

NORTHCOR

ET AL

TRAINOR LAKE N-25

9211-N10-3-1



Canada Oil and Gas
Lands Administration

Administration du pétrole
et du gaz des terres du Canada

Nova Scotia	☐	West Coast	☐	Exploratory	☐
Newfoundland	☐	Northern	☒	Development	☐
Gulf of St. Lawrence	☐	Hudson Bay	☐	Delineation	☐
				Service	☐

AUTHORITY TO DRILL A WELL

APPLICATION

This application is submitted with Section 82 of the Canada Oil and Gas Drilling Regulations. When approved under Section 83 of the Regulations, it is the requisite authority for the commencement of drilling operations.

Well Name in Full: Northcor et al. Trainor Lake N-25
 Operator: Northcor Energy Ltd. Drilling Program No.: N.A.
 Contractor: Spartan Drilling Ltd. Permit or Lease No.:
 Drilling Rig or Unit: #20E Estimated Well Cost: \$1,500,000
 Location-Unit: N Section: 25 Grid Area: 60-20-120-30
 Coordinates: Lat: 60° 14' 47.684" N Long: 120° 34' 51.515" W
 Area: Trainor Lake Field/Pool: Wildcat
 Elevation-RT/KB: 673 m (Est.) (ASL) 659
 Approx. Spud Date: February 1, 1984 Estimated Days on Location: 45
 Anticipated Total Depth: 2,250 m Target Horizon(s): Slave Point & Keg River
 UWI: 300N256020120300

EVALUATION PROGRAM

Ten-metre sample intervals
 Five-metre sample intervals: Surface bedrock to Total Depth
 Canned sample intervals: Every 10 metres, surface bedrock to Total Depth
 Conventional cores at: No cores planned at this time
 Logs and Tests: see attached sheet

CASING AND CEMENTING PROGRAM

O.D.	Weight:	Grade:	Setting Depth	Cementing Program (Volumes)
508 mm	Conductor Pipe		20 m KB	Grout to surface
244 mm	53.57 kg/m J-55		500 m KB	22 m ³
178 mm	29.76 & 34.22 kg/m K-55		1848 m KB	6.3 m ³
114 mm	15.62 kg/m J-55		2250 m KB	4.72 m ³

B.O.P. Equipment: 1 Hydril 10" (254 mm) type GK 10-900 annular, 2 Shafco 10" (254 mm) type NRS ram preventers, one 11" (279 mm) spool with one 2" (51 mm) and one 3" (76 mm) flanged outlets. Koomey accumulator by Stewart & Stevenson, Model No. D0 5050-35 with a 5 HP (4 kW) duplex hydraulic pump. Two Ansul bottle nitrogen back-up and 8 Greer 11 gallon (0.05 m³) accumulator bottles. Five station electric control panel.

Signed: *David V. Selis* (David V. Selis) Title: Vice-President
 Date: 1983 December 20 Company: Northcor Energy Ltd.
 (Operating Licence No. 452)

APPROVAL

An approved copy of this notice is to be posted at each wellsite.

Signed: *In Shonars*
 Engineering Branch
 Date: 26 January 1984
 File: 9211-N10-3-1

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

REVISED

D.A.# 1136
E.A.# 170Canada Oil and Gas Administration du pétrole
Lands Administration et du gaz des terres du CanadaNova Scotia ☐
Newfoundland ☐
Gulf of St. Lawrence ☐West Coast ☐
Northern ☒
Hudson Bay ☐Well Status
Suspended ☐
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: Northcor et al Trainor Lake N-25 Area: Trainor Lake
Grid Area: 60-20-120-30 Field/Pool: Trout Lake Exploratory
Permit or Lease No.: E.A. 170 Final Coordinates: Lat.: 60°14'48.376" Long: 120°34'50.454"
Drilling Unit: Spartan Rig 20E Elevations: /KB: 730.00 /GL: 725.82
Spud Date: 84-02-05 Rig Released: 84-03-26 Total Depth: 2314

CASING AND CEMENTING

O.D.:	Weight:	Grade:	Depth Set:	Cement and Additives:
244.5	53.57	K-55	500	42 tonnes Class "G"
178.8	34.22	K-55	0.738 m	1st Stage 12 tonnes Class "G"
	29.76	K-55	1896	+6% Gel 26 tonnes Class "G"
				+75% CFR-2 + .2% HR-4
				2nd Stage 20 tonnes Class "G"
				+6% Gel

PLUGGING PROGRAM

Approval of the following program was obtained by (person) T. G. Dexter from
(person) John Hamilton of the Canada Oil and Gas Lands Administration by means of
Phone-fax & Telcon on March 24 19 84

Type of Plug:	Interval:	Felt:	Cement and Additives:
Cement	2314 - 2284	No feel	1.3 tonnes Class "G" +.5% CFR-2
Cement	2220 - 2120	2108	3.1 tonnes Class "G" +.5% CFR-2
Cement	1913 - 1883	1881	2.4 tonnes Class "G" +.5% CFR-2
Cement	10 - 0	No feel	.56 tonnes Class "G"

Lost Circulation/Overpressure Zones: Nil

Equipment left on Seafloor (Describe): N.A.

Provision for Re-entry (Describe and attach sketch): None

Cores: Type: N.A. Intervals: N.A.

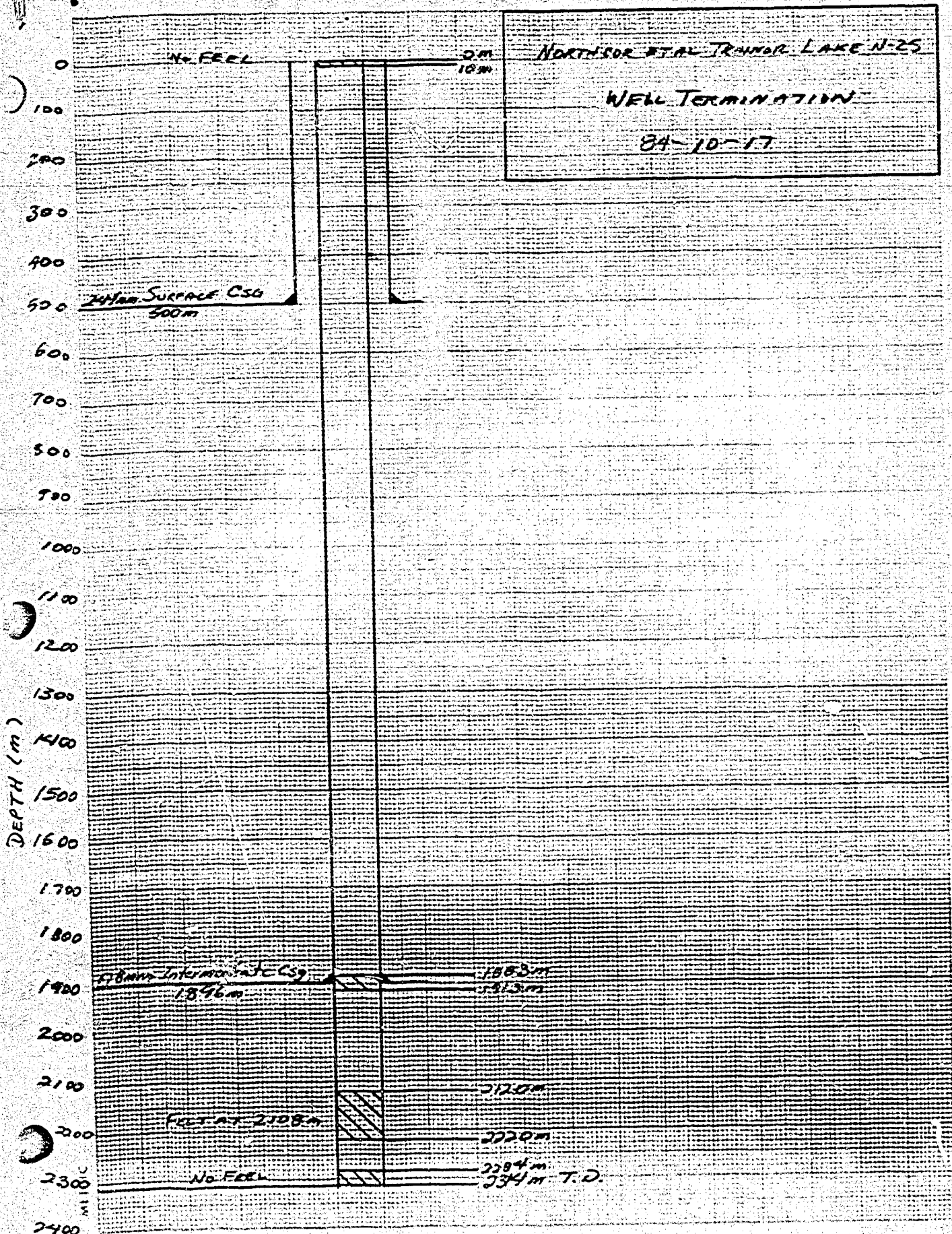
Other Downhole Completion/Suspension Equipment: N.A.

CERTIFICATION

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

Signed: *Terence G. Dexter* P. Eng.
Name: Terence G. DexterTitle: Operations Manager
Date: 84-09-10Acknowledged by: *Hamilton*
Engineering BranchDate: 84.11.14
File: 9211-N10-3-1Department of Energy,
Mines and ResourcesDepartment of Indian Affairs
and Northern DevelopmentMinistère de l'Énergie,
des Mines et des RessourcesMinistère des Affaires indiennes
et du Nord canadien

Canada





PAJAK LAND & OFFSHORE LTD.
OILFIELD SUPERVISION &
PROJECT MANAGEMENT

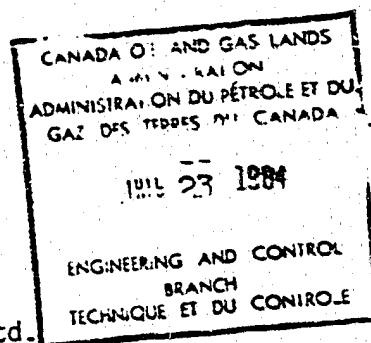
*File
9211-W10-3-1*

Final Well Report
Northcor et al Trainor Lake N-25

Unique Well Identifier
300N256020120300

60° 14' 48" N
120° 34' 51" W

June, 1984



Prepared for
Northcor Energy Ltd.

&

Terqua Exploration Management Ltd.

By

Terry Dexter - Operations Manager
&
Richard Clements
Pajak Land & Offshore Ltd.
1660 Elveden House, Calgary

ACTION SLIP

WELL HISTORY REPORT

Project No: 9211-N10-3-1

the following action has been taken:

Receipt acknowledged ✓

Well card made ✓

Reports and maps and logs date-stamped ✓

Reports labelled ✓

Confidential Sections removed:

(micro) paleontological

palynological

OR Source Rock Analyses
Geochemical Analyses

Other

Land Management memo sent ✓

REVIEW and APPROVAL made by:

Engineering Branch [Signature]

Resource Evaluation [Signature]

Environmental PROTECTION [Signature]

APR 26 1961

JECT NUMBER

9211-N10-3-1

COMPANY

Northcor

REPORT TITLE

well history: Northcor Trainor Lake N-25

COMMENTS:

ENGINEERING BRANCH

ENVIRONMENTAL PROTECTION BRANCH

gk8 *no P.E. info*
85-05-25

OK *26.04.85*
QWA *26.04.85*

RESOURCE EVALUATION BRANCH

good report

CONTACT LIST

Operator

Northcar Energy Ltd.
880, 555 - Fourth Avenue S. W.
Calgary, Alberta, T2P 3E7
269-5803

Contact

John Alston

David Sells
249-0219

Gary Bustin
286-5194

Drilling Consultants

Pajak Land & Offshore Ltd.
1660 Elveden House
717 - Seventh Avenue S. W.
Calgary, Alberta, T2P 0Z3
264-1197

Contact

Terry Dexter
264-1197 (24 hours) or
266-4406

Syd Robertson
264-1197

Working through

Terqua Exploration Management Ltd.
800, 555 - Fourth Avenue S. W.
Calgary, Alberta, T2P 3E7
264-8943

Hugh Mogensen
281-0160

Ken Gummo
283-5968

Geological Representatives

Terqua Exploration Management Ltd.
800, 555 - Fourth Avenue S. W.
Calgary, Alberta, T2P 3E7
264-8943

Contact

Hugh Mogensen
281-0160

John Stuart-Smith
244-1560

Contact List - Cont'd

Drilling Contractor

Spartan Drilling Ltd.
1800 Monenco Place
801 - Sixth Avenue S. W.
Calgary, Alberta
262-7778
Telex - 03-824532

Nisku, Alberta
955-7884
Telex - 03-72823

Contact

Alan Gates
239-0453

Jake Hiebert
274-6774

Bernie Hunter
986-0600

Ed Fouillard
(Field Superintendent)
963-5042

Inventory 10/9

SPARROW DRILLING LTD.
RIG NO. 20 E

Depth Rating

2743 m (9,000') with 114.3 mm (4-1/2") drill pipe

Drawworks

1-Oilwell 500E

C/W Foster Cathode
Hydraulic Panac
Crown Saver
28.6 mm drilling line
(1-1/8")

Drawworks Power

1-G.E. D.C. traction motor
522 k.w. (700 h.p.) continuous

Host

1-Dreco Cantilever model 12713-510
Host base width 4.1 m (13'6")
Clear working height 38.7m (127')
Gross nominal capacity 231,336
k.g. (510,000#)
Hook load with 6 lines 138,801
k.g. (306,500#)
Hook load with 8 lines 154,224
k.g. (340,500#)

Substructure

1-Dreco 1 piece Model S 550 T
Floor height 3.9 m (13')
Base width 4.3 m (14')
Length 14.2 m (46'6")
Max. csg. cap. 113,400 k.g.
(250,000#)
Max. setback 90,720 k.g.
(200,000#)
K.B. to ground 4.6 m (15' 1")

Matting

Sectionalized laminated wood with
steel frame (Norwegian).

Pumps

2-Oilwell A600-PT (triplex)
177.8 mm x 203.2 mm (7" x 8")
C/W 152 mm (6") liners

Pump Power

2-G.E. model 90E761AIL
522 k.w. (700 h.p.)

Rig Power

2-Cit 3412 PCIA 496 k.w. (665 h.p.)
each at 1,800 R.P.M.
C/W 2-only E.B.C.
600 volt, 60 HZ, 481 amp.,
3 phase generators
for S.C.R. service

S.C.R. System

G.E. S.C.R. System
3-1400 amp. continuous SCR bridges
2-generator control sections
1-feeder breaker and main bridge
1-motor control unit

Drivelling Block and Hook

1-Oilwell A-264-250 block hook
combination C/W 5 sheaves Web
Wilson 250 ton hydraulic

Salval

1-Oilwell type P.C. 225

Rotary Table

Oilwell SA 444.5 mm (17-1/2")
272.7 tonnes (300 ton) deadload
capacity

Mud System

Dreco 80 cu. m (500 bbl.)
3.6 m x 15.8 m x 2.4 m
3-active compartment tank
1-pull or premix
1-sand trap
System C/W the following equipments:
1-hatched room 3.6 m x 2.0 m x 2.1 m
housing the following equipments:
2-sanding hoppers
3-127 mm x 152 mm (5" x 6")
centrifugal pumps for mud mix and
desilter use
C/W 37.3 k.w. (50 h.p.) motors
1-8 cone desilter
1-Poor Boy degasser
1-(50 bbl.) hole fill tank and
pump 37.3 k.w. (50 h.p.)
1-Brandt single tandem
screen shaker
6-drivelling mud guns 50 mm (2")
1-mud gun in sand trap 76 mm (3")
2-mud mix agitators 3.73 k.w.
(5 h.p.)
1-sump suction

Fuel Tank

25,000 l (5,500 gal) mounted in
combination building

Water Tank

80 cu. m (500 bbl.) doghouse
combination. Doghouse lowers into
water tank for transport

B.O.P. Equipment

1-Wagner Accumulator electric/
hydraulic Model 20-105-2RB
3-station remote
1-Spherical Annular B.O.P., N.L.
Shaffer 279 mm x 20,700 kpa (11")
x 3,000 psi) studded top flanged
bottom
2-Single Ram B.O.P., N.L. Shaffer
279 mm x 20,700 kpa (11" x 3,000
psi) studded top and bottom
C/W 1-set 114.3 mm (4-1/2") pipe
rags
1-set blind rags
1-Drilling spool, 279 mm x 20,700
kpa (11" x 3,000 psi)

B.O.P. Equipment Cont'd.

C/W 2-76.2 mm x 20,700 kpa
(3" x 3,000 psi) outlets
1-Check and Kill manifold
9-valves 76 mm and 51 mm (3" and 2")
20,700 kpa (3,000 psi)
2-51 mm (2") manual chokes
1-76 mm x 20,700 kpa H.C.R. valve
(3" x 3,000 psi)

Handling Tools

1-set drill pipe elevators
114.3 mm (4-1/2") B.J. type R.C.
1-set drill pipe slips 114.3 mm
(4-1/2")
1-set drill collar elevators
1-set drill collar slips 139.7 mm -
177.8 mm (5-1/2" - 7")
1-set drill collar slips 203 mm -
241 mm (8" - 9-1/2")
1-set csg. elevators
1-set Csg. slips 219 mm (8-5/8")
1-set tongs
Accessories include stabbing valve
Kelly cocks and all necessary cross-
over subs.

Drill String

250 Jts. d.p. 114.3 mm (4-1/2") 24.7
kg/m, Grade X
C/W 114.3 mm (4-1/2") XH Tool Jts.
5-Jts. h.w.d.p. 114.3 mm (4-1/2")
C/W 114.3 mm (4-1/2") XH Tool Jts.
21-Jts. d.c. 158 mm (6-1/4") O.D.
C/W 114.3 mm (4-1/2") H50 connection
2-Jts. d.c. 228 mm (9") O.D.
C/W 177 mm (7") connections
1-Kelly

Boiler

1-60 k.w. (80 h.p.) Dipre
C/W skid mounted building

Miscellaneous

1-Rig Manager's quarters
1-automatic driller
1-wire line survey unit
2-hydraulic tuggers
1-wash gun

Safety Equipment

6-air packs
2-first-aid kits
1-stretcher
6-fire extinguishers
1-Geronimo safety escape buggy
1-Bridges nest climbing assist.

PAJAK LAND & OFFSHORE LTD.

OILFIELD SUPERVISION &
PROJECT MANAGEMENT

Northcor et al Trainor Lake N-25

On 84-02-05 - 1830, Northcor Energy Ltd. spudded its well, Northcor et al Trainor Lake N-25. This well was drilled in the Northwest Territories on Canada lands for the purpose of searching for oil and gas. The location of the well was 60° 14' 48" N, 120° 34' 51" W and Spartan Drilling Ltd. contracted Rig 20E to Northcor for this project. Spartan 20E has an Oil-well 500E drawworks and is rated to a depth of 2743 meters.

Formation tops taken from the logging runs are as follows:

Banff	647
Kotcho	893
Tetcho	1103
Kakisa	1223
Jean Marie	1367
Fort Simpson	1383
Muskwa	1913
Slave Point	1933
Sulphur Point	1949
Pine Point	2000
Klva Shale	2107
Keg River	2131
Chinchaga Detrital	2206
Precambrian	2275
Total Depth	2314

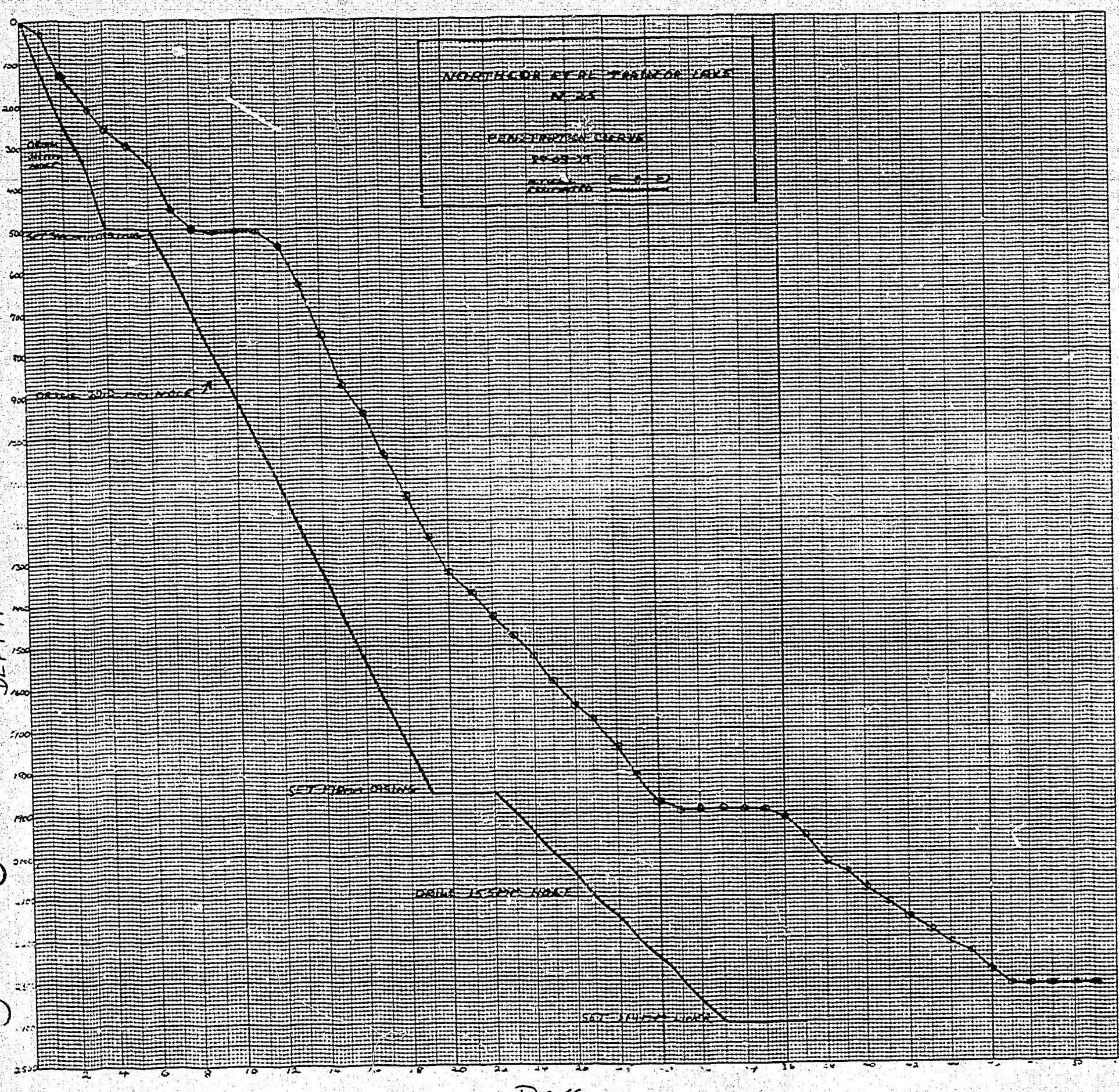
A 311mm hole was drilled to 502 m where 42 joints of 244mm casing were run to 500 m on 84-02-14. This was cemented and drilled out with a 222mm bit to 1896 m where 151 joints of 178mm casing were run to 1896 m. After cementing, a 155mm hole was drilled to a total depth of 2314 m, which was reached on 84-03-22 - 2100. The well was then logged with a dual induction, sonic, and a CNL-LDT. Northcor et al Trainor Lake N-25 was then plugged and abandoned, as it was found to be dry. Four plugs were run at the following depths:

	2
Plug #1	2314 - 2384
Plug #2	2220 - 2120
Plug #3	1973 - 1883
Plug #4	Top of Casing.

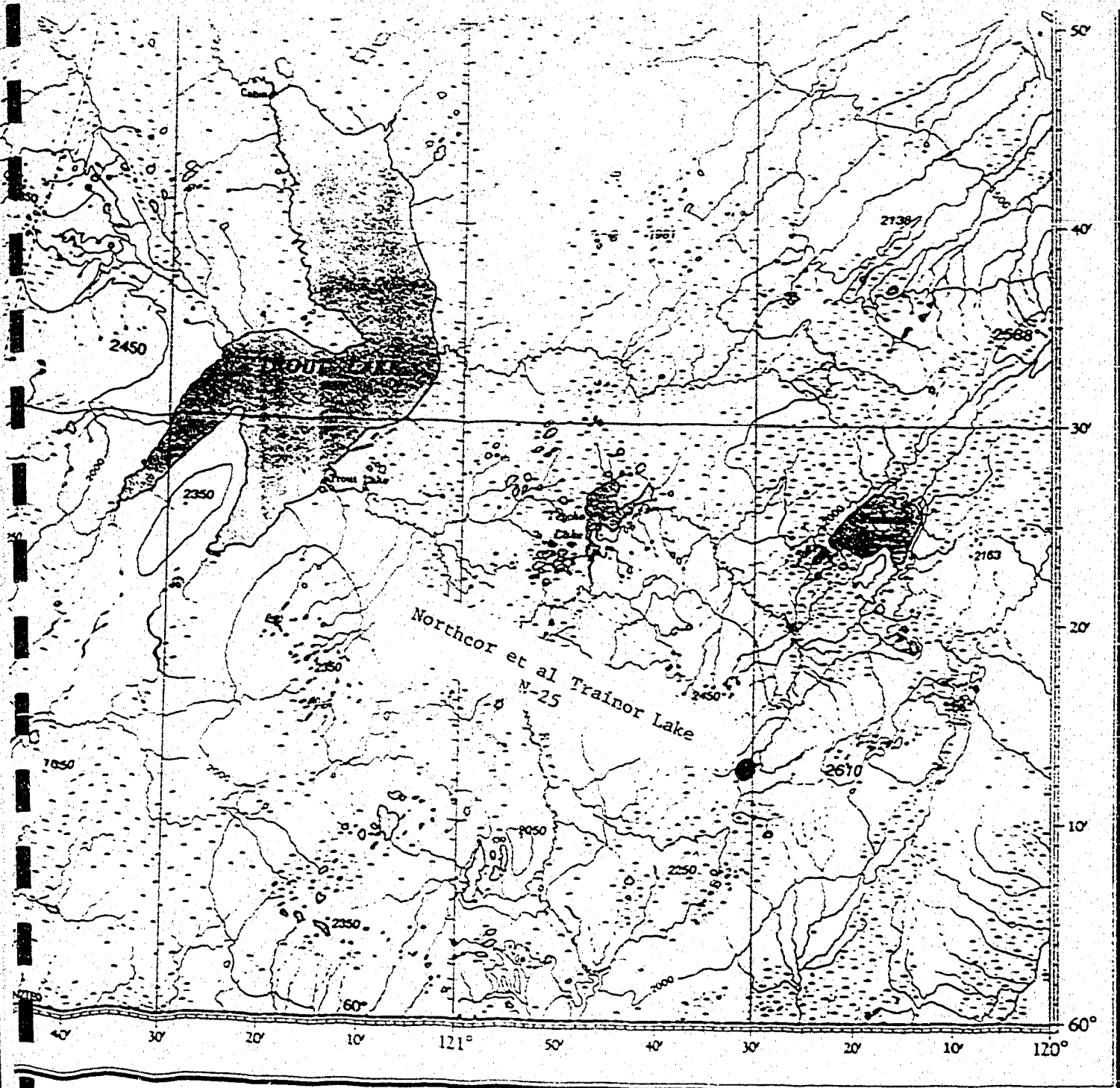
Spartan Rig 20E was released on 84-03-27 - 0330.

NO. 241-M DIETZEN GRAPH PAPER
 DIETZEN CORPORATION
 METERS
 DEPTH
 DAYS

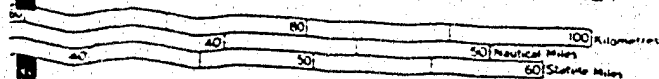
NORTHERN EYE TANK LAKE
 N. 25
 PENETRATED CURVE
 15-03-21
 15-03-21
 15-03-21



Topographical
Location



ELEVATIONS IN FEET



Copies may be obtained from the Canada Map Office,
Department of Energy, Mines and Resources, Ottawa,
or your nearest map dealer.

ELEVATIONS IN FEET

SIMPSON - LIARD

N.T.S. No. 95 S.E.

Well Summary
(Drilling)

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date Jan. 31/84 Days

Supervisor Al MacNair Contractor Spartan Drilling

Depth @ 0800hrs Hrs on Btm Progress Operation
 Last Casing Depth: Size:
 Bit No Depth Out Wt on Bit Condition
 Size Metres RPM Serial #
 Type Hours Nozzles

Bit No Depth Out Wt on Bit Condition
 Size Metres RPM Serial #
 Type Hours Nozzles

Pump Pres Strokes L/min Ann Vel

Surveys ° at ° at ° at
 ° at ° at ° at

Last FLOT Depth: EMD
 Mud Wt. Vis PV YP
 WL pH Solids

Mud Added

BOP Tests & Drills:

General

Time Break Down

- | | | |
|--|----|--------------------------------|
| <u>Move in Spartan Rig #20 from Wembley via High Level and</u> | 1 | Rig Up or Down <u> </u> |
| <u>Zama past Amber Tower.</u> | 2 | Drilling <u> </u> |
| <u> </u> | 3 | Reaming <u> </u> |
| <u> </u> | 4 | Coring <u> </u> |
| <u>Miles from Zama to location = 206 m.</u> | 5 | Cond. Hole <u> </u> |
| <u> </u> | 6 | Trip <u> </u> |
| <u> </u> | 7 | Rig Ser & BOP <u> </u> |
| <u>Miles from 31st Base Line on Cohoo Road to location =</u> | 8 | Repairs <u> </u> |
| <u>135 m.</u> | 9 | Slip & Cut <u> </u> |
| <u> </u> | 10 | Surveys <u> </u> |
| <u> </u> | 11 | Logging <u> </u> |
| <u>Camp moved in Saturday and Sunday, January 28 & 29.</u> | 12 | Run Csg & Cement <u> </u> |
| <u>Camp spotted and rigged up Sunday evening.</u> | 13 | WOC <u> </u> |
| <u> </u> | 14 | Nipple Up <u> </u> |
| <u> </u> | 15 | Test BOP <u> </u> |
| <u> </u> | 16 | DST <u> </u> |
| <u> </u> | 17 | Plug Back <u> </u> |
| <u> </u> | 18 | Squeeze Cement <u> </u> |
| <u> </u> | 19 | Fishing <u> </u> |
| <u>OPNS Forecast</u> | 20 | Dir. Work <u> </u> |
| <u> </u> | 21 | Clean to Bottom <u> </u> |

Bottom Hole Assembly

Persons in Camp: Natives:

Weather Temp -15

Costs:

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date Feb. 1/84 Days

Supervisor Al MacNair Contractor Spartan Drilling

Depth @ hrs Hrs on Btm Progress Operation

Last Casing Depth: Size:

Bit No Depth Out Wt on Bit Condition

Size Metres RPM Serial #

Type Hours Nozzles

Bit No Depth Out Wt on Bit Condition

Size Metres RPM Serial #

Type Hours Nozzles

Pump Pres Strokes L/min Ann Vel

Surveys ° at ° at ° at
 ° at ° at ° at

Last FLOT Depth: EMD

Mud Wt Vis PV YP

WL pH Solids

Mud Added

BOP Tests & Drills:

General

Continue moving in Spartan Rig #20.

6 loads delivered to location

6 more loads arrive in the evening and during night.

Time Break Down

- 1 Rig Up or Down
- 2 Drilling
- 3 Reaming
- 4 Coring
- 5 Cond. Hole
- 6 Trip
- 7 Rig Ser & BOP
- 8 Repairs
- 9 Slip & Cut
- 10 Surveys
- 11 Logging
- 12 Run Csg & Cement
- 13 WOC
- 14 Nipple Up
- 15 Test BOP
- 16 DST
- 17 Plug Back
- 18 Squeeze Cement
- 19 Fishing
- 20 Dir. Work
- 21 Clean to Bottom

OPNS Forecast

Bottom Hole Assembly

Persons in Camp:

Natives:

Weather

Temp -15

Costs:

PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date Feb. 2/84 Days

Supervisor Al MacNair Contractor Spartan #20

Depth @ hrs Hrs on Btm Progress Operation
 Last Casing Depth: Size:
 Bit No Depth Out Wt on Bit Condition
 Size Metres RPM Serial #
 Type Hours Nozzles

Bit No Depth Out Wt on Bit Condition
 Size Metres RPM Serial #
 Type Hours Nozzles

Pump Pres Strokes L/min Ann Vel

Surveys ° at ° at ° at
 ° at ° at ° at

Last FLOT Depth: EMD
 Mud Wt. Vis PV YP
 WL pH Solids

Mud Added

BOP Tests & Drills:

General

Start rigging up - spot matting and set with plastic
underlay. Spot sub base skid drawworks into place.
Set ramp and catwalk - lay blocks on walk in position
to string drilling line.
Pin derrick sections spot in place on a frame and pin
to floor pads, raise and pin A legs.

