FORWARD ET AL ANDERSON

C-51

FINAL DRILLING SUMMARY

PREPARED FOR:

FORWARD RESOURCES LTD.

MAY 1983

PREPARED BY:

Winterhawk Petroleum Consulting Services Ltd.
102, 1040 7th Avenue S.W., Calgary, Alberta T2P 3G9 Telephone: 237-8370

INTRODUCTION

Winterhawk Petroleum Consultants Ltd., acting as agents for Forward Resources Ltd., co-ordinated the logistics and drilling program during the winter season of 1982-83 for the drilling of two (2) wells, hereafter referred to as

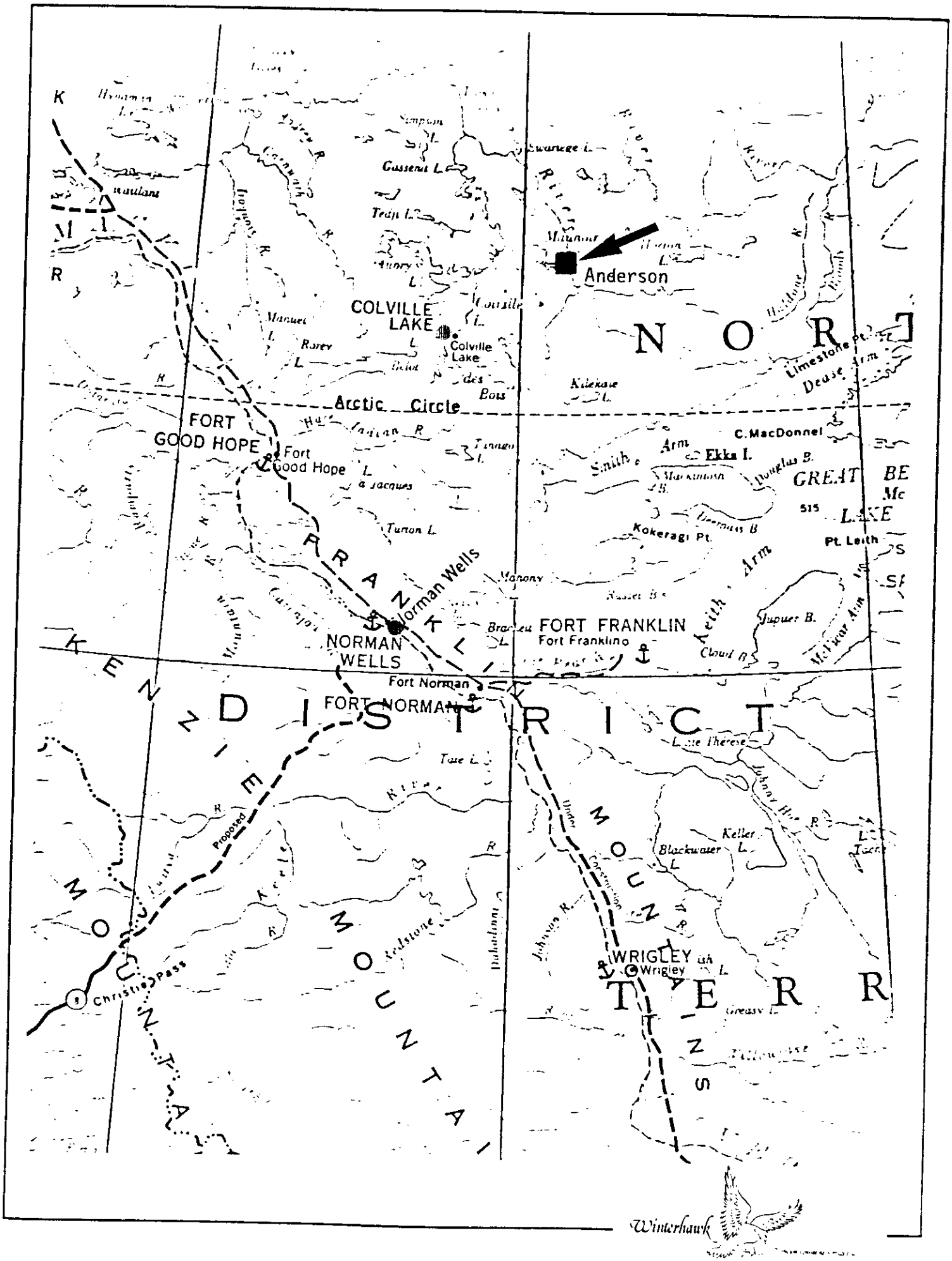
Forward et al Izok M-20

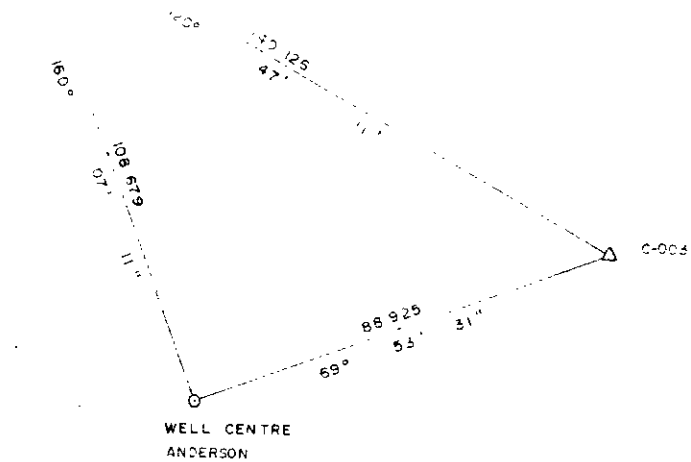
Forward et al Anderson C-51

The 1982-83 project represented a continuance of the exploration activity which began in 1981-82, pursuant to a farmout agreement between Imperial Oil 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.

Supplies and support services for this project were transported by barge to Norman Wells, N.W.T. in anticipation of a project start-up in early December 1982. Transportation of the rig and related equipment from Norman Wells began in the month of January and continued into February of 1983. Drilling commenced on the Izok M-20 well location in mid February, while the Anderson C-51 well was spudded in early April of 1983. The drilling program was completed by late April, at which time all equipment was transported to a pre-determined storage site.

Forward Resources hereby gives notice that the enclosed report is to be considered as the **final well summary** for the Izok M-20 well location.


Anderson
COLVILLE LAKE
Colville Lake
Arctic Circle
FORT GOOD HOPE
Fort Good Hope
Norman Wells
NORMAN WELLS
FORT FRANKLIN
Fort Franklin
Fort Norman
FORT NORMAN
WRIGLEY
Wrigley
Proposed
Christie Pass
C.MacDonnel
Ekka I.
Kokeragi Pt.
Pt. Leith
Limestone Pt.
Dease Arm
Smith Arm
Keith Arm
Winterhawk



WELL SITE
FORWARD I.O.E. ANDERSON C-51

IN UNIT C , SECTION 51
GRID AREA 67° 40' , 124° 00'

NORTHWEST TERRITORIES
CANADA OIL AND GAS LAND REGULATIONS
SCALE 1:1000

SURVEYED BY NORTECH SURVEYS (CANADA) INC.
SURVEYED FOR RAYMAC SURVEYS LTD

LEGEND

U.T.M. CO-ORDINATES ARE COMPUTED FOR ZONE 10 , CENTRAL MERIDIAN - 123°
BEARINGS WERE DERIVED FROM A SUN OBSERVATION AT STATION
DISTANCES ARE IN METRES AND DECIMALS THEREOF
THE CENTRAL MERIDIAN IS GIVEN A FALSE EASTING OF 500 000
0.013 m sq. by 0.457 IRON BAR WITH ALUMINIUM CAP MARKED
"NORTECH SURVEYS" AND STATION No. PLANTED SHOWN THUS ---- Δ

I, J. HAGGLUND, OF THE CITY OF CALGARY, ALBERTA, CANADA LAND SURVEYOR, MAKE OATH AND SAY THAT I HAVE IN MY OWN PROPER PERSON, ACCORDING TO THE LAW AND THE INSTRUCTIONS OF THE SURVEYOR GENERAL OF CANADA LANDS, FAITHFULLY AND CORRECTLY EXECUTED THE SURVEY SHOWN BY THIS PLAN AND FIELD NOTES, AND THAT THE SAID PLAN AND FIELD NOTES ARE CORRECT AND TRUE TO THE BEST OF MY KNOWLEDGE AND BELIEF
SO HELP ME GOD

SWORN BEFORE ME AT CALGARY ALBERTA
ON THIS 1st DAY OF JUNE 1983

J. E. Hagglund
CANADA LAND SURVEYOR

M. Schacht
A COMMISSIONER FOR OATHS IN AND FOR
THE PROVINCE OF ALBERTA
MANFRED SCHACHT (Exp JULY 24 /84)

THE SURVEY WAS EXECUTED DURING THE PERIOD OF
APRIL 24 and APRIL 25 , 1983

GEOGRAPHIC AND U.T.M. CO-ORDINATES, (1927 NAD)				
STATION	LATITUDE	LONGITUDE	NORTHINGS	EASTINGS
GRID AREA				
N.E.	67° 40'	-124° 00'	7 505 659.52	457 594.24
N.W.	67° 40'	-124° .5'	7 506 052.07	446 993.87
S.E.	67° 30'	-124° 00'	7 487 280.04	457 294.44
S.W.	67° 30'	-124° .5'	7 487 473.72	446 619.13
C-51, N.E.			7 487 877.66	449 963.95
C-51, N.W.			7 487 883.71	449 630.40
C-51, S.E.			7 487 413.19	449 955.16
C-51, S.W.			7 487 419.24	449 621.56
CONTROL MONUMENTS				
C-003	67° 30' 10.08"	-124° 10' 29.37"	7 487 723.07	449 835.04
C-004	67° 30' 12.61"	-124° 10' 39.65"	7 487 803.70	449 714.58
WELL				
ANDERSON	67° 30' 09.35"	-124° 10' 36.37"	7 487 701.50	449 751.54

TABLE OF CONTENTS

SECTION I

SUMMARY OF WELL DATA

Addendum To Well Summary

Please be advised that the reported well co-ordinates, together with the kelly bushing and ground level elevations as used herein, are based on surveys taken from area topographical maps. At the time this report summary was prepared final survey data was not available.

For this reason, Winterhawk hereby gives notice that calculations contained herein do not reflect the corrected reference data, and should therefore be ammended accordingly.

Based on information that has recently come to our attention, well co-ordinates have been confirmed at

Latitude **67°-30'-09.33"**

Longitude **124°-10'-36.37"**

while ground level and kelly bushing elevations are established at

Ground Level (G.L.) **298.6 m**

Kelly Bushing (K.B.) **302.95 m**

FINAL WELL REPORT ANDERSON C-51

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 Anderson C-51
LESSEE	Esso Canada Resources Ltd., farm out to Forward Resources Ltd.
OPERATOR	Forward Resources Ltd. #1220, 840 7th Ave. S.W. Calgary, Alberta T2P 3G2
LOCATION	C-51 67-40-124-00
CO-ORDINATES	67° - 30' - 06" N Latitude 124° - 10' - 29" W Longitude
LEASE NO.	3903
DRILLING CONTRACTOR	Three Hundred Drilling Ltd. "Mr. Ben" National 370 drawworks
DRILLING AUTHORITY	No. 1072, issued 83-04-06
CLASSIFICATION	New Field Exploratory (Northern)
ELEVATIONS	Ground 298.0 m K.B. 302.56 m
SPUD DATE	83-04-06
COMPLETED DRILLING DATE	83-04-20
TOTAL DEPTH, PLUG BACK	1010 m T.D., 0 m P.B.T.D.
WELL STATUS	Dry and Abandoned
RIG RELEASED	83-04-23
HOLE SIZES	444 mm to 27.5 m 311 mm to 685.0 m 215 mm to 1010 m
CASING SIZES	339 mm to 27 m 244 mm to 682.93 m

Winterhawk

WELL SUMMARY

DATE 83 04 23

Well Forward et al Anderson Location C-51

Elevations: KB 302.56 m GL 298.00 m CF 298.50 m

History: Spud Date 83 04 06 0530 hrs R.R. Date 1200 hrs 83 04 23 TD 1010 m

Status Plugged & abondoned Producing Zone(s)

A. DRILLING DETAILS

Hole Size 444.5 mm Depth 27.5 m Logs NONE

Hole Size 311.2 mm Depth 685 m Logs NONE

Hole Size 215.9 mm Depth 1010 m Logs GR/CNL-FDC/DIL/SONIC & CALIPER

Hole Size Depth Logs

Casing Size 339.4 mm Grade H-40 Depth 27 m Cement Vol. 7.2 Tonnes

Casing Size 244 mm Grade H-40 Depth 682.93 m Cement Vol. 39.58 Tonnes

Casing Size Grade Depth Cement Vol.

Casing Size Grade Depth Cement Vol.

DST No. Int Zone

DST No. Int Zone

DST No. Int Zone

DST No. Int Zone

DST No. Int Zone

SIDEWALL Core No. 1 Int 1004.0 - 921.5 Zone Fired 25 Rec. 18

SIDEWALL Core No. 2 Int 944.25 - 858.0 Zone Fired 25 Rec. 19

Core No. Int Zone Rec.

Plug No. 1 Int 1010 - 910 Cement Vol. 6.56 Tonnes Felt NO

wireline set Plug No. Int 650 Cement Vol. Bridge Plug Felt YES

Plug No. 2 Int 650 - 620 Cement Vol. 1.64 Tonnes Felt NO

Plug No. 3 Int 50 - 0 Cement Vol. 2.81 Tonnes 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 Udo Schukowski

SECTION II

GEOLOGICAL SUMMARY

FORWARD ET AL ANDERSON C-51

Lat. 67°30'06"N; Long. 124°10'29"W

GEOLOGICAL REPORT

Alan J. Williams
Dawson-Long & Associates Ltd.

