

D.A. 1128

FORWARD ET AL AUBRY J-13

FINAL DRILLING SUMMARY

MAY 1984

PREPARED FOR:

Forward Resources Ltd.

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 Ewekka C-11 well drilled in February - March of 1984.

The 1983-84 drilling of Ewekka C-11 represented a continuance of the exploration activity which began in 1982-83 pursuant to a farm out agreement between Dome Petroleum Limited et al. and Forward Resources Ltd. In 1982-83, an extensive seismic operation was conducted in the region, with Norman Wells acting as the base station.

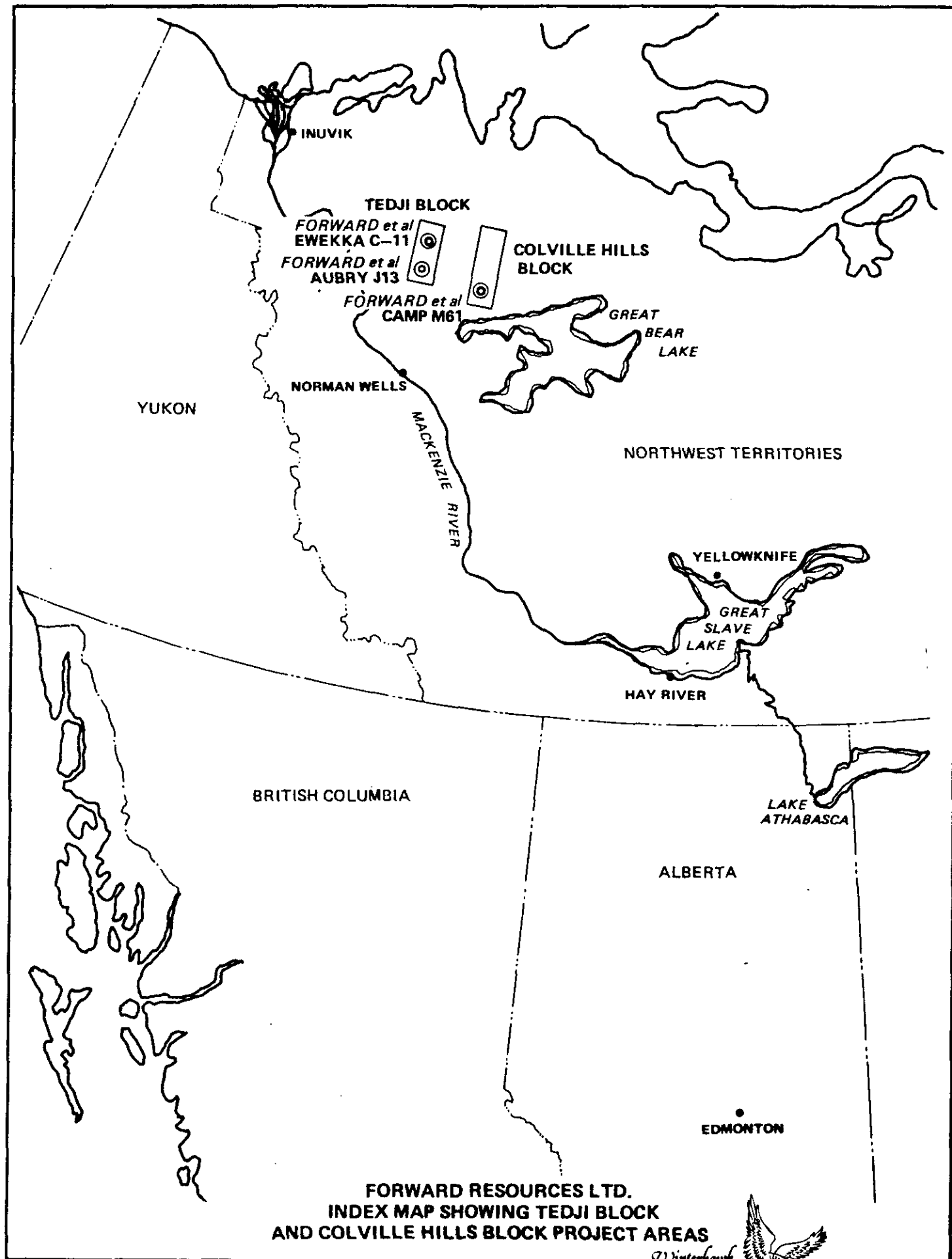
The rig and related components had been racked from the previous year's operation at a storage site in the Northern block of the Esso land, as indicated in the enclosed area map. In September of 1983, additional drilling supplies and support services were transported by barge to Norman Wells, N.W.T.

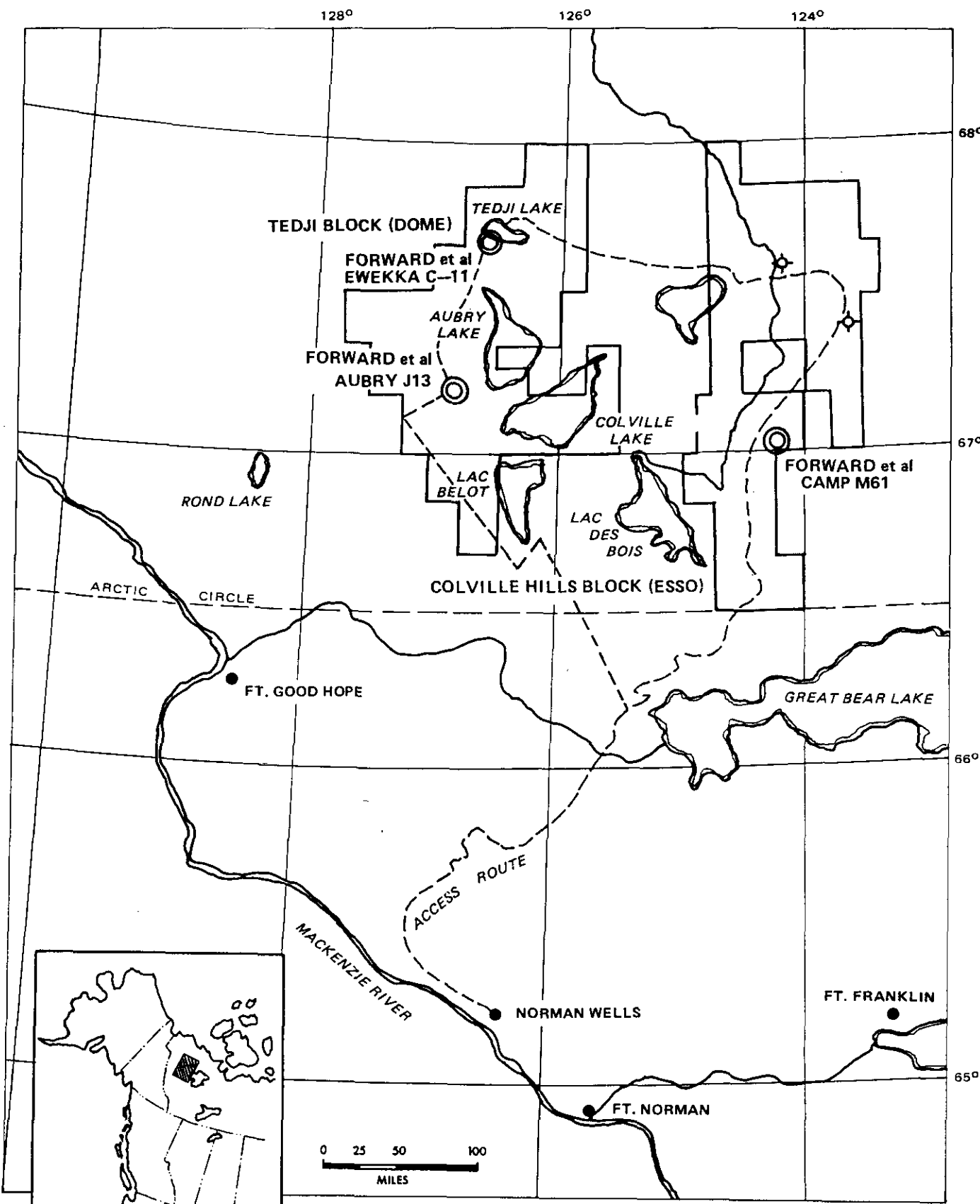
Transportation of the rig and related equipment was carried on simultaneously from the Norman Wells base station and from the racking site in early December of 1983. Drilling commenced on the Camp M-61 well location in early January 1984 and was completed by the end of the month. All supplies and equipment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

With the completion of Forward et al Ewekka C-11 in early March of 1984, the rig was transported south to the Aubry J-13 well location. Forward et al Aubry J-13, the second of the wells drilled in the Dome Acreage was spudded in mid March and drilled to total depth by the first week of April 1984.

Forward Resources Ltd. hereby gives notice that the enclosed report is to be considered as the **final well summary for the Aubry J-13 well location.**







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
 - Water Analysis
 - 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 - pocket enclosure
 - DLL-GR
 - CN-CDL-GR-4CAL
 - BHC/AC-GR-CAL
 - ACB/VDL/GR
 - Mud
 - Lithology

SECTION I

SUMMARY OF WELL DATA

FINAL WELL REPORT AUBRY J-13

WELL NAME: Forward et al Aubry J-13

LESSOR: Dome Petroleum Limited et al. farm out to Forward Resources Ltd.

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

LOCATION: J-13 67-20-126-45

CO-ORDINATES: 67° 12' 37.11"
126° 47' 39.94"

LEASE NO.: N/A

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

DRILLING AUTHORITY: No. 1128 issued 84-03-09

CLASSIFICATION: New Field Exploratory (Northern)

ELEVATIONS: G.L. 333.80 m
K.B. 337.80 m

SPUD DATE: 84-03-18

COMPLETED DRILLING DATE: 84-04-05

TOTAL DEPTH, PLUG BACK: 1330 m 0 m P.B.T.D.

WELL STATUS: Dry and Abandoned

RIG RELEASED: 84-04-08

HOLE SIZES: 444 mm to 55 m
311 mm to 910 m
215 mm to 1330 m

CASING SIZES: 339 mm to 55 m
244 mm to 897 m





WELL SUMMARY

DATE 84 04 08

Well Forward et al Aubry J-13 Location _____
Elevations: KB 337.8 m GL 333.8 m CF 334.2 m
History: Spud Date 84 03 18 R.R. Date 84 04 08 TD 1330 m
Status Dry and Abandoned Producing Zone(s) N/A

A. DRILLING DETAILS

Hole Size 444 mm Depth 55 m Logs -
Hole Size 311 mm Depth 910 m Logs DLGR, CDCN-GR, BHCS-GR
Hole Size 215 mm Depth 1330 m Logs DLGR, CNCDL-GR-CAL, BHC/AC-GR-CAL,
Hole Size _____ Depth _____ Logs CBI-GRC-CCI, Lithology, Mud
Casing Size 339 mm Grade K-55 Depth 55 m Cement Vol. 17 T "G"
Casing Size 244 mm Grade I-80 Depth 897 m Cement Vol. 22.8 T "G" +
Casing Size _____ Grade _____ Depth _____ Cement Vol. 2.5 T Permafrost
Casing Size _____ Grade _____ Depth _____ Cement Vol. _____

DST No. 1 Int 1262 m - 1280 m 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 1200 m - 1330 m Cement Vol. 6.7 T "G" + 3% CaCl₂ Felt No
Plug No. 2 Int 880 m Cement Vol. Bridge Plug Felt Pressure
Plug No. _____ Int 855 - 880 m Cement Vol. 1.35 T + 3% CaCl₂ Felt Tested
Plug No. 3 Int 0 - 25 m Cement Vol. 1.35 T Permafrost 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 B. Schaffer

SECTION II

GEOLOGICAL SUMMARY

FORMATION TOPS

FORWARD ET AL AUBRY J-13

Lat. $67^{\circ}12'37.11''\text{N}$, Long. $126^{\circ}47'39.94''\text{W}$

GEOLOGICAL REPORT

Alan J. Williams
Dawson-Long & Associates Ltd.

GEOLOGICAL MARKERS

<u>Formation</u>	<u>Sample Top</u>	<u>Subsea (Sample)</u>	<u>Log Top</u>	<u>Subsea (Log)</u>
Pleistocene	0	+338.04	-	-
Bear Rock	50.5	+287.54	-	-
Mount Kindle	110	+228.04	110	+228.04
Franklin Mt.				
Cherty	257	+ 81.04	258	+ 80.04
Rhythmic	473	-134.96	?	?
Cyclic	717	-378.96	718	-379.96
Saline River				
Shale	892	-553.96	892	-553.96
Salt	935	-596.96	934	-595.96
Upper Mount Cap	1139	-800.96	1138	-799.96
Old Fort Island	1275	-936.96	1272	-933.96
Proterozoic	1279	-940.96	1278	-939.96

PALAEONTOLOGICAL DETERMINATIONS



GEOLOGICAL SUMMARY

Pleistocene 0 - 50 m

The Pleistocene is a glacial till, a medium grey clay matrix with 20% medium to coarse grained, rounded, unconsolidated sand, possibly in lenses, and rock fragments, angular and rounded from very coarse sand sized to boulders. There is a layer of boulders from 45 to 50 meters. The unit is not entirely frozen but makes some water from 45 to 50 meters.

Bear Rock Top @ 50.5 m

The Bear Rock is light grey and light brown, in part mottled, in part oil stained medium brown, cryptocrystalline to microcrystalline. Fine vuggy porosity from trace amounts up to 15% in places, averaging over 5% throughout but showing poor permeability with most chips bleeding dark brown heavy oil. The oil staining shows a trace of pale yellow fluorescence with a moderately fast pale yellow fluorescent cut in chlorothene.

Ordovician Mount Kindle? Top @ 110 m

There is a light grey, dolomitic shale at the top of this unit. The rest is light brown, microcrystalline to fine crystalline dolomite, trace vuggy porosity, trace light grey dolomite, slightly argillaceous, slightly silty. No shows in this unit. It is frozen to about 190 meters and wet below that.

Franklin Mountain Cherty Top @ 257 m

The Franklin Mountain Cherty is light grey and light brown, interbedded, in part microcrystalline to very fine crystalline, in part medium to coarsely crystalline dolomite. There are 25% cherty interbeds, banded, oolitic, and vuggy porosity throughout the unit from trace amounts to as high as 20% from 345 to 375 meters. There is a trace of dark grey dead oil staining and only trace amounts of gas detected. The porosity is wet and a great amount of water was pumped from the formation during drilling.

Franklin Mountain Rhythmic Top @ 473 m

The Franklin Mountain Rhythmic is interbedded, light grey, light brown, and medium grey-brown dolomites, microcrystalline to very fine crystalline trace medium to coarse crystalline, trace vuggy porosity and local oil stain throughout. There are minor interbedded, soft, light grey and green shales and dark grey shales. The unit alternates clean and argillaceous every 40 meters or so. There is pale yellow fluorescence and faint shows yellow fluorescent cut at 490 to 505 meters and 580 to 590 meters in light brown, bituminous dolomite that gives a petroliferous smell on dissolution in acid. The gas readings are just trace amounts in this unit. None of the porosity in the unit adds significantly to the water flow in this well.

Franklin Mountain Cyclic Top @ 717 m

The Franklin Mountain Cyclic is interbedded light grey and light brown, clean dolomites and medium brown, medium grey brown and medium grey, argillaceous dolomites and 5% light green to dark grey dolomitic shales, closer to 20% shales in the bottom 35 meters of the unit. The dolomite is cryptocrystalline to microcrystalline with minor very fine crystalline having a trace of fine vuggy porosity throughout the unit and minor fracture porosity from 800 to 850 meters. There is 5 to 10% vuggy porosity from 772 to 780 meters and three times background gas readings here only [0.06% as opposed to .02% for background (3 units to 1 unit)]. There is a lot of limestone cavings from 55 to 110 meters in the samples. From 828 meters on the unit is shalier and more argillaceous with depth. There are sucrosic, dead, in part tarry oil stains throughout the unit. There is minor anhydrite in the bottom 15 meters.

Saline River Shale Top @ 892 m

The Saline River shale is interbedded, multicolored, dolomitic, silty shales anhydrite, gypsum and pink and light brown and light grey, sandy, silty, anhydritic, microcrystalline dolomite. There is some minor poorly sorted, fine to coarse grained, dolomitic sandstones also. There is no porosity or shows in this unit.

Saline River Salt Top @ 935 m

The unit consists of massive salt beds with minor shale, gypsum and dolomite layers and interbedded soft, light green and light grey dolomitic, fissile shales. The last 15 meters of the unit consists of these soft shales only. There are no shows or porosity in this unit.

Upper Mount Cap Top @ 1139 m

The Upper Mount Cap is interbedded tight, mostly cryptocrystalline, light brown limestones, very slightly porous, medium brown, microcrystalline to very fine crystalline, trace coarse crystalline dolomites and dark brown to black, bituminous, dolomitic, slightly calcareous shales with dark brown, cherty sections throughout. The dolomite at 1178 to 1182 meters and 1212 to 1217 meters has fine vuggy or pinpoint porosity and some dark brown oil staining with faint yellow fluorescence and very slow pale yellow fluorescent cut. There is minor faint yellow fluorescence throughout the tight dolomites and bituminous shales but no cut or shows.

Lower Mount Cap Top @ 1220 m

The top is the green shale marker consisting of dark green, dolomitic, slightly waxy, radioactive shale. There are minor fine to coarse grained dolomites, mottled light to medium brown, containing traces of fine vuggy porosity. There is minor faint yellow fluorescence and a trace of very slow pale yellow fluorescent cut at 1252 to 1257 meters. There is minor glauconitic sand in the dolomite and some shale and a basal sand zone with microcrystalline dolomitic matrix of up to 50%. The sand is fine to coarse grained, in part glauconitic and tight. There is minor gas, to 0.5%, from the slightly porous dolomites in this unit.

Old Fort Island Top @ 1275 m

There is a meter thick tight, fine to medium crystalline, medium brown dolomite cap over three meters of sand with a thin basal dolomitic shale. The sand is light grey, 20% very fine, 40% fine, 20% medium and 20% coarse to very coarse grained with the coarser sized grains in a matrix of very fine to fine grained sand. There is 2 to 3% intergranular porosity with minor dark brown crystalline pyrobitumen filling some pores. The cementing is entirely siliceous intergrowths. There is some unconsolidated coarse to very coarse, frosted grains indicating possibly higher porosity. About 20% of the sample is light brown oil stained. Most of the sands fluoresce, two-thirds show a faint yellow fluorescence while one-third shows a bright blue-white fluorescence. There is a slow faint yellow fluorescence from some chips. There is minor gas, 0.2% from this unit.

Proterozoic - Shaler Group Top @ 1279 m

There is a pink, cream, light brown, microcrystalline, in part cherty, slightly silty, tight dolomite with minor dark to medium grey, micaceous shales. There are no shows or significant porosity in this unit.

SECTION III

ENGINEERING SUMMARY



DRILL STEM TESTS



PAGE _____

A. WELL DATA

FIELD DRILL STEM TEST REPORT

DATE 84 04 07

Well: Forward et al Aubry J-13 Location: _____
DST No. 1 Interval 1262 - 1280 m Formation Old Fort Island
Last Casing: Size 244 mm Depth 897 m Open Hole: Size 215 mm Depth 1330 m
Hole Troubles: None Caliper at Packer(s) _____
Mud: Wt. 1220 Vis 58 W.L. 23 % Oil _____ ppm Cl _____

B. TEST STRING DATA

Testing Company Strata Hughes Type of Test Bypass Straddle
Type and Number of Packers 4 Size 196 mm
DP Size 114 mm Wt 24.7 kg/m Length 1120.94 m
DC Size 159 mm Wt 139 kg/m I.D. 57.1 mm Length 132.88 m
Tail Pipe Size 1 Wt 139 kg/m Length 38.01 m Perfs 3.65 m
T.D. String 1330 m Recorder Depth 1266.29 m Water Cushion - BH Choke 12.70
Packer Depth(s) 1262 m Weight on Packer(s) 20,000 daN
Other Equipment Sampler, temperature recorder, safety joint, jars.

C. TEST RESULTS Recorder # 1250

Times: PF 10 ISI 60 Flow 90 SI _____ Flow _____ FSI 180
Pressures: PF 709 IH 15862 ISI 12041 IF 957
TEMP 21 °C FH 15826 FSI 11819 FF 1760

Flow Descriptions:

Prewflow: Weak air blow throughoutValve Open Flow: Weak air blow decreasing to faint throughoutRecoveries: 160 m drilling mud 158000 ppm

D. SAMPLE DETAILS:

1 sampler 3 fluidSent to: AGAT Via: _____ Date Sent: _____

E. REMARKS:

Successful test.

Note: Data reported on this form are field readings taken
at the time of test, and are subject to correction.

ENGINEER B. Schaffer



TEST INFORMATION REPORT

STRATA HUGHES TESTING

633 - 6th AVENUE S.W., CALGARY, ALBERTA, CANADA T2P 2Y5

C PANY Forward Resources Ltd.

W L NAME Forward et al Aubry J-13

WELL LOCATION J-13-67-126

INTERVAL 1262-1280

C TONER Forward Resources Ltd.

KB ELV. 337.8

GR ELV. 333.8

NET PAY -

DATE 84/04/07

TICKET # A578 DST.# One

FORMATION Old Fort Island

TYPE of TEST Bypass Straddle

RECORDER DATA

ALL MEASUREMENTS ARE 'SI'

TIME DATA [CONVENTIONAL]

P.	10	REC.#	8041	1250	5572	4394
SI	60	RANGE	46884	41369	44471	48263
S	90	CLOCK	24	24	24	24
F	180	DEPTH	1254.36	1266.29	1267.51	1284.19

PF fr.	06:55	to	07:05	Hr.
IS fr.	07:05	to	08:05	Hr.
SF fr.	08:05	to	09:35	Hr.
FS fr.	09:35	to	12:35	Hr.

	kPa	kPa	kPa	kPa
A Init. Hyd.	-	15862	15881	16054
B First Flow	Clock	709	809	-
B1.Final Flow	-	685	757	-
C. In Shut-in	Stopped	12041	12054	-
D Init. Flow	-	957	1040	A1 12837
E. Final Flow	-	1760	1780	-
F. Fi Shut-in	-	11819	11836	-
G Final Hyd.	-	15826	15846	16024

T STARTED	04:00	Hr.
T ON BTM	06:30	Hr.
T OPEN	06:55	Hr.
T PULLED	12:35	Hr.
T OUT	14:30	Hr.

Inside/Outside	Inside	Outside	Outside	Outside
----------------	--------	---------	---------	---------

TOOL DATA

TOOL WT.	3 000	daN
WT SET ON PACKER	20 000	daN
WT PULLED LOOSE	50 000	daN
INITIAL STR WT	45 000	daN
UNSEATED STR WT	45 000	daN
BTM.CHOKE	12.70	mm
HOLE SIZE	222	mm
D.COLL I.D.	57.1	mm
D.PIPE I.D.	92.5	mm
D.C.LENG	132.88	m
D.P.LENG	1120.94	m

RECOVERY

TOTAL FLUID 160 m of 132.9 m in D.C. and 27.1 m in D.P.
160 m of drilling mud 258 000 PPM
- m of -
- m of -
- m of -

G RECOVERY MEASURED WITH

TIME	ORIFICE	PRESSURE	H ² O	RATE
mins.	mm	kPa	mm	m ³ /d

MUD DATA

MUD TYPE	Salt Gel	
WEIGHT	1220	kg/m ³
VIS	58	S/L
W.L.	23	cm ³
F.C.	1	mm
MUD DROP	No	m

REMARKS:

PREFLOW - Weak air blow throughout.

SECONDFLOW - Weak air blow decreasing to faint throughout.

TEST SUCCESSFUL

Charts to customer

Samples to AGAT - 1 sampler 3 fluid

GENERAL DATA

AMT.OF FILL	Nil	m
BTM.H.TEMP	21	C
POROSITY %	-	
HOLE COND	Good	
PACKER SIZE	196	mm
# OF PACKERS	4	
CUSHION AMT	None	m
CUSHION TYPE.	None	
REVERSED OUT	No	
TOOL CHASED	No	
TESTER	T. Gibbs	
CO. REP.	B. Schaffer	
CONTRACTOR	300 Drilling	
RIG#	Mr. Ben /S12	

WELL NAME: Forward et al Aubry J-13 J-13-67-126

TICKET # A578

D.S.T.# One



CONVENTIONAL

TEST INFORMATION REPORT

STRATA HUGHES TESTING

633 - 6th AVENUE S.W., CALGARY, ALBERTA, CANADA T2P 2Y5

WELL NAME Forward et al Aubry J-13

LOCATION J-13-67-126

WELL NO. A578

D.S.T. NO. One

DATE 84/04/07

TOTAL TOOL TO BOTTOM TOP PACKERS

13.10

INTERVAL TOOL

8.54

BOTTOM PACKERS and ANCHOR

11.21

TOTAL TOOL

32.85

DRILL COLLAR IN INTERVAL

9.58

DRILL COLLAR ANCHOR STANDS

STANDS 1

SINGLE 1

TOTAL

38.01

DRILL PIPE ANCHOR

STANDS -

SINGLE -

TOTAL

-

TOTAL ASSEMBLY

80.41

DRILL COLLARS ABOVE TOOLS

STANDS -

SINGLE -

TOTAL

132.88

DRILL PIPE ABOVE TOOLS

STANDS -

SINGLE -

TOTAL

1120.94

TOTAL DRILL COLLARS DRILL PIPE AND TOOLS

1334.26

TOTAL DEPTH

1329.30

TOTAL DRILL PIPE ABOVE K.B.

4.96

REMARKS

TEST SUCCESSFUL

P.O. Sub	.31
C.O. Sub	.31
Shut-in Tool	1.58
Sampler	1.10
HMV	2.16
REC. # 8041	1.52
Jars	1.85
By Pass Hanger	.42
Safety Joint	.61
PACKER	1.78
PACKER	1.46
Depth 1262.00	-
Stub	.32
Anchor	-
Perfs	3.65
By Pass Recvr.	.32
REC. # 1250	1.22
REC. # 5572	1.52
CO Sub	.31
Drill Collar	9.58
CO Sub	.31
T.C.	.89
Depth 1280.00	-
PACKER	.89
PACKER	1.78
Temp Rec.	&
REC. # 4394	1.52
Blank OFF Sub	5.79
CO Sub	.31
Drill Collar	38.01
CO Sub	.31
Bullnose	.61
T.D. 1329.00	-



TEST INFORMATION REPORT
STRATA HUGHES TESTING

633 - 6th AVENUE S.W., CALGARY, ALBERTA, CANADA T2P 2Y5

WELL NAME & LOCATION : FORWARD ET AL AUBRY J-13 J-13-67-126
TICKET# A578 DST# ONE
RECORDER #: 1250 AT 1266.29 M

TU = : 10

T = : 100

INITIAL SHUT-IN					FINAL SHUT-IN					
T ME	TO+ ΔT	PSIG	KPA	PSIG^2	*	TIME	T+ ΔT	PSIG	KPA	PSIG^2
	ΔT			10^6			ΔT			10^6
0	-	99.4	685	.010	*	0	-	255.3	1760	.065
6	2.67	1417.6	9774	2.010	*	6	17.67	1171.0	8074	1.371
12	1.83	1565.1	10791	2.450	*	12	9.33	1341.3	9248	1.799
18	1.56	1627.8	11223	2.650	*	18	6.56	1423.0	9811	2.025
24	1.42	1665.0	11480	2.772	*	24	5.17	1476.6	10181	2.180
30	1.33	1690.4	11655	2.858	*	30	4.33	1514.9	10445	2.295
36	1.28	1708.3	11778	2.918	*	36	3.78	1543.5	10642	2.382
42	1.24	1722.6	11877	2.967	*	42	3.38	1566.4	10800	2.454
48	1.21	1731.9	11941	2.999	*	48	3.08	1584.8	10927	2.512
54	1.19	1739.6	11994	3.026	*	54	2.85	1598.5	11021	2.555
60	1.17	1746.4	12041	3.050	*	60	2.67	1610.9	11107	2.595
					*	70	2.43	1628.0	11225	2.651
					*	80	2.25	1643.0	11328	2.699
					*	90	2.11	1654.3	11406	2.737
					*	100	2.00	1664.2	11474	2.769
					*	110	1.91	1673.4	11538	2.800
					*	120	1.83	1681.4	11593	2.827
					*	140	1.71	1694.3	11682	2.871
					*	160	1.62	1704.8	11754	2.906
					*	180	1.56	1714.2	11819	2.938

DATA

	INITIAL SHUTIN	FINAL SHUT-IN
NO. OF INCREMENTS-----	10	19
NO. OF POINTS EXTRAPOLATED-----	6	7
SLOPE OF EXTRAPOLATED LINE-----	1009	513 PSI/CYCLE
EXTRAPOLATED PRESSURE-----	12438 KPA	12535 KPA

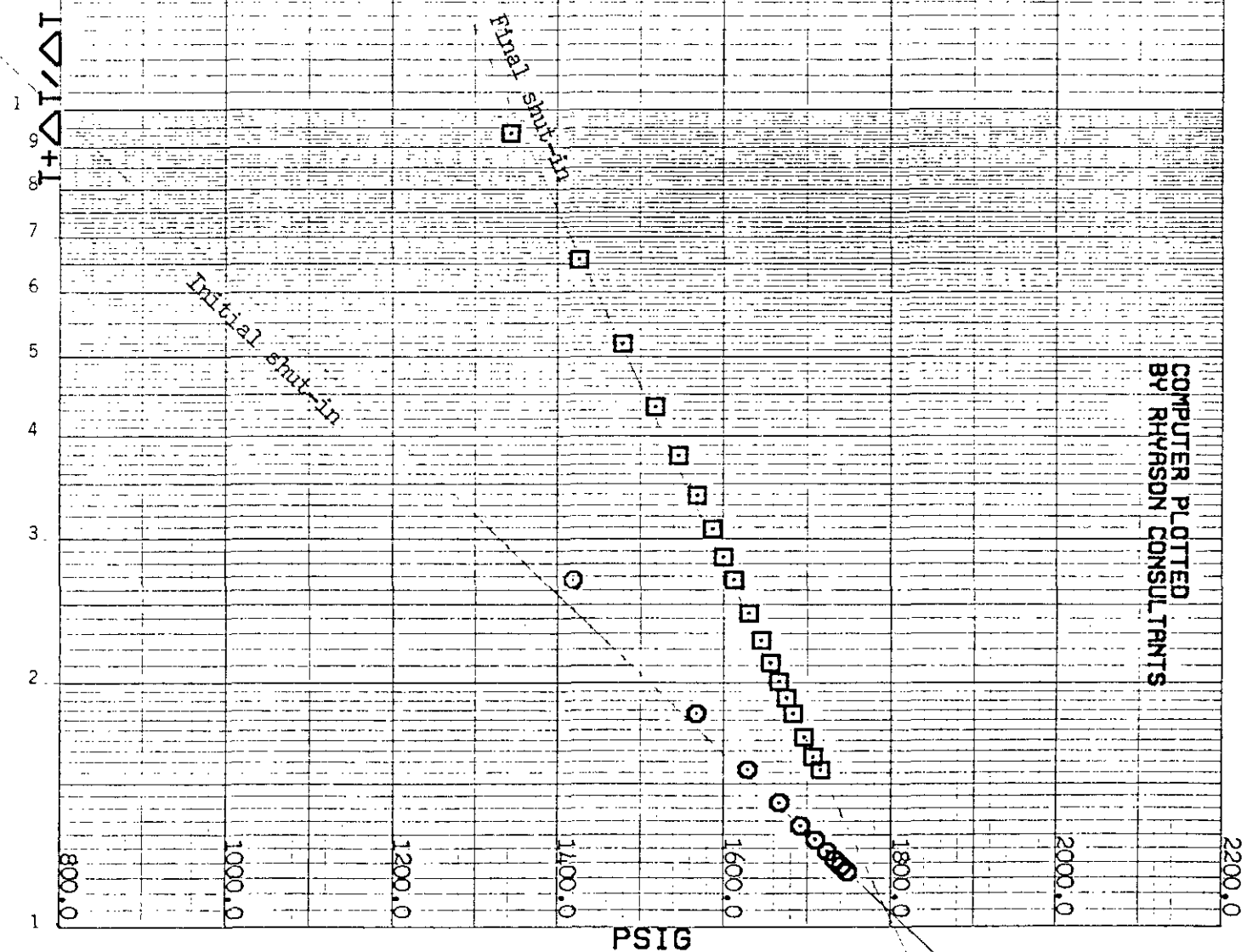
COMPUTATIONS BY RHYASON CONSULTANTS
PH: 230-8423

HORNER

WELL NAME: FORWARD ET AL AUBRY J-13
 LOCATION: J-13-67-126
 TICKET # A578 DST # ONE
 RECORDER # 1258 AT 1266.29M

46 4970

REMI-LOGARITHMIC • 2 CYCLES X 70 DIVISIONS
 REUFFEL & ESSER CO. 4401 N. 10th A.