Time Break Down

- 1 Rig Up or Down
- 2 Drilling
- 3 Reaming
- 4 Coring
- 5 Cond. Hole
- 6 Trip
- 7 Rig Ser & BOP
- 8 Repairs
- 9 Slip & Cut
- 10 Surveys
- 11 Logging
- 12 Run Csg & Cement
- 13 WOC
- 14 Nipple Up
- 15 Test BOP
- 16 DST
- 17 Plug Back
- 18 Squeeze Cement
- 19 Fishing
- 20 Dir. Work
- 21 Clean to Bottom

QPNS Forecast

Bottom Hole Assembly

Persons in Camp Natives:

Weather Temp -20

Costs:

PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date Feb. 3/84 Days

Supervisor Al MacNair Contractor Spartan Drilling

Depth @ hrs Hrs on Btm Progress Operation
 Last Casing Depth: Size:
 Bit No Depth Out Wt on Bit Condition
 Size Metres RPM Serial #
 Type Hours Nozzles

Bit No Depth Out Wt on Bit Condition
 Size Metres RPM Serial #
 Type Hours Nozzles

Pump Pres Strokes L/min Ann Vel

Surveys ° at ° at ° at
 ° at ° at ° at

Last FLOT Depth: EMD
 Mud Wt. Vis PV YP
 WL pH Solids

Mud Added

BOP Tests & Drills:

General

Spot sump tank - mud tank - pump house skids SCR &
generator house skids.

String block & crown with drilling line. Hook up
bridle to block hook.

Spot Geo.-Eng. & Pushers Shacks in place - set 400 bbl
spare rig fuel tank in place inside retaining berm

Start up cold start generator and 1 cat main rig motor -
Rig up break tower.

Spud mud arrived on location - fuel truck arrived
OPNS Forecast midnight.

Time Break Down

- 1 Rig Up or Down
- 2 Drilling
- 3 Reaming
- 4 Coring
- 5 Cond. Hole
- 6 Trip
- 7 Rig Ser & BOP
- 8 Repairs
- 9 Slip & Cut
- 10 Surveys
- 11 Logging
- 12 Run Csg & Cement
- 13 WOC
- 14 Nipple Up
- 15 Test BOP
- 16 DST
- 17 Plug Back
- 18 Squeeze Cement
- 19 Fishing
- 20 Dir. Work
- 21 Clean to Bottom

Bottom Hole Assembly

Persons in Camp: Natives:

Weather Thin scattered clouds Temp -30

Costs: PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date Feb. 4/84 Days

Supervisor Al MacNair Contractor Spartan 20

Depth @ 2400 hrs Hrs on Btm Progress Operation Rig up

Last Casing Depth: Size:

Bit No Depth Out Wt on Bit Condition

Size Metres RPM Serial #

Type Hours Nozzles

Bit No Depth Out Wt on Bit Condition

Size Metres RPM Serial #

Type Hours Nozzles

Pump Pres. Strokes L/min Ann Vel

Surveys • at • at • at
 • at • at • at

Last FLOT Depth: EMD

Mud Wt. Vis PV YP

WL pH Solids

Mud Added

BGP Tests & Drills:

General

Raise Derrick at 13:45 hrs. Problems with air to
crown-o-matic. Rig up to Spud. Thaw ground for drain-
age ditches around rig.

Halliburton cement bins on location.

Time Break Down

- 1 Rig Up or Down 24
- 2 Drilling
- 3 Reaming
- 4 Coring
- 5 Cond. Hole
- 6 Trip
- 7 Rig Ser & BOP
- 8 Repairs
- 9 Slip & Cut
- 10 Surveys
- 11 Logging
- 12 Run Csg & Cement
- 13 WOC
- 14 Nipple Up
- 15 Test BOP
- 16 DST
- 17 Plug Back
- 18 Squeeze Cement
- 19 Fishing
- 20 Dir. Work
- 21 Clean to Bottom

QPNs Forecast

Bottom Hole Assembly

Persons in Camp

Natives:

Weather Thin O/C

NW @ 48 km/hr.

Temp -34C

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date Feb. 5/84 Days

Supervisor Al MacNair Contractor Spartan 20

Depth @ Midnight Hrs on Btm Progress Operation Rig up
 Last Casing Depth: 32 Size: 508
 Bit No Depth Out Wt on Bit Condition
 Size Metres RPM Serial #
 Type Hours Nozzles

Bit No Depth Out Wt on Bit Condition
 Size Metres RPM Serial #
 Type Hours Nozzles

Pump Pres Strokes L/min Ann Vel

Surveys ° at ° at ° at
 ° at ° at ° at

Last FLOT Depth: EMD
 Mud Wt Vis PV YP
 WL pH Solids

Mud Added 45 sax Gel

BOP Tests & Drills:

General

Rig up 2nd boiler and install sample boy. Welder
building through extensions from mud tanks to buried
tank. Mix mud.
Attempt to install rat hole sock and kelly in pre dug and
cased rat hole. Would not go. Pull casing and work rat
hole in to required depth.

Time Break Down

- 1 Rig Up or Down 24
- 2 Drilling
- 3 Reaming
- 4 Coring
- 5 Cond. Hole
- 6 Trip
- 7 Rig Ser & BOP
- 8 Repairs
- 9 Slip & Cut
- 10 Surveys
- 11 Logging
- 12 Run Csg & Cement
- 13 WOC
- 14 Nipple Up
- 15 Test BOP
- 16 DST
- 17 Plug Back
- 18 Squeeze Cement
- 19 Fishing
- 20 Dir. Work
- 21 Clean to Bottom

OPNS Forecast

Bottom Hole Assembly

Persons in Camp: Natives: 3

Weather Clear NW 16 km/h Temp -10C

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date Feb. 6/84 Days 1

Supervisor Al MacNair Contractor Spartan #20

Depth @ 2400 hrs 40 Hrs on Btm 6 3/4 Progress 40 Operation Drill

Last Casing Depth: 10 m Size: 508

Bit No 1 RT Depth Out Wt on Bit 2-3 Condition

Size 340 12 1/2 Metres 40 RPM 70 Serial #

Type DSJ Hours 6 3/4 Nozzles 3-18

Bit No Depth Out Wt on Bit Condition

Size Metres RPM Serial #

Type Hours Nozzles

Pump Pres 1000 kPa Strokes 100 L/min 77 Ann Vel ---

Surveys 3 at 29 at at
7/8 at 43 at at

Last FLOT Depth: EMD

Mud Wt. 1010 Vis 45 PV YP

WL pH 9.5 Solids

Mud Added Gel 42 sx. Caustic 1 sx.

BOP Tests & Drills:

General

Weld on conductor pipe. Rig up flow line. Pick
up and make up bottom hole assembly. Thaw out kelly
hose and stand pipe. Spud at 18:30 hrs. Feb. 5, 1984.
Drill 6 3/4 hrs. - Survey 3, Other 17.

Casing on location

Cement on location

FB to ground

Ground

6:00 AM Depth - 52 m - Drill

OPNS Forecast

Time Break Down

- 1 Rig Up or Down 17
- 2 Drilling 6 3/4
- 3 Reaming
- 4 Coring
- 5 Cond. Hole
- 6 Trip
- 7 Rig Ser & BOP
- 8 Repairs
- 9 Slip & Cut
- 10 Surveys 3
- 11 Logging
- 12 Run Csg & Cement
- 13 WOC
- 14 Nipple Up
- 15 Test BOP
- 16 DST
- 17 Plug Back
- 18 Squeeze Cement
- 19 Fishing
- 20 Dir. Work
- 21 Clean to Bottom

Bottom Hole Assembly NB Stab., Shock sub, NR Stab., 9" DC, NR Stab., 2-9" DC XO

Persons in Camp: Natives: 3 + two coming by Skidco 1+6 1/2 DC

Weather Scattered overcast NE 5 Temp -10C

Costs: PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date Feb. 7/84 Days 2

Supervisor Al MacNair Contractor Spartan #20

Depth @ 2400 hrs 129 Hrs on Btm 19 Progress 89 Operation Drill
 Last Casing Depth: 21 Size: 508
 Bit No 1 Retip Depth Out 128 Wt on Bit 8-10 Condition 8-3-I
 Size 311 Metres 88 RPM 120-140 Serial # SAP 039
 Type DSJ Hours 25 3/4 Nozzles 3-18

Bit No 2 Retip Depth Out Wt on Bit Condition
 Size 311 Metres 1 RPM Serial # SPV 197
 Type DTJ Hours 3 Nozzles 3-18

Pump Pres 5500 kPa Strokes 140 L/min 1558 Ann Vel

Surveys 1/2 at 60 3/4 at 80 1/8 at 99
1/2 at 70 1/2 at 90 1/2 at 109

Last FLOT Depth: EMD 7/8 118
 Mud Wt. 1140 Vis 45 PV YP 128
 WI pH 9.5 Solids

Mud Added Gel 20 sx. Caustic 1 sx.

BOP Tests & Drills:

General

Drill 311mm hole to 128 m. Survey at 10 m intervals

Repair Rotary Chain. Trip for Bit.

KB to Gr. 4.25 m

GL 725.82 m

Forecast: Drill, survey and trip.

DEPTH 06:00 - 160 m OPERATION: Drill

OPNS Forecast

Time Break Down

- 1 Rig Up or Down
- 2 Drilling 19
- 3 Reaming
- 4 Coring
- 5 Cond. Hole
- 6 Trip 1 1/2
- 7 Rig Ser & BOP 3
- 8 Repairs 3
- 9 Slip & Cut
- 10 Surveys 2 3/4
- 11 Logging
- 12 Run Csg & Cement
- 13 WOC
- 14 Nipple Up
- 15 Test BOP
- 16 DST
- 17 Plug Back
- 18 Squeeze Cement
- 19 Fishing
- 20 Dir. Work
- 21 Clean to Bottom

Bottom Hole Assembly 311 NBS - 228 mm SS, 311 NRS, 228 mm DC, 311 NRS, 2-228 DC
XO 9-165 mm DC

Persons in Camp: Natives: 3 + 2 coming

Weather Overcast Light winds Temp -10C

Costs:

PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date Feb. 8/84 Days 3

Supervisor Al MacNair Contractor Spartan #20

Depth @ 2400 hrs 210 Hrs on Btm 17 Progress 81 Operation Drilling

Last Casing Depth: 10 Size: 508

Bit No 2 Depth Out 195 Wt on Bit 8-10 Condition 8-8-1

Size 311 Metres 107 RPM 5 100 Serial # SPV 197

Type DTJ Hours 12 1/2 Nozzles 3-16

Bit No 3 Depth Out In Hole 10-12 Condition Running

Size 311 Metres 15 RPM 70 - 90 Serial # SAD 467

Type DSJ Hours 5 Nozzles 3 - 16

Pump Pres 7000 kPa Strokes 140 L/min 1558 Ann Vel 43m/min DC

Surveys 3/4 • at 175 • at 194 • at 213
• at _____ • at _____ • at _____

Last FLGT Depth: _____ EMD _____

Mud Wt. 1130 Vis 47 PV 17 Yr 6

WL 8.6 pH 10 Solids _____

Mud Added Gel 42 sax, Caustic 1 sax

BOP Tests & Drills:

General

Drill 311 m hole and survey. Spent 1 hour working
through boulders which fell in on connection. Depth @
0600 hrs. - 233 m. Operation - drilling, 24 hr. fore-
cast, drilling, survey trip.

Time Break Down

- 1 Rig Up or Down _____
- 2 Drilling 17
- 3 Reaming _____
- 4 Coring _____
- 5 Cond. Hole _____
- 6 Trip 2 3/4
- 7 Rig Ser & BOP 3/4
- 8 Repairs 1 1/2
- 9 Slip & Cut _____
- 10 Surveys 1 1/2
- 11 Logging _____
- 12 Run Csg & Cement _____
- 13 WOC _____
- 14 Nipple Up _____
- 15 Test BOP _____
- 16 DST _____
- 17 Plug Back _____
- 18 Squeeze Cement _____
- 19 Fishing _____
- 20 Dir. Work _____
- 21 Clean to Bottom _____
- 22 Circ. sample 1

OPNS Forecast

Bottom Hole Assembly NBS, SS, NRS, 228 DC, NRS, 2 - 228 DC XO, 17 - 165 DC

Persons in Camp: _____ Natives: _____

Weather O/C Light wind _____ Temp -20C

Costs: _____ PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date Feb. 9/84 Days 4

Supervisor Al MacNair Contractor Spartan #20

Depth @ 2400 hrs 261 Hrs on Btm 11 3/4 Progress 51 Operation Drill

Last Casing Depth: 21 Size: 508

Bit No 3 RT Depth Out 235 Wt on Bit 10-12 Condition 8-5-1

Size 311 Metres 40 RPM 70-90 Serial # SAF 467

Type DSJ Hours 13 1/2 Nozzles 3 - 16

Bit No 4 RT 5 Depth Out 260 - 270 Wt on Bit 3-5 1-2 Condition 1-5-1

Size 311 311 Metres 25 - 10 RPM 120 120 Serial # DT 447

Type X3A S11 Hours 2 3/4 - 3 Nozzles 2-18 2-18
1-16 1-16

Pump Pres 5000 Strokes 140 L/min 1558 Ann Vel 43 l/min

Surveys 1 1/2 * at 241 2 * at 259 * at
1 1/2 * at 250 1 7/8 * at 270 * at

Last FLOT Depth: EMD

Mud Wt. 1140 Vis 45 PV 14 YP 4

WL 8 pH 9.5 Solids

Mud Added Gel 40 sax Caustic 2 sax

BOP Tests & Drills:

General

Drill! 311 mm hole to 235 m. Trip for Bit #4. Drill
to 260 m. POH for Bit #5. Install additional NRS
RIH ream 240 - 260 m. Drill to 261 m.

235 - 270 m - Drift

6:00 AM Depth: 270 m - Trip to change stabilizers

QPNS Forecast Trip Drill

Time Break Down

- 1 Rig Up or Down
- 2 Drilling 11 3/4
- 3 Reaming 3
- 4 Coring
- 5 Cond. Hole
- 6 Trip 9
- 7 Rig Ser & BOP 3/4
- 8 Repairs
- 9 Slip & Cut 1
- 10 Surveys 1
- 11 Logging
- 12 Run Csg & Cement
- 13 WOC
- 14 Nipple Up
- 15 Test BOP
- 16 DST
- 17 Plug Back
- 18 Squeeze Cement
- 19 Fishing
- 20 Dir. Work
- 21 Clean to Bottom

Bottom Hole Assembly NBS, SS, NRS, 228 DC, NRS, 228 DC, NRS, 228 DC XO 17-165 DC
6 HW

Persons in Camp: 28 Natives: 4

Weather 0/C Light winds Temp -20C

Costs: PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date Feb. 10/84 Days 5

Supervisor Al MacNair Contractor Spartan 20

Depth @ 2400 hrs 300 Hrs on Btm 17 Progress 39 Operation Survey

Last Casing Depth: _____ Size: _____

Bit No <u>5</u>	Depth Out <u>in</u>	Wt on Bit <u>2-4</u>	Condition <u>Run</u>
Size <u>311</u>	Metres <u>40</u>	RPM <u>120-140</u>	Serial # <u>NEM 007</u>
Type <u>S11</u>	Hours <u>17 1/4</u>	Nozzles <u>2-18, 1-14</u>	

Bit No _____	Depth Out _____	Wt on Bit _____	Condition _____
Size _____	Metres _____	RPM _____	Serial # _____
Type _____	Hours _____	Nozzles _____	

Cramp Pres 3000 Strokes 120 L/min 1335 Ann Vel 38

Surveys 1 3/4 ° at 275 1 3/4 ° at 295 1 1/2 ° at 304
1 3/4 ° at 284 ° at _____ 3/4 ° at 313

Last FLOT Depth: _____ EMD _____
 Mud Wt. 1140 Vis 45 PV 21 YP 5.5
 WL 7.5 pH 9.5 Solids .093

Mud Added Gel 40 sax Caustic 2 sax

BOP Tests & Drills:

General

Drill and survey to 270 m. POH Lay down 2 NRS
and NBS Move SS to top of 2nd DC for pendulum
RIH. Drill and survey to 300 m.

Time Break Down

- 1 Rig Up or Down _____
- 2 Drilling 17
- 3 Reaming _____
- 4 Coring _____
- 5 Cond. Hole _____
- 6 Trip 3 3/4
- 7 Rig Ser & BOP 1
- 8 Repairs _____
- 9 Slip & Cut _____
- 10 Surveys 3/4
- 11 Logging _____
- 12 Run Csg & Cement _____
- 13 WOC _____
- 14 Nipple Up _____
- 15 Test BOP _____
- 16 DST _____
- 17 Plug Back _____
- 18 Squeeze Cement _____
- 19 Fishing _____
- 20 Dir. Work _____
- 21 Clean to Bottom 2
Wd 10015

6:00 AM Depth 313 m - Drill

OPNS Forecast Drill Survey Trip

Bottom Hole Assembly 311 BS, 2-228 DC, 228 SS, NRS, 228 DC XO 17-165 DC, 6 HW.

Persons in Camp: 30 Natives: 4

Weather Blizzard Temp -40

Costs: \$12,317.00 Cum: \$637,667.00 PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date Feb. 11/84 Days 6

Supervisor Al MacNair Contractor Spartan 20

Depth @ 2400 hrs 343 Hrs on Btm 17 1/2 Progress 43 Operation Drill

Last Casing Depth: _____ Size: _____

Bit No 5 RR Depth Out 339 Wt on Bit 2-4 Condition 2-3-1

Size 311 Metres 79 RPM 120-140 Serial # NEM 007

Type S11 Hours 33 Nozzles 2-18, 1-14

Bit No 6 Depth Out in Wt on Bit 4-7 Condition Run

Size 311 Metres 24 RPM 120-140 Serial # NEM 012

Type S11 Hours 2 Nozzles 2-18, 1-14

Pump Pres 6000 Strokes 140 L/min 1558 Ann Vel 44 DC
27 DP

Surveys 1 1/8 • at 322 1 • at 353 • at _____
1 • at 332 1 • at 363 • at _____

Last FLOT Depth: _____ EMD _____

Mud Wt 1140 Vis 44 PV 13 YP 5

WL 9.2 pH 9.5 Solids .0223

Mud Added Gel 32 sax Caustic 1 sax

BOP Tests & Drills:

General

Drill and survey to 339, POOH to change bits
Install IBS and RRS for packed hole RIH clean
2 singles to bottom, drill and survey
Lith 310 m - 360 m Shales interbedded with minor
sands, shale medium grey to black carboneous.
Sands generally small Stringers - shows
Sand very fine grain Qtz., silty porosity fair.

Depth 06:00 - 363 m - Drill
5% dry florescent, weak difused cut.

QPNS Forecast Drill

Time Break Down

- 1 Rig Up or Down _____
- 2 Drilling 17 1/2
- 3 Reaming 1
- 4 Coring _____
- 5 Cond. Hole _____
- 6 Trip 4 1/2
- 7 Rig Ser & BOP 3/4
- 8 Repairs _____
- 9 Slip & Cut _____
- 10 Surveys 1
- 11 Logging _____
- 12 Run Csg & Cement _____
- 13 WOC _____
- 14 Nipple Up _____
- 15 Test BOP _____
- 16 DST _____
- 17 Plug Back _____
- 18 Squeeze Cement _____
- 19 Fishing _____
- 20 Dir. Work _____
- 21 Clean to Bottom _____

Bottom Hole Assembly 311 NBR, 228 DC, NRS, 228 DC, SS, NRS, 228 DC, X0, 17-165 DC
6 HW DP

Persons in Camp: 27 Natives: 4

Weather Clear SSE 10 Temp -26

Costs: Daily 13,707 Cum. 651,374

PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date Feb. 12/84 Days 7

Supervisor Al MacNair Contractor Spartan 20

Depth @ 2400 hrs 458 Hrs on Btm 21 1/2 Progress 115 Operation Drill

Last Casing Depth: 21 m Size: 508

Bit No 6 Depth Out in Wt on Bit 4-7 Condition Run

Size 311 Metres 143 RPM 120-140 Serial # NEM 012

Type S11 Hours 23 1/2 Nozzles 218. 1-14

Bit No _____ Depth Out _____ Wt on Bit _____ Condition _____

Size _____ Metres _____ RPM _____ Serial # _____

Type _____ Hours _____ Nozzles _____

Pump Pres 6000 Strokes 140 L/min 1558 Ann Vel 44 DC
27 DP

Surveys 3/4 • at 382 1 • at 419 1 • at 447
1 1/2 • at 410 1 1/2 • at 428 3/4 • at 465

Last FLOT Depth: _____ EMD _____

Mud Wt. 1140 Vis 55 PV 14 YP 5

WL 8.0 pH 9.5 Solids .0223

Mud Added 55 sax Gel 1 Caustic

BOP Tests & Drills:

General

Drill and survey 311 mm hole to 458

Time Break Down

1 Rig Up or Down _____

2 Drilling 21 1/2

3 Reaming _____

4 Coring _____

5 Cond. Hole _____

6 Trip _____

7 Rig Ser & BOP 3/4

8 Repairs _____

9 Slip & Cut _____

10 Surveys 2

11 Logging _____

12 Run Csg & Cement _____

13 WOC _____

14 Nipple Up _____

15 Test BOP _____

16 DST _____

17 Plug Back _____

18 Squeeze Cement _____

19 Fishing _____

20 Dir. Work _____

21 Clean to Bottom _____

Bottom Hole Assembly Bit NBS, 228 DC, NRS, 228 DC, SS, NRS, 228 DC, XO, 17-165 DC,

Persons in Camp: 29 Natives: 4 6 HW

Weather O/C Light wind Temp -23

Costs: Daily 11,867 Cum 669,231

PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date Feb. 13/84 Days 8

Supervisor Al MacNair Contractor Spartan 20

Depth @ 2400 hrs 502 Hrs on Btm 91 Progress 44 Operation Run Casing

Last Casing Depth: Size:

Bit No <u>6</u>	Depth Out <u>502</u>	Wt on Bit <u>4-6</u>	Condition <u>421</u>
Size <u>311</u>	Metres <u>163</u>	RPM <u>120-140</u>	Serial # <u>NEM 02</u>
Type <u>S11</u>	Hours <u>32 1/2</u>	Nozzles <u>2- 18/32</u>	
		<u>1- 14/32</u>	

Bit No <u> </u>	Depth Out <u> </u>	Wt on Bit <u> </u>	Condition <u> </u>
Size <u> </u>	Metres <u> </u>	RPM <u> </u>	Serial # <u> </u>
Type <u> </u>	Hours <u> </u>	Nozzles <u> </u>	

Pump Pres 6000 Strokes 140 L/min 1558 Ann Vel 28 m/m DP
44 m/m DC

Surveys 3/4 • at 483 3/4 • at 502 • at
 • at • at • at

Last FLOT Depth: EMD
 Mud Wt 1150 Vis 65 PV 21 YP 11
 WL 9 pH 9.5 Solids 237

Mud Added Gel 20 Caustic 1

BOP Tests & Drills:

General

Drill and survey 311 mm hole to 502 m. Circ.
1 hr. POOH Tight 8 stands clean stabilizers &
bit. Run in hole, circulate, work pipe condition
hole and mud POOH lay down 228 dc and assembly
Load on trucks, send to Guthrie 5
Rig and run 244 mm surface casing 42 its. Circulate
and work casing to bottom 4 m of fill, circulate

Depth at 06:00 502 Operation: Circ. casing

OPNS Forecast Cement casing nipple up B.O.P.'s

Time Break Down

- 1 Rig Up or Down
- 2 Drilling 9 1/2
- 3 Reaming
- 4 Coring
- 5 Cond. Hole 3
- 6 Trip 7 3/4
- 7 Rig Ser & BOP 1
- 8 Repairs
- 9 Slip & Cut
- 10 Surveys 3/4
- 11 Logging
- 12 Run Csg & Cement 1
- 13 WOC
- 14 Nipple Up
- 15 Test BOP
- 16 DST
- 17 Plug Back
- 18 Squeeze Cement
- 19 Fishing
- 20 Dir. Work
- 21 Clean to Bottom
- 22 Handle Tools 2 1/2

Bottom Hole Assembly

Persons in Camp: 29 Natives: 3
 Weather Snowing Light wind Temp -25
 Costs: Daily 49,025 Cum. 718,256 PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Page 1 of 2

Well Name Northcor et al Trainor Lake N-25 Date Feb. 14/84 Days 9

Supervisor Al MacNair Contractor Spartan 20

Depth @ 2400 hrs 500 Hrs on Btm _____ Progress _____ Operation Nipple Up

Last Casing Depth: _____ Size: _____

Bit No _____ Depth Out _____ Wt on Bit _____ Condition _____

Size _____ Metres _____ RPM _____ Serial # _____

Type _____ Hours _____ Nozzles _____

Bit No _____ Depth Out _____ Wt on Bit _____ Condition _____

Size _____ Metres _____ RPM _____ Serial # _____

Type _____ Hours _____ Nozzles _____

Pump Pres _____ Strokes _____ L/min _____ Ann Vel _____

Surveys _____ at _____ at _____ at _____ at _____ at

Last FLOT Depth: _____ EMD _____

Mud Wt _____ Vis _____ PV _____ YP _____

WL _____ pH _____ Solids _____

Mud Added _____

BOP Tests & Drills:

General

Ran cemented & hung 42 its. 244mm, 53.7kg/m casing.

landed at 500 m. Pump 1.6m³ of water ahead. Pressure

test surface lines 21,000 kPa Halliburton mixed 42 T

Class "G" cement, 1895kg/m³ displace with 19.6m³ of

cement. Plug down & CIP at 08:00 hrs. Bump plug

11,000 kPa Hold pressure 2 min. bleed off, check float

collar. OK close in cement head. No cement returns to

surface. WOC 4 hrs. rig and run 30.3m of 1" pipe down

outside of 244 casing and inside of 504mm conductor.

Halliburton mixed and pumped 225 sac Class "G" cement

1950kg/m³ & grout casing back to surface. WOC 6 hrs.

Cut off conductor casing and weld on casing bowl. (Cont'd)

DEPTH 06:00 - 502 OPERATION: Nipple up B.O.P.

OPNS Forecast Pick up bottom hole assembly.

Time Break Down

1 Rig Up or Down _____

2 Drilling _____

3 Reaming _____

4 Coring _____

5 Cond. Hole _____

6 Trip _____

7 Rig Ser & BOP _____

8 Repairs _____

9 Slip & Cut _____

10 Surveys _____

11 Logging _____

12 Run Csg & Cement 8 _____

13 WOC _____ 10

14 Nipple Up _____ 6

15 Test BOP _____

16 DST _____

17 Plug Back _____

18 Squeeze Cement _____

19 Fishing _____

20 Dir. Work _____

21 Clean to Bottom _____

Bottom Hole Assembly _____

Persons in Camp: 29 Natives: 3

Weather Clear Temp -23

Costs: Daily 44,563 Cum: 762,819 PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Page 2 of 2

Well Name Northcor et al Trainor Lake N-25 Date Feb. 14/84 Days 9

Supervisor Al MacNair Contractor Spartan 20

Depth @ 2400 hrs 502 Hrs on Btm. _____ Progress _____ Operation Nipple Up
Last Casing Depth: _____ Size: _____

Bit No _____ Depth Out _____ Wt on Bit _____ Condition _____
Size _____ Metres _____ RPM _____ Serial # _____
Type _____ Hours _____ Nozzles _____

Bit No _____ Depth Out _____ Wt on Bit _____ Condition _____
Size _____ Metres _____ RPM _____ Serial # _____
Type _____ Hours _____ Nozzles _____

Pump Pres _____ Strokes _____ L/min _____ Ann Vel _____

Surveys _____ at _____ at _____ at _____
_____ at _____ at _____ at _____

Last FLOT Depth: _____ EMD _____
Mud Wt. _____ Vis _____ PV _____ YP _____
WL _____ pH _____ Solids _____

Mud Added _____

BOP Tests & Drills:

General

Continued

Pressure test weld on casing bowl to 17,000 kPa. Pick
up and nipple up B.O.P. Repair cooling system for brake
drums on draw works while W.O.C. Dump and clean mud
tanks.

Time Break Down

- 1 Rig Up or Down _____
- 2 Drilling _____
- 3 Reaming _____
- 4 Coring _____
- 5 Cond. Hole _____
- 6 Trip _____
- 7 Rig Ser & BOP _____
- 8 Repairs _____
- 9 Slip & Cut _____
- 10 Surveys _____
- 11 Logging _____
- 12 Run Csg & Cement 8
- 13 WOC 10
- 14 Nipple Up 6
- 15 Test BOP _____
- 16 DST _____
- 17 Plug Back _____
- 18 Squeeze Cement _____
- 19 Fishing _____
- 20 Dir. Work _____
- 21 Clean to Bottom _____

DEPTH 06:00 -

OPERATION:

QPNs Forecast

Bottom Hole Assembly _____

Persons in Camp:

Natives: _____

Temp _____

Weather _____

Costs: _____

PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date Feb. 15/84 Days 10

Supervisor Al MacNair Contractor Spartan #20

Depth @ 2400 hrs 500 Hrs on Btm _____ Progress _____ Operation Test B.O.P.
Last Casing Depth: _____ Size: _____

Bit No <u>1</u>	Depth Out _____	Wt on Bit _____	Condition _____
Size <u>222</u>	Metres _____	RPM _____	Serial # <u>D07695</u>
Type <u>S13G</u>	Hours _____	Nozzles <u>3-16</u>	

Bit No _____	Depth Out _____	Wt on Bit _____	Condition _____
Size _____	Metres _____	RPM _____	Serial # _____
Type _____	Hours _____	Nozzles _____	

Pump Pres _____ Strokes _____ L/min _____ Ann Vel _____

Surveys _____ at _____ at _____ at _____ at _____

Last FLOT Depth: _____ EMD _____
Mud Wt. _____ Vis _____ PV _____ YP _____
WL _____ pH _____ Solids _____

Mud Added Gel 30 sax Caustic 1 sax Soda Ash 1 sax

BOP Tests & Drills:

General

Nipple up B.G.P. exchange rams. install blind rams
top pipe rams bottom.
Pressure test blind rams to 1500 kPa and 21000 kPa
HCR and outside valves and manifold. 21000 kPa. Make
up bit and RIH - slick assembly. Pressure test hydril
1500 and 14000 kPa. Attempt to test 114 mm pipe rams.
Would not hold. Remove 114 mm rams.

Time Break Down

- 1 Rig Up or Down _____
- 2 Drilling _____
- 3 Reaming _____
- 4 Coring _____
- 5 Cond. Hole _____
- 6 Trip _____
- 7 Rig Ser & BOP _____
- 8 Repairs _____
- 9 Slip & Cut _____
- 10 Surveys _____
- 11 Logging _____
- 12 Run Csg & Cement _____
- 13 WOC _____
- 14 Nipple Up 18
- 15 Test BOP 5
- 16 DST _____
- 17 Plug Back _____
- 18 Squeeze Cement _____
- 19 Fishing _____
- 20 Dir. Work _____
- 21 Clean to Bottom _____

DEPTH 06:00 - 502 OPERATION: Test B.O.P.