FORMATION TOPS

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GEOLOGICAL MARKERS

Ground: 298.6 m K.B.: 302.95 m

Formation	Sample Top	Subsea (Sample)	Log Top	Subsea (Log)
Mt. Kindle Formation	24	+278.95	-	
Franklin Mountain				
Cherty	59	+243.95	60	+242.95
Cyclic	581	-278.05	580	-277.05
Saline River Shale	630	-327.05	630	-327.05
Saline River Salt	726	-423.05	718	-415.05
Mount Cap Upper	796	-493.05	795	-492.05
Mount Cap Lower	848	-545.05	849	-546.05
Old Fort Island	924	-621.05	924	-621.05
PreCambrian Shaler	938	-635.05	939	-636.05

CORED INTERVALS

CORE DESCRIPTIONS

SAMPLE DESCRIPTIONS

SIDEWALL CORES - CORE RUN #1

CORE NO.	DEPTH	TARGET	DESCRIPTION
1	1004	Shaler Silty Dolomite	Dolomite: green-grey, micro-crystalline, argillaceous, silty, tight, no cut, fluorescence.
3	974	Shaler Silty Dolomite	Dolomite: grey-green, micro-crystalline, very argillaceous, silty, tight, no cut, fluorescence.
5	952	Shaler Dolomite	Dolomite: red, microcrystalline, argillaceous, cherty, dolomitic, tight, no cut.
6	945	Shaler Dolomite-Oil Siltstone?	Dolomite: red, in part tan, micro-crystalline to cryptocrystalline, argillaceous, cherty, tight, no cut, fluorescence
7	944.5	Shaler Dolomite-Oil Siltstone	Dolomite: pink, in part white, microcrystalline, argillaceous, in part cherty, in part dark brown oil stain, slight intercrystalline porosity to tight, no fluorescence, light yellow slow cut.
8	944	Shaler Dolomite-Oil Siltstone	Dolomite: pink, in part white, microcrystalline, argillaceous, in part cherty, in part dark brown oil stain, minor intercrystalline porosity, no fluorescence, light yellow fluorescent slow cut, trace green shale.
9	943.5	Shaler Dolomite-Oil Siltstone	Dolomite: pink, mostly tan chert, white chert, in part brown oil stain, no fluorescence, light yellow fluorescent, slow cut. intercrystalline porosity.
10	943	Shaler Dolomite-Oil Siltstone	Shale: dark grey-green, dolomitic, fissile.
12	935	Old Fort Shale	Shale: dark grey, fissile, dolomitic, micromicaceous.

CORE NO.	DEPTH	TARGET	DESCRIPTION
13	930	Old Fort Shale	Sandstone: light grey, very fine grained, subangular, well sorted, well indurated, trace glauconitic, quartz, tight, no cut, fluorescence.
14	927.5	Old Fort Island Sandstone	Sandstone: light to medium grey, very fine grained, subangular, well sorted, well indurated, glauconitic slightly argillaceous, quartz, tight, no cut, fluorescence.
15	927	Old Fort Island Sandstone	In part Shale, dark grey, fissile, very soft, dolomitic; in part Sandstone, light grey, very fine grained, subangular, well sorted, trace argillaceous, intergranular porosity 5%, well cut, fluorescence
16	926.75	Old Fort Island Sandstone	Sandstone: light grey, in part pyritic, very fine grained, in part argillaceous, subangular, well sorted, well indurated, quartz, pyrite, tight, no cut, fluorescence.
17	926.5	Old Fort Island Sandstone	Interbedded thin Shale laminae and Sandstone, very fine grained, light grey, in part Glauconitic, pyritic, subangular, well sorted, in part argillaceous, tight.
18	926	Old Fort Island Sandstone	Sandstone: light grey, in part argillaceous bands, very fine grained, argillaceous, subangular, well indurated, well sorted, quartz, trace glauconitic, pyritic, tight, no cut, fluorescence.
20	924	Old Fort Island Sandstone	Sandstone: light to medium grey, very fine grained, in part argillaceous, pyritic to very pyritic, subangular, well sorted, well indurated, tight, quartz, argillaceous bands, no cut, fluorescence.
21	923.5	Basal Mount Cap Sandstone	Sandstone: white to light brown, very fine crystalline, subrounded, well sorted, trace glauconitic quartz, minor intergranular, porosity, no cut, fluorescence.

CORE NO.	DEPTH	TARGET	DESCRIPTION
22	923	Basal Mount Cap Sandstone	Interbedded Shale and Sandstone: in part very fine grained, subangular, well sorted, well indurated, quartz, glauconitic, tight to well cut, fluorescence, shale, dark grey, dolomitic, fissile, in part micromicaceous.

SIDEWALL CORES - CORE RUN #2

CORE NO.	DEPTH	TARGET	DESCRIPTION
1	944.25	Shaler Dolomite-Oil Siltstone	Dolomite: red, in part white, cryptocrystalline to microcrystalline, in part cherty, argillaceous, tight, no cut, fluorescence.
2	943.75	Shaler Dolomite-Oil Siltstone	White Chert: brown stain, dolomitic Sandstone??--Silty Dolomite?. Oil stained intergranular to inter-crystalline porosity, no fluorescence, faint yellow slow cut.
3	943.25	Shaler Dolomite-Oil Siltstone	Chert: white, brown, brown oil stained, dolomitic to silty, no fluorescence, slow faint yellow fluorescence cut.
4	942.75	Shaler Dolomite-Oil Siltstone	Dolomite: pink, microcrystalline, in part cherty, tight, no cut, fluorescence.
6	925.5	Old Fort Island Sandstone	Sandstone: light grey, in part medium grey, very fine grained, in part argillaceous, subangular, well sorted, in part argillaceous bands, quartz, trace glauconitic, 5% inter-granular porosity, no cut, fluorescence.
9	922.5	Basal Mount Cap Sandstone	In part dark grey, fissile dolomitic Shale, Sandstone: light grey, fine grained, in part medium to coarse grained, medium indurated, sub-angular, poorly sorted, quartz, trace glauconitic, in part inter-granular porosity, no cut, fluorescence.
11	921.5	Basal Mount Cap Sandstone	Sandstone: medium brown, medium grey, very fine grained, subangular, poorly sorted, very argillaceous, quartz, trace glauconitic, tight, no cut, fluorescence
12	915	Mount Cap Shale	Shale: dark grey to brown, fissile, micaceous, dolomitic.
13	899.5	Mount Cap Dolomite	In part Shale: dark grey, fissile dolomitic. In part Siltstone: light grey, dolomitic, argillaceous.

CORE NO.	DEPTH	TARGET	DESCRIPTION
14	896	Mount Cap Siltstone-Oil Stained	Shale: medium grey, fissile, dolomitic, micromicaceous.
15 micaceous	895.5	Mount Cap Siltstone-Oil Stained	Shale: dark grey, fissile, micro-micaceous, dolomitic.
16	895	Mount Cap Siltstone-Oil Stained	Shale: dark grey, fissile, in part pyritic.
17	889.5	Mount Cap Dolomite	Dolomite: medium grey, micro-crystalline, silty, slightly argillaceous, tight, no shows.
18	888.5	Mount Cap Dolomite	Dolomite: medium brown, white, in part brown oil stain, medium to coarse crystalline, poor sample, porosity?, no fluorescence, cut.
19	887.5	Mount Cap Siltstone-Oil Stained	Shale: grey-green, micromicaceous, fissile, dolomitic.
21	867	Mount Cap Shale	Shale: dark green, in part mottled red, fissile, dolomitic.
22	865	Mount Cap Dolomite-Oil Stained	Dolomite: in part white, brown, microcrystalline to finely crystalline, in part argillaceous, faint yellow fluorescence, bright yellow cut, shattered sample, porosity?.
24	863	Mount Cap Dolomite-Oil Stained	Shale: dark grey-brown, bituminous, fissile.
25	858	Mount Cap Shale	Shale: green, fissile, dolomitic, slightly micromicaceous.

PALEONTOLOGICAL DETERMINATIONS

GEOLOGICAL SUMMARY

The well was spudded in a pleistocene glacial till consisting of impervious blue clay and rounded pebbles, cobbles and boulders of igneous, metamorphic and sedimentary origin. The majority of the pebbles originate in the nearby Canadian Shield. The till at this location is 20 meters thick and the bottom is marked by a coarse, unconsolidated, rounded sand and angular chert zone. The entire unit is permafrosted.

Mount Kindal Formation @ 24 m

The Mount Kindal formation is marked by a marked decrease in penetration rate and a white to light grey, very fine crystalline, slightly argillaceous, slightly cherty, pyritic dolomite. There are minor medium crystalline areas of vuggy and intercrystalline porosity and minor black, tarry oil staining showing a very slow cut and pale yellow fluorescence.

Franklin Mountain Formation @ 59 m

The Franklin Mountain formation is divided into three units. The top one, the "Cherty Unit" is marked by a light to medium grey, cherty dolomite with very cherty to in part oolitic zones showing dead oil staining and minor vuggy porosity interbedded with fairly clean, very fine crystalline dolomite showing some intercrystalline calcite and porosity and minor vuggy porosity indicated by euhedral pyrite, quartz and calcite crystals. The "Cherty Unit" has only minor dead oil stain, no other shows.

The middle unit, the "Rythmic Unit" begins at about 171 meters and consists of cryptocrystalline to coarsely crystalline, occasionally very argillaceous dolomite. From 171 to 270 meters, it is partially karsted showing a vuggy porosity by the presence of euhedral quartz, dolomite, calcite and pyrite crystals, and by weathered dolomite and a trace of unconsolidated, fine to coarse grained sand indicating underground streams. From 270 meters to 498 meters, it is fairly tight with minor vuggy and intercrystalline porosity and minor dolomitic shales. From 498 to 581 meters, it has more vuggy porosity. There was brown oil stain in intercrystalline, and vuggy calcareous porosity at 509 to 511 meters but while it fluoresced, there was no oil cut with chlorothene. There was a great deal of dead oil staining throughout this unit.

The third "Cyclic Unit", came in at 581 meters and consists of a tight, argillaceous, cryptocrystalline to microcrystalline dolomite with frequent dolomitic shale interbeds. There were no shows and only minor intercrystalline porosity in this unit.

Saline River Upper Unit @ 630 m

The Saline River top is marked by a drilling break and the dramatic appearance of red, green, purple and red-brown, dolomitic shales. The upper unit consists of interbedded, varicolored shales and silts, all dolomitic, minor anhydrite and gypsum beds and some silty gypsiferous dolomite. The unit is very gypsiferous at the base. It resembles a paleo-sabka. There are no shows throughout the Saline River formation.

Saline River Salt Unit @ 726 m

The Saline River salt top is marked by a drilling break and orange and clear salt in the samples. The samples throughout this section are well rounded, indicative of cavings, and are dusted with powdery dolomite, indicative of fine dolomitic laminations in bedded salt. There are minor gypsum, dolomite and shale beds throughout the unit and these all show salt cats with traces of undissolved clear and orange salt crystals in the holes. There are no shows in this unit.

Mount Cap Upper @ 796 m

The top is marked by a slowdown in the penetration rate and by the presence of fresh chips of interbedded, light and dark cryptocrystalline dolomite. It consists of interbedded grey to green, dolomitic shales and argillaceous, silty gypsiferous dolomite with minor anhydrite stringers. There are only minor traces of porosity and no shows in this unit.

Mount Cap Lower @ 848 m

The top is marked by a drilling break and by dark grey-green, dolomitic shales. The unit is mostly these green shales with minor dark brown-black, bituminous shales and silty dolomite with a trace of vuggy porosity and dark brown oil stain showing a very slow cut and pale yellow fluorescence. The unit becomes silty and sandy at the base with a coarse sand just above the next unit. There is some minor intergranular porosity but no shows in the sand. This sand is light pink, very fine grained, with included rounded, medium to coarse grains, and a trace of glauconite. Porosity was 5%.

Old Fort Island @ 924 m

The top is marked by a thin fissile, dark brown shale and by the presence of white to pink, very fine to fine grained, partially dolomitic sandstone. The sand is siliceous in part and medium to coarse grained in part but shows evidence of low (5 to 8%) porosity. There are no shows in this unit. The bottom two thirds of this unit is mostly dark grey, fissile, dolomitic shale.

PreCambrian - Proterozoic Shaler Group @ 938 m

The top is marked by a cherty unit showing a decrease in penetration rate. It consists of pink, red, orange, light brown, microcrystalline to cryptocrystalline, tight dolomite with green, argillaceous zones grading into green, fissile, dolomitic shales. There is some brown oil staining in a very cherty zone from 940 to 943 meters, which shows a slow yellow fluorescence cut, but no fluorescence in the sample. The bottom half of the drilled portion of this unit is medium grey-green, silty, and very argillaceous, in part very cherty.

SECTION III

ENGINEERING SUMMARY

DRILL STEM TESTS

Drill Stem Tests Were Not Run On Anderson C-51

CASING SUMMARY

Winterhawk

Winterhawk Petroleum Consulting Services Ltd.

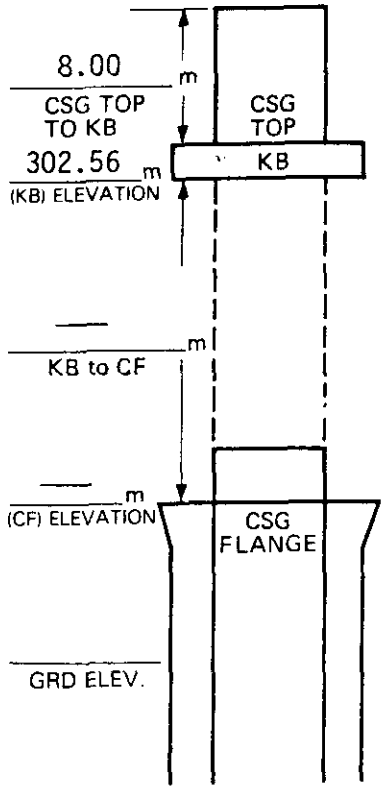
PAGE _____

CASING SUMMARY

WELL Forward et al Anderson LOCATION C-51 DATE 83 04 07

CONDUCTOR SIZE 339.7 mm KB 302.56 m KB to CF N/A

(New) Used Inspected By: Visually Drifted To: _____ API diam.



