		7.75
5. REAM & COND. HOLE	.75	25.00
6. MIX & COND. MUD		11.75
7. CIRCULATING	3.75	27.50
8. RIG REPAIR		
9. RUN CASING & CEMENT		28.00
10. FISHING		
11. LOGGING	5.00	15.50
12. CORING		
13. FORMATION TESTING		
14. WAITING ON orders	2.00	44.50
15. NIPPLE UP & TEST BOP		46.75
16. DRILLING OUT		5.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. _____		52.75
TOTALS	24.00	552.00

OPERATIONS DETAILS: PERIOD ENDING _____

84 01 25 2400

Year - Month - Day - Time

Circulate and condition hole. Pull out of hole to log, bridge at 744 m. Wait on orders. Run in hole and clean out bridges. Clean 10 m fill. Circulate and condition hole. Pull out of hole to log. Bridge off at 745 m.

0800 update: Run in hole open ended to 910 m. Laid down 13 bent singles and picked up good pipe.

WANT LIST: _____

WEATHER -38°C

ROAD Good

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 01 26 2400

Year - Month - Day - Time

WELL NAME Forward et al Camp M-61 LOCATION M-61DAY 24 DEPTH 1145 TD METRES LAST 24 HRS. ROTATING HRS. ACTIVITY AT REPORT TIME Displacing hole from fresh water to mud

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. 1040 VIS 52 WL. 10 GELS 9/13 % SOLIDS PV 11 YP 14 pH 11% OIL % SAND CAKE PPMCL 3500 PPMCa 30

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER. NO.	BIT		DEPTH OUT m	m DRLD TODAY	CUM. m DRLD	Rot. hrs. TODAY	CUM. Rot. hrs.	m/HR	DULL COND		
				WT.	RPM							T	B	G

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP				ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER	m ³ /min	DP	DC			

DEVIATION SURVEYS

_____ ° at _____ ° at _____
_____ ° at _____ ° at _____
_____ ° at _____ ° at _____
_____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

Gel - 114 sacks _____
Caustic - 5 sacks _____
Soda Ash - 2 sacks _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

COSTS

DAILY

CUM.

SUPERVISOR: John Ross/Bill Schaffer

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		195.25
2. TRIPS	10.75	95.25
3. RIG SERVICE	.25	7.25
4. DEVIATION SURVEY		7.75
5. REAM & COND. HOLE		25.00
6. MIX & COND. MUD	11.00	22.75
7. CIRCULATING		27.50
8. RIG REPAIR		
9. RUN CASING & CEMENT		28.00
10. FISHING		
11. LOGGING	2.00	17.50
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		44.50
15. NIPPLE UP & TEST BOP		46.75
16. DRILLING OUT		5.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21.		52.75
TOTALS	24.00	576.00

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 01 26 2400

Year - Month - Day - Time

Displace hole to fresh H₂O. Run in logs, bridge 914 m. Run to bottom, displace hole from 910 - total depth to fresh water, begin mud up. Pull up to casing shoe. Mud in hole would not yield due to salt in formation.

50,000 ppmcl

85,000 salt

WANT LIST: _____

WEATHER -35°C

ROAD Good

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 01 27 2400

Year - Month - Day - Time

WELL NAME Forward et al Camp M-61 LOCATION M-61

DAY 25 DEPTH 1145 TD METRES LAST 24 HRS. ROTATING HRS.

ACTIVITY AT REPORT TIME Run in to condition mud

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. 1055 VIS 45 WL. 16 GELS 4.5/7 % SOLIDS PV 10 YP 8 pH 9.0

% OIL %SAND CAKE PPMCL PPMCa

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER. NO.	BIT		DEPTH OUT m	m DRLD TODAY	CUM. m DRLD	Rot. hrs. TODAY	CUM. Rot. hrs.	m/HR	DULL COND		
				WT.	RPM							T	B	G

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP				ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER	m ³ /min	DP	DC			

DEVIATION SURVEYS

 ° at ° at
 ° at ° at
 ° at ° at
 ° at ° at

MUD & CHEMICALS ADDED

Soda Ash - 3 sx
Kelzan - 7 sx

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		195.25
2. TRIPS	4.25	99.50
3. RIG SERVICE	.25	7.50
4. DEVIATION SURVEY		7.75
5. REAM & COND. HOLE		25.00
6. MIX & COND. MUD		22.75
7. CIRCULATING	7.75	35.25
8. RIG REPAIR		
9. RUN CASING & CEMENT		28.00
10. FISHING		
11. LOGGING	11.75	29.25
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		44.50
15. NIPPLE UP & TEST BOP		46.75
16. DRILLING OUT		5.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. <u> </u>		52.75
TOTALS	24.00	600.00

COSTS

DAILY

CUM.