OPNS Forecast Test B.O.P. Drill FLOT Drill

Bottom Hole Assembly 222 bit, BS, 17 - 165 DC XO 6 HW

Persons in Camp: 25 Natives: 2

Weather Clear Temp -10

Costs: Daily: 19.712 Cum: 782.531 PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor N-25 Date 84-02-16 Days 11

Supervisor Al MacNair Contractor Spartan #20

Depth @ 2400 hrs 500 Hrs on Btm -- Progress -- Operation Drill out
 Last Casing Depth: 500 Size: 244 mm
 Bit No 1 Depth Out in Wt on Bit 2-4 Condition Run
 Size 222 Metres 4 RPM 90 - 110 Serial # D07695
 Type S116 Hours 2 Nozzles 2 - 16

Bit No Depth Out Wt on Bit Condition
 Size Metres RPM Serial #
 Type Hours Nozzles

Pump Pres 2000 Strokes 110 L/min 1224 Ann Vel

Surveys • at • at • at
 • at • at • at

Last FLOT Depth: 503 EMD 2250
 Mud Wt 1035 Vis 40 PV YP
 WL pH 9.5 Solids

Mud Added Gei 20 sax

BOP Tests & Drills: 84-02-15

General

Wait on 4 1/2 pipe ram rubbers and #2 shock hose.
Install 4 1/2 ram rubbers. RIH tag cement at 487 m
Drill out Float and cement to 492 m. Pressure
test 4 1/2 pipe rams and casing to 21000 kPa. Test
upper and lower Kelly cock - DP stabbing valve
1500 kPa - 21000 kPa. HCR and choke manifold -
Drill out. Cement and shoe - Drill to 503 m
displace to mud for FLOT - held 11,100 kPa
Surface 6000 kPa - + 5100

DEPTH 06:00 - 506 OPERATION: Drill

OPNS Forecast Drill - survey - Trip to pickup
stabilizers

Bottom Hole Assembly 222 Bit, BS 17 - 165 DC XO 6 HW

Persons in Camp: 25 Natives: 3

Weather Clear

Costs: Daily: 12,865 Cum: 795,396

Time Break Down

1 Rig Up or Down
 2 Drilling
 3 Reaming
 4 Coring
 5 Cond. Hole 3/4
 6 Trip 2 3/4
 7 Rig Ser & BOP
 8 Repairs 12
 9 Slip & Cut
 10 Surveys
 11 Logging
 12 Run Csg & Cement
 13 WOC
 14 Nipple Up
 15 Test BOP 5 1/2
 16 DST
 17 Plug Back
 18 Squeeze Cement
 19 Fishing
 20 Dir. Work
 21 Clean to Bottom
 22 Drill Out 3 1/2

Temp - 5
 PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date 84-02-17 Days 12

Supervisor Al MacNair Contractor Spartan #20

Depth @ 2400 hrs 539 Hrs on Btm 10 Progress 39 Operation Drill

Last Casing Depth: 500 Size: 244 mm

Bit No. 1 Depth Out 20 Wt on Bit 5 - 8 Condition Run
 ROM 90 120 Serial # 007695

Size 222 Metres 39 RPM 90 - 120 Serial # D070329

Type S13G Hours 10 Nozzles 1 - 16
2 - 12

Bit No _____ Depth Out _____ Wt on Bit _____ Condition _____
Serial # _____

Size _____ Metres _____ RPM _____ Serial # _____

Size _____
Type _____ Hours _____ Nozzles _____

Pump Pres 6,000 Strokes 120 L/min 1,335 Ann Vel DC 63 DP 38

Pump Pres 6,000 Strokes 120 L/min 1,335 Ann Vel DC 63

Surveys 1/2 • at 510 1/4 • at 556 _____ • at _____
3/4 • at 529 _____ • at _____ • at _____

Last FLOT Depth: 503 EMD 2250

Mud Wt. 1050 Vis 45 FV 20 YP 9

WL 13.5 pH 10 Solids

Mud Added Gel 24 sax Polysec 2 sax

BOP Tests & Drills: 84-02-15

General

Time Break Down

Drill 222 mm hole to 539 m. POH - Pick up

Stabilizers. Slip and cut line. RIH - clean to

bottom. Drill _____ 4 Coring _____
5 Good Hole 1 1/4

5 Cond. Hole _____
6 Trip 6 1/2

7 Rig Ser & BOP 3/4

8	Repairs	
9	Slip & Cur	1

9 Slip & Cut _____

10 Surveys _____

11 Logging

12 Run Csg & Cement
12 WOC

13 WOC _____

14 Nipple Up _____

15 Test BOP _____

16 DST _____

17 Plug Back _____

18 Squeeze Cement _____

DEPTH 06:00 - 562 OPERATION: Drill 19 Fishing

ORNS Forecast Drill, Trip, Drill 20 Dir. Work _____

22 FLOT

Drill out shoe

Bottom Hole Assembly BIT, NBR, DC, 153, 60, 33, 153, 15

Persons in Camp: 19 Natives: 3

Weather Clear Temp 8

Costs: 11,037 Cum: 806,433 PAJAK LAND & OFFSHORE LT

PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainer Lake N-25 Date 84-02-18 Days 13

Supervisor Al MacNair Contractor Spartan 20

Depth @ 2400 hrs 632 Hrs on Btm 19 1/2 Progress 93 Operation Trip

Last Casing Depth: 500 Size: 244 mm

Bit No 1 Depth Out 632 Wt on Bit 10-12 Condition 3-3-I

Size 222 Metres 132 RPM 90 - 120 Serial # D07695

Type S13G Hours 29 1/2 Nozzles 1 - 16

2 - 12

Bit No 2 Depth Out in Wt on Bit 14 - 16 Condition Run

Size 222 Metres 18 RPM 90 - 100 Serial # D07629

Type S13G Hours 4 1/2 Nozzles 1 - 16

2 - 12

Pump Pres 6500 Strokes 120 L/min 1335 Ann Vel 76 DC
46 DP

Surveys 3/4" at 575 1" at 632 1" at
1" at 613 1" at 1" at

Last FLOT Depth: 503 EMD 2250

Mud Wt. 1120 Vis 38 PV 16 YP 7

WL 13 pH 9.5 Solids .06

Mud Added Gel 24 sax Poly sec 3 sax Sapp 1 sax

BOP Tests & Drills: 84-02-15

General

Time Break Down

<u>Drill 222 mm hole to 632 -</u>	1 Rig Up or Down <u> </u>
<u>Dron survey and POH. Found rubbers from valve</u>	2 Drilling <u>19 1/2</u>
<u>on totcoring - Change bits run in hole.</u>	3 Reaming <u> </u>
<u> </u>	4 Coring <u> </u>
<u> </u>	5 Cond. Hole <u>1</u>
<u> </u>	6 Trip <u>3</u>
<u> </u>	7 Rig Ser & BOP <u>1</u>
<u> </u>	8 Repairs <u> </u>
<u> </u>	9 Slip & Cut <u> </u>
<u> </u>	10 Surveys <u>3/4</u>
<u> </u>	11 Logging <u> </u>
<u> </u>	12 Run Csg & Cement <u> </u>
<u> </u>	13 WOC <u> </u>
<u> </u>	14 Nipple Up <u> </u>
<u> </u>	15 Test BOP <u> </u>
<u> </u>	16 DST <u> </u>
<u> </u>	17 Plug Back <u> </u>
<u> </u>	18 Squeeze Cement <u> </u>
<u>DEPTH 06:00 - 650 OPERATION: Drill</u>	19 Fishing <u> </u>
<u>OPNS Forecast Drill</u>	20 Dir. Work <u> </u>
	21 Clean to Bottom <u> </u>

Bottom Hole Assembly 322 m Bit - NBR, DC, IRS, DC, SS, IRS,

Persons in Camp: 19 Natives: 3

Weather Overcast Temp -8

Costs: Daily: 13,002 Cum: 819,435

PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date 84-02-19 Days 14

Supervisor Al MacNair Contractor Spartan 20

Depth @ 2400 hrs 757 Hrs on Btm 21 3/4 Progress 125 Operation Drill

Last Casing Depth: 500 Size: 244

Bit No 2 Depth Out in Wt on Bit 14-16 Condition Run

Size 222 Metres 125 RPM 90 - 100 Serial # D07692

Type S13G Hours 21 3/4 Nozzles 1 - 16
2 - 12

Bit No _____ Depth Out _____ Wt on Bit _____ Condition _____

Size _____ Metres _____ RPM _____ Serial # _____

Type _____ Hours _____ Nozzles _____

Pump Pres 7000 Strokes 120 L/min 1335 Ann Vel 76 DC
46 DP

Surveys 3/4 at 642 at 719 at _____
3/4 at 680 at 764 at _____

Last FLOT Depth: 503 EMD 2250

Mud Wt. 1140 Vis 40 PV 14 YP 3

WL 11.5 pH 9.5 Solids .0875

Mud Added Gel 24 sax Poly sec 4 sax Caustic 3 sax Sapp 1 sax

BOP Tests & Drills: 84-02-15

General

Time Break Down

<u>RIH - Drill and survey to 757</u>	1 Rig Up or Down _____
_____	2 Drilling <u>21 3/4</u>
_____	3 Reaming _____
_____	4 Coring _____
_____	5 Cond. Hole _____
_____	6 Trip <u>1</u>
_____	7 Rig Ser & BOP <u>3</u>
_____	8 Repairs _____
_____	9 Slip & Cut _____
_____	10 Surveys <u>3/4</u>
_____	11 Logging _____
_____	12 Run Csg & Cement _____
_____	13 WOC _____
_____	14 Nipple Up _____
_____	15 Test BOP _____
_____	16 DST _____
_____	17 Plug Back _____
_____	18 Squeeze Cement _____
DEPTH 06:00 - <u>792 m</u> OPERATION: <u>Drill</u>	19 Fishing _____
OPNS Forecast <u>Drill Trip Drill</u>	20 Dir. Work _____
	21 Clean to Bottom _____

Bottom Hole Assembly Bit NBR, DC, IBS, DC, SS, IBS, 15 - 165 DC, 6 HW

Persons in Camp: 19 Natives: 3

Weather Clear Temp - 8

Costs: Daily: 10,590 Cum: 830,025 PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date 84-02-20 Days 15

Supervisor Al MacNair Contractor Spartan 20

Depth @ 2400 hrs 876 Hrs on Btm 21 Progress 119 Operation Drill

Last Casing Depth: 500 Size: 244

Bit No 2 Depth Out 892 Wt on Bit 16 Condition 4-6-I

Size 222 Metres 264 RPM 90 - 100 Serial = D07692

Type S136 Hours 42 3/4 Nozzles 1-16
2-12

Bit No 3 Depth Out Wt on Bit Condition

Size 222 Metres RPM Serial =

Type F-2 Hours Nozzles

Pump Pres 7000 Strokes 120 L/min 1335 Ann Vel DP 46
DC 76

Surveys at 764 at at
3/4 at 802 at at

Last FLOT Depth: 503 EMD 2250

Mud Wt. 1150 Vis 41 PV 19 YP 6

WL 10.5 pH 9.5 Solids .10

Mud Added Ge1 35 sax Poly sec 4 sax Caustic 2 sax

BOP Tests & Drills: 84-02-15

General

Time Break Down

<u>Drill to 812 m. Survey</u>	1 Rig Up or Down <u> </u>
<u>Drill to 892 m. Drop Survey. POH</u>	2 Drilling <u>21</u>
<u>Hole tight first three stands.</u>	3 Reaming <u> </u>
<u> </u>	4 Coring <u> </u>
<u> </u>	5 Cond. Hole <u> </u>
<u> </u>	6 Trip <u>2</u>
<u> </u>	7 Rig Ser & BOP <u> </u>
<u> </u>	8 Repairs <u> </u>
<u> </u>	9 Slip & Cut <u> </u>
<u> </u>	10 Surveys <u> </u>
<u> </u>	11 Logging <u> </u>
<u> </u>	12 Run Csg & Cement <u> </u>
<u> </u>	13 WOC <u> </u>
<u> </u>	14 Nipple Up <u> </u>
<u> </u>	15 Test BOP <u> </u>
<u> </u>	16 DST <u> </u>
<u> </u>	17 Plug Back <u> </u>
<u> </u>	18 Squeeze Cement <u> </u>
<u> </u>	19 Fishing <u> </u>
<u> </u>	20 Dir. Work <u> </u>
<u> </u>	21 Clean to Bottom <u> </u>

Gas detector operational

DEPTH 06:00 - 892 OPERATION: RIH

OPNS Forecast RIH - Drill

Bottom Hole Assembly Bit NBR DC IBS DC SS IBS 15 - 165 DC 6 HW

Persons in Camp: 20 Natives: 3

Weather Clear - rain Temp -10

Costs: Daily: 15,900 Cum: 835,335 PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date 84-02-21 Days 16

Supervisor Al MacNair Contractor Spartan 20

Depth @ 2400 hrs 943 Hrs on Btm 17 1/2 Progress 67 Operation Drill

Last Casing Depth: 500 Size: 244

Bit No 2 Depth Out 892 Wt on Bit 16-18 Condition 4-6-1

Size 222 Metres 250 RPM 70-90 Serial # D07692

Type S13G Hours 45 3/4 Nozzles 1 - 16
2 - 12

Bit No 3 Depth Out in Wt on Bit 16-18 Condition Run

Size 222 Metres 51 RPM 65-70 Serial # FB9916

Type F-2 Hours 14 1/2 Nozzles 3-14

Pump Pres 6,000 Strokes 120 L/min 1335 Ann Vel 46 DP
76 DC

Surveys 3/4 * at 892 * at * at
* at * at * at

Last FLOT Depth: 503 EMD 2250

Mud Wt. 1150 Vis 48 PV 15 YP 4

WL 11 pH 9.5 Solids .096

Mud Added Gel 34 sax Poly sec 3 sax Caustic 2 sax Staflo 1 sax

BOP Tests & Drills: 84-02-20. B.O.P. drill - Men in position - 50 sec.

General

Time Break Down

Change bit RIH. Work an SCR. Drill 222 mm hole to

943 m.

Hole sloughed while drilling at 920 m.

Circ. out okay while drilling.

Drill at 5 m per hour.

DEPTH 06:00 - 972 OPERATION: Drill

OPNS Forecast Drill

- 1 Rig Up or Down
- 2 Drilling 17 1/2
- 3 Reaming
- 4 Coring
- 5 Cond. Hole
- 6 Trip 5 1/2
- 7 Rig Ser & BOP 3/4
- 8 Repairs 1
- 9 Slip & Cut
- 10 Surveys
- 11 Logging
- 12 Run Csg & Cement
- 13 WOC
- 14 Nipple Up
- 15 Test BOP
- 16 DST
- 17 Plug Back
- 18 Squeeze Cement
- 19 Fishing
- 20 Dir. Work
- 21 Clean to Bottom

Bottom Hole Assembly Bit, NBR. DC, IBS, DC, SS, IBS 15 - 165 DC, 6 HW

Persons in Camp: 20 Natives: 3

Weather Overcast Temp -8

Costs: Daily: 21,242 Cum: 856,577 PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date 84-02-22 Days 17

Supervisor Al MacNair Contractor Spartan 20

Depth @ 2400 hrs 1047 Hrs on Btm 22 1/2 Progress 104 Operation Drill

Last Casing Depth: 500 Size: 244

Bit No 3 Depth Out Wt on Bit 16-18 Condition Run

Size 222 Metres 155 RPM 65 - 70 Serial # EB9916

Type F-2 Hours 36 3/4 Nozzles 3 - 14

Bit No Depth Out Wt on Bit Condition

Size Metres RPM Serial #

Type Hours Nozzles

Pump Pres 6000 Strokes 120 L/min 1335 Ann Vel DP 46
IC 76

Surveys 3/4 ° at 981 ° at ° at
° at ° at ° at

Last FLOT Depth: 503 EMD 2250

Mud Wt. 1135 Vis 48 PV 14 YP 5

WL 8 pH 10 Solids .096

Mud Added Gel 27 sax Poly sec 3 sax Staflo 2 sax Caustic 2 sax
Poly guard 10 pails

BOP Tests & Drills: 84-02-20

General

Drill 222 mm hole to 1047 m. Work on SCR.

Hole sloughing intermittently.

Time Break Down

1 Rig Up or Down

2 Drilling 22 1/2

3 Reaming

4 Coring

5 Cond. Hole

6 Trip

7 Rig Ser & BOP 1/2

8 Repairs 3/4

9 Slip & Cut

10 Surveys 1/2

11 Logging

12 Run Csg & Cement

13 WOC

14 Nipple Up

15 Test BOP

16 DST

17 Plug Back

18 Squeeze Cement

19 Fishing

20 Dir. Work

21 Clean to Bottom

DEPTH 06:00 - 1070 OPERATION: Drill

OPNS Forecast Drill Dummy trip Drill

Bottom Hole Assembly Bit, NBR, DC.

Persons in Camp 19 Natives 3

Weather Clear Temp -10

Costs: Daily: 9,755 Cum: 866,332

PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date 84-02-23 Days 18

Supervisor Al MacNair Contractor Spartan 20

Depth @ 2400 hrs 1138 Hrs on Btm 21 3/4 Progress 91 Operation Drill

Last Casing Depth: 500 Size: 244

Bit No 3 Depth Out in Wt on Bit 18 Condition Run

Size 222 Metres 246 RPM 65-70 Serial # EB9916

Type F-2 Hours 58 1/2 Nozzles 3-14

Bit No _____ Depth Out _____ Wt on Bit _____ Condition _____

Size _____ Metres _____ RPM _____ Serial # _____

Type _____ Hours _____ Nozzles _____

Pump Pres 6000 Strokes 120 L/min 1335 Ann Vel DP 46 DC 76

Surveys 7/8 • at 1076 • at _____ • at _____
• at _____ • at _____ • at _____

Last FLOT Depth: 503 EMD 2250

Mud Wt. 1150 Vis 45 PV 15 YP 5

WL 8.8 pH 9.8 Solids .090

Mud Added Gel 31 sax Poly sec 4 sax Polyguard (4 pails) 95 litres

BOP Tests & Drills: 84-02-20

General

Time Break Down

Drill 222 mm hole to 1076 m - Survey 10 std dummy trip

Tight on 3, 4, 5, 6, 8 std. Clean 12 meters to bottom.

Drill.

1 Rig Up or Down _____

2 Drilling 21 3/4

3 Reaming _____

4 Coring _____

5 Cond. Hole _____

6 Trip 1 1/2

7 Rig Ser & BOP 3

8 Repairs _____

9 Slip & Cut _____

10 Surveys 3

11 Logging _____

12 Run Csg & Cement _____

13 WOC _____

14 Nipple Up _____

15 Test BOP _____

16 DST _____

17 Plug Back _____

18 Squeeze Cement _____

19 Fishing _____

20 Dir. Work _____

21 Clean to Bottom _____

DEPTH 06:00 - 1163 OPERATION: Drill

OPNS Forecast Drill survey Drill

Bottom Hole Assembly Bit NBR, DC, IBS, DC, SS, IBS, 15 - 165 DC, 6 HW

Persons in Camp 18 Natives: 3

Weather Clear Temp -12

Costs: Daily: 12,365 Cum: 878,697

PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date 84-02-24 Days 19

Supervisor Al MacNair Contractor Spartan #20

Depth @ 2400 hrs 1236 Hrs on Btm 22 3/4 Progress 98 Operation Drill

Last Casing Depth: 500 Size: 244

Bit No 3 Depth Out in Wt on Bit 18 Condition Run

Size 222 Metres 346 RPM 65-70 Serial # EB9916

Type F-2 Hours 81 1/2 Nozzles 3-14

Bit No _____ Depth Out _____ Wt on Bit _____ Condition _____

Size _____ Metres _____ RPM _____ Serial # _____

Type _____ Hours _____ Nozzles _____

Pump Pres 7000 Strokes 120 L/min 1335 Ann Vei DP 76 DC 46

Surveys 3/4 • at 1179 • at _____ • at _____
• at _____ • at _____ • at _____

Last FLOT Depth: 503 EMD 2240

Mud Wt. 1130 Vis 45 PV 16 YP 4

WL 8.8 pH 9.5 Solids .093

Mud Added Gel 42 sax Poly sec 6 sax Polyguard 190 L.
Caustic 2 sax Staflo 2 sax WL 100 - 2 sax

BOP Tests & Drills: 84-02-20

General _____ Time Break Down _____

Drill 222 mm hole to 1238 - Drill

_____ 1 Rig Up or Down _____

_____ 2 Drilling 22 3/4

_____ 3 Reaming _____

_____ 4 Coring _____

_____ 5 Cond. Hole _____

_____ 6 Trip _____

_____ 7 Rig Ser & BOP 3/4

_____ 8 Repairs _____

_____ 9 Slip & Cut _____

_____ 10 Surveys ;

_____ 11 Logging _____

_____ 12 Run Csg & Cement _____

_____ 13 WOC _____

_____ 14 Nipple Up _____

_____ 15 Test BOP _____

_____ 16 DST _____

_____ 17 Plug Back _____

_____ 18 Squeeze Cement _____

_____ 19 Fishing _____

_____ 20 Dir. Work _____

_____ 21 Clean to Bottom _____

DEPTH 06:00 - 1262 OPERATION: Drill

OPNS Forecast Drill survey Drill

Bottom Hole Assembly Bit, NBR, DC, IBS, DC, SS, BS, 15 - 165 DC, 6 HW

Persons in Camp: 19 Natives: 3

Weather Clear Temp -3

Costs: Daily: 11,401 Cum: 890,098

PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date 02-25-84 Days 20

Supervisor Al MacNair Contractor Spartan #20

Depth @ 2400 hrs 1322 Hrs on Btm 23 1/2 Progress 86 Operation Drill

Last Casing Depth: 500 Size: 244

Bit No 3 Depth Out in Wt on Bit 18-19 Condition Run

Size 222 Metres 430 RPM 65-70 Serial # EB 9916

Type F-2 Hours 104 1/2 Nozzles 3-14

Bit No _____ Depth Out _____ Wt on Bit _____ Condition _____

Size _____ Metres _____ RPM _____ Serial # _____

Type _____ Hours _____ Nozzles _____

Pump Pres 5700 Strokes 100 L/min 1100 Ann Vel DC 70 DP 39

Surveys 2 • at 1322 • at _____ • at _____
• at _____ • at _____ • at _____

Last FLOT Depth: 503 EMD 2250

Mud Wt. 1145 Vis 45 PV 15 YP 3

WL 6.5 pH 9.5 Solids .087

Mud Added Gel 42 sax Poly sec 6 sax Polyguard 190 L.
Caustic 2 sax Staflo 1 sax WL-100 sax

BOP Tests & Drills: 84-02-24 - B.O.P. Drill - Men in position, 1 min. 10 sec.

General _____ Time Break Down

Drill 222 mm hole to 1322 Survey Drill

_____ 1 Rig Up or Down _____

_____ 2 Drilling _____

_____ 3 Reaming 23 1/2

_____ 4 Coring _____

_____ 5 Cond. Hole _____

_____ 6 Trip _____

_____ 7 Rig Ser & BOP 3/4

_____ 8 Repairs _____

_____ 9 Slip & Cut _____

_____ 10 Surveys _____

_____ 11 Logging _____

_____ 12 Run Csg & Cement _____

_____ 13 WOC _____

_____ 14 Nipple Up _____

_____ 15 Test BOP _____

_____ 16 DST _____

_____ 17 Plug Back _____

_____ 18 Squeeze Cement _____

_____ 19 Fishing _____

_____ 20 Dir. Work _____

_____ 21 Clean to Bottom _____

DEPTH 06:00 - 1342 OPERATION: Drill

OPNS Forecast Drill Trip Drill

Bottom Hole Assembly Bit, NBR, DC, IBS, DC, SS, IBS, 15 - 165 DC, 6 HW

Persons in Camp: 19 Natives: 3

Weather Clear Temp -10

Costs: Daily: 11,345 Cum: 901,443 PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date 84-02-26 Days 21

Supervisor Al MacNair Contractor Spartan #20

Depth @ 2400 hrs 1372 Hrs on Btm 13 3/4 Progress 50 Operation RIH

Last Casing Depth: 500 Size: 244

Bit No 3 Depth Out 1372 Wt on Bit 16-19 Condition 2-3-I

Size 222 Metres 480 RPM 65-70 Serial # EB 9916

Type F-2 Hours 117 1/2 Nozzles 3-14

Bit No 4 Depth Out 16 Wt on Bit 15-18 Condition Run

Size 222 Metres 16 RPM 65-70 Serial # DO 3537

Type FP 51A Hours 5 3/4 Nozzles 3-12

Pump Pres 7400 Strokes 100 L/min 1100 Ann Vel DP 38
DC 63

Surveys 1 • at 1372 • at • at
• at • at • at

Last FLOT Depth: 503 EMD 2250

Mud Wt 1150 Vis 45 PV 15 YP 2

WL 6.9 pH 9 Solids .093

Mud Added Gel 14 sax Poly sec 2 sax Caustic 1 sax Staflo 1 sax
WI-100 1 sax

BOP Tests & Drills: 84-02-24

General

Time Break Down

Drill 222 mm hole to 1372. Circ. BH smpl. Drop survey
POH. Change shock sub. NBR. RIH Slip and cut drilling
line. Clean 3 m to bottom. Drill
Clean out Koomey system - fill and recharge with
clean oil.

1 Rig Up or Down
2 Drilling 13 3/4
3 Reaming
4 Coring
5 Cond. Hole 3/4
6 Trip 6
7 Rig Ser & BOP 3
8 Repairs
9 Slip & Cut 3/4
10 Surveys 3
11 Logging
12 Run Csg & Cement
13 WOC
14 Nipple Up
15 Test BOP
16 DST
17 Plug Back
18 Squeeze Cement
19 Fishing
20 Dir. Work
21 Clean to Bottom 3
22 Handle tools 1 3/4

DEPTH 06:00 - 1388 OPERATION: Drill

OPNS Forecast Drill

Bottom Hole Assembly Bit, NBR, DC, IBS, DC, SS, IBS, 15 - 165 DC, 6 HW

Persons in Camp: 21 Natives: 3

Weather Clean Temp -12

Costs: Daily: 18,628 Cum: 940,588

PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake G-38 Date 84-02-27 Days 22

Supervisor Walt Tkachuk Contractor Spartan 20

Depth @ 2400 hrs 1429 Hrs on Btm 22 Progress 57 Operation Drill

Last Casing Depth: 500 Size: 244

Bit No 4 Depth Out in Wt on Bit 15-16 Condition Run

Size 222 Metres 57 RPM 60-70 Serial # D03537

Type FP 51A Hours 23 Nozzles 3 - 9.5

Bit No _____ Depth Out _____ Wt on Bit _____ Condition _____

Size _____ Metres _____ RPM _____ Serial # _____

Type _____ Hours _____ Nozzles _____

Pump Pres 7500 Strokes 100 L/min 1100 Ann Vel DP 38
DC 63

Surveys 1 1/2 ° at 1416 ° at _____ ° at _____
° at _____ ° at _____ ° at _____

Last FLOT Depth: 503 EMD 2250

Mud Wt. 1150 Vis 38 PV 15 YP 2

WL 7.5 pH 10.0 Solids .093

Mud Added Gel 70 sax Poly sec 2 sax Caustic 1 sax
Staflor 1 sax W-1100 1 sax

BOP Tests & Drills: 84-01-24

General

Time Break Down

Break Circ. c/n 3 m to bottom. Drill ahead to 1416

Survey. Drill. Rig service. B.O.P. check

Drill at 3.3 m/hr.

DEPTH 06:00 - 1450 OPERATION: Drill

OPNS Forecast Drill - Jack derrick

Bottom Hole Assembly Bit, NBR, DC, IBS, DC, SS, IBS, 15-165 DC, 6HW

Persons in Camp: 22 Natives: 3

Weather Clear Temp -14

Costs: Daily: 13,132 Sum: 953,720

DAILY DRILLING REPORT

Well Name Northcor et al Trainer Lake N-25 Date 84-02-28 Days 23

Supervisor Walt Tkachuk Contractor Spartan #20

Depth @ 2400 hrs 1477 Hrs on Btm 21 3/4 Progress 48 Operation Drill
 Last Casing Depth: 500 Size: 244
 Bit No 4 Depth Out in Wt on Bit 12 Condition Run
 Size 222 Metres 105 RPM 80-85 Serial # E0 3537
 Type FP-51A Hours 44 3/4 Nozzles 3-9.5

Bit No _____ Depth Out _____ Wt on Bit _____ Condition _____
 Size _____ Metres _____ RPM _____ Serial # _____
 Type _____ Hours _____ Nozzles _____

Pump Pres 7500 Strokes 100 L/min 1100 Ann Vel DC 63 DP 38

Surveys 2 ° at 1442 1 7/8 ° at 1460 _____ ° at _____
1 1/2 ° at 1451 1 1/2 ° at 1470 _____ ° at _____

Last FLOT Depth: 503 EMD 2250
 Mud Wt. 1145 Vis 40 PV 12 YP 2
 WL 8.5 pH 10.0 Solids .09

Mud Added Gel 50 sax Polysec 7 sax Caustic 2 sax Staflo 1 sax
WL-100 1 sax Polyguard 20 pails

BOP Tests & Drills: 84-02-24

General

Drill Survey Drill with reduced wt. Survey
every 10 m. Rig service Check B.O.P.s and swaco
choke. Cement under rig with 200 sax cement +16 sax
sawdust.

Drill at 3 m/hr.

DEPTH 06:00 - 1490 OPERATION: Drill

OPNS Forecast Drill

Time Break Down

- 1 Rig Up or Down _____
- 2 Drilling 21 3/4
- 3 Reaming _____
- 4 Coring _____
- 5 Cond. Hole _____
- 6 Trip _____
- 7 Rig Ser & BOP 3/4
- 8 Repairs _____
- 9 Slip & Cut _____
- 10 Surveys 1 1/2
- 11 Logging _____
- 12 Run Csg & Cement _____
- 13 WOC _____
- 14 Nipple Up _____
- 15 Test BOP _____
- 16 DST _____
- 17 Plug Back _____
- 18 Squeeze Cement _____
- 19 Fishing _____
- 20 Dir. Work _____
- 21 Clean to Bottom _____

Bottom Hole Assembly Bit. NBR. DC. IBS. DC. SS. IBS. 15 - 165 DC. 6 HW

Persons in Camp: 26 Natives: 6

Weather Overcast Temp -14

Costs: Daily: 13,804 Cum: 967,524

PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date 84-02-29 Days 24

Supervisor Walt Thachuk Contractor Spartan #20

Depth @ 2400 hrs 1526 Hrs on Btm 21 1/2 Progress 49 Operation Drill
 Last Casing Depth: 500 Size: 244
 Bit No 4 Depth Out in Wt on Bit 10-12 Condition Run
 Size 222 Metres 154 RPM 80 Serial # E0 3537
 Type FP 51A Hours 56 Nozzles 3-9.5

Bit No _____ Depth Out _____ Wt on Bit _____ Condition _____
 Size _____ Metres _____ RPM _____ Serial # _____
 Type _____ Hours _____ Nozzles _____

Pump Pres 7500 Strokes 100 L/min 1100 Ann Vel DP 38
DC 63

Surveys 1 1/2 • at 1470 1 1/2 • at 1490 1 1/8 • at 1520
1 1/2 • at 1480 1 1/2 • at 1510 • at _____

Last FLOT Depth: 503 EMD 2250
 Mud Wt 1140 Vis 40 PV _____ YP _____
 WL 8.5 pH 10.5 Solids _____

Mud Added Gel 42 sax Polysec 6 sax Caustic 3 sax
Polyguard 10 pails (Sawdust 50 sax used in cementing under rig)

BOP Tests & Drills: 84-02-24

General

Drill ahead - Survey every 10 meters.
Rig service check B.O.P. and swaco.
Re-cement under rig matting - complete at 4:30
Drill at 4 m/hr.
 DEPTH 06:00 - 1541 OPERATION: Drill
 OPNS Forecast Drill

Time Break Down

- 1 Rig Up or Down _____
- 2 Drilling 21 1/2
- 3 Reaming _____
- 4 Coring _____
- 5 Cond. Hole _____
- 6 Trip _____
- 7 Rig Ser & BOP 3/4
- 8 Repairs _____
- 9 Slip & Cut _____
- 10 Surveys 2
- 11 Logging _____
- 12 Run Csg & Cement _____
- 13 WOC _____
- 14 Nipple Up _____
- 15 Test BOP _____
- 16 DST _____
- 17 Plug Back _____
- 18 Squeeze Cement _____
- 19 Fishing _____
- 20 Dir. Work _____
- 21 Clean to Bottom _____

Bottom Hole Assembly Bit, NBR, DC, IBS, DC, SS, IBS, 15 - 165 DC 6 HW

Persons in Camp: 26 Natives: 6

Weather Overcast snowing Temp -22

Costs: Daily: 18,698 Cum: 986,222

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date 84-03-01 Days 25

Supervisor Walt Tkachuk Contractor Spartan #20

Depth @ 2400 hrs 1585 Hrs on Btm 21 3/4 Progress 59 Operation Drill
 Last Casing Depth: 500 Size: 244
 Bit No 4 Depth Out in Wt on Bit 14-16 Condition Run
 Size 222 Metres 213 RPM 80 Serial # EO 3537
 Type FP 51A Hours 87 3/4 Nozzles 3 - 9.5

Bit No _____ Depth Out _____ Wt on Bit _____ Condition _____
 Size _____ Metres _____ RPM _____ Serial # _____
 Type _____ Hours _____ Nozzles _____

Pump Pres 7600 Strokes 100 L/min 1100 Ann Vel DC 63 DP 38

Surveys 1 1/8 • at 1520 7/8 • at 1555 _____ • at _____
1 1/2 • at 1547 7/8 • at 1582 _____ • at _____

Last FLOT Depth: 503 EMD 2250
 Mud Wt. 1125 Vis 41 PV 12 YP 1
 WL 9.0 pH 10.5 Solids .09

Mud Added Gel 56 sax Polysec 8 sax Caustic 5 sax Polyguard 10 pails
Staflor 1 sax WL-100 1 sax

BOP Tests & Drills: 84-02-24

General

Drill ahead. Check B.O.P. & Swaco & Survey.
Jack up rig to level

Drill at 3 1/2 m/hr.
 DEPTH 06:00 - 1599 OPERATION: Drill
 OPNS Forecast Drill

Time Break Down

- 1 Rig Up or Down _____
- 2 Drilling 21 3/4
- 3 Reaming _____
- 4 Coring _____
- 5 Cond. Hole _____
- 6 Trip _____
- 7 Rig Ser & BOP 3/4
- 8 Repairs _____
- 9 Slip & Cut _____
- 10 Surveys 1 1/2
- 11 Logging _____
- 12 Run Csg & Cement _____
- 13 WOC _____
- 14 Nipple Up _____
- 15 Test BOP _____
- 16 DST _____
- 17 Plug Back _____
- 18 Squeeze Cement _____
- 19 Fishing _____
- 20 Dir. Work _____
- 21 Clean to Bottom _____

Bottom Hole Assembly Bit, NBR, DC, IBS, DC, SS, IBS, 15 - 165 DC, 6 HW

Persons in Camp: 21 Natives: 3

Weather: Overcast Calm Temp -22

Costs: Daily: 20,047 Cum: 1,006,269

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date 84-03-02 Days 26

Supervisor Walt Tkachuk Contractor Spartan #20

Depth @ 2400 hrs 1642 Hrs on Btm 22 1/2 Progress 57 Operation Drill

Last Casing Depth: 500 Size: 244

Bit No 4 Depth Out Wt on Bit 14 Condition Run

Size 222 Metres 270 RPM 80 Serial # E03537

Type FP 51A Hours 110 Nozzles 3-9.5

Bit No Depth Out Wt on Bit Condition

Size Metres RPM Serial #

Type Hours Nozzles

Pump Pres 7600 Strokes 100 L/min 1100 Ann Vel DC 38

Surveys 7/8 ° at 1582 ° at ° at

7/8 ° at 1612 ° at ° at

Last FLOT Depth: 503 EMD 2250

Mud Wt. 1170 Vis 48 PV YP

WL 7.0 pH 9.5 Solids

Mud Added Gel 63 sax Polysac 9 sax Caustic 2 sax Staflo 1 sax

WL-100 1 sax

BOP Tests & Drills: 84-02-24

General Time Break Down

Drill Survey Drill 1 Rig Up or Down

Check B.O.P. & Swaco 2 Drilling 22 1/2

 3 Reaming

 4 Coring

 5 Cond. Hole

 6 Trip

 7 Rig Ser & BOP 3/4

 8 Repairs

 9 Slip & Cut

 10 Surveys 1

 11 Logging

 12 Run Csg & Cement

 13 WOC

 14 Nipple Up

 15 Test BOP

 16 DST

 17 Plug Back

 18 Squeeze Cement

 19 Fishing

 20 Dir. Work

 21 Clean to Bottom

Bottom Hole Assembly Bit, NBR, DC, IBS, DC, SS, IBS, 15-165 DC, 6 HW

Persons in Camp: 19 Natives: 2

Weather Overcast Temp -18

Costs: Daily: 12,893 Cum: 1,019,162 PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date 84-03-03 Days 27

Supervisor Walt Tkachuk Contractor Spartan #20

Depth @ 2400 hrs 3573 Hrs on Btm 14 1/2 Progress 31 Operation Drill

Last Casing Depth: 500 Size: 244

Bit No 4 Depth Out 1660 Wt on Bit 14 Condition 1-1-L

Size 222 Metres 288 RPM 80 Serial # E03537

Type EP 51A Hours 11 3/4 Nozzles 3-9.5

Bit No 5 Depth Out _____ Wt on Bit 12 Condition Run

Size 222 Metres 13 RPM 62-80 Serial # 93756

Type J-11 Hours 6 3/4 Nozzles 3-503

Pump Pres 7600 Strokes 100 L/min 1100 Ann Vel DC 63

Surveys 7/8 : at 1651 : at : at
: at : at : at

Last FLOT Depth: _____ END _____

Mud Wt. 1150 Vis 50 PV 13 YP 2.5
 Wt. 8.0 pH 8.5 Solids 0.96

WL 8.0 pH 9.5 Solids .090

Mud Added Gel 44 sax Caustic 3 sax Polysec 6 sax Staflo 1 sax
WL-100 1 sax

BOP Tests & Drills: 84-03-03

General

Time Break Down

Drill to 1660. Drop survey, POH. First stand tite. 1 Rig Up or Down _____

S.L.M. 1.4m diff. Close blind rams - Check Swaco

Check hydril and pipe rams. Slip & Cut Drilling 4 Coring _____

line. RIH - No fill. Drill.