NO.	DESCRIPTION	MEASURED LENGTH	KB DEPTH
3	339.7 mm 71.1 kg/m		
	H-40 Conductor	35.19	
	Scratchers		
	Centralizers		

	Total String	35.19	
minus	KB to Csg Top (STICK UP)	8.00	Cut-off Jt. Length
	Landed Depth KB	27.19	
	Hole Depth KB		8.00
	Distance Csg Landed Off Bottom	on bottom	

Cementing Company Halliburton

Wash - Type: Scavenger slurry Volume .8 m^3

Cement Type - Lead Slurry 5.4 Tonnes permafrost Volume: 4 m^3

Additives _____ Volume: _____

Cement Type - Tail Slurry _____ Volume: _____

Additives _____ Volume: _____

Cement Type - Above Stage Collar _____ Volume: _____

Additives _____ Volume: _____

Displacement Rate: Max. .3 m Avg. .3 (m3/min)

Calculated Cement Top(s) surface KB _____ KB

Returns: Mud 3.2 m3 Cement .8 m3

String Wt. in a mud wt. of: 1030 kg/m3 = 2000 daN

Wt. set on Slips: N/A daN

Remarks: Had good returns throughout, had to do top job of 1.8 Tonne as cement fell - 6.1 m

Engineer: Udo Schukowski

Winterhawk Petroleum Consulting Services Ltd

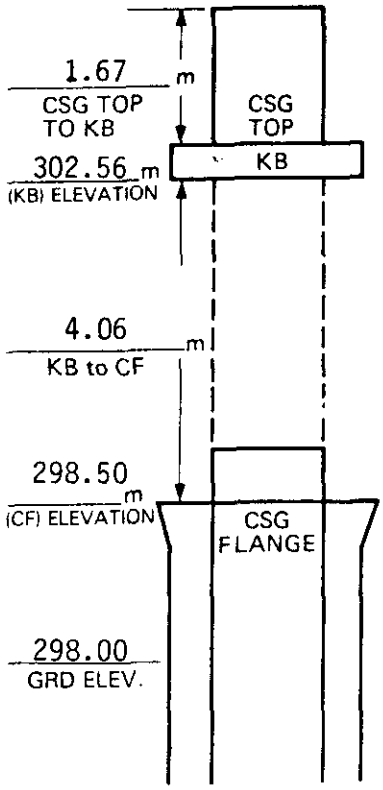
PAGE _____

CASING SUMMARY

WELL Forward et al Anderson LOCATION C-51 DATE 83 04 18

SURF/INT/PROD/LINER SIZE 244.4 mm KB 302.56 m KB to CF 4.06 m

New/Used Inspected By: _____ Drifted To: _____ API diam.



NO.	DESCRIPTION	MEASURED LENGTH	KB DEPTH
1	Baker float shoe	.53	682.40
1	48.11 - H-276 S T & C 8rd	9.85	672.55
1	Baker float collar	.51	672.04
59	48.11 H-276 S T & C 8rd	673.71	
	~~57 + 58~~		
2	Halliburton cement baskets		
	Scratchers ~~1 - 5- 60~~		
3	Centralizers Baker Bow string		

	Total String	684.60	
minus	KB to Csg Top (STICK UP)	1.67	Cut-off Jt. Length
	Landed Depth KB	682.93	
	Hole Depth KB	683.65	5.60
	Distance Csg Landed Off Bottom	.72	

Cementing Company Halliburton

Wash - Type: N/A Volume _____

Cement Type - Lead Slurry Permafrost 14.5 Tonnes Volume: 10.33 m^3

Additives _____ Volume: _____

Cement Type - Tail Slurry Class "G" 24 Tonnes Volume: 23.38 m^3

Additives SALT (10% by weight of cement) Volume: 2400 kg

Cement Type - Above Stage Collar Top job 1.08 Tonne Volume: 1.46 m^3

Additives Permafrost Volume: _____

Displacement Rate: Max. .499 m^3/m Avg. .499 (m3/min)

Calculated Cement Top(s) 361 m KB Surface KB

Returns: Mud N/A m3 Cement none m3

String Wt. in a mud wt. of: Foam kg/m3 = 32,880 daN

Wt. set on Slips: N/A daN

Remarks: Gained pressure on last 13.28 m^3 displacement. Ran 50% excess on calculated hole volume. Plug down at 1230 hours 83 04 18.

Engineer: Udo Schukowski

Winterhawk

Petroleum Consulting Services Ltd

PIPE TALLY SHEET

PAGE _____ OF _____

WELL Forward et al Anderson LOCATION C-51

SIZE 244 mm WT. 48.11 kg/m GRADE H-40 COUPLING S T & C THRD 8rd

DATE 83 04 18

JOINT	LENGTH		JOINT	LENGTH		JOINT	LENGTH		JOINT	LENGTH		JOINT	LENGTH	
1	9	85	11	11	98	21	12	01	31	11	58	41	11	98
2	12	04	12	12	01	22	9	91	32	11	97	42	11	30
3	11	98	13	12	01	23	9	46	33	11	96	43	12	00
4	11	61	14	11	50	24	10	07	34	12	01	44	12	01
5	10	23	15	9	56	25	12	01	35	11	99	45	12	03
6	12	01	16	11	98	26	12	01	36	11	95	46	11	62
7	12	01	17	12	02	27	11	73	37	12	00	47	12	00
8	11	99	18	8	34	28	11	96	38	12	00	48	12	00
9	11	99	19	10	19	29	12	00	39	11	55	49	11	48
10	12	02	20	12	03	30	11	98	40	9	92	50	10	21
A	115	73	B	111	62	C	113	14	D	116	93	E	116	63
51	12	06	61			71			81			91		
52	10	10	62			72			82			92		
53	11	79	63			73			83			93		
54	11	49	64			74			84			94		
55	12	09	65			75			85			95		
56	10	25	66			76			86			96		
57	12	12	67			77			87			97		
58	9	80	68			78			88			98		
59	9	81	69			79			89			99		
60	10	00	70			80			90			100		
F	109	51	G			H			I			J		

			SUB TOTAL	
A	115	73		
B	111	62	227	35
C	113	14	340	49
D	116	93	457	42
E	116	63	574	05
F	109	51	683	56
G				
H				
I				
J				
TOTAL	683	56		

Shoe .53

Float Collar .51

Other 1.04

	JOINTS	LENGTH
PAGE TOTAL	60	683.56
BROUGHT FWD		
GRAND TOTAL	60	683.56

JOINTS ON LOCATION _____

Remarks: _____

ENGINEER Udo Shukowski

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. 35 544

HALLIBURTON DISTRICT: Frontier

JOB DATE: 1983 (YEAR) 04 (MONTH) 18 (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	FIELD OR AREA	WELL No. AND LEASE
Forward Resources Ltd.	Lac Maunoir	Forward et al Anderson C-51

CALLED OUT (DATE / TIME)	ON LOCATION (DATE / TIME)	JOB STARTED (DATE / TIME)	JOB COMPLETED (DATE / TIME)	PROVINCE	LSD	SEC	TWP	RANGE	MERIDIAN
				N.W.T.					W

TYPE OF JOB ✓: SURFACE ✓; INTERMEDIATE; PRODUCTION; LINER; SQUEEZE; PLUG; PUMP; PRESSURE TEST; OTHER

WELL OR HOLE DATA

HOLE DATA: HOLE SIZE 311 mm; TOTAL DEPTH 685 m; TYPE MUD; VISC.; DENSITY

CASING, TUBING OR LINER DATA: NEW ☒ USED ☐ — SIZE 244.48 mm; kg/m 48.1; GRADE; DEPTH 683.1 m; SIZE mm; kg/m; GRADE; DEPTH m

PERFORATIONS: FROM m TO m; FROM m TO m; FROM m TO m; FROM m TO m

WASH FLUID TYPE: H_2O VOL. 1.0 m³; DISPLACING FLUID TYPE: H_2O VOL. 27.5 m³

TEMP DATA: MIXING WATER °C; SLURRY °C; DISPLACING FLUID °C; RETURNS °C

PRODUCTS

EQUIPMENT	QUAN
BASKETS	2
CENTRALIZERS	3
CLAMPS	
FLOAT COLLAR	1
FLOAT SHOE	1
GUIDE SHOE	
INSERT FLOAT	
SCRATCHERS	
OTHER	

EQUIPMENT

PACKER: TYPE; SIZE mm; DEPTH SET m; TAIL PIPE m

TOP PLUG TYPE: 5W; 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/m³	m³/tonne
14.5	G	Halliburton	Sacks	Permafrost		1880	0.[illegible]
24	G	Inland	Sacks	Neat	10% Salt (2400 kg)	1920	0.[illegible]3

HALLIBURTON OPERATOR: R. Cleary CUSTOMER REP.:

TREATING LOG

CHART POSITION	TIME	RATE m³/min	VOLUME m³ PUMPED	VOLUME m³ IN FORMATION	PRESSURE MPa TUBING	PRESSURE MPa CASING	REMARKS
1							Rig in.
2	10:08 10:16					2.2	Pump H_2O wash.
3							Pressure test Howco lines to 20 MPa.
4	10:16 11:32	0.404				6.1	Mix cement with 16.1 m³ H_2O.
5	11:32 11:35						Drop plug.
6	11:35 12:30	0.499				7.5	Displace plug and bump up to 3500 Kpa
							over pump pressure to 7.5 MPa. Bled
							back, floats holding.
7							Wash up.

FORM 167A

DATE
TICKET NO
COMPANY
OPERATOR
TRUCK NO.
LEASE
WELL NO
KIND OF JOB
FIELD
1 HR.
9 HR.
MARTIN-DECKER CO.
SANTA ANA CA. U.S.A.
Y255
SUBDIVISIONS
EMPS
DATE
CO.
WELL #
FIELD
TYPE JOB
MONICO OP.
FORM 641
LSD
SEC
TWP
PROV
RGE
TICKET
CHART #
DEPTH

PRESSURE TEST

HALLIBURTON

CEMENTING AND/OR SPECIAL TOOLS SERVICE REPORT

ATTACH TO INVOICE No. 35 545

HALLIBURTON DISTRICT: Frontier

JOB DATE: 1983 (YEAR) 04 (MONTH) 19 (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	FIELD OR AREA	WELL No. AND LEASE
Forward Resources Ltd.	Lac Maunoir	Forward et al Anderson C-51

CALLED OUT (DATE / TIME)	ON LOCATION (DATE / TIME)	JOB STARTED (DATE / TIME)	JOB COMPLETED (DATE / TIME)	PROVINCE	LSD	SEC	TWP	RANGE	MERIDIAN
				N.W.T.					W

TYPE OF JOB	✓
SURFACE	
INTERMEDIATE	
PRODUCTION	
LINER	
SQUEEZE	
PLUG	
PUMP	
PRESSURE TEST	✓
OTHER	

WELL OR HOLE DATA

HOLE DATA: HOLE SIZE ____ mm; TOTAL DEPTH ____ m; TYPE MUD ____; VISC. ____; DENSITY ____

CASING, TUBING OR LINER DATA NEW ☐ USED ☐: SIZE ____ mm; kg/m ____; GRADE ____; DEPTH ____ m

SIZE ____ mm; kg/m ____; GRADE ____; DEPTH ____ m

PERFORATIONS: FROM ____ m TO ____ m FROM ____ m TO ____ m

FROM ____ m TO ____ m FROM ____ m TO ____ m

WASH FLUID TYPE: ____ VOL. ____ m³; DISPLACING FLUID TYPE: ____ VOL. ____ m³

TEMP DATA: MIXING WATER ____ °C; SLURRY ____ °C; DISPLACING FLUID ____ °C; RETURNS ____ °C

PRODUCTS	
EQUIPMENT	QUAN
BASKETS	
CENTRALIZERS	
CLAMPS	
FLOAT COLLAR	
FLOAT SHOE	
GUIDE SHOE	
INSERT FLOAT	
SCRATCHERS	
OTHER	

EQUIPMENT

PACKER

TYPE ____ SIZE ____ mm

DEPTH SET ____ m TAIL PIPE ____ m

TOP PLUG TYPE ____

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/m³	m³/tonne

HALLIBURTON OPERATOR: R. Cleary CUSTOMER REP. ____

TREATING LOG

CHART POSITION	TIME	RATE m³/min	VOLUME m³ PUMPED	VOLUME m³ IN FORMATION	PRESSURE MPa TUBING	PRESSURE MPa CASING	REMARKS
							On high pressure test recorder out
							4 MPa.
1	09:52 10:03						Low pressure 2.4 MPa, high 10.4 MPa
							Blind rams, manifold shack.
2	10:06 10:17						Low pressure 3 MPa, high 10.5 MPa
							blind rams, manifold shack.
3	10:22 10:34						Low pressure 2.8 MPa, high 10.5 MPa
							blind rams, manifold shack.
4	10:37 10:48						Low pressure 2.9 MPa, high 10.5 MPa

FORM 167A

HALLIBURTON

TREATING LOG

INVOICE No. 35 545

CHART POSITION	TIME	RATE m³/min	VOLUME m³ PUMPED	VOLUME m³ IN FORMATION	PRESSURE MPa TUBING	PRESSURE MPa CASING	REMARKS
							blind rams, manifold shack.
5	10:58 11:10						Low pressure 2.4 MPa, high
							10.5 HCR valve.
							Stop and repair HCR valve and
							repack two Halliburton low
							torque valves. Change Howco
							lines to casing bowl.
6	16:18 16:30						Low pressure 2 MPa, high
							10.5 MPa pipe rams.
7	16:33 16:45						Low pressure 2.4 MPa, high
							10.5 MPa HCR valves and check
							valve on kill lines.
8	16:49 16:58						Low pressure 3 MPa, high 10.5 MPa
							manifold line to manifold shack.