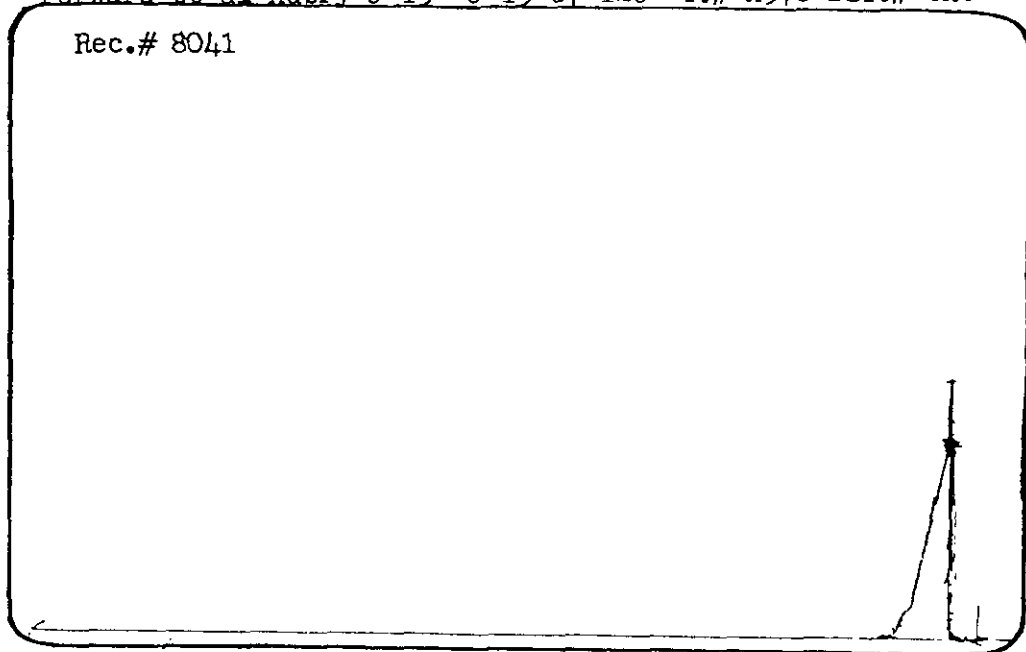
COMPUTER PLOTTED
 BY RHASDN CONSULTANTS



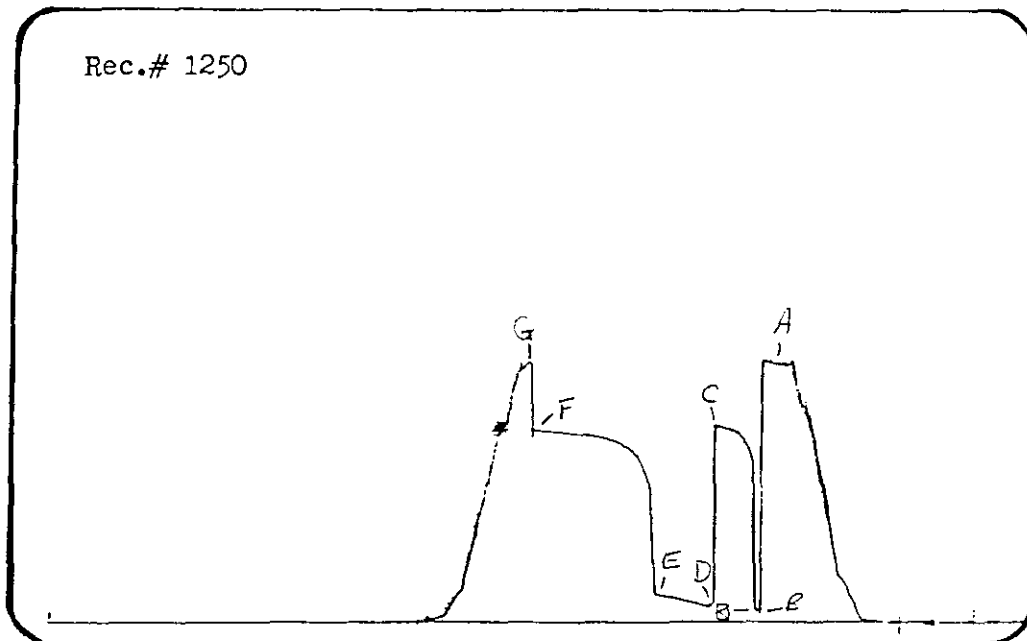
TEST INFORMATION REPORT
STRATA HUGHES TESTING
633 - 6th AVENUE S.W., CALGARY, ALBERTA, CANADA T2P 2Y5

Forward et al Aubry J-13 J-13-67-126 T.# A578 DST.# One

Rec.# 8041



Rec.# 1250





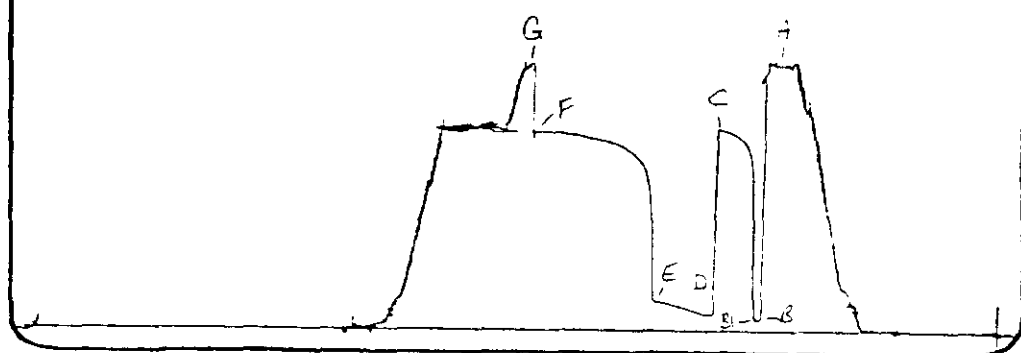
TEST INFORMATION REPORT

STRATA HUGHES TESTING

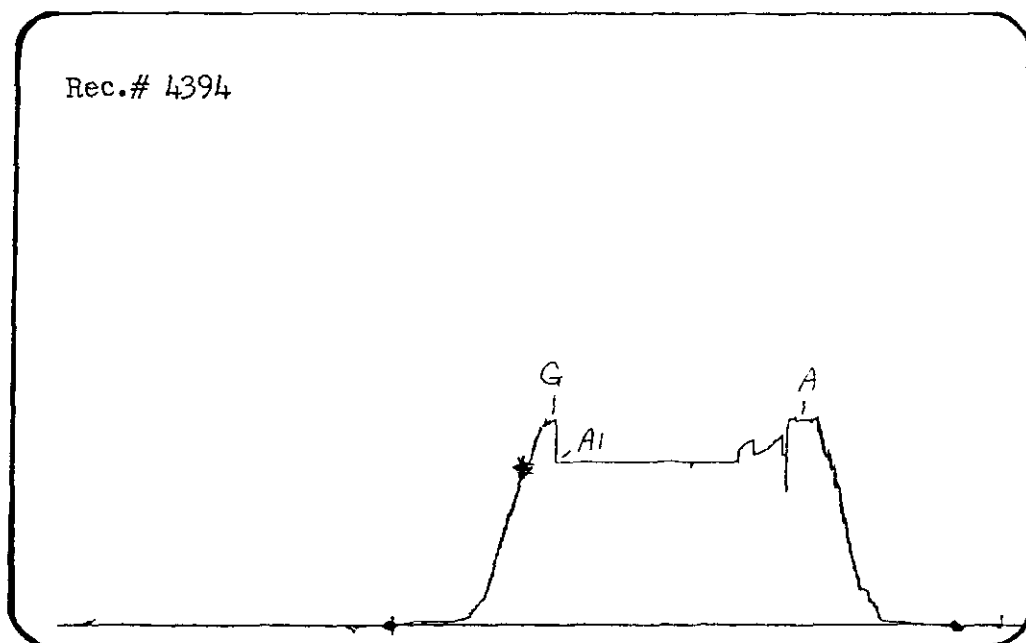
633 - 6th AVENUE S.W., CALGARY, ALBERTA, CANADA T2P 2Y5

Forward et al Aubry J-13 J-13-67-126 T.# A578 DST.# One

Rec.# 5572



Rec.# 4394



WATER ANALYSIS



AGAT LABORATORIES

3650 - 21st STREET N.E.
CALGARY, ALBERTA T2E 8V6
PHONE: 230-1568

CONTAINER IDENTIFICATION

TOOL SAMPLE

WATER ANALYSIS

LABORATORY NUMBER

E4384

OPERATOR NAME

FORWARD RESOURCES LTD.

UNIQUE WELL IDENTIFIER

J-13

WELL NAME

FORWARD ET AL AUBRY J-13

KB m ELEVATIONS GRD m

337.8

333.8

FIELD OR AREA

AUBRY

POOL OR ZONE

OLD FORT ISLAND

NAME OF SAMPLER

COMPANY

STRATA HUGHES

TEST TYPE

DST

NO

1

TEST RECOVERY

1300ml MUD CUT WATER @ 0 PSI

TEST INTERVAL OR PERFS

1262-1280mKB

SAMPLING POINT

TOP OF THE TOOL

AMT & TYPE OF CUSHION

MUD RESISTIVITY/ μ m

@ 25°C

TYPE OF PRODUCTION

PUMPING

FLOWING

GAS LIFT

SWAB

PRODUCTION RATES

WATER

m³/d

OIL

m³/d

GAS

10³ m³/d

GUAGE PRESSURE kPa

SEPARATOR

TREATER

RESERVOIR

SOURCE

SAMPLED

RECEIVED

TEMPERATURE °C

DATE SAMPLED (Y-M-D)

84-04-08

DATE RECEIVED (Y-M-D)

84-04-12

DATE REPORTED (Y-M-D)

84-04-19

ANALYST

PB, LS & JM

OTHER INFORMATION

ION	$\frac{m \cdot V}{g \cdot m^3}$	MASS FRACTION	$\frac{C}{mole \cdot m^3}$
Na	109000.0	.388	4740.0
K	1350.0	.005	34.4
Ca	1240.0	.004	31.0
Mg	5.3	TRC*	.2
Ba	N.A.	N.A.	N.A.
Sr	N.A.	N.A.	N.A.
Fe	8.3	TRC*	.1

ION	$\frac{m \cdot V}{g \cdot m^3}$	MASS FRACTION	$\frac{C}{mole \cdot m^3}$
Cl	169000.0	.602	4760.0
Br	N.A.	N.A.	N.A.
I	N.A.	N.A.	N.A.
HCO ₃	N.A.	N.A.	N.A.
SO ₄	N.A.	N.A.	N.A.
CO ₃	N.A.	N.A.	N.A.
OH	N.A.	N.A.	N.A.
H ₂ S	N.D.	N.D.	N.D.

TOTAL SOLIDS

 $\frac{m \cdot V}{g \cdot m^3}$

EVAPORATED AT 110°C

EVAPORATED AT 180°C

AT IGNITION

CALCULATED

281000.0

RELATIVE DENSITY

REFRACTIVE INDEX

1.182 @ 25°C

N.A. @ 25°C

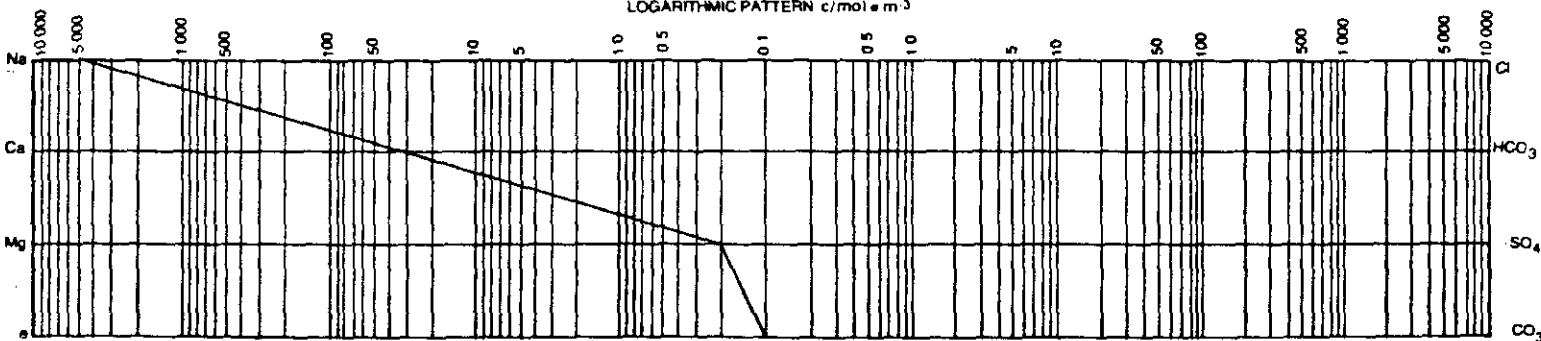
OBSERVED pH

RESISTIVITY/OHM $\cdot$ m

@ 25°C

.06 @ 25°C

DST CHAMBER: 0.P.=0 kPa
RECOVERY: 1,300ml. water

LOGARITHMIC PATTERN $\frac{C}{mole \cdot m^3}$ 

REMARKS

TRC+=LESS THAN 0.1 N.D.=NOT DETECTED NIL=0.0 TRC*=LESS THAN 0.001 N.A. = NOT ANALYZED



AGAT LABORATORIES

3650 - 21st STREET N.E.
CALGARY, ALBERTA T2E 6V6
PHONE: 230-1568

CONTAINER IDENTIFICATION

BHS # 1

WATER ANALYSIS

LABORATORY NUMBER

E4384

OPERATOR NAME

FORWARD RESOURCES LTD.

UNIQUE WELL IDENTIFIER

J-13

WELL NAME

FORWARD ET AL AUBRY J-13

ELEVATIONS

KB m 337.8

GRD m 333.8

FIELD OR AREA

AUBRY

POOL OR ZONE

OLD FORT ISLAND

NAME OF SAMPLER

COMPANY

STRATA HUGHES

TEST TYPE

DST

NO

1

TEST RECOVERY

TEST INTERVAL OR PERFS

1262-1280mKB

SAMPLING POINT

Bottom Hole Sampler

AMT & TYPE OF CUSHION

MUD RESISTIVITY/ Ω m

@ 25°C

TYPE OF PRODUCTION

PUMPING

FLOWING

GAS LIFT

SWAB

PRODUCTION RATES

WATER

m³/d

OIL

m³/d

GAS

10³ m³/d

GUAGE PRESSURE kPa

SEPARATOR

TREATER

RESERVOIR

SOURCE

SAMPLED

RECEIVED

TEMPERATURE °C

DATE SAMPLED (Y-M-D)

DATE RECEIVED (Y-M-D)

84-04-12

DATE REPORTED (Y-M-D)

84-04-19

ANALYST

PB LS & JM

OTHER INFORMATION

ION	$\frac{m \cdot V}{g \cdot m^3}$	MASS FRACTION	$\frac{C}{mole \cdot m^3}$
Na	113000.0	.379	4920.0
K	1350.0	.005	34.4
Ca	1260.0	.004	31.5
Mg	5.2	TRC*	.2
Ba	N.A.	N.A.	N.A.
Sr	N.A.	N.A.	N.A.
Fe	41.1	TRC*	.7

ION	$\frac{m \cdot V}{g \cdot m^3}$	MASS FRACTION	$\frac{C}{mole \cdot m^3}$
Cl	178000.0	.597	5010.0
Br	N.A.	N.A.	N.A.
I	N.A.	N.A.	N.A.
HCO ₃	183.0	.001	3.0
SO ₄	4200.0	.014	43.7
CO ₃	6.0	TRC*	.1
OH	NIL	NIL	NIL
H ₂ S	N.D.	N.D.	N.D.

TOTAL SOLIDS

 $\frac{m \cdot V}{g \cdot m^3}$

EVAPORATED AT 110°C

EVAPORATED AT 180°C

AT IGNITION

CALCULATED

298000.0

RELATIVE DENSITY

REFRACTIVE INDEX

1.181 @ 25°C

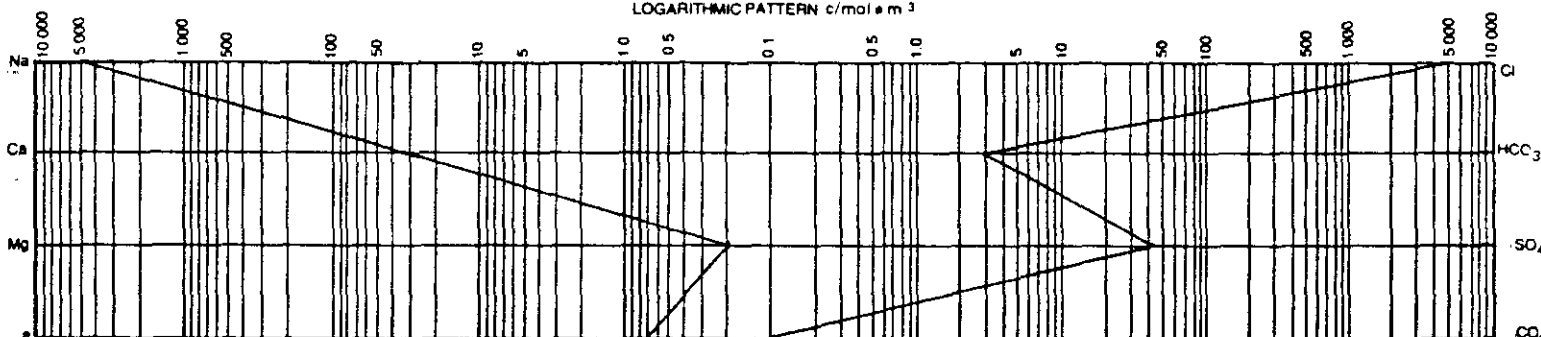
N.A. @ 25°C

OBSERVED pH

RESISTIVITY/OHM $\cdot$ m

9.02 @ 25°C

.06 @ 25°C

LOGARITHMIC PATTERN $c/mole \cdot m^3$ 

REMARKS:

TRC+ = LESS THAN 0.1, N.D. = NOT DETECTED, NIL = 0.0, TRC* = LESS THAN 0.001, N.A. = NOT ANALYZED



AGAT LABORATORIES

3650 - 21st STREET N.E.
CALGARY, ALBERTA T2E 6V6
PHONE: 230-1568

CONTAINER IDENTIFICATION

PB #1

WATER ANALYSIS

LABORATORY NUMBER

E4384

OPERATOR NAME

FORWARD RESOURCES LTD.

UNIQUE WELL IDENTIFIER

J-13

WELL NAME

FORWARD ET AL AUBRY J-13

ELEVATIONS

337.8

333.8

FIELD OR AREA

AUBRY

POOL OR ZONE

OLD FORT ISLAND

NAME OF SAMPLER

COMPANY

STRATA HUGHES

TEST TYPE

DST

NO

1

TEST RECOVERY

160m

TEST INTERVAL OR PERFS

1262-1200mKB

SAMPLING POINT

MIDDLE

AMT & TYPE OF CUSHION

MUD RESISTIVITY/ μ m

@ 25°C

TYPE OF PRODUCTION

PUMPING

FLOWING

GAS LIFT

SWAB

PRODUCTION RATES

WATER

m³/d

OIL

m³/d

GAS

10³ m³/d

GUAGE PRESSURE kPa

SEPARATOR

TREATER

RESERVOIR

SOURCE

SAMPLED

RECEIVED

TEMPERATURE °C

DATE SAMPLED (Y-M-D)

84-04-07

DATE RECEIVED (Y-M-D)

84-04-12

DATE REPORTED (Y-M-D)

84-04-17

ANALYST

PB, LS & JM

OTHER INFORMATION

ION	$\frac{m \cdot V^{-1}}{g \cdot m^{-3}}$	MASS FRACTION	$\frac{C}{mole \cdot m^{-3}}$
Na	104000.0	.362	4520.0
K	1240.0	.004	31.6
Ca	934.0	.003	23.3
Mg	2.0	TRC*	.1
Ba	N.A.	N.A.	N.A.
Sr	N.A.	N.A.	N.A.
Fe	1.9	TRC*	TRC+

ION	$\frac{m \cdot V^{-1}}{g \cdot m^{-3}}$	MASS FRACTION	$\frac{C}{mole \cdot m^{-3}}$
Cl	178000.0	.620	5010.0
Br	N.A.	N.A.	N.A.
I	N.A.	N.A.	N.A.
HCO ₃	53.4	TRC*	.9
SO ₄	2810.0	.010	29.3
CO ₃	195.0	.001	3.3
OH	NIL	NIL	NIL
H ₂ S	N.D.	N.D.	N.D.

TOTAL SOLIDS

 $\frac{m \cdot V^{-1}}{g \cdot m^{-3}}$

EVAPORATED AT 110°C

EVAPORATED AT 180°C

AT IGNITION

CALCULATED

287000.0

RELATIVE DENSITY

1.180 @ 25°C

REFRACTIVE INDEX

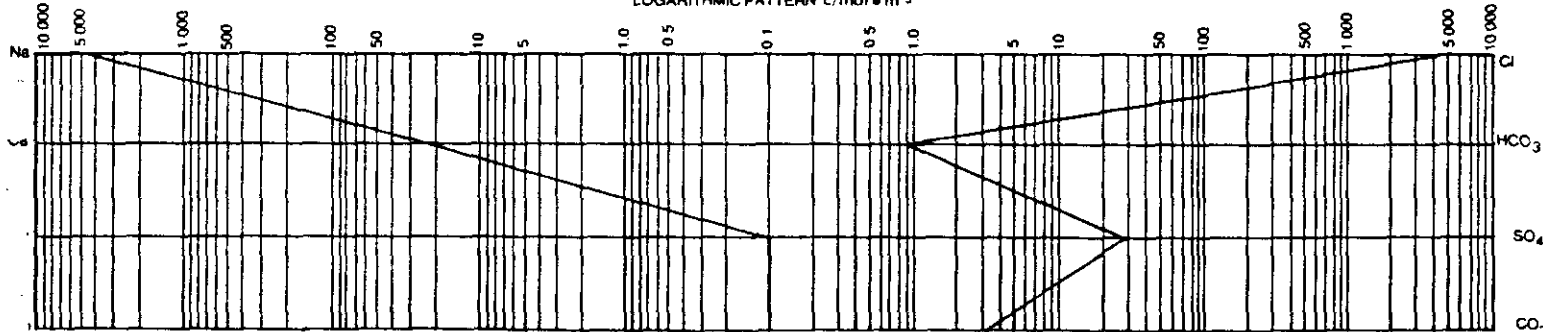
N.A. @ 25°C

OBSERVED pH

11.60 @ 25°C

RESISTIVITY/OHM $\cdot$ m

.04 @ 25°C

LOGARITHMIC PATTERN $C/mole \cdot m^{-3}$ 

REMARKS

TRC+=LESS THAN 0.1, N.D.= NOT DETECTED, NIL=0.0, TRC*=LESS THAN 0.001, N.A.=NOT ANALYZED



AGAT LABORATORIES
3650 - 21st STREET N.E.
CALGARY, ALBERTA T2E 6V6
PHONE 230-1568

CONTAINER IDENTIFICATION

PB # 2

WATER ANALYSIS

LABORATORY NUMBER

E4384

OPERATOR NAME

FORWARD RESOURCES LTD.

UNIQUE WELL IDENTIFIER

J-13

WELL NAME

FORWARD ET AL AUBRY J-13

KB m ELEVATIONS GRD m

337.8

333.8

FIELD OR AREA

AUBRY

POOL OR ZONE

OLD FORT ISLAND

NAME OF SAMPLER

COMPANY

STRATA HUGHES

TEST TYPE

OST

NO

1

TEST RECOVERY

160m

TEST INTERVAL OR PERFS

1262-1280mKB

SAMPLING POINT

TOP

AMT & TYPE OF CUSHION

MUD RESISTIVITY/ Ω m

@ 25°C

TYPE OF PRODUCTION

PUMPING

FLOWING

GAS LIFT

SWAB

PRODUCTION RATES

WATER

m/d

OIL

m/d

GAS

10^3 m³/d

GUAGE PRESSURE kPa

SEPARATOR

TREATER

RESERVOIR

SOURCE

SAMPLED

RECEIVED

TEMPERATURE °C

DATE SAMPLED (Y-M-D)

84-04-07

DATE RECEIVED (Y-M-D)

84-04-12

DATE REPORTED (Y-M-D)

84-04-19

ANALYST

PB, LS & JH

OTHER INFORMATION

ION	$\frac{m \cdot V}{g \cdot m^3}$	MASS FRACTION	$\frac{C}{mol \cdot m^3}$
Na	113000.0	.386	4920.0
K	1350.0	.005	34.4
Ca	830.0	.003	20.7
Mg	1.0	TRC*	TRC+
Ba	N.A.	N.A.	N.A.
Sr	N.A.	N.A.	N.A.
Fe	1.0	TRC*	TRC+

ION	$\frac{m \cdot V}{g \cdot m^3}$	MASS FRACTION	$\frac{C}{mol \cdot m^3}$
Cl	173000.0	.590	4880.0
Br	N.A.	N.A.	N.A.
I	N.A.	N.A.	N.A.
HCO ₃	NIL	NIL	NIL
SO ₄	4250.0	.015	44.2
CO ₃	TRC+	TRC*	TRC+
OH	549.0	.002	32.3
H ₂ S	N.D.	N.D.	N.D.

TOTAL SOLIDS

$\frac{m \cdot V}{g \cdot m^3}$

EVAPORATED AT 110°C

EVAPORATED AT 180°C

AT IGNITION

CALCULATED

293000.0

RELATIVE DENSITY

1.180 @ 25°C

REFRACTIVE INDEX

N.A. @ 25°C

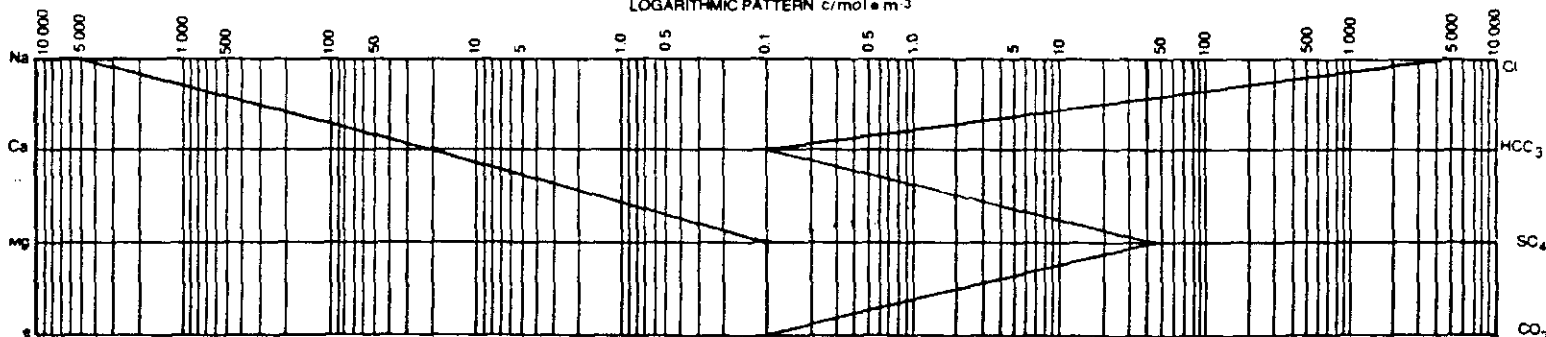
OBSERVED pH

11.52 @ 25°C

RESISTIVITY/OHM $\cdot$ m

.06 @ 25°C

LOGARITHMIC PATTERN $C/mol \cdot m^3$



REMARKS

TRC+=LESS THAN 0.1 N.D.=NOT DETECTED NIL=0.0 TRC*= LESS THAN 0.001 N.A.=NOT ANALYZED

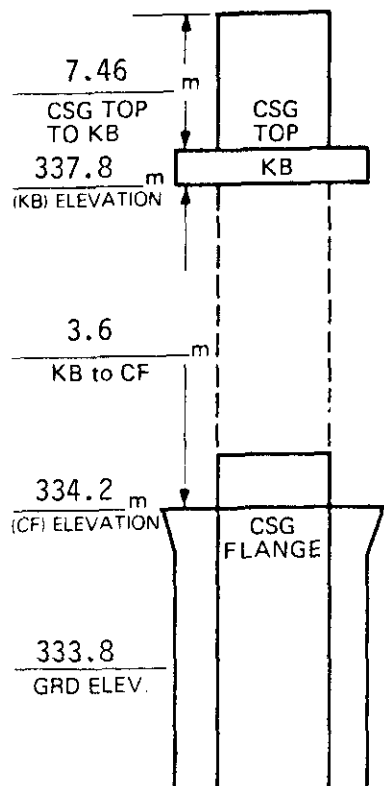
CASING SUMMARY

CASING SUMMARY

WELL Forward et al Aubry J-13 LOCATION _____ DATE 84 03 19

Conductor SIZE 339 mm KB 337.8 m KB to CF 3.6 m

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



NO.	DESCRIPTION	MEASURED LENGTH	KB DEPTH
1	Float shoe	.52	54.48
1	Joint casing	12.03	42.45
1	Float collar	.57	41.88
4	Joints casing	49.34	+ 7.46
	Scratchers		
	Centralizers		
Total String		62.46	Cut-off Jt. Length
minus	KB to Csg Top (STICK UP)	7.46	
	Landed Depth KB	55.0	
	Hole Depth KB	55	
	Distance Csg Landed Off Bottom		
			11.46

Cementing Company Halliburton

Wash - Type: H₂O Volume 1.6 m³

Cement Type - Lead Slurry permafrost Volume: 17 T

Additives _____ Volume: _____

Cement Type - Tail Slurry _____ Volume: _____

Additives _____ Volume: _____

Cement Type - Above Stage Collar _____ Volume: _____

Additives _____ Volume: _____

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

Calculated Cement Top(s) surface KB _____ KB

Returns: Mud _____ m³ Cement _____ m³

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

Wt. set on Slips: _____ daN

Remarks: Ran 339 mm, 81.1 kg/m, K55 casing

Engineer: J. Ross



PIPE TALLY SHEET

PAGE _____ OF _____

WELL Forward et al Aubry J-13

LOCATION _____

SIZE 339 mm WT. 81.1 kg/m

GRADE K55

COUPLING _____ ST&C _____

THRD 8rd

DATE 84 03 19

JOINT	LENGTH	JOINT	LENGTH	JOINT	LENGTH	JOINT	LENGTH	JOINT	LENGTH
1	12	03	11			21		31	
2	12	28	12			22		32	
3	12	37	13			23		33	
4	12	12	14			24		34	
5	12	57	15			25		35	
6			16			26		36	
7			17			27		37	
8			18			28		38	
9			19			29		39	
10			20			30		40	
A	61	37	B			C		D	
51			61			71		81	
52			62			72		82	
53			63			73		83	
54			64			74		84	
55			65			75		85	
56			66			76		86	
57			67			77		87	
58			68			78		88	
59			69			79		89	
60			70			80		90	
F			G			H		I	
A	61	37	SUB TOTAL						
B									
C									
D									
E									
F									
G									
H									
I									
J									
TOTAL	61	37							

Shoe .52

Float Collar .57

Other _____

PAGE TOTAL _____

BROUGHT FWD _____

GRAND TOTAL _____

JOINTS ON LOCATION _____

JOINTS	LENGTH
5	61.37
5	61.37

Remarks: _____

ENGINEER J. Ross

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. **43 108**HALLIBURTON DISTRICT
FrontierJOB
DATE **1984 03 19**
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 Aubry J-13					
CALLED OUT 84-03-16 DATE TIME	ON LOCATION 84-03-17 DATE TIME	JOB STARTED 84-03-19 DATE TIME 18:35	JOB COMPLETED 84-03-19 DATE TIME	PROVINCE N.W.T.	LSD	SEC	TWP	RANGE	MERIDIAN W

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

HOLE DATA:	HOLE SIZE 444.5 mm	TOTAL DEPTH 57 m	TYPE MUD	VISC.	DENSITY
CASING, TUBING OR LINER DATA	NEW ☒ USED ☐	SIZE 339.7 mm	kg/m 81.1	GRADE	DEPTH 55 m
PERFORATIONS: FROM	m TO	m	FROM	m TO	m
WASH FLUID TYPE: Water	VOL. 1.6 m³	DISPLACING FLUID TYPE: Water	VOL. 3.6 m³	DISPLACING FLUID	TEMP. °C
TEMP. °C	MIXING WATER	SLURRY	TEMP. °C	RETURNS	TEMP. °C

EQUIPMENT

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

CEMENT DATA

TONNE	API CLASS	BRAND	BULK OR SACKED	CEMENT BLEND	ADDITIVES TYPE AND PERCENT	kg/m³	m³/tonne
17.0	G	Inland	Bulk	P.F.C.		1880	0.74

HALLIBURTON OPERATOR **K. Town** CUSTOMER REP.**TREATING LOG**

CHART POSITION	TIME	RATE m³/min	VOLUME m³		PRESSURE MPa		REMARKS
			PUMPED	IN FORMATION	TUBING	CASING	
1	18:35 18:37	0.8				4.0	Pump fresh water preflush.
2							Pressure test Howco lines.
3	18:40 18:59	0.8				4.0	Mix slurry.
4	18:59 19:05						Release top plug.
5	19:05 19:10	0.8				7.0	Displace.