7 Big Ser & BOP 3/4

8 Repairs _____

9 Slip & Cut 1 3/4

10	Surveys	12
11	Logging	

12 Run Csg & Cement

13 WOC

14 Nipple Up _____
15 Test B03 _____

15 Test BOP _____

16 DST _____

Drill at 2.5 m/hr

18 Squeeze Cement _____

DEPTH 06:00 - 1687 OPERATION: DFTT 19 Fishing
20 Dir Work

OPNS Forecast Drill

Bottom Hole Assembly Bit, NBR, DC, IBS, DC, SS, IBS, 15-165 DC, 6 HW

Persons in Camp: 21 Natives: 2

Weather Clear Temp -21

Costs: Daily: 17,799 Cum: 1,036,961

PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date 84-03-04 Days 28

Supervisor Walt Tkachuk Contractor Spartan #20

Depth @ 2400 hrs 1745 Hrs on Btm 22 1/2 Progress 72 Operation Drill

Last Casing Depth: 500 Size: 244

Bit No 5 Depth Out Wt on Bit 14 Condition Run

Size 222 Metres 85 RPM 80 Serial # 93756

Type J-11 Hours 29 1/2 Nozzles 3-9.5

Bit No Depth Out Wt on Bit Condition

Size Metres RPM Serial #

Type Hours Nozzles

Pump Pres 7600 Strokes 100 L/min 1100 Ann Vel DC 38
DC 63

Surveys 7/8 * at 1698 * at * at
* at * at * at

Last FLOT Depth: 503 EMD 1834

Mud Wt. 1150 Vis 54 PV 18 YP 4.5

WL 7.5 pH 10.0 Solids .096

Mud Added Gel 48 sax Polysec 6 sax Caustic 1 sax WL-100 1 sax
Stafln 1 sax Polyguard 10 pails.

BOP Tests & Drills: 84-03-04 - Men in position - Kelly picked up hydril
closed 120 sec.

General Time Break Down

Drill - Survey, B.O.P. Drill, Drill.

 1 Rig Up or Down

 2 Drilling 22 1/2

 3 Reaming

 4 Coring

 5 Cond. Hole

 6 Trip

 7 Rig Ser & BOP 1

 8 Repairs

 9 Slip & Cut

 10 Surveys 3

 11 Logging

 12 Run Csg & Cement

 13 WOC

 14 Nipple Up

 15 Test BOP

 16 DST

 17 Plug Back

 18 Squeeze Cement

 19 Fishing

 20 Dir. Work

 21 Clean to Bottom

Bottom Hole Assembly Bit, NBR, DC, IBS, DC, SS, IBS, 15-165 DC, 6 HW.

Persons in Camp: 17 Natives: 2

Weather Clear Temp -17

Costs: Daily: 13,546 Cum: 1,050,507

PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date 84-03-05 Days 29

Supervisor Walt Tkachuk Contractor Spartan #20

Depth @ 2400 hrs 1811 Hrs on Btm 22 3/4 Progress 66 Operation Drill

Last Casing Depth: 500 Size: 244

Bit No 5 Depth Out Wt on Bit 14 Condition Run

Size 222 Metres 151 RPM 80 Serial # 93756

Type J-11 Hours 52 Nozzles 3-19.5

Bit No Depth Out Wt on Bit Condition

Size Metres RPM Serial #

Type Hours Nozzles

Pump Pres 7600 Strokes 100 L/min 1100 Ann Vel DC 63 DP 38

Surveys 7/8 • at 1764 • at • at
7/8 • at 1829 • at • at

Last FLOT Depth: 503 EMD 2250

Mud Wt. 1130 Vis 46 PV YP

WL 6.5 pH 10.0 Solids

Mud Added Gel 65 sax Polysec 6 sax. Caustic 2 sax

BOP Tests & Drills: 84-03-04

General

Time Break Down

<u>Drill to 1764, Survey, Drill</u>	1 Rig Up or Down <u> </u>
<u>Check B.O.P. & Swaco</u>	2 Drilling <u>22 3/4</u>
<u> </u>	3 Reaming <u> </u>
<u> </u>	4 Coring <u> </u>
<u> </u>	5 Cond. Hole <u> </u>
<u> </u>	6 Trip <u> </u>
<u> </u>	7 Rig Ser & BOP <u>3/4</u>
<u> </u>	8 Repairs <u> </u>
<u> </u>	9 Slip & Cut <u> </u>
<u> </u>	10 Surveys <u> </u>
<u> </u>	11 Logging <u> </u>
<u> </u>	12 Run Csg & Cement <u> </u>
<u> </u>	13 WOC <u> </u>
<u> </u>	14 Nipple Up <u> </u>
<u> </u>	15 Test BOP <u> </u>
<u> </u>	16 DST <u> </u>
<u> </u>	17 Plug Back <u> </u>
<u> </u>	18 Squeeze Cement <u> </u>
<u> </u>	19 Fishing <u> </u>
<u> </u>	20 Dir. Work <u> </u>
<u> </u>	21 Clean to Bottom <u> </u>

Drill at 3.0 m/hr.

DEPTH 06:00 - 1829 OPERATION: Drill

OPNS Forecast Drill - Expect to reach casing point by
tomorrow morning.

Bottom Hole Assembly Bit, NBR, DC, IBS, DC, SS, IBS, 15-165 DC, 6 HW.

Persons in Camp: 19 Natives: 2

Weather Overcast Temp -17

Costs: Daily: 13,953 Cum: 1,064,460

PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date 84-03-06 Days 30

Supervisor Wali Tkachuk Contractor Spartan 20

Depth @ 2400 hrs 1877 Hrs on Btm 22 3/4 Progress 66 Operation Drill

Last Casing Depth: 500 Size: 244

Bit No 5 Depth Out in Wt on Bit 14 Condition Run

Size 222 Metres 217 RPM 80 Serial # 93756

Type J-11 Hours 74 3/4 Nozzles 3 - 9.5

Bit No _____ Depth Out _____ Wt on Bit _____ Condition _____

Size _____ Metres _____ RPM _____ Serial # _____

Type _____ Hours _____ Nozzles _____

Pump Pres 7600 Strokes 100 L/min 1100 Ann Vel DC 63 DP 38

Surveys 7/8 ° at 1830 ° at _____ ° at _____
° at _____ ° at _____ ° at _____

Last FLOT Depth: 503 EMD 2250

Mud Wt. 1145 Vis 49 PV 27 YP 11

WL 6.0 pH 10.0 Solids .087

Mud Added Gel 69 sax Polysec 10 sax Caustic 2 sax Staflo 3 sax
WL-100 3 sax

BOP Tests & Drills: 84-03-04

General

Time Break Down

<u>Drill, Survey, Rig service, check B.O.P., Drill</u>	1 Rig Up or Down _____
_____	2 Drilling <u>22 3/4</u>
_____	3 Reaming _____
_____	4 Coring _____
_____	5 Cond. Hole _____
_____	6 Trip _____
_____	7 Rig Ser & BOP <u>3/4</u>
_____	8 Repairs _____
_____	9 Slip & Cut _____
_____	10 Surveys <u>3</u>
_____	11 Logging _____
_____	12 Run Csg & Cement _____
_____	13 WOC _____
_____	14 Nipple Up _____
_____	15 Test BOP _____
_____	16 DST _____
_____	17 Plug Back _____
_____	18 Squeeze Cement _____
_____	19 Fishing _____
_____	20 Dir. Work _____
_____	21 Clean to Bottom _____

DEPTH 06:00 - 1889 OPERATION: Circ. Sample

OPNS Forecast Drill to 1894, Circ. Sample.

Wipertrip log.

Bottom Hole Assembly Bit, NBR, DC, IBS, DC, SS, IBS, 15 - 165 DC, 6 HW.

Persons in Camp: 19 Natives: 2

Weather Overcast lite snow Temp -15

Costs: Daily: 13,474 Cum: 1,079,934

PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date 84-03-07 Days 31

Supervisor Walt Tkachuk Contractor Spartan 20

Depth @ 2400 hrs 1896 Hrs on Btm 8 Progress 19 Operation Logging

Last Casing Depth: 500 Size: 244

Bit No 5 Depth Out 1896 Wt on Bit 14 Condition 1-1-1

Size 222 Metres 236 RPM 80 Serial # 93756

Type J-11 Hours 82 3/4 Nozzles 3-9.5

Bit No _____ Depth Out _____ Wt on Bit _____ Condition _____

Size _____ Metres _____ RPM _____ Serial # _____

Type _____ Hours _____ Nozzles _____

Pump Pres 7600 Strokes 100 L/min 1100 Ann Vel DP 38
DC 63

Surveys _____ 1° at 1895 _____ ° at _____ ° at _____
_____ ° at _____ ° at _____ ° at _____

Last FLOT Depth: 503 EMD 2250

Mud Wt. 1155 Vis 55 PV _____ YP _____

WL 5.0 pH 9.5 Solids _____

Mud Added Gel 38 sax Polysec 5 sax Caustic 3 sax Staflo 3 sax
WL-100 3 sax

BOP Tests & Drills: 84-03-06

General

Rig service B.O.P. Check - Drill to 1889 Circ.
sample. Drill to 1896. Circ. sample Condition mud.
Flow check POH to shoe. RIH - 30 m fill on bottom
Condition mud & Hole. POH 15 stds. RIH No fill. Circ.
2 1/2 hrs. POH to log. SIM. No correction, P.U. Sonic
failed. Run in with DILL - Schlumberger depth 1894.5

Time Break Down

- 1 Rig Up or Down _____
- 2 Drilling 8
- 3 Reaming _____
- 4 Coring _____
- 5 Cond. Hole 4 1/2
- 6 Trip 8
- 7 Rig Ser & BOP 3
- 8 Repairs _____
- 9 Slip & Cut _____
- 10 Surveys _____
- 11 Logging _____
- 12 Run Csg & Cement _____
- 13 WOC _____
- 14 Nipple Up _____
- 15 Test BOP _____
- 16 DST _____
- 17 Plug Back _____
- 18 Squeeze Cement _____
- 19 Fishing _____
- 20 Dir. Work _____
- 21 Clean to Bottom 1 1/2
- 22 Circ. samples 2

DEPTH 06:00 - 1895 OPERATION: Logging

OPNS Forecast Log and run casing

Bottom Hole Assembly --

Persons in Camp: 23 Natives: 2

Weather Overcast Temp -17

Costs: Daily: 13,516 Cum: 1,091,450

PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date 84-03-09 Days 33

Supervisor Jim LeGrandeur Contractor Spartan #20

Depth @ 2400 hrs 1896 Hrs on Btm -- Progress -- Operation Circ. casing to bottom
 Last Casing Depth: 500 Size: 244
 Bit No Depth Out Wt on Bit Condition
 Size Metres RPM Serial #
 Type Hours Nozzles

Bit No Depth Out Wt on Bit Condition
 Size Metres RPM Serial #
 Type Hours Nozzles

Pump Pres Strokes 90 L/min 990 Ann Vel

Surveys ° at ° at ° at
 ° at ° at ° at

Last FLOT Depth: 503 EMD 2250
 Mud Wt. 1150 Vis 55 PV 23 YP 7.5
 WL 7 pH 9.5 Solids .09

Mud Added Gel 10 sax Caustic 2 sax Polysec 1 sax

BOP Tests & Drills: 84-03-06

General

Time Break Down

Circ. cond. mud. POH. lay down DP & BHA Retrieve
wear bushing & change to 7" rams. Run 178mm casing
Wash to bottom 1880-1892.
Ran 66 its. 178 mm 34.22 kg/m K-55 LT&C and 85 its.
178 mm 29.76 kg/m K-55 ST&C.
Total Length 1896.87

1 Rig Up or Down
 2 Drilling
 3 Reaming
 4 Coring
 5 Cond. Hole 1 1/2
 6 Trip 7 1/2
 7 Rig Ser & BOP
 8 Repairs
 9 Slip & Cut
 10 Surveys
 11 Logging
 12 Run Csg & Cement 11 1/2
 13 WOC
 14 Nipple Up
 15 Test BOP
 16 DST
 17 Plug Back
 18 Squeeze Cement
 19 Fishing
 20 Dir. Work
 21 Clean to Bottom 2 1/2
 22 Chg rams 1 1/2

DEPTH 06:00 - 1895 OPERATION: Prepare to cement
 OPNS Forecast: Cement casing, nipple up.

Bottom Hole Assembly --

Persons in Camp: 31 Natives: 2

Weather Clear Temp -6

Costs: Daily: 12,195 Cum: 1,167,682

PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Norhcor et al Trainor Lake N-25 Date 84-03-08 Days 32

Supervisor Jim LeGrandeur Contractor Spartan #20

Depth @ 2400 hrs 1896 Hrs on Btm -- Progress -- Operation Circ. hole
 Last Casing Depth: 500 Size: 244 to run casing.
 Bit No 5 Depth Out 1896 Wt on Bit -- Condition 1-1-1
 Size 222 Metres 236 RPM -- Serial # 93756
 Type J-11 Hours 82 3/4 Nozzles 3-9.5

Bit No Depth Out Wt on Bit Condition
 Size Metres RPM Serial #
 Type Hours Nozzles

Pump Pres 8000 Strokes 100 L/min 1100 Ann Vel DC 63 DP 38

Surveys 1° at 1895 ° at ° at
 ° at ° at ° at

Last FLOT Depth: 503 EMD 2250
 Mud Wt. 1155 Vis 75 PV 31 YP 13
 WL 6.3 pH 8.5 Solids .083

Mud Added Gel 44 sax Polysec 3 sax Polyguard 21 pails Staflo 1 sax
WL-100 1 sax Caustic 1 sax

BOP Tests & Drills: 84-03-06

General

P.O.H. to log ran DiLL - 1884 to 501 CNL-LDT 1884 -
 501. RIH with BHA. Cut & slip line. RIH clean 17 m
 to bottom. Circ. condition mud.

Time Break Down

- 1 Rig Up or Down
- 2 Drilling
- 3 Reaming
- 4 Coring
- 5 Cond. Hole 3 1/2
- 6 Trip 5 1/2
- 7 Rig Ser & BOP
- 8 Repairs
- 9 Slip & Cut 1
- 10 Surveys
- 11 Logging 13
- 12 Run Csg & Cement
- 13 WOC
- 14 Nipple Up
- 15 Test BOP
- 16 DST
- 17 Plug Back
- 18 Squeeze Cement
- 19 Fishing
- 20 Dir. Work
- 21 Clean to Bottom 1

DEPTH 06:00 - 1895 OPERATION: Lay down drill
 OPNS Forecast Run Casing. pipe

Bottom Hole Assembly Bit, NBR, DC, IBS, DC, SS, IBS, 15-165 DC, 6 HW

Persons in Camp: 27 Natives: 2

Weather Clear Temp -15

Costs: Daily: 64.037 Cum: 1,155.487

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date 84-03-10 Days 34

Supervisor Jim LeGrandeur Contractor Spartan #20

Depth @ 2400 hrs 1896 Hrs on Btm _____ Progress _____ Operation Cut Casing.

Last Casing Depth: 1896 Size: 178

Bit No _____ Depth Out _____ Wt on Bit _____ Condition _____

Size _____ Metres _____ RPM _____ Serial # _____

Type _____ Hours _____ Nozzles _____

Bit No _____ Depth Out _____ Wt on Bit _____ Condition _____

Size _____ Metres _____ RPM _____ Serial # _____

Type _____ Hours _____ Nozzles _____

Pump Pres _____ Strokes _____ L/min _____ Ann Vel _____

Surveys _____ ° at _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____ ° at _____

Last FLOT Depth: _____ EMD _____

Mud Wt. 1140 Vis 53 PV 23 YP 7.5

WL 6.0 pH 9.0 Solids .09

Mud Added Gel 9 sax Peitex 5 sax Defoamer 20 liters (used in cement)

BOP Tests & Drills:

General

Time Break Down

<u>Circ. 178mm casing 1892-1896. Circ. cond. mud, mix</u>	1	<u>Rig Up or Down</u>
<u>retarder cement 1st stage. with 1.6m³ sapp water-12 tonnes</u>	2	<u>Drilling</u>
<u>(13.9m³) 0-1-6 Class "G" density 1595 kg/m³ + 26 tonnes</u>	3	<u>Reaming</u>
<u>(19.7m³) 0-1-0 + .75% CFR-2 + .2% HR-4. 1895 kg/m³. Drop</u>	4	<u>Coring</u>
<u>dart - Displ with 39m³ mud. Bump plug at 8000 kPa. Drop</u>	5	<u>Cond. Hole 3½</u>
<u>bomb. open DV Tool. Circ. wait on cement. Stage #2 1.6m³</u>	6	<u>Trip</u>
<u>H₂O. 20 tonnes (23m³) 0-1-6 Class "G" 1595 kg/m³ Drop</u>	7	<u>Rig Ser & BOP</u>
<u>rop plug & Displ with 15.5m³ mud. Bump plug with 8000</u>	8	<u>Repairs</u>
<u>kPa. Press up to 16,000 kPa. bleed press. 7.9m³ cement</u>	9	<u>Slip & Cut</u>
<u>returns. Chg rams to 3½. Set slips with 85,000 daN.</u>	10	<u>Surveys</u>
<u>Cut casing, install bit guide. Press. test blind rams</u>	11	<u>Logging</u>
<u>1500 kPa & 10,500 kPa OK.</u>	12	<u>Run Csg & Cement 7½</u>
<u>DEPTH 06:00 - 189 OPERATION: Pick up 4 3/4 DC</u>	13	<u>WOC 6</u>
<u>OPNS Forecast: Pick up 89mm Drill string.</u>	14	<u>Nipple Up 6½</u>
	15	<u>Test BOP</u>
	16	<u>DSI</u>
	17	<u>Plug Back</u>
	18	<u>Squeeze Cement</u>
	19	<u>Fishing</u>
	20	<u>Dir. Work</u>
	21	<u>Clean to Bottom 1</u>

Bottom Hole Assembly _____

Persons in Camp: 25 Natives: 3

Weather Overcast Temp -17

Costs: Daily: 97,323 Cum: 1,265,005

PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date 84-03-11 Days 35

Supervisor Jim LeGrandeur Contractor Spartan #20

Depth @ 2400 hrs 1895 Hrs on Btm _____ Progress _____ Operation Press test
 Last Casing Depth: 1896 Size: 178 B.O.P.
 Bit No 6 Depth Out _____ Wt on Bit _____ Condition _____
 Size 155 Metres _____ RPM _____ Serial # D02663
 Type Y21 Hours _____ Nozzles _____

Bit No _____ Depth Out _____ Wt on Bit _____ Condition _____
 Size _____ Metres _____ RPM _____ Serial # _____
 Type _____ Hours _____ Nozzles _____

Pump Pres 3500 Strokes 55 L/min 600 Ann Vel DP 45
DC 76

Surveys _____ ° at _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____ ° at _____

Last FLOT Depth: 1898 EMD 1644
 Mud Wt. 1080 Vis 38 PV _____ YP _____
 WL _____ pH _____ Solids _____

Mud Added _____

BOP Tests & Drills: 84-03-11

General

Time Break Down

Press. test blind rams 1500 kPa - 10,500 kPa - OK. Pick
up BHA and 89mm DP. Tag DV Tool at 738.5m Drill out DV
Tool. Press test 1500 kPa & 10,500 kPa. OK. Rig
service. P.U. 89mm DP to 1880m. Rig out lay down
machine. Drill out float collar. Press test 89mm rams
& HCR valve.

- 1 Rig Up or Down _____
- 2 Drilling _____
- 3 Reaming _____
- 4 Coring _____
- 5 Cond. Hole _____
- 6 Trip 1+10 = 11
- 7 Rig Ser & BOP 3
- 8 Repairs _____
- 9 Slip & Cut _____
- 10 Surveys _____
- 11 Logging _____
- 12 Run Csg & Cement _____
- 13 WOC _____
- 14 Nipple Up 5
- 15 Test BOP 1 3/4
- 16 DST _____
- 17 Plug Back _____
- 18 Squeeze Cement _____
- 19 Fishing _____
- 20 Dir. Work _____
- 21 Clean to Bottom _____
- 22 Drill out DV _____

DEPTH 06:00 - 1898 OPERATION: Run FLOT

OPNS Forecast: POH to change bits - Drill

& Float 5 3/4

Bottom Hole Assembly _____

Persons in Camp: 25 Natives: 3

Weather Overcast Temp -17

Costs: Daily: 23,276 Cum: 1,288,281

PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date 84-03-12 Days 36

Supervisor Jim LeGrandeur Contractor Spartan #20

Depth @ 2400 hrs 1912 Hrs on Btm 10 3/4 Progress 16 Operation Drill

Last Casing Depth: 1896 Size: 178

Bit No 6 Depth Out 1903 Wt on Bit 8 Condition 5-6-1

Size 155 Metres 7 RPM 60 Serial # D02663

Type Y21 Hours 3 3/4 Nozzles Open

Bit No 7 Depth Out Wt on Bit 10 Condition Run

Size 155 Metres 9 RPM 55 Serial # CW6845

Type E-3 Hours 7 Nozzles Open

Pump Pres 3300 Strokes 55 L/min 600 Ann Vel DP 45
DC 76

Surveys ° at ° at ° at
 ° at ° at ° at

Last FLOT Depth: 1898 EMD 1644

Mud Wt. 1070 Vis 40 PV 6 YP 0

WL 9 pH 11 Solids .042

Mud Added --

BOP Tests & Drills: 84-03-11

General

Time Break Down

Press manifold and choke - 1500 kPa & 10,500 kPa Drill 1 Rig Up or Down

shoe at 1896 - Drill to 1898 - Circ. Run FLOT - Drill to 2 Drilling 10 3/4

1903 Circ. - POH SLM. .49 diff - no correction. RIH 3 Reaming

with DC Slip & cut drilling line. RIH Drill 1903-1912. 4 Coring

5 Cond. Hole

6 Trip 6 1/2

7 Rig Ser & BOP 1

8 Repairs

9 Slip & Cut 1

10 Surveys

11 Logging

12 Run Csg & Cement

13 WOC

14 Nipple Up

15 Test BOP 1 1/2

16 DST

17 Plug Back

18 Squeeze Cement

19 Fishing

20 Dir. Work

21 Clean to Bottom

22 Drill shoe

23 FLOT 3 3/4

Bottom Hole Assembly Bit, Bit sub, 21 - 4 3/4 DC Dart sub,

Persons in Camp: 25 Natives: 3

Weather Overcast Calm Temp -19

Costs: Daily: 18,516 Cum: 1,306,796

PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date 84-03-13 Days 37

Supervisor Jim LeGrandeur Contractor Spartan #20

Depth @ 2400 hrs 1958 Hrs on Btm 21 3/4 Progress 46 Operation Drill

Last Casing Depth: 1896 Size: 178

Bit No 7 Depth Out Wt on Bit 10 Condition Run

Size 155 Metres 55 RPM 55-60 Serial # CW6845

Type F-3 Hours 28 3/4 Nozzles Open

Bit No Depth Out Wt on Bit Condition

Size Metres RPM Serial #

Type Hours Nozzles

Pump Pres 3300 Strokes 55 L/min 600 Ann Vel DP 45
DC 76

Surveys ° at ° at ° at
 ° at ° at ° at

Last FLOT Depth: 1898 EMD 16

Mud Wt. 1065 Vis 38 PV 13 YP 3.5

WL 8.5 pH 10.5 Solids .039

Mud Added Gel 39 sax Caustic 1 sax

BOP Tests & Drills: 84-03-12

General

Time Break Down

<u>Drill Rig Service & B.O.P. Drill to 1934 m. Circ.</u>	1 Rig Up or Down <u> </u>
<u>bottoms up for drilling break. Drill to 1952, work</u>	2 Drilling <u>21 3/4</u>
<u>tite hole 1934-1952 m no corrections. Drill 1958 m.</u>	3 Reaming <u> </u>
<u> </u>	4 Coring <u> </u>
<u> </u>	5 Cond. Hole <u>1</u>
<u> </u>	6 Trip <u> </u>
<u> </u>	7 Rig Ser & BOP <u>3</u>
<u> </u>	8 Repairs <u> </u>
<u> </u>	9 Slip & Cut <u> </u>
<u> </u>	10 Surveys <u> </u>
<u> </u>	11 Logging <u> </u>
<u> </u>	12 Run Csg & Cement <u> </u>
<u> </u>	13 WOC <u> </u>
<u> </u>	14 Nipple Up <u> </u>
<u> </u>	15 Test BOP <u> </u>
<u> </u>	16 DST <u> </u>
<u>Drill at 4.5 - 5m/hr.</u>	17 Plug Back <u> </u>
<u> </u>	18 Squeeze Cement <u> </u>
<u> </u>	19 Fishing <u> </u>
<u> </u>	20 Dir. Work <u> </u>
<u> </u>	21 Clean to Bottom <u> </u>
<u> </u>	22 Circ. sample <u>3/4</u>

DEPTH 06:00 - 1979 OPERATION: Drill

OPNS Forecast: Drill

Bottom Hole Assembly Bit, BS, 21-121mm Dart sub DP

Persons in Camp: 25 Natives: 3

Weather Overcast Temp -22

Costs: Daily: 90,542 Cum: 1,397,340

PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date 84-03-14 Days 38

Supervisor Jim LaGrandeur Contractor Spartan #20

Depth @ 2400 hrs 2020 Hrs on Btm 22 1/2 Progress 62 Operation Drill

Last Casing Depth: 1896 Size: 178

Bit No 7 Depth Out Wt on Bit 10 Condition Run

Size 155 Metres 117 RPM 55 Serial # CW6345

Type F-3 Hours 51 Nozzles Open

Bit No Depth Out Wt on Bit Condition

Size Metres RPM Serial #

Type Hours Nozzles

Pump Pres 4000 Strokes 55 L/min 600 Ann Vel DC 76 DP 45

Surveys ° at ° at ° at
 ° at ° at ° at

Last FLOT Depth: 1898 EMD 1644

Mud Wt. 1055 Vis 38 PV 13 YP 3.1

WL 8.5 pH 11 Solids .036

Mud Added Gel 39 sax Caustic 3 sax Staflo 3 sax Peltex 5 sax
Polysec 3 sax WL-100 1 sax

BOP Tests & Drills: 84-03-13

General

Drill to 1962 - Work tite connections. Drill to 1971
work tite connection - Drill to 1981 work tite
connection. Drill to 1990, rig service check B.O.P.
Drill to 2008, Rig service Drill 2020.
Reduced pump 30 spm 14000 kPa at 2008 m.

Time Break Down

- 1 Rig Up or Down
- 2 Drilling 22 1/2
- 3 Reaming
- 4 Coring
- 5 Cond. Hole
- 6 Trip
- 7 Rig Ser & BOP 3
- 8 Repairs
- 9 Slip & Cut
- 10 Surveys
- 11 Logging
- 12 Run Csg & Cement
- 13 WOC
- 14 Nipple Up
- 15 Test BOP
- 16 DST
- 17 Plug Back
- 18 Squeeze Cement
- 19 Fishing
- 20 Dir. Work
- 21 Clean to Bottom
- 22 Work tite conn. 13

DEPTH 06:00 - 2036 OPERATION: Drop survey.

OPNS Forecast: Trip for bit. Drill

Bottom Hole Assembly Bit. BS. 21-121 DC Dart sub DP

Persons in Camp: 26 Natives: 3

Weather Clear Temp -32

Costs: Daily: 13,248 Cum: 1,410,588

PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date 84-03-15 Days 39

Supervisor Jim LeGrandeur Contractor Spartan #20

Depth @ 2400 hrs 2045 Hrs on Btm 11 1/2 Progress 25 Operation Drill

Last Casing Depth: 1896 Size: 178

Bit No 7 Depth Out 2036 Wt on Bit 10 Condition 2-6-I

Size 155 Metres 133 RPM 55 Serial # CW6845

Type F-3 Hours 56 3/4 Nozzles Open

Bit No 8 Depth Out Wt on Bit 10 Condition Run

Size 155 Metres 9 RPM 55 Serial # CN7694

Type F-3 Hours 5 1/2 Nozzles Open

Pump Pres 4000 Strokes 55 L/min 600 Ann Vel DC 45
76

Surveys 3/4 • at 2035 • at • at
• at • at • at

Last FLOT Depth: 1898 EMD 1644

Mud Wt. 1055 Vis 37 PV 10 YP 1

WL 9.8 pH 11 Solids .036

Mud Added Gel 42 sax Caustic 3 sax Faltex 5 sax
Polysec 3 sax Staflo 1 sax WL-100 1 sax

BOP Tests & Drills:

General

Drill to 2026 m. Rig Service. Check B.O.P. Drill
2036 m. Drop Survey POH to shoe Flow check. POH
Chg. Bits RIH to shoe - Brk circ. & flow check. Install
valve on spacer spool. Press test with cup tester
1500 kPa & 10,500 kPa - OK. Finish RIH. No fill -
Drill to 2045.

Time Break Down

- 1 Rig Up or Down
- 2 Drilling 11 1/2
- 3 Reaming
- 4 Coring
- 5 Cond. Hole
- 6 Trip 9
- 7 Rig Ser & BOP 3
- 8 Repairs
- 9 Slip & Cut
- 10 Surveys 3
- 11 Logging
- 12 Run Csg & Cement
- 13 WOC
- 14 Nipple Up 2 3/4
- 15 Test BOP
- 16 DST
- 17 Plug Back
- 18 Squeeze Cement
- 19 Fishing
- 20 Dir. Work
- 21 Clean to Bottom

Drill at 1 3/4 m/hr.