Form 957

Page _____

TRUCK NO
1 HR.
OPERATOR
LEASE
DATE
WELL NO.
1 HR.
TICKET NO.
KIND OF JOB
COMPANY
FIELD
1 HR
DATE 9/4/93
CO Forward Resources
TICKET # 35545
WELL #
LSD SEC TWP RGE W
FIELD Lac Maurus
PROV. Alt
TYPE JOB Pressure Test BOP
DEPTH
NOWCO OP. R Cleary
CHART # 1
FORM 641
WILLIAM DECKER CO.
SIMS, CA. U.S.A.
SUBSIDIARY
5524
5MPa

TICKET NO.
COMPANY
DATE
FIELD
OPERATOR
KIND OF JOB
TRUCK NO
LEASE
WELL NO
1 HR.
MARTIN-DECKER CO
SUBDIVISIONS
Y255
DATE 12/04/93
CO. Fairchild Resources
WELL # 35 Hay pasture
FIELD
TYPE JOB Pressure Op
FORM 241
NOWCO OF Kelley
TICKET # 35545
SEC. TWP. RGE.
FROM
DEPTH
CHART # 2

LEAK-OFF TEST

Winterhawk

HALLIBURTON

CEMENTING AND/OR SPECIAL TOOLS SERVICE REPORT

ATTACH TO INVOICE No. 35 546

HALLIBURTON DISTRICT: Frontier

JOB DATE: 1983 (YEAR) 04 (MONTH) 19 (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	FIELD OR AREA	WELL No. AND LEASE
Forward Resources Ltd.	Lac Maunoir	Forward et al Anderson C-51

CALLED OUT (DATE / TIME)	ON LOCATION (DATE / TIME)	JOB STARTED (DATE / TIME)	JOB COMPLETED (DATE / TIME)	PROVINCE	LSD	SEC	TWP	RANGE	MERIDIAN
				N.W.T.					W

TYPE OF JOB ✓

SURFACE	
INTERMEDIATE	
PRODUCTION	
LINER	
SQUEEZE	
PLUG	
PUMP	
PRESSURE TEST	
OTHER	✓

WELL OR HOLE DATA

HOLE DATA: HOLE SIZE ____ mm; TOTAL DEPTH ____ m; TYPE MUD ____; VISC. ____; DENSITY ____

CASING, TUBING OR LINER DATA NEW ☐ USED ☐: SIZE ____ mm; kg/m ____; GRADE ____; DEPTH ____ m

SIZE ____ mm; kg/m ____; GRADE ____; DEPTH ____ m

PERFORATIONS: FROM ____ m TO ____ m; FROM ____ m TO ____ m

FROM ____ m TO ____ m; FROM ____ m TO ____ m

WASH FLUID TYPE: ____ VOL. ____ m³; DISPLACING FLUID TYPE: ____ VOL. ____ m³

TEMP DATA: MIXING WATER ____ °C; SLURRY ____ °C; DISPLACING FLUID ____ °C; RETURNS ____ °C

PRODUCTS

EQUIPMENT	QUAN
BASKETS	
CENTRALIZERS	
CLAMPS	
FLOAT COLLAR	
FLOAT SHOE	
GUIDE SHOE	
INSERT FLOAT	
SCRATCHERS	
OTHER	

EQUIPMENT

PACKER

TYPE ____ SIZE ____ mm

DEPTH SET ____ m TAIL PIPE ____ m

TOP PLUG TYPE ____

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/m³	m³/tonne

HALLIBURTON OPERATOR: R. Cleary CUSTOMER REP. ____

TREATING LOG

CHART POSITION	TIME	RATE m³/min	VOLUME m³ PUMPED	VOLUME m³ IN FORMATION	PRESSURE MPa TUBING	PRESSURE MPa CASING	REMARKS
							Pressure integrity test as per
							managers agreement.

FIELD
KIND OF JOB
COMPANY
WELL NO.
TICKET NO.
DATE
TRUCK NO.
OPERATOR
1 HR.
MARTIN DECKER CO.
SANTA ANA CA.
SHAPE
SUBDIVISIONS
DATE
CO.
LEASE
WELL
FIELD
TYPE JOB
HOWCO OP.
TICKET
SEC.
TWP.
RGE.
PROV.
DEPTH
CHART

BIT RECORD

Winterhawk

Winterhawk Petroleum Consulting Services Ltd.

BIT RECORD

WELL NAME Forward et al Anderson LOCATION C-51

Contractor 300 Drilling Rig No. Mr. Ben Field Colville Lake

Spud Date 83 04 06 0530 hours T.D. Date 83 04 21 Rig Release Date 83 04 23 1200 hours

BIT NO.	SIZE mm	MAKE & TYPE	DEPTH OUT	METRES DRLD	ROT. HOURS	TOTAL HOURS	WEIGHT ON BIT – daN	BIT RPM	JETS - mm			PUMP PRESS kPa or MPa	PUMP OUT - PUT m3/min	DULL COND.		
									1	2	3			T	B	G
1ARR	444.5	HW OWVJ	27	27	9	9	3,000	120		OPEN			1.47	3	4	I
2A	444.5	STC V2J	27.5	0.5	3	12	5/8,000	100	17.5	17.5	17.5	2000	1.47	2	1	I
													AIR			
1B	311.2	HW J33	416	388.5	101.75	113.75	16,000	50/75		OPEN		foam 600	16	5	4	1/8
2B	311.3	HW J33	548	132	48.25	162	20,000	80		OPEN		4000	24	4	4	I
3BRR	311.2	SEC M84F	685	137	52.75	214.75	15/20,000	70		OPEN		3600	23	3	4	I
1C	215.9	HW J33	1010	325	22	236.75	15/20,000	60/80		OPEN		1000	18	5	5	1/4

REMARKS. I think some of the 311.2 could be drilled with FP52 or F2

MUD REPORT

Winterhawk

DAILY MUD ADDITIVES

April 6	Gel 100 sx, Lime 1 sx
April 7	Sawdust 10 sx
April 8	--
April 9	Vanfoam 1 bbl
April 10	Durafoam 1 bbl
April 11	Durafoam 1/2 bbl
April 12	Durafoam 1 bbl
April 13	Durafoam 2 bbl, V7H Polymer 20 sx
April 14	Durafoam 2 bbl, V7H Polymer 26 sx, Vanfoam 3 bbl
April 15	Durafoam 2 bbl, V7H Polymer-Duraplex 13 sx
April 16	Durafoam 5 bbl, Duraplex 15 sx
April 17	Durafoam 2 bbl, Duraplex 8 sx, V7H Polymer 9 sx
April 18	Duraplex 3 sx, Permafrost Cement 15.48 tonnes, Salt 2.15 tonnes, "G" neat cement 21.23 tonnes
April 19	--
April 20	Durafoam 1 bbl, Salt 346 sx, Gel 75 sx, Soda Ash 4 sx, Caustic 3 sx, Kelzan 6 sx, Staflo 3 sx

DEVIATION RECORD

Winterhawk

SURVEYS

Depth (m)	Deviation (°)
27	5/8
38	1/4
69	1/8
96	0
124	1/2
152	1/2
180	0
207	1/8
235	1/2
264	3/4
292	7/8
320	3/4
349	3/4
374	7/8
415	1
472	1 1/4
500	1
530	1
538	1 1/16
585	1/2
605	3/4
635	7/8
685	7/8
800	1/4
900	3/4
1010	2

ABANDONMENT REPORT

Winterhawk

Winterhawk Petroleum Consulting Services Ltd.

PAGE _____

ABANDONMENT REPORT

DATE 83 04 23

Well Forward et al Anderson Location C-51

A. WELL DATA

KB Elevation 302.56 m KB to CF 4.06 m FTD 1010 m

Hole Size	Hole Depth	Casing Size	Casing Depth	Cement Top(s)	Perfs
444.5	27.5	399.4	27	Surface	
311.2	685	244.5	682.93		
215.9	1010	N/A	N/A		

B. ABANDONMENT DATA

Fluid in Hole Saturated salt + gel Abandonment Company _____

Cementing Company Halliburton Gov't Official Hal Flanders

Plug	Interval	Formation	Cem Vol	Cem Type	Cem Wt.	Plug Down	Felt Plug Time	Felt Plug Depth
1	1010 -910		6.56 Tonnes	"G"	1895	04-22	1945	NO
2	650-620		1.64 Tonnes	"G"	1895	04-22	2400	NO
3	50-0		2.81 Tonnes	Permafrost	1880	04-23	0400	NO

Method of Feeling Plugs Not Required

Surface Casing Cut 83 04 23 Surface Plug 83 04 23 Plate Welded 83 04 23

C. SALVAGE DATA

Casing Salvaged 9 5/8" Casing bowl sent in to Norman Wells to have Casing Stub Machined out. (To be reused).

D. REMARKS

ENGINEER Udo Shukowski

LOST CIRCULATION

Lost Circulation Was Not Encountered
As The Durafoam/Air Drilling System
Was Utilized Throughout The Hole.

Winterhawk

SECTION IV

LOGGING SUMMARY

Dual Laterolog
Run 1
April 21, 1983
1009.5 m - 683 m

BHCS - GRC
Run 1
April 21, 1983
1009.5 m - 683.0 m

Compensated Density
Run 1
April 21, 1983
1012.0 m - 683.0 m

-

Compensated Neutron
Run 1
April 21, 1983
20.0 m - 693.0 m

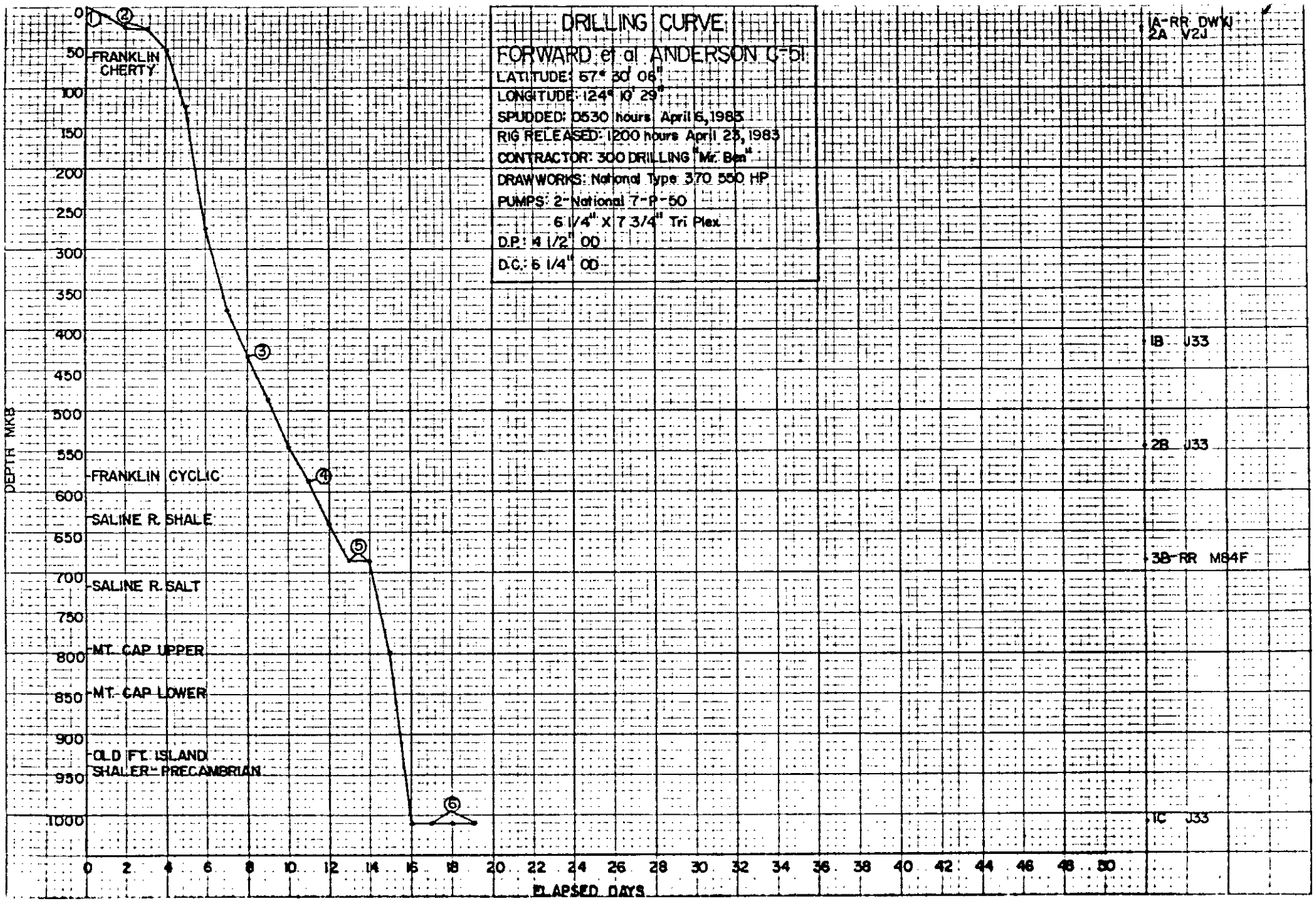
Mud Log

Lithology Log

SECTION V

DRILLING CURVE

Winterhawk


DRILLING CURVE
FORWARD et al ANDERSON G-51
LATITUDE: 67° 30' 06"
LONGITUDE: 124° 10' 29"
SPUDDED: 0530 hours April 6, 1983
RIG RELEASED: 1200 hours April 23, 1983
CONTRACTOR: 300 DRILLING "Mr. Ben"
DRAWWORKS: National Type 370 550 HP
PUMPS: 2-National 7-P-50
6 1/4" X 7 3/4" Tri Plex
D.P.: 4 1/2" OD
D.C.: 6 1/4" OD
FRANKLIN CHERTY
FRANKLIN CYCLIC
SALINE R. SHALE
SALINE R. SALT
MT. CAP UPPER
MT. CAP LOWER
OLD FT. ISLAND SHALE-PRECAMBRIAN
DEPTH MKB
ELAPSED DAYS
1A-RR DWKJ
2A V2J
1B J33
2B J33
3B-RR M84F
1C J33

