

Drilling Authority No. ... 516
Date Issued ... 5 March 1971

WELL NAME ... Horn R SCBC Andex Almx Green I. 0-24
FIELD ... Area: ...
LOCATION: Unit ... 0 Section ... 24 Grid ... 62-00-120-15
Latitude ... 61-53-46 Longitude ... 120-19-37
U.W.L.R. ... 61.89611 --- 120.32695
U.W.I. ... 3000216200120150

Rig Release Date: ...
Status: ...
Information Release Date: ...

CHANGE OF NAME:

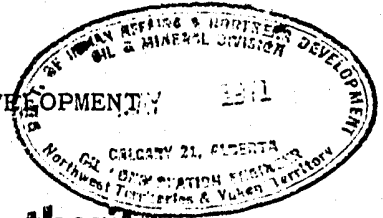
DATE RECEIVED	INDEX
5 March 1971	Application for a Drilling Authority. Well Completion Data. Well History Report.
	Application to Amend a Drilling Authority.
4-5-71	Application to change a Well Name.
24-3-71	Application to Abandon a Well or Suspend Drilling.
	Application to Alter Condition of a Well. Well History Supplement. Well Completion Data. Work-over Report No.
	Application to Commingle Production before Measurement.
	Data for Back Pressure Test on Natural Gas Wells - Monograph 7 Method.
	Data for Back Pressure Test on Natural Gas Wells - Vitter's Method.
	M.P.P. - Oil - Calculations.
	New Oil Well Report.
	New Gas Well Report.
	Well Inspection Report.
	Rig Inspection Report.
	Battery Inspection Report.
	Equipment Report.
	Well Card.
	New Service Well Report.
	Monthly Water Flood Operations Report
	Monthly Water Receipts and Disposal of Fluids Report Logs. Large scale..... Small scale.....

File No.....

Drilling Authority No.....



DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
OIL AND MINERAL DIVISION



Application to Amend a Drilling Authority

This application, in triplicate, must be submitted and approved before commencing operations. If the well location is changed, this application must be accompanied where required, with a plan of survey approved by the Surveyor General.

In compliance with the "Canada Oil and Gas Land Regulations", application is hereby made to amend Drilling Authority No. 516, concerning Horn R. SOBC Andex Alvar Green I. O-24
61°53'46" N. Lat., 120°19'37" W. Long.
(Name and Number of Well)

The following amendments are required:

K.B. should read 998' - incorrectly reported as 1033'.

Reasons for the amendments: Incorrectly reported as 1033'

Dated at Calgary, this 3rd day of May, 19 71.

Signed by

Title

Company

President

Horn River Resources Ltd.

(For Oil and Mineral Division use only)

APPROVED

This application has been examined and approved subject to the following conditions:

Date

May 4, 19 71

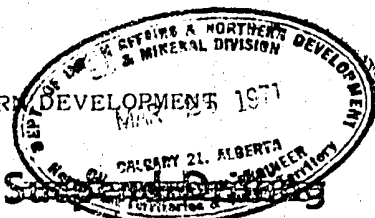
[Signature]
Oil Conservation Engineer

Forms to be submitted to the Oil Conservation Engineer,
Department of Indian Affairs and Northern Development, Calgary, Alberta.



File No. 516
Drilling Authority No.

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
OIL AND MINERAL DIVISION



Application to Abandon a Well or Suspend Drilling

In compliance with the "Canada Oil and Gas Land Regulations", application is hereby made for approval to abandon, to suspend drilling:—

Name and number of well Horn R. SOBC ANDEX ALMX GREEN I O-24
Location: Unit 0 Section 24 Grid 62 00 N. Lat. 120° 15' 00" N Longitude 120° 19' 37" W W. Long
Latitude 61° 53' 46" N
From Established Reference Marker
Universal Well Location Reference Lat. 61.89611° N. Long. 120.32695° W
Permit No. 4465 Lease No.

Standard Oil of British Columbia,
Andex Oil Co. Ltd. (Permittee, Licensee, Lessee)

Date of commencement of proposed program March 10, 1971 12:01 A.M.