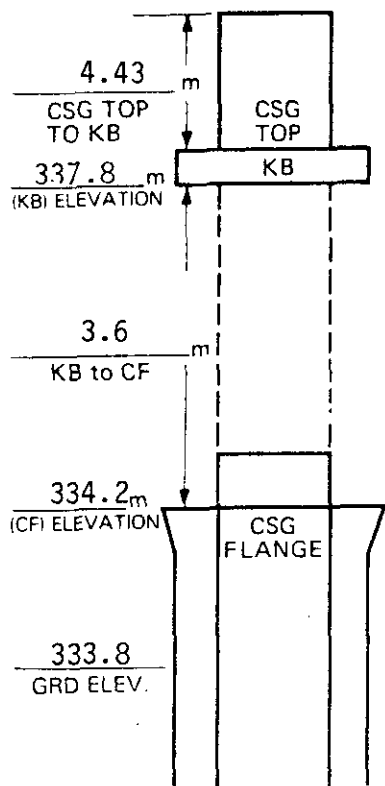
CASING SUMMARY

WELL Forward et al Aubry J-13 LOCATION _____ DATE 84 04 01

SURF/INT/PROD/LINER SIZE 244 mm KB 337.8 m KB to CF 3.6 m

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

	NO.	DESCRIPTION	MEASURED LENGTH	KB DEPTH
	1	Float shoe	.52	896.48
	1	Joint casing	12.58	883.90
	1	Float collar	.57	883.33
	69	Joints casing	835.61	47.72
	1	Stage tool	.72	47.00
	1	TAM ECP	2.25	44.75
	4	Joints casing	49.18	+ 4.43
		Scratchers		
	3	Centralizers 1,2,3,		
	Total String		901.43	Cut-off Jt. Length
	minus KB to Csg Top (STICK UP)		4.43	
	Landed Depth KB		897.00	
	Hole Depth KB		910.00	
	Distance Csg Landed Off Bottom			



Cementing Company Halliburton

Wash - Type: H₂O Volume 1.5 m³

Cement Type - Lead Slurry "G" Volume: 22.8 T

Additives .5% C-322 (fluid loss) Volume: _____

Cement Type - Tail Slurry _____ Volume: _____

Additives _____ Volume: _____

Cement Type - Above Stage Collar Permafrost Volume: 2.5 T

Additives _____ Volume: _____

Displacement Rate: Max. .67 Avg. .55 (m³/min)

Calculated Cement Top(s) 460 m to TD KB 50 m to Surface KB

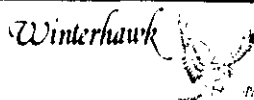
Returns: Mud _____ m³ Cement .5 m³

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

Wt. set on Slips: 50,000 daN

Remarks: _____

Engineer: B. Schaffer



PIPE TALLY SHEET

PAGE _____ OF _____

WELL Forward et al Aubry LOCATION J-13

SIZE 244.5 mm WT. 64.7 kg/m GRADE L80 COUPLING LTC THRD 8rd

DATE _____

JOINT	LENGTH	JOINT	LENGTH	JOINT	LENGTH	JOINT	LENGTH	JOINT	LENGTH							
1	12	58	12	64	21	12	03	31	12	16	41	11	17			
2	12	02	12	46	22	12	74	32	12	52	42	12	17			
3	12	72	13	79	23	13	36	33	11	95	43	12	00			
4	11	43	14	05	24	12	04	34	12	84	44	11	90			
5	12	86	15	13	25	11	74	35	11	98	45	12	08			
6	12	03	16	44	26	11	93	36	12	37	46	11	94			
7	12	21	17	98	27	11	92	37	11	96	47	12	04			
8	12	03	18	89	28	11	78	38	11	93	48	12	03			
9	12	27	19	13	29	11	90	39	11	95	49	11	74			
10	11	57	20	02	30	12	80	40	12	03	50	11	98			
A	121	72	B	124	53	C	122	24	D	121	69	E	119	05		
51	11	78	61	11	68	71	11	94	81	11	94	91				
52	11	50	62	11	91	72	12	65	82	12	43	92				
53	11	19	63	12	59	73	12	88	83	12	63	93				
54	12	01	64	12	43	74	11	71	84			94				
55	12	07	65	11	21	75	12	17	85			95				
56	11	86	66	11	70	76	12	30	86			96				
57	11	93	67	12	49	77	12	62	87			97				
58	12	67	68	11	91	78	12	01	88			98				
59	12	25	69	11	74	79	13	36	89			99				
60	12	05	70	11	99	80	12	64	90			100				
F	119	31	G	119	65	H	124	28	I	37	00	J				
A	121	72	SUB TOTAL										JOINTS		LENGTH	
B	124	53	246	25											74	897.37
C	122	24	368	49											Equipment	4.06
D	121	69	490	18												901.43
E	119	05	609	23											JOINTS ON LOCATION 83 joints -	
F	119	31	728	54											9 joints left.	
G	119	65	848	19											2 stage cement job.	
H	124	28	972	47												
I	37	00	1009	47												
J																
TOTAL	1009	47											ENGINEER <u>B. Schaffer</u>			

Shoe .52
 Float .57
 Collar
 Other .72 stage
 2.25 packer

PAGE TOTAL
 BROUGHT FWD
 GRAND TOTAL

JOINTS
 74
 LENGTH
 897.37
 Equipment
 4.06
 901.43

Remarks: _____

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.



CEMENTING AND/OR SPECIAL TOOLS SERVICE REPORT

ATTACH TO
INVOICE No. 43 109HALLIBURTON DISTRICT
FrontierJOB
DATE 1984 04 01
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 Aubry J-13					
CALLER OUT DATE TIME	ON LOCATION 84-03-30 DATE TIME 09:45	JOB STARTED 84-04-01 DATE TIME 13:22	JOB COMPLETED 84-04-01 DATE TIME 15:20	PROVINCE N.W.T.	LSD	SEC	TWP	RANGE	MERIDIAN W

TYPE OF JOB	WELL OR HOLE DATA	PRODUCTS
☒ SURFACE	HOLE DATA: HOLE SIZE 311 mm TOTAL DEPTH 910 m TYPE MUD CASING, TUBING OR LINER DATA NEW ☒ USED ☐ PERFORATIONS: FROM m TO m FROM m TO m WASH FLUID TYPE: Fresh H ₂ O VOL. 1.5 m ³ DISPLACING FLUID TYPE: Fresh H ₂ O VOL. 35.6-2.2 m ³ TEMP MIXING °C SLURRY °C DISPLACING FLUID °C RETURNS °C DATA WATER	EQUIPMENT
☐ INTERMEDIATE		BASKETS
☐ PRODUCTION		CENTRALIZERS
☐ LINER		CLAMPS
☐ SQUEEZE		FLOAT COLLAR 1
☐ PLUG		FLOAT SHOE 1
☐ PUMP		GUIDE SHOE
☐ PRESSURE TEST		INSERT FLOAT
☐ OTHER		SCRATCHERS
		OTHER 1

EQUIPMENT

PACKER	CEMENT HEAD
TYPE _____ SIZE _____ mm	CONTINUOUS ☐ KNOCK OFF ☐ SWAGE ☒
DEPTH _____ m TAIL _____ m	OTHER _____
SET _____ PIPE _____	

CEMENT DATA

TONNE	API CLASS	BRAND	BULK OR SACKED	CEMENT BLEND	ADDITIVES TYPE AND PERCENT	kg/m ³	m ³ /tonne
22.8	G	Inland	Bulk	Oilwell	0.5% C-322	1895	0.76
2.5	G	Inland	Sacked	P.F.C.		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	
							STAGE No. 1
1	13:22 13:34	0.75				3.0	Pump fresh water preflush.
2							Pressure test cement lines.
3	13:35 13:52	0.98				3.5	Mix slurry.
4	13:52 13:57						Release shut off plug.
5	13:57 14:50	0.67				17.0	Displace.
6							Release opening plug.
							STAGE No. 2
1	15:00 15:09	0.25				2.0	Pump fresh water preflush.

BIT RECORD

MUD REPORT

	DURAFLOW BBL.	DURAPLEX 50 LBS.	DURAGUARD BBL.	CAUSTIC 50 LBS.	SALT 40 KGS.	SODA ASH 40 KGS.	KELZAN 50 LBS.	GEL 100 LBS.	XCPOLYMER
MARCH									
18	1								
19									
20									
21									
22	2								
23									
24									
25		11							
26		15							
27		19							
28		16	2						
29		14							
30		18							
31									
APRIL									
1									
2									
3									
4				4	500	2	6	65	
5				2			5		
6									
7									
8									
	3	93	2	6	500	2	11	65	

FORWARD RESOURCES LTD.

Re: Summary of Daily Fluid Tests
Forward et al Aubry J-13

SUMMARY OF DAILY DRILLING FLUID TESTS

FORWARD ET AL AUBRY J-13

Date	04/04	04/05	04/05
Depth (m)	1283	1303	1330
Density (Kg/m3)	1160	1200	1215
F.V. (s/L)	55	45	57
P.V. (mPa.s)	15	14	21
Y.P. (Pa)	6	4	5.5
Gels (0/10 min) (Pa)	6/8	3/7	6/10
F.L. (cm3/30 min)	14.0	18.0	18.0
Cake (mm)	1	1	1
Cl (mg/L)	172000	156000	150000
Ca (mg/L)	40	80	200
K (mg/L)	-	-	-
Sand (vol frac)	-	.010	.010
Solids (vol frac)	.102	.123	.128
Water (vol frac)	.898	.877	.872
Oil (vol frac)	-	-	-
PH	10.5	12.0	12.0
MBT (Kg/m3)	-	-	-
Pf/Mf	.5/1	.65/1	.3/.7

Ran loss with no trouble and ran test with no trouble. Hole was in good shape.



CANADIAN FLUID SYSTEMS LTD.
CALGARY, ALBERTA 230-3447

DRILLING FLUID REPORT

DATE 84-04-05 REPORT No. 01

LOCATION: J-13; 67°N 126°W

ACTIVITY: CIRCULATING

OPERATOR FORWARD RESOURCES CONTRACTOR: 300 DRILLING RIG No.: MR. BEN
REPORT FOR: BILL SCHAFER REPORT FOR: MORLEY THOMPSON SPUD DATE:
WELL NAME & No.: FORWARD at AUBRY J-13 FIELD: AUBRY PROVINCE OR AREA: NWT

BIT DATA			DRILL STRING		CASING		MUD VOLUME (m ³)		
SIZE (mm):	<u>215</u>	No.: <u>2</u> TYPE: <u>J33</u>	D.P. SIZE: <u>114</u>	mm LENGTH	m	SURF: <u>244</u>	mm AT <u>897</u>	m	IN HOLE: <u>55</u>
DEPTH IN:	<u>1283</u>	m r/min		mm LENGTH	m	INT:	mm AT	m	IN TANKS: <u>16</u>
W.O.B. (daN) (FORCE)			D.C. SIZE <u>159</u>	mm LENGTH <u>130.37</u>	m	INT:	mm AT	m	TOTAL CIRCULATING: <u>71</u>
NOZZLE SIZE (mm)	<u>3/7.9</u>	<u>HW</u>		mm LENGTH <u>28.10</u>	m	LINER:	mm AT	m	IN STORAGE: <u>—</u>

PUMP AND CIRCULATION DATA				EQUIPMENT					
PUMP	#1	#2	ANNULAR VEL m/min:	SOLIDS CONTROL	OVERFLOW DENS. kg/m ³	UNDERFLOW DENS. kg/m ³	UNDERFLOW RATE m ³ /min	HOURS RUN	REMOVE kg/h
MAKE	<u>NAT</u>	<u>NAT</u>	D.P. & OPEN HOLE <u>42</u>	<u>NIL</u>					
MODEL	<u>7P50</u>	<u>7P50</u>	D.P. & CSG. <u>44</u>						
LINER (mm)	<u>152</u>	<u>152</u>	D.C. (<u>159</u> mm) <u>64</u>	MATERIALS USED SINCE LAST REPORT					
STROKE (mm)	<u>197</u>	<u>197</u>	D.C. (mm)	<u>CAUSTIC</u>	<u>4</u>	<u>XC</u>	<u>6</u>		
STROKE/min	<u>100</u>	<u>—</u>	CIRCULATION TIME	<u>SODA ASH</u>	<u>2</u>	<u>To: 20:00</u>	<u>83-03-0</u>		
m ³ /STROKE	<u>.0108</u>	<u>.0108</u>	BOTTOMS UP: (min) <u>30</u>	<u>GEL</u>	<u>65</u>	<u>CS</u>	<u>23 To</u>	<u>08:00</u>	
m ³ /min	<u>1.08</u>	<u>—</u>	SYSTEM (min) <u>65</u>	<u>SALT</u>	<u>500</u>	<u>XC</u>	<u>23</u>	<u>84-03-0</u>	
STANDPIPE PRESSURE ☒ (kPa) ☐ (MPa) <u>5000</u>				DAILY COST					
SAMPLE FROM ☒ FLOWLINE ☐ TANK FLOWLINE TEMPERATURE °C				TOTAL COST					

TIME SAMPLE TAKEN	2445	0700	REMARKS: (PROBLEMS, TRIPS, DRILLING, HOLE CONDITIONS.
DEPTH (m)	<u>1283</u>	<u>1303</u>	LOST CIRCULATION, MUD SYSTEM, ETC.)
DENSITY (kg/m ³)	<u>1160</u>	<u>1200</u>	<u>MUD CIRCULATED AROUND IN 40 MIN</u>
MUD GRADIENT (kPa/m)	<u>11.39</u>	<u>11.78</u>	<u>NO WATER ON BTM.</u>
HYDROSTATIC HEAD (KPA)	<u>14615</u>	<u>15118</u>	RECOMMENDED TREATMENT:
FUNNEL VISCOSITY (s/L) at °C	<u>55</u>	<u>45</u>	<u>BYPASSED SHAKER AS MUD RAN</u>
PLASTIC VISCOSITY (mPa.s) AT °C	<u>15</u>	<u>14</u>	<u>OVER BOP'S.</u>
YIELD POINT (Pa)	<u>6</u>	<u>4</u>	<u>CIRCULATING W/ TROUGH AND</u>
GEL STRENGTH (Pa) 10s/10 min	<u>6/8</u>	<u>3/7</u>	<u>SUCTION TANK.</u>
pH ☒ STRIP ☐ METER	<u>10.5</u>	<u>12.0</u>	<u>STRONG SMELL OF GAS ON</u>
FILTRATE (cm ³ /30 min at 700 kPa) °C	<u>14.0</u>	<u>18.0</u>	<u>FIRST MUD UP.</u>
HP-HT FILT. (cm ³ /30 min at 3500 kPa) °C	<u>—</u>	<u>—</u>	
CAKE THICKNESS (mm)	<u>1.0</u>	<u>1.0</u>	<u>30m FILL - REAMING TO BTM</u>
SAND CONTENT (Vol. Fraction) 0 SAND	<u>—</u>	<u>.000</u>	<u>VIS DROPE BACK TO 45 %L - RAISING</u>
SOLIDS CONTENT (Vol. Fraction) 0 SOLIDS	<u>.102</u>	<u>.123</u>	<u>IT BACK UP TO 50-60 %L XC.</u>
OIL CONTENT (Vol. Fraction) 0 OIL	<u>—</u>	<u>—</u>	
Ave. RELATIVE DENSITY OF SOLIDS	<u>—</u>	<u>—</u>	
LOW GRAVITY SOLIDS (kg/m ³)	<u>—</u>	<u>—</u>	
ALKALINITY FILTRATE (PI/MI)	<u>.5/1.0</u>	<u>.5/5</u>	
M.B.T. (Bent. Equiv.) (kg/m ³)	<u>—</u>	<u>—</u>	
CHLORIDES (mg/L)	<u>172000</u>	<u>156000</u>	
POTASSIUM (mg/L)	<u>—</u>	<u>—</u>	
CALCIUM (mg/L)	<u>40</u>	<u>80</u>	

THE RECOMMENDATIONS MADE HEREON SHALL NOT BE CONSTRUED AS AUTHORIZING THE INFRINGEMENT OF ANY VALID PATENT, AND ARE MADE WITHOUT ASSUMPTION OF ANY LIABILITY BY CANADIAN FLUID SYSTEMS LTD. OR ITS AGENTS, AND ARE STATEMENTS OF OPINION ONLY.

REPRESENTATIVE <u>LARRY PAMPLIN</u>	FIELD OFFICE <u>#10 CAMP</u>	TELEPHONE
MOBILE	WAREHOUSE LOCATION	TELEPHONE



CANADIAN FLUID SYSTEMS LTD.
CALGARY, ALBERTA 230-3447

DRILLING FLUID REPORT

DATE 84-04-06 REPORT No. 0

LOCATION: T-13, 67°N, 126°W

ACTIVITY: CIRC TO LOG

OPERATOR: FORWARD RESOURCES

CONTRACTOR: 300 DRILLING

RIG No. MR BEA

REPORT FOR: BILL SCHAEFFER

REPORT FOR: MORLEY THOMPSON

SPUD DATE:

WELL NAME & No.: FORWARD, LAL AUBRY T-13

FIELD: AUBRY

PROVINCE OR AREA: NWT

BIT DATA			DRILL STRING			CASING			MUD VOLUME (m ³)
SIZE (mm): <u>215</u>	No.: <u>2</u>	TYPE: <u>333</u>	D.P. SIZE: <u>114</u>	mm LENGTH	m	SURF: <u>244</u>	mm AT <u>897</u>	m	IN HOLE: <u>55</u>
DEPTH IN: <u>1283</u>	m r/min <u>90</u>			mm LENGTH	m	INT:	mm AT	m	IN TANKS: <u>16</u>
W.O.B. (daN) (FORCE) <u>18</u>			D.C. SIZE <u>159</u>	mm LENGTH <u>130.37</u>	m	INT:	mm AT	m	TOTAL CIRCULATING: <u>71</u>
NOZZLE SIZE (mm) <u>3/7.9</u>			<u>HW</u>	mm LENGTH <u>28.10</u>	m	LINER:	mm AT	m	IN STORAGE: <u>71</u>

PUMP AND CIRCULATION DATA					EQUIPMENT					
PUMP	#1	#2	ANNULAR VEL m/min:		SOLIDS CONTROL	OVERFLOW DENS. kg/m ³	UNDERFLOW DENS. kg/m ³	UNDERFLOW RATE m ³ /min	HOURS RUN	REMARKS
MAKE	NAT	NAT	D.P. & OPEN HOLE 42		SHAKER					
MODEL	7PSD	7PSD	D.P. & CSG. 44							
LINER (mm)	152	152	D.C. (159 mm) 64		MATERIALS USED SINCE LAST REPORT					
STROKE (mm)	197	197	D.C. (mm)		CAUSTIC	2				
STROKE/min	100	—	CIRCULATION TIME		XC	3				
m ³ /STROKE	.0108	.0108	BOTTOMS UP: (min)							
m ³ /min	1.08	—	SYSTEM (min) 65							
STANDPIPE PRESSURE ☒ (kPa) ☐ (MPa) 10000					DAILY COST					
SAMPLE FROM ☒ FLOWLINE ☐ TANK			0.5 MUD PROPERTIES		TOTAL COST					
FLOWLINE TEMPERATURE °C										

TIME SAMPLE TAKEN	<u>2020</u>			REMARKS: (PROBLEMS, TRIPS, DRILLING, HOLE CONDITIONS,
DEPTH (m)	<u>1330</u>			LOST CIRCULATION, MUD SYSTEM, ETC.)
DENSITY (kg/m ³)	<u>1215</u>			<u>REACHED TD @ 11:20 - CIRC 1 HR.</u>
MUD GRADIENT (kPa/m)	<u>11.93</u>			<u>1ST LOG - 1/2 m FILL?</u>
HYDROSTATIC HEAD (KPA)	<u>15868</u>			RECOMMENDED TREATMENT
FUNNEL VISCOSITY (s/L) at	C <u>57</u>			
PLASTIC VISCOSITY (mPa.s) AT	C <u>21</u>			
YIELD POINT (Pa)	<u>5.5</u>			
GEL STRENGTH (Pa) 10s/10 min	<u>6/10</u>			
pH ☒ STRIP ☐ METER	<u>12</u>			
FILTRATE (cm ³ /30 min at 700 kPa)	C <u>18</u>			
HP-HT FILT. (cm ³ /30 min at 3500 kPa)	C <u>+</u>			
CAKE THICKNESS (mm)	<u>1</u>			
SAND CONTENT (Vol. Fraction) 0 SAND	<u>.0100</u>			
SOLIDS CONTENT (Vol. Fraction) 0 SOLIDS	<u>.128</u>			
OIL CONTENT (Vol. Fraction) 0 OIL	<u>—</u>			
AVE. RELATIVE DENSITY OF SOLIDS	<u>—</u>			
LOW GRAVITY SOLIDS (kg/m ³)	<u>—</u>			
ALKALINITY FILTRATE (Pf/MI)	<u>3.7</u>			
M.B.T. (Bent Equiv.) (kg/m ³)	<u>—</u>			
CHLORIDES (mg/L)	<u>150000</u>			
POTASSIUM (mg/L)	<u>—</u>			
CALCIUM (mg/L)	<u>200</u>			

THE RECOMMENDATIONS MADE HEREON SHALL NOT BE CONSTRUED AS AUTHORIZING THE INFRINGEMENT OF ANY VALID PATENT, AND ARE MADE WITHOUT ASSUMPTION OF ANY LIABILITY BY CANADIAN FLUID SYSTEMS LTD. OR ITS AGENTS, AND ARE STATEMENTS OF OPINION ONLY.

REPRESENTATIVE LARRY CAMPBELL

FIELD OFFICE #10 CAMP

TELEPHONE

MOBILE

WAREHOUSE LOCATION

TELEPHONE

DEVIATION RECORD

SURVEYS

DEPTH (m)

Deviation (°)

52	1
99	1/2
127	1/2
160	1/4
190	1/2
230	3/4
258	1/2
287	1/4
324	1/4
353	1/4
406	3/4
435	3/4
465	1/2
491	1/2
532	1
604	1/2
653	1/2
703	1/3
785	1
816	3/4
870	1/8
910	1/8
1010	3/4
1160	3
1276	3 1/8

ABANDONMENT REPORT



Nova Scotia	☐	West Coast	☐	Well Status	
Newfoundland	☐	Northern	☒	Suspended	☐
Gulf of St. Lawrence	☐	Hudson Bay	☐	Completed	☐
				Abandoned	☒

WELL TERMINATION RECORD

This record is submitted in triplicate in compliance with Section 184 of the Canada Oil and Gas Drilling Regulations.

WELL DATA

Well Name Forward et al Aubrey J-13 Area Colville Hills, N.W.T.
Grid Area 67-20 126-45 Field/Pool Not Applicable
Permit or Lease No N/A Final Coordinates: Lat 67° 12' 37.11" Long 126° 47' 39.94"
Drilling Unit Rig Mr. Ben Elevations XX/KB 337.8 m XSGML 333.8 m
Spud Date 84 03 18 Rig Released 84 04 08 Total Depth 1330 m

CASING AND CEMENTING

O D	Weight	Grade	Depth Set	Cement and Additives
339 mm	81.1 kg/m	K-55	55	16 T Permafrost
244 mm	64.7 kg/m	L-80	897	22.8 T Class "G" Lead + 2.5 T Permafrost Tail Cement Above DV Tool

PLUGGING PROGRAM

Approval of the following program was obtained by (person) Gary Laviolette from
(person) John Hamilton of the Canada Oil and Gas Lands Administration by means of
Verbal Approval on April 7, 1984 (Written approval received 84-04-09.)

Type of Plug	Interval	Felt	Cement and Additives
Cement	1220 - 1330 m		6.7 T "G" + 3% CaCl ₂
244 mm Bridge Plug	880 m	Pressure Tested	
Cement	855 - 880 m		1.35 T "G" + 3% CaCl ₂
Cement	0 - 25 m		1.35 T Permafrost

The 244 mm casing was cut off 1 m below ground level and a plate was welded on top of the casing.

Lost Circulation/Overpressure Zones No lost circulation zones were noted, the hole was drilled with Durafoam/Air

Provision for Re-entry (Describe and attach sketch) N/A

Cores Type No cores were cut Intervals

Other Downhole Completion/Suspension Equipment N/A

CERTIFICATION

I certify on the basis of personal knowledge of operations undertaken at the above named well that the above information is accurate

Signed *G. Laviolette* P. Eng Title Special Projects Engineer
Name Gary Laviolette Date March 30, 1984

Acknowledged by Engineering Branch

Date

File

Department of Energy
Mines and Resources

Ministère de l'Énergie
des Mines et des Ressources

Department of Indian Affairs
and Northern Development

Ministère des Affaires indiennes
et du Nord canadien

Canada



CEMENTING AND/OR SPECIAL TOOLS SERVICE REPORT

ATTACH TO
INVOICE No. 43 110HALLIBURTON DISTRICT
FrontierJOB
DATE 1984 04 07
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 Aubry J-13					
CALLER OUT DATE TIME	ON LOCATION 84-04-07 DATE TIME 11:30	JOB STARTED 84-04-07 DATE TIME 19:40	JOB COMPLETED 84-04-08 DATE TIME 09:40	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 1330 m TYPE MUD Gel VISC. 55 DENSITY 1080	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	SIZE mm	CONTINUOUS ☐ KNOCK OFF ☐ SWAGE ☐	
DEPTH SET	TAIL PIPE	OTHER	Nubbin

CEMENT DATA

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

HALLIBURTON OPERATOR K. Town CUSTOMER REP.

TREATING LOG

CHART POSITION	TIME	RATE m ³ /min	VOLUME m ³		PRESSURE MPa		REMARKS
			PUMPED	IN FORMATION	TUBING	CASING	
							PLUG NO. 1
1							Pressure test cement lines.
2							Pump spacer.
3							Mix slurry.
4							Displace.
							PLUG NO. 2
1							Pump spacer.
2							Mix slurry.
3							Displace.

TICKET NO.: 43 110

PLUG BACK JOB DATA

PLUG NO.	TOP	DEPTH BOTTOM	TONNE	DISPLACEMENT (m ³)	TIME (min)
1	1200	1300		8.8	9
2				6.4	6
3	0	25		0.5	1

LOST CIRCULATION

Lost circulation was not noted as this well was drilled with Durafoam.



SECTION IV
LOGGING SUMMARY



Dual Laterolog Gamma Ray

Run 1

March 31, 1984
54.7 m - 892.8 m

Run 2

April 06, 1984
898.5 m - 1328.8 m

**Compensated Densilog
Compensated Neutron Gamma Ray**

Run 1

March 31, 1984
427.0 m - 890.0 m

Run 2

April 06, 1984
898.5 m - 1329.2 m

Borehole Compensated Acoustic Gamma Ray Caliper

Run 1

March 31, 1984
427.0 m - 890.0 m

Run 2

April 06, 1984
898.5 m - 1326.7 m

**Acoustic Cement Bond
VDL/Signature/Gamma Ray**

Run 2

April 06, 1984
40.0 m - 904.0 m

Mud Log

Lithology Log



SECTION V
DRILLING CURVE

DRILLING CURVE FOR: FORWARD ET AL AUBRY J13

LAT.: 67°12'37.11" LONG.: 126°47'39.94" SPUDDED: 1900 MAR.18, 1984 RIG RELEASED: 1800 APR. 8, 1984

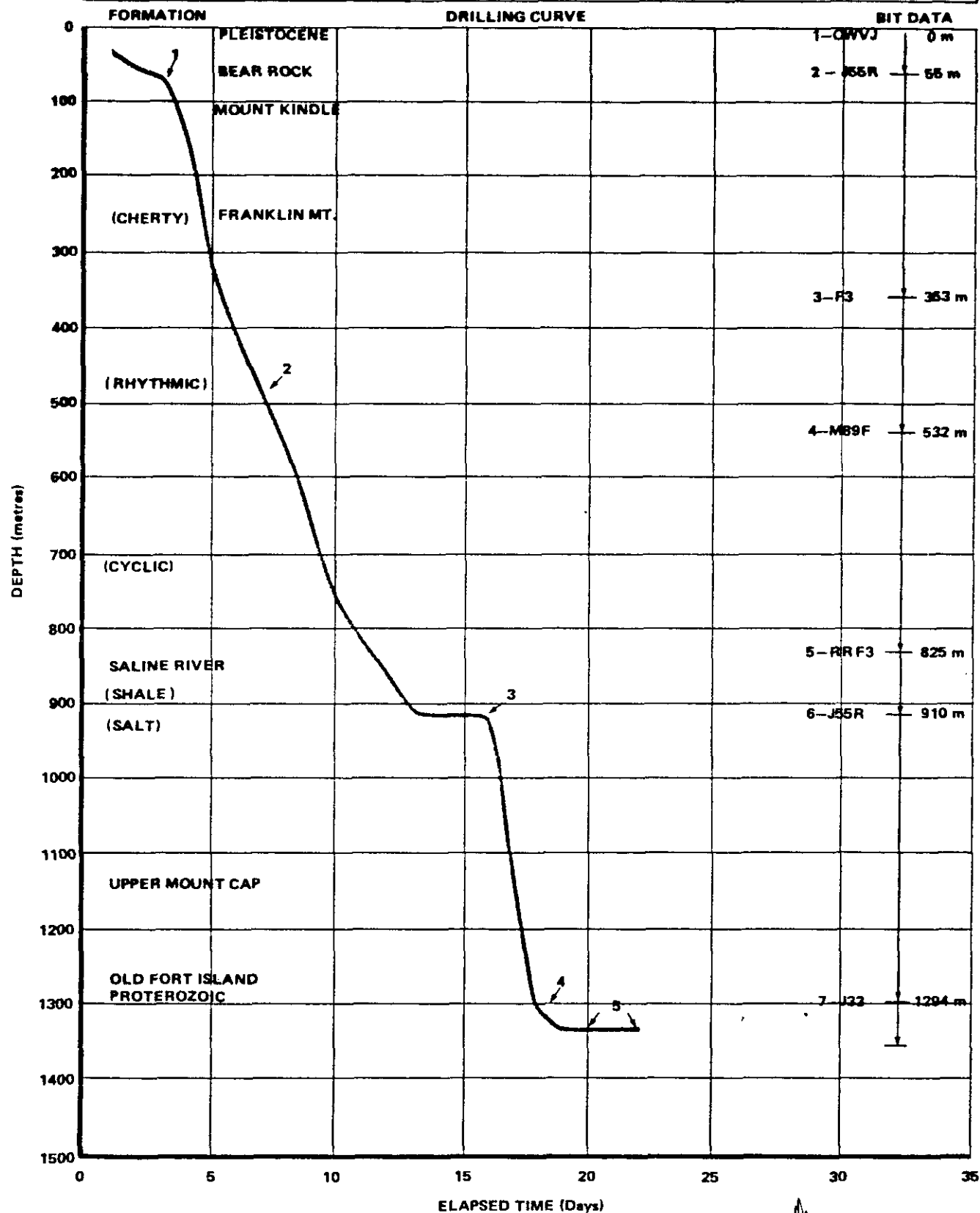
CONTRACTOR: 300 DRILLING "MR. BEN"

DRAWWORKS: NATIONAL TYPE 370 550 HP

PUMPS: 2 NATIONAL 7-P-50 6" x 7" TRIPLEX

D.P.: 4% O.D.

D.C.: 8% O.D.

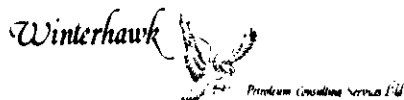


DRILLING CURVE

1. Ran conductor casing to 55 m.
2. Twisted off at X/O from 159 mm to 229 mm, recover fish.
3. Logged, ran surface casing to 897 m, pressure tested.
4. Displaced hole to mud.
5. Logged, Drill Stem Tested, ran plugs.

SECTION VI
DAILY DRILLING REPORTS





DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 03 18 2400

Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13

LOCATION

DAY 1 DEPTH 24 METRES LAST 24 HRS. 24 ROTATING HRS. 5

ACTIVITY AT REPORT TIME 52 m - thawing kelly hose

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
1A	444.5	HWQWVJ	VD341	A11	90		24	24	5	5	4.8	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			
1A	0	P	E	N	Air	50 m ³ /minute						1,400

DEVIATION SURVEYS

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

MUD & CHEMICALS ADDED

Duraflow - 1 sk

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit		444.5	.37	
B.S.	70	231	1.17	
1 - D.C. (9")	93	230	9.54	
X-Over Sub	72	154	.82	
K.D.			11.90	
			23.80	
				6,000

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	5.00	5.00
2. TRIPS		
3. RIG SERVICE		
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		
21.		
TOTALS	5.00	5.00

COSTS

DAILY

CUM.

SUPERVISOR: John Ross

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 03 18 2400

Year - Month - Day - Time

Drill 1 kelly of 311 mm pilot hole, drill rathole and mousehole. Spud at 1900 hours 84 03 18. Drill ahead.

Projected conductor depth - 57 m.

WANT LIST: _____

WEATHER -32°C

ROAD Good

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 03 19 2400

Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13

LOCATION _____

DAY 2 DEPTH 55 METRES LAST 24 HRS. 31 ROTATING HRS. 7

ACTIVITY AT REPORT TIME Nipple up BOPs

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
1A	444	OWVJ	VD341	10	70	55	31	55	7	12	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			

DEVIATION SURVEYS

1 ° at 52 ° 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	7.00	12.00
2. TRIPS	.75	.75
3. RIG SERVICE		
4. DEVIATION SURVEY	.25	.25
5. REAM & COND. HOLE		
6. MIX & COND. MUD		
7. CIRCULATING	1.25	1.25
8. RIG REPAIR		
9. RUN CASING & CEMENT	5.00	5.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON: Cement	4.00	4.00
15. NIPPLE UP & TEST BOP	1.00	1.00
16. DRILLING OUT		
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. Misc.	4.75	4.75
TOTALS	24.00	29.00

COSTS

DAILY

CUM.

SUPERVISOR: J. Ross

OPERATIONS DETAILS: PERIOD ENDING _____

84 03 19 2400

Year - Month - Day - Time

Drill ahead to 55 m. Circulate, survey and circulate.