SUPERVISOR: Bill Schaffer

OPERATIONS DETAILS: PERIOD ENDING _____

84 01 27 2400
Year - Month - Day - Time

Build fresh gel system. Log Dual Laterlog, Density Neutron total depth to surface. Acoustic log run from 720 m to surface.

WANT LIST: _____

WEATHER _____

ROAD _____

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 01 28 2400

Year - Month - Day - Time

WELL NAME Forward et al Camp M-61

LOCATION M-61

DAY 26 DEPTH 1145 TD METRES LAST 24 HRS. _____

ROTATING HRS. _____

ACTIVITY AT REPORT TIME Logging

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. 1100 VIS 45 WL 16.0 GELS 5/9 % SOLIDS _____ PV 11 YP 7 pH 11.0

% OIL _____ %SAND _____ CAKE _____ PPMCL _____ PPMCa _____

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER. NO.	BIT		DEPTH OUT m	m DRLD TODAY	CUM. m DRLD	Rot. hrs. TODAY	CUM. Rot. hrs.	m/HR	DULL COND		
				WT.	RPM							T	B	G

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP				ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER	m ³ /min	DP	DC			

DEVIATION SURVEYS

_____ ° at _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

Caustic - 4 sx

Kelzan - 5 sx

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		195.25
2. TRIPS	5.25	104.75
3. RIG SERVICE	.50	8.00
4. DEVIATION SURVEY		7.75
5. REAM & COND. HOLE		25.00
6. MIX & COND. MUD	4.50	27.25
7. CIRCULATING		35.25
8. RIG REPAIR		
9. RUN CASING & CEMENT		28.00
10. FISHING		
11. LOGGING	13.75	43.00
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		44.50
15. NIPPLE UP & TEST BOP		46.75
16. DRILLING OUT		5.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. _____		52.75
TOTALS	24.00	624.00

COSTS

DAILY _____

CUM. _____

SUPERVISOR: Bill Schaffer

OPERATIONS DETAILS: PERIOD ENDING _____

Year - Month - Day - Time

WANT LIST: _____

WEATHER _____

ROAD _____

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 01 29 2400

Year - Month - Day - Time

WELL NAME Forward et al Camp M-61 LOCATION M-61

DAY 27 DEPTH 1145 TD METRES LAST 24 HRS. 0 TD ROTATING HRS.

ACTIVITY AT REPORT TIME Tear out BOP's

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. VIS WL. GELS % SOLIDS PV YP pH

% OIL %SAND CAKE PPMCL PPMCa

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER. NO.	BIT		DEPTH OUT m	m DRLD TODAY	CUM. m DRLD	Rot. hrs. TODAY	CUM. Rot. hrs.	m/HR	DULL COND		
				WT.	RPM							T	B	G

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP				ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER	m ³ /min	DP	DC			

DEVIATION SURVEYS

 ° at ° at
 ° at ° at
 ° at ° at
 ° at ° at

MUD & CHEMICALS ADDED

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		195.25
2. TRIPS		104.75
3. RIG SERVICE	.25	8.25
4. DEVIATION SURVEY		7.75
5. REAM & COND. HOLE	1.25	26.25
6. MIX & COND. MUD		27.25
7. CIRCULATING		35.25
8. RIG REPAIR		
9. RUN CASING & CEMENT	2.75	30.75
10. FISHING		
11. LOGGING	12.00	55.00
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		44.50
15. NIPPLE UP & TEST BOP		46.75
16. DRILLING OUT		5.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON	7.75	7.75
20. RIG UP - TEAR OUT		
21. <u> </u>		52.75
TOTALS	24.00	648.00

COSTS

DAILY

CUM.

SUPERVISOR: Bill Schaffer

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 01 29 2400

Year - Month - Day - Time

Logged, circulated and conditioned. Rig up cementers and run:

Plug #1 - total depth 900 m, 12 T G neat, 3% CaCl_2

- plug down at 1345 hours 84 01 29

Plug #2 - 610 - 580 m with 2 T G neat + 3% CaCl_2

- plug down at 2000 hours 84 01 29

Plug #3 - 50 m - surface, 2T Permafrost

- plug down at 0230 hours 84 01 30

Ran casing caliper.