OIL, GAS, AND WATER ENCOUNTERED
(Depths)

Oil at Nil
Gas at Nil
Water at 1702 - 1794
Total Depth 2447 K.B. Date of last operations March 22, 1971 8:00 A.M.
Present condition of well D and A

CASING RECORD

Casing Size O.D. Inches	Weight	Amount	Set At—	Sacks of Cement and Additives	Amount Pulled
1. 7"	20		302 K.B.	120 sks + 3% CaCl ₂	Nil
2.					
3.					
4.					
5.					

PROPOSED ABANDONMENT PROGRAM

Plug		Geological Formation	Number of Sacks of Cement	Remarks
No.	Position			
1	2447 to 1500	Proterozoic, Basal Clastics, Ernestina Dolomite, Cold Lake Salt, Chinchaga, Nahanni	155 sks + 4% Gel	
2	352 to surface		60 sks + 4% Gel	
Cut casing off 3 feet below ground, weld on plate and rod with well marker.				

The following logs have been run LL8, BHGSC, FDC, SNP
Other operations proposed Nil

Operations to be carried out by Big Ind. Drilling Co. Ltd.
Address Fort Simpson, N.W.T. Contractor Licence No. 791
Responsible Agent in field Dennis Comm Address

Dated at Calgary, this 24th Day of March 1971
Signed by [Signature] Company Horn River Resources Ltd.
Title President Operator's Exploratory Licence No. 1785

Note:—The Oil Conservation Engineer's office must be notified before work is commenced.

(For OIL AND MINERAL DIVISION use only)

APPROVAL

This application has been examined and proposed programme approved, subject to the following conditions:

Confirming oral approval given by Mr. G. E. Blue
on the 20th March 1971.

Dated 29th March 1971
[Signature] Oil Conservation Engineer

Drilling Authority No.....516.....

Project No.....

File No.....



DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
OIL AND MINERAL DIVISION

Application for a Drilling Authority

This notice of intention to begin drilling operations, in triplicate, and where required a plan of survey approved by the Surveyor General showing the target area or the site of the well must be submitted and approved before commencing operations.

In compliance with the "Canada Oil and Gas Land Regulations", application is hereby made for approval to drill:—

Name and number of well..... Horn R SOBC Andex Almx Green I. 0-24

Location: Unit..... 0..... Section..... 24..... Grid 62°00' N. Lat., 120°15' W. Long.

Latitude 61°53'46" N. Lat..... Longitude 120°19'37" W. Long.

Unique Well Identifier..... 3000246200120150

Universal Well Location Reference..... Lat. 61.89622° N. Long. 120.32685° W.

Elevation: Ground..... 988..... K.B. 1033 99.8 feet above sea-level.

Well is expected to produce from..... Chinchaga Dolomite..... formation at a depth of about 1650 feet. Expected total final depth..... 2650'

Area assigned to well.....
(for Oil Conservation Engineer's use only)

Permit No..... 4465..... Lease No..... Acreage 60,296

Permittee, licensee, or lessee..... Standard Oil of British Columbia, Andex Oil Co. Ltd.

Exploratory Licence No..... 1631..... 1701

Surface owned by Crown or..... Crown.....
(If alienated submit name and address of owner and occupant.)

Petroleum and natural-gas rights owned by..... Crown

We propose to use the following strings of casing, either cementing or landing them as indicated below:—

Casing Size O.D. (Inches)	Weight (Lb./Ft.)	Grade	New or Used	Estimated Depth	Sacks of Cement
1. 7	24#	J55	Used	300	120
2.					
3.					
4.					
5.					

Expected water, gas, and oil horizons and type of control equipment..... Middle Devonian Carbonates -

2. - B.O.P.'s - 8" - 900 Series Ram Type B.O.P.

8" - 900 Series Regan Torus bag type B.O.P.

Well will be drilled with Rotary Rig No..... 57 by..... Big Indian Drilling Co. Ltd.