Ran 5 joints (61.37 m), K55, 81.1 kg/m, new casing with float shoe and float collar. Landed at 55 m. Cement with 17 T permafrost and displace with 3.62 m³ fresh water. Plug down at 1900 hours 84 03 19. Float held OK. Full 1.6 m³ full water returns and full cement returns

KB - CF 3.6 m

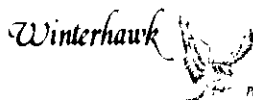
KB - GL 4.0 m

WANT LIST: _____

WEATHER _____ - 40⁰

ROAD _____ Good

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



DAILY DRILLING REPORT

FOR 24 HR PERIOD ENDING

84 03 20 2400

Year Month Day Time

WELL NAME Forward et al Aubry J-13 LOCATION _____

DAY 3 DEPTH 65 METRES LAST 24 HRS. 10 ROTATING HRS. 2.75

ACTIVITY AT REPORT TIME 96 m drilling 7 m/hour

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	J55R	88583	10/15	80/100		10	10	2.75	2.75	3.6			

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	O P E N			Air	40 m ³ /minute							350

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			.3	
S.S.			4.59	
D.C. (3)	93	230	28.39	
J.H.	73	228	6.26	
D.C.	93	229	9.47	
X/O	72	154	.82	
D.C.	60	161	9.32	
Kelly			5.85	23,000
			65.00	

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	2.75	14.75
2. TRIPS	1.00	1.75
3. RIG SERVICE		
4. DEVIATION SURVEY		.25
5. REAM & COND. HOLE		
6. MIX & COND. MUD		
7. CIRCULATING		1.25
8. RIG REPAIR	1.25	1.25
9. RUN CASING & CEMENT		5.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		4.00
15. NIPPLE UP & TEST BOP	16.00	17.00
16. DRILLING OUT	2.75	2.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. Unload	.25	5.00
TOTALS	24.00	53.00

COSTS
 DAILY
 CUM.

SUPERVISOR John Ross

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 03 20 2400

Year - Month - Day - Time

Weld and test bowl. Nipple up BOP's. Run in hole, pressure test to 2900 kPa - OK.

Work on drum brakes. Unload hole. Drill ahead.

WANT LIST: _____

WEATHER -20°C

ROAD Good

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 03 21 2400

Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13

LOCATION _____

DAY 4 DEPTH 146 METRES LAST 24 HRS. 81 ROTATING HRS. 14.75

ACTIVITY AT REPORT TIME Misting up and drilling at 194 m at 6 to 7 m per hour

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	J55R	88583	10/15	50/80		81	91	14.75	17.5	5.5	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			
2	O P E N			Air 35 m ³ /minute								750
				Misting Air 30 m ³ /minute				36 L/minute injection rate				1,000

DEVIATION SURVEYS

1/2 ° at 99 _____ ° at _____
 1/2 ° at 127 _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit			.3	
BHA			49.53	
D.C. (9)			83.90	
Kelly down			12.27	
			146	33,000

COSTS

DAILY

CUM.

SUPERVISOR: John Ross

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	14.75	29.50
2. TRIPS	1.50	3.25
3. RIG SERVICE	.75	.75
4. DEVIATION SURVEY	.50	.75
5. REAM & COND. HOLE		
6. MIX & COND. MUD		
7. CIRCULATING		1.25
8. RIG REPAIR	1.75	3.00
9. RUN CASING & CEMENT		5.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		4.00
15. NIPPLE UP & TEST BOP		17.00
16. DRILLING OUT		2.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. Work on Grant head & anchor BOPs	4.75	9.75
TOTALS	24.00	77.00

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 03 21 2400

Year - Month - Day - Time

Drill and survey ahead. Tighten BOP's. Repair rotary table torque, drill, pull out of hole to retrieve insert rubber and install new rubber. Drill and survey ahead. Switch over to mist due to wet hole at 0730 hours 84 03 22.

WANT LIST: _____

WEATHER -14°C

ROAD Good

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

DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 03 22 2400

Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13

LOCATION _____

DAY 5 DEPTH 315 METRES LAST 24 HRS. 169 ROTATING HRS. 21.50

ACTIVITY AT REPORT TIME Drill ahead in chert at 340 m. Rate of penetration 3 - 6 m/hour.

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	HWJ55R	88583	14-15	80		169	260	21.50	39	7.8	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			
2	NO JETS			Air/Mist	30 m ³ /minute		36 L/minute	injection rate				1,100

DEVIATION SURVEYS

1/4 ° at 160 1/4 ° at 287
 1/2 ° at 190 ° at _____
 3/4 ° at 230 ° at _____
 1/2 ° at 258 ° at _____

MUD & CHEMICALS ADDED

Duraflow - 2 barrels

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit, S.S. D.C. JH				
D.C. X/O				
Drill pipe			189.35	
D.P.			113.82	
Kelly down			11.83	
			315	39,000

COSTS

DAILY

CUM.

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	21.50	51.00
2. TRIPS		3.25
3. RIG SERVICE	.50	1.25
4. DEVIATION SURVEY	1.25	2.00
5. REAM & COND. HOLE		
6. MIX & COND. MUD		
7. CIRCULATING		1.25
8. RIG REPAIR		3.00
9. RUN CASING & CEMENT		5.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		4.00
15. NIPPLE UP & TEST BOP		17.00
16. DRILLING OUT		2.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. Change hole to mist	.75	10.50
TOTALS	24.00	101.00

SUPERVISOR: John Ross

OPERATIONS DETAILS: PERIOD ENDING _____

84 03 22 2400

Year - Month - Day - Time

Drill and survey, blow hole to mist. Drill and survey.

Explanation of #21 on time analysis:

Blow hole to mist - .75 hours.

WANT LIST: _____

WEATHER -22°C

ROAD Good

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 03 23 2400

Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13 LOCATION _____

DAY 6 DEPTH 409 METRES LAST 24 HRS. 94 ROTATING HRS. 17

ACTIVITY AT REPORT TIME Drilling at 456 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
2	311	J55R		14	90	353	38	298	9.75	48.75		2	2	0
3	311	F3		15			56	56	7.25	7.25				

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							40 L/Minute	Injection Rate				1,500

DEVIATION SURVEYS

1/4 ° at 324 _____ ° at _____
 1/4 ° at 353 _____ ° at _____
 3/4 ° at 406 _____ ° at _____
 _____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
BHA			189.35	
				41,000

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	17.00	68.00
2. TRIPS	3.50	6.75
3. RIG SERVICE	.25	1.50
4. DEVIATION SURVEY	1.00	3.00
5. REAM & COND. HOLE		
6. MIX & COND. MUD		
7. CIRCULATING	1.75	3.00
8. RIG REPAIR		3.00
9. RUN CASING & CEMENT		5.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		4.00
15. NIPPLE UP & TEST BOP		17.00
16. DRILLING OUT		2.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. Work on air compression	.50	11.00
TOTALS	24.00	125.00

COSTS

DAILY

CUM.

SUPERVISOR Bill Schaffer

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 03 23 2400
Year - Month - Day - Time

Drill and survey, work on air equipment. Drill and survey.

0800 Update: Drilling at 456 m.

WANT LIST: _____

WEATHER -28°C

ROAD Fair

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 03 24 2400

Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13

LOCATION _____

DAY 7 DEPTH 479 METRES LAST 24 HRS. 70 ROTATING HRS. 11.50

ACTIVITY AT REPORT TIME Unload hole at 499 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
3	311	F3	CZ1499	16	90		70	126	11.5	18.75	6			

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			40 L/Minute	Injection Rate				1,500

DEVIATION SURVEYS

3/4 ° at 435 ° at _____
 1/2 ° at 465 ° at _____
 ° at _____ ° at _____
 ° at _____ ° at _____

MUD & CHEMICALS ADDED

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
S.S.				
2 - 228				
Jars				
2 - 228				
X/O				
11 - 159				
3 - H.W.D.P			179.93	
				44,000

COSTS

DAILY

CUM.

SUPERVISOR: Bill Schaffer

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	11.50	79.50
2. TRIPS		6.75
3. RIG SERVICE	.50	2.00
4. DEVIATION SURVEY	.75	3.75
5. REAM & COND. HOLE		
6. MIX & COND. MUD		
7. CIRCULATING		3.00
8. RIG REPAIR		3.00
9. RUN CASING & CEMENT		5.00
10. FISHING	9.00	9.00
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		4.00
15. NIPPLE UP & TEST BOP		17.00
16. DRILLING OUT		2.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. Work on air equip.	2.25	13.25
TOTALS	24.00	149

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 03 24 2400

Year - Month - Day - Time

Drill ahead. Pulled up and twisted off at 430 m. Run in hole with overshot and work over fish. (Twisted off X-Over 159 - 229 mm). Recover fish. Work on air equipment.

0800 Update: Unload hole at 499 m.

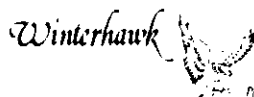
Making 13 - 14 barrels water/minute.

WANT LIST: _____

WEATHER _____

ROAD _____

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 03 25 2400

Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13 LOCATION _____DAY 8 DEPTH 546 METRES LAST 24 HRS. 67 ROTATING HRS. 14.50ACTIVITY AT REPORT TIME Drill at 582 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
3	311	F3	CZ1499	16	90	532	53	179	11.5	30.25	4.6	3	2	2
4	311	M89F	161439	15/16	80/90		14	14	3	3	4.6			

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			Air Mist	30 m ³ /minute		50 l/minute	Injection Rate				1,700

DEVIATION SURVEYS

1/2 ° at 491 _____ ° at _____
1 ° at 532 _____ ° at _____
_____ ° at _____ ° at _____
_____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

Duraplex - 11 sx

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit				
S.S.				
2 - 228 D.C.				
Jars				
X/O				
15 - 159 D.C.				
3 - H.W.D.P.			198.43	
				43,000

COSTS

DAILY

CUM.

SUPERVISOR: Bill Schaffer

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	14.50	94.00
2. TRIPS	4.00	10.75
3. RIG SERVICE		2.00
4. DEVIATION SURVEY	1.00	4.75
5. REAM & COND. HOLE		
6. MIX & COND. MUD		
7. CIRCULATING	3.00	6.00
8. RIG REPAIR	.50	3.50
9. RUN CASING & CEMENT		5.00
10. FISHING	.75	9.75
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		4.00
15. NIPPLE UP & TEST BOP		17.00
16. DRILLING OUT		2.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. Repair air drillers	.25	13.50
TOTALS	24.00	173.00

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 03 25 2400

Year - Month - Day - Time

Unload hole, drill. Change over to Durafoam 0300 - 0445 hours at 535 m. Drill and survey.

0800 Update: Drilling at 582 m.

Rate of penetration - 5 m/hour.

13 - 14 barrels water/minute.

WANT LIST: _____

WEATHER -12°C

ROAD Fair

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 03 26 2400

Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13

LOCATION _____

DAY 9 DEPTH 657 METRES LAST 24 HRS. 111 ROTATING HRS. 22

ACTIVITY AT REPORT TIME Drilling at 695 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	311	M89F	161439	16	80		111	125	22	25	5			

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		Air Mist		28 m ³ /minute		45 L/minute		Injection Rate				3,000

DEVIATION SURVEYS

1/2 ° at 604 _____ ° at _____
 1/2 ° at 653 _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

Duraplex - 15 sx

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit				
S.S.				
2 - 228 D.C.				
Jars				
X/O				
15 - 159 D.C.				
3 H.W.D.P.			198.43	
				44,000

COSTS

DAILY _____
 CUM. _____

SUPERVISOR: Bill Schaffer

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	22.00	116.00
2. TRIPS		10.75
3. RIG SERVICE	.50	2.50
4. DEVIATION SURVEY	1.50	6.25
5. REAM & COND. HOLE		
6. MIX & COND. MUD		
7. CIRCULATING		6.00
8. RIG REPAIR		3.50
9. RUN CASING & CEMENT		5.00
10. FISHING		9.75
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		4.00
15. NIPPLE UP & TEST BOP		17.00
16. DRILLING OUT		2.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		13.50
21.		
TOTALS	24.00	197.00

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 03 26 2400

Year - Month - Day - Time

Drill and survey.

0800 Update: Drilling at 695 m.

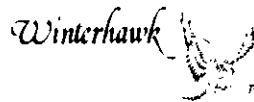
14 - 18 barrels water/minute

WANT LIST: _____

WEATHER -6°C

ROAD Fair

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 03 27 2400

Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13

LOCATION _____

DAY 10 DEPTH 750 METRES LAST 24 HRS. 93 ROTATING HRS. 22.25

ACTIVITY AT REPORT TIME Drilling at 770 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	311	M89F	161439	18	80		93	218	22.25	47.25	4.1			

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	OPEN			Air Mist	30 m ³ /minute		40 L/minute			Injection Rate		3,100

DEVIATION SURVEYS

1/3 ° at 703 ° at _____
 ° at _____ ° at _____
 ° at _____ ° at _____
 ° at _____ ° at _____

MUD & CHEMICALS ADDED

Duraplex - 19 sx _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit				
S.S.				
2 - 228 D.C.				
Jars				
X/O				
15 - 159 D.C.				
3 - H.W.D.P.			198.43	
				44,000

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	22.25	138.25
2. TRIPS		10.75
3. RIG SERVICE	.50	3.00
4. DEVIATION SURVEY	.50	6.75
5. REAM & COND. HOLE		
6. MIX & COND MUD		
7. CIRCULATING	.75	6.75
8. RIG REPAIR		3.50
9. RUN CASING & CEMENT		5.00
10. FISHING		9.75
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		4.00
15. NIPPLE UP & TEST BOP		17.00
16. DRILLING OUT		2.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21.		13.50
TOTALS	24.00	221.00

COSTS

DAILY

CUM.

SUPERVISOR: Bill Schaffer

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 03 27 2400

Year - Month - Day - Time

Drill and survey ahead.

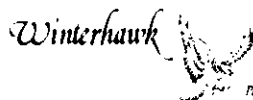
0800 Update: Drilling at 770 m.

WANT LIST: _____

WEATHER -18°C

ROAD _____

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 03 28 2400

Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13

LOCATION _____

DAY 11 DEPTH 814 METRES LAST 24 HRS. 65 ROTATING HRS. 21.5ACTIVITY AT REPORT TIME Drilling at 824 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	311	M89F	161439	18	80		65	282	21.5	68.75	3			

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	Air Mist	17 m ³ /minute	69 L/minute			Injection Rate		7,000

DEVIATION SURVEYS

1 ° at 785 ° at _____
° at _____ ° at _____
° at _____ ° at _____
° at _____ ° at _____

MUD & CHEMICALS ADDED

Duraplex - 16 sx _____
Duraguard - 2 barrels _____

BOTTOM ASSEMBLY

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

COSTS

DAILY

CUM.

SUPERVISOR: Bill Schaffer

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	21.50	159.75
2. TRIPS		10.75
3. RIG SERVICE	.25	3.25
4. DEVIATION SURVEY	2.25	9.00
5. REAM & COND. HOLE		
6. MIX & COND. MUD		
7. CIRCULATING		6.75
8. RIG REPAIR		3.50
9. RUN CASING & CEMENT		5.00
10. FISHING		9.75
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		4.00
15. NIPPLE UP & TEST BOP		17.00
16. DRILLING OUT		2.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21.		13.50
TOTALS	24.00	245.00

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 03 28 2400
Year - Month - Day - Time

Drill and survey.

0800 Update: Drilling at 824 m.

WANT LIST: _____

WEATHER _____

ROAD _____

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 03 29 2400

Year - Month Day - Time

WELL NAME Forward et al Aubry J-13 LOCATION _____DAY 12 DEPTH 851 METRES LAST 24 HRS. 37 ROTATING HRS. 16ACTIVITY AT REPORT TIME Drilling ahead at 872 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	311	M89F	161439	18	80	825	11	293	5.50	74.25	2.0	3	8	2
5 RR	311	S F3	CZ1499	18	80		26	26	10.5	10.50	2.5			

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	O	P	E	N	Air Mist	19 m ³ /minute		67 L/minute		Injection Rate		4,800

DEVIATION SURVEYS

3/4 ° at 816 ° at _____
° at _____ ° at _____
° at _____ ° at _____
° at _____ ° at _____

MUD & CHEMICALS ADDED

Duraplex - 14 sx _____

BOTTOM ASSEMBLY

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

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	16.00	175.75
2. TRIPS	3.25	14.00
3. RIG SERVICE	.50	3.75
4. DEVIATION SURVEY	1.50	10.50
5. REAM & COND. HOLE		
6. MIX & COND. MUD		
7. CIRCULATING	1.50	8.25
8. RIG REPAIR		3.50
9. RUN CASING & CEMENT		5.00
10. FISHING		9.75
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		4.00
15. NIPPLE UP & TEST BOP		17.00
16. DRILLING OUT		2.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. Work on Grant	1.25	14.75
Rotating Head TOTALS	24.00	269.00

COSTS

DAILY

CUM.

SUPERVISOR: Bill Schaffer

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 03 29 2400

Year - Month - Day - Time

Drill and survey ahead.

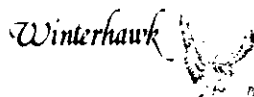
0800 Update: Drilling at 872 m at 15 minutes/meter.

WANT LIST: _____

WEATHER -20°C

ROAD _____

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 03 30 2400

Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13

LOCATION _____

DAY 13 DEPTH 910 METRES LAST 24 HRS. 59 ROTATING HRS. 15.50ACTIVITY AT REPORT TIME Rig up loggers

Durafoam 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
5	311	RR	F-3	18	80	910	59	85	15.50	26	3.8	3	3	1

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	O P E N			Air Mist 22 m ³ /minute				67 L/minute		Injection Rate		4,700

DEVIATION SURVEYS

1/8 ° at 870 m ° at _____1/8 ° at 910 m ° at _____

° at _____ ° at _____

° at _____ ° at _____

MUD & CHEMICALS ADDED

Duraplex - 18 sx

BOTTOM ASSEMBLY

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

COSTS

DAILY

CUM.

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	15.50	191.25
2. TRIPS	2.75	16.75
3. RIG SERVICE	.25	4.00
4. DEVIATION SURVEY	3.75	14.25
5. REAM & COND. HOLE		
6. MIX & COND. MUD		
7. CIRCULATING	1.00	9.25
8. RIG REPAIR		3.50
9. RUN CASING & CEMENT		5.00
10. FISHING		9.75
11. LOGGING	.75	.75
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		4.00
15. NIPPLE UP & TEST BOP		17.00
16. DRILLING OUT		2.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21.		14.75
TOTALS	24.00	293.00

SUPERVISOR: Bill Schaffer

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 03 30 2400

Year - Month - Day - Time

Drill and survey, rig up loggers.

0800 Update: Run DILL and density.

WANT LIST: _____

WEATHER -10°C _____

ROAD _____

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 03 31 2400

Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13 LOCATION _____

DAY 14 DEPTH 910 METRES LAST 24 HRS. _____ ROTATING HRS. _____

ACTIVITY AT REPORT TIME Running 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

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

COSTS

DAILY

CUM.

SUPERVISOR: Bill Schaffer

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		191.25
2. TRIPS	4.00	20.75
3. RIG SERVICE	.50	4.50
4. DEVIATION SURVEY		14.25
5. REAM & COND. HOLE	3.00	3.00
6. MIX & COND. MUD		
7. CIRCULATING	2.00	11.25
8. RIG REPAIR		3.50
9. RUN CASING & CEMENT		5.00
10. FISHING		9.75
11. LOGGING	14.50	15.25
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		4.00
15. NIPPLE UP & TEST BOP		17.00
16. DRILLING OUT		2.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP TEAR OUT		
21. _____		14.75
TOTALS	24.00	317.00

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 03 31 2400

Year - Month - Day - Time

Log. Ream 16 m fill to bottom. Ran DIL, Density, Acoustic 895 m to surface.

0800 Update: Running 244 mm casing.

WANT LIST: _____

WEATHER -13°C

ROAD _____

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 04 01 2400
Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13

LOCATION _____

DAY 15 DEPTH 910 METRES LAST 24 HRS. _____ ROTATING HRS. _____

ACTIVITY AT REPORT TIME Nippling Up

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

COSTS

DAILY _____

CUM. _____

SUPERVISOR: Bill Schaffer

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		191.25
2. TRIPS	1.50	22.25
3. RIG SERVICE		4.50
4. DEVIATION SURVEY		14.25
5. REAM & COND. HOLE		3.00
6. MIX & COND. MUD		
7. CIRCULATING	1.75	13.00
8. RIG REPAIR		3.50
9. RUN CASING & CEMENT	11.75	16.75
10. FISHING		9.75
11. LOGGING		15.25
12. CORING		
13. FORMATION TESTING		
14. WAITING ON: Cement	8.00	12.00
15. NIPPLE UP & TEST BOP	1.00	18.00
16. DRILLING OUT		2.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21		14.75
TOTALS	24.00	341.00

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 04 01 2400

Year - Month - Day - Time

Circulate and condition hole. Run 244 mm, 73 joints, L-80, 64.7 kg/m, 8RD, LT&C.
Landed at 879 m (13 m fill). Set packer and stage tool at 45 m. Cement with
22.8 T "G", bump plug at 1450 hours. Cement with 2.5 T Permafrost, bump plug at
1520 hours, .5 m³ good cement returns.

0800 Update: Finish nippling up.

L80

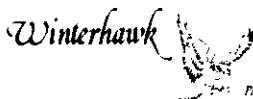
64.7 kg/m

WANT LIST: _____

WEATHER -20°C

ROAD _____

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 04 02 2400

Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13 LOCATION _____DAY 16 DEPTH 910 METRES LAST 24 HRS. _____ ROTATING HRS. _____ACTIVITY AT REPORT TIME Pulling out of hole to unload 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
6	215	J55R	91624											

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	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
S.S.				
3 - 159 D.C.				
Jars				
15 - 159 D.C.				
3 H.W.D.P.				

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		191.25
2. TRIPS	1.75	24.00
3. RIG SERVICE		4.50
4. DEVIATION SURVEY		14.25
5. REAM & COND. HOLE		3.00
6. MIX & COND. MUD		
7. CIRCULATING		13.00
8. RIG REPAIR		3.50
9. RUN CASING & CEMENT		16.75
10. FISHING		9.75
11. LOGGING		15.25
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		12.00
15. NIPPLE UP & TEST BOP	19.00	37.00
16. DRILLING OUT	3.25	6.00
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP TEAR OUT		14.75
21.		
TOTALS	24.00	365.00

COSTS

DAILY

CUM.

SUPERVISOR: Bill Schaffer

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING

84 04 02 2400

Year - Month - Day - Time

Nipple up. Pressure test manifold, blind rams and HCR 7000 - 2100 kPa. OK.

Drill out stage collar, run in hole and fill casing annulus with water. Pressure test rams 7000 - 2100 kPa. OK. Pressure test hydril 4900 - 1500 kPa. OK.

0800 Update: Leak off at 912 m. 3500 kPa applied surface pressure. No leak off.

WANT LIST:

WEATHER -15°C

ROAD Fair

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 04 03 2400

Year - Month - Day Time

WELL NAME Forward et al Aubry J-13

LOCATION _____

DAY 17 DEPTH 1115METRES LAST 24 HRS. 205ROTATING HRS. 11.50ACTIVITY AT REPORT TIME Drilling at 1230 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
6	215	J55R	91624	18	90		205	205	11.5	11.5	17.8			

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			
6	0	P	E	N	Air Mist	40 m ³ /minute	50 L/minute soap					1,575

DEVIATION SURVEYS

3/4 ° at 1010 ° at _____
3 ° at 1160 ° at _____
° at _____ ° at _____
° at _____ ° at _____

MUD & CHEMICALS ADDED

BOTTOM ASSEMBLY

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

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	11.50	202.75
2. TRIPS	1.75	25.75
3. RIG SERVICE	.25	4.75
4. DEVIATION SURVEY	.50	14.75
5. REAM & COND. HOLE		3.00
6. MIX & COND. MUD		
7. CIRCULATING	5.75	18.75
8. RIG REPAIR		3.50
9. RUN CASING & CEMENT		16.75
10. FISHING		9.75
11. LOGGING		15.25
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		12.00
15. NIPPLE UP & TEST BOP		37.00
16. DRILLING OUT	2.25	8.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. Leak Off	2.00	16.75
TOTALS	24.00	389.00

COSTS

DAILY

CUM.

SUPERVISOR: Bill Schaffer

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 04 03 2400

Year - Month - Day - Time

Drill out shoe. Run leak off at 912 m. 3500 kPa applied surface pressure. No leak off. Drill and survey ahead.

0800 Update: Drilling at 1230 m.

3⁰ - 1200 m.

WANT LIST: _____

WEATHER -20⁰C

ROAD _____

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 04 04 2400

Year Month Day Time

WELL NAME Forward et al Aubry J-13

LOCATION _____

DAY 18 DEPTH 1294 METRES LAST 24 HRS. 179 ROTATING HRS. 12.5ACTIVITY AT REPORT TIME Displace hole to mud and drill ahead at 1303 m.

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. 1160 VIS 55 WL. 14 GELS 6/8 % SOLIDS _____ PV 15 YP 6 pH 10.5% OIL _____ % SAND _____ CAKE 1 mm PPMCL 156,000 PPMCa 80

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	J55R	91624	10	100	1294	179	384	12.5	24	13.5	2	5	I
7	215	J33	81224											

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	7.9	7.9	7.9									5,500

DEVIATION SURVEYS

3-1/8 ° at 1276 ° at _____
° at _____ ° at _____
° at _____ ° at _____
° at _____ ° at _____

MUD & CHEMICALS ADDED

Gel - 65 sx Kelzan - 6 sx
Caustic - 4 sx
Soda Ash - 2 sx
Salt - 500 sx

BOTTOM ASSEMBLY

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

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	12.50	215.25
2. TRIPS	4.25	30.00
3. RIG SERVICE	.50	5.25
4. DEVIATION SURVEY	.75	15.50
5. REAM & COND. HOLE		3.00
6. MIX & COND. MUD	3.75	3.75
7. CIRCULATING		18.75
8. RIG REPAIR	.75	4.25
9. RUN CASING & CEMENT		16.75
10. FISHING		9.75
11. LOGGING		15.25
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		12.00
15. NIPPLE UP & TEST BOP		37.00
16. DRILLING OUT		8.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. Work on air equip.	1.50	18.25
TOTALS	24.00	413.00

COSTS

DAILY

CUM.

SUPERVISOR: Bill Schaffer

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 04 04 2400

Year - Month - Day - Time

Drill and survey, work on compressors, drill and survey.

2200 - 2400 hours: Displace hole to mud and condition.

0800 Update: Ream fill and drill at 1303 m.

WANT LIST: _____

WEATHER _____

ROAD _____

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 04 05 2400
Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13

LOCATION _____

DAY 19 DEPTH 1330 TD METRES LAST 24 HRS. 36 ROTATING HRS. 16.5

ACTIVITY AT REPORT TIME Logging

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. 1215 VIS 57 WL. 20 GELS _____ % SOLIDS _____ PV _____ YP _____ pH 11.5

% 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
7	215	J33	81224	18	90	1330	36	36	16.5	16.5	2.2	N	E	W

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			
7	7.9	7.9	7.9		100	159	1.08					5,500

DEVIATION SURVEYS

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

MUD & CHEMICALS ADDED

Kelzan - 5 sx
Caustic - 2 sx

BOTTOM ASSEMBLY

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

COSTS

DAILY _____

CUM. _____

SUPERVISOR Bill Schaffer

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	16.50	231.75
2. TRIPS	3.50	33.50
3. RIG SERVICE	.25	5.50
4. DEVIATION SURVEY	.25	15.75
5. REAM & COND. HOLE	1.25	4.25
6. MIX & COND. MUD		3.75
7. CIRCULATING	.50	19.25
8. RIG REPAIR		4.25
9. RUN CASING & CEMENT		16.75
10. FISHING		9.75
11. LOGGING	1.50	16.75
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		12.00
15. NIPPLE UP & TEST BOP		37.00
16. DRILLING OUT		8.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21 No Grant head	.25	18.50
TOTALS	24.00	437.00

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 04 05 2400
Year - Month - Day - Time

Circulate and condition, ream fill and drill ahead. Circulate up bottom hole sample, survey, pull out of hole to log.

0800 Update: Ran DIL-GR-SP running density.

WANT LIST: _____

WEATHER -5⁰F

ROAD Fair

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 04 06 2400

Year - Month Day - Time

WELL NAME Forward et al Aubry J-13 LOCATION _____

DAY 20 DEPTH 1330 TD METRES LAST 24 HRS. _____ ROTATING HRS. _____

ACTIVITY AT REPORT TIME Running Bond Log

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

COSTS

DAILY

CUM.

SUPERVISOR: Bill Schaffer

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		231.75
2. TRIPS		33.50
3. RIG SERVICE		5.50
4. DEVIATION SURVEY		15.75
5. REAM & COND. HOLE		4.25
6. MIX & COND. MUD		3.75
7. CIRCULATING		19.25
8. RIG REPAIR		4.25
9. RUN CASING & CEMENT		16.75
10. FISHING		9.75
11. LOGGING	24.00	40.75
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		12.00
15. NIPPLE UP & TEST BOP		37.00
16. DRILLING OUT		8.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. _____		18.50
TOTALS	24.00	461.00

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 04 06 2400

Year - Month - Day - Time

Log - DLGR

CD

AC

Velocity

Bond

0800 Update: Running Drill Stem Test #1.

WANT LIST: _____

WEATHER _____

ROAD _____

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 04 07 2400

Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13

LOCATION

DAY 21 DEPTH 1330 TD METRES LAST 24 HRS.

ROTATING HRS.

ACTIVITY AT REPORT TIME Run bridge plug.

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

COSTS

DAILY

CUM.

SUPERVISOR: Bill Schaffer

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		231.75
2. TRIPS		33.50
3. RIG SERVICE		5.50
4. DEVIATION SURVEY		15.75
5. REAM & COND. HOLE		4.25
6. MIX & COND. MUD		3.75
7. CIRCULATING		19.25
8. RIG REPAIR		4.25
9. RUN CASING & CEMENT		16.75
10. FISHING		9.75
11. LOGGING	1.50	42.25
12. CORING		
13. FORMATION TESTING	15.50	15.50
14. WAITING ON:		12.00
15. NIPPLE UP & TEST BOP		37.00
16. DRILLING OUT		8.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS	1	1
19. PLUG & ABANDON	6.00	6.00
20. RIG UP - TEAR OUT		
21.		18.50
TOTALS	24.00	485.00

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 04 07 2400

Year - Month - Day - Time

Log. Run Drill Stem Test #1 1262 - 1280.

Recovered 160 m drilling mud. Plug #1 1200 - 1330 6.7 T "G".

0800 Update: Running Bridge Plug.

WANT LIST: _____

WEATHER _____

ROAD _____

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 04 08 2400

Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13

LOCATION _____

DAY 22 DEPTH _____ METRES LAST 24 HRS. _____

ROTATING HRS. _____

ACTIVITY AT REPORT TIME Rig Release 1800 Hours 84 04 08.

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

COSTS

DAILY _____

CUM. _____

SUPERVISOR: Bill Schaffer

TIME ANALYSIS

OPERATION	TODAY	CUM.
1. DRILLING		231.75
2. TRIPS		33.50
3. RIG SERVICE		5.50
4. DEVIATION SURVEY		15.75
5. REAM & COND. HOLE		4.25
6. MIX & COND. MUD		3.75
7. CIRCULATING		19.25
8. RIG REPAIR		4.25
9. RUN CASING & CEMENT		16.75
10. FISHING		9.75
11. LOGGING		42.25
12. CORING		
13. FORMATION TESTING		15.50
14. WAITING ON		12.00
15. NIPPLE UP & TEST BOP		37.00
16. DRILLING OUT		8.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS	12.75	13.75
19. PLUG & ABANDON	5.25	11.25
20. RIG UP - TEAR OUT		
21. _____		18.50
TOTALS	18.00	503.00

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 04 08 2400

Year - Month - Day - Time

Ran bridge plug at 880 m. Pressure test to 4000 kPa - OK. Cement with 1.6 T.

Plug #3 0 - 25 m. Cement with 1.35 T "G".

Rig Release at 1800 hours 84 04 08.

WANT LIST: _____

WEATHER _____

ROAD _____

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
	GYPSUM
	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
	OOBITES
	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

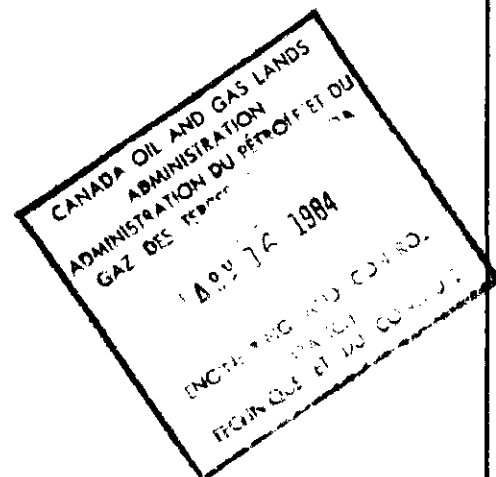
9211-F9-1-4
FORWARD ET AL AUBRY J-13

FINAL DRILLING SUMMARY

MAY 1984

PREPARED FOR:

Forward Resources Ltd.



PREPARED BY:

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

INTRODUCTION

Winterhawk Petroleum Consulting Services Ltd., acting as agents for Forward Resources Ltd., co-ordinated the logistics and drilling of the Forward et al Ewekka C-11 well drilled in February - March of 1984.

The 1983-84 drilling of Ewekka C-11 represented a continuance of the exploration activity which began in 1982-83 pursuant to a farm out agreement between Dome Petroleum Limited et al. and Forward Resources Ltd. In 1982-83, an extensive seismic operation was conducted in the region, with Norman Wells acting as the base station.