DEPTH 06:00 - 2057 OPERATION: Drill

OPNS Forecast: Drill

Bottom Hole Assembly Bit, BS, 21-121mm DC Dart sub. DP

Persons in Camp: 20 Natives: 2

Weather Clear SW 20 Temp -26

Costs: \$17,123 Cum: 1,427,711

PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date 84-03-16 Days 40

Supervisor Jim LaGrandeur Contractor Spartan #20

Depth @ 2400 hrs 2084 Hrs on Btm 231 Progress 39 Operation Drill

Last Casing Depth: 1896 Size: 178

Bit No 8 Depth Out 10-11 Wt on Bit 55 Condition Run

Size 155 Metres 48 RPM 55 Serial # CN7694

Type E-3 Hours 28 3/4 Nozzles Open

Bit No Depth Out Wt on Bit Condition

Size Metres RPM Serial #

Type Hours Nozzles

Pump Pres 4000 Strokes 55 L/min 600 Ann Vel DP 45
DC 76

Surveys • at • at • at
 • at • at • at

Last FLOT Depth: 1898 EMD 1644

Mud Wt. 1060 Vis 39 PV 11 YP 2

WL 9.0 pH 10.5 Solids .036

Mud Added Gel 40 sax Caustic 1 sax Peltex 3 sax WL-100 1 sax

BOP Tests & Drills: 84-03-15 Check pipe rams.

General

Time Break Down

Drill 2045 - 2084 Rig service & B.O.P.

1 Rig Up or Down

2 Drilling 231

3 Reaming

4 Coring

5 Cond. Hole

6 Trip

7 Rig Ser & BOP 3/4

8 Repairs

9 Slip & Cut

10 Surveys

11 Logging

12 Run Csg & Cement

13 W/C

14 Trip Up

15 Test BOP

16 DST

17 Plug Back

18 Squeeze Cement

19 Fishing

20 Dir. Work

21 Clean to Bottom

Slow pump 30 spm 2082 m 1700 kPa

Drill at 1.2 m/hr.

DEPTH 06:00 - 2092 OPERATION: Drill

OPNS Forecast: Drill

Bottom Hole Assembly Bit. BS. 21-121mm DC Dart sub. DP

Persons in Camp: 20 Natives: 2

Weather Clear N 7 km/hr. Temp -25

Costs: Daily: 29,549 Cum: 1,457,260

PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date 84-03-17 Days 41

Supervisor Jim LaGrandeur Contractor Spartan #20

Depth @ 2400 hrs 2116 Hrs on Btm 23 1/2 Progress 32 Operation Drilling

Last Casing Depth: 1896 Size: 178

Bit No 8 Depth Out Wt on Bit 11 Condition Run

Size 155.6 Metres 80 RPM 55 Serial # CN7694

Type F3 Hours 52 Nozzles Open

Bit No Depth Out Wt on Bit Condition

Size Metres RPM Serial #

Type Hours Nozzles

Pump Pres 4800 Strokes 55 L/min 600 Ann Vel DC 76
DP 45

Surveys at at at
 at at at

Last FLOT Depth: 1898 EMD 1600

Mud Wt 1060 Vis 38 PV 14 YP .5

WL 8.6 pH 10.5 Solids .036

Mud Added Gel 53 sax Caustic 3 sax Kelzan 1 sax Peltex 5 sax

BOP Tests & Drills: 84-03-17

General

Time Break Down

Drill 2084 to 2116m Rig service B.O.P.s.

1 Rig Up or Down

2 Drilling 23 1/2

3 Reaming

4 Coring

5 Cond. Hole

6 Trip

7 Rig Ser & BOP 3/4

8 Repairs

9 Slip & Cut

10 Surveys

11 Logging

12 Run Csg & Cement

13 WOC

14 Nipple Up

15 Test BOP

16 DST

17 Plug Back

18 Squeeze Cement

19 Fishing

20 Dir. Work

21 Clean to Bottom

Drill at 1.6 m/hr.

DEPTH 06:00 - 2127 OPERATION: Drilling

OPNS Forecast Drill.

Bottom Hole Assembly Bit, BS, 21-121mm DC Dart sub DP

Persons in Camp: 20 Natives: 2

Weather light snow Temp -25

Costs: Daily: 12,621 Cum: 1,469,881

PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date 84-03-18 Days 42

Supervisor Jim LeGrandeur Contractor Spartan #21

Depth @ 2400 hrs 2152 Hrs on Btm 18 Progress 36 Operation Tripping

Last Casing Depth: 1896 Size: 178

Bit No. 8 Depth Out 2152 Wt on Bit 31 Condition 2-5-1

Size	155.0	Metres	116	RPM	55	Serial #	CN7694
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Type	F3	Hours	70	Nozzles	Open
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Bit No. 9 Depth Out Wt on Bit Condition

Size	155.6	Metres	RPM	Serial #	CN7000
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Type	F-3	Hours	Nozzles	3 - 10.3
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Pump Pres	4800	Strokes	55	L/min	600	Ann Vel	DC 76 DP 45
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Surveys 7/8 • at 2152 • at _____ • at _____

• at • at • at

Last FLOT Depth: 1898 EMD 1644

Mud Wt.	1060	Vis	41	PV	14	YP	3
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WL	8.7	pH	10.5	Solids	.036
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Mud Added Gel 37 sax Caustic 2 sax WL-100 1 sax Staflo 1 sax

BOP Tests & Drills: 84-03-18

General

Time Break Down

Drill 2116 to 2152, rig service B.O.P. drop survey 1 Rig Up or Down

before trip. Pick up bit, run in with BHA, cut & slip

drilling line. 4 Coring _____

5 Cond. Hole _____
6 Trip _____

7 Rig Ser & BOP 3/4

8 Repairs _____
9 Slip & Fall 3/4 _____

10 Surveys _____

11: Logging _____

13 WOC

14 Nipple Up _____

15 1st 8UP _____
16 2nd _____

17. Plug Back _____

DEPTH 06:00	2158	OPERATION: Drilling break	16 Squeeze Cement
			10

OBNS Forecast	Drilling ahead	circ. sample.	19 Fishing
			20 Dir Work

21 Clean to Bottom _____

Bottom Hole Assembly Bit, BS, 21-121mm DC, Dart sub. DP

Persons in Camp: 20 Natives: 2

Weather Overcast Temp -14

Costs: Daily: 16,944 Cum: 1,486,825

PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor lake N-25 Date 84-03-19 Days 43

Supervisor Jim LeGrandeur Contractor Spartan #20

Depth @ 2400 hrs 2186 Hrs on Btm 19 3/4 Progress 34 Operation Drill

Last Casing Depth: 1896 Size: 178

Bit No 9 Depth Out Wt on Bit 11 Condition Run

Size 155 Metres 34 RPM 55 Serial # CN7000

Type F-3 Hours 19 3/4 Nozzles 3-10.3

Bit No Depth Out Wt on Bit Condition

Size Metres RPM Serial #

Type Hours Nozzles

Pump Pres 5300 Strokes 55 L/min 600 Ann Vel DP 45
DC 72

Surveys * at * at * at
 * at * at * at

Last FLOT Depth: 1898 EMD 1600

Mud Wt 1060 Vis 37 FV 11 YP 1

WL 10 pH 10.5 Solids .036

Mud Added Gel 29 sax Caustic 2 sax WL-100 1 sax Staflo 1 sax
Kelzan 1 sax

BOP Tests & Drills: 84-03-18

General Time Break Down

Finish slip & cut line. RIH Rig service & B.O.P. 1 Rig Up or Down

Drill 2152-2154. Drilling break 2154-2158. Circ. 2 Drilling 19 3/4

sample. Drill 2158-2162. B.O.P. Drill. Drill 2162 - 3 Reaming

2186. 4 Coring

 5 Cond. Hole

 6 Trip 2 1/2

 7 Rig Ser & BOP 3/4

 8 Repairs

 9 Slip & Cut 1

 10 Surveys

 11 Logging

 12 Run Csg & Cement

 13 WOC

 14 Nipple Up

 15 Test BOP

 16 DST

 17 Plug Back

 18 Squeeze Cement

 19 Fishing

 20 Dir. Work

 21 Clean to Bottom

 22 B.O.P. Drill 1

 23 Circ. sample 3/4

Bottom Hole Assembly Bit, Bit sub, 21-121 DC Dart Sub, DP

Persons in Camp: 19 Natives: 2

Weather Overcast Temp -10

Costs: Daily: 14,195 Cum: 1,501,020

PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date 84-03-20 Days 44

Supervisor Jim LeGrandeur Contractor Spartan #20

Depth @ 2400 hrs 2215 Hrs on Btm 23 Progress 29 Operation Drill

Last Casing Depth: 1896 Size: 178

Bit No 9 Depth Out Wt on Bit 11 Condition Run

Size 155 Metres 63 RPM 55 Serial # CN7000

Type F-3 Hours 42 3/4 Nozzles 3-10.3

Bit No Depth Out Wt on Bit Condition

Size Metres RPM Serial #

Type Hours Nozzles

Pump Pres 5300 Strokes 55 L/min 600 Ann Vel DP 45
DC 74

Surveys ° at ° at ° at
 ° at ° at ° at

Last FLOT Depth: 1898 EMD 1600

Mud Wt. 1040 Vis 46 PV YP

WL 9.5 pH 10.5 Solids .034

Mud Added Gel 40 sax Caustic 2 sax WL-10C 1 sax Stafla 1 sax

BOP Tests & Drills: 84-03-19 - Kelly up hydril closed - 2 1/2 min.

General	Time Break Down
<u>Drill 2186-2188. Held B.O.P. drill. Rig service &</u>	<u>1 Rig Up or Down</u>
<u>B.O.P. Drill 2188-2215.</u>	<u>2 Drilling 23</u>
<u> </u>	<u>3 Reaming</u>
<u> </u>	<u>4 Coring</u>
<u> </u>	<u>5 Cond. Hole</u>
<u> </u>	<u>6 Trip</u>
<u> </u>	<u>7 Rig Ser & BOP 3/4</u>
<u> </u>	<u>8 Repairs</u>
<u> </u>	<u>9 Slip & Cut</u>
<u> </u>	<u>10 Surveys</u>
<u> </u>	<u>11 Logging</u>
<u> </u>	<u>12 Run Csg & Cement</u>
<u> </u>	<u>13 WOC</u>
<u> </u>	<u>14 Nipple Up</u>
<u> </u>	<u>15 Test BOP</u>
<u> </u>	<u>16 DST</u>
<u> </u>	<u>17 Plug Back</u>
<u> </u>	<u>18 Squeeze Cement</u>
<u> </u>	<u>19 Fishing</u>
<u> </u>	<u>20 Dir. Work</u>
<u> </u>	<u>21 Clean to Bottom</u>
<u> </u>	<u>22 BOP drill</u>

Drill at 1.2m/hr.

DEPTH 06:00 - 2224 OPERATION: Drill

QPNS Forecast Drill

Bottom Hole Assembly Bit, Bit sub. 21-121 DC Dart sub. DP

Persons in Camp: 19 Natives: 2

Weather Clear Calm Temp -15

Costs: Daily: 12,748 Cum: 1,513,768

PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et ai Trainor Lake N-25 Date 84-03-21 Days 45

Supervisor Jim LeGrandeur Contractor Spartan #20

Depth @ 2400 hrs 2238 Hrs on Btm 17 Progress 23 Operation RIH

Last Casing Depth: 1896 Size: 178

Bit No 9 Depth Out 2238 Wt on Bit 11 Condition 3-6-I

Size 155 Metres 86 RPM 55-65 Serial # CN7000

Type F-3 Hours 59 3/4 Nozzles 3-10.3

Bit No 10 Depth Out Wt on Bit Condition

Size 155 Metres RPM Serial # CN7856

Type F-3 Hours Nozzles 3-9.5

Pump Pres 5300 Strokes 55 L/min 600 Ann Vel DP 45 DC 74

Surveys 1 at 2237 at at

Last FLOT Depth: 1898 EMD 1600

Mud Wt. 1045 Vis 60 PV 21 YP 6.5

WL 11.1 pH 11.0 Solids .027

Mud Added Gel 15 sax Peltex 15 sax Caustic 4 sax Staflo 1 sax
WL-100 1 sax

BOP Tests & Drills: 84-03-20 - Function

General

Time Break Down

<u>Drill 2215-2238 m. Rig service & B.O.P. Drop survey.</u>	1 Rig Up or Down <u> </u>
<u>POH to casing shoe. Flow check. Blow Kelly. POH</u>	2 Drilling <u>17</u>
<u>RIH, Pick up 3 - 121 DC.</u>	3 Reaming <u> </u>
<u> </u>	4 Coring <u> </u>
<u> </u>	5 Cond. Hole <u> </u>
<u> </u>	6 Trip <u>6</u>
<u> </u>	7 Rig Ser & BOP <u>3/4</u>
<u> </u>	8 Repairs <u> </u>
<u> </u>	9 Slip & Cut <u> </u>
<u> </u>	10 Surveys <u>1</u>
<u> </u>	11 Logging <u> </u>
<u> </u>	12 Run Csg & Cement <u> </u>
<u> </u>	13 WOC <u> </u>
<u> </u>	14 Nipple Up <u> </u>
<u> </u>	15 Test BOP <u> </u>
<u> </u>	16 DST <u> </u>
<u>Drill at 1.75-2.00 m/hr.</u>	17 Plug Back <u> </u>
<u>DEPTH 06:00 - 2247 OPERATION: Drill</u>	18 Squeeze Cement <u> </u>
<u>QPNS Forecast Drill</u>	19 Fishing <u> </u>
<u> </u>	20 Dir. Work <u> </u>
<u> </u>	21 Clean to Bottom <u> </u>

Bottom Hole Assembly Bit, BS, 24-121 DC Dart Sub - DP

Persons in Camp: 19 Natives: 2

Weather Overcast lite winds NE Temp -15

Costs: Daily: 15,873 Cum: 1,530,641

PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date 84-03-22 Days 45

Supervisor Jim LeGrandeur Contractor Spartan #20

Depth @ 2400 hrs 2281 Hrs on Btm 22 3/4 Progress 43 Operation Drill

Last Casing Depth: 1896 Size: 244

Bit No 10 Depth Out Wt on Bit 12-14 Condition in

Size 155 Metres 43 RPM 55 Serial # CN7856

Type F-3 Hours 22 3/4 Nozzles 3-9.5

Bit No Depth Out Wt on Bit Condition

Size Metres RPM Serial #

Type Hours Nozzles

Pump Pres 6200 Strokes 55 L/min 600 Ann Vel DP 45
DC 74

Surveys • at • at • at
 • at • at • at

Last FLOT Depth: 1898 EMD 1600

Mud Wt. 1050 Vis 50 PV 20 YP 3.5

WL 8.5 pH 11 Solids .030

Mud Added Gel 26 sax, Staflo 4 sax, WL-100 4 sax, Caustic 1 sax.

BOP Tests & Drills:

General

Time Break Down

RIH. Drill 2238-2281 m. Rig service B.O.P.

1 Rig Up or Down

2 Drilling 22 3/4

3 Reaming

4 Coring

5 Cond. Hole

6 Trip 3

7 Rig Ser & BOP 3/4

8 Repairs

9 Slip & Cut

10 Surveys

11 Logging

12 Run Csg & Cement

13 WOC

14 Nipple Up

15 Test BOP

16 DST

17 Plug Back

18 Squeeze Cement

19 Fishing

20 Dir. Work

21 Clean to Bottom

Drill at 1.6 - 2.0 m/hr.

DEPTH 06:00 - 2293 OPERATION: Drill

QPNS Forecast: Drill to T.D., log.

Bottom Hole Assembly Bit, BS, 24-121 DC Dart sub, DP

Persons in Camp: 22 Natives: 3

Weather Overcast Temp -17

Costs: Daily: 14,198 Cum: 1,544,839

PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date 84-03-23 Days 47

Supervisor Jim LeGrandeur Contractor Spartan #20

Depth @ 2400 hrs 2314 Hrs on Btm 20 1/2 Progress 33 Operation Circ. to log

Last Casing Depth: 1896 Size: 178

Bit No 10 Depth Out 2314 Wt on Bit 12-14 Condition 3-6-I

Size 155 Metres 76 RPM 55 Serial # CN7856

Type F-3 Hours 43 Nozzles 3-9.5

Bit No _____ Depth Out _____ Wt on Bit _____ Condition _____

Size _____ Metres _____ RPM _____ Serial # _____

Type _____ Hours _____ Nozzles _____

Pump Pres 6300 Strokes 55 L/min 600 Ann Vel DC 74 DP 45

Surveys 7/8 ° at 2314 ° at _____ ° at _____
° at _____ ° at _____ ° at _____

Last FLOT Depth: 1898 EMD 1600

Mud Wt. 1060 Vis 50 PV 28 YP 4.2

WL 9.0 pH 11.5 Solids .032

Mud Added Caustic 4 sax Staflor 5 sax WL-100 5 sax Soda Ash 4 sax

BOP Tests & Drills: 84-03-22

General

Time Break Down

<u>Drill 2281-2314 Rig Service & B.O.P. Circ. bottoms</u>	1 Rig Up or Down _____
<u>up. Wiper trip to casing shoe - No fill - circ. cond.</u>	2 Drilling <u>20 1/2</u>
<u>hole.</u>	3 Reaming _____
_____	4 Coring _____
_____	5 Cond. Hole <u>1 1/2</u>
_____	6 Trip <u>1 1/2</u>
_____	7 Rig Ser & BOP <u>3/4</u>
_____	8 Repairs _____
_____	9 Slip & Cut _____
_____	10 Surveys _____
_____	11 Logging _____
_____	12 Run Csg & Cement _____
_____	13 WOC _____
_____	14 Nipple Up _____
_____	15 Test BOP _____
_____	16 DST _____
_____	17 Plug Back _____
_____	18 Squeeze Cement _____
<u>DEPTH 06:00 - 2314 OPERATION: RIH with DILL</u>	19 Fishing _____
<u>QPNS Forecast: log</u>	20 Dir. Work _____
_____	21 Clean to Bottom _____

Bottom Hole Assembly Bit, BS, 24-121 DC Dart Sub DP

Persons in Camp: 22 Natives: 3

Weather overcast Temp 0

Costs: Daily: 13,570 Cum: 1,558,409

PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date 84-03-24 Days 48

Supervisor Jim LeGrandeur Contractor Spartan #20

Depth @ 2400 hrs 2314 Hrs on Btm --- Progress --- Operation Laydown
Last Casing Depth: Size: Drill Collar

Bit No Depth Out Wt on Bit Condition
Size Metres RPM Serial #
Type Hours Nozzles

Bit No Depth Out Wt on Bit Condition
Size Metres RPM Serial #
Type Hours Nozzles

Pump Pres Strokes L/min Ann Vel

Surveys ° at ° at ° at
 ° at ° at ° at

Last FLOT Depth: EMD
Mud Wt. 1155 Vis 63 PV YP
WL 9 pH 11.5 Solids

Mud Added Gel 57 sax Caustic 2 sax WL-100 1 sax Staflo 1 sax

BOP Tests & Drills:

General

Circ. Cond. mud - Drop survey. POH. Flow check
at casing shoe. Blow Kelly. Rig Service B.O.P. POH
Rig up Schlumberger. Ran DI & Sonic. Ran CNL LDT-
DART Logs to Calgary. Wait on Orders. RIH & lay
down 24 - 121mm DC

Time Break Down

- 1 Rig Up or Down
- 2 Drilling
- 3 Reaming
- 4 Coring
- 5 Cond. Hole 1
- 6 Trip 3 1/2
- 7 Rig Ser & BOP 1
- 8 Repairs
- 9 Slip & Cut
- 10 Surveys 1
- 11 Logging 8 1/2
- 12 Run Csg & Cement
- 13 WOC
- 14 Nipple Up
- 15 Test BOP
- 16 DST
- 17 Plug Back
- 18 Squeeze Cement
- 19 Fishing
- 20 Dir. Work
- 21 Clean to Bottom
- 22 Dart Logs 9

DEPTH 06:00 - 2314 OPERATION: Wait on orders.

QPNs Forecast

Bottom Hole Assembly 23 LDDC 2 1/2

Persons in Camp: 24 Natives: 3

Weather Overcast lite snow Tempo -15

Costs: Daily: 76,969 Cum: 1,635,378

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date 84-03-25 Days 49

Supervisor Jim LeGrandeur Contractor Spartan Rig 20
plug back

Depth @ 2400 hrs 2108 Hrs on Btm _____ Progress _____ Operation POOH
 Last Casing Depth: _____ Size: _____

Bit No _____ Depth Out _____ Wt on Bit _____ Condition _____
 Size _____ Metres _____ RPM _____ Serial # _____
 Type _____ Hours _____ Nozzles _____

Bit No _____ Depth Cut _____ Wt on Bit _____ Condition _____
 Size _____ Metres _____ RPM _____ Serial # _____
 Type _____ Hours _____ Nozzles _____

Pump Pres _____ Strokes _____ L/min _____ Ann Vel _____

Surveys _____ ° at _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____ ° at _____

Last FLOT Depth: _____ EMD _____
 Mud Wt. _____ Vis _____ PV _____ YP _____
 WL _____ pH _____ Solids _____

Mud Added _____

BOP Tests & Drills:

General

Time Break Down

RIH open end pick up 24 jts. of drill pipe. Circ. and wait on confirmation. Rig to cement. Plug #1 2314-2384 Pump 1.5m³ water ahead mix 1.3 tonnes Class "G" + .5% CFR2 Mix water .57m³ slurry volume 1m³ density 1895 kg/m³. Displace with .4m³ water + 8.4m³ mud. Pull to 2220m break circulation. Ran Plug #2 2220-2120. Pump 1.5m³ water ahead mix 3.1 T Class "G" + .5% CFR2. Slurry volume 2.4m³ density 1895 kg/m. Displace with .4m³ water + 7.7m³ mud. Pull up to 2100m and circulate. POOH make up bit, bit sub & RIH & tag top of cement at 2108m. POOH DEPTH 06:00 - Finish Plug #3 OPERATION: OPNS Forecast	1 Rig Up or Down _____ 2 Drilling _____ 3 Reaming _____ 4 Coring _____ 5 Cond. Hole <u>12</u> 6 Trip <u>10 1/2</u> 7 Rig Ser & BOP <u>3</u> 8 Repairs _____ 9 Slip & Cut _____ 10 Surveys _____ 11 Logging _____ 12 Run Csg & Cement <u>1 1/2</u> 13 WOC _____ 14 Nipple Up _____ 15 Test BOP _____ 16 DST _____ 17 Plug Back _____ 18 Squeeze Cement _____ 19 Fishing _____ 20 Dir. Work _____ 21 Clean to Bottom _____
--	---

Bottom Hole Assembly _____

Persons in Camp: 20 Natives: 3

Weather Overcast windy, foggy Temp -17

Costs: _____

PAJAK LAND & OFFSHORE LTD.

DAILY DRILLING REPORT

Well Name Northcor et al Trainor Lake N-25 Date 84-03-26 Days 50

Supervisor Jim LeGrandeur Contractor Spartan #20

Depth @ 2400 hrs _____ Hrs on Btm _____ Progress _____ Operation Lay down
B.O.P.

Last Casing Depth: _____ Size: _____

Bit No _____ Depth Out _____ Wt on Bit _____ Condition _____

Size _____ Metres _____ RPM _____ Serial # _____

Type _____ Hours _____ Nozzles _____

Bit No _____ Depth Out _____ Wt on Bit _____ Condition _____

Size _____ Metres _____ RPM _____ Serial # _____

Type _____ Hours _____ Nozzles _____

Pump Pres _____ Strokes _____ L/min _____ Ann Vel _____

Surveys _____ at _____ at _____ at _____ at _____ at

Last FLOT Depth: _____ EMD _____

Mud Wt. _____ Vis _____ PV _____ YP _____

WL _____ pH _____ Solids _____

Mud Added _____

BOP Tests & Drills:

General

POH Remove Bit & Bit sub. RIH open end. Circ.
bottom up. Ran Plug #3. Plug #3 1913
1883 Pump 1.5m³ H₂O ahead mix 2.4 tonnes Class "G"
+ .5% CFR2 Slurry volume 1.8m³ 1895 kg/m Displace
with 0.4m³ H₂O & 6.7m³ mud. POH to 1828. Circ.
W.O.C. Lay down 30 jts. DP W.O.C. RIH tag cement
1881m³ POH
LDDP

Time Break Down

- 1 Rig Up or Down _____
- 2 Drilling _____
- 3 Reaming _____
- 4 Coring _____
- 5 Cond. Hole 1 1/2
- 6 Trip 13
- 7 Rig Ser & BOP _____
- 8 Repairs _____
- 9 Slip & Cut _____
- 10 Surveys _____
- 11 Logging _____
- 12 Run Csg & Cement _____
- 13 WOC 5 3/4
- 14 Nipple Up _____
- 15 Test BOP _____
- 16 DST _____
- 17 Plug Back 1
- 18 Squeeze Cement _____
- 19 Fishing _____
- 20 Dir. Work _____
- 21 Clean to Bottom _____
- 22 L.O. BOP 3

DEPTH 06:00 - OPERATION: Tear out Rig.

OPNS Forecast Move rig out.

Bottom Hole Assembly ---

Persons in Camp: 19 Natives: 3

Weather Overcast Temp -14

Costs: Daily: 31,792 Cum: 1,679,162

PAJAK LAND & OFFSHORE LTD.

SUMMARY OF WELL DATA

GENERAL

Well Name Northcor et al Trainor Lake

Operator Northcor Energy Ltd.

Location N-25 N. W. T.

Contractor Spartan #20

Elevation: Grd. 725.82 K.B. 4.25 m

Spud Date 84-02-18

Total Depth 2314

Release Date 84-03-26 03:30 hrs.

CASING RECORD

Make	New/Used	Depth	Size	Weight	Grade	Thread	Range
Algoma	42 jts.	500	244	53.57	K-55	8rd	3
Algoma	151 jts.	1896	177.8	29.76 35.71	K-55	LT&C ST&C 8rd	3

LOG RECORD

Company	Type	Interval
Schlumberger	Dual induction - SFL	1884.5 - 501 m
	CNL-LDT	1884.5 - 501
Schlumberger	Dual induction + Sonic	2316 - 1898
	CNL-LDT	2316 - 1898

DEVIATION RECORD

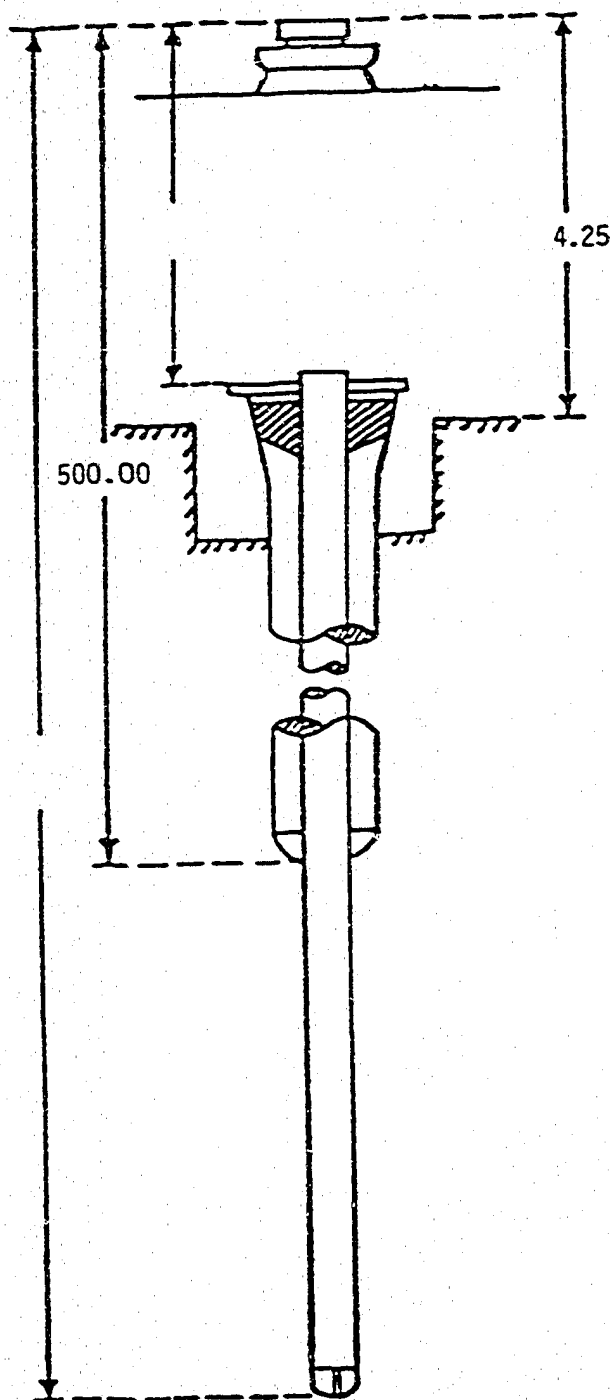
Depth	Degree	Depth	Degree	Depth	Degree	Depth	Degree
29	3	353	3	764	3	1460	1 7/8
52	3	410	1 3/4	802	3/4	1582	7/8
118	1/8	502	3/4	892	3/4	1698	7/8
156	3	556	3	981	3/4	1830	7/8
213	3	575	3/4	1076	7/8	2035	3/4
259	2	632	3	1179	3/4	2152	7/8
304	1 3/4	719	3	1322	3	2237	3
				1416	1 3/4	2314	7/8

PAJAK LAND & OFFSHORE LTD.

CASING REPORT

Type of string Surface

Well Name Northcor et al Trainor Lake Date 84-02-13
 Location N-25 N.W.T. Make of Casing Algoma Seamless
 Size 244 Wt 53.57 Grade K-55 Thread 8rd Cplg ST&C Rge 3

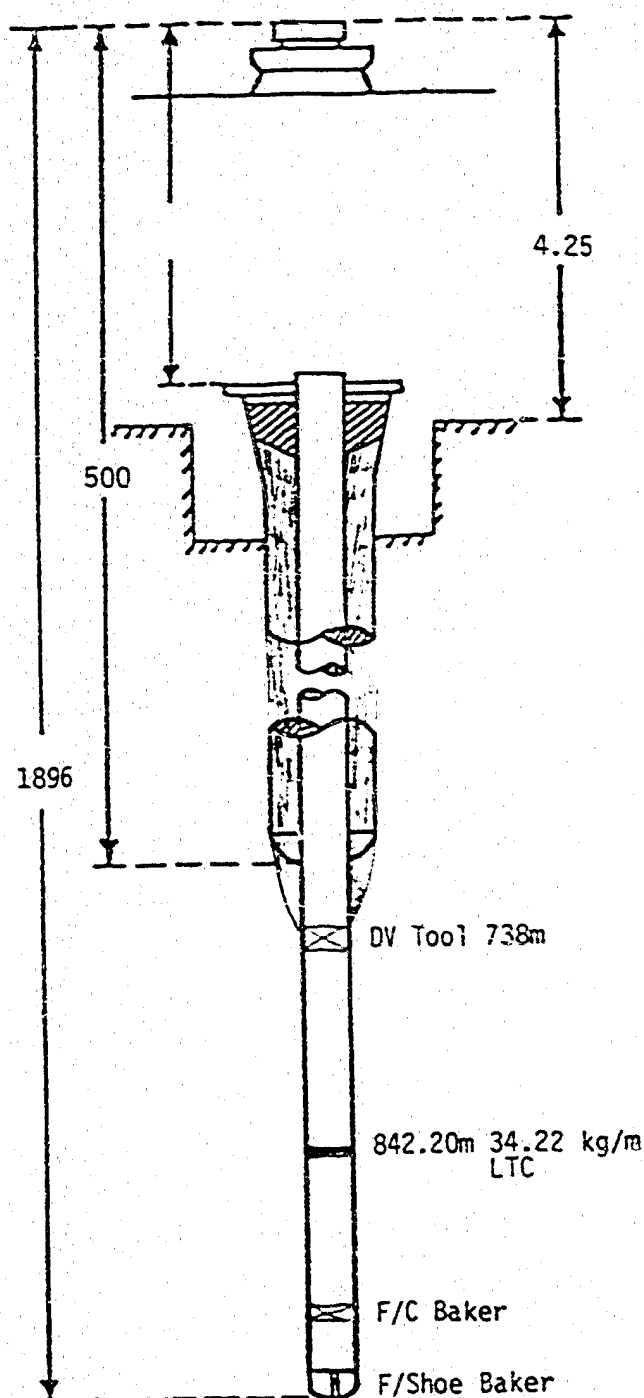


Kelly Bushing Elev. 730.03
 Ground Elev. 725.82
 Casing Bowl Type Crown 11 x 3000
 Float Shoe Guide Shoe X
 Float Collar X Baffle Collar
 No. of Centralizers 6
 No. of Scratchers ---
 Top Plug-Wood Rubber X
 Bottom Plug-Wood Rubber X
 Joints Welded Nil
 Joints Thread Locked 1 & 2
 Time started cementing 06:00
 Time plug on bottom 08:00
 Bump Pressure 11,000 kPa
 Tonnes of cement used 42
 Type of cement Class "G"
 Additives Neat
 Cementing Co. Howco
 Cementer Art Patterson
 Returns Yes No X
 Power Tong Co. Ray's
 Remarks Grout with 1" from 100 ft.
to surface with 225 sax Neat
1895 kg/m³ slurry cement.