(Drilling Contractor or company)

Responsible agent of applicant:— Contractor's Business Licence No. 791

At well Al Whitterton..... At registered office F. L. Woolley

Address c/o Kenting, Ft. Simpson..... Address 1020 Aquitaine Tower, 540 Fifth Ave. S.W. Calgary 1, Alberta

It is understood that if changes become necessary, notice of the change of plan will be submitted.

Dated at Calgary, this 3rd day of March 1971

Signed by..... Company Horn River Resources Ltd.

Title..... President..... Operator's Licence No. 1785

(For Oil and Mineral Division use only)

APPROVED

This application has been examined and approved subject to the following conditions:—

1. Copies of this Drilling Authority shall be exhibited at the Drilling Rig in both the Doghouse and the Drilling Foreman's Office between spud and rig release dates.
2. The Company will submit to this office, on Tuesday of each week, the latest reports

Dated 5th March 1971 Please see over page

Oil Conservation Engineer

Forms to be submitted to Oil Conservation Engineer,
Department of Indian Affairs and Northern Development, Calgary, Alberta.

received by radio on the progress of the well.

3. During well drilling and testing operations, every effort shall be made to ensure that drilling fluids, chemicals and wastes shall be disposed of or contained in a manner that will prevent the contamination of adjacent vegetation and surface or sub-surface waters.
4. We draw your attention to Sections 95 and 96 of the Canada Oil and Gas Land Regulations.
5. Any additional strings of casing are to be approved by the Oil Conservation Engineer prior to running.

B.H.J. Thoms

B.H.J. Thoms, Oil Conservation Engineer



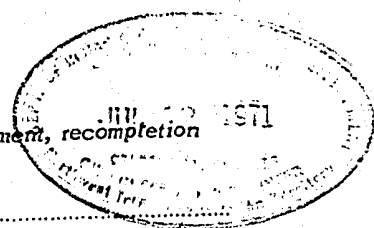
Drilling Authority No. 516
Date Issued March 5, 1971

LAND 52-20 (2) (3-70)

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
OIL AND MINERAL DIVISION

WELL COMPLETION DATA

To be submitted in duplicate within thirty days after the completion, rework, abandonment, recompletion or suspension of every well.



Well name and number HORN R SOBC ANDEX ALMX GREEN I. 0-24
Permit No. 4465 Lease No.
Standard Oil Company of British Columbia and
Anex Oil Co. Ltd. Exploratory Licence No. 1631 and 1701
(Permittee, Licensee, Lessee)
Horn River Resources Ltd. Exploratory Licence No. 1785
(Operator)

Location: Unit 0 Section 24 Grid 62°00' N., 120°15' W.
Latitude 61°53'46" N. Longitude 120°19'37" W.
Unique well identifier 300.0.246200120150
Universal Well Location Reference Lat. 61.89611°N., Long. 120.32695°W.

	DATE	DEPTH	Pool(s)	Interval(s) open to production
Spudded	Mar. 10/71		NA	NA
Suspended				
Resumed Operations				
Finished Drilling	Mar. 18/71	2447' (drlr)		
Deepened			Elevation: Gr. 988' K.B. 998'	
Complete (gas/oil)			Rig No. 57	
Abandoned	Mar. 22/71	2445' (log)	Drilling Contractor Big Indian Drilling	
Rig released	Mar. 22/71		Contractor's Business Licence No. 791	

CASING RECORD

Casing Size (Inches)	Grade	Weight	Amount	Set at -	Sacks of Cement and Additives
1. 7"	J55	20#	292.70'	302'	120 sx neat Portland cement + 3% CaCl ₂
2.					Cement poor-recemented with 50 sx + 3% CaCl ₂
3.					
4.					
5.					
6.					