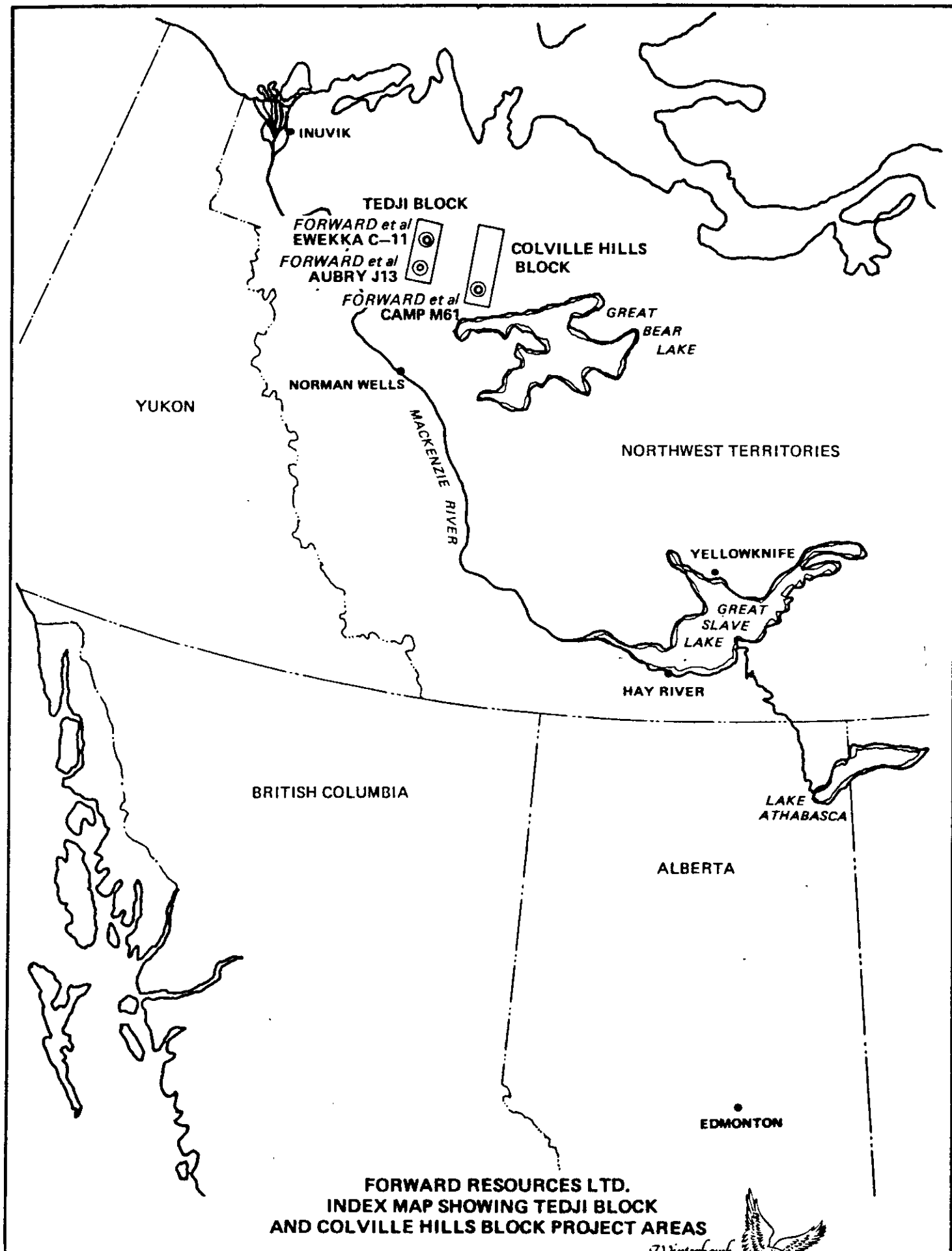
The rig and related components had been racked from the previous year's operation at a storage site in the Northern block of the Esso land, as indicated in the enclosed area map. In September of 1983, additional drilling supplies and support services were transported by barge to Norman Wells, N.W.T.

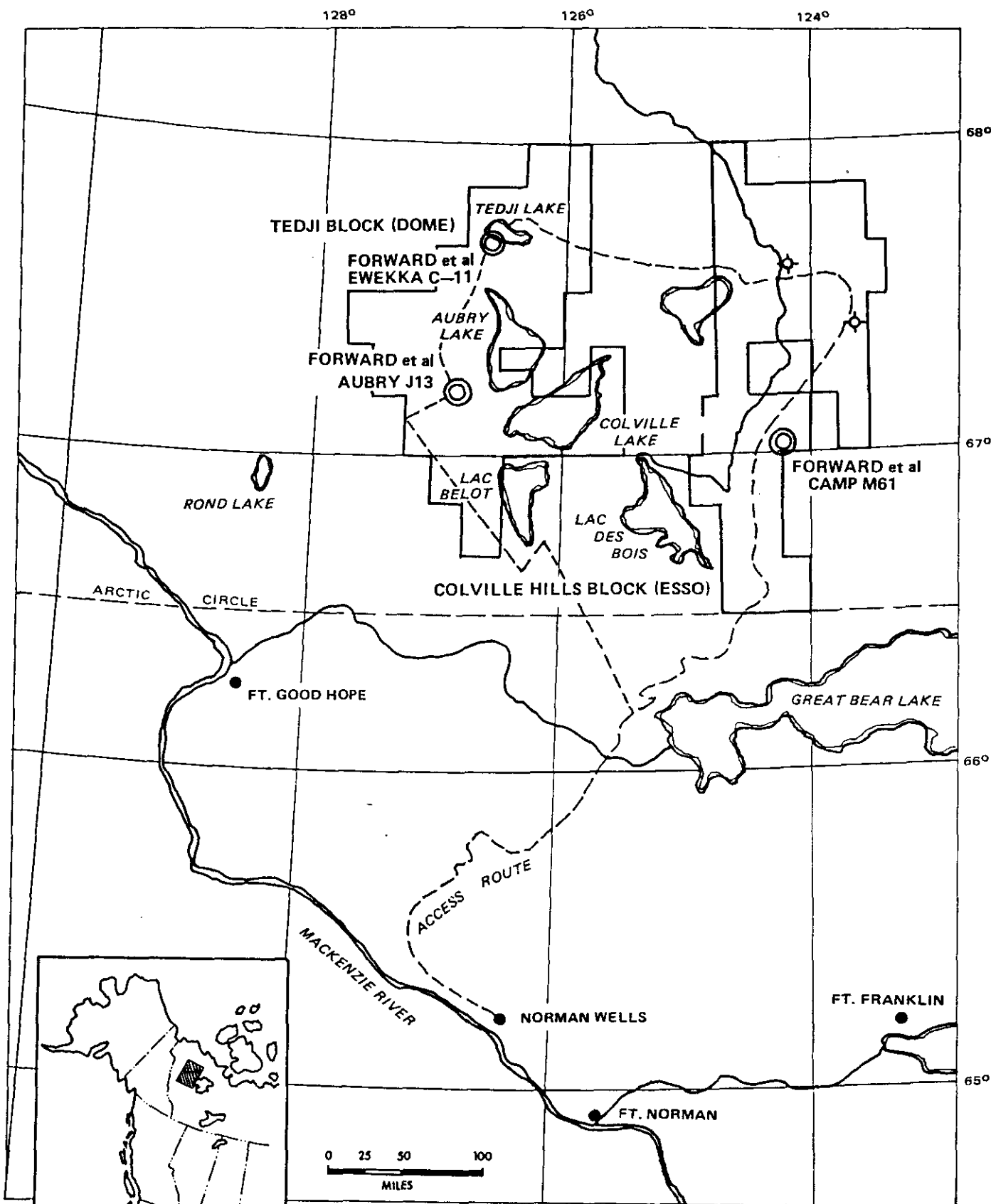
Transportation of the rig and related equipment was carried on simultaneously from the Norman Wells base station and from the racking site in early December of 1983. Drilling commenced on the Camp M-61 well location in early January 1984 and was completed by the end of the month. All supplies and equipment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

With the completion of Forward et al Ewekka C-11 in early March of 1984, the rig was transported south to the Aubry J-13 well location. Forward et al Aubry J-13, the second of the wells drilled in the Dome Acreage was spudded in mid March and drilled to total depth by the first week of April 1984.

Forward Resources Ltd. hereby gives notice that the enclosed report is to be considered as the **final well summary for the Aubry J-13 well location.**







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
 - Water Analysis
 - 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 - pocket enclosure
 - DLL-GR
 - CN-CDL-GR-4CAL
 - BHC/AC-GR-CAL
 - ACB/VDL/GR
 - Mud
 - Lithology

SECTION I

SUMMARY OF WELL DATA



FINAL WELL REPORT AUBRY J-13

WELL NAME: Forward et al Aubry J-13

LESSOR: Dome Petroleum Limited et al. farm out to
Forward Resources Ltd.

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

LOCATION: J-13 67-20-126-45

CO-ORDINATES: 67° 12' 37.11"
126° 47' 39.94"

LEASE NO.: N/A

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

DRILLING AUTHORITY: No. 1128 issued 84-03-09

CLASSIFICATION: New Field Exploratory (Northern)

ELEVATIONS: G.L. 333.80 m
K.B. 337.80 m

SPUD DATE: 84-03-18

COMPLETED DRILLING DATE: 84-04-05

TOTAL DEPTH, PLUG BACK: 1330 m 0 m P.B.T.D.

WELL STATUS: Dry and Abandoned

RIG RELEASED: 84-04-08

HOLE SIZES: 444 mm to 55 m
311 mm to 910 m
215 mm to 1330 m

CASING SIZES: 339 mm to 55 m
244 mm to 897 m





WELL SUMMARY

DATE 84 04 08

Well Forward et al Aubry J-13 Location

Elevations: KB 337.8 m GL 333.8 m CF 334.2 m

History: Spud Date 84 03 18 R.R. Date 84 04 08 TD 1330 m

Status Dry and Abandoned Producing Zone(s) N/A

A. DRILLING DETAILS

Hole Size 444 mm Depth 55 m Logs -

Hole Size 311 mm Depth 910 m Logs DLGR, CDCN-GR, BHCS-GR

Hole Size 215 mm Depth 1330 m Logs DILGR, CNCCL-GR-CAL, BHC/AC-GR-CAL,

Hole Size Depth Logs CBL-GRC-CCL, Lithology, Mud

Casing Size 339 mm Grade K-55 Depth 55 m Cement Vol. 17 T "G"

Casing Size 244 mm Grade I-80 Depth 897 m Cement Vol. 22.8 T "G" +

Casing Size Grade Depth Cement Vol. 2.5 T Permafrost

Casing Size Grade Depth Cement Vol.

DST No. 1 Int 1262 m - 1280 m 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 1200 m - 1330 m Cement Vol. 6.7 T "G" + 3% CaCl₂ Felt No

Plug No. 2 Int 880 m Cement Vol. Bridge Plug Felt Pressure

Plug No. Int 855 - 880 m Cement Vol. 1.35 T + 3% CaCl₂ Felt Tested

Plug No. 3 Int 0 - 25 m Cement Vol. 1.35 T Permafrost 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:

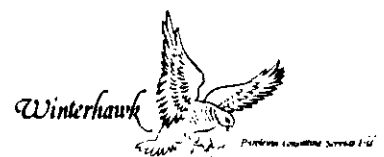
Remarks:

See specific forms for more detail.

ENGINEER B. Schaffer

SECTION II

GEOLOGICAL SUMMARY



FORMATION TOPS

FORWARD ET AL AUBRY J-13

Lat. $67^{\circ}12'37.11''\text{N}$, Long. $126^{\circ}47'39.94''\text{W}$

GEOLOGICAL REPORT

Alan J. Williams
Dawson-Long & Associates Ltd.

GEOLOGICAL MARKERS

<u>Formation</u>	<u>Sample Top</u>	<u>Subsea (Sample)</u>	<u>Log Top</u>	<u>Subsea (Log)</u>
Pleistocene	0	+338.04	-	-
Bear Rock	50.5	+287.54	-	-
Mount Kindle	110	+228.04	110	+228.04
Franklin Mt.				
Cherty	257	+ 81.04	258	+ 80.04
Rhythmic	473	-134.96	?	?
Cyclic	717	-378.96	718	-379.96
Saline River				
Shale	892	-553.96	892	-553.96
Salt	935	-596.96	934	-595.96
Upper Mount Cap	1139	-800.96	1138	-799.96
Old Fort Island	1275	-936.96	1272	-933.96
Proterozoic	1279	-940.96	1278	-939.96

Aubry J-13

CORED INTERVALS
CORE DESCRIPTIONS
SAMPLE DESCRIPTIONS

(No cores were cut)

PALAEONTOLOGICAL DETERMINATIONS

GEOLOGICAL SUMMARY

Pleistocene 0 - 50 m

The Pleistocene is a glacial till, a medium grey clay matrix with 20% medium to coarse grained, rounded, unconsolidated sand, possibly in lenses, and rock fragments, angular and rounded from very coarse sand sized to boulders. There is a layer of boulders from 45 to 50 meters. The unit is not entirely frozen but makes some water from 45 to 50 meters.

Bear Rock Top @ 50.5 m

The Bear Rock is light grey and light brown, in part mottled, in part oil stained medium brown, cryptocrystalline to microcrystalline. Fine vuggy porosity from trace amounts up to 15% in places, averaging over 5% throughout but showing poor permeability with most chips bleeding dark brown heavy oil. The oil staining shows a trace of pale yellow fluorescence with a moderately fast pale yellow fluorescent cut in chlorothene.

Ordovician Mount Kindle? Top @ 110 m

There is a light grey, dolomitic shale at the top of this unit. The rest is light brown, microcrystalline to fine crystalline dolomite, trace vuggy porosity, trace light grey dolomite, slightly argillaceous, slightly silty. No shows in this unit. It is frozen to about 190 meters and wet below that.

Franklin Mountain Cherty Top @ 257 m

The Franklin Mountain Cherty is light grey and light brown, interbedded, in part microcrystalline to very fine crystalline, in part medium to coarsely crystalline dolomite. There are 25% cherty interbeds, banded, oolitic, and vuggy porosity throughout the unit from trace amounts to as high as 20% from 345 to 375 meters. There is a trace of dark grey dead oil staining and only trace amounts of gas detected. The porosity is wet and a great amount of water was pumped from the formation during drilling.

Franklin Mountain Rhythmic Top @ 473 m

The Franklin Mountain Rhythmic is interbedded, light grey, light brown, and medium grey-brown dolomites, microcrystalline to very fine crystalline trace medium to coarse crystalline, trace vuggy porosity and local oil stain throughout. There are minor interbedded, soft, light grey and green shales and dark grey shales. The unit alternates clean and argillaceous every 40 meters or so. There is pale yellow fluorescence and faint shows yellow fluorescent cut at 490 to 505 meters and 580 to 590 meters in light brown, bituminous dolomite that gives a petroliferous smell on dissolution in acid. The gas readings are just trace amounts in this unit. None of the porosity in the unit adds significantly to the water flow in this well.

Franklin Mountain Cyclic Top @ 717 m

The Franklin Mountain Cyclic is interbedded light grey and light brown, clean dolomites and medium brown, medium grey brown and medium grey, argillaceous dolomites and 5% light green to dark grey dolomitic shales, closer to 20% shales in the bottom 35 meters of the unit. The dolomite is cryptocrystalline to microcrystalline with minor very fine crystalline having a trace of fine vuggy porosity throughout the unit and minor fracture porosity from 800 to 850 meters. There is 5 to 10% vuggy porosity from 772 to 780 meters and three times background gas readings here only [0.06% as opposed to .02% for background (3 units to 1 unit)]. There is a lot of limestone cavings from 55 to 110 meters in the samples. From 828 meters on the unit is shalier and more argillaceous with depth. There are sucrosic, dead, in part tarry oil stains throughout the unit. There is minor anhydrite in the bottom 15 meters.

Saline River Shale Top @ 892 m

The Saline River shale is interbedded, multicolored, dolomitic, silty shales anhydrite, gypsum and pink and light brown and light grey, sandy, silty, anhydritic, microcrystalline dolomite. There is some minor poorly sorted, fine to coarse grained, dolomitic sandstones also. There is no porosity or shows in this unit.

Saline River Salt Top @ 935 m

The unit consists of massive salt beds with minor shale, gypsum and dolomite layers and interbedded soft, light green and light grey dolomitic, fissile shales. The last 15 meters of the unit consists of these soft shales only. There are no shows or porosity in this unit.

Upper Mount Cap Top @ 1139 m

The Upper Mount Cap is interbedded tight, mostly cryptocrystalline, light brown limestones, very slightly porous, medium brown, microcrystalline to very fine crystalline, trace coarse crystalline dolomites and dark brown to black, bituminous, dolomitic, slightly calcareous shales with dark brown, cherty sections throughout. The dolomite at 1178 to 1182 meters and 1212 to 1217 meters has fine vuggy or pinpoint porosity and some dark brown oil staining with faint yellow fluorescence and very slow pale yellow fluorescent cut. There is minor faint yellow fluorescence throughout the tight dolomites and bituminous shales but no cut or shows.

Lower Mount Cap Top @ 1220 m

The top is the green shale marker consisting of dark green, dolomitic, slightly waxy, radioactive shale. There are minor fine to coarse grained dolomites, mottled light to medium brown, containing traces of fine vuggy porosity. There is minor faint yellow fluorescence and a trace of very slow pale yellow fluorescent cut at 1252 to 1257 meters. There is minor glauconitic sand in the dolomite and some shale and a basal sand zone with microcrystalline dolomitic matrix of up to 50%. The sand is fine to coarse grained, in part glauconitic and tight. There is minor gas, to 0.5%, from the slightly porous dolomites in this unit.

Old Fort Island Top @ 1275 m

There is a meter thick tight, fine to medium crystalline, medium brown dolomite cap over three meters of sand with a thin basal dolomitic shale. The sand is light grey, 20% very fine, 40% fine, 20% medium and 20% coarse to very coarse grained with the coarser sized grains in a matrix of very fine to fine grained sand. There is 2 to 3% intergranular porosity with minor dark brown crystalline pyrobitumen filling some pores. The cementing is entirely siliceous intergrowths. There is some unconsolidated coarse to very coarse, frosted grains indicating possibly higher porosity. About 20% of the sample is light brown oil stained. Most of the sands fluoresce, two-thirds show a faint yellow fluorescence while one-third shows a bright blue-white fluorescence. There is a slow faint yellow fluorescence from some chips. There is minor gas, 0.2% from this unit.

Proterozoic - Shaler Group Top @ 1279 m

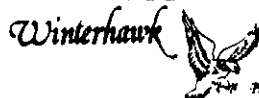
There is a pink, cream, light brown, microcrystalline, in part cherty, slightly silty, tight dolomite with minor dark to medium grey, micaceous shales. There are no shows or significant porosity in this unit.

SECTION III

ENGINEERING SUMMARY



DRILL STEM TESTS



PAGE _____

A. WELL DATA FIELD DRILL STEM TEST REPORT

DATE 84 04 07

Well Forward et al Aubry J-13 Location _____
DST No. 1 Interval 1262 - 1280 m Formation Old Fort Island
Last Casing: Size 244 mm Depth 897 m Open Hole: Size 215 mm Depth 1330 m
Hole Troubles: None Caliper at Packer(s) _____
Mud: Wt. 1220 Vis 58 W.L. 23 % Oil _____ ppm Cl _____

B. TEST STRING DATA

Testing Company Strata Hughes Type of Test Bypass Straddle
Type and Number of Packers 4 Size 196 mm
DP Size 114 mm Wt 24.7 kg/m Length 1120.94 m
DC Size 159 mm Wt 139 kg/m I.D. 57.1 mm Length 132.88 m
Tail Pipe Size 1 Wt 139 kg/m Length 38.01 m Perfs 3.65 m
T.D. String 1330 m Recorder Depth 1266.29 m Water Cushion - BH Choke 12.70
Packer Depth(s) 1262 m Weight on Packer(s) 20,000 daN
Other Equipment Sampler, temperature recorder, safety joint, jars.

C. TEST RESULTS Recorder # 1250

Times: PF 10 ISI 60 Flow 90 SI _____ Flow _____ FSI 180
Pressures: PF 709 IH 15862 ISI 12041 IF 957
TEMP 21 °C FH 15826 FSI 11819 FF 1760

Flow Descriptions:

Prewflow: Weak air blow throughout

Valve Open Flow: Weak air blow decreasing to faint throughout

Recoveries: 160 m drilling mud 158000 ppm

D. SAMPLE DETAILS:

1 sampler 3 fluid

Sent to: AGAT

Via: _____ Date Sent: _____

E. REMARKS:

Successful test.

Note: Data reported on this form are field readings taken
at the time of test, and are subject to correction.

ENGINEER B. Schaffer

TEST INFORMATION REPORT
STRATA HUGHES TESTING

633 - 6th AVENUE S.W., CALGARY, ALBERTA, CANADA T2P 2Y5

WELL NAME: Forward et al Aubry J-13 J-13-67-126

TICKET # A578

D.S.T. # One

C PANY Forward Resources Ltd.

DATE 84/04/07

WELL NAME Forward et al Aubry J-13

KB ELV. 337.8

TICKET # A578 DST.# One

WELL LOCATION J-13-67-126

GR ELV. 333.8

FORMATION Old Fort Island

I ERVAL 1262-1280

T.D. 1329.30

NET PAY -

TYPE OF TEST Bypass Straddle

C LUTOMER Forward Resources Ltd.

RI ORDER DATA
ALL MEASUREMENTS ARE 'SI'
TIME DATA [CONVENTIONAL]

PF	10	REC.#	8041	1250	5572	4394
ST	60	RANGE	46884	41369	44471	48263
S	90	CLOCK	24	24	24	24
FS	180	DEPTH	1254.36	1266.29	1267.51	1284.19

PF fr.	06:55	to	07:05	Hr.
IS fr.	07:05	to	08:05	Hr.
SF fr.	08:05	to	09:35	Hr.
FS fr.	09:35	to	12:35	Hr.

		kPa	kPa	kPa	kPa
A Init. Hyd.	-	15862	15881	16054	
B. First Flow	Clock	709	809	-	
B1.Final Flow	-	685	757	-	
C In Shut-in	Stopped	12041	12054	-	
D Init. Flow	-	957	1040	A1 12837	
E. Final Flow	-	1760	1780	-	
F Fi Shut-in	-	11819	11836	-	
G Final Hyd.	-	15826	15846	16024	

T STARTED	04:00	Hr.
T ON BTM	06:30	Hr.
T OPEN	06:55	Hr.
T PULLED	12:35	Hr.
T OUT	14:30	Hr.

TOOL DATA

TOOL WT.	3 000	daN
WT SET ON PACKER	20 000	daN
WT PULLED LOOSE	50 000	daN
INITIAL STR WT	45 000	daN
UNSEATED STR WT	45 000	daN
BTM.CHOKE	12.70	mm
HOLE SIZE	222	mm
D.COLL I.D.	57.1	mm
D.PIPE I.D.	92.5	mm
D.C.LENG	132.88	m
D.P.LENG	1120.94	m

Inside/Outside	Inside	Outside	Outside	Outside
----------------	--------	---------	---------	---------

RI RECOVERY

TOTAL FLUID 160	m of 132.9	m in D.C. and 27.1	m in D.P.
160	m of drilling mud	258 000 PPM	
-	m of -		
-	m of -		
-	m of -		

G.W. RECOVERY MEASURED WITH -

TIME	ORIFICE	PRESSURE	H*20	RATE
ins.	mm	kPa	mm	m^3/d

MUD DATA

MUD TYPE	Salt Gel	
WEIGHT	1220	kg/m^3
VIS	58	S/L
W.L.	23	cm^3
F.C.	1	mm
MUD DROP	No	m

REMARKS:

PREFLOW - Weak air blow throughout.

SECONDFLOW - Weak air blow decreasing to faint throughout.

TEST SUCCESSFUL

Charts to customer

Samples to AGAT - 1 sampler 3 fluid

GENERAL DATA

AMT.OF FILL	Nil	m
BTM.H.TEMP	21	C'
POROSITY %	-	
HOLE COND	Good	
PACKER SIZE	196	mm
# OF PACKERS	4	
CUSHION AMT	None	m
CUSHION TYPE.	None	
REVERSED OUT	No	
TOOL CHASED	No	
TESTER	T. Gibbs	
CO. REP.	B. Schaffer	
CONTRACTOR	300 Drilling	
RIG#	Mr. Ben /S12	



TEST INFORMATION REPORT
STRATA HUGHES TESTING
633 - 6th AVENUE S.W., CALGARY, ALBERTA, CANADA T2P 2Y5

CONVENTIONAL

WELL NAME Forward et al Aubry J-13

LOCATION J-13-67-126

TICKET NO. A578

D.S.T. NO. One

DATE 84/04/07

TOTAL TOOL TO BOTTOM TOP PACKERS

13.10

INTERVAL TOOL

8.54

BOTTOM PACKERS and ANCHOR

11.21

TOTAL TOOL

32.85

DRILL COLLAR IN INTERVAL

9.58

DRILL COLLAR ANCHOR STANDS 1

SINGLE 1

TOTAL

38.01

DRILL PIPE ANCHOR STANDS -

SINGLE -

TOTAL

-

TOTAL ASSEMBLY

80.41

DRILL COLLARS ABOVE TOOLS STANDS -

SINGLE -

TOTAL

132.88

DRILL PIPE ABOVE TOOLS STANDS -

SINGLE -

TOTAL

1120.94

TOTAL DRILL COLLARS DRILL PIPE AND TOOLS

1334.26

TOTAL DEPTH

1329.30

DRILL PIPE ABOVE K.B.

4.96

REMARKS

TEST SUCCESSFUL

P.O. Sub	.31
C.O. Sub	.31
Shut-in Tool	1.58
Sampler	1.10
HMV	2.16
REC. # 8041	1.52
Jars	1.85
By Pass Hanger	.42
Safety Joint	.61
PACKER	1.78
PACKER	1.46
Depth 1262.00	-
Stub	.32
Anchor	-
Perfs	3.65
By Pass Recvr.	.32
REC. # 1250	1.22
REC. # 5572	1.52
CO Sub	.31
Drill Collar	9.58
CO Sub	.31
T.C.	.89
Depth 1280.00	-
PACKER	.89
PACKER	1.78
Temp Rec.	.8
REC. # 4394	1.52
Blank Off Sub	5.79
CO Sub	.31
Drill Collar	38.01
CO Sub	.31
Bullnose	.61
T.D. 1329.00	-

STRATA**HUGHES****TEST INFORMATION REPORT****STRATA HUGHES TESTING**

633 - 6th AVENUE S.W., CALGARY, ALBERTA, CANADA T2P 2Y5

WELL NAME & LOCATION : FORWARD ET AL AUBRY J-13 J-13-67-126

TICKET# A578 DST# ONE

RECORDER #: 1250 AT 1266.29 M

T = : 10

T = : 100

TIME	INITIAL SHUT-IN			PSIG ² 10 ⁶	*	TIME	FINAL SHUT-IN			PSIG ² 10 ⁶
	TO+ $\frac{\Delta T}{Z\Delta T}$	PSIG	KPA				TO+ $\frac{\Delta T}{Z\Delta T}$	PSIG	KPA	
0	-	99.4	685	.010	*	0	-	255.3	1760	.065
6	2.67	1417.6	9774	2.010	*	6	17.67	1171.0	8074	1.371
12	1.83	1565.1	10791	2.450	*	12	9.33	1341.3	9248	1.799
18	1.56	1627.8	11223	2.650	*	18	6.56	1423.0	9811	2.025
24	1.42	1665.0	11480	2.772	*	24	5.17	1476.6	10181	2.180
30	1.33	1690.4	11655	2.858	*	30	4.33	1514.9	10445	2.295
36	1.28	1708.3	11778	2.918	*	36	3.78	1543.5	10642	2.382
42	1.24	1722.6	11877	2.967	*	42	3.38	1566.4	10800	2.454
48	1.21	1731.9	11941	2.999	*	48	3.08	1584.8	10927	2.512
54	1.19	1739.6	11994	3.026	*	54	2.85	1598.5	11021	2.555
60	1.17	1746.4	12041	3.050	*	60	2.67	1610.9	11107	2.595
					*	70	2.43	1628.0	11225	2.651
					*	80	2.25	1643.0	11328	2.699
					*	90	2.11	1654.3	11406	2.737
					*	100	2.00	1664.2	11474	2.769
					*	110	1.91	1673.4	11538	2.800
					*	120	1.83	1681.4	11593	2.827
					*	140	1.71	1694.3	11682	2.871
					*	160	1.62	1704.8	11754	2.906
					*	180	1.56	1714.2	11819	2.938

-----DATA-----

	INITIAL SHUT-IN	FINAL SHUT-IN
NO. OF INCREMENTS-----	10	19
NO. OF POINTS EXTRAPOLATED-----	6	7
SLOPE OF EXTRAPOLATED LINE-----	1009	513 PSI/CYCLE
EXTRAPOLATED PRESSURE-----	12438 KPA	12535 KPA

COMPUTATIONS BY RHYASON CONSULTANTS
PH: 230-8423

HORNER

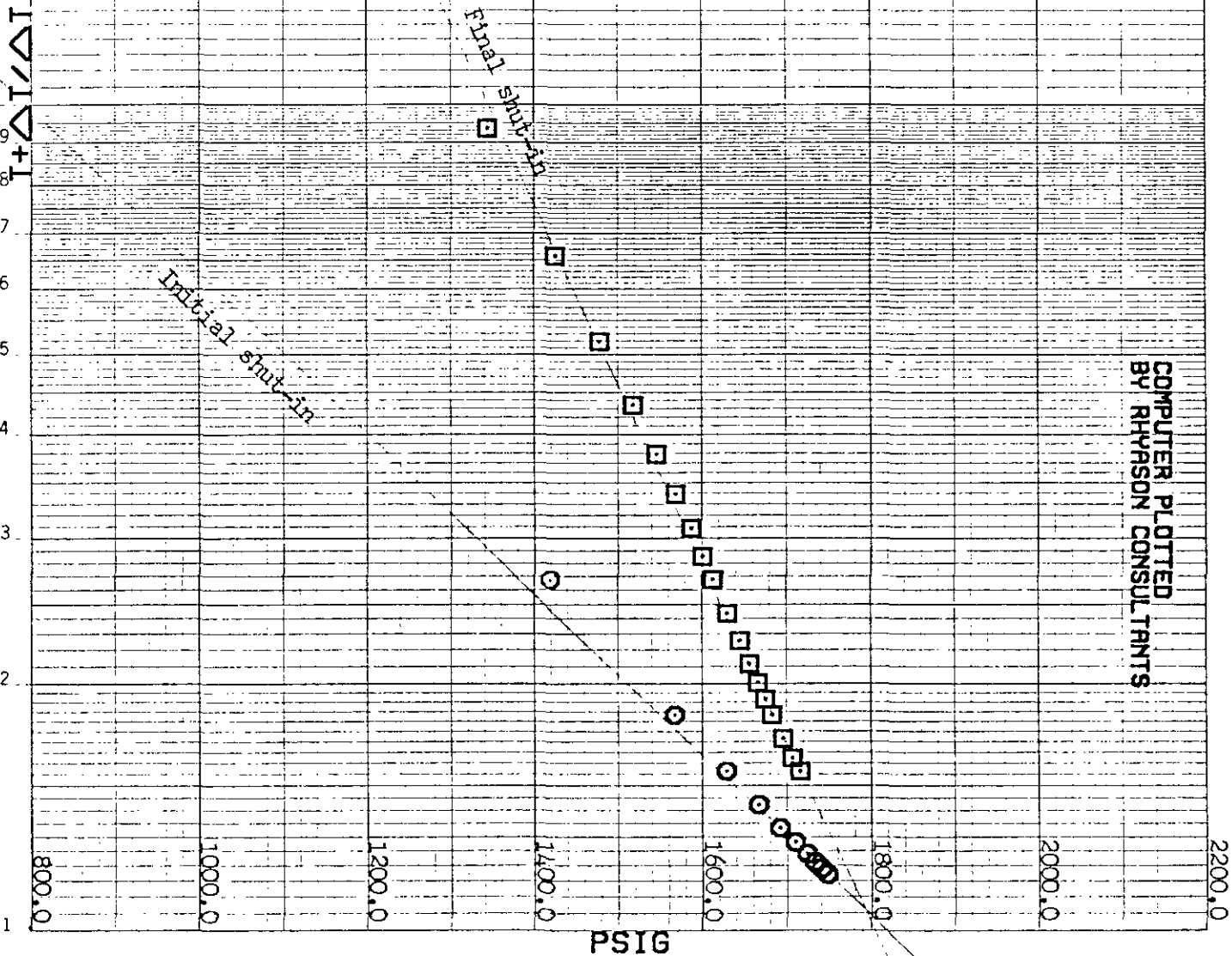
WELL NAME: FORWARD ET AL AUBRY J-13
 LOCATION: J-13-67-126
 TICKET # A578 DST # ONE
 RECORDER # 1258 AT 1266.29M

46 4970

SEMI-LOGARITHMIC 2 CYCLES X 70 DIVISIONS
 KEUFFEL & ESSER CO. MADE IN U.S.A.