CASING REPORT

Type of string Intermediate

Well Name Northcor et al Trainor Lake Date 84-03-09
Location N-25 N.W.T. Make of Casing Alqoma
Size 178 Wt 34.22 Grade K-55 Thread 8rd Cplg LT&C Rge 3
29.76 ST&C



Kelly Bushing Elev. 730.03

Ground Elev. 725.82

Casing Bowl Type Crown H

Float Shoe X Guide Shoe

Float Collar X Baffle Collar

No. of Centralizers 6

No. of Scratchers 0

Top Plug-Wood _____ Rubber X

Bottom Plug-Wood _____ Rubber X

Joints Welded Bottom collars 2-3

Joints Thread Locked 1-2-3

Time started cementing 07:17 - 08:57
15:48 - 16:45

Time plug on bottom _____

Bump Pressure 8,000 kPa 16,000 kPa

Tonnes of cement used 58 T

32 T Class "G" + 6% Bentonite

Type of cement 26 T Class "G"

Additives 0.75% CFR-2 0.2% HR-4

Cementing Co. Halliburton

Cementer P. Sherback

Returns Yes X No

Power Tong Co. Ray's

Remarks Second stage 7.9m³ cement

returns.

PIPE TALLY

Page 1 of 1

Type of String Surface Casing Date 84-02-13

Well Name Northcor et al Trainer Lake

Operator Northcor Energy Ltd.

Location N-25 N.W.T.

Contractor Spartan #20

Supervisor Al MacNair

Make Of Casing Algoma Seamless

Size 244 Wt 53.57 Grade K-55

Thread 8rd Cplg ST&C Rge 3

No.	LENGTH	LENGTH	LENGTH	LENGTH	LENGTH	SUMMARY	TOTAL
1	12 27	13 16	11 24			1 - 20	238 78
2	12 45	12 54	11 44			21 - 40	239 04
3	13 29	10 64	* 12 56			41 - 60	85 17
4	11 66	11 54	* 12 07			61 - 80	
5	13 26	12 19	* 12 48			81 - 100	
6	11 72	12 41	* 12 73			101 - 200	
7	10 73	12 00	* 12 65	* Out		201 - 300	
8	11 34	12 68				301 - 400	
9	12 95	12 85			47 Jts.	Total On Lease	562 99
10	12 26	11 41			5	Casing Left Out	62 49
11	11 04	11 15				Running Order Of Casing	
12	11 19	11 08				Shoe	37
13	12 28	13 06				Shoe Joint	12 27
14	12 58	12 03				Float Collar	58
15	11 56	12 85					13 22
16	11 58	11 95				Stage Collar	
17	11 05	11 03					
18	12 31	11 05				Balance Of Casing Run	488 53
19	11 42	11 62				TOTAL	501 45
20	11 84	11 80				Calculated Stickup Above KB	1 45
	238 78	239 04	85 17			CSG Landed KB	500 00

Centralizers on joint numbers Middle of Jt. #1

Scratchers on joint numbers _____

Indicate joints with ruff cote etc. Centralizers on collars of #2 - 3 - 4 - 5 & 6.

Indicate joints with different wts., grade, threads or coupling _____

Actual length of cutoff 5.7 m

PIPE TALLY

Page 1 of 2

Type of String Intermediate Date 84-03-09

Well Name Northcor et al Trainor Lake Operator Northcor Energy Ltd.
 Location N-25 N. W. T. Contractor Spartan #20
 Supervisor Jim LaGrandeur Make Of Casing Algoma
 Size 178 Wt 34.22 Grade K-55 Thread 8rd Cplg LT&C Rge 3

No.	LENGTH	LENGTH	LENGTH	LENGTH	LENGTH	SUMMARY	TOTAL
1	12 60	13 02	12 83	12 86		1 - 20	254 38
2	13 10	12 85	12 75	12 46		21 - 40	257 96
3	13 03	13 09	12 94	12 03		41 - 60	253 63
4	12 52	13 15	13 31	12 75		61 - 66	75 28
5	12 72	12 88	12 96	12 35		81 - 100	
6	12 92	13 07	12 45	12 83		101 - 200	
7	12 63	12 92	12 96			201 - 300	
8	12 90	13 28	12 45			301 - 400	
9	12 63	13 07	12 70			Total On Lease	841 25
10	12 82	13 17	12 94			Casing Left Out	
11	12 91	12 06	12 21			Running Order Of Casing	
12	12 17	12 61	12 59			Shoe	
13	13 18	12 92	12 89			Shoe Joint	
14	12 42	13 21	12 96			Float Collar	
15	12 47	12 46	12 54				
16	13 06	12 73	13 60			Stage Collar	
17	12 46	13 11	12 00				
18	13 04	12 62	13 12			Balance Of Casing Run	
19	12 19	12 99	10 55			TOTAL	
20	12 61	12 75	12 88			Calculated Stickup Above KB	
	254 38	257 96	253 63	75 28		CSG Landed KB	

Centralizers on joint numbers #1, #2, #3, #4, #5, & #6

Scratchers on joint numbers _____

Indicate joints with ruff core etc. _____

Indicate joints with different wts., grade, threads or coupling _____

Actual length of cutoff _____

PIPE TALLY

Page 2 of 2

Type of String Intermediate Date 84-03-09

Well Name Northcor et al Trainor Lake

Operator Northcor Energy Ltd.

Location N-25 N.W.T.

Contractor Spartan #20

Supervisor Jim LaGrandeur

Make Of Casing Algoma

Size 178 Wt 29.76 Grade K-55 Thread 8rd Cplg ST&C Rge 3

No.	LENGTH	LENGTH	LENGTH	LENGTH	LENGTH	SUMMARY	TOTAL
1	13 00	12 55	13 63	12 31	13 30	1 - 20	
2	12 48	12 50	13 22	11 78	12 24	21 - 40	
3	12 87	11 57	12 39	12 35	13 08	41 - 60	
4	12 23	12 55	11 62	12 23	12 77	61 - 80	
5	12 37	12 43	12 50	12 91	11 98	81 - 100	841 25
6	12 00	12 69	12 69	13 18	12 40 *	101 - 200	1180 93
7	12 83	11 93	12 73	12 73	13 05 *	201 - 300	
8	12 49	12 64	13 43	12 42	13 31 *	301 - 400	
9	12 00	13 07	11 79	11 46	12 02 *	Total On Lease	2022 18
10	11 78	13 08	13 25	12 58	12 29 *	Casing Left Out	*127 26
11	10 63	11 79	11 63	12 08	12 63 *	Running Order Of Casing	
12	12 34	12 47	12 31	13 03	12 34 *	Shoe	50
13	11 37	13 24	12 99	12 21	12 76 *	Shoe Joint	12 60
14	11 84	12 07	12 11	12 52	13 64 *	Float Collar	45
15	10 44	12 31	12 04	12 96	12 82 *	Casing below	1144 78
16	12 40	12 63	12 31	12 13		Stage Collar	1 00
17	12 64	12 91	11 70	12 34			
18	12 66	12 62	13 57	12 55		Balance Of Casing Run	737 54
19	12 30	11 15	12 27	12 62		TOTAL	1896 87
20	11 17	12 05	12 63	13 01		Calculated Stickup Above KB	87
	241 84	248 25	250 81	249 40	190 63	CSG Landed KB	1896 00

Centralizers on joint numbers #1, #2, #3, #4, #5, & #6.

Scratchers on joint numbers ---

Indicate joints with ruff code etc. ---

Indicate joints with different wts., grade, threads or coupling ---

Jt. #1 through #66 LTC 34.22 kg/m Jt. #67 through #151 ST&C 29.76 kg/m

Actual length of cutoff 4.00 m

BIT RECORD

Well Name Northcor et al Trainor Lake Location N-25 N. W. T.

[illegible]

GEOLOGICAL PROGNOSIS, TESTS, CORES

Well Name Northcor et al Trainor Lake Location N-25 N.W.T.

GEOLOGICAL PROGNOSIS

FORMATION MARKERS	DEPTH	ELEVATION
Banff	647	
Kotcho	893	
Tetcho	1103	
Trout River	1182	
Kakisa	1223	
Redknife Fm.	1269.5	
Redknife Shale	1279.5	
Jean Marie	1367	
Ft. Simpson	1383	
Muskwa	1913	
Slave Point	1933	
Sulphur Point	1949	
Pine Point	2000	
Klua Shale	2107	
Keg River	2131	

..... Continued

TESTS

#	DATE	FORMATION	INTERVAL	V.O.	REMARKS

CORES

FORMATION	INTERVAL	REC.	CORING EQUIPMENT

GEOLOGICAL PROGNOSIS, TESTS, CORES

Well Name Northcor et al Trainor Lake Location N-25 N.W.T.

Page 2

GEOLOGICAL PROGNOSIS

[illegible]

TESTS

[illegible]

CORES

[illegible]

PLUG AND ABANDONMENT

Well Name Northcor et al Trainor Lk.

Location N-25

K.B. Elevation 730.03

Total Depth 2314 (Drillers)

Fluid in Hole Gel-Chem

Plug Back String

Service Company Halliburton

Cons. Bd. Officer

Hole Size	311	222	155.6	
Depth	502	1896	2314	
Casing in Hole	Size	Set:	Top of Cement	
Surface Casing	244	501	Surface	
Product String	178	1896	Top Stg. Surface	

	Plug 1	Plug 2	Plug 3	Plug 4	Plug 5	Plug 6
Date	84-03-24	84-03-24	84-03-25	84-03-26		
Interval	—Top —Bottom	2284 2314	2120 2220	1883 1913	Ground 10 m	
Formation	—Name —Depth	Precam- Brian 2275	Keg Riv. 2131	Muskwa 1913		
Calipered Hole Size (average)						
Type of Cement	Oilwell "G"	Oilwell "G"	Oilwell "G"	Construc- tion		
Tonnes of Cement	1.3	3.1	2.4			
Volume of Slurry m ³	1	2.4	1.8			
Additives	5% CFR 2	5% CFR 2	5% CFR 2	---		
Water Ahead m ³	1.5	1.5	1.5			
Displacement	—m ³ Water —m ³ Mud	.4 8.4	.4 7.7	.4 6.7		
Slurry Weight	kg/m ³	1895	1895	1895		
Mixing Times	—Start —Finish					
Displacing Times	—Start —Finish					
Felt Plug Time						
Felt Plug Depth	No Feel	2108	1881			

Surface Csg Cut 1 m below grd. Surface Plug 14 Sacks Plate Welded Yes

Casing Salvage: Shot off @ _____ Number of Jts Recovered _____

Remarks _____

INVENTORY OF SURPLUS EQUIPMENT

WELL NAME Northcor et al Trainor Lake N-25 Date _____

TUBULAR GOODS:

Csg/Tbg/etc.	No. of jts.	Make	Size	Wt.	Gr.	Thrd.	Rge.	Cond*	Total** Length

CASING BOWL: Size 11" x 9 5/8" Type slip Slip on or Screwed.
API 3,000 #. Cond. Used Make Crown "H"

WELLHEAD EQUIPMENT: Casing bowl with flanged valve. Wear bushing
11" x 7" slips C-22. Bit guide on Spartan #20 to be taken to
Spartan office.

MISC.: Flow show, pit levellers to Spartan Office.
Gas detector samples from Spartan #20 Guthrie #5 hauled to Edmonton
in camp. Swaco choke to be picked up on new location, Valleyview

Bernie Hunter said he would look after it.
RENTAL EQUIPMENT (Trailer, reamers, stabilizers, separator, tank, etc.)

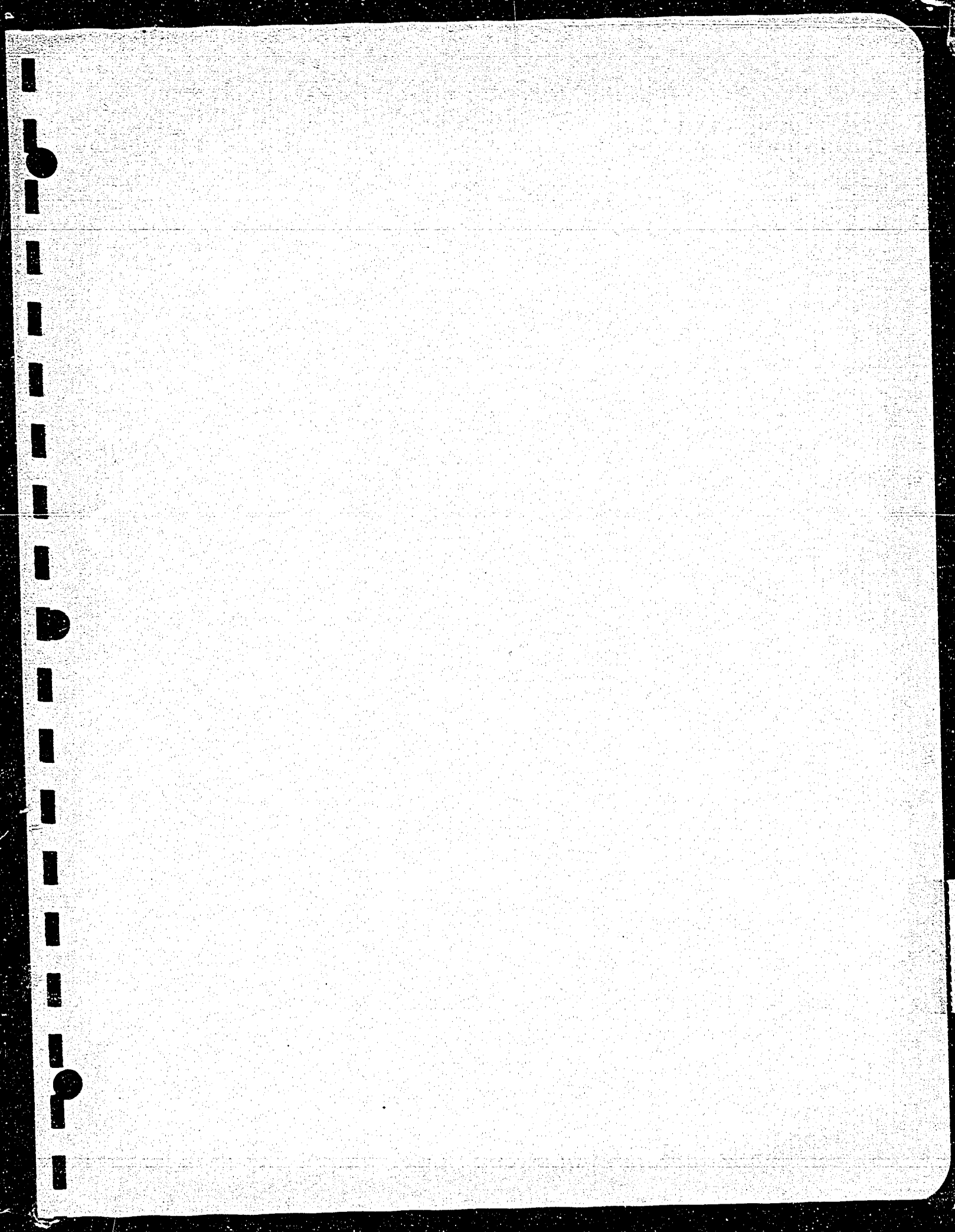
2 trailers returned to Manning with Jacksons Trucking. 400 bbl/tank and
propane skid Jackson Trucking, medic trailer and propane tank to
Ft. St. John by Jackson Trucking.

Remarks: (show where above is located and any instructions given regarding moving, etc.)

Extra regulators and strata flex lines in Supervisor trailer to be
returned to Manning. Northern Camp Industries. PH #836-3564
Fork lift and back hoe to Pardee Rentals, Edmonton by Mullen Transport.
9 5/8" casing, 5 jts. New + 10 jts. 7" haul to Guthrie #5.

- * A - New
- B - Good used
- C - Used, needs minor repairs
- D - Used, needs major repairs
- E - Junk

** Including threads.



Northoor et al Trainor Lake N-25

	February 7	8	9	10	11	12	13	14	15	16	17	18	19	20
Rig up & Down	15½													
Drilling	8	19	17	11 3/4	17	17½	21½	9½			12 3/4	19½	21 3/4	21
Reaming				½		½					3/4			
Condition Hole							3½			3/4	½	½		
Trip		1½	3½	9	3 3/4	4½		7 3/4		2 3/4	6½	3	1	2
Rig Service & BOP		½	3/4	3/4	½	3/4	3/4				3/4	½	½	½
Repairs		½	1½							12				
Slip & Out				1							1			
Surveys	½	2 3/4	1½	1	3/4	1	2	3/4			1	3/4	3/4	½
Logging														
Run Casing & Cement							½	8						
W.O.C.								10						
Nipple up								6	18½					
Test B.O.P.									5½	5½				
LDDC														
Plug Back														
Tear out BOP														
Out off bowl														
Clean to bottom														
Handle Tools					2			2½						
Drill Out										3½				
FL0T											1			

Northcor et al Trainor Lake N-25 - 2

[illegible]

Northoor et al Trainor Lake N-25 - 3

[illegible]

Northcor et al. Trainor Lake N-25 - 4

	March 22	23	24	25	26	27	
Rig up & Down						20½	
Drilling	22 3/4	20½					
Reaming							
Condition Hole		1½	½	12	1½		
Trip	½	1½	3½	10½	13		
Rig Service & BOP	3/4	3/4	½	½			
Repairs							
Slip & Cut							
Surveys			½				
Logging			8½				
Run Casing & Cement				1½			
W.O.C.					5 3/4		
Nipple Up							
Test BOPs							
LDDC			2½				
Plug Back					1	1	
Tear Out BOP					3	½	
Cut off Bowl						2	
Clean to Bottom							
Handle Tools							
Drill Out							
FLOT							
Circ. Sample							
Change Rams							
Drill Out DV							
Work tite connection							
BOP Drill							
Dart Logs			9				

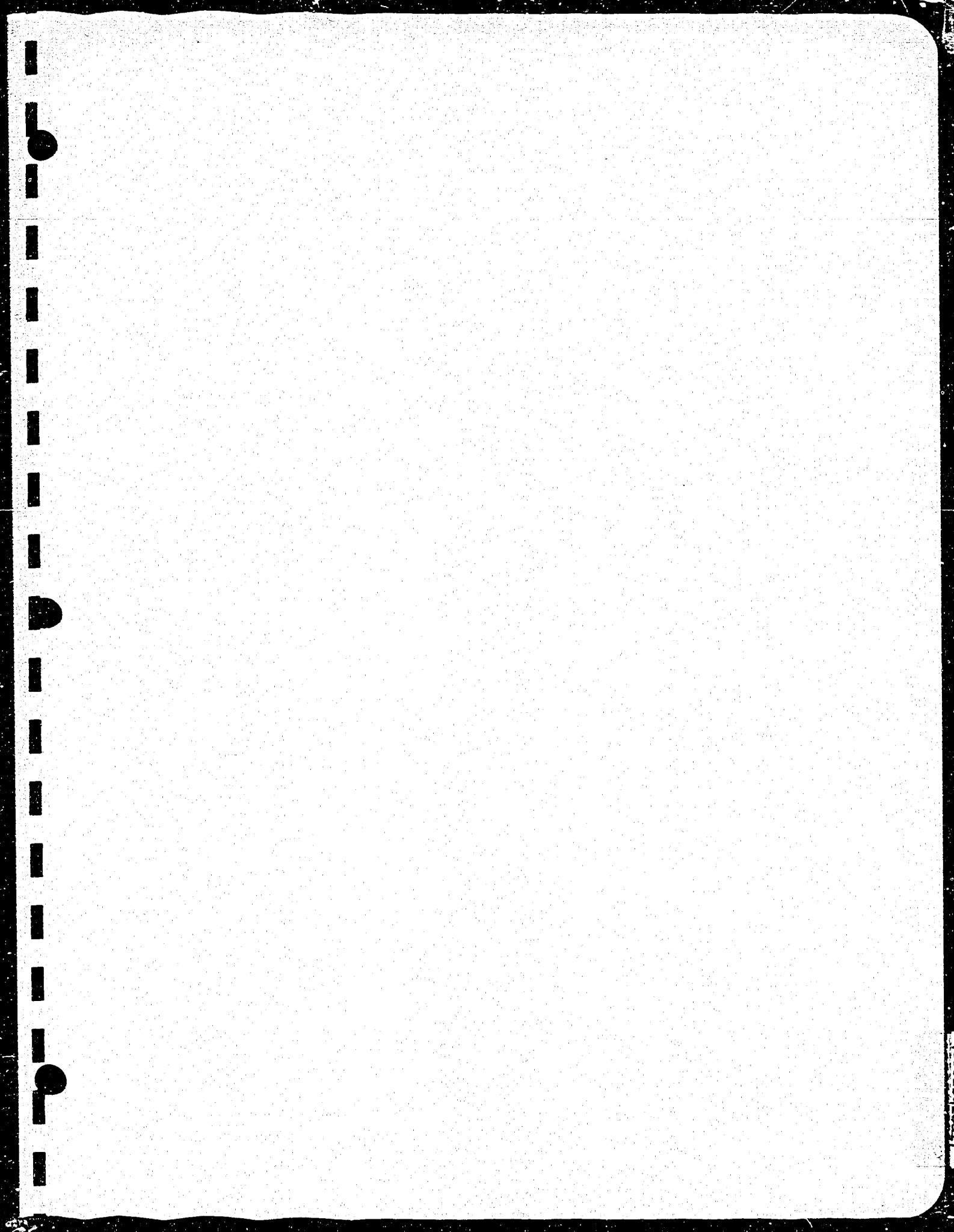
Northcor et al Trainor Lake N-25 - 5

Rig up & Down	36
Drilling	726½
Reaming	24½
Condition Hole	34
Trip	153
Rig Service & BOP	25 3/4
Repairs	15½
Slip & Cut	7
Surveys	24 3/4
Logging	21½
Run Casing & Cement	28 3/4
W.O.C.	21 3/4
Nipple Up	38½
Test BOPs	13 3/4
LDDC	2½
Plug Back	2
Tear Out BOP	3½
Cut off Bowl	2
Clean to Bottom	6½
Handle Tools	6
Drill Out	3½
Flot	4 3/4
Circ. Sample	3½
Change Rams	1½
Drill Out DV	6½
Work tite connection	1½
BOP Drill	½
Dart Logs	9

TOTAL

1223½ hours

50.97 Days



NORTHCOR ENERGY LTD.

NORTHCOR ET AL TRAINOR LAKE N-25

60° 14' 48" N

120° 34' 51" W

Geologist: John Fraser

Merlin Petroleum Consulting Ltd.
#207, 239 - 12th Avenue S.W.
Calgary, Alberta T2R 0G9
(403) 261-8036

Reported to: Mr. John Stuart-Smith

NORTHCOR ET AL TRAINOR LAKE N-25

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Sample Descriptions (Intermediate Hole)	Page 14
Sample Descriptions (Bottom Hole)	Page 38

NORTHCOR ET AL TRAINOR LAKE N-25WELL DATA SUMMARY

Company: Northcor Energy Ltd.

Well Name: Northcor et al Trainor Lake N-25

Well Location: 60° 14' 48" N
120° 34' 51" W

Elevations: Ground : 725.82m
Kelly Bushing: 730.07m

Contractor: Spartan Drilling, Rig #20

Spud Date: (1830 hrs) February 5, 1984

Hole Size: Surface : 311mm for 244mm casing,
set at 500m K.B.
Intermediate: 222mm for 178mm casing,
set at 1896m K.B.
Main : 155.6mm

Total Depth: 2314m (driller); (2100 hrs) March 22, 1984
2316m (logger)

Cores: None

Drill Stem Tests: None

Open Hole Logs: Schlumberger
CNL-LDT - 1:240 & 1:600; total depth
to surface casing
DISFL - 1:240 & 1:600; total depth
to surface casing
BHCS - 1:240 & 1:600; total depth
to intermediate casing

Sampled Interval: 22m to 2314m (5 meter intervals)
COGLA: 22mm - 2314m (5 meter and 10
meter intervals)

NORTHCOR ET AL TRAINOR LAKE N-25GEOLOGICAL MARKERSK.B. ELEVATION: 730.07m

<u>Formation</u>	<u>Prognosis Depth</u>	<u>Prognosis Subsea</u>	<u>Sample Depth</u>	<u>Sample Subsea</u>	<u>Log Depth</u>	<u>Log Subsea</u>
Banff	688	+42	644	+86	647	+83
Kotcho	905	-175	890	-160	893	-163
Tetcho	1098	-368	1101	-371	1103	-373
Trout River	1179	-449	1179	-449	1182	-452
Kakisa	1214	-484	1220	-490	1223	-493
Jean Marie	1345	-615	1365	-635	1367	-637
Fort Simpson	1360	-630	1380	-650	1383	-653
Muskwa	1876	-1146	1910	-1180	1913	-1183
Slave Point	1905	-1175	1932	-1202	1933	-1203
Sulphur Point	-	-	1952	-1222	1949	-1219
Pine Point	-	-	1999	-1269	2000	-1270
Klua Shale	2126	-1396	2110	-1380	2107	-1377
Keg River	2208	-1478	2133	-1403	2131	-1401
Chinchaga Detrital	2277	-1547	2207	-1477	2206	-1476
Precambrian	2285	-1555	2274	-1544	2275	-1545
TOTAL DEPTH			2314		2316	

NORTHCOR ET AL TRAINOR LAKE N-25BIT RECORD

<u>Bit No.</u>	<u>Size</u>	<u>Make</u>	<u>Type</u>	<u>Depth Cut</u>	<u>Meters Drilled</u>	<u>Hours</u>	<u>Condition T : B : G</u>
1A	311	Smith	DSJ	128	107	25 3/4	8 : 3 : 1
2A	311	Smith	DTJ	195	67	11 1/4	8 : 8 : 1
3A	311	Smith	DSJ	235	40	12 1/4	8 : 5 : 1
4A	311	H.W.	X3A	260	25	2 3/4	1 : 5 : 1
5A	311	Reed	S11	339	79	32	2 : 3 : 1
6A	311	Reed	S11	502	163	32 1/2	4 : 2 : 1
1	222	Reed	S11G	632	130	29 1/2	3 : 3 : 1
2	222	Reed	S11G	892	260	45 3/4	4 : 6 : 1
3	222	Smith	F2	1372	480	117 1/2	1 : 3 : 1
4	222	Reed	FP51A	1660	288	117 1/4	1 : 1 : 1
5	222	H.W.	J11	1895	235	82 3/4	1 : 1 : 1
6	156	Reed	Y21	1903	8	3 3/4	5 : 6 : 1
7	156	Smith	F3	2036	133	56 3/4	2 : 6 : 1
8	156	Smith	F3	2152	116	70	2 : 5 : 1
9	156	Smith	F3	2238	86	59 3/4	3 : 6 : 1
10	156	Smith	F3	2314	76	43	3 : 7 : 1

NORTHCOR ET AL TRAINOR LAKE N-25DEVIATION RECORD

<u>Depth (m)</u>	<u>Survey (degrees)</u>
60	1/4
70	1/2
80	3/4
90	1/4
99	1/8
109	1/2
118	7/8
128	1/4
137	1/4
147	1/4
156	1/4
175	3/4
194	1/4
213	1/2
241	1 1/4
250	1 1/2
259	2
270	1 7/8
275	1 3/4
284	1 3/4
295	1 3/4
304	1 1/2
313	3/4
322	1 1/8
332	1
353	1/2
363	1/2
382	3/4
410	1 1/4
419	1
428	1 1/4
447	1/2
465	3/4
483	3/4
502	3/4
510	1/2
529	3/4
556	1/4
575	3/4
613	1/2
642	1/2
680	3/4

NORTHCOR ET AL TRAINOR LAKE N-25DEVIATION RECORD

<u>Depth (m)</u>	<u>Survey (degrees)</u>
719	1/2
764	1/2
802	3/4
892	3/4
981	3/4
1076	7/8
1179	3/4
1322	1/2
1372	1
1416	1 1/4
1442	2
1451	1 1/2
1460	1 7/8
1470	1 1/4
1480	1 1/2
1490	1 1/4
1510	1 1/2
1520	1 1/8
1547	1 1/4
1555	7/8
1582	7/8
1612	7/8
1651	7/8
1698	7/8
1764	7/8
1830	7/8
1895	1
2035	3/4
2152	7/8
2237	1/2
2314	7/8

Northcor et al Trainor Lake N-25

<u>Depth</u>	<u>Meters</u>	<u>Survey</u>	<u>Distance</u>	<u>Lat</u>	<u>Dep</u>	<u>Total</u>
29	29	1/2	29	29	.25	
43	14	7/8	14	14	.21	
60	17	1/4	17	17	.07	
70	10	1/2	10	10	.09	
80	10	3/4	10	10	.13	
90	10	1/4	10	10	.04	
99	9	1/8	9	9	.02	
109	10	1/2	10	10	.09	
118	9	7/8	9	9	.14	
128	10	1/4	10	10	.04	
175	47	3/4	47	47	.62	
194	19	1/4	19	19	.08	
213	19	1/2	19	19	.17	
241	28	1 1/4	28	27.99	.61	
250	9	1 1/2	9	9	.24	
259	9	2	9	8.99	.31	
270	11	1 7/8	11	10.99	.36	
275	5	1 3/4	5	5	.15	
284	9	1 3/4	9	9	.27	
295	11	1 3/4	11	10.99	.34	
304	9	1 1/2	9	9	.24	
313	9	3/4	9	9	.12	
322	9	1	9	9	.16	
353	31	1/2	31	31	.27	
363	10	1/2	10	10	.09	
382	19	3/4	19	19	.25	
410	28	1 1/4	28	27.99	.61	6.33
419	9	1	9	9	.16	
428	9	1 1/4	9	9	.20	
447	19	1/2	19	19	.17	6.33
465	18	3/4	18	18	.24	
483	18	3/4	18	18	.24	
502	19	3/4	19	19	.25	7.23

Northcor et al Trainor Lake N-25

<u>Depth</u>	<u>Meters</u>	<u>Survey</u>	<u>Distance</u>	<u>Lat</u>	<u>Dep</u>	<u>Total</u>
510	8	1/2	8	8	.07	
529	19	3/4	19	19	.25	
556	27	1/4	27	27	.12	
575	19	3/4	19	19	.25	
613	38	1/2	38	38	.33	
632	19	1/2	19	19	.17	
642	10	1/2	10	10	.09	
680	38	3/4	38	38	.50	
719	39	1/2	39	39	.34	
764	45	1/2	45	45	.39	
802	38	3/4	38	38	.50	
892	90	3/4	90	89.99	1.18	
981	89	3/4	39	88.99	1.16	
1076	95	7/8	95	94.99	1.44	
1179	103	3/4	103	102.99	1.35	
1322	143	1/2	143	143	1.25	
1372	50	1	50	49.99	.87	
1416	44	1 1/4	44	43.98	.96	
1422	6	2	6	6	.21	
1451	29	1 1/2	29	28.99	.76	
1460	9	1 7/8	9	9	.35	
1470	10	1 1/4	10	10	.22	
1480	10	1 1/2	10	10	.26	
1490	10	1 1/4	10	10	.22	20.47
1510	20	1 1/2	20	19.99	.52	
1520	10	1 1/8	10	10	.20	
1547	27	1 1/4	27	26.99	.59	
1555	8	7/8	8	8	.11	
1582	27	7/8	27	27	.41	
1612	30	7/8	30	30	.45	
1651	39	7/8	39	39	.60	
1698	47	7/8	47	47	.72	
1764	66	7/8	66	65.99	1.01	

Northcor et al Trainor Lake N-25

<u>Depth</u>	<u>Meters</u>	<u>Survey</u>	<u>Distance</u>	<u>Lat</u>	<u>Dep</u>	<u>Total</u>
1829	65	7/8	65	64.99	.99	
1895	66	1	66	65.99	1.15	27.22
2035	140	3/4	140	139.99	1.83	
2152	117	7/8	117	116.99	1.73	30.83
2237	85	1/2	85	85	.74	31.57
2314	77	7/8	77	76.99	1.18	32.75

log
Analysis

LOCATION : 60° 14' 48" N/120° 34' 51" W

K. B. 730.07 m G. L. 725.82 m DATE LOGGED: March 7 & March 23, 1984 STATUS: Plugged

FORMATION AND DEPTH	Rw	POROSITY				THICKNESS (m)	Av.Ø	Ro	Rt	Sw%
		ØD	ØN	ΔT	ØS					
BANFF										
648 - 649	0.05	8	14	-		1	11		8	72
652 - 653	0.05	-5	2	-		1	0		32	-
657.5 - 658.5	0.05	4	5	-		1	4.5		15	100
661 - 662	0.05	7	9	-		1	8		14	74
702 - 704	0.05	4	7	-		2	5.5		16	100
JEAN MARIE										
1367 - 1371	0.045	0	2	-		4	1		70	100
SLAVE POINT										
1933 - 1936	0.015	5	8	50	8	3	7		22	37
KEG RIVER										
2161 - 2163	0.22	-5	4	20	3	2	1		45	100
2166 - 2167	0.22	9	4	10	2	1	5		65	100
2176 - 2178	0.22	-6	4	10	2	2	0		55	-
2180 - 2181	0.22	-6	4	5	1	1	0		60	-

Description

NORTHCOR ET AL TRAINOR LAKE N-25FORMATION DESCRIPTIONSSURFACE HOLE: (22m - 501m)

Northcor et al Trainor Lake N-25 was spudded on February 5, 1984 and surface casing set at 501m on February 13. Samples were collected and described from surface.