GEOLOGICAL TOPS	ELEVATION		CORE RECORD					
	Depths	Sub-Sea	From	To	Rec.	From	To	Rec.
Nahanni	1544	- 546	1744	1794.5	49.5			
Chinchaga Dol.	1704	- 706						
Chinchaga Anhy.	1867	- 869						
Cold Lake Salt	2165	- 1167						
Ernestina Dol.	2318	- 1320						
Basal Clastics	2378	- 1380						
Proterozoic	2402	- 1404						
TD	2447							
LOG RECORD								
Run No.	Type of Log		From		To			
1	Laterolog		2438		302			
2	Sidewall Neutron Porosity		2445		1500			
3	BHCSGRC		2444		302			
4	Formation Density		2445		1500			
5	Computerized Lithology Plot		2445		1500			

CEMENTING RECORD (Plug, Squeeze, etc.)				PERFORATING RECORD (Build, Jet)				SERVICING RECORD (Acidizing, Fracing, etc.)			
Date	From	To	Remarks	Date	From	To	Remarks	Date	From	To	Remarks
Mar.22/71	2447	1500	155 sx / 4% gel				Nil				Nil
	360	Surface	70 sx / 4% gel Welded on steel plate and marker								

DRILL STEM TESTS

No.	Date	Formation	From	To	V.O. Mins.	L.S.L. Mins.	F.S.L. Mins.	L.S.L.B.H.P.	F.S.L.B.H.P.	L.F.S.H.P.	F.F.B.H.P.	L.H.P.	F.H.P.	REMARKS
1	Mar.19/71	Upper Chinchaga	1702	1774	90	60	90	633	589	44	47	879	878	Recovered 20' salt water.

ANALYSIS						PRESENT STATUS OF WELL		
Lab. No.	Sample	From	To	Source	Remarks	Oil	(Interval.)	
913-195	Core analysis	1744	1794.5	Chinchaga Dol.				
						Gas	(Interval.)	
						Dry	X	
						Susp.		

Company Horn River Resources Ltd.
Signed by *Thurley*
Title President
Date July 9, 1971

Forms to be prepared in duplicate and forwarded to the Oil
Conservation Engineer, Calgary, Alberta.

CONFIDENTIAL

PROGNOSIS

Horn S.O.B.C. Andex Alinx Green Island N-24

Seismic Line 21X, Shot Point 504

N 61° 53'46"

W 120° 19'37"

The status of this well will be "confidential," therefore, all information regarding the well will be restricted to Chevron Standard personnel and authorized representatives of Alminex and Andex. Pertinent information must be transmitted in code.

Elevations

Ground Elevation (approximately) + 988'

K.B. Elevation (approximately) + 1003'

PROPOSED GEOLOGICAL PROGRAM

A. Estimated Depth and Elevation of Significant Markers

	<u>Est. Elevation</u>	<u>Est. Depth</u>	<u>Corrected Depth</u>
Drift	+ 988'	Surface	
Devonian Shale	+ 830'	158'	
Nahanni	- 500'	1488'	
Chinchaga Dolomite	- 650'	1638'	
Chinchaga Anhydrite	- 820'	1808'	
Cold Lake Salt	-1100'	2088'	
Ernestina Dolomite	-1400'	2388'	
Lotsberg Salt	-1480'	2468'	
Basal Dolomite	-1560'	2548'	
Basal Clastics	-1610'	2598'	
Proterozoic	-1670'	2658'	

Note: These depths are based on a seismic estimate of top of Nahanni and should be adjusted to correspond to the top of Nahanni as picked in samples.

B. Objective Horizon

Chinchaga Dolomite

C. Ditch Samples

Two sets of bagged samples are required, one for S.S. and one for the Geological Survey. Three sets of washed bottled samples and one set of washed enveloped (double volume) samples are required for Chevron. These cuts may be taken from S.S.'s bagged set.

Sample interval is as follows:

Surface to T.D. - 10' samples

Reaming samples should be taken after coring.

Five foot samples should be caught at the wellsite geologist's discretion.

D. Penetration Rate Records

A mechanical drilling time recorder should be used on this well.

E. Sample Description

An up-to-date written sample description and a plotted rock log chart must be maintained by the wellsite geologist. A copy of the written description is required by the government. Through cored and/or oil stained intervals a detailed written description of the reservoir characteristics and hydrocarbon shows must be made.

F. Gas Analyzer

A Gas Detector unit will not be used on this well.

G. Geological Discussion

General

This well will test a drape structure based on seismic. The Chinchaga dolomite is expected to be draped over a salt remnant.