$\frac{I}{I_0} + 1$

COMPUTER PLOTTED
 BY RHYSON CONSULTANTS

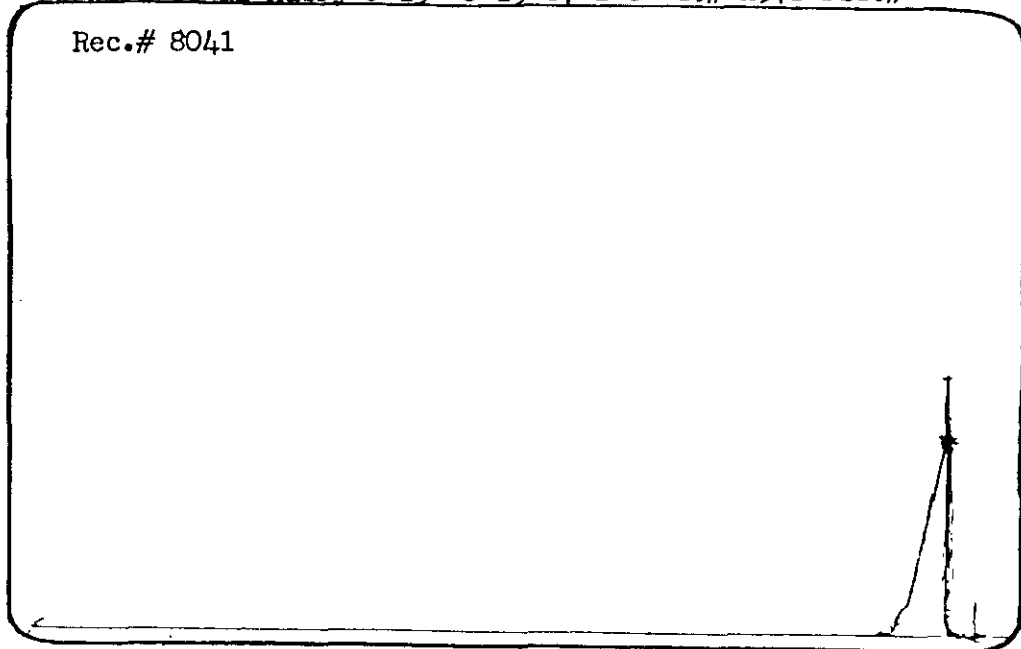




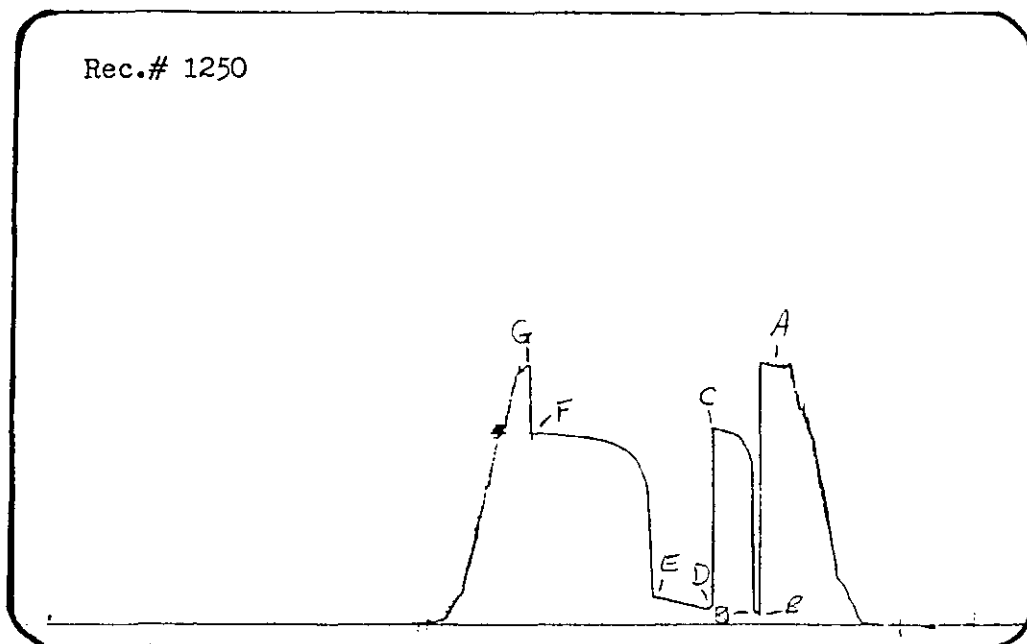
TEST INFORMATION REPORT
STRATA HUGHES TESTING
633 - 6th AVENUE S.W., CALGARY, ALBERTA, CANADA T2P 2Y5

Forward et. al Aubry J-13 J-13-67-126 T.# A578 DST.# One

Rec.# 8041



Rec.# 1250

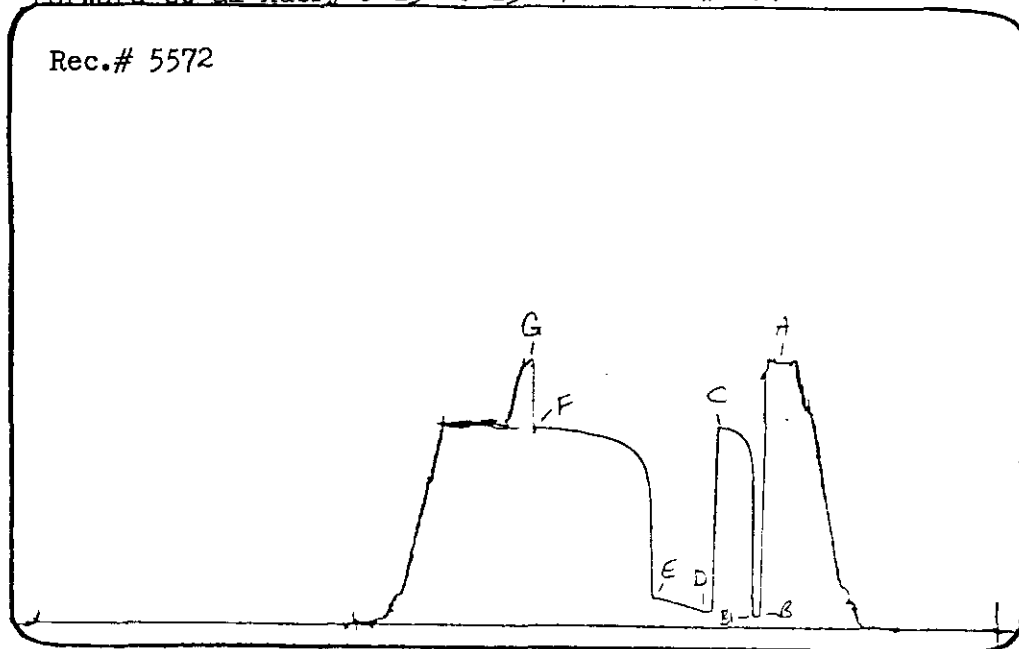




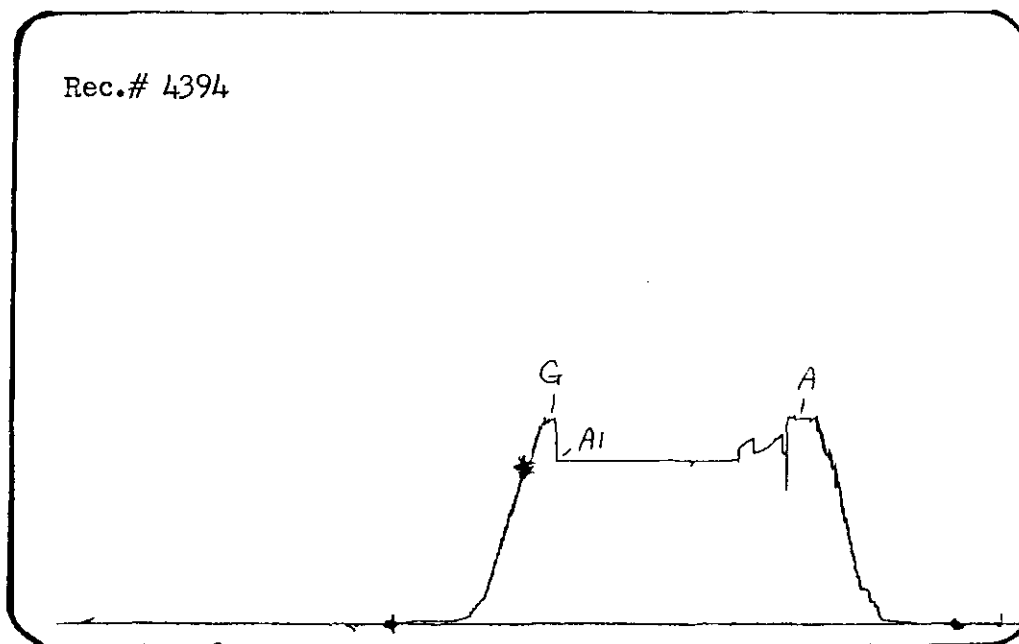
TEST INFORMATION REPORT
STRATA HUGHES TESTING
633 - 6th AVENUE S.W., CALGARY, ALBERTA, CANADA T2P 2Y5

Forward et al Aubry J-13 J-13-67-126 T.# A578 DST.# One

Rec.# 5572



Rec.# 4394



WATER ANALYSIS



AGAT LABORATORIES

3650 - 21st STREET N.E.
CALGARY, ALBERTA T2E 8V6
PHONE: 230-1568

CONTAINER IDENTIFICATION

TOOL SAMPLE

WATER ANALYSIS

LABORATORY NUMBER

E4384

OPERATOR NAME

FORWARD RESOURCES LTD.

UNIQUE WELL IDENTIFIER

J-13

WELL NAME

FORWARD ET AL AUBRY J-13

KB m ELEVATIONS

337.8

GRD m

333.8

FIELD OR AREA

AUBRY

POOL OR ZONE

OLD FORT ISLAND

NAME OF SAMPLER

COMPANY

STRATA HUGHES

TEST TYPE

DST

NO

1

TEST RECOVERY

1300m MUD CUT WATER @ 0 PSI

SAMPLING POINT

TOP OF THE TOOL

AMT & TYPE OF CUSHION

MUD RESISTIVITY/ μ m

25°C

TEST INTERVAL OR PERFS

1262-1280mKB

TYPE OF PRODUCTION

PUMPING

FLOWING

GAS LIFT

SWAB

PRODUCTION RATES

WATER

m³/d

OIL

m³/d

GAS

10³ m³/d

GUAGE PRESSURE kPa

SEPARATOR

TREATER

RESERVOIR

SOURCE

SAMPLED

RECEIVED

TEMPERATURE °C

DATE SAMPLED (Y-M-D)

84-04-08

DATE RECEIVED (Y-M-D)

84-04-12

DATE REPORTED (Y-M-D)

84-04-19

ANALYST

PB, LS & JM

OTHER INFORMATION

ION	$\frac{m \cdot V^{-1}}{g \cdot m^{-3}}$	MASS FRACTION	$\frac{C}{mole \cdot m^{-3}}$
Na	109000.0	.388	4740.0
K	1350.0	.005	34.4
Ca	1240.0	.004	31.0
Mg	5.3	TRC*	.2
Ba	N.A.	N.A.	N.A.
Sr	N.A.	N.A.	N.A.
Fe	8.3	TRC*	.1

ION	$\frac{m \cdot V^{-1}}{g \cdot m^{-3}}$	MASS FRACTION	$\frac{C}{mole \cdot m^{-3}}$
Cl	169000.0	.602	4760.0
Br	N.A.	N.A.	N.A.
I	N.A.	N.A.	N.A.
HCO ₃	N.A.	N.A.	N.A.
SO ₄	N.A.	N.A.	N.A.
CO ₃	N.A.	N.A.	N.A.
OH	N.A.	N.A.	N.A.
H ₂ S	N.D.	N.D.	N.D.

TOTAL SOLIDS

 $\frac{m \cdot V^{-1}}{g \cdot m^{-3}}$

EVAPORATED AT 110°C

EVAPORATED AT 180°C

AT IGNITION

CALCULATED

281000.0

RELATIVE DENSITY

1.182 @ 25°C

REFRACTIVE INDEX

N.A. @ 25°C

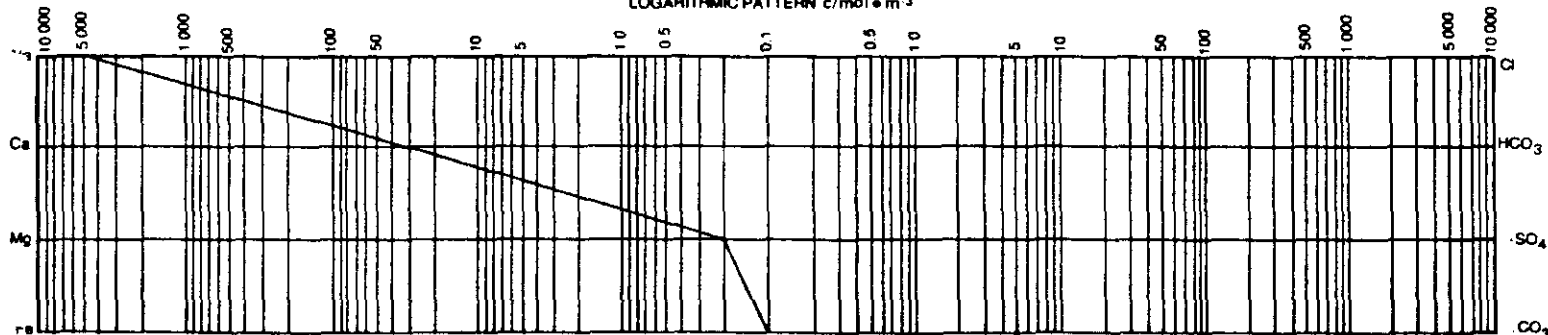
OBSERVED pH

@ 25°C

RESISTIVITY/OHM cm

.06 @ 25°C

DST CHAMBER: O.P.=0 kPa
RECOVERY: 1,300ml. water

LOGARITHMIC PATTERN c/mol m⁻³

REMARKS

TRC+=LESS THAN 0.1 N.D.= NOT DETECTED NIL=0.0 TRC*=LESS THAN 0.001 N.A. = NOT ANALYZED



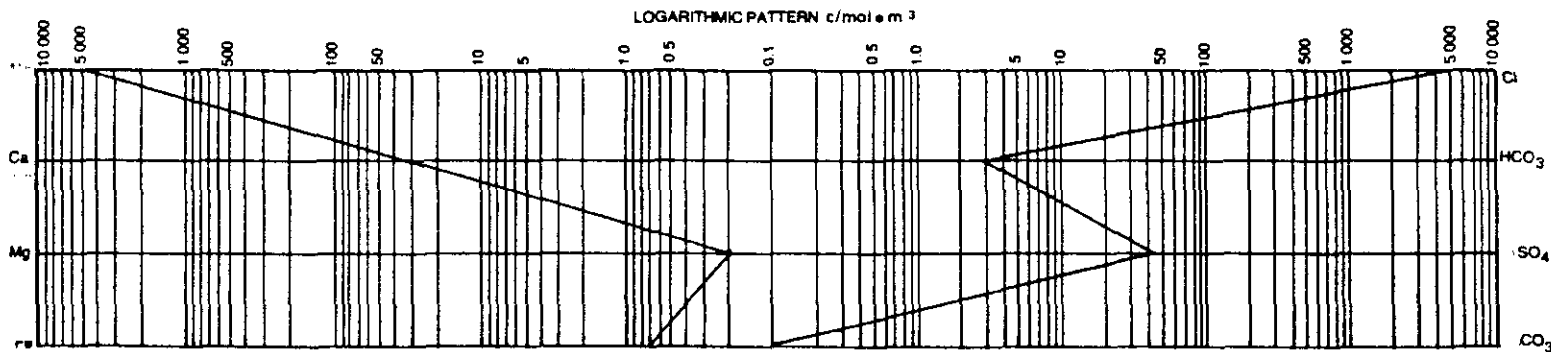
AGAT LABORATORIES
3650 - 21st STREET N.E.
CALGARY, ALBERTA T2E 6V6
PHONE: 230-1568

CONTAINER IDENTIFICATION BHS # 1		WATER ANALYSIS		LABORATORY NUMBER E4384	
OPERATOR NAME FORWARD RESOURCES LTD.					
UNIQUE WELL IDENTIFIER J-13		WELL NAME FORWARD ET AL AUBRY J-13		KB m 337.8	ELEVATIONS GRD m 333.8
FIELD OR AREA AUBRY		POOL OR ZONE OLD FORT ISLAND		NAME OF SAMPLER STRATA HUGHES	
TEST TYPE DST	NO 1	TEST RECOVERY			
TEST INTERVAL OR PERFS 1262-1280mKB		SAMPLING POINT Bottom Hole Sampler		AMT & TYPE OF CUSHION 	
		MUD RESISTIVITY/ μ m @ 25°C			
TYPE OF PRODUCTION					
☐ PUMPING ☐ FLOWING ☐ GAS LIFT ☐ SWAB					
PRODUCTION RATES					
WATER m ³ /d 		OIL m ³ /d 		GAS 10 ³ m ³ /d 	
SEPARATOR		TREATER		RESERVOIR	
SOURCE		SAMPLED		RECEIVED	
GUAGE PRESSURE kPa 		TEMPERATURE °C 			
DATE SAMPLED (Y-M-D) 	DATE RECEIVED (Y-M-D) 84-04-12	DATE REPORTED (Y-M-D) 84-04-19	ANALYST PB LS & JM		
OTHER INFORMATION 					

ION	$\frac{m \cdot V^{-1}}{g \cdot m^{-3}}$	MASS FRACTION	$\frac{C}{mole \cdot m^{-3}}$
Na	113000.0	.379	4920.0
K	1350.0	.005	34.4
Ca	1260.0	.004	31.5
Mg	5.2	TRC*	.2
Ba	N.A.	N.A.	N.A.
Sr	N.A.	N.A.	N.A.
Fe	41.1	TRC*	.7

ION	$\frac{m \cdot V^{-1}}{g \cdot m^{-3}}$	MASS FRACTION	$\frac{C}{mole \cdot m^{-3}}$
Cl	178000.0	.597	5010.0
Br	N.A.	N.A.	N.A.
I	N.A.	N.A.	N.A.
HCO ₃	183.0	.001	3.0
SO ₄	4200.0	.014	43.7
CO ₃	6.0	TRC*	.1
OH	NIL	NIL	NIL
H ₂ S	N.D.	N.D.	N.D.

TOTAL SOLIDS $\frac{m \cdot V^{-1}}{g \cdot m^{-3}}$	
EVAPORATED AT 110°C 	EVAPORATED AT 180°C
AT IGNITION 	CALCULATED 298000.0
RELATIVE DENSITY 1.181 @ 25°C	REFRACTIVE INDEX N.A. @ 25°C
OBSERVED pH 9.02 @ 25°C	RESISTIVITY/OHM • m .06 @ 25°C



REMARKS:

TRC+ = LESS THAN 0.1, N.D. = NOT DETECTED, NIL = 0.0, TRC* = LESS THAN 0.001, N.A. = NOT ANALYZED



AGAT LABORATORIES
3650 - 21st STREET N.E.
CALGARY, ALBERTA T2E 6V6
PHONE 230-1568

CONTAINER IDENTIFICATION

PB #1

WATER ANALYSIS

LABORATORY NUMBER

E4384

OPERATOR NAME

FORWARD RESOURCES LTD.

UNIQUE WELL IDENTIFIER

J-13

WELL NAME

FORWARD ET AL AUBRY J-13

KB m ELEVATIONS GRD m

337.8

333.8

FIELD OR AREA

AUBRY

POOL OR ZONE

OLD FORT ISLAND

NAME OF SAMPLER

COMPANY

STRATA HUGHES

TEST TYPE

DST

NO

1

TEST RECOVERY

160m

TEST INTERVAL OR PERFS

1262-1200mKB

SAMPLING POINT

MIDDLE

AMT & TYPE OF CUSHION

MUD RESISTIVITY/ $\mu\Omega\cdot m$

@ 25°C

TYPE OF PRODUCTION

PUMPING

FLOWING

GAS LIFT

SWAB

PRODUCTION RATES

WATER

m³/d

OIL

m³/d

GAS

10⁻³ m³/d

GUAGE PRESSURE kPa

SEPARATOR

TREATER

RESERVOIR

SOURCE

SAMPLED

RECEIVED

TEMPERATURE °C

DATE SAMPLED (Y-M-D)

84-04-07

DATE RECEIVED (Y-M-D)

84-04-12

DATE REPORTED (Y-M-D)

84-04-17

ANALYST

PB, LS & JM

OTHER INFORMATION

ION	$\frac{m \cdot V}{g \cdot m^3}$	MASS FRACTION	$\frac{C}{mole \cdot m^3}$
Na	104000.0	.362	4520.0
K	1240.0	.004	31.6
Ca	934.0	.003	23.3
Mg	2.0	TRC*	.1
Ba	N.A.	N.A.	N.A.
Sr	N.A.	N.A.	N.A.
Fe	1.9	TRC*	TRC+

ION	$\frac{m \cdot V}{g \cdot m^3}$	MASS FRACTION	$\frac{C}{mole \cdot m^3}$
Cl	178000.0	.620	5010.0
Br	N.A.	N.A.	N.A.
I	N.A.	N.A.	N.A.
HCO ₃	53.4	TRC*	.9
SO ₄	2810.0	.010	29.3
CO ₃	195.0	.001	3.3
OH	NIL	NIL	NIL
H ₂ S	N.D.	N.D.	N.D.

TOTAL SOLIDS $\frac{m \cdot V}{g \cdot m^3}$

EVAPORATED AT 110°C

EVAPORATED AT 180°C

AT IGNITION

CALCULATED

287000.0

RELATIVE DENSITY

1.180 @ 25°C

REFRACTIVE INDEX

N.A. @ 25°C

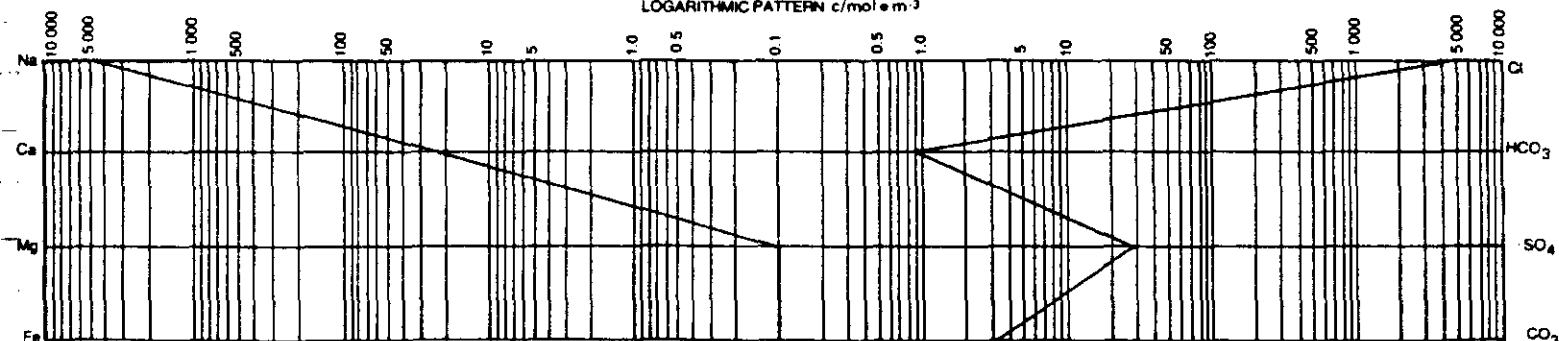
OBSERVED pH

11.60 @ 25°C

RESISTIVITY/OHM·m

.04 @ 25°C

LOGARITHMIC PATTERN $\frac{C}{mole \cdot m^3}$



REMARKS

TRC+=LESS THAN 0.1, N.D.= NOT DETECTED, NIL=0.0, TRC*=LESS THAN 0.001, N.A.=NOT ANALYZED



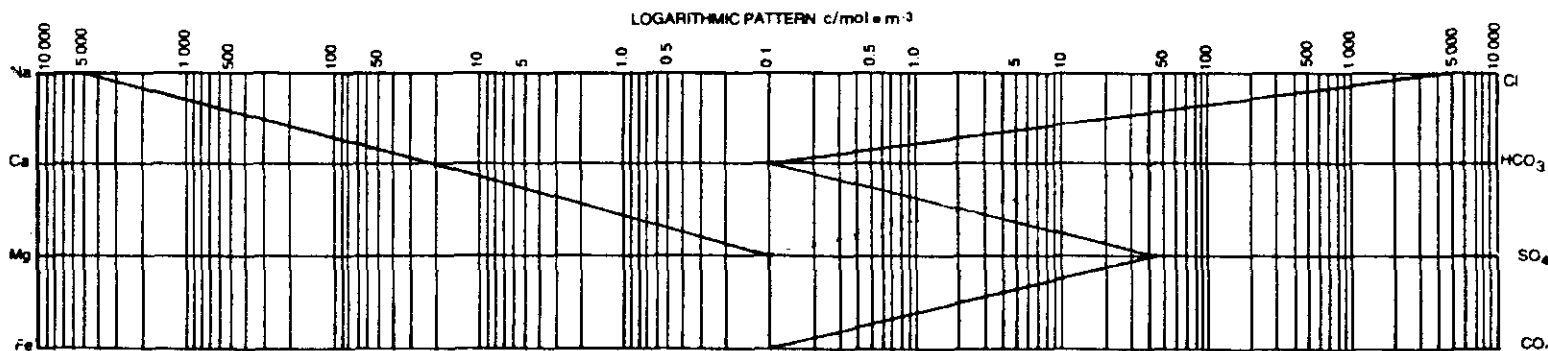
AGAT LABORATORIES
3650 - 21st STREET N.E.
CALGARY, ALBERTA T2E 6V6
PHONE: 230-1568

CONTAINER IDENTIFICATION PB # 2		WATER ANALYSIS		LABORATORY NUMBER E4384	
OPERATOR NAME FORWARD RESOURCES LTD.					
UNIQUE WELL IDENTIFIER J-13		WELL NAME FORWARD ET AL AUBRY J-13		KB m 337.8	ELEVATIONS GRD m 333.8
FIELD OR AREA AUBRY		POOL OR ZONE OLD FORT ISLAND		NAME OF SAMPLER STRATA HUGHES	
TEST TYPE DST	NO 1	TEST RECOVERY 160m			
TEST INTERVAL OR PERFS 1262-1280mKB		SAMPLING POINT TOP		MUD RESISTIVITY/ $\Omega \cdot m$ @ 25°C	
TYPE OF PRODUCTION					
☐ PUMPING		☐ FLOWING		☐ GAS LIFT	
☐ SWAB					
PRODUCTION RATES					
WATER m ³ /d		OIL m ³ /d		GAS 10 ³ m ³ /d	
SEPARATOR		TREATER		RESERVOIR	
SOURCE		SAMPLED		RECEIVED	
GUAGE PRESSURE kPa		TEMPERATURE °C			
DATE SAMPLED (Y-M-D) 84-04-07	DATE RECEIVED (Y-M-D) 84-04-12	DATE REPORTED (Y-M-D) 84-04-19	ANALYST PB, LS & Jil		
OTHER INFORMATION					

ION	$\frac{m \cdot V^{-1}}{g \cdot m^{-3}}$	MASS FRACTION	$\frac{C}{mole \cdot m^{-3}}$
Na	113000.0	.386	4920.0
K	1350.0	.005	34.4
Ca	830.0	.003	20.7
Mg	1.0	TRC*	TRC+
Ba	N.A.	N.A.	N.A.
Sr	N.A.	N.A.	N.A.
Fe	1.0	TRC*	TRC+

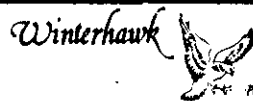
ION	$\frac{m \cdot V^{-1}}{g \cdot m^{-3}}$	MASS FRACTION	$\frac{C}{mole \cdot m^{-3}}$
Cl	173000.0	.590	4880.0
Br	N.A.	N.A.	N.A.
I	N.A.	N.A.	N.A.
HCO ₃	NIL	NIL	NIL
SO ₄	4250.0	.015	44.2
CO ₃	TRC+	TRC*	TRC+
OH	549.0	.002	32.3
H ₂ S	N.D.	N.D.	N.D.

TOTAL SOLIDS $\frac{m \cdot V^{-1}}{g \cdot m^{-3}}$	
EVAPORATED AT 110°C	EVAPORATED AT 180°C
AT IGNITION	CALCULATED
	293000.0
RELATIVE DENSITY	REFRACTIVE INDEX
1.180 @ 25°C	N.A. @ 25°C
OBSERVED pH	RESISTIVITY/OHM $\cdot m$
11.52 @ 25°C	.06 @ 25°C



REMARKS
TRC+=LESS THAN 0.1 N.D.=NOT DETECTED NIL=0.0 TRC*= LESS THAN 0.001 N.A.=NOT ANALYZED

CASING SUMMARY



PAGE _____

CASING SUMMARY

WELL Forward et al Aubry J-13 LOCATION _____ DATE 84 03 19

Conductor SIZE 339 mm KB 337.8 m KB to CF 3.6 m

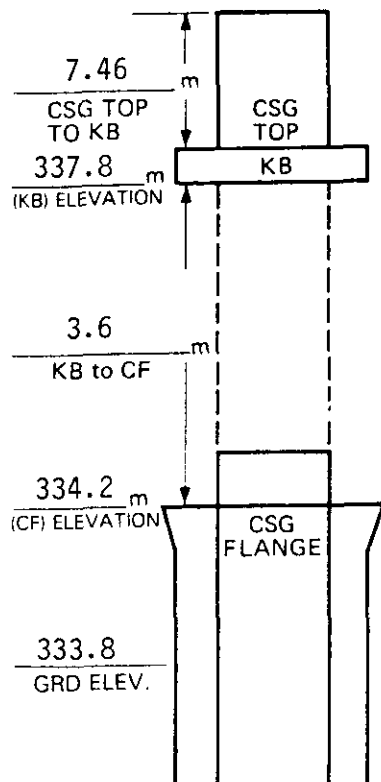
New/Used _____ Inspected By: _____ Drifted To: _____ API diam. _____

The diagram illustrates a vertical casing string with the following components and elevations (in meters):

- CSG TOP TO KB:** 7.46 m
- KB (KB) ELEVATION:** 337.8 m
- KB to CF:** 3.6 m
- (CF) ELEVATION:** 334.2 m
- CSG FLANGE GRD ELEV.:** 333.8 m

The casing string is labeled with "CSG TOP" at the top and "KB" and "CSG FLANGE" at the bottom.

NO.	DESCRIPTION	MEASURED LENGTH	KB DEPTH
1	Float shoe	.52	54.48
1	Joint casing	12.03	42.45
1	Float collar	.57	41.88
4	Joints casing	49.34	+ 7.46
	Scratchers		
	Centralizers		
Total String		62.46	Cut-off Jt. Length
minus KB to Csg Top (STICK UP)		7.46	
Landed Depth KB		55.0	
Hole Depth KB		55	
Distance Csg Landed Off Bottom			11.46



Cementing Company Halliburton

Wash - Type: H₂O Volume 1.6 m³

Cement Type - Lead Slurry permafrost Volume: 17 T

Additives _____ Volume: _____

Cement Type - Tail Slurry _____ Volume: _____

Additives _____ Volume: _____

Cement Type - Above Stage Collar _____ Volume: _____

Additives _____ Volume: _____

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

Calculated Cement Top(s) surface KB _____ KB

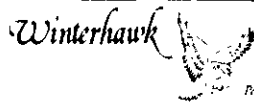
Returns: Mud _____ m³ Cement _____ m³

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

Wt. set on Slips: _____ daN

Remarks: Ran 339 mm, 81.1 kg/m, K55 casing

Engineer: J. Ross



PIPE TALLY SHEET

PAGE _____ OF _____

WELL Forward et al Aubry J-13

LOCATION _____

SIZE 339 mm WT. 81.1 kg/m GRADE K55 COUPLING ST&C THRD 8rd

DATE 84 03 19

JOINT	LENGTH		JOINT	LENGTH		JOINT	LENGTH		JOINT	LENGTH		JOINT	LENGTH	
1	12	03	11			21			31			41		
2	12	28	12			22			32			42		
3	12	37	13			23			33			43		
4	12	12	14			24			34			44		
5	12	57	15			25			35			45		
6			16			26			36			46		
7			17			27			37			47		
8			18			28			38			48		
9			19			29			39			49		
10			20			30			40			50		
A	61	37	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	61	37	SUB TOTAL	
B				
C				
D				
E				
F				
G				
H				
I				
J				
TOTAL	61	37		

Shoe .52
 Float .57
 Collar _____
 Other _____

PAGE TOTAL _____
 BROUGHT FWD _____
 GRAND TOTAL _____

JOINTS	LENGTH
5	61.37
5	61.37

JOINTS ON LOCATION _____

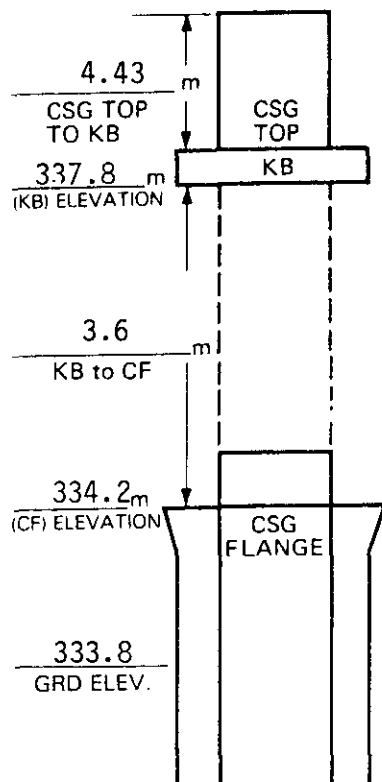
Remarks: _____

ENGINEER J. Ross

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.