DRILLING CURVE DATA

FORWARD ET AL ANDERSON C-51

1 Well spudded April 6, 1983 at 0530 hours.

2 Run conductor pipe and cement. Drill from under conductor with Durafoam.

3 Trip for bit #2B, unload hole and ream to bottom, hole making water from 390 m on.

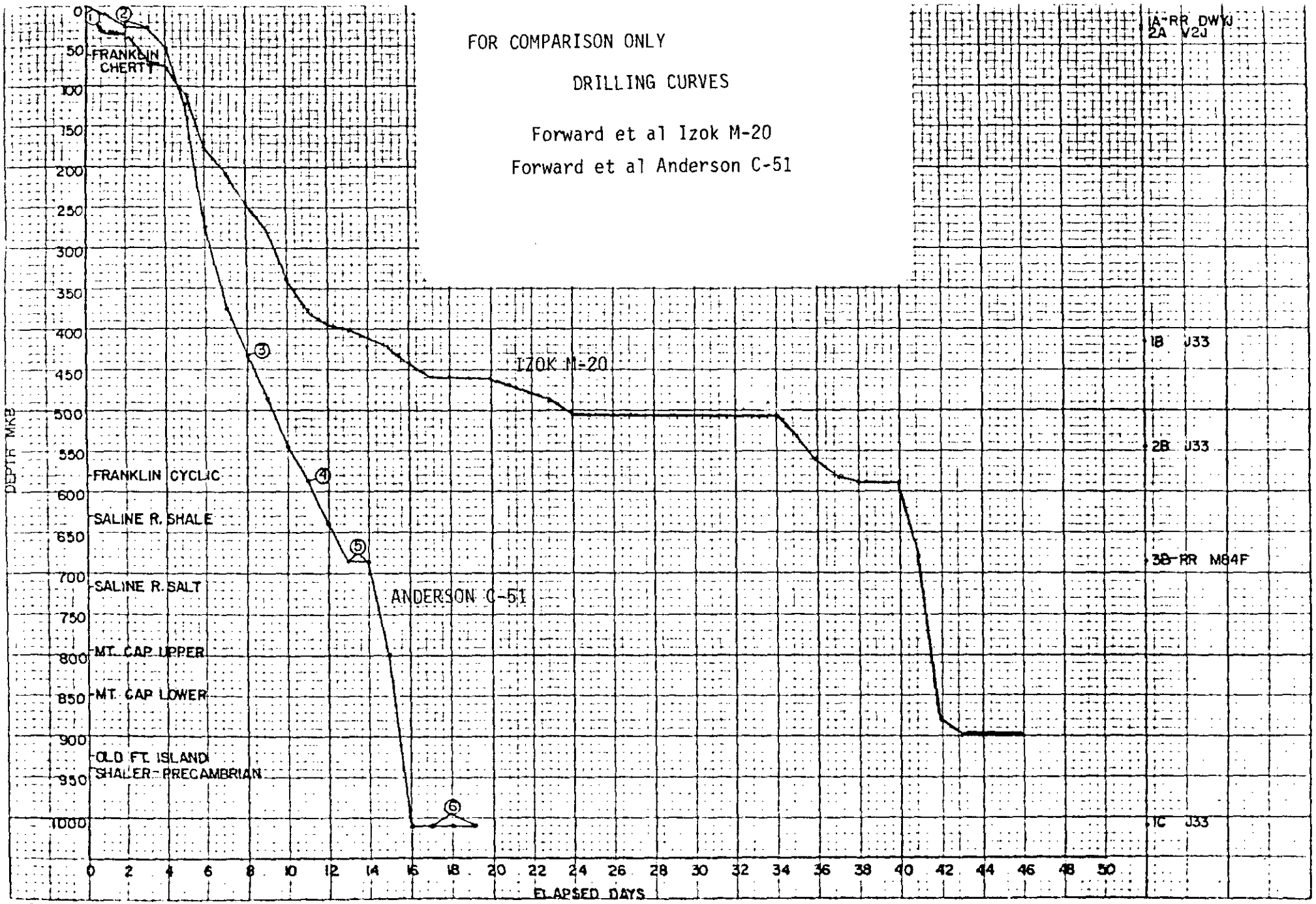
4 Trip for bit #3B, unload hole, hole making approximately 2 m^3 water/min.

5 Run 244 mm casing, cement with permafrost lead cement followed by class "G" with 10% NaCl tail-in - no returns to surface. Cement down annulus from surface.

6 Displace to mud. Log, run sidewall cores, run plugs, rig released April 23, 1983 at 1200 hours.

COMPARISON DRILLING TIME CURVES

On the following page the Izok M-20 drilling time curve has been superimposed on the Anderson C-51 time curve. Please note that geological tops and bit information do not pertain to the Izok M-20 well curve. Formation tops on Izok M-20 will vary by ± 85 meters, when compared to the Anderson C-51 well.



COMPARISON CHART

SECTION VI

DAILY DRILLING REPORTS

Winterhawk

Petroleum Consulting Services Ltd

DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING
1983 04 06 0800
Year · Month · Day · Time

WELL NAME Forward et al Anderson LOCATION C-51

DAY 1 DEPTH 10 m METRES LAST 24 HRS. 10 m ROTATING HRS. 2.5

ACTIVITY AT REPORT TIME Drilling Conductor Hole

20 m^3 air/min.

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 WT.	BIT RPM	DEPTH OUT m	m DRLD	ROT. HOURS	CUM ROT HRS	m/HR	DULL COND. T	B	G
1	311	S21G	HXQ777	DRI	LL RAT	HOLE							
1ARR	444.5	OWV-J	VD789		120	RUN	10	2.5	2.5	4	R	U	N

CIRCULATION RECORD

BIT NO.	JETS – mm 1	2	3	PUMP STROKE	SPM	LINER	m^3/min	ANN. VEL. DP	DC	JET VEL	H.H.P.	SURF PRESS kPa
1A	OPEN				20 m^3/air/min							

DEVIATION SURVEYS

____ ° at ____ ____ ° at ____

____ ° at ____ ____ ° at ____

____ ° at ____ ____ ° at ____

____ ° at ____ ____ ° at ____

MUD & CHEMICALS ADDED

35 sxs gel

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit			0.56	
Bit Sub			1.18	
Bell Sub			0.70	

COSTS

DAILY

CUM.

SUPERVISOR J. Aldridge - Udo Schukowski

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	2.5	2.5
2. TRIPS		
3. RIG SERVICE	.25	.25
4. DEVIATION SURVEY		
5. REAM & COND. HOLE		
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	13.75	13.75
21. DRILL RAT HOLE	7.5	7.5
TOTALS	24	24

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING 1983 04 06 0800
Year - Month - Day - Time

Rig up Poor Boy rat hole digger. Drill rat hole. (Some Boulders) Rig up and spud 445 mm hole 1983-04-06, 0530 hrs.

WANT LIST:

WEATHER - 24° C. S.E. 10 Overcast ROAD Fair

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

Winterhawk

DAILY DRILLING REPORT

FOR 24 HR PERIOD ENDING

1983 04 07 0800

Year - Month - Day - Time

WELL NAME Forward et al Anderson LOCATION C-51

DAY 2 DEPTH 27.5 m METRES LAST 24 HRS. 17.5 m ROTATING HRS. 9.5

ACTIVITY AT REPORT TIME Cut casing and nipple up rotating head.

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. 1030 VIS 40 WL. ____ GELS ____ % SOLIDS ____ PV ____ YP ____ pH ____

% OIL ____ %SAND ____ CAKE ____ PPMCL ____ PPMCa ____

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER. NO.	BIT WT.	BIT RPM	DEPTH OUT m	m DRLD	ROT. HOURS	CUM ROT HRS	m/HR	DULL COND. T	B	G
1ARR	444.5	HW OWVJ	VD 789	300	120	27	27	6.5	9.0	2.61	3	4	I
2A	444.5	STC V2J	VN 476	5.8	100	27.5	.5	3	3.0	0.17	2	1	I

CIRCULATION RECORD

BIT NO.	JETS - mm 1	2	3	PUMP STROKE	SPM	LINER	m^3/min	ANN VEL. DP	DC	JET VEL	H.H.P.	SURF PRESS kPa
1A	OPEN			198	120	152	1.47					
2A	17.5	17.5	17.5									2000

DEVIATION SURVEYS

5/8 °at 27 m ____ °at ____

____ °at ____ ____ °at ____

____ °at ____ ____ °at ____

____ °at ____ ____ °at ____

MUD & CHEMICALS ADDED

Gel - 20 sxs

Lime - 1 sack

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
same as previous day				

COSTS

DAILY

CUM.

SUPERVISOR Udo Schukowski

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	9.5	12
2. TRIPS	2	2
3. RIG SERVICE	.25	.5
4. DEVIATION SURVEY		
5. REAM & COND. HOLE		
6. MIX & COND. MUD		
7. CIRCULATING	1	1
8. RIG REPAIR		
9. RUN CASING & CEMENT	3.75	3.75
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON CEMENT	7.5	7.5
15. NIPPLE UP & TEST BOP		
16. DRILLING OUT		
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		13.75
21.		7.5
TOTALS	24	48

PLEASE TURN OVER

OPERATIONS DETAILS. PERIOD ENDING 1983 04 07 0800
Year - Month - Day - Time

Drill 444.5 mm hole to 27 m. Hoist for bit. Drill 444.5 mm to 27.5 m. Circulate hole clean. Drop survey, trip and rig up and run 339.7 mm conductor pipe - 3 joints, (35.19 m.) Circulate and work casing. Rig up and cement. Mixed 5.4 tonnes permafrost cement (150% excess) .8 m^3 cement returns. Cement in place at 0030 hrs, 1983-04-07. Land casing on bottom and W.O.C.

Cut casing and rig to nipple up rotating head at report time.

Geology:
0 - 20 glacial till
20 - 24 course unconsolidated sandstone
24 - 27 dolomite very fine crystalline cherty.

WANT LIST:

WEATHER - 26° C. Clear ROAD Fair

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

Winterhawk Petroleum Consulting Services Ltd

DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING
1983 04 08 0800
Year - Month - Day - Time

WELL NAME Forward et al Anderson LOCATION C-51

DAY 3 DEPTH 28 m METRES LAST 24 HRS. .5 m ROTATING HRS. .25

ACTIVITY AT REPORT TIME Drilling 311.2 mm hole

AIR & FOAM 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 WT.	BIT RPM	DEPTH OUT m	m DRLD	ROT. HOURS	CUM ROT HRS	m/HR	DULL COND. T	DULL COND. B	DULL COND. G
1B	311.2	HW J-33	72903	8	70		.5	.25	.25	2	R	U	N

CIRCULATION RECORD

BIT NO.	JETS – mm 1	JETS – mm 2	JETS – mm 3	PUMP STROKE	PUMP SPM	PUMP LINER	PUMP m^3/min	ANN. VEL. DP	ANN. VEL. DC	JET VEL	H.H.P.	SURF PRESS kPa
1B	0 P	E N		AIR 22	m^3/min							550
				FOAM	25 L/m							

DEVIATION SURVEYS

____ ° at ____ ____ ° at ____
____ ° at ____ ____ ° at ____
____ ° at ____ ____ ° at ____
____ ° at ____ ____ ° at ____

MUD & CHEMICALS ADDED

Sawdust - 10 sxs
Permafrost - 100 sxs

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
same as previous	day			

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	.25	12.25
2. TRIPS	1	3
3. RIG SERVICE	.25	.75
4. DEVIATION SURVEY		
5. REAM & COND. HOLE		
6. MIX & COND. MUD		
7. CIRCULATING		1
8. RIG REPAIR		
9. RUN CASING & CEMENT	1	4.75
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON: CEMENT	3	10.5
15. NIPPLE UP & TEST BOP	13	13
16. DRILLING OUT	.25	0.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP – TEAR OUT		13.75
21. DRILL MOUSE HOLE	5.25	12.75
TOTALS	24	72

COSTS

DAILY

CUM.

SUPERVISOR Udo Schukowski

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING 1983 04 08 0800
Year - Month - Day - Time

Rig to and perform top cement job on conductor. Found cement top at 6.1 m from surface. Perform job with 10 sxs sawdust, 1.8 t permafrost cement. W.O.C. Cut off conductor. Weld on flange for rotating head. Nipple up head and blooie line. Drill mouse hole with Dyna-Drill. Lay down tools. Run in hole with Bit #1B. Drill out cement from 24 m to 27.5 m. Drilling ahead at report time.