WANT LIST: _____

WEATHER _____

ROAD _____

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 01 30 2400

Year - Month - Day - Time

WELL NAME Forward et al Camp M-61 LOCATION M-61

DAY 28 DEPTH _____ METRES LAST 24 HRS. Abandon ROTATING HRS. _____

ACTIVITY AT REPORT TIME Rig Release, prepare to lay down derrick at 0800 hours.

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. _____ VIS _____ WL. _____ GELS _____ % SOLIDS _____ PV _____ YP _____ pH _____

% OIL _____ % SAND _____ CAKE _____ PPMCL _____ PPMCa _____

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER. NO.	BIT		DEPTH OUT m	m DRLD TODAY	CUM. m DRLD	Rot. hrs. TODAY	CUM. Rot. hrs.	m/HR	DULL COND		
				WT.	RPM							T	B	G

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP				ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER	m ³ /min	DP	DC			

DEVIATION SURVEYS

_____ ° at _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		195.25
2. TRIPS		104.75
3. RIG SERVICE		8.25
4. DEVIATION SURVEY		7.75
5. REAM & COND. HOLE		26.25
6. MIX & COND. MUD		27.25
7. CIRCULATING		35.25
8. RIG REPAIR		
9. RUN CASING & CEMENT		30.75
10. FISHING		
11. LOGGING		55.00
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		44.50
15. NIPPLE UP & TEST BOP		46.75
16. DRILLING OUT		5.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON	3.00	10.75
20. RIG UP - TEAR OUT	21.00	21.00
21. _____		52.75
TOTALS	24.00	672.00

COSTS

DAILY
CUM.

SUPERVISOR Bill Schaffer

OPERATIONS DETAILS: PERIOD ENDING _____

84 01 30 2400

Year - Month - Day - Time

Tear out BOP's and rig. Rig release at 0800 hours 84 01 30.

WANT LIST: _____

WEATHER -30°C Light wind

ROAD Good

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)

SECTION VII

LOGS

DAWSON - LONG & ASSOCIATES LTD.

LEGEND

SHOWS:

- POOR, SLIGHT, TRACE
- ◐ FAIR, MEDIUM
- ◑ GOOD, STRONG, HEAVY
- SATURATED, EXCELLENT
- Q QUESTIONABLE
- F FLUORESCENCE

POROSITY TYPES:

- | | | | |
|----|------------------|----|---------------|
| AM | ALGAL MAT | IG | INTERGRANULAR |
| CK | CHALKY | PP | PINPOINT |
| FR | FRACTURE | SU | SUCROSIC |
| IC | INTERCRYSTALLINE | VU | VUGGY |

COLOURED STRIP LOG:

LITHOLOGY

	SHALE
	CLAYSTONE
	COAL
	CHERT (BEDDED)
	GLACIAL TILL
	CONGLOMERATE
	SILTSTONE
	SANDSTONE
	MARLSTONE
	LIMESTONE
	DOLOMITE
	ANHYDRITE
	GYP SUM
	SALT
	IGNEOUS
	METAMORPHIC

ACCESSORIES

	SILTY
	SANDY
	PEBBLES
	LT. CHERT / DK. CHERT
	ARGILLACEOUS / SHALEY
	MINOR COAL
	CALCAREOUS
	DOLOMITIC
	ANHYDRITIC
	GLAUCONITE
	PLANT FRAGMENTS
	FISH FRAGMENTS
	FISH SCALES

ORGANICS

	CRINOID
	BIOCLASTIC
	AMPHIPORA
	STROMS
	BRACHIOPOD
	PELECYPOD
	OOLITES
	PELLETS

COLOURS:

- | | | | | | |
|----|-------|----|--------|----|---------------|
| BF | BUFF | GN | GREEN | SP | SALT & PEPPER |
| BK | BLACK | GY | GREY | TN | TAN |
| BL | BLUE | OR | ORANGE | VC | VARICOLOURED |
| BR | BROWN | PK | PINK | WH | WHITE |
| CL | CLEAR | PU | PURPLE | YL | YELLOW |
| CR | CREAM | RD | RED | | |

DESCRIPTION OF LITHOLOGY:

STANDARD ABBREVIATIONS USED