CASING SUMMARY

WELL Forward et al Aubry J-13 LOCATION _____ DATE 84 04 01SURF/INT/PROD/LINER SIZE 244 mm KB 337.8 m KB to CF 3.6 mNew/Used _____ Inspected By: B. Schaffer Drifted To: _____ API diam. _____

NO.	DESCRIPTION	MEASURED LENGTH	KB DEPTH
1	Float shoe	.52	896.48
1	Joint casing	12.58	883.90
1	Float collar	.57	883.33
69	Joints casing	835.61	47.72
1	Stage tool	.72	47.00
1	TAM ECP	2.25	44.75
4	Joints casing	49.18	+ 4.43
	Scratchers		
3	Centralizers 1,2,3,		
Total String		901.43	Cut-off Jt. Length
minus KB to Csg Top (STICK UP)		4.43	
Landed Depth KB		897.00	
Hole Depth KB		910.00	
Distance Csg Landed Off Bottom			
			8.83

Cementing Company HalliburtonWash - Type: H₂O Volume 1.5 m³Cement Type - Lead Slurry "G" Volume: 22.8 TAdditives .5% C-322 (fluid loss) Volume: _____

Cement Type - Tail Slurry _____ Volume: _____

Additives _____ Volume: _____

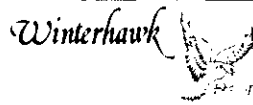
Cement Type - Above Stage Collar Permafrost Volume: 2.5 T

Additives _____ Volume: _____

Displacement Rate: Max. .67 Avg. .55 (m³/min)Calculated Cement Top(s) 460 m to TD KB 50 m to Surface KBReturns: Mud _____ m³ Cement .5 m³String Wt. in a mud wt. of: _____ kg/m³ = _____ daNWt. set on Slips: 50,000 daN

Remarks: _____

Engineer: B. Schaffer



PIPE TALLY SHEET

PAGE _____ OF _____

WELL Forward et al Aubry LOCATION J-13
 SIZE 244.5 mm WT. 64.7 kg/m GRADE L80 COUPLING LTC THRD 8rd

DATE _____

JOINT	LENGTH	JOINT	LENGTH	JOINT	LENGTH	JOINT	LENGTH	JOINT	LENGTH					
1	12	58	11	12	64	21	12	03	31	12	16	41	11	17
2	12	02	12	12	46	22	12	74	32	12	52	42	12	17
3	12	72	13	12	79	23	13	36	33	11	95	43	12	00
4	11	43	14	12	05	24	12	04	34	12	84	44	11	90
5	12	86	15	12	13	25	11	74	35	11	98	45	12	08
6	12	03	16	12	44	26	11	93	36	12	37	46	11	94
7	12	21	17	12	98	27	11	92	37	11	96	47	12	04
8	12	03	18	12	89	28	11	78	38	11	93	48	12	03
9	12	27	19	12	13	29	11	90	39	11	95	49	11	74
10	11	57	20	12	02	30	12	80	40	12	03	50	11	98
A	121	72	B	124	53	C	122	24	D	121	69	E	119	05
51	11	78	61	11	68	71	11	94	81	11	94	91		
52	11	50	62	11	91	72	12	65	82	12	43	92		
53	11	19	63	12	59	73	12	88	83	12	63	93		
54	12	01	64	12	43	74	11	71	84			94		
55	12	07	65	11	21	75	12	17	85			95		
56	11	86	66	11	70	76	12	30	86			96		
57	11	93	67	12	49	77	12	62	87			97		
58	12	67	68	11	91	78	12	01	88			98		
59	12	25	69	11	74	79	13	36	89			99		
60	12	05	70	11	99	80	12	64	90			100		
F	119	31	G	119	65	H	124	28	I	37	00	J		
A	121	72	SUB TOTAL									JOINTS	LENGTH	
B	124	53	246	25								74	897.37	
C	122	24	368	49								equipment	4.06	
D	121	69	490	18									901.43	
E	119	05	609	23										
F	119	31	728	54										
G	119	65	848	19										
H	124	28	972	47										
I	37	00	1009	47										
J														
TOTAL	1009	47												

Shoe .52
 Float .57
 Collar .72 stage
 Other 2.25 packer

PAGE TOTAL _____
 BROUGHT FWD _____
 GRAND TOTAL _____
 JOINTS ON LOCATION 83 joints -
9 joints left.

Remarks: 2 stage cement job.

ENGINEER B. Schaffer

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 REPORTATTACH TO
INVOICE No. 43 109HALLIBURTON DISTRICT
FrontierJOB
DATE 1984 04 01
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 Aubry J-13			
CALLER OUT	ON LOCATION	JOB STARTED	JOB COMPLETED	PROVINCE	LSD	SEC	TWP	RANGE	MERIDIAN		
DATE TIME	84-03-30 09:45	DATE TIME	84-04-01 13:22	DATE TIME	84-04-01 15:20	DATE TIME	N.W.T.				

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

EQUIPMENT

PACKER				CEMENT HEAD			
TYPE	SIZE	mm	TOP PLUG TYPE	CONTINUOUS ☐ KNOCK OFF ☐ SWAGE ☒			
DEPTH	m	TAIL	BOTTOM PLUG TYPE	OTHER			
SET	PIPE	m					

CEMENT DATA

TONNE	API CLASS	BRAND	BULK OR SACKED	CEMENT BLEND	ADDITIVES TYPE AND PERCENT	kg/m ³	m ³ /tonne
22.8	G	Inland	Bulk	Oilwell	0.5% C-322	1895	0.76
2.5	G	Inland	Sacked	P.F.C.		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	INFORMATION	TUBING	CASING	
							STAGE No. 1
1	13:22 13:34	0.75				3.0	Pump fresh water preflush.
2							Pressure test cement lines.
3	13:35 13:52	0.98				3.5	Mix slurry.
4	13:52 13:57						Release shut off plug.
5	13:57 14:50	0.67				17.0	Displace.
6							Release opening plug.
							STAGE No. 2
1	15:00 15:09	0.25				2.0	Pump fresh water preflush.

BIT RECORD



REMARKS:

MUD REPORT

	DURAFLOW BBL.	DURAPLEX 50 LBS.	DURAGUARD BBL.	CAUSTIC 50 LBS.	SALT 40 KGS.	SODA ASH 40 KGS.	KELZAN 50 LBS.	GEL 100 LBS.	XCPOLYMER
MARCH									
18	1								
19									
20									
21									
22	2								
23									
24									
25		11							
26		15							
27		19							
28		16	2						
29		14							
30		18							
31									
APRIL									
1									
2									
3									
4				4	500	2	6	65	
5				2			5		
6									
7									
8									
	3	93	2	6	500	2	11	65	

FORWARD RESOURCES LTD.

Re: Summary of Daily Fluid Tests
Forward et al Aubry J-13

SUMMARY OF DAILY DRILLING FLUID TESTS

FORWARD ET AL AUBRY J-13

Date	04/04	04/05	04/05
Depth (m)	1283	1303	1330
Density (Kg/m3)	1160	1200	1215
F.V. (s/L)	55	45	57
F.V. (mPa.s)	15	14	21
Y.P. (Pa)	6	4	5.5
Gels (0/10 min) (Pa)	6/8	3/7	6/10
F.L. (cm3/30 min)	14.0	18.0	18.0
Cake (mm)	1	1	1
Cl (mg/L)	172000	156000	150000
Ca (mg/L)	40	80	200
K (mg/L)	-	-	-
Sand (vol frac)	-	.010	.010
Solids (vol frac)	.102	.123	.128
Water (vol frac)	.898	.877	.872
Oil (vol frac)	-	-	-
PH	10.5	12.0	12.0
MBT (Kg/m3)	-	-	-
Pf/Mf	.5/1	.65/1	.3/.7

Ran loss with no trouble and ran test with no trouble. Hole was in good shape.



CANADIAN FLUID SYSTEMS LTD.
CALGARY, ALBERTA 230-3447

DRILLING FLUID REPORT

DATE 84-04-05

REPORT No. 01

LOCATION: J-13; 67°N 126°W

ACTIVITY: CIRCULATING

OPERATOR: FORWARD RESOURCES

CONTRACTOR: 300 DRILLING

RIG No.: MR. BEN

REPORT FOR: BILL SCHAEFFER

REPORT FOR: MORLEY THOMPSON

SPUD DATE:

WELL NAME & No.: FORWARD at AUBRY J-13

FIELD: AUBRY

PROVINCE OR AREA: NWT

BIT DATA			DRILL STRING		CASING		MUD VOLUME (m ³)
SIZE (mm): <u>215</u>	No.: <u>2</u>	TYPE: <u>J33</u>	D.P. SIZE: <u>114</u> mm	LENGTH: m	SURF: <u>244</u> mm AT <u>897</u> m	IN HOLE: <u>55</u>	
DEPTH IN: <u>1283</u> m	r/min		mm LENGTH: m		INT: mm AT m	IN TANKS: <u>16</u>	
W.O.B. (daN) (FORCE)			D.C. SIZE <u>159</u> mm	LENGTH <u>130.37</u> m	INT: mm AT m	TOTAL CIRCULATING: <u>71</u>	
NOZZLE SIZE (mm) <u>3/17.9</u>			HW mm	LENGTH <u>28.10</u> m	LINER: mm AT m	IN STORAGE: <u>—</u>	

PUMP AND CIRCULATION DATA				EQUIPMENT					
PUMP	#1	#2	ANNULAR VEL m/min:	SOLIDS CONTROL	OVERFLOW DENS. kg/m ³	UNDERFLOW DENS. kg/m ³	UNDERFLOW RATE m ³ /min	HOURS RUN	REMOVE kg/h
MAKE	<u>NAT</u>	<u>NAT</u>	D.P. & OPEN HOLE <u>42</u>	<u>NIL</u>					
MODEL	<u>7PSO</u>	<u>7PSO</u>	D.P. & CSG. <u>44</u>						
LINER (mm)	<u>152</u>	<u>152</u>	D.C. (<u>159</u> mm) <u>64</u>	MATERIALS USED SINCE LAST REPORT					
STROKE (mm)	<u>197</u>	<u>197</u>	D.C. (mm)	<u>CAUSTIC</u>	<u>4</u>	<u>XC</u>	<u>6</u>		
STROKE/min	<u>100</u>	<u>—</u>	CIRCULATION TIME	<u>SODA ASH</u>	<u>2</u>	<u>To: 20:00</u>	<u>83-03-0</u>		
m ³ /STROKE	<u>.0108</u>	<u>.0108</u>	BOTTOMS UP: (min) <u>30</u>	<u>GEL</u>	<u>65</u>	<u>CS</u>	<u>2</u>	<u>To 08:00</u>	
m ³ /min	<u>1.08</u>	<u>—</u>	SYSTEM (min) <u>65</u>	<u>SALT</u>	<u>500</u>	<u>XC</u>	<u>2</u>	<u>84-03-0</u>	
STANDPIPE PRESSURE ☒ (kPa) ☐ (MPa) <u>5000</u>				DAILY COST					
SAMPLE FROM ☒ FLOWLINE ☐ TANK				TOTAL COST					
FLOWLINE TEMPERATURE °C									

TIME SAMPLE TAKEN	<u>2445</u>	<u>0700</u>	REMARKS: (PROBLEMS, TRIPS, DRILLING, HOLE CONDITIONS,
DEPTH (m)	<u>1283</u>	<u>1303</u>	LOST CIRCULATION, MUD SYSTEM, ETC.)
DENSITY (kg/m ³)	<u>1160</u>	<u>1200</u>	<u>MUD CIRCULATED AROUND IN 40MIN</u>
MUD GRADIENT (kPa/m)	<u>11.39</u>	<u>11.78</u>	<u>NO WATER ON BTM.</u>
HYDROSTATIC HEAD (KPA)	<u>14615</u>	<u>15118</u>	RECOMMENDED TREATMENT:
FUNNEL VISCOSITY (s/L) at °C	<u>55</u>	<u>45</u>	<u>BYPASSED SHAKER AS MUD RAN</u>
PLASTIC VISCOSITY (mPa.s) AT °C	<u>15</u>	<u>14</u>	<u>OVER BOP'S.</u>
YIELD POINT (Pa)	<u>6</u>	<u>4</u>	<u>CIRCULATING W/ TROUGH AND</u>
GEL STRENGTH (Pa) 10s/10 min	<u>6/8</u>	<u>3/7</u>	<u>SUCTION TANK.</u>
pH ☒ STRIP ☐ METER	<u>10.5</u>	<u>12.0</u>	<u>STRONG SMELL OF GAS ON</u>
FILTRATE (cm ³ /30 min at 700 kPa) °C	<u>14.0</u>	<u>18.0</u>	<u>FIRST MUD UP.</u>
HP-HT FILT. (cm ³ /30 min at 3500 kPa) °C	<u>—</u>	<u>—</u>	
CAKE THICKNESS (mm)	<u>1.0</u>	<u>1.0</u>	<u>30m FILL - REAMING TO BTM</u>
SAND CONTENT (Vol. Fraction) 0 SAND	<u>—</u>	<u>.000</u>	<u>VIS DROPPED BACK TO 45 %L - RAISING</u>
SOLIDS CONTENT (Vol. Fraction) 0 SOLIDS	<u>.102</u>	<u>.123</u>	<u>IT BACK UP TO 50-60 W/ XC.</u>
OIL CONTENT (Vol. Fraction) 0 OIL	<u>—</u>	<u>—</u>	
AVE. RELATIVE DENSITY OF SOLIDS	<u>—</u>	<u>—</u>	
LOW GRAVITY SOLIDS (kg/m ³)	<u>—</u>	<u>—</u>	
ALKALINITY FILTRATE (PI/MH)	<u>.5/1.0</u>	<u>.15/5</u>	
M.B.T. (Bent. Equiv.) (kg/m ³)	<u>—</u>	<u>—</u>	
CHLORIDES (mg/L)	<u>172000</u>	<u>156000</u>	
POTASSIUM (mg/L)	<u>—</u>	<u>—</u>	
CALCIUM (mg/L)	<u>40</u>	<u>80</u>	

THE RECOMMENDATIONS MADE HEREON SHALL NOT BE CONSTRUED AS AUTHORIZING THE INFRINGEMENT OF ANY VALID PATENT, AND ARE MADE WITHOUT ASSUMPTION OF ANY LIABILITY BY CANADIAN FLUID SYSTEMS LTD. OR ITS AGENTS, AND ARE STATEMENTS OF OPINION ONLY.

REPRESENTATIVE LARRY PAMPLIN

FIELD OFFICE #10 CAMP

TELEPHONE

MOBILE

WAREHOUSE LOCATION

TELEPHONE



CANADIAN FLUID SYSTEMS LTD.
CALGARY, ALBERTA 230-3447

DRILLING FLUID REPORT

DATE 84-04-06 REPORT No. 02

LOCATION: T-13, 67°N, 126°W

ACTIVITY: CIRC TO LOG

OPERATOR: FORWARD RESOURCES

CONTRACTOR: 300 DRILLING

RIG No. MR BEN

REPORT FOR: BILL SCHAEFFER

REPORT FOR: MORLEY THOMPSON

SPUD DATE:

WELL NAME & No.: FORWARD, 1st AUBRY T-13

FIELD: AUBRY

PROVINCE OR AREA: NWT

BIT DATA			DRILL STRING			CASING			MUD VOLUME (m ³)	
SIZE (mm):	<u>215</u>	No.: <u>2</u>	TYPE: <u>333</u>	D.P. SIZE: <u>11.4</u>	mm LENGTH	m	SURF: <u>244</u>	mm AT <u>897</u>	m	IN HOLE: <u>55</u>
DEPTH IN:	<u>1283</u>	m r/min	<u>90</u>		mm LENGTH	m	INT:	mm AT	m	IN TANKS: <u>16</u>
W.O.B. (daN) (FORCE)	<u>18</u>			D.C. SIZE <u>159</u>	mm LENGTH	<u>130.37</u> m	INT:	mm AT	m	TOTAL CIRCULATING: <u>71</u>
NOZZLE SIZE (mm)	<u>3/7.9</u>			<u>HW</u>	mm LENGTH	<u>28.10</u> m	LINER:	mm AT	m	IN STORAGE: <u>74</u>

PUMP AND CIRCULATION DATA				EQUIPMENT					
PUMP	#1	#2	ANNULAR VEL m/min:	SOLIDS CONTROL	OVERFLOW, DENS. kg/m ³	UNDERFLOW, DENS. kg/m ³	UNDERFLOW RATE m ³ /min	HOURS RUN	REMOVAL kg/l
MAKE	<u>NAT</u>	<u>NAT</u>	D.P. & OPEN HOLE <u>42</u>	<u>SHAKER</u>					
MODEL	<u>7P50</u>	<u>7P50</u>	D.P. & CSG. <u>44</u>						
LINER (mm)	<u>152</u>	<u>152</u>	D.C. (<u>159</u> mm) <u>64</u>	MATERIALS USED SINCE LAST REPORT					
STROKE (mm)	<u>197</u>	<u>197</u>	D.C. (mm)	<u>CAUSTIC</u>	<u>2</u>				
STROKE/min	<u>100</u>	<u>—</u>	CIRCULATION TIME	<u>XC</u>	<u>3</u>				
m ³ /STROKE	<u>.0108</u>	<u>.0108</u>	BOTTOMS UP: (min)						
m ³ /min	<u>1.08</u>	<u>—</u>	SYSTEM (min) <u>65</u>						
STANDPIPE PRESSURE ☒ (kPa) ☐ (MPa) <u>10000</u>				DAILY COST					
SAMPLE FROM ☒ FLOWLINE ☐ TANK				TOTAL COST					
FLOWLINE TEMPERATURE °C									

TIME SAMPLE TAKEN	<u>2020</u>		REMARKS: (PROBLEMS, TRIPS, DRILLING, HOLE CONDITIONS,
DEPTH (m)	<u>1330</u>		LOST CIRCULATION, MUD SYSTEM, ETC.)
DENSITY (kg/m ³)	<u>1215</u>		<u>REACHED TD @ 11:20 - CIRC 1 HR.</u>
MUD GRADIENT (kPa/m)	<u>11.93</u>		<u>1ST LOG - 1/2 m FILL?</u>
HYDROSTATIC HEAD (KPA)	<u>15868</u>		RECOMMENDED TREATMENT:
FUNNEL VISCOSITY (s/L) at	<u>57</u>	C	
PLASTIC VISCOSITY (mPa.s) AT	<u>21</u>	C	
YIELD POINT (Pa)	<u>5.5</u>		
GEL STRENGTH (Pa) 10s/10 min	<u>6/10</u>		
pH ☒ STRIP ☐ METER	<u>12</u>		
FILTRATE (cm ³ /30 min at 700 kPa)	<u>18</u>	C	
HP-HT FILT. (cm ³ /30 min at 3500 kPa)	<u>+</u>	C	
CAKE THICKNESS (mm)	<u>1</u>		
SAND CONTENT (Vol. Fraction) 0 SAND	<u>.0100</u>		
SOLIDS CONTENT (Vol. Fraction) 0 SOLIDS	<u>.128</u>		
OIL CONTENT (Vol. Fraction) 0 OIL	<u>—</u>		
Ave. RELATIVE DENSITY OF SOLIDS	<u>—</u>		
LOW GRAVITY SOLIDS (kg/m ³)	<u>—</u>		
ALKALINITY FILTRATE (Pl/Ml)	<u>31.7</u>		
M.B.T. (Bent Equiv.) (kg/m ³)	<u>—</u>		
CHLORIDES (mg/L)	<u>150000</u>		
POTASSIUM (mg/L)	<u>—</u>		
CALCIUM (mg/L)	<u>200</u>		

THE RECOMMENDATIONS MADE HEREON SHALL NOT BE CONSTRUED AS AUTHORIZING THE INFRINGEMENT OF ANY VALID PATENT, AND ARE MADE WITHOUT ASSUMPTION OF ANY LIABILITY BY CANADIAN FLUID SYSTEMS LTD. OR ITS AGENTS, AND ARE STATEMENTS OF OPINION ONLY.

REPRESENTATIVE LARRY PAMPLIN

FIELD OFFICE #10 CAMP

TELEPHONE

MOBILE

WAREHOUSE LOCATION

TELEPHONE

DEVIATION RECORD



SURVEYS

DEPTH (m)

Deviation (°)

52	1
99	1/2
127	1/2
160	1/4
190	1/2
230	3/4
258	1/2
287	1/4
324	1/4
353	1/4
406	3/4
435	3/4
465	1/2
491	1/2
532	1
604	1/2
653	1/2
703	1/3
785	1
816	3/4
870	1/8
910	1/8
1010	3/4
1160	3
1276	3 1/8

ABANDONMENT REPORT



Nova Scotia	☐	West Coast	☐	Well Status	
Newfoundland	☐	Northern	☒	Suspended	☐
Gulf of St. Lawrence	☐	Hudson Bay	☐	Completed	☐
				Abandoned	☒

WELL TERMINATION RECORD

This record is submitted in triplicate in compliance with Section 184 of the Canada Oil and Gas Drilling Regulations.

WELL DATA

Well Name: Forward et al Aubrey J-13 Area: Colville Hills, N.W.T.
Grid Area: 67-20 126-45 Field/Pool: Not Applicable
Permit or Lease No.: N/A Final Coordinates: Lat 67° 12' 37.11" Long: 126° 47' 39.94"
Drilling Unit: Rig Mr. Ben Elevations: ~~XX~~/KB: 337.8 m XSPGL: 333.8 m
Spud Date: 84 03 18 Rig Released: 84 04 08 Total Depth: 1330 m

CASING AND CEMENTING

O.D.	Weight	Grade	Depth Set,	Cement and Additives:
339 mm	81.1 kg/m	K-55	55	16 T Permafrost
244 mm	64.7 kg/m	L-80	897	22.8 T Class "G" Lead +
				2.5 T Permafrost
				Tail Cement Above DV Tool

PLUGGING PROGRAM

Approval of the following program was obtained by (person) Gary Laviolette from
(person) John Hamilton of the Canada Oil and Gas Lands Administration by means of
Verbal Approval on April 7, 1984 (Written approval received 84-04-09.)

Type of Plug	Interval	Felt:	Cement and Additives
Cement	1220 - 1330 m		6.7 T "G" + 3% CaCl ₂
244 mm Bridge Plug	880 m	Pressure Tested	
Cement	855 - 880 m		1.35 T "G" + 3% CaCl ₂
Cement	0 - 25 m		1.35 T Permafrost

The 244 mm casing was cut off 1 m below ground level and a plate was welded
on top of the casing.

Lost Circulation/Overpressure Zones No lost circulation zones were noted, the hole was
drilled with Durafoam/Air

Provision for Re-entry (Describe and attach sketch) N/A

Cores Type No cores were cut Intervals

Other Downhole Completion/Suspension Equipment N/A

CERTIFICATION

I certify on the basis of personal knowledge of operations undertaken at the above named well that the above information
is accurate

Signed: *G. Laviolette* P. Eng. Title: Special Projects Engineer
Name: Gary Laviolette Date: March 30, 1984

Acknowledged by: _____
Engineering Branch

Date: _____

File: _____

Department of Energy
Mines and Resources

Ministère de l'Énergie
des Mines et des Ressources

Department of Indian Affairs
and Northern Development

Ministère des Affaires indiennes
et du Nord canadien

Canada



CEMENTING AND/OR SPECIAL TOOLS SERVICE REPORT

ATTACH TO
INVOICE No. 43 110HALLIBURTON DISTRICT
FrontierJOB
DATE 1984 04 07
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 Aubry J-13			
CALLER OUT	ON LOCATION	JOB STARTED	JOB COMPLETED	PROVINCE	LSD	SEC	TWP	RANGE	MERIDIAN		
DATE TIME	DATE TIME	DATE TIME	DATE TIME	DATE TIME							
11:30	84-04-07 11:30	84-04-07 19:40	84-04-08 09:40	N.W.T.					W		

TYPE OF JOB	WELL OR HOLE DATA	PRODUCTS
RFACE		EQUIPMENT
INTERMEDIATE		QUAN
PRODUCTION		BASKETS
ER		CENTRALIZERS
FREEZE		CLAMPS
PLUG		FLOAT COLLAR
PUMP		FLOAT SHOE
PRESSURE TEST		GUIDE SHOE
OTHER		INSERT FLOAT
		SCRATCHERS
		OTHER

HOLE DATA:	HOLE SIZE	216 mm	TOTAL DEPTH	1330 m	TYPE MUD	Ge1	VISC.	55	DENSITY	1080
CASING, TUBING OR LINER DATA	NEW ☐	USED ☐	SIZE	mm	kg/m	GRADE	DEPTH	m		
PERFORATIONS:	FROM	m	TO	m	FROM	m	TO	m		
WASH FLUID TYPE:	Water	VOL.	0.8 m ³	DISPLACING FLUID TYPE:	Water	VOL.	m ³			
TEMP	MIXING	°C	SLURRY	°C	DISPLACING FLUID	°C	RETURNS	°C		
DATA	WATER									

EQUIPMENT		
PACKER		CEMENT HEAD
TYPE	SIZE mm	CONTINUOUS ☐ KNOCK OFF ☐ SWAGE ☐
DEPTH	m	OTHER Nubbin
SET	PIPE	

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

HALLIBURTON OPERATOR	K. Town	CUSTOMER REP.
----------------------	---------	---------------

TREATING LOG							
CHART POSITION	TIME	RATE m ³ /min	VOLUME m ³		PRESSURE MPa		REMARKS
			PUMPED	IN FORMATION	TUBING	CASING	
							PLUG NO. 1
1							Pressure test cement lines.
2							Pump spacer.
3							Mix slurry.
4							Displace.
							PLUG NO. 2
1							Pump spacer.
2							Mix slurry.
3							Displace.

TICKET NO.: 43 110

PLUG BACK JOB DATA

PLUG NO.	TOP	DEPTH BOTTOM	TONNE	DISPLACEMENT (m ³)	TIME (min)
1	1200	1300		8.8	9
2				6.4	6
3	0	25		0.5	1

LOST CIRCULATION

Lost circulation was not noted as this well was drilled with Durafoam.

SECTION IV
LOGGING SUMMARY



Dual Laterolog Gamma Ray

Run 1

March 31, 1984
54.7 m - 892.8 m

Run 2

April 06, 1984
898.5 m - 1328.8 m

**Compensated Densilog
Compensated Neutron Gamma Ray**

Run 1

March 31, 1984
427.0 m - 890.0 m

Run 2

April 06, 1984
898.5 m - 1329.2 m

Borehole Compensated Acoustic Gamma Ray Caliper

Run 1

March 31, 1984
427.0 m - 890.0 m

Run 2

April 06, 1984
898.5 m - 1326.7 m

**Acoustic Cement Bond
VDL/Signature/Gamma Ray**

Run 2

April 06, 1984
40.0 m - 904.0 m

Mud Log

Lithology Log



SECTION V
DRILLING CURVE

DRILLING CURVE FOR: FORWARD ET AL AUBRY J13

LAT.: 67°12'37.11" LONG.: 126°47'39.84" SPUDDED: 1900 MAR.18, 1984 RIG RELEASED: 1900 APR. 8, 1984

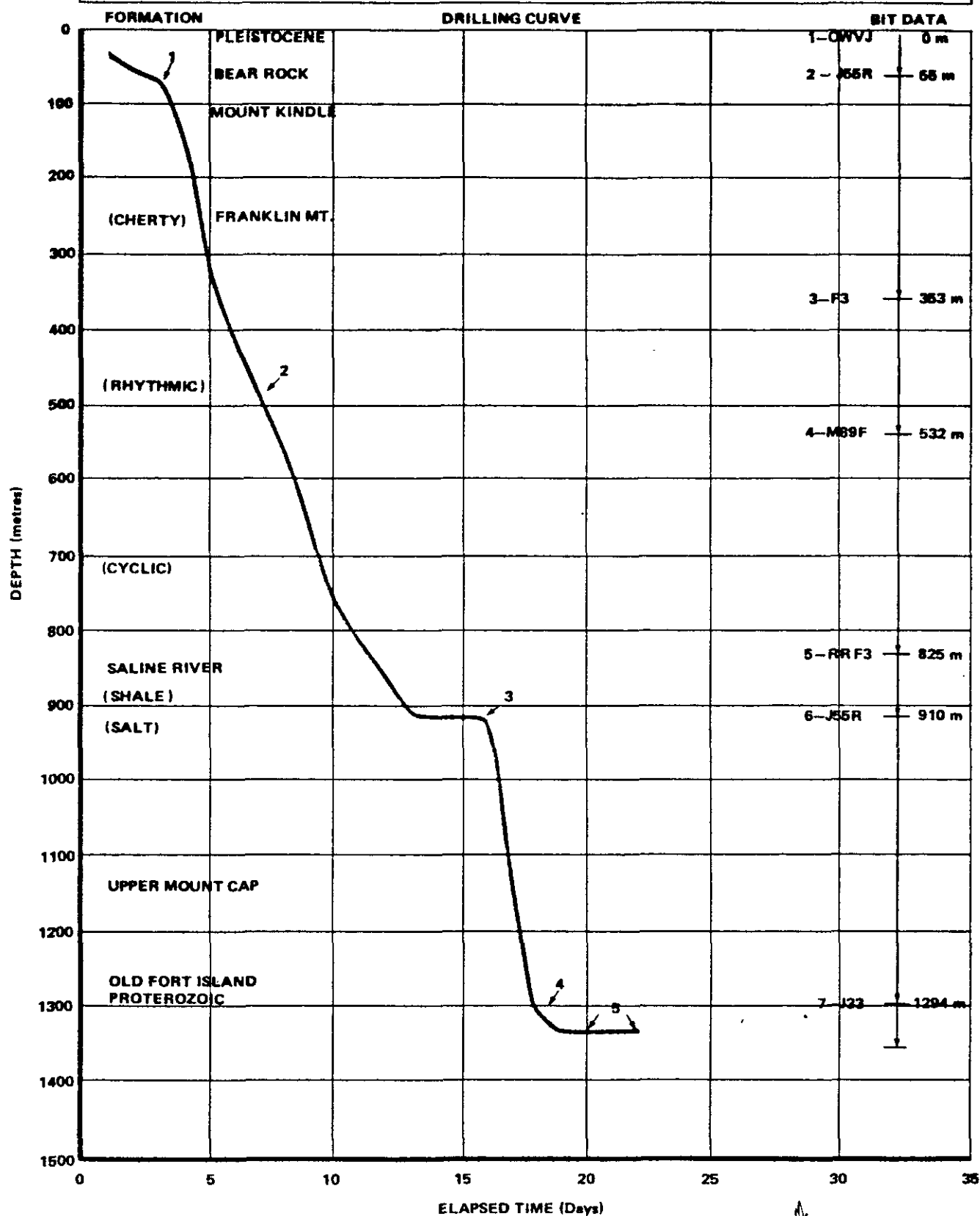
CONTRACTOR: 300 DRILLING "MR. BEN"

DRAWWORKS: NATIONAL TYPE 370 650 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 1/2 O.D.

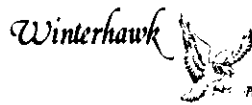


DRILLING CURVE

1. Ran conductor casing to 55 m.
2. Twisted off at X/O from 159 mm to 229 mm, recover fish.
3. Logged, ran surface casing to 897 m, pressure tested.
4. Displaced hole to mud.
5. Logged, Drill Stem Tested, ran plugs.

SECTION VI
DAILY DRILLING REPORTS





DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 03 18 2400

Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13

LOCATION _____

DAY 1 DEPTH 24 METRES LAST 24 HRS. 24 ROTATING HRS. 5ACTIVITY AT REPORT TIME 52 m - thawing kelly hose

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
1A	444.5	HW0WVJ	VD341	A11	90		24	24	5	5	4.8	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			
1A	O P E N			Air	50 m ³ /minute							1,400

DEVIATION SURVEYS

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

MUD & CHEMICALS ADDED

Duraflo - 1 sk

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit		444.5	.37	
B.S.	70	231	1.17	
1 - D.C. (9")	93	230	9.54	
X-Over Sub	72	154	.82	
K.D.			11.90	
			23.80	
				6,000

COSTS

DAILY

CUM.

SUPERVISOR: John Ross

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	5.00	5.00
2. TRIPS		
3. RIG SERVICE		
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		
21.		
TOTALS	5.00	5.00

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING

84 03 18 2400
Year - Month - Day - Time

Drill 1 kelly of 311 mm pilot hole, drill rathole and mousehole. Spud at 1900 hours 84 03 18. Drill ahead.

Projected conductor depth - 57 m.

WANT LIST:

WEATHER -32°C

ROAD Good

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 03 19 2400

Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13

LOCATION _____

DAY 2 DEPTH 55 METRES LAST 24 HRS. 31

ROTATING HRS. 7

ACTIVITY AT REPORT TIME Nipple up BOPs

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
1A	444	OWVJ	VD341	10	70	55	31	55	7	12	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			

DEVIATION SURVEYS

1 ° at 52 ° 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.

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	7.00	12.00
2. TRIPS	.75	.75
3. RIG SERVICE		
4. DEVIATION SURVEY	.25	.25
5. REAM & COND. HOLE		
6. MIX & COND. MUD		
7. CIRCULATING	1.25	1.25
8. RIG REPAIR		
9. RUN CASING & CEMENT	5.00	5.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON: Cement	4.00	4.00
15. NIPPLE UP & TEST BOP	1.00	1.00
16. DRILLING OUT		
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. Misc.	4.75	4.75
TOTALS	24.00	29.00

SUPERVISOR: J. Ross

OPERATIONS DETAILS: PERIOD ENDING _____

84 03 19 2400

Year - Month - Day - Time

Drill ahead to 55 m. Circulate, survey and circulate.