Cement on Site:
42 cans permafrost
31 cans "G" neat

WANT LIST:

WEATHER - 30° C. Clear ROAD Good

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

Winterhawk

Petroleum Consulting Services Ltd

DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

1983 04 09 0800

Year - Month - Day - Time

WELL NAME Forward et al Anderson LOCATION C-51

DAY 4 DEPTH 52 m METRES LAST 24 HRS. 24 m ROTATING HRS. 22.25

ACTIVITY AT REPORT TIME Drilling

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 WT.	BIT RPM	DEPTH OUT m	m DRLD	ROT. HOURS	CUM ROT HRS	m/HR	DULL COND T	DULL COND B	DULL COND G
1B	311.2	HW J-33	72903	9000	70		24.5	22.25	22.5	1.1	R	U	N

CIRCULATION RECORD

BIT NO.	JETS – mm 1	2	3	PUMP STROKE	SPM	LINER	m³/min	ANN. VEL. DP	DC	JET VEL	H.H.P.	SURF PRESS kPa
1B	OPEN			12 m³/min Air								
				20 l/min 2% van foam								

DEVIATION SURVEYS

1/4 ° at 38 m ____ ° at ____

____ ° at ____ ____ ° at ____

____ ° at ____ ____ ° at ____

____ ° at ____ ____ ° at ____

MUD & CHEMICALS ADDED

____ ____

____ ____

____ ____

____ ____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit			0.30	
Shock Sub			4.51	
2 DC		228	19.09	
X/O Sub			0.70	
1 DC		159	8.94	

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	22.25	34.5
2. TRIPS	1.25	4.25
3. RIG SERVICE	.25	1
4. DEVIATION SURVEY	.25	.25
5. REAM & COND. HOLE		
6. MIX & COND. MUD		
7. CIRCULATING		1
8. RIG REPAIR		
9. RUN CASING & CEMENT		4.75
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		10.5
15. NIPPLE UP & TEST BOP		13
16. DRILLING OUT		.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP – TEAR OUT		13.75
21.		12.75
TOTALS	24	96

COSTS

DAILY

CUM.

SUPERVISOR: Udo Schukowski

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING 1983 04 09 0800
Year - Month - Day - Time

Drill 311 mm hole. Hoist out to pick up shock sub. R.I.H. Survey at 38 m.
Drilling ahead at report time.

Geological Description:

27 - 51 m Dolomite, V.F. crystalline slightly argillaceous, minor inter crystalline vuggy porosity, pryrite, trace of black tarry oil, low cut, pale yellow fluorescence.

G.L. 298.00 m

WANT LIST:

WEATHER - 25 ^{o} C. ROAD Good

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

Winterhawk Petroleum Consulting Services Ltd

DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

1983 04 10 0800
Year · Month · Day · Time

WELL NAME Forward et al Anderson LOCATION C-51

DAY 5 DEPTH 123 m METRES LAST 24 HRS. 71 m ROTATING HRS. 23

ACTIVITY AT REPORT TIME Drilling

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 WT.	BIT RPM	DEPTH OUT m	m DRLD	ROT. HOURS	CUM ROT HRS	m/HR	DULL COND. T	DULL COND. B	DULL COND. G
1B	311.2	HW J-33	72903	12000	60		95.5	23	45.5	3.09	R	U	N

CIRCULATION RECORD

BIT NO.	JETS – mm 1	JETS – mm 2	JETS – mm 3	PUMP STROKE	PUMP SPM	PUMP LINER	PUMP m^3/min	ANN. VEL. DP	ANN. VEL. DC	JET VEL	H.H.P.	SURF PRESS kPa
1B	OPEN				16 m^3/min air							300
					20 L/min duna foam							

DEVIATION SURVEYS

1/8	° at 69 m		° at
0	° at 96 m		° at
	° at		° at
	° at		° at

MUD & CHEMICALS ADDED

1 bbl Van Foam

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit			0.30	
Shock Sub			4.51	
2 DC		228	19.09	
X/O Sub			0.70	
1 DC		159	8.94	
1 Jar			4.30	
11 DC		159	102.31	

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	23	57.5
2. TRIPS		4.25
3. RIG SERVICE	.5	1.5
4. DEVIATION SURVEY	.5	.75
5. REAM & COND. HOLE		
6. MIX & COND. MUD		
7. CIRCULATING		1
8. RIG REPAIR		
9. RUN CASING & CEMENT		4.75
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		10.5
15. NIPPLE UP & TEST BOP		13
16. DRILLING OUT		.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP – TEAR OUT		13.75
21.		12.75
TOTALS	24	120

COSTS

DAILY

CUM.

SUPERVISOR Udo Schukowski

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING 1983 04 10 0800
Year - Month - Day - Time

Drill and survey to 123 m. Drill ahead.

4.56 m KB to GL
302.56 m KB Elevation

Geological Description:

51 - 60 m Dolomite, V.F. crystalline, minor intercrystalline and vuggy porosity trace tarry oil. Slow cut, pale yellow fluorescence
60 m Franklin Mt cherty unit
60 - 123 m Dolomite - microcrystalline to fine crystalline trace of coarse crystalline In part argillaceous, euhedral quartz, calcite and pyrite, very good porosity 5 - 15%. Interbedded with chert, in part oolitic, minor tight limestone. No cut or fluorescence.

WANT LIST:

WEATHER -24° C. high clouds ROAD Good

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

Winterhawk

Petroleum Consulting Services Ltd

DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

1983 04 11 0800

Year · Month · Day · Time

WELL NAME Forward et al Anderson LOCATION C-51

DAY 6 DEPTH 275 m METRES LAST 24 HRS. 152 m ROTATING HRS. 22.25

ACTIVITY AT REPORT TIME Drilling Ahead

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 WT.	BIT RPM	DEPTH OUT m	m DRLD	ROT. HOURS	CUM ROT HRS	m/HR	DULL COND T	DULL COND B	DULL COND G
1B	311.2	HW J-33	72903	20-18	75-80		247.5	22.25	67.75	6.83	R	U	N

CIRCULATION RECORD

BIT NO.	JETS – mm 1	JETS – mm 2	JETS – mm 3	PUMP STROKE	PUMP SPM	PUMP LINER	PUMP m^3/min	ANN. VEL. DP	ANN. VEL. DC	JET VEL	H.H.P.	SURF PRESS kPa
1B	0	P	E N		16 m^3 air/20 L m 2% Dura Foam							500

DEVIATION SURVEYS

1/2 °at 124 m		1/2 °at 235 m	
1/2 °at 152 m		3/4 °at 264 m	
0 °at 180 m		°at	
1/8 °at 207 m		°at	

MUD & CHEMICALS ADDED

Durafoam 1-1/2 bbls

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit			.30	
Shock sub			4.51	
2 - 228 D.C.		228	19.09	
Crossover sub			.70	
1 - 159 mm D.C.		159	8.94	
Jars			4.30	
13 DC		159	120.37	
9 Heavy Weight D.P.			83.97	28000

TOTAL LENGTH 242.18

DAILY

CUM.

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	22.25	79.75
2. TRIPS		4.25
3. RIG SERVICE	.5	2
4. DEVIATION SURVEY	1.25	2
5. REAM & COND. HOLE		
6. MIX & COND. MUD		
7. CIRCULATING		1
8. RIG REPAIR		
9. RUN CASING & CEMENT		4.75
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		10.50
15. NIPPLE UP & TEST BOP		13
16. DRILLING OUT		.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP – TEAR OUT		13.75
21.		12.75
TOTALS	24	144

SUPERVISOR Udo Schukowski

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING 1983 04 11 0800
Year - Month - Day - Time

Drilling surface hole to 275 m R.O.P. 6.83 m/hr.

Geological Description:

Tops: Mt. Kendal - 24 m
Franklin Mtn. cherty member - 59 m
Franklin Mtn. rhythmic member - 171 m

123 - 171 m Interbedded dolomite and chert, dolomite fine to coursely crystalline in part argillaceous from 1 - 5% vuggy and intercrystalline porosity Trace tarry oil light yellow fluorescent cut at 146 m, trace green fissile shale.

171 - 273 m Dolomite in part calcareous. Micro crystalline to coarsely crystallihe in part argillaceous. Trace glauconite in part tight, in part trace to 3% vuggy and or intercrystalline porosity, no shows, trace soft green shale.

WANT LIST:

WEATHER - 26° C Clear ROAD Standard

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

Winterhawk

DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

1983 04 12 0800
Year · Month · Day · Time

WELL NAME Forward et al Anderson LOCATION C-51

DAY 7 DEPTH 375 METRES LAST 24 HRS. 100 ROTATING HRS. 22 3/4

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 WT.	BIT RPM	DEPTH OUT m	m DRLD	ROT. HOURS	CUM ROT HRS	m/HR	DULL COND. T	DULL COND. B	DULL COND. G
1B	311.2	HW J33	72903	15-18	70-90	--	347.5	22.75	90 1/2	4.4	R	U	N

CIRCULATION RECORD

BIT NO.	JETS – mm 1	JETS – mm 2	JETS – mm 3	PUMP STROKE	PUMP SPM	PUMP LINER	PUMP m3/min	ANN. VEL. DP	ANN. VEL. DC	JET VEL	H.H.P.	SURF PRESS kPa
1B	OPEN			16 m3	Air	25	L/min	.5 %	Durafoam			600

DEVIATION SURVEYS

7/8	° at 292 m		° at
3/4	° at 320 m		° at
3/4	° at 349 m		° at
	° at		° at

MUD & CHEMICALS ADDED

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit			.30	
Shock sub			4.51	
2 DC		228	19.09	
Crossover sub			.70	
1 DC		159	8.94	
Jars			4.30	
13 DC		159	120.37	
9 Heavy weight DP			83.97	28000

TOTAL LENGTH 242.18

DAILY

CUM.

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	22.75	102.5
2. TRIPS		4.25
3. RIG SERVICE	0.5	2.5
4. DEVIATION SURVEY	0.75	2.75
5. REAM & COND. HOLE		
6. MIX & COND. MUD		
7. CIRCULATING		1
8. RIG REPAIR		
9. RUN CASING & CEMENT		4.75
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		10.50
15. NIPPLE UP & TEST BOP		13
16. DRILLING OUT		0.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19 PLUG & ABANDON		
20. RIG UP -- TEAR OUT		13.75
21.		12.75
TOTALS	24	168

SUPERVISOR Udo Schukowski

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING 83-04-12 0800

Year - Month - Day - Time

Drill and survey to 375 m ROP 4.39 m/hour.

No water encountered as yet.

Geology Description:

273 - 375 Dolomite microcrystalline to coarsely crystalline to part silty argillaceous, Inter crystalline porosity to 5% vuggy porosity to 10%,fairly tight from 285 - 372 m. Considerable dead oil staining, no cuts or fluorescence except at 36 m. Trace of slow cut,yellow fluorescence in mostly dead oil stain, trace of green fissile dolomitic shale. Trace dark brown bituminous dolomitic shale.

WANT LIST:

WEATHER -26° C Clean and Calm ROAD

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

Winterhawk

DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING
1983 04 13 0800
Year · Month · Day · Time

WELL NAME Forward et al Anderson LOCATION C-51

DAY 8 DEPTH 431 m METRES LAST 24 HRS. 56 m ROTATING HRS. 17

ACTIVITY AT REPORT TIME 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 WT.	BIT RPM	DEPTH OUT m	m DRLD	ROT. HOURS	CUM ROT HRS	m/HR	DULL COND. T	DULL COND. B	DULL COND. G
1B	311.2	HW J-33	72903	16	50-75	416	388.5	11.25	101.75	3.64	5	4	1/8
2B	311.2	HW J-33	88023	18-20	73		15	5.75	5.75	2.6	R	U	N

CIRCULATION RECORD

BIT NO.	JETS – mm 1	JETS – mm 2	JETS – mm 3	PUMP STROKE	PUMP SPM	PUMP LINER	PUMP m^3/min	ANN. VEL. DP	ANN. VEL. DC	JET VEL	H.H.P.	SURF PRESS kPa
1B	OPEN				16 m^3 air	25 L/min	.5%	Durafoam				600
2B	OPEN				16 m^3 air	80 L/min	2%	Durafoam and Duraplex				3100

DEVIATION SURVEYS

7/8 ° at 374 m ____ ° at ____

1 ° at 415 m ____ ° at ____

____ ° at ____ ____ ° at ____

____ ° at ____ ____ ° at ____

MUD & CHEMICALS ADDED

V7H - 6

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Same as previous day				

COSTS

DAILY

CUM.

SUPERVISOR Udo Schukowski

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	17	119.5
2. TRIPS	2.75	7.0
3. RIG SERVICE	1	3.5
4. DEVIATION SURVEY	.5	3.25
5. REAM & COND. HOLE	.25	.25
6. MIX & COND. MUD		
7. CIRCULATING	1.5	2.5
8. RIG REPAIR		
9. RUN CASING & CEMENT		4.75
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		10.50
15. NIPPLE UP & TEST BOP		13
16. DRILLING OUT		.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP – TEAR OUT		13.75
21. CHANGE ROTATING HEAD	1	13.75
RUBBER TOTALS	24	192

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING 1983 04 13 0800
Year - Month - Day - Time

Drill and survey to 416 m. P.O.O.H., strap out. S.L.M. 415.93 m. Board 415.8 m. Difference .13 m. No correction. R.I.H. bit #2B. Unload hole and ream 18 m to bottom. Drill - change out rotating head rubber and O-rings. Drill ahead.

Note: Making approximately 1-1/4 m^3/min fresh water from 390 m.

Geological Description:

375 m - 426 m: Dolomite micr crystalline trace fine to medium crystalline. In part argillaceous pyritic in part cherty. Trace intercrystalline porosity. In part vuggy porosity to 10% at 390 m, water source. Much dead oil staining. No cut or fluorescence in samples. Minor shale in part dark brown bituminous in part green dolomitic.