A thick Recent section of glacial till was encountered to a depth of approximately 240m K.B., consisting of boulder clays interbedded with silts and sands. Through much of the section there was evidence of scattered oil residue, in the form of dead oil stain. This was assumed to have been relict staining from a pre-existing deposit, and not an in situ emplacement.

LOWER CRETACEOUS

The glacial till makes an unconformable contact with the underlying Lower Cretaceous beds at 240m. This section consisted of interbedded sands, shales and siltstones. The sands were generally very fine to fine grained, variably argillaceous to clay-plugged in parts. Light brown oil staining, with a weak solvent cut was locally present. Intergranular porosity ranged from poor to fair. No electric logs were run in this section of the hole.

INTERMEDIATE HOLE: (501m - 1898m)LOWER CRETACEOUS

The Intermediate Hole was commenced on February 17 at a depth of 501m, in the Lower Cretaceous. The Lower Cretaceous below the surface casing became predominantly a series of interbedded siltstones and shales, with only occasional sands present. No further oil staining or fluorescence was evident in these sands. At 647m, underlying the Lower Cretaceous, a rapid facies transition from shale to limestone denoted the unconformable top of the Lower Mississippian Banff member. (647m - 893m).

NORTHCOR ET AL TRAINOR LAKE N-25FORMATION DESCRIPTIONSLOWER MISSISSIPPIANBANFF MEMBER

The Banff consisted of light grey and brown calcarenites with shale interbeds. Porosity was generally poor, to locally fair. No staining or fluorescence was noted, and background gas was zero. Resistivity figures from electric logs run at the intermediate casing point were below 20 ohm/m, and water saturation appeared high, between 70 and 100%. No D.S.T.'s were attempted.

UPPER DEVONIANJEAN MARIE

The Upper Devonian Jean Marie Member (Redknife Formation) carbonate was penetrated at 1367m. Consisting of white and brown mudstones, with rare bitumen, it gradually shales out into the top of the Fort Simpson shale at 1383m, and underlies the upper limestones and shales of the Redknife Shales. This zone showed little or no porosity and no oil shows, gas readings through this section remained at zero. Resistivity readings were approximately 70 ohm/m through most of the upper section, and calculated water saturation was 100%. No D.S.T.'s were attempted.

BOTTOM HOLE: (1898m - 2314m)

MIDDLE DEVONIANSLAVE POINT

Intermediate casing was set at 1898m on March 6, and drilled out on March 11. The Middle Devonian Slave Point top occurred at 1933m, underlying a hard black shale of the Muskwa. The contact is sharp and unconformable with a pronounced drilling break at the facies change from shale into limestone. Carbonates of the Slave Point in this area were generally white, clean, pelletal mudstones, with fair porosity. No oil staining or fluorescence was noted in the samples, and background gas was zero. Electric log resistivities were low, in the region of 22 ohm/m maximum. No D.S.T.'s were attempted.

NORTHCOR ET AL TRAINOR LAKE N-25

FORMATION DESCRIPTIONS

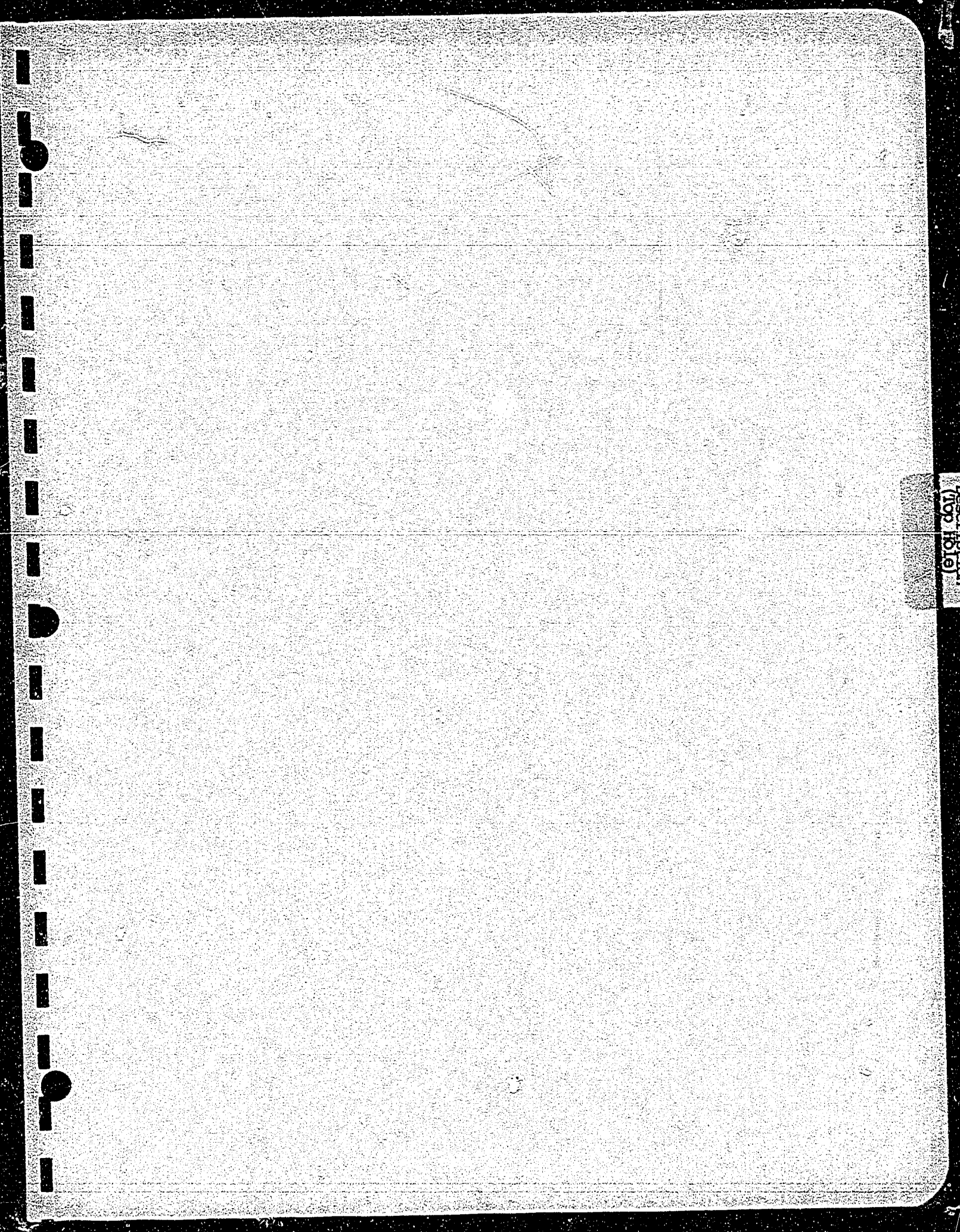
MIDDLE DEVONIAN

KEG RIVER

The Middle Devonian Keg River platform (Upper Elk Point Group) was penetrated at 2131m, underlying a thin section of Kiua shale. The Keg River was divided into two distinct lithological units. The upper unit consisted of brown fossiliferous limestones, and the lower unit comprised of white and brown dolomites.

There was no evidence of oil staining in the samples, and porosity was generally poor. No gas registered on the gas detector throughout this interval, the gas background being zero. Electric logs run through the section showed resistivity readings to a maximum value of 65 ohm/m. Water saturation was calculated to be 100%, and no D.S.T.'s were attempted.

Total Depth was reached at 2314m K.B.



NORTHCOR ET AL TRAINOR LAKE N-25SAMPLE DESCRIPTIONSTOP HOLE

- 22 - 30 Muskeg: dark brown, peaty, primarily sphagnum mosses and woody debris, trace of scattered rounded chert grains.
- 30 - 40 Sand and gravel: coarse grained sands, rounded clear quartz grains, varicoloured chert and dark lithic fragments, unconsolidated, with fractured granite and quartzite pebbles, possible clay matrix, sizes may grade up to 20cm diameter, good porosity in sands, no shows.
- 40 - 50 Sand: loose, clear quartz, coarse grained, subrounded to angular, porosity appears good, rare scattered dark yellow cut, trace of dull brown dry fluorescence, trace of Charaphytes.
- 50 - 75 Boulder bed: varicoloured cherts and dark lithic fragments, fractured pink granite and quartzite, with a dark grey clay matrix.
- 75 - 90 Sand: loose, clear, fine to coarse grained quartz, angular, locally red stained, trace of ironstone, fair sorting, occasional chert, granite and dark lithic fragments as above, possible clay matrix, porosity questionably fair to good, no shows, trace of shell debris.
- 90 - 105 Sand: very fine grained, loose, clear quartz, angular, fair sorting, trace of chert and dark lithic fragments, mineral stain on scattered grains, no visible matrix infill, porosity appears good, no fluorescence, no cut.
- 105 - 125 Sands and gravels.
Sand: clear quartz, scattered chert and dark lithic fragments, very fine grained, angular, fair sorting, unconsolidated, clean appearance, porosity appears fair to good, no visible stain, trace of dark yellow cut, no visible dry fluorescence. Interbedded with trace coarse grained sands, gravels and larger grade detritus. Trace of Pelecypod fragments.

NORTHCOR ET AL TRAINOR LAKE N-25SAMPLE DESCRIPTIONSTOP HOLE

- 125 - 155 Sand: very fine grained to fine grained, clear quartz and dark lithic fragments, angular, scattered trace of pyrite, unconsolidated, no visible matrix infill, poorly sorted, porosity good, trace of dead oil stain, faint dull yellow fluorescence and trace of dull yellow cut.
- 155 - 170 Sands and boulder beds.
Sands: as above, with pink and grey granites, various coloured quartzites, fractured into angular fragments, very coarse grained to an observed size maximum of 10cm diameter, scattered trace of shale, abundant black biotite patches, no visible cement, dark grey clay matrix, questionable porosity, trace of pale to medium brown dead oil stain in parts, trace of dull brown fluorescence, dark yellow wispy cut.
- 170 - 225 Sands and boulder clay.
Sand: clear quartz, very fine to fine grained, angular, trace of chert and coal fragments, unconsolidated, no visible matrix infill, fair sorting, porosity appears good, trace of brown stain, no fluorescence, no cut. Underlain by boulder beds as above.
- 225 - 235 Sand: very fine to medium grained, angular to subrounded, minor chert, trace of hematite stain, loose, no visible cement, poorly sorted, porosity appears good, no shows.
- 235 - 240 Boulder beds: assorted fractured vari-coloured granites and quartzites, abundant pyrite, possible clay matrix, porosity questionable, no shows.
- 240 - 255 Claystone: light grey-brown, soft to firm, silty, trace of rare quartz and chert grains.

NORTHCOR ET AL TRAINOR LAKE N-25SAMPLE DESCRIPTIONSTOP HOLE

255 - 275

Sand: quartz, medium grained, occasionally very fine grained, subrounded to rounded, unconsolidated, porosity appears good.

Interbedded sandstone: light grey, salt and pepper, very fine grained, silty, micaceous, fair sorting, firm, porosity fair, trace of light brown stain, no shows.

275 - 280

Sand: clear quartz, fine to medium grained, angular to subrounded, scattered varicoloured chert, loose, no visible cement, well sorted, porosity appears good, trace of mineral stain, no fluorescence, no cut.

280 - 320

Sandstone and shale.

Sandstone: as above; becoming interbedded with shales.

Shale: medium to dark grey, firm, fissile, silty, carbonaceous in parts, trace of coal partings, micromicaceous, noncalcareous, siliceous locally.

320 - 345

Shale: black, hard, subfissile to fissile, silty in parts, carbonaceous and micaceous, noncalcareous; trace of minor medium grey siltstone interbeds.

345 - 375

Sandstone: quartz, light to medium grey, salt and pepper, fine to very fine angular grains, scattered dark chert, friable to firm siliceous, silt and clay filled interstices, poor sorting, faint light brown oil stain overall, porosity fair, 5% light yellow dry fluorescence, diffused milky cut, light brown oil residual ring. Underlain by shale as above.

NORTHCOR ET AL TRAINOR LAKE N-25

SAMPLE DESCRIPTIONS

TOP HOLE

375 - 415

Sandstone: quartz, salt and pepper, dirty, very fine angular grains, grading to silt in parts, glauconitic, abundant chitin flecks, trace of fish scales, scattered pyrite, orange chert, friable to firm, locally hard with quartz overgrowths, clay and silt filled voids, porosity poor to locally fair, scattered light brown oil stain, light yellow dry fluorescence, weak diffused milky cut.

Interbedded with and underlain by shale: dark grey to black, firm, blocky to fissile, silty locally, chitin and carbon flecked, trace of Inoceramus.

415 - 470

Shale: medium to dark grey, firm, subfissile to blocky.

Interbedded with sandstone stringers: light to medium grey, very fine grained grading into siltstone locally, angular grains, glauconitic, dirty appearance, firm, clay and silt plugged pores, poor porosity, trace of questionable dark brown dead oil stain, no visible fluorescence, no cut.

Trace Inoceramus; trace Echinoid spines.

470 - 502

Shale: as above.

Minor sandstone stringers: as above.

Interbedded with siltstone: medium grey, firm, blocky, slightly glauconitic, kaolinitic, micaceous, faintly laminated, noncalcareous; trace of scattered quartz grains.

TOTAL DEPTH FOR SURFACE HOLE: 502m
(February 13/84)

(Surface Casing set at 500m K.B.)

Sample
Description
(Int. folio)

NORTHCOR ET AL TRAINOR LAKE N-25SAMPLE DESCRIPTIONSINTERMEDIATE HOLE

- 500 - 510 Shale: medium to dark grey, firm, fissile, silty in parts, noncalcareous, micromicaceous, carbonaceous; trace of loose coarse quartz grains.
- 510 - 515 Shale: predominantly medium grey, blocky to fissile, firm, noncalcareous, silty in parts, micromicaceous.
Interbedded siltstone: medium grey, moderately hard, blocky, micaceous.
- 515 - 520 Shale: as above.
Interbedded siltstone: light grey, blocky, firm, kaolinitic, glauconitic; becoming dark brown, siliceous, hard and sandy in parts, no visible fluorescence or cut.
- 520 - 525 Siltstone: medium to dark grey, blocky, hard to firm, rare trace of chitin, kaolinitic, dark brown stained locally, no shows.
- 525 - 535 Sandstone: light grey, very fine grained, angular quartz, silica cement, kaolin plugged pores, scattered dark chert and glauconite, firm, well sorted, poor porosity, no fluorescence, no cut.
Interbedded shale: medium grey, splintery, brittle, micromicaceous, noncalcareous.
- 535 - 540 Shale: dark grey to black, firm, flaky to locally silty and blocky, slightly carbonaceous, rare glauconite, micromicaceous, noncalcareous.
- 540 - 545 Shale: as above.
Interbedded siltstone: light grey, blocky, chitinous and glauconitic in parts, kaolinitic, firm.

NORTHCOR ET AL TRAINOR LAKE N-25

SAMPLE DESCRIPTIONS

INTERMEDIATE HOLE

545 - 555

Shale: dark grey to black, firm, silty, slightly carbonaceous.

Interbedded siltstone: light to medium grey, firm, blocky, kaolinitic, glauconitic, trace of carbonaceous flecks, siliceous cement, noncalcareous; grading very fine grained sandstone in parts, no shows. Trace of coarse quartz grains and fractured cherts.

555 - 560

Shale: medium to dark grey, as above.

Interbedded siltstone: medium grey, blocky, firm, hard in parts, glauconitic, slightly carbon flecked in parts, kaolinitic, trace of pyrite dusting and nodules, micromicaceous, noncalcareous.

560 - 565

Shale: medium to dark grey, firm, flaky, splintery in parts, trace of carbon speckles, chitinous debris, micromicaceous, noncalcareous.

565 - 575

Shale: dark grey to black, fissile, moderately hard, brittle, slightly silty in parts, noncalcareous, micromicaceous; with interbedded medium to dark grey glauconitic siltstone.

575 - 580

Shale: dark grey to black, splintery, brittle, noncalcareous, slightly carbonaceous.

Interbedded siltstone: dark grey, occasionally dark brown, firm to friable, siliceous in parts; grading to very fine grained sandstone locally, no shows. Trace of loose quartz and chert grains.

580 - 590

Shale: dark grey to black, fissile, splintery, carbonaceous in parts, micromicaceous, noncalcareous; with minor siltstone interbeds.

590 - 600

Shale: medium to dark grey, fissile, flaky, trace of pollen grains (1), carbon speckled, becoming silty in parts, noncalcareous.

NORTHCOR ET AL TRAINOR LAKE N-25

SAMPLE DESCRIPTIONS

INTERMEDIATE HOLE

- 600 - 610 Shale: medium to dark grey and occasionally black, fissile, flaky, minor to occasionally silty, trace carbonaceous, noncalcareous, rare calcite.
- 610 - 615 Shale: medium grey dominant, black in parts, firm to hard, fissile, splintery, micromicaceous, noncalcareous.
- 615 - 620 Shale: light to medium grey, firm, flaky, noncalcareous, micromicaceous, rare trace calcareous stringers, minor pyrite.
- 620 - 625 Shale: as above, becoming carbonaceous in parts.
Interbedded siltstone: medium grey, hard, siliceous; grading to very fine grained sandstone, slightly glauconitic, clay filled pores, no visible porosity, no shows.
- 625 - 630 Shale: medium to dark grey, firm to hard, fissile, becoming blocky and subfissile, slightly silty in parts, carbon flecked, noncalcareous, trace of thin white silty calcite stringers.
- 630 - 635 Shale: black, fissile, splintery, brittle, micromicaceous, noncalcareous, trace of scattered pyrite dusting and nodules.
- 635 - 640 Shale: medium grey-brown, firm, fissile to subfissile and blocky, carbon speckled, silty in parts, slightly calcareous locally, trace of silty calcareous stringers, pyrite nodules.
Thinly interbedded sandstone: black, quartz and bitumen, medium grained, angular, clear and vitreous quartz grains, friable, occasionally dark brown stained, in black bitumen matrix, poor intergranular porosity, no dry fluorescence, weak slow streaming cut; interbedded with dark grey shales.

NORTHCOR ET AL TRAINOR LAKE N-25SAMPLE DESCRIPTIONSINTERMEDIATE HOLE

640 - 645

Shale: medium grey, blocky to flaky; trace of dead oil and bitumen stained quartz grains as above, trace of milky cut.

Interbedded with shale: chloritic, light to dark apple green, blocky, noncalcareous.

645 - 650

Limestone: medium grey, hard, cryptocrystalline, massive, dense, slightly silty in parts.

Underlain by limestone: off white, light grey, firm to friable, very finely crystalline, slightly silty, porosity poor, no shows, trace of Ostracods.

650 - 655

Limestone: off white, hard, microcrystalline to very fine grained, soft, blocky and friable, flaky in parts, slightly silty, subsucrosic texture, local traces of poor intercrystalline porosity, no shows.

655 - 660

Limestone: light grey, white, dense, microcrystalline to very finely crystalline, sucrosic appearance, faintly laminated, silty, blocky, becoming very silty, grading to calcareous siltstone in parts, poor porosity, no shows. Trace of Ostracods, Crinoid ossicles, solitary tabulate corals, spines.

660 - 665

Limestone: off white, dense, microcrystalline to very finely crystalline, abundant fossils as above, porosity poor intercrystalline, no shows.

Interbedded with shale: medium to dark grey, firm, glauconitic, carbon flecked, noncalcareous.

665 - 670

Limestone: light grey-brown, firm, silty, blocky, grading to calcareous siltstone, very fossiliferous as above, poor intercrystalline porosity, no shows.

Interbedded with siltstone: grey to light grey-brown, blocky, noncalcareous.

NORTHCOR ET AL TRAINOR LAKE N-25SAMPLE DESCRIPTIONSINTERMEDIATE HOLE

- 670 - 675 Limestone: buff, light grey-brown, crypto-crystalline to microcrystalline, becoming very finely crystalline, silty in parts, moderately hard to friable, generally massive, porosity poor intercrystalline, no shows. Abundant Crinoid remnants, spines and Ostracods.
- 675 - 680 Limestone: buff, microcrystalline, translucent to light grey-brown, hard to firm, silty in parts, subvitreous to dull granular appearance, massive, fossiliferous, local traces of poor intercrystalline porosity, no shows.
- 680 - 685 Limestone: light grey-brown, medium brown, mottled, dull granular appearance, firm, cryptocrystalline, silty, fossiliferous as above, poor intercrystalline porosity, no fluorescence, no cut.
- 685 - 690 Limestone: medium brown, dense, hard, massive, silty and argillaceous in parts, no visible porosity, no shows.
- 690 - 695 Limestone: off white, buff, friable, very fine grained, granular, massive, occasionally flaky laminated, fossiliferous, local poor intercrystalline porosity, no shows. Trace of Crinoids, Ostracods and spines.
- 695 - 705 Limestone: white, off white, mudstone, very finely crystalline, granular to firm, microcrystalline, recrystallized in parts, silty, trace of poor intercrystalline porosity, no shows; trace of Crinoids, Ostracods, Bryozoa.
Interbedded with shale: medium to dark grey, flaky, blocky and silty in parts, brown flecked, noncalcareous.
- 705 - 710 Limestone: grey, grey-brown, mudstone, part recrystallized, firm to friable, blocky, cryptocrystalline to granular appearance, slightly argillaceous, silty locally, pyritic in parts, fossiliferous as above, no visible porosity, no shows.

NORTHCOR ET AL TRAINOR LAKE N-25SAMPLE DESCRIPTIONSINTERMEDIATE HOLE

- 710 - 715 Limestone: light grey, mudstone, firm, cryptocrystalline, silty, argillaceous, nonfossiliferous, no visible porosity, no shows.
Interbedded with shale: medium to dark grey, firm, flaky, noncalcareous.
- 715 - 720 Shale: dark grey, dark grey-brown, silty, firm, chitin flecked and pyritic in parts, micromicaceous.
Interbedded siltstone: medium grey, medium brown, firm, blocky, calcareous.
- 720 - 725 Shale: medium to dark grey, firm, blocky to flaky, silty in parts, trace of pyrite burrow casts, noncalcareous; with light brown and grey, silty, limestone interbeds; trace of Ostracods.
- 725 - 740 Shale: dark grey, firm, blocky, becoming silty and calcareous in parts, trace of pyrite.
Interbedded marlstone: light brown, hard, blocky, earthy appearance, dolomitic. Trace of minor limestone stringers; trace of Ostracods.
- 740 - 745 Shale: medium grey, firm, flaky to blocky, silty in parts, calcareous; local minor dolomitic shale as above.
- 745 - 750 Shale: medium grey, black in parts, firm, subfissile, silty and micaceous, trace of glauconite, calcareous locally. Trace of Ostracods.
- 750 - 755 Shale: dark grey to black, occasionally brown tinted, flaky, brittle, calcareous in parts, dominantly noncalcareous; interbedded with medium brown, blocky, dolomitic shale.

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- 755 - 760 Shale: medium grey, blocky, subfissile, firm, silty, micaceous in parts, calcareous, dolomitic locally; with shale as above.
- 760 - 770 Shale: medium to dark grey, firm, fissile to subfissile, chitin flecked, trace silty, generally calcareous; trace of Ostracod.
Marlstone: buff, hard, blocky, dark speckled, silty and dolomitic.
- 770 - 775 Shale: dark grey, firm to hard, fissile to blocky, calcareous in parts, slightly silty. Trace of Brachiopods (1).
- 775 - 785 Shale: medium grey, firm, fissile to subfissile, silty in parts, noncalcareous; interbedded with minor buff, blocky, dolomitic marlstone.
- 785 - 790 Shale: dark grey, firm, fissile to blocky, silty, carbon flecked, calcareous in parts.
Interbedded siltstone: medium to dark grey, very calcareous locally, blocky and slightly glauconitic.
- 790 - 795 Shale: black, firm to hard, brittle, fissile, splintery, locally calcareous.
- 795 - 800 Shale: medium grey, blocky, hard, calcareous, subfissile, micaceous in parts.
- 800 - 825 Shale: light to medium grey, firm, fissile, becoming silty and blocky locally, calcareous.
Interbedded marlstone: buff, blocky, silty and dolomitic.
- 825 - 830 Shale: light grey to medium grey-brown, soft to firm, flaky to blocky, noncalcareous, micromicaceous, waxy appearance; with buff marlstone interbeds as above.

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- 830 - 835 Shale: medium grey, fissile, firm, calcareous in parts, slightly glauconitic, locally pyritic.
- 835 - 845 Shale: medium grey, firm, subfissile, silty, micromicaceous, slightly dolomitic.
- 845 - 850 Shale: dark grey, hard, brittle, fissile, splintery, noncalcareous.
Minor concretions of marlstone: buff, blocky, slightly speckled, dolomitic, dull, earthy appearance.
- 850 - 860 Shale: dark grey, firm to hard, generally fissile, calcareous in parts, slightly fossiliferous; interbedded with marlstone as above. Trace of spines, Bryozoa.
- 860 - 870 Shale: dark grey, fissile to firm, noncalcareous, slightly dolomitic in parts.
- 870 - 875 Shale: dark grey to black, hard, brittle, fissile, silty, blocky and calcareous in parts, trace of pyrite nodules.
- 875 - 885 Shale: dark grey, as above.
Interbedded minor siltstone: medium grey, firm, argillaceous, blocky, noncalcareous, slightly glauconitic; trace of scattered, silty, white limestone stringers.
- 885 - 890 Shale: dark grey, fissile, platy, hard, brittle, slightly dolomitic in parts.
- 890 - 900 Limestone: buff, light brown, mudstone, argillaceous, microcrystalline, part recrystallized, trace of skeletal fragments, firm to friable, poor secondary intercrystalline porosity, no shows; trace of Crinoids. Interbedded with dark grey shale stringers.

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SAMPLE DESCRIPTIONS

INTERMEDIATE HOLE

900 - 905

Limestone: off white, mudstone, fossiliferous, firm, part recrystallized, microcrystalline, slightly argillaceous, trace of poor secondary intercrystalline porosity, no shows. Trace of Crinoids, spines.

905 - 915

Limestone: off white to cream, firm, mudstone, fossiliferous, slightly argillaceous, recrystallized as above, dense to local trace of poor intercrystalline porosity, no shows. Trace of Crinoids.

915 - 920

Limestone: cream to white, mudstone, microcrystalline to cryptocrystalline, hard to firm, dense, slightly argillaceous, trace fossiliferous, local traces of poor intercrystalline porosity, no shows.

Trace of shale: medium to dark grey, hard, splintery, calcareous.

920 - 930

Limestone: white, off white, mudstone grading to wackestone, locally recrystallized, fossiliferous, firm, blocky, slightly argillaceous, trace of poor intercrystalline porosity, no shows. Trace of Crinoids, Ostracods.

930 - 935

Limestone: off white, firm to hard, mudstone, part recrystallized, massive, slightly argillaceous, local traces of poor intercrystalline porosity, no shows.

935 - 945

Limestone: buff to light grey-brown, mudstone, silty, firm, microcrystalline to cryptocrystalline, no visible porosity, no shows. Trace of Ostracods, Crinoids, Gastropods.

Interbedded minor shale: medium grey, hard, brittle, silty in parts, locally calcareous.

945 - 950

Limestone: off white to buff, mudstone, locally silty, firm to hard, fossiliferous, local traces of poor intercrystalline porosity, no shows. Scattered Crinoids, Ostracods.

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- 950 - 965 Limestone: buff, mudstone, grading into a crinoid wackestone in parts, hard, dense, slightly silty, no visible porosity, no shows. Trace Crinoids, Ostracods.
- 965 - 970 Shale: medium to dark grey, soft to firm, blocky, subfissile, silty, calcareous.
Interbedded limestone: medium grey, buff, mudstone, silty, firm, no visible porosity, no shows.
- 970 - 975 Limestone: white, off white, mudstone grading to wackestone, silty, microcrystalline to clear sparry appearance, no visible porosity, no shows. Trace of Gastropods, Ostracods, Crinoids.
- 975 - 980 Shale: light to medium grey, firm, flaky to blocky, silty in parts, calcareous; interbedded with minor limestone as above. Abundant Ostracods, trace Gastropods, Crinoids.
- 980 - 985 Shale: medium grey, grey-brown, flaky becoming silty and blocky in parts, calcareous, fossiliferous with abundant Ostracods and trace of Crinoids.
- 985 - 990 Shale: dark grey to black, blocky, occasionally flaky, silty, calcareous, firm; thin limestone interbeds.
- 990 - 995 Shale: medium grey, firm, blocky, silty, fossiliferous with trace of Ostracods and Gastropods.
Interbedded limestone: off white, mudstone, silty, firm, no visible porosity, no shows.
- 995 - 1000 Shale: medium grey, hard, subfissile to blocky, slightly silty, calcareous, fossiliferous with trace of Crinoids.
Interbedded limestone: as above.

NORTHCOR ET AL TRAINOR LAKE N-25

SAMPLE DESCRIPTIONS

INTERMEDIATE HOLE

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| 1000 - 1005 | <u>Shale:</u> medium to dark grey, hard, blocky, silty, calcareous; trace of silty, grey limestone interbeds. Trace of Crinoids. |
| 1005 - 1010 | <u>Shale:</u> dark grey, dark brown, hard, brittle, splintery, calcareous; trace of limestone stringers. Trace of Crinoids, Ostracods. |
| 1010 - 1015 | <u>Shale:</u> medium to dark grey, firm, blocky, slightly silty, trace of pyrite nodules. Trace of Ostracods, Gastropods, Belemnites (1), Crinoids. |
| 1015 - 1020 | <u>Shale:</u> medium grey, hard, brittle, fissile, splintery, slightly silty in parts, calcareous; rare stringers of white limestone with trace of Ostracods and Brachiopods. |
| 1020 - 1025 | <u>Shale:</u> medium to dark grey, firm to hard, blocky, locally silty, calcareous. Trace of Brachiopods, Gastropods, Ostracods, spines, shell fragments. |
| 1025 - 1035 | <u>Shale:</u> medium grey, grey-brown, olive, silty, hard, moderately fissile, slightly silty, calcareous.

<u>Interbedded limestone stringers:</u> buff, cryptocrystalline, hard, dense, no visible porosity, no shows. Trace of Ostracods, rare Crinoids. |
| 1035 - 1040 | <u>Shale:</u> medium to dark grey, hard, flaky, calcareous. |
| 1040 - 1045 | <u>Shale:</u> medium grey-brown, olive, firm to hard, fissile to silty and blocky, calcareous. Trace of Crinoids, Ostracods. |
| 1045 - 1050 | <u>Shale:</u> brown, dark grey, flaky, hard, splintery in parts, calcareous. |

NORTHCOR ET AL TRAINOR LAKE N-25SAMPLE DESCRIPTIONSINTERMEDIATE HOLE

- 1050 - 1055 Shale: medium grey, hard, splintery, calcareous, slightly fossiliferous; interbedded with minor light grey limestone. Trace of Atrypa, Gastropods, spines.
- 1055 - 1060 Shale: medium brown, hard, flaky, calcareous. Interbedded limestone: buff, silty, cryptocrystalline, no visible porosity, no shows. Trace of Crinoids, Ostracods.
- 1060 - 1065 Shale: light grey, hard, blocky, slightly pyritic, calcareous; becoming interbedded with white and light grey limestone. Trace of Crinoids, Gastropods, Brachiopods.
- 1065 - 1070 Limestone: cream, mudstone, microcrystalline to cryptocrystalline, firm to hard, slightly laminated in parts, slightly argillaceous and silty, local trace of poor intercrystalline porosity, no shows. Trace of Crinoids and Gastropods.
- 1070 - 1080 Limestone: white, cream, mudstone, microcrystalline to cryptocrystalline, locally silty, fossiliferous, hard, dense, trace of bituminous residue, no visible porosity, no shows. Trace of Ostracods, Crinoids.
- 1080 - 1085 Limestone: white, cream, mudstone, microcrystalline, dull earthy texture, argillaceous, slightly silty, firm, possible 'chalky' porosity, no shows. Trace of shell fragments.
- 1085 - 1090 Limestone: cream, buff, mudstone, cryptocrystalline, massive, dense, no visible porosity, no shows. Trace of Crinoids.
- 1090 - 1095 Limestone: buff, cryptocrystalline, mudstone, dense, hard, massive, argillaceous, no visible porosity, no shows. Rare trace of Brachiopods and Crinoids.