Ran 5 joints (61.37 m), K55, 81.1 kg/m, new casing with float shoe and float collar. Landed at 55 m. Cement with 17 T permafrost and displace with 3.62 m³ fresh water. Plug down at 1900 hours 84 03 19. Float held OK. Full 1.6 m³ full water returns and full cement returns

KB - CF 3.6 m

KB - GL 4.0 m

WANT LIST: _____

WEATHER - 40⁰

ROAD Good

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 03 20 2400

Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13

LOCATION _____

DAY 3 DEPTH 65 METRES LAST 24 HRS. 10 ROTATING HRS. 2.75ACTIVITY AT REPORT TIME 96 m drilling 7 m/hour

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	J55R	88583	10/15	80/100		10	10	2.75	2.75	3.6			

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	Air	40	m ³ /minute					350

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			.3	
S.S.			4.59	
D.C. (3)	93	230	28.39	
J.H.	73	228	6.26	
D.C.	93	229	9.47	
X/O	72	154	.82	
D.C.	60	161	9.32	
Kelly			5.85	23,000
			65.00	

COSTS
DAILY

CUM.

SUPERVISOR: John Ross

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	2.75	14.75
2. TRIPS	1.00	1.75
3. RIG SERVICE		
4. DEVIATION SURVEY		.25
5. REAM & COND. HOLE		
6. MIX & COND. MUD		
7. CIRCULATING		1.25
8. RIG REPAIR	1.25	1.25
9. RUN CASING & CEMENT		5.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		4.00
15. NIPPLE UP & TEST BOP	16.00	17.00
16. DRILLING OUT	2.75	2.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. Unload	.25	5.00
TOTALS	24.00	53.00

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 03 20 2400

Year - Month - Day - Time

Weld and test bowl. Nipple up BOP's. Run in hole, pressure test to 2900 kPa - OK.

Work on drum brakes. Unload hole. Drill ahead.

WANT LIST: _____

WEATHER -20°C

ROAD Good

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 03 21 2400

Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13

LOCATION _____

DAY 4 DEPTH 146 METRES LAST 24 HRS. 81 ROTATING HRS. 14.75

ACTIVITY AT REPORT TIME Misting up and drilling at 194 m at 6 to 7 m per hour

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	J55R	88583	10/15	50/80		81	91	14.75	17.5	5.5	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			
2	O P E N			Air 35 m ³ /minute								750
				Misting Air 30 m ³ /minute				36 L/minute	injection rate			1.000

DEVIATION SURVEYS

1/2 ° at 99 ° at _____
 1/2 ° at 127 ° at _____
 ° at _____ ° at _____
 ° at _____ ° at _____

MUD & CHEMICALS ADDED

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit			.3	
BHA			49.53	
D.C. (9)			83.90	
Kelly down			12.27	
			146	33.000

COSTS

DAILY

CUM.

SUPERVISOR: John Ross

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	14.75	29.50
2. TRIPS	1.50	3.25
3. RIG SERVICE	.75	.75
4. DEVIATION SURVEY	.50	.75
5. REAM & COND. HOLE		
6. MIX & COND. MUD		
7. CIRCULATING		1.25
8. RIG REPAIR	1.75	3.00
9. RUN CASING & CEMENT		5.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		4.00
15. NIPPLE UP & TEST BOP		17.00
16. DRILLING OUT		2.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP TEAR OUT		
21. Work on Grant head	4.75	9.75
& anchor BOPs TOTALS	24.00	77.00

OPERATIONS DETAILS: PERIOD ENDING _____

84 03 21 2400

Year - Month - Day - Time

Drill and survey ahead. Tighten BOP's. Repair rotary table torque, drill, pull out of hole to retrieve insert rubber and install new rubber. Drill and survey ahead. Switch over to mist due to wet hole at 0730 hours 84 03 22.

WANT LIST: _____

WEATHER -14°C

ROAD Good

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 03 22 2400

Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13

LOCATION _____

DAY 5 DEPTH 315 METRES LAST 24 HRS. 169 ROTATING HRS. 21.50

ACTIVITY AT REPORT TIME Drill ahead in chert at 340 m. Rate of penetration 3 - 6 m/hour.

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	HWJ55R	88583	14-15	80		169	260	21.50	39	7.8	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			
2	NO JETS			Air/Mist	30 m ³ /minute		36 L/minute	injection rate				1,100

DEVIATION SURVEYS

1/4 ° at 160 1/4 ° at 287
 1/2 ° at 190 ° at _____
 3/4 ° at 230 ° at _____
 1/2 ° at 258 ° at _____

MUD & CHEMICALS ADDED

Duraflow - 2 barrels _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit, S.S. D.C. JH				
D.C. X/O				
Drill pipe			189.35	
D.P.			113.82	
Kelly down			11.83	
			315	39,000

COSTS

DAILY

CUM.

SUPERVISOR John Ross

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	21.50	51.00
2. TRIPS		3.25
3. RIG SERVICE	.50	1.25
4. DEVIATION SURVEY	1.25	2.00
5. REAM & COND. HOLE		
6. MIX & COND. MUD		
7. CIRCULATING		1.25
8. RIG REPAIR		3.00
9. RUN CASING & CEMENT		5.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		4.00
15. NIPPLE UP & TEST BOP		17.00
16. DRILLING OUT		2.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP TEAR OUT		
21. Change hole to mist	.75	10.50
TOTALS	24.00	101.00

OPERATIONS DETAILS: PERIOD ENDING _____

84 03 22 2400

Year - Month - Day - Time

Drill and survey, blow hole to mist. Drill and survey.

Explanation of #21 on time analysis:

Blow hole to mist - .75 hours.

WANT LIST: _____

WEATHER -22°C

ROAD Good

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 03 23 2400

Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13 LOCATION _____

DAY 6 DEPTH 409 METRES LAST 24 HRS. 94 ROTATING HRS. 17

ACTIVITY AT REPORT TIME Drilling at 456 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
2	311	J55R		14	90	353	38	298	9.75	48.75		2	2	0
3	311	F3		15			56	56	7.25	7.25				

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							40 L/Minute		Injection Rate			1,500

DEVIATION SURVEYS

1/4 ° at 324 ° at _____
 1/4 ° at 353 ° at _____
 3/4 ° at 406 ° at _____
 ° at _____ ° at _____

MUD & CHEMICALS ADDED

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
BHA			189.35	
				41,000

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	17.00	68.00
2. TRIPS	3.50	6.75
3. RIG SERVICE	.25	1.50
4. DEVIATION SURVEY	1.00	3.00
5. REAM & COND. HOLE		
6. MIX & COND. MUD		
7. CIRCULATING	1.75	3.00
8. RIG REPAIR		3.00
9. RUN CASING & CEMENT		5.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		4.00
15. NIPPLE UP & TEST BOP		17.00
16. DRILLING OUT		2.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. Work on air compression	.50	11.00
TOTALS	24.00	125.00

COSTS

DAILY

CUM.

SUPERVISOR: Bill Schaffer

OPERATIONS DETAILS: PERIOD ENDING _____

84 03 23 2400
Year - Month - Day - Time

Drill and survey, work on air equipment. Drill and survey.

0800 Update: Drilling at 456 m.

WANT LIST: _____

WEATHER -28°C ROAD Fair

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 03 24 2400

Year · Month · Day · Time

WELL NAME Forward et al Aubry J-13 LOCATION _____DAY 7 DEPTH 479 METRES LAST 24 HRS. 70 ROTATING HRS. 11.50ACTIVITY AT REPORT TIME Unload hole at 499 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
3	311	F3	CZ1499	16	90		70	126	11.5	18.75	6			

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	O P E N						40 L/Minute	Injection Rate				1,500

DEVIATION SURVEYS

3/4 ° at 435 ° at _____
1/2 ° at 465 ° at _____
° at _____ ° at _____
° at _____ ° at _____

MUD & CHEMICALS ADDED

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
S.S.				
2 - 228				
Jars				
2 - 228				
X/O				
11 - 159				
3 - H.W.D.P			179.93	
				44,000

COSTS

DAILY
CUM.

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	11.50	79.50
2. TRIPS		6.75
3. RIG SERVICE	.50	2.00
4. DEVIATION SURVEY	.75	3.75
5. REAM & COND. HOLE		
6. MIX & COND. MUD		
7. CIRCULATING		3.00
8. RIG REPAIR		3.00
9. RUN CASING & CEMENT		5.00
10. FISHING	9.00	9.00
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		4.00
15. NIPPLE UP & TEST BOP		17.00
16. DRILLING OUT		2.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. Work on air equip.	2.25	13.25
TOTALS	24.00	149

SUPERVISOR: Bill Schaffer

OPERATIONS DETAILS: PERIOD ENDING _____

84 03 24 2400

Year - Month - Day - Time

Drill ahead. Pulled up and twisted off at 430 m. Run in hole with overshot and work over fish. (Twisted off X-Over 159 - 229 mm). Recover fish. Work on air equipment.

0800 Update: Unload hole at 499 m.

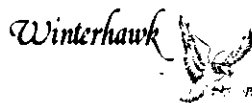
Making 13 - 14 barrels water/minute.

WANT LIST: _____

WEATHER _____

ROAD _____

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 03 25 2400

Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13 LOCATION _____

DAY 8 DEPTH 546 METRES LAST 24 HRS. 67 ROTATING HRS. 14.50

ACTIVITY AT REPORT TIME Drill at 582 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
3	311	F3	CZ1499	16	90	532	53	179	11.5	30.25	4.6	3	2	2
4	311	M89F	161439	15/16	80/90		14	14	3	3	4.6			

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			Air Mist	30 m ³ /minute		50 l/minute			Injection Rate		1,700

DEVIATION SURVEYS

1/2 ° at 491 ° at _____
1 ° at 532 ° at _____
° at _____ ° at _____
° at _____ ° at _____

MUD & CHEMICALS ADDED

Duraplex - 11 sx _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit				
S.S.				
2 - 228 D.C.				
Jars				
X/O				
15 - 159 D.C.				
3 - H.W.D.P.			198.43	
				43,000

COSTS

DAILY
CUM.

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	14.50	94.00
2. TRIPS	4.00	10.75
3. RIG SERVICE		2.00
4. DEVIATION SURVEY	1.00	4.75
5. REAM & COND. HOLE		
6. MIX & COND. MUD		
7. CIRCULATING	3.00	6.00
8. RIG REPAIR	.50	3.50
9. RUN CASING & CEMENT		5.00
10. FISHING	.75	9.75
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		4.00
15. NIPPLE UP & TEST BOP		17.00
16. DRILLING OUT		2.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. Repair air drillers	.25	13.50
TOTALS	24.00	173.00

SUPERVISOR: Bill Schaffer

OPERATIONS DETAILS: PERIOD ENDING _____

84 03 25 2400

Year - Month - Day - Time

Unload hole, drill. Change over to Durafoam 0300 - 0445 hours at 535 m. Drill and survey.

0800 Update: Drilling at 582 m.

Rate of penetration - 5 m/hour.

13 - 14 barrels water/minute.

WANT LIST: _____

WEATHER -12°C

ROAD Fair

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 03 26 2400

Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13

LOCATION

DAY 9 DEPTH 657

METRES LAST 24 HRS. 111

ROTATING HRS. 22

ACTIVITY AT REPORT TIME Drilling at 695 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	311	M89F	161439	16	80		111	125	22	25	5			

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		Air Mist		28 m ³ /minute		45 L/minute		Injection Rate				3,000

DEVIATION SURVEYS

1/2 ° at 604 ° at
 1/2 ° at 653 ° at
 ° at ° at
 ° at ° at

MUD & CHEMICALS ADDED

Duraplex - 15 sx

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit				
S.S.				
2 - 228 D.C.				
Jars				
X/O				
15 - 159 D.C.				
3 H.W.D.P.			198.43	
				44,000

COSTS

DAILY

CUM.

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	22.00	116.00
2. TRIPS		10.75
3. RIG SERVICE	.50	2.50
4. DEVIATION SURVEY	1.50	6.25
5. REAM & COND. HOLE		
6. MIX & COND. MUD		
7. CIRCULATING		6.00
8. RIG REPAIR		3.50
9. RUN CASING & CEMENT		5.00
10. FISHING		9.75
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		4.00
15. NIPPLE UP & TEST BOP		17.00
16. DRILLING OUT		2.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		13.50
21.		
TOTALS	24.00	197.00

SUPERVISOR Bill Schaffer

OPERATIONS DETAILS: PERIOD ENDING _____

84 03 26 2400

Year - Month - Day - Time

Drill and survey.

0800 Update: Drilling at 695 m.

14 - 18 barrels water/minute

WANT LIST: _____

WEATHER

-6°C

ROAD

Fair

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 03 27 2400

Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13

LOCATION

DAY 10 DEPTH 750 METRES LAST 24 HRS. 93

ROTATING HRS. 22.25

ACTIVITY AT REPORT TIME Drilling at 770 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	311	M89F	161439	18	80		93	218	22.25	47.25	4.1			

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP			m ³ /min	ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER		DP	DC			
4	OPEN			Air Mist	30 m ³ /minute		40 L/minute	Injection Rate				3,100

DEVIATION SURVEYS

1/3 ° at 703 ° at
° at ° at
° at ° at
° at ° at

MUD & CHEMICALS ADDED

Duraplex - 19 sx

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit				
S.S.				
2 - 228 D.C.				
Jars				
X/O				
15 - 159 D.C.				
3 - H.W.D.P.			198.43	
				44,000

COSTS

DAILY

CUM.

SUPERVISOR: Bill Schaffer

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	22.25	138.25
2. TRIPS		10.75
3. RIG SERVICE	.50	3.00
4. DEVIATION SURVEY	.50	6.75
5. REAM & COND. HOLE		
6. MIX & COND. MUD		
7. CIRCULATING	.75	6.75
8. RIG REPAIR		3.50
9. RUN CASING & CEMENT		5.00
10. FISHING		9.75
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		4.00
15. NIPPLE UP & TEST BOP		17.00
16. DRILLING OUT		2.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21.		13.50
TOTALS	24.00	221.00

OPERATIONS DETAILS: PERIOD ENDING _____

84 03 27 2400
Year - Month - Day - Time

Drill and survey ahead.

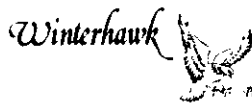
0800 Update: Drilling at 770 m.

WANT LIST: _____

WEATHER -18°C

ROAD _____

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 03 28 2400

Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13 LOCATION _____DAY 11 DEPTH 814 METRES LAST 24 HRS. 65 ROTATING HRS. 21.5ACTIVITY AT REPORT TIME Drilling at 824 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	311	M89F	161439	18	80		65	282	21.5	68.75	3			

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	Air Mist	17 m ³ /minute	69 L/minute	Injection Rate				7,000

DEVIATION SURVEYS

1 ° at 785 ° at _____
° at _____ ° at _____
° at _____ ° at _____
° at _____ ° at _____

MUD & CHEMICALS ADDED

Duraplex - 16 sx _____
Duraguard - 2 barrels _____

BOTTOM ASSEMBLY

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

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	21.50	159.75
2. TRIPS		10.75
3. RIG SERVICE	.25	3.25
4. DEVIATION SURVEY	2.25	9.00
5. REAM & COND. HOLE		
6. MIX & COND. MUD		
7. CIRCULATING		6.75
8. RIG REPAIR		3.50
9. RUN CASING & CEMENT		5.00
10. FISHING		9.75
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		4.00
15. NIPPLE UP & TEST BOP		17.00
16. DRILLING OUT		2.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21.		13.50
TOTALS	24.00	245.00

COSTS

DAILY

CUM.

SUPERVISOR: Bill Schaffer

PLEASE TURN OVER

OPERATIONS DETAILS: PERIOD ENDING _____

84 03 28 2400

Year - Month - Day - Time

Drill and survey.

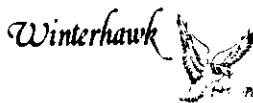
0800 Update: Drilling at 824 m.

WANT LIST: _____

WEATHER _____

ROAD _____

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 03 29 2400

Year · Month · Day · Time

WELL NAME Forward et al Aubry J-13 LOCATION _____DAY 12 DEPTH 851 METRES LAST 24 HRS. 37 ROTATING HRS. 16ACTIVITY AT REPORT TIME Drilling ahead at 872 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	311	M89F	161439	18	80	825	11	293	5.50	74.25	2.0	3	8	2
5 RR	311	S F3	CZ1499	18	80		26	26	10.5	10.50	2.5			

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	0	P	E	N	Air Mist	19 m ³ /minute		67 L/minute		Injection Rate		4,800

DEVIATION SURVEYS

3/4 ° at 816 ° at _____
° at _____ ° at _____
° at _____ ° at _____
° at _____ ° at _____

MUD & CHEMICALS ADDED

Duraplex - 14 sx _____

BOTTOM ASSEMBLY

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

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	16.00	175.75
2. TRIPS	3.25	14.00
3. RIG SERVICE	.50	3.75
4. DEVIATION SURVEY	1.50	10.50
5. REAM & COND. HOLE		
6. MIX & COND. MUD		
7. CIRCULATING	1.50	8.25
8. RIG REPAIR		3.50
9. RUN CASING & CEMENT		5.00
10. FISHING		9.75
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		4.00
15. NIPPLE UP & TEST BOP		17.00
16. DRILLING OUT		2.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. Work on Grant	1.25	14.75
Rotating Head TOTALS	24.00	269.00

COSTS

DAILY

CUM.

SUPERVISOR: Bill Schaffer

OPERATIONS DETAILS: PERIOD ENDING _____

84 03 29 2400
Year - Month - Day - Time

Drill and survey ahead.

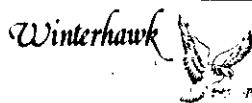
0800 Update: Drilling at 872 m at 15 minutes/meter.

WANT LIST: _____

WEATHER -20°C

ROAD _____

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 03 30 2400

Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13

LOCATION _____

DAY 13 DEPTH 910 METRES LAST 24 HRS. 59 ROTATING HRS. 15.50ACTIVITY AT REPORT TIME Rig up loggers

Durafoam 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
5	311	RR	F-3	18	80	910	59	85	15.50	26	3.8	3	3	I

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP			m ³ /min	ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER		DP	DC			
5	0	P	E	N	Air Mist	22 m ³ /minute	67 L/minute	Injection Rate				4,700

DEVIATION SURVEYS

1/8 ° at 870 m ° at _____
1/8 ° at 910 m ° at _____
° at _____ ° at _____
° at _____ ° at _____

MUD & CHEMICALS ADDED

Duraplex - 18 sx

BOTTOM ASSEMBLY

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

COSTS

DAILY

CUM.

SUPERVISOR Bill Schaffer

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	15.50	191.25
2. TRIPS	2.75	16.75
3. RIG SERVICE	.25	4.00
4. DEVIATION SURVEY	3.75	14.25
5. REAM & COND. HOLE		
6. MIX & COND. MUD		
7. CIRCULATING	1.00	9.25
8. RIG REPAIR		3.50
9. RUN CASING & CEMENT		5.00
10. FISHING		9.75
11. LOGGING	.75	.75
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		4.00
15. NIPPLE UP & TEST BOP		17.00
16. DRILLING OUT		2.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		14.75
21.		
TOTALS	24.00	293.00

OPERATIONS DETAILS: PERIOD ENDING _____

84 03 30 2400

Year - Month - Day - Time

Drill and survey, rig up loggers.

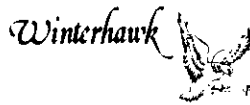
0800 Update: Run DILL and density.

WANT LIST: _____

WEATHER -10°C

ROAD _____

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 03 31 2400

Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13 LOCATION _____DAY 14 DEPTH 910 METRES LAST 24 HRS. _____ ROTATING HRS. _____ACTIVITY AT REPORT TIME Running 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

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		191.25
2. TRIPS	4.00	20.75
3. RIG SERVICE	.50	4.50
4. DEVIATION SURVEY		14.25
5. REAM & COND. HOLE	3.00	3.00
6. MIX & COND. MUD		
7. CIRCULATING	2.00	11.25
8. RIG REPAIR		3.50
9. RUN CASING & CEMENT		5.00
10. FISHING		9.75
11. LOGGING	14.50	15.25
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		4.00
15. NIPPLE UP & TEST BOP		17.00
16. DRILLING OUT		2.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. _____		14.75
TOTALS	24.00	317.00

COSTS

DAILY

CUM.

SUPERVISOR: Bill Schaffer

OPERATIONS DETAILS: PERIOD ENDING _____

84 03 31 2400

Year - Month - Day - Time

Log. Ream 16 m fill to bottom. Ran DIL, Density, Acoustic 895 m to surface.

0800 Update: Running 244 mm casing.

WANT LIST: _____

WEATHER -13°C

ROAD _____

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 04 01 2400

Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13

LOCATION _____

DAY 15 DEPTH 910 METRES LAST 24 HRS. _____

ROTATING HRS. _____

ACTIVITY AT REPORT TIME Nippling Up

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

COSTS

DAILY

CUM.

SUPERVISOR: Bill Schaffer

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		191.25
2. TRIPS	1.50	22.25
3. RIG SERVICE		4.50
4. DEVIATION SURVEY		14.25
5. REAM & COND. HOLE		3.00
6. MIX & COND. MUD		
7. CIRCULATING	1.75	13.00
8. RIG REPAIR		3.50
9. RUN CASING & CEMENT	11.75	16.75
10. FISHING		9.75
11. LOGGING		15.25
12. CORING		
13. FORMATION TESTING		
14. WAITING ON: Cement	8.00	12.00
15. NIPPLE UP & TEST BOP	1.00	18.00
16. DRILLING OUT		2.75
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP -- TEAR OUT		
21. _____		14.75
TOTALS	24.00	341.00

OPERATIONS DETAILS: PERIOD ENDING

84 04 01 2400
Year - Month - Day - Time

Circulate and condition hole. Run 244 mm, 73 joints, L-80, 64.7 kg/m, 8RD, LT&C.
Landed at 879 m (13 m fill). Set packer and stage tool at 45 m. Cement with
22.8 T "G", bump plug at 1450 hours. Cement with 2.5 T Permafrost, bump plug at
1520 hours. .5 m³ good cement returns.

0800 Update: Finish nipping up.

L80

64.7 kg/m

WANT LIST:

WEATHER -20°C

ROAD

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 04 02 2400

Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13 LOCATION _____

DAY 16 DEPTH 910 METRES LAST 24 HRS. _____ ROTATING HRS. _____

ACTIVITY AT REPORT TIME Pulling out of hole to unload 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
6	215	J55R	91624											

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	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
S.S.				
3 - 159 D.C.				
Jars				
15 - 159 D.C.				
3 H.W.D.P.				

COSTS

DAILY
CUM.

SUPERVISOR Bill Schaffer

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		191.25
2. TRIPS	1.75	24.00
3. RIG SERVICE		4.50
4. DEVIATION SURVEY		14.25
5. REAM & COND. HOLE		3.00
6. MIX & COND. MUD		
7. CIRCULATING		13.00
8. RIG REPAIR		3.50
9. RUN CASING & CEMENT		16.75
10. FISHING		9.75
11. LOGGING		15.25
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		12.00
15. NIPPLE UP & TEST BOP	19.00	37.00
16. DRILLING OUT	3.25	6.00
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		14.75
21.		
TOTALS	24.00	365.00

OPERATIONS DETAILS: PERIOD ENDING

84 04 02 2400

Year - Month - Day - Time

Nipple up. Pressure test manifold, blind rams and HCR 7000 - 2100 kPa. OK.

Drill out stage collar, run in hole and fill casing annulus with water. Pressure test rams 7000 - 2100 kPa. OK. Pressure test hydri1 4900 - 1500 kPa. OK.

0800 Update: Leak off at 912 m. 3500 kPa applied surface pressure. No leak off.

WANT LIST:

WEATHER

-15°C

ROAD

Fair

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 04 03 2400

Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13 LOCATION _____DAY 17 DEPTH 1115 METRES LAST 24 HRS. 205 ROTATING HRS. 11.50ACTIVITY AT REPORT TIME Drilling at 1230 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
6	215	J55R	91624	18	90		205	205	11.5	11.5	17.8			

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			
6	O P E N			Air Mist	40 m ³ /minute		50 L/minute	soap				1,575

DEVIATION SURVEYS

3/4 ° at 1010 ° at _____
3 ° at 1160 ° at _____
° at _____ ° at _____
° at _____ ° at _____

MUD & CHEMICALS ADDED

BOTTOM ASSEMBLY

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

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	11.50	202.75
2. TRIPS	1.75	25.75
3. RIG SERVICE	.25	4.75
4. DEVIATION SURVEY	.50	14.75
5. REAM & COND. HOLE		3.00
6. MIX & COND. MUD		
7. CIRCULATING	5.75	18.75
8. RIG REPAIR		3.50
9. RUN CASING & CEMENT		16.75
10. FISHING		9.75
11. LOGGING		15.25
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		12.00
15. NIPPLE UP & TEST BOP		37.00
16. DRILLING OUT	2.25	8.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. Leak Off	2.00	16.75
TOTALS	24.00	389.00

COSTS

DAILY

CUM.

SUPERVISOR Bill Schaffer

OPERATIONS DETAILS: PERIOD ENDING _____

84 04 03 2400

Year - Month - Day - Time

Drill out shoe. Run leak off at 912 m. 3500 kPa applied surface pressure. No leak off. Drill and survey ahead.

0800 Update: Drilling at 1230 m.

3⁰ - 1200 m.

WANT LIST: _____

WEATHER -20⁰C

ROAD _____

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 04 04 2400
Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13 LOCATION _____

DAY 18 DEPTH 1294 METRES LAST 24 HRS. 179 ROTATING HRS. 12.5

ACTIVITY AT REPORT TIME Displace hole to mud and drill ahead at 1303 m.

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. 1160 VIS 55 WL. 14 GELS 6/8 % SOLIDS _____ PV 15 YP 6 pH 10.5

% OIL _____ % SAND _____ CAKE 1 mm PPMCL 156,000 PPMCa 80

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	J55R	91624	10	100	1294	179	384	12.5	24	13.5	2	5	1
7	215	J33	81224											

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	7.9	7.9	7.9									5,500

DEVIATION SURVEYS

3-1/8 ° at 1276 _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

Gel - 65 sx _____ Kelzan - 6 sx _____
 Caustic - 4 sx _____
 Soda Ash - 2 sx _____
 Salt - 500 sx _____

BOTTOM ASSEMBLY

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

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	12.50	215.25
2. TRIPS	4.25	30.00
3. RIG SERVICE	.50	5.25
4. DEVIATION SURVEY	.75	15.50
5. REAM & COND. HOLE		3.00
6. MIX & COND. MUD	3.75	3.75
7. CIRCULATING		18.75
8. RIG REPAIR	.75	4.25
9. RUN CASING & CEMENT		16.75
10. FISHING		9.75
11. LOGGING		15.25
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		12.00
15. NIPPLE UP & TEST BOP		37.00
16. DRILLING OUT		8.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. Work on air equip.	1.50	18.25
TOTALS	24.00	413.00

COSTS

DAILY

CUM.

SUPERVISOR Bill Schaffer

OPERATIONS DETAILS: PERIOD ENDING _____

84 04 04 2400
Year - Month - Day - Time

Drill and survey, work on compressors, drill and survey.

2200 - 2400 hours: Displace hole to mud and condition.

0800 Update: Ream fill and drill at 1303 m.

WANT LIST: _____

WEATHER _____

ROAD _____

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 04 05 2400

Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13

LOCATION _____

DAY 19 DEPTH 1330 TD _____ METRES LAST 24 HRS. 36

ROTATING HRS. 16.5

ACTIVITY AT REPORT TIME Logging

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. 1215 VIS 57 WL. 20 GELS _____ % SOLIDS _____ PV _____ YP _____ pH 11.5

% 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
7	215	J33	81224	18	90	1330	36	36	16.5	16.5	2.2	N	E	W

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			
7	7.9	7.9	7.9		100	159	1.08					5,500

DEVIATION SURVEYS

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

MUD & CHEMICALS ADDED

Kelzan - 5 sx _____
Caustic - 2 sx _____

BOTTOM ASSEMBLY

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

COSTS

DAILY

CUM.

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	16.50	231.75
2. TRIPS	3.50	33.50
3. RIG SERVICE	.25	5.50
4. DEVIATION SURVEY	.25	15.75
5. REAM & COND. HOLE	1.25	4.25
6. MIX & COND. MUD		3.75
7. CIRCULATING	.50	19.25
8. RIG REPAIR		4.25
9. RUN CASING & CEMENT		16.75
10. FISHING		9.75
11. LOGGING	1.50	16.75
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		12.00
15. NIPPLE UP & TEST BOP		37.00
16. DRILLING OUT		8.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. No Grant head	.25	18.50
TOTALS	24.00	437.00

SUPERVISOR: Bill Schaffer

OPERATIONS DETAILS: PERIOD ENDING

84 04 05 2400
Year - Month - Day - Time

Circulate and condition, ream fill and drill ahead. Circulate up bottom hole sample, survey, pull out of hole to log.

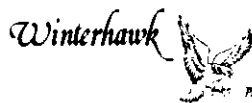
0800 Update: Ran DIL-GR-SP running density.

WANT LIST:

WEATHER -5°F

ROAD Fair

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 04 06 2400

Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13 LOCATION _____DAY 20 DEPTH 1330 TD METRES LAST 24 HRS. _____ ROTATING HRS. _____ACTIVITY AT REPORT TIME Running Bond Log

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		231.75
2. TRIPS		33.50
3. RIG SERVICE		5.50
4. DEVIATION SURVEY		15.75
5. REAM & COND. HOLE		4.25
6. MIX & COND. MUD		3.75
7. CIRCULATING		19.25
8. RIG REPAIR		4.25
9. RUN CASING & CEMENT		16.75
10. FISHING		9.75
11. LOGGING	24.00	40.75
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		12.00
15. NIPPLE UP & TEST BOP		37.00
16. DRILLING OUT		8.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. _____		18.50
TOTALS	24.00	461.00

COSTS

DAILY

CUM.

SUPERVISOR: Bill Schaffer

OPERATIONS DETAILS: PERIOD ENDING _____

84 04 06 2400
Year - Month - Day - Time

Log - DLGR

CD

AC

Velocity

Bond

0800 Update: Running Drill Stem Test #1.

WANT LIST: _____

WEATHER _____

ROAD _____

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 04 07 2400

Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13

LOCATION _____

DAY 21 DEPTH 1330 TD _____ METRES LAST 24 HRS. _____

ROTATING HRS. _____

ACTIVITY AT REPORT TIME Run bridge plug.

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

COSTS

DAILY _____

CUM. _____

SUPERVISOR Bill Schaffer

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		231.75
2. TRIPS		33.50
3. RIG SERVICE		5.50
4. DEVIATION SURVEY		15.75
5. REAM & COND. HOLE		4.25
6. MIX & COND. MUD		3.75
7. CIRCULATING		19.25
8. RIG REPAIR		4.25
9. RUN CASING & CEMENT		16.75
10. FISHING		9.75
11. LOGGING	1.50	42.25
12. CORING		
13. FORMATION TESTING	15.50	15.50
14. WAITING ON:		12.00
15. NIPPLE UP & TEST BOP		37.00
16. DRILLING OUT		8.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS	1	.1
19. PLUG & ABANDON	6.00	6.00
20. RIG UP - TEAR OUT		
21. _____		18.50
TOTALS	24.00	485.00

OPERATIONS DETAILS: PERIOD ENDING _____

84 04 07 2400
Year - Month - Day - Time

Log. Run Drill Stem Test #1 1262 - 1280.

Recovered 160 m drilling mud. Plug #1 1200 - 1330 6.7 T "G".

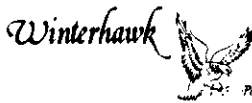
0800 Update: Running Bridge Plug.

WANT LIST: _____

WEATHER _____

ROAD _____

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



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

84 04 08 2400

Year - Month - Day - Time

WELL NAME Forward et al Aubry J-13 LOCATION _____DAY 22 DEPTH _____ METRES LAST 24 HRS. _____ ROTATING HRS. _____ACTIVITY AT REPORT TIME Rig Release 1800 Hours 84 04 08.

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		231.75
2. TRIPS		33.50
3. RIG SERVICE		5.50
4. DEVIATION SURVEY		15.75
5. REAM & COND. HOLE		4.25
6. MIX & COND. MUD		3.75
7. CIRCULATING		19.25
8. RIG REPAIR		4.25
9. RUN CASING & CEMENT		16.75
10. FISHING		9.75
11. LOGGING		42.25
12. CORING		
13. FORMATION TESTING		15.50
14. WAITING ON:		12.00
15. NIPPLE UP & TEST BOP		37.00
16. DRILLING OUT		8.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS	12.75	13.75
19. PLUG & ABANDON	5.25	11.25
20. RIG UP - TEAR OUT		
21. TOTALS	18.00	503.00

COSTS

DAILY

CUM.

SUPERVISOR: Bill Schaffer

OPERATIONS DETAILS: PERIOD ENDING _____

84 04 08 2400
Year - Month - Day - Time

Ran bridge plug at 880 m. Pressure test to 4000 kPa - OK. Cement with 1.6 T.
Plug #3 0 - 25 m. Cement with 1.35 T "G".

Rig Release at 1800 hours 84 04 08.

WANT LIST: _____

WEATHER _____

ROAD _____

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
	GYPSUM
	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