WANT LIST:

WEATHER - 18° C. Clear ROAD Good

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

Winterhawk

Petroleum Consulting Services Ltd

DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

1983 04 14 0800
Year · Month · Day · Time

WELL NAME Forward et al Anderson LOCATION C-51

DAY 9 DEPTH 488 METRES LAST 24 HRS. 57 ROTATING HRS. 20.75

ACTIVITY AT REPORT TIME Drilling ahead

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 WT.	BIT RPM	DEPTH OUT m	m DRLD	ROT. HOURS	CUM ROT HRS	m/HR	DULL COND T	DULL COND B	DULL COND G
2B	311.2	HW J-33	88023	18-20	75-80		72	20.75	26.50	2.75	R	U	N

CIRCULATION RECORD

BIT NO.	JETS – mm 1	JETS – mm 2	JETS – mm 3	PUMP STROKE	PUMP SPM	PUMP LINER	PUMP m3/min	ANN. VEL. DP	ANN. VEL. DC	JET VEL	H.H.P.	SURF PRESS kPa
2B	O P E N			23 m3	air	75 L/m	2% durafoam duraplex					2900

DEVIATION SURVEYS

1-1/4 °at 472 m ____ °at ____

____ °at ____ ____ °at ____

____ °at ____ ____ °at ____

____ °at ____ ____ °at ____

MUD & CHEMICALS ADDED

V7H - 9

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Same as previous day				

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	20.75	140.25
2. TRIPS		7.0
3. RIG SERVICE	.75	4.25
4. DEVIATION SURVEY	1.5	4.75
5. REAM & COND. HOLE		.25
6. MIX & COND. MUD		
7. CIRCULATING		2.5
8. RIG REPAIR		
9. RUN CASING & CEMENT		4.75
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		10.50
15. NIPPLE UP & TEST BOP		13
16. DRILLING OUT		.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP – TEAR OUT		13.75
21. BLOW HOLE CLEAN	1	14.75
TOTALS	24	216

COSTS

DAILY

CUM.

SUPERVISOR Udo Schukowski

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING 1983 04 14 0800
Year - Month - Day - Time

Drill, survey at 444 m. Misrun. Drill, survey at 455 m, misrun. Drill to 472 m, survey. Drilling at report time. R.O.P. 2.74 m/hr.

* Note: Survey barrel not dropping in drill pipe due to obstruction. Hole making approximately 1 m^3 water/min.

Geological Description:

426 - 486 m: Dolomite micro crystalline pyritic minor fine to medium crystalline with trace of vuggy porosity 5 - 10%. Making water at 458 m. In part very argillaceous. Trace of green dolomitic shale. Dead oil staining throughout, no cut or fluorescence Not in Franklin Mtn. cyclic unit yet.

WANT LIST:

WEATHER - 14° C. Wind E @ 5 ROAD Good

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

Winterhawk

Petroleum Consulting Services Ltd

DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

1983 04 15 0800

Year · Month · Day · Time

WELL NAME Forward et al Anderson LOCATION C-51

DAY 10 DEPTH 546 m METRES LAST 24 HRS. 58 m ROTATING HRS. 20.75

ACTIVITY AT REPORT TIME Drill ahead

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 WT.	BIT RPM	DEPTH OUT m	m DRLD	ROT. HOURS	CUM ROT HRS	m/HR	DULL COND. T	B	G
2B	311.2	HW J-33	88023	20-22	70-80		130	20.75	47.25	2.8	R	U	N

CIRCULATION RECORD

BIT NO.	JETS – mm 1	2	3	PUMP STROKE	SPM	LINER	m^3/min	ANN. VEL. DP	DC	JET VEL	H.H.P.	SURF PRESS kPa
2B	O P E	N		24 m^3 air	60 L/min	2%	Durafoam and Duraplex					4000

DEVIATION SURVEYS

1	° at 500 m		° at
1	° at 530 m		° at
	° at		° at
	° at		° at

MUD & CHEMICALS ADDED

V7H 11 sxs	
Durafoam 4 bbl	
Duraplex 2 sxs	

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Same as previous day				

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	20.75	161
2. TRIPS		7.0
3. RIG SERVICE	.75	5
4. DEVIATION SURVEY	1	5.75
5. REAM & COND. HOLE		.25
6. MIX & COND. MUD		
7. CIRCULATING		2.5
8. RIG REPAIR	.75	.75
9. RUN CASING & CEMENT		4.75
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		10.50
15. NIPPLE UP & TEST BOP		13
16. DRILLING OUT		.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP · TEAR OUT		13.75
21.	.75	15.5
TOTALS	24	240

COSTS

DAILY

CUM.

SUPERVISOR: Udo Schukowski

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING 1983 04 15 0800
Year - Month - Day - Time

Drill and survey to 546 m. Change fuel filters in soap pump, no shale yet. Making $\pm$ 2 m^3 water/min.

Geological Description:

486 - 546 m: Dolomite micro crystalline, in part very argillaceous, trace vuggy porosity, in part very fine crystalline calcareous. Vuggy porosity at 509 m 15% light brown oil stain at 509 m, faint yellow fluorescence no cut. Equivalent to 420 m at Izok M-20. Trace fissile dolomitic shale.

WANT LIST:

WEATHER - 5 °C Calm ROAD Good

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

Winterhawk

Petroleum Consulting Services Ltd

DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

1983 04 16 0800

Year · Month · Day · Time

WELL NAME Forward et al Anderson LOCATION C-51

DAY 11 DEPTH 587 m METRES LAST 24 HRS. 41 m ROTATING HRS. 18.75

ACTIVITY AT REPORT TIME Drill ahead

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 WT.	BIT RPM	DEPTH OUT m	m DRLD	ROT. HOURS	CUM ROT HRS	m/HR	DULL COND. T	DULL COND. B	DULL COND. G
2B	311.2	HW J-33	88023	20	80	548	132	1	48.25	2	4	4	I
3BRR	311.2	SEC M-84F	149172	21	67		39	17.75	17.75	2.3	R	U	N

CIRCULATION RECORD

BIT NO.	JETS – mm 1	2	3	PUMP STROKE	SPM	LINER	m^3/min	ANN. VEL. DP	DC	JET VEL	H.H.P.	SURF PRESS kPa
2 B	0	P	E	N	24	m^3 Air	60 L/m	2% durafoam and duraplex				4 000
3 B	0	P	E	N	16	m^3 Air	75 L/m	2% durafoam and duraplex				3 200

DEVIATION SURVEYS

1 °at 538 m ____ °at ____

1/2 °at 585 m ____ °at ____

____ °at ____ ____ °at ____

____ °at ____ ____ °at ____

MUD & CHEMICALS ADDED

Duraplex - 13 sxs

Durafoam - 3 bbls

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Same as previous day				

COSTS

DAILY

CUM.

SUPERVISOR Udo Schukowski

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	18.75	179.75
2. TRIPS	3.25	10.25
3. RIG SERVICE	.75	5.75
4. DEVIATION SURVEY	.75	6.5
5. REAM & COND. HOLE		.25
6. MIX & COND. MUD		
7. CIRCULATING		2.5
8. RIG REPAIR		.75
9. RUN CASING & CEMENT		4.75
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		10.50
15. NIPPLE UP & TEST BOP		13
16. DRILLING OUT		.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP – TEAR OUT		13.75
21. Unload Hole	.5	16
TOTALS	24	264

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING 1983 04 16 0800
Year - Month - Day - Time

Drill to 548 m, survey. Hoist for bit. R.I.H., ream 1 m fill. Unload hole, drill. Making 2 m^3 water/min.

Geological Description:

546 - 585 m: Dolomite micro crystalline. Trace of crypto crystalline. Slightly to very argillaceous, in part calcareous. Trace of vuggy porosity, no shows, trace of gray green fissile dolomitic shale no cuts no fluorescence.

WANT LIST:

WEATHER - 6° C. Cloudy & Calm ROAD

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

Winterhawk

Petroleum Consulting Services Ltd

DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

1983 04 17 0800

Year · Month · Day · Time

WELL NAME Forward et al Anderson LOCATION C-51

DAY 12 DEPTH 643 m METRES LAST 24 HRS. 56 m ROTATING HRS. 22.75

ACTIVITY AT REPORT TIME Drill Ahead to Casing Point

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 WT.	BIT RPM	DEPTH OUT m	m DRLD	ROT. HOURS	CUM ROT HRS	m/HR	DULL COND. T	DULL COND. B	DULL COND. G
3BRR	311.2	SEC M84F	149172	21	67		95	22.75	40.5	2.46	R	U	N

CIRCULATION RECORD

BIT NO.	JETS – mm 1	JETS – mm 2	JETS – mm 3	PUMP STROKE	PUMP SPM	PUMP LINER	PUMP m^3/min	ANN. VEL. DP	ANN. VEL. DC	JET VEL	H.H.P.	SURF PRESS kPa
3B	0	P E	N		16 m^3	Air	75 L/min	2% Durafoam and Duraplex				3000

DEVIATION SURVEYS

3/4	° at 605 m		° at
7/8	° at 635 m		° at
	° at		° at
	° at		° at

MUD & CHEMICALS ADDED

Durafoam - 2 bbl

Duraplex - 7 sxs

V7H - 9 sxs

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Same as previous day				

COSTS

DAILY

CUM.

SUPERVISOR: Udo Schukowski

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	22.75	202.5
2. TRIPS		10.25
3. RIG SERVICE	.75	6.5
4. DEVIATION SURVEY	.5	7
5. REAM & COND. HOLE		.25
6. MIX & COND. MUD		
7. CIRCULATING		2.5
8. RIG REPAIR		.75
9. RUN CASING & CEMENT		4.75
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14 WAITING ON:		10.50
15. NIPPLE UP & TEST BOP		13
16. DRILLING OUT		.25
17 LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP – TEAR OUT		13.75
21.		16
TOTALS	24	288

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING 1983 04 17 0800
Year - Month - Day - Time

Drill and survey to 643 m. Shale at 630 m, 2 m^3 water/min. Drilling ahead to casing point ± 685 m.

Geological Description:

Tops: 585 m - Franklin Mtn Formation Cyclic Member
630 m - Saline River Formation Shale Member

585 - 630 m: Dolomite micro crystalline to crypto crystalline, very argillaceous, trace porosity, no shows. Minor grey and green dolomitic shales.

680 - 633 m: Red and green dolomitic shales.

WANT LIST:

WEATHER - 5° C. Light Snow ROAD Good

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

Winterhawk

Petroleum Consulting Services Ltd

DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING
1983 04 18 0800
Year · Month · Day · Time

WELL NAME Forward et al Anderson LOCATION C-51

DAY 13 DEPTH 685 m METRES LAST 24 HRS. 42 m ROTATING HRS. 12.25

ACTIVITY AT REPORT TIME Rig to Cement

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 WT.	BIT RPM	DEPTH OUT m	m DRLD	ROT. HOURS	CUM ROT HRS	m/HR	DULL COND T	DULL COND B	DULL COND G
3BRR	311.2	SEC M84F	149172	15-20	70	685	137	12.25	52.75	3.43	3	4	I

CIRCULATION RECORD

BIT NO.	JETS – mm 1	2	3	PUMP STROKE	SPM	LINER	m^3/min	ANN. VEL. DP	DC	JET VEL	H.H.P.	SURF PRESS kPa
3BRR	0	P	E	N	23	m^3/min	Air	125 L/min	3%	Durafoam and Duraplex		3600

DEVIATION SURVEYS

7/8 ° at 685 m ____ ° at ____

____ ° at ____ ____ ° at ____

____ ° at ____ ____ ° at ____

____ ° at ____ ____ ° at ____

MUD & CHEMICALS ADDED

V7H - 9 sxs

Durafoam - 2 Bbl

Duraplex - 1 sack

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
same as previous day				

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	12.25	214.75
2. TRIPS	2.25	12.50
3. RIG SERVICE	.75	7.25
4. DEVIATION SURVEY	.25	7.25
5. REAM & COND. HOLE		.25
6. MIX & COND. MUD		
7. CIRCULATING	3	5.5
8. RIG REPAIR		.75
9. RUN CASING & CEMENT	4.5	9.25
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON		10.50
15. NIPPLE UP & TEST BOP		13
16. DRILLING OUT		.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS	1	1
19. PLUG & ABANDON		
20. RIG UP – TEAR OUT		13.75
21.		16
TOTALS	24	312

COSTS

DAILY

CUM.

SUPERVISOR: Udo Schukowski

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING 1983 04 18 0800
Year - Month - Day - Time

Drill and survey to 685 m. Circulate and condition hole. Dummy trip 5 stands. R.I.H., circulate and condition to run casing. Hoist out.

Tally 685.00 m
Strap 683.65 m
Diff 1.35 m

Lay down 2 collars (228 mm), shock sub and jars. Pick up and run 244 mm casing to 684 m, + 1 m of fill. Rig up to cement.

Geological Description:

633 - 685 m: Interbedded varied coloured dolomitic shale. Micro crystalline to V.F. crystalline, silty anhydritic dolomites with minor inter-crystalline to dolomitic silt stone and minor gypsum and anhydrite beds no shows.

WANT LIST:

WEATHER - 4° C. ROAD Good

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

Winterhawk

Petroleum Consulting Services Ltd

DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

1983 04 19 0800

Year - Month - Day - Time

WELL NAME Forward et al Anderson LOCATION C-51

DAY 14 DEPTH 685 m METRES LAST 24 HRS. 0 ROTATING HRS. 0

ACTIVITY AT REPORT TIME Waiting on Cement. Nipple up B.O.P.

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 WT.	BIT RPM	DEPTH OUT m	m DRLD	ROT. HOURS	CUM ROT HRS	m/HR	DULL COND. T	DULL COND. B	DULL COND. G

CIRCULATION RECORD

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

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

COSTS

DAILY

CUM.

SUPERVISOR Udo Schukowski

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		214.75
2. TRIPS		12.50
3. RIG SERVICE	.25	7.5
4. DEVIATION SURVEY		7.25
5. REAM & COND. HOLE		.25
6. MIX & COND. MUD		
7. CIRCULATING		5.5
8. RIG REPAIR		.75
9. RUN CASING & CEMENT	4.5	13.75
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON: CEMENT	19.25	29.75
15. NIPPLE UP & TEST BOP		13
16. DRILLING OUT		.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		1
19. PLUG & ABANDON		
20. RIG UP TEAR OUT		13.75
21.		16
TOTALS	24	336

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING 1983 04 19 0800
Year - Month - Day - Time

Rig to and cement surface casing. W.O.C. Cut off casing at 2100 hrs, 1983 04 18.