NORTHCOR ET AL TRAINOR LAKE N-25

SAMPLE DESCRIPTIONS

INTERMEDIATE HOLE

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| 1095 - 1100 | Sample missing. |
| 1100 - 1105 | <u>Limestone:</u> buff to cream, mudstone, cryptocrystalline, occasionally becoming microcrystalline, generally dense, trace of local poor intercrystalline porosity, no shows; trace of shell debris. |
| 1105 - 1115 | <u>Limestone:</u> off white, cream, cryptocrystalline, dense, hard, mudstone, slightly fossiliferous, no visible porosity, no shows. Trace of Crinoids, Ostracods, shell debris. |
| 1115 - 1120 | <u>Limestone:</u> white, buff, mudstone, microcrystalline, slightly argillaceous, predominantly dense, hard, massive, occasionally very fine crystalline with tightly interlocked crystals, trace of poor moldic porosity locally, trace of dark brown stain in parts, no shows. Trace of dark grey shale interbeds. Trace of Brachiopods, Ostracods, Crinoids. |
| 1120 - 1125 | <u>Limestone:</u> cream, mudstone, microcrystalline, firm, earthy appearance, blocky to faintly laminated, local traces of poor intercrystalline porosity, scattered trace of brown stain, no shows. Questionable trace of shell fragments. |
| 1125 - 1135 | <u>Limestone:</u> off white to buff, mudstone, slightly argillaceous, microcrystalline to cryptocrystalline, firm, flaky, possibly local traces of 'chalky' porosity, no shows. |
| 1135 - 1140 | <u>Limestone:</u> white to off white, mudstone, part recrystallized, microcrystalline, granular appearance, dense interlocked crystals, firm, blocky, locally poor intercrystalline porosity, no shows; rare Crinoids. |

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- 1140 - 1145 Limestone: white to off white, mudstone, microcrystalline to cryptocrystalline, blocky, flaky in parts, firm, occasionally becoming silty, local traces of poor intercrystalline porosity, no shows; rarely fossiliferous.
- 1145 - 1150 Limestone: cream, buff, mudstone, microcrystalline, part recrystallized to cryptocrystalline, dense, trace of local poor intercrystalline porosity, no shows; trace of Ostracods.
- 1150 - 1160 Limestone: buff, microcrystalline, mudstone, partly recrystallized, interlocked crystals, dense, slightly argillaceous, firm, blocky, rare scattered bitumen residue; trace of brachiopods, Crinoids and shell fragments.
- 1160 - 1165 Limestone: buff, mudstone, microcrystalline, recrystallized, firm, flaky to blocky, trace of local poor intercrystalline porosity, no shows. Trace of Atrypa.
- 1165 - 1170 Limestone: light grey-brown, off white, microcrystalline, silty in parts, local granular appearance, firm to hard, trace of poor intercrystalline porosity, no shows; rare Ostracods and Crinoids.
- 1170 - 1180 Limestone: mudstone, buff, cryptocrystalline, hard, dense, locally microcrystalline, part recrystallized, trace of fossil 'ghosts', poor intercrystalline porosity, no shows.
- 1180 - 1190 Limestone: off white, buff, mudstone, trace argillaceous, firm, generally microcrystalline, becoming cryptocrystalline in parts, local poor intercrystalline porosity, no shows. Trace of Crinoids.
- 1190 - 1195 Limestone: white to buff, mudstone, partly recrystallized, microcrystalline, granular appearance, slightly argillaceous, firm, faint bedding, trace fossiliferous, local poor intercrystalline porosity, no shows. Trace of Crinoids, Ostracods.

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- 1195 - 1200 Limestone: buff, light grey-brown, mudstone, microcrystalline to very finely crystalline, silty and argillaceous, granular appearance, dense, tightly interlocking crystals, trace of poor intercrystalline porosity, no shows. Trace of Ostracods, Brachiopods.
- 1200 - 1205 Limestone: buff, light grey, mudstone grading to wackestone, generally silty, quartzitic, argillaceous, salt and pepper appearance, firm, no visible porosity, no shows. Scattered trace of Crinoids, Brachiopods, Gastropods, Ostracods.
- 1205 - 1210 Limestone: white, off white, packstone, lime supported very fine quartz grains, trace of dark shale inclusions, hard, with siliceous cement, dense, no visible porosity, no shows; trace of fossils.
- 1210 - 1215 Limestone: white to light grey, packstone, quartzitic, very fine grained, salt and pepper appearance, hard, dense, siliceous cement, no visible porosity, no shows. Trace of Ostracods.
- 1215 - 1225 Limestone: white, packstone, very fine to fine grained, occasionally medium grained quartz embedded in a lime matrix, scattered trace of dark inclusions, hard, no visible porosity, no shows. Trace of spines, Ostracods.
- 1225 - 1230 Limestone: buff, medium grey, wackestone, quartzitic, moderately silty as above, becoming increasingly argillaceous, hard, siliceous in parts, no visible porosity, no shows.
- 1230 - 1235 Limestone: grey-brown, medium grey, mudstone, argillaceous, firm, faint laminations locally, minor dense dark brown dolomite interbeds, no porosity, no shows; trace of Brachiopods (1).
Interbedded shale: medium to dark grey, firm, flaky to blocky, calcareous.

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- 1235 - 1240 Limestone: light grey, medium brown, mudstone, very argillaceous, hard, blocky, slightly siliceous in parts, no porosity, no shows.
Interbedded dolomite: dark grey-brown, argillaceous, dense; grading to shale locally. Trace of Crinoids.
- 1240 - 1245 Limestone: white, off white, mudstone, microcrystalline to cryptocrystalline, clean sparry appearance in parts, locally slightly silty, dense, no visible porosity, no shows. Rare Ostracods.
- 1245 - 1250 Limestone: off white, mudstone, microcrystalline, dense, interlocked crystals, locally silty, hard, partly recrystallized, rare poor moldic porosity, no shows.
- 1250 - 1255 Limestone: light grey-brown, mudstone, dominantly cryptocrystalline, dense, slightly argillaceous, hard, no visible porosity, no shows. Trace of Ostracods.
- 1255 - 1260 Limestone: white, wackestone, silty, quartzitic, salt and pepper, with scattered shale particles, trace of glauconite, granular appearance, trace of siliceous cement, hard, no visible porosity, no shows. Trace of Ostracods.
- 1260 - 1270 Limestone: light grey, off white, packstone, silty, granular appearance, hard, argillaceous in parts, locally recrystallized, trace of poor intercrystalline porosity, no shows.
- 1270 - 1275 Limestone: buff, light grey, mudstone grading to packstone, slightly quartzitic, granular appearance, no visible porosity, no shows.
Interbedded with shale: grey, grey-green. Trace of Crinoids, spines, burrow casts.

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1275 - 1285

Shale: grey-green, dark grey, firm to fissile, speckled in parts, dolomitic.

Interbedded limestone: buff, mudstone, microcrystalline to cryptocrystalline, argillaceous in parts, recrystallized, locally hard, trace of rare poor intercrystalline porosity, no shows. Trace of Crinoids, Ostracods, burrow casts.

1285 - 1290

Shale: medium to dark grey, firm to hard, subfissile, becoming silty and blocky in parts, dolomitic.

Interbedded with limestone: as above. Trace of Crinoids.

1290 - 1300

Limestone: off white, buff, mudstone, microcrystalline, firm, silty in parts, scattered trace of poor intercrystalline porosity, no shows.

Interbedded with shale: brown, dolomitic. Trace of Crinoids, Ostracods.

1300 - 1305

Shale: medium grey, occasionally brown, firm, fissile, flaky, dolomitic, calcareous in parts; minor limestone stringers as above.

1305 - 1310

Limestone: off white, light grey-brown, mudstone, microcrystalline, granular appearance, slightly silty in parts, trace of poor intercrystalline porosity, no shows.

Interbedded with shale: as above. Trace of Ostracods.

1310 - 1320

Limestone: medium brown, grey, cryptocrystalline, microcrystalline and silty in parts, hard, no visible porosity, no shows.

Interbedded with shale: brown, grey, splintery, hard, dolomitic.

1320 - 1325

Shale: dark brown, medium grey, hard, calcareous and dolomitic, splintery to locally blocky and silty. Trace of Crinoids.

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- 1325 - 1330 Shale: medium grey, grey-green, hard, brittle, locally siliceous, fissile, splintery, calcareous and dolomitic, trace of pyrite.
- 1330 - 1335 Shale: as above.
Interbedded with limestone: light grey-brown, translucent, cryptocrystalline, locally microcrystalline, slightly silty, hard, trace of poor intercrystalline porosity, no shows. Trace of shell fragments.
- 1335 - 1340 Shale: dark grey-brown, dark grey, hard, splintery, brittle, calcareous, locally dolomitic.
- 1340 - 1345 Shale: dark grey, hard, flaky, calcareous; with limestone interbeds. Trace of Crinoids.
- 1345 - 1355 Shale: dark grey, grey-brown, hard, brittle, splintery, calcareous.
Minor limestone: off white, light brown, dense, no shows. Trace of Gastropods.
- 1355 - 1365 Shale: medium to dark grey, medium brown, hard, fissile, splintery, calcareous; interbedded with minor grey and brown limestone.
- 1365 - 1375 Limestone: off white, light brown, mottled, mudstone, microcrystalline, slightly argillaceous and silty, friable to firm, laminated in parts, poor porosity, rare bitumen stain, no shows.
- 1375 - 1385 Shale: medium to dark grey, dolomitic, locally calcareous, blocky and silty in parts, generally hard, brittle, splintery. Rare trace of Crinoids.

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- 1385 - 1395 Shale: medium to dark grey, grey-brown tinted in parts, hard, brittle, flaky to locally blocky, noncalcareous, dolomitic in parts.
Minor limestone stringers: off white, light grey-brown, translucent, sparry to finely granular appearance, silty, dense.
- 1395 - 1400 Shale: dark grey, hard, subfissile, slightly silty in parts, micromicaceous, dolomitic locally; trace of limestone interbeds.
- 1400 - 1410 Shale: dark grey, brown tint, hard, generally subfissile, minor blocky, slightly silty, dolomitic in parts.
- 1410 - 1425 Shale: dark grey, hard, flaky to blocky, splintery in parts, silty locally, micromicaceous.
Trace of limestone: off white, light grey, generally cryptocrystalline, slightly silty, dense, hard, no visible porosity, no shows.
- 1425 - 1435 Shale: dark grey, brown tinted in parts, black, hard, brittle, fissile, splintery, noncalcareous; trace of loose, pitted, rounded, coarse quartz grains. Trace of Belemnites.
- 1435 - 1440 Shale: dominantly black, dark grey, brown tinted locally, hard, splintery, micromicaceous, dolomitic in parts.
- 1440 - 1450 Shale: dark grey, fissile to blocky, hard, silty, dolomitic in parts; grading to siltstone.
- 1450 - 1455 Shale: dark grey, hard, fissile to blocky, noncalcareous, slightly dolomitic in parts.
Interbedded siltstone: medium grey, blocky, firm, argillaceous, calcareous; grading to silty limestone. Trace of spines, rare pyrite.

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- 1455 - 1475 Shale: dark grey, dark grey-brown, hard, brittle, splintery, slightly dolomitic in parts. Trace of Crinoids.
- 1475 - 1485 Shale: medium to dark grey, occasionally brown tinted, hard, fissile to splintery, blocky in parts, slightly dolomitic; with interbedded sandy limestone stringers. Trace of burrow casts.
- 1485 - 1490 Shale: medium grey, dark grey-brown, splintery, occasionally becoming very silty and calcareous; grading to silty limestone.
- 1490 - 1495 Shale: medium to dark grey, purple, flaky to splintery, micromicaceous, noncalcareous, slightly dolomitic in parts.
- 1495 - 1500 Shale: dark grey, dark grey-brown, hard, subfissile; grading to blocky, dark grey, calcareous siltstone; grading to silty, argillaceous limestone in parts.
- 1500 - 1510 Shale: dark grey, dark brown, hard, splintery, brittle, slightly dolomitic; trace of siltstone.
- 1510 - 1515 Shale: medium to dark grey, occasionally brown, hard, flaky, slightly dolomitic.
Interbedded limestone: light grey, quartzitic, very fine to fine, angular quartz grains, embedded in a calcite matrix, hard, dense, no shows.
- 1515 - 1520 Shale: dark grey, dark brown, hard, flaky, slightly silty, dolomitic in parts.
- 1520 - 1530 Shale: dark grey, grey-green, brown.
Interbedded sandstone: light grey, quartz, very fine grained, angular, poorly sorted, calcareous cement, no visible porosity, no shows.

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- 1530 - 1540 Shale: as above.
Interbedded with limestone: light grey, quartzitic, hard, grading to calcareous siltstone in parts, no visible porosity, no shows.
- 1540 - 1560 Shale: dark grey, dark grey-brown, flaky, hard, micromicaceous, silty locally; grading to siltstone in parts.
- 1560 - 1575 Shale: medium grey, dark brown, flaky, hard, micromicaceous, trace dolomitic. Rare trace of Crinoids.
- 1575 - 1580 Shale: dark grey-brown, flaky.
Interbedded sandstone: grey-brown, very fine grained, angular quartz, calcite cement, grading to quartzitic limestone, no porosity, no shows.
- 1580 - 1585 Shale: dark grey, dark brown, hard, splintery, noncalcareous, slightly dolomitic. Trace of Crinoids.
- 1585 - 1595 Shale: medium grey, fissile, hard, slightly silty, dolomitic in parts; interbedded with minor light grey limestone stringers.
- 1595 - 1605 Shale: medium to dark grey, hard, splintery, noncalcareous. Trace of Crinoids.
- 1605 - 1620 Shale: dark grey, flaky to splintery, hard, brittle; trace of minor light grey limestone interbeds. Trace of shell fragments.
- 1620 - 1635 Shale: medium grey, flaky, noncalcareous, hard, brittle; trace of light grey limestone stringers. Trace of Ostracods, Crinoids.
- 1635 - 1640 Shale: medium to dark grey, hard, fissile, becoming silty and calcareous in parts.

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- 1640 - 1655 Shale: light to medium grey, hard, flaky to splintery, noncalcareous, becoming silty in parts; trace of minor siltstone interbeds. Trace of Crinoids.
- 1655 - 1665 Shale: predominantly medium grey, hard, flaky and fissile, silty in parts, non-calcareous.
Interbedded siltstone: light grey, salt and pepper, slightly argillaceous, calcite cement; grading to very fine grained sandstone in parts, tight, no shows.
- 1665 - 1675 Shale: medium to dark grey, occasionally brown, hard, splintery, brittle, noncalcareous; with minor silty stringers.
- 1675 - 1680 Shale: light to medium grey, hard, flaky, occasionally splintery, noncalcareous, becoming silty in parts, slightly fossiliferous. Trace of Ostracods.
- 1680 - 1685 Shale: medium grey, hard, splintery, non-calcareous; trace of minor light grey limestone interbeds.
- 1685 - 1695 Shale: light to medium grey, firm, non-calcareous, fissile, flaky, papery cleavage; becoming siliceous, silty and blocky in parts, micromicaceous.
- 1695 - 1700 Shale: light grey as above; with interbedded blocky, brown, calcareous shale; grading to argillaceous limestone.
- 1700 - 1710 Shale: light to medium grey, firm, generally subfissile and blocky, minor fissile, non-calcareous, micromicaceous, becoming silty in parts; grading to siltstone.
- 1710 - 1725 Shale: medium grey, flaky to splintery, firm, noncalcareous, micromicaceous; with minor siltstone interbeds.

NORTHCOR ET AL TRAINOR LAKE N-25SAMPLE DESCRIPTIONSINTERMEDIATE HOLE

- 1725 - 1730 Shale: medium to dark grey, firm, fissile, splintery, micromicaceous, noncalcareous; trace of grey limestone stringers.
- 1730 - 1745 Shale: medium to dark grey-brown, fissile, becoming hard and brittle in parts, non-calcareous.
- 1745 - 1765 Shale: predominantly medium grey, light grey in parts, flaky, occasionally 'papery' cleavage, firm, noncalcareous; rare silty interbeds.
- 1765 - 1780 Shale: medium to dark grey, firm, flaky, noncalcareous.
- 1780 - 1795 Shale: medium to dark grey, blocky, sub-fissile, hard; rare trace of thin silty limestone stringers.
- 1795 - 1810 Shale: medium grey, occasionally dark grey, blocky to fissile, firm, noncalcareous;
- 1810 - 1825 Shale: medium to dark grey, flaky to blocky, firm, slightly dolomitic in parts; trace of rare siltstone and limestone stringers.
- 1825 - 1835 Shale: medium to dark grey, flaky, firm, micromicaceous in parts, noncalcareous. Trace of spines.
- 1835 - 1850 Shale: light to dark grey, soft to firm, fissile, micromicaceous, generally noncalcareous, nonsilty, pyritic in parts, trace of carbon flecks. Trace of Crinoids.
- 1850 - 1855 Shale: medium to dark grey, occasionally brown, subfissile to blocky, calcareous in parts, firm, micromicaceous; trace of silty limestone interbeds. Trace of Ostracods.

NORTHCOR ET AL TRAINOR LAKE N-25

SAMPLE DESCRIPTIONS

INTERMEDIATE HOLE

- | | |
|-------------|--|
| 1855 - 1870 | <u>Shale:</u> light grey, light grey-brown, flaky, noncalcareous, becoming blocky and silty in parts, trace of rare black speckles, locally pyritic and micaceous. |
| 1670 - 1880 | <u>Shale:</u> dark grey-brown, firm to hard, fissile, locally blocky, noncalcareous, rare bituminous specks and dark brown shale stringers; trace of scattered pyrite nodules. |
| 1880 - 1885 | <u>Shale:</u> medium grey-brown, flaky to blocky, hard, brittle, micromicaceous, rare bitumen specks, silty in parts. |
| 1885 - 1896 | <u>Shale:</u> medium to dark grey, blocky, non-calcareous, hard, rare bitumen specks; occasional trace of dark grey, fissile, bituminous shale stringers. |

TOTAL DEPTH FOR
INTERMEDIATE HOLE: 1896m (March 6, 1984)

Sample
Description
(Botanical)

NORTHCOR ET AL TRAINOR LAKE N-25SAMPLE DESCRIPTIONSBOTTOM HOLE

- 1896 - 1910 Shale: medium grey, occasionally brown tinted, flaky, waxy appearance; locally black speckled, firm, dolomitic, rarely becoming blocky and silty.
- 1910 - 1915 Shale: very dark brown, black, firm to locally hard, subfissile, blocky, carbonaceous, slightly pyritic in parts, non-calcareous.
- 1915 - 1925 Shale: black, hard, dominantly blocky to locally subfissile, carbonaceous, minor finely disseminated pyrite, noncalcareous.
- 1925 - 1930 Shale: black, blocky, hard, siliceous, pyritic in parts, carbonaceous, noncalcareous.
- 1930 - 1935 Limestone: white, clean, microcrystalline to cryptocrystalline, pelletoidal mudstone, crystalline to chalky texture, becoming dense, clear sparite in parts, friable to locally hard, trace of bitumen specks, nonargillaceous, fair intercrystalline and moldic porosity, no stain, no cut, no fluorescence.
- 1935 - 1945 Limestone: white, dominantly microcrystalline, opaque granular appearance to locally translucent, dense, cryptocrystalline, partly recrystallized pelletal mudstone, friable, no visible bitumen specks or stain, nonargillaceous, intercrystalline porosity appears fair, trace of moldic porosity, no shows.
- 1945 - 1955 Limestone: white, off white, oolitic wackestone, microcrystalline to very finely crystalline, granular appearance, partly recrystallized, clean, becoming dense, clear cryptocrystalline sparite in parts, no stain, no fluorescence, no cut. Trace of Brachiopods.

NORTHCOR ET AL TRAINOR LAKE N-25SAMPLE DESCRIPTIONSBOTTOM HOLE

1955 - 1960

Limestone: white, off white, oolitic wackestone, generally microcrystalline, friable to hard, dense, chalky to rare sparry appearance, laminated locally, scattered poor intercrystalline and moldic porosity, nonargillaceous, no stain, no shows.

Interbedded with minor shale: dark grey, blocky, calcareous.

1960 - 1975

Limestone: white, microcrystalline to cryptocrystalline, mudstone and oolitic wackestone, firm to locally dense and hard, opaque micritic appearance, grading into rare clear sparite, clean, nonargillaceous, scattered poor intercrystalline porosity, no stain, no shows. Trace of shell fragments.

1975 - 1980

Limestone: white, predominantly mudstone, local traces of oolites, cryptocrystalline to microcrystalline, generally dense, firm to hard, clean, nonargillaceous, locally poor intercrystalline porosity, no stain, no shows. Trace of shell fragments.

1980 - 1985

Limestone: white, mudstone, generally microcrystalline, chalky appearance in parts, trace skeletal grains, friable to firm, possible poor 'chalky' porosity, no stain, no shows.

1985 - 1995

Limestone: white, dominantly microcrystalline, becoming dense, hard, cryptocrystalline in parts, mudstone, trace of fossil grains, local poor intercrystalline porosity, possible 'chalky' porosity, no stain, no shows.

1995 - 2000

Limestone: light grey-brown, translucent mudstone, generally cryptocrystalline, massive, amorphous, possible trace of fossil ghosts, dense, hard, to visible porosity, no shows.

NORTHCOR ET AL TRAINOR LAKE N-25SAMPLE DESCRIPTIONSBOTTOM HOLE

2000 - 2005

Limestone: light grey-brown, translucent, massive, dense, cryptocrystalline, as above, becoming bituminous with local blebs and accumulations, interbedded with dark brown to black bituminous limestone stringers, no visible oil stain, no fluorescence, no cut.

2005 - 2010

Limestone: white, microcrystalline, dull chalky appearance to cryptocrystalline, clear sparite, part recrystallized, faintly oolitic mudstone, firm to friable, trace of poor intercrystalline porosity, no shows.

2010 - 2015

Limestone: light to medium brown, occasionally dark brown, cryptocrystalline mudstone, firm to locally hard, bituminous in parts, generally dense, trace of bitumen partings, rare fractures, scattered moldic porosity, no fluorescence, no cut; interbedded with limestone as above.

2015 - 2020

Limestone: light grey, medium to dark brown, mottled in parts, brecciated, microcrystalline to cryptocrystalline, mudstone, flaky and friable to hard dense sparite, locally bituminous as above, trace of poor intercrystalline porosity, no shows.

2020 - 2025

Limestone: medium grey-brown, generally microcrystalline, oolitic mudstone, firm, nonargillaceous, finely bituminous, trace of poor intercrystalline porosity, no shows.

2025 - 2030

Limestone: light to medium grey-brown, cryptocrystalline to microcrystalline, pelletal mudstone, friable to locally hard, becoming black and bituminous in parts, trace of poor intercrystalline and moldic porosity, no shows.

2030 - 2035

Limestone: medium to dark grey-brown, dominantly cryptocrystalline, generally dense, hard, brecciated in parts, very bituminous locally, nonargillaceous, local trace of moldic porosity, no shows.

NORTHCOR ET AL TRAINOR LAKE N-25SAMPLE DESCRIPTIONSBOTTOM HOLE

- 2035 - 2045 Limestone: medium to dark grey-brown, mottled, dominantly cryptocrystalline, occasionally microcrystalline, pelletal mudstone, hard, dense, localized bitumen accumulations, no visible porosity, no shows.
- 2045 - 2050 Limestone: dark brown to black, pelletal wackestone, recrystallized in parts, generally microcrystalline, dense, hard, becoming slightly argillaceous in parts, no visible porosity, no shows.
- 2050 - 2055 Limestone: medium to dark grey-brown, generally cryptocrystalline, dense, bituminous, massive, occasionally microcrystalline, earthy appearance, no visible porosity, no shows; questionably fossiliferous.
- 2055 - 2065 Limestone: dominantly off white, chalky texture, possible poor 'chalky' porosity; with limestone: medium to dark grey-brown, cryptocrystalline, dense, hard, bituminous, no visible porosity, no shows.
- 2065 - 2070 Limestone: light to medium grey-brown, cryptocrystalline, pelletal mudstone, firm to hard, chalky to vitreous appearance, inferred local poor 'chalky' porosity, grading to medium and dark grey-brown dense dolomitic limestone in parts, no stain, no shows.
- 2070 - 2075 Limestone: dark brown to black, microcrystalline, questionably bituminous, slightly dolomitic, hard, argillaceous wackestone, blocky, brecciated, with scattered calcite veining, fossiliferous, no visible porosity, no shows.
- 2075 - 2080 Dolomitic limestone: dark brown to black, microcrystalline, argillaceous and silty wackestone, possibly bituminous, blocky, dense, trace fossiliferous, no visible porosity, no shows.

NORTHCOR ET AL TRAINOR LAKE N-25SAMPLE DESCRIPTIONSBOTTOM HOLE

2080 - 2090

Dolomitic limestone: dark brown to black, as above, becoming increasingly fossiliferous, no visible porosity, no shows.

Interbedded with shale: light to medium grey, grey-green, hard, brittle, noncalcareous. Trace of unidentified Arthropod fragments.

2090 - 2100

Dolomitic limestone: dark grey-brown to black, microcrystalline, argillaceous and silty wackestone, hard, blocky, massive, trace of pyrite nodules, calcite healed fractures, no porosity, no shows. Trace of unidentified Arthropods, trace of Ostracods. Interbedded with medium grey-green shale.

2100 - 2105

Dolomitic limestone: black, blocky, microcrystalline, massive, hard, argillaceous and silty, becoming very argillaceous in parts (grading to shale), no visible porosity, no shows. Trace of Arthropods, trace of Tentaculites.

2105 - 2110

Dolomitic limestone: as above, becoming increasingly shaly.

Interbedded with minor limestone: grey-brown, mottled, argillaceous, lithoclastic wackestone, no visible porosity, no shows.

2110 - 2115

Limestone: medium to dark grey-brown, mottled, fossiliferous mudstone, brecciated appearance, trace of poor intercrystalline porosity, no shows. Trace of Arthropod fragments.

2115 - 2125

Dolomitic shale: dark grey to black, flaky, subfissile, hard, brittle, fossiliferous; grading to dolomitic limestone in parts. Trace of Tentaculites.

2125 - 2130

Dolomitic shale: as above.

Interbedded with minor limestone: grey-brown, microcrystalline, slightly skeletal mudstone, hard, argillaceous, no visible porosity, no shows. Trace of Tentaculites.

NORTHCOR ET AL TRAINOR LAKE N-25SAMPLE DESCRIPTIONSBOTTOM HOLE

2130 - 2135

Limestone: off white to medium grey-brown, microcrystalline, fossiliferous wackestone, rare trace of bitumen partings, earthy appearance, firm, slightly argillaceous, faintly laminated in parts, poor intercrystalline porosity, no shows; trace of Crinoids.

Interbedded with dolomite: dark brown to black, mottled, cryptocrystalline, trace of fossil 'ghosts', dense, hard, no visible porosity, no shows.

2135 - 2140

Dolomite: medium to very dark grey-brown, occasionally black, generally cryptocrystalline, hard, dense, massive, no visible porosity, no shows; interbedded with limestone as above.

2140 - 2145

Limestone: light grey-brown mudstone, microcrystalline, firm, flaky, dull, earthy to granular appearance, localized poor porosity, no shows.

Interbedded with dolomite: very dark brown to black, dense, hard, as above, no shows. Trace of Crinoids.

2145 - 2150

Dolomitic limestone: dark grey-brown, cryptocrystalline, massive, dense, as above, no visible porosity, no shows.

Limestone: light grey, firm, microcrystalline, dull, earthy appearance, skeletal mudstone, slightly argillaceous, trace of poor intercrystalline porosity, trace of pinpoint vugs, no shows.

2150 - 2155

Dolomite: off white to medium grey-brown, very finely crystalline, granular appearance, interlocking crystals, common bitumen specks, large quantity of loose and coarse euhedral crystals, poor to fair intercrystalline porosity, inferred vuggy porosity, no visible stain, no fluorescence, no cut.

NORTHCOR ET AL TRAINOR LAKE N-25SAMPLE DESCRIPTIONSBOTTOM HOLE

2155 - 2160

Dolomite: generally translucent white, coarsely crystalline rhombs, occasionally becoming dark grey-brown stained and bitumen speckled, hard, dense, scattered loose calcite crystals infer vugs present, poor effective porosity, no shows.

2160 - 2165

Dolomite: as above; becoming dolomite: medium grey-brown, mottled, finely crystalline, firm, abundant bitumen specks, generally dense, tightly interlocked crystals, trace of drusy material, inferred vuggy porosity with poor effective porosity, no shows.

2165 - 2170

Dolomite: medium grey-brown, cryptocrystalline to very finely crystalline, with a tightly interlocked lattice, friable to locally hard, trace of poor intercrystalline porosity, no shows.

2170 - 2175

Dolomite: light to medium grey-brown, generally microcrystalline, friable, earthy appearance, scattered patchy bitumen, locally poor intercrystalline and pinpoint vuggy porosity, no shows.

2175 - 2180

Dolomite: predominantly dark grey-brown, very finely crystalline, subsucrosic texture, interlocked crystals, locally cryptocrystalline, dense, hard, rare trace of pinpoint vugs, minor poor intercrystalline porosity, no shows.

2180 - 2185

Dolomite: dark brown, cryptocrystalline to occasionally very finely crystalline, dense, hard, trace of white drusy dolomite and calcite, questionable vuggy or fracture porosity, no visible intercrystalline porosity, no shows.

2185 - 2190

Dolomite: light grey-brown, cryptocrystalline, massive, dense, hard, slightly argillaceous, trace of bitumen blebs, locally pyritic.

Interbedded with limestone: off white, cryptocrystalline, flaky, argillaceous mudstone, no visible porosity, no shows.

NORTHCOR ET AL TRAINOR LAKE N-25SAMPLE DESCRIPTIONSBOTTOM HOLE

- 2190 - 2195 Anhydrite: white, chalky texture, to grey-brown mottled, dense, firm to hard, calcareous in parts.
Interbedded with dolomite: medium to dark brown, cryptocrystalline, dense, hard; and shale: black, blocky, calcareous.
- 2195 - 2200 Anhydrite: light brown, cryptocrystalline, hard, dense.
Interbedded dolomite: dark grey-brown, cryptocrystalline, dense, argillaceous, no visible porosity, no shows.
- 2200 - 2205 Anhydrite: white, light brown, cryptocrystalline, hard, dense.
Interbedded dolomite: medium grey-brown, cryptocrystalline, hard, dense, trace of bitumen blebs and partings, no visible porosity, no shows.
- 2205 - 2210 Shale: pale green, blocky, siliceous and dolomitic, hard; with embedded, scattered, fine to medium, rounded to subangular, clear quartz grains.
Interbedded anhydrite: as above.
- 2210 - 2215 Shale: apple green, siliceous, hard; with abundant embedded, fine and occasionally medium quartz grains, subrounded to subangular, locally becoming aggregated. Trace of anhydrite and dolomite stringers.
- 2215 - 2220 Sandstone: quartz, dominantly fine rounded discrete grains, in a black dolomitic shale matrix; grading into hard, dense, compacted sandstone, abundant bitumen specks and accumulations, no visible porosity, no shows.
- 2220 - 2225 Interbedded shale, dolomite and anhydrite.
Shale: green, blocky, hard, siliceous.
Dolomite: medium to dark brown, microcrystalline, hard, dense, no visible porosity, no shows.

NORTHCOR ET AL TRAINOR LAKE N-25SAMPLE DESCRIPTIONSBOTTOM HOLE

- 2220 - 2225
(Cont'd) Anhydrite: white, grey-brown, crypto-crystalline, dense, hard.
- 2225 - 2230 Anhydrite: light grey-brown, cream, crypto-crystalline, dense, dolomitic in parts.
Interbedded with minor light grey dolomite and white limestone; no visible porosity, no shows.
- 2230 - 2240 Anhydrite: off white, cream, cryptocrystalline, blocky, dense, slightly dolomitic.
Trace of minor dolomite: as above.
- 2240 - 2245 Interbedded dolomite and anhydrite.
Dolomite: light brown, cryptocrystalline, slightly argillaceous, dense, hard, no visible porosity, no shows.
Anhydrite: off white, light brown, crypto-crystalline, dense.
- 2245 - 2250 Shale: pink, anhydritic, dolomitic, silty, blocky, firm; trace of white anhydrite stringers.
- 2250 - 2255 Shale: medium red, blocky, silty, hard, siliceous, anhydritic and dolomitic; trace of rare quartz grains. Minor anhydrite interbeds.
- 2255 - 2260 Shale: dark red, siliceous, anhydritic and dolomitic, silty, blocky, hard.
- 2260 - 2265 Anhydrite: cream, light grey, cryptocrystalline, dense to microcrystalline, sucrosic texture.
Interbedded with minor red shales as above.

NORTHCOR ET AL TRAINOR LAKE N-25

SAMPLE DESCRIPTIONS

BOTTOM HOLE

2265 - 2270

Interbedded siltstone and sandstone.

Siltstone: light to dark grey, blocky, dolomitic, hard, trace of rare scattered quartz grains; grading to shale in parts.

Sandstone: buff to light grey, very fine grained quartz, no visible porosity, no shows; in a dense, anhydritic and dolomitic, argillaceous matrix.

2270 - 2314

Granodiorite: white, coarse, angular, generally elongate grains of clear quartz, milky white feldspars, abundant biotite, and locally abundant kaolin, trace of hornblende and sphene, questionable dark heavy minerals, generally nonweathered appearance with clean fresh fracture faces.

TOTAL DEPTH: 2314m (March 22, 1984)