Casing and Cement Details:

Picked up and ran 60 joints (683.56 m) of 244.4 mm 48.1 kg/m ERW H-276 ST&C casing, landed at 682.93 m KB. Cemented casing with - Lead: 14 1/2 T (10.33 m^3) permafrost cement at 1880 kg/m^3, Tail: 24 T (23.38 m^3) of Class "G" plus 10% (by weight) NaCl (2400 kg). Maximum displacing pressure 4000 kPa. Bump plug with 7500 kPa (3500 kPa over displacing pressure). Held for 5 minutes and released. Floats held. Plug down at 1230 hr, 1983-04-18. No returns. Cement "Top Job" with 1.08 Tonnes permafrost cement. Cement to surface with no problems.

WANT LIST:

WEATHER Clear -16° C. ROAD Good

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

Winterhawk

DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

1983 04 20 0800

Year - Month - Day - Time

WELL NAME Forward et al Anderson LOCATION C-51

DAY 15 DEPTH 800 m METRES LAST 24 HRS. 115 m ROTATING HRS. 8

ACTIVITY AT REPORT TIME Drill Ahead

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 WT.	BIT RPM	DEPTH OUT m	m DRLD	ROT. HOURS	CUM ROT HRS	m/HR	DULL COND. T	DULL COND. B	DULL COND. G
1C	215.9	HW J-33	89826	20	70	-	115	8	8	14.37	R	U	N

CIRCULATION RECORD

BIT NO.	JETS – mm 1	JETS – mm 2	JETS – mm 3	PUMP STROKE	PUMP SPM	PUMP LINER	PUMP m^3/min	ANN. VEL. DP	ANN. VEL. DC	JET VEL	H.H.P.	SURF PRESS kPa
1C	0	P	E	N		18 m³	Air	20 L/min.	.5% Dura	foam		1000

DEVIATION SURVEYS

1/4 ° at 800 m ____ ° at ____

____ ° at ____ ____ ° at ____

____ ° at ____ ____ ° at ____

____ ° at ____ ____ ° at ____

MUD & CHEMICALS ADDED

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit			.30	
Shock Sub			4.13	
6 DC		159	56.03	
Jars			4.21	
12 DC		159	112.80	
Hevi-Wate DP (9)			83.97	
			261.44	24000

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	8	222.75
2. TRIPS	1	13.50
3. RIG SERVICE	.25	7.75
4. DEVIATION SURVEY	.25	7.5
5. REAM & COND. HOLE		.25
6. MIX & COND. MUD		
7. CIRCULATING	1	6.5
8. RIG REPAIR		.75
9. RUN CASING & CEMENT		13.75
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING	.75	.75
14. WAITING ON: CEMENT	5	34.75
15. NIPPLE UP & TEST BOP	4	17
16. DRILLING OUT	3.25	3.5
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		1
19. PLUG & ABANDON		
20 RIG UP – TEAR OUT		13.75
21. CHANGE BLOOIE LINE	.5	16.5
TOTALS	24	360

COSTS

DAILY

CUM.

SUPERVISOR Udo Schukowski

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING 1983 04 20 0800
Year - Month - Day - Time

Wait on cement. Change pipe rams to 4-1/2". Pressure tested blind rams, manifold and kill line , low - 1400 kPa, high - 10,500 kPa for 5 minutes each. Repaired outside manifold valve. Retested, held ok. Make up bottom hole assembly and ran in hole. Pressure tested hydril and pipe rams, low - 1400 kPa, high 10,500 kPa, Held ok. Drilled out to 689 m. Ran leak off test. Total pressure on formation 11,600 kPa, gradient 16.98 (1734 mud). Blew hole dry. Changed blooie . Drilling ahead at report time.

Geological Description:

685 - 726 m: Interbedded green dolomites gypsiferous shales and gypsum. Trace dolomite and anhydrite.

726 - 798 m: Salt with minor shales and gypsum

WANT LIST:

WEATHER Clear - 10° C. ROAD Good

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

Winterhawk

Petroleum Consultant Services Ltd.

DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

1983 04 21 0800
Year - Month - Day - Time

WELL NAME Forward et al Anderson LOCATION C-51

DAY 16 DEPTH 1010 m METRES LAST 24 HRS. 210 m ROTATING HRS. 14

ACTIVITY AT REPORT TIME Circulate to log.

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. 1180 VIS 50 WL. 10 GELS 2 - 6 % SOLIDS .001 PV 15 YP 10 pH 10

% OIL ____ %SAND ____ CAKE 1.6 (firm) PPMCL 334,400 PPMCa Trace

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER. NO.	BIT WT.	BIT RPM	DEPTH OUT m	m DRLD	ROT. HOURS	CUM ROT HRS	m/HR	DULL COND T	DULL COND B	DULL COND G
1C	215.9	HW J-33	89826	20	70	1010	325	14	22	15	-	-	-

CIRCULATION RECORD

BIT NO.	JETS - mm 1	2	3	PUMP STROKE	SPM	LINER	m^3/min	ANN. VEL. DP	DC	JET VEL	H.H.P.	SURF PRESS kPa
1C	0	P	E	N	18 m^3	Air	24 L/min	.5% Durafoam				1000
				198	80	152	.86	33	52.5	Circulate hole over to sal. mud- cond. hole		4000

DEVIATION SURVEYS

____	°at ____	____	°at ____
3/4	°at 900 m	____	°at ____
2	°at 1010 m	____	°at ____
____	°at ____	____	°at ____

MUD & CHEMICALS ADDED

Durafoam - 1 bbl	Caustic - 3
Salt - 336 sxs	Staflo - 3
Gel - 75 sxs	XC-Polymer - 6
Soda Ash - 4 sxs	

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
same as previous day				

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	14	236.75
2. TRIPS	2.5	16.00
3. RIG SERVICE	.5	8.25
4. DEVIATION SURVEY	.5	8
5. REAM & COND. HOLE	4	4.25
6. MIX & COND. MUD	.75	.75
7. CIRCULATING	.25	6.75
8. RIG REPAIR		.75
9. RUN CASING & CEMENT		13.75
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		.75
14. WAITING ON: ORDERS	.75	35.50
15. NIPPLE UP & TEST BOP		17
16. DRILLING OUT		3.5
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		1
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		13.75
21. CHANGE BLOOIE LINE	.75	17.25
TOTALS	24	384

COSTS

DAILY

CUM.

SUPERVISOR: Udo Schukowski

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING 1983 04 21 0800
Year - Month - Day - Time

Drill and survey to 1010 m TD. Circulate and wait on orders. Circulate with air. Dummy trip to casing. Displace to mud. Ream 12 m fill to bottom. Hole good.

WANT LIST:

WEATHER Clear - 4° C. ROAD Good

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

Winterhawk

DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

1983 04 22 0800

Year · Month · Day · Time

WELL NAME Forward et al Anderson LOCATION C-51

DAY 17 DEPTH 1010 METRES LAST 24 HRS. 0 ROTATING HRS. 0

ACTIVITY AT REPORT TIME Logging

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. 1180 VIS 50 WL. 11 GELS 2/6 % SOLIDS 1.15 PV 15 YP 10 pH 10

% OIL - %SAND - CAKE 1.6 PPMCL 334,400 PPMCa Trace

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER. NO.	BIT WT.	BIT RPM	DEPTH OUT m	m DRLD	ROT. HOURS	CUM ROT HRS	m/HR	DULL COND. T	DULL COND. B	DULL COND. G
1C	215.9	HW J-33	89826			1010	325	-	22		5	5	1/4

CIRCULATION RECORD

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

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
Same as previous day				

COSTS

DAILY

CUM.

SUPERVISOR: Udo Schukowski

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		236.75
2. TRIPS	2	18.00
3. RIG SERVICE		8.25
4. DEVIATION SURVEY		8
5. REAM & COND. HOLE	1	5.25
6. MIX & COND. MUD		.75
7. CIRCULATING	3	9.75
8. RIG REPAIR		.75
9. RUN CASING & CEMENT		13.75
10. FISHING		
11. LOGGING	18	18
12. CORING		
13. FORMATION TESTING		.75
14. WAITING ON:		35.50
15. NIPPLE UP & TEST BOP		17
16. DRILLING OUT		3.5
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		1
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		13.75
21.		17.25
TOTALS	24	408

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING 1983 04 22 0800

Year - Month - Day - Time

Circulate and clean to bottom. Trip out to casing. Tight pulling out 950 - 750 m. Circulate and clean to bottom, 8 m fill. Circulate and condition hole to log. Pull out of hole, strap out. SLM 1014.12 m, Tally 1010 m, Difference 4.12 m. Logger's Depth 1012 m. Rig up and log with Dresser. Ran Gamma ray tool and went to bottom. O.K. Tool quit, pull out of hole and repair same. Ran GRN, CNL FDC, dual laterolog sonic and caliper. Momentarily stuck with caliper log at 720 m. Closed tool and pull out of hole to top of salt (710 m). Logs left at 0800 hrs.

WANT LIST:

WEATHER $+2^{o}$ C. ROAD Muddy

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

Winterhawk

Petroleum Consultant Services Ltd.

DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

1983 04 23 0800

Year - Month - Day - Time

WELL NAME Forward et al Anderson LOCATION C-51

DAY 18 DEPTH 1010 m METRES LAST 24 HRS. - ROTATING HRS. -

ACTIVITY AT REPORT TIME Tear out rig.

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 WT.	BIT RPM	DEPTH OUT m	m DRLD	ROT. HOURS	CUM ROT HRS	m/HR	DULL COND T	DULL COND B	DULL COND G

CIRCULATION RECORD

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

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

COSTS

DAILY

CUM.

SUPERVISOR: Udo Schukowski

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		236.75
2. TRIPS	4	22
3. RIG SERVICE	.25	8.5
4. DEVIATION SURVEY		8
5. REAM & COND. HOLE		5.25
6. MIX & COND. MUD		.75
7. CIRCULATING	.5	10.25
8. RIG REPAIR		.75
9. RUN CASING & CEMENT		13.75
10. FISHING		
11. LOGGING	5	23
12. CORING		
13. FORMATION TESTING		.75
14. WAITING ON: ORDERS	1.5	37
15. NIPPLE UP & TEST BOP		17
16. DRILLING OUT		3.5
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS	4.75	5.75
19. PLUG & ABANDON	4	[illegible]
20. RIG UP – TEAR OUT	4	17.75
21.		17.25
TOTALS	24	432

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING 1983 04 23 0800
Year - Month - Day - Time

Ran 5 guns of sidewall cores - had 2 misruns. Wait on orders. Run in hole with drill collars and heavy weight drill pipe. Pull out of hole and lay down same. Run in hole open end. Circulate. Run plug #1 1010 - 910 m, 6.56 T, Class "G" neat. Plug down at 1945 hrs, 1983-04-22. Pull out of hole. Run in hole and set Baker bridge plug (wireline set) at 650 m. Run in hole open end and tag plug at 650 m. Run Plug #2 650-620 m, 1.64 T Class "G" neat. Plug down at 2400 hrs, 1983-04-22. Pull up to 50 m. Run plug #3 50 m - surface, 2.81 T permafrost cement. Plug down at 0400 hrs, 1983-04-23. Tear out B.O.P.'s and Grant rotating head. Laid B.O.P.'s down at 0700 hrs. Tearing out rig and cleaning mud tanks at report time.

WANT LIST:

WEATHER - 5° C. Light Clouds ROAD Muddy

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

Winterhawk

Petroleum Consulting Services Ltd

DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

1983 04 24 0800

Year Month Day Time

WELL NAME Forward et al Anderson LOCATION C-51

DAY 19 DEPTH 1010 m METRES LAST 24 HRS. ROTATING HRS. -

ACTIVITY AT REPORT TIME Dry and Abandoned

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 WT.	BIT RPM	DEPTH OUT m	m DRLD	ROT. HOURS	CUM ROT HRS	m/HR	DULL COND T	B	G

CIRCULATION RECORD

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

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

COSTS

DAILY

CUM.

SUPERVISOR Udo Schukowski

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		235.75
2. TRIPS		22.00
3. RIG SERVICE		8.5
4. DEVIATION SURVEY		8
5. REAM & COND. HOLE		5.25
6. MIX & COND. MUD		.75
7. CIRCULATING		10.25
8. RIG REPAIR		.75
9. RUN CASING & CEMENT		13.75
10. FISHING		
11. LOGGING		23
12. CORING		
13. FORMATION TESTING		0.75
14. WAITING ON:		37
15. NIPPLE UP & TEST BOP		[illegible]
16. DRILLING OUT		3.5
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		5.75
19. PLUG & ABANDON		1
20. RIG UP – TEAR OUT	4	2[illegible].75
21.		1[illegible].25
TOTALS	4	43[illegible]

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING 1983 04 24 0800
Year - Month - Day - Time

Complete tear out. Clean up rig and location. Rig release at 1983-04-23, 1200 hrs. Casing cut off 1 m below ground level and capped. Well identifier installed at rig release.

Note: 1. Hole filled with 1180 kg/m^3 50 sxs viscosity mud, between all plugs.
2. Well classed as dry and abandoned.

"Final Report"

WANT LIST:

WEATHER ROAD

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

Winterhawk Petroleum Consulting Services Ltd.

PAGE _____

CHRONOLOGICAL HISTORY

WELL Forward et al Anderson LOCATION C-51

ENGINEER J. Aldridge

DATE	WORK DESCRIPTION
83-04-03	Tear out and move off Izok M-20 to Anderson location.
83-04-04	Move and rig up camp and lay rig matting and spot sub and mud tanks.
83-04-05	Rig up on location - 90% rigged up. Derrick raised at 0745 hours, 83-04-05. Spotting pipe tubs, Cat Walk and 1 - 400 Bbl fuel tank. Start to transfer fuel from Izok. Rigging up floor and prefabs. Will spud sometime tonight depending on rat hole and mouse hole drilling progress.