The wellsite geologist can acquaint himself with the section by referring to the following wells:

- (1) IOE Strong Point G-24
N 61° 53' 16", W 120° 49' 36"
Abandoned Feb., 1969 @ 2485' in Proterozoic
Drilling time 19 days
- (2) Westerol #3A G-77
N 61° 46' 26", W 120° 43' 48"
Abandoned July, 1962 @ 2422' in Pre-Cambrian
Drilling time 16 days

Devonian Shale

The shale is green to grey, micromicaceous, slightly dolomitic and/or calcareous, soft and fissile. Thin silty stringers may be present. As the top of the Nahanni is approached (approx. 100 ft.) the shale will become dark grey to black, bituminous and pyritic.

Nahanni

The Nahanni is a biomicritic to bioclastic limestone, medium to dark brown. Stylolites and calcite veining may be common. Fossil fragments will consist of brachiopods, corals, crinoids and bryozoans.

Chinchaga Dolomite

This dolomite is medium brown, fine crystalline and is expected to have intercrystalline and possibly fine vuggy porosity. The contact with the overlying Nahanni limestone may be gradational. Ghost fossil and pellet structures may be present. Thin shaly beds may be present. This is the primary objective.

Chinchaga Anhydrite

This is an evaporitic sequence consisting of pale yellow to brown cryptocrystalline anhydrite interbedded with fine grained to aphanitic light to medium brown dolomite. Thin stringers of red to green marly shales may be present.

Cold Lake Salt

Salt, light grey to light red. Thin interbeds of anhydrite, dolomite and thin red and green shales may be present.

Ernestina Dolomite

This dolomite is light to dark brown, finely crystalline and somewhat evaporitic with associated anhydrite. The dolomite may have fine intercrystalline porosity and ghost fossil textures may be present.

Lotsberg Salt

Same as Cold Lake Salt.

Basal Dolomite

Similar to Ernestina - perhaps more anhydritic.

Basal Clastics

This is a series of sandy, silty red and green shales and dolomites developed over the Proterozoic unconformity. Well developed sands have not been observed in the area but are a possibility.

Proterozoic

Lithology is mixed and variable. The most common lithologies are red and green argillites with silts and sands. Dolomite and traces of anhydrite may also be present.

H. Formation Evaluation

The Chinchaga dolomite draped over a Cold Lake Salt remnant is the primary objective. Porosity is expected to be developed best in the middle of this unit. A 50 foot core should be cut approximately 50 feet below the Nahanni-Chinchaga contact at an estimated elevation of -700 ft. (depth 1688 ft.). If porosity is encountered, a drill stem test should be run.

Other possible zones, e.g., Nahanni, Ernestina ... which may show porosity or oil staining should be reported to the Calgary office and possible testing should be considered.

A nitrate tracer should be added to the mud and measurements recorded in ppm nitrate prior to any testing.

I. Logging Program

One logging run will be made at T.D.
Use Schlumberger.

- 1) Dual Induction Laterolog
Run from T.D. to surface casing
Make a 200' repeat section at T.D.
It is expected that logging will take place in a salt mud. In this case the SP will be meaningless and it may be necessary to exclude the medium induction trace.
If no salt is drilled try a 10 m.v. SP scale.
Vert. scales:- 2" = 100' and 5" = 100' from T.D. to surface casing.
- 2) B.H.C. Sonic, Gamma, Caliper (Integrated)
Run from T.D. to surface casing
Run gamma to surface and check caliper inside casing
Transit time scales: - 40 - 60 - 80 sec/ft. from T.D. to -475' (approx. 1463')
40 - 90 - 140 sec/ft. from -475' (1463') to surface.
Vert. scales:- 2" = 100' and 5" = 100' from T.D. to surface
A 200' repeat section will be run at T.D.
- 3) Formation Density Log (Compensated)
Run from T.D. to top of Nahanni (-475')
Run limestone porosity curve
Vert. scales:- 5" = 100'
A 200' repeat will be made at T.D.

- 4) Sidewall Neutron Porosity Log (S.N.P.)
Run from T.D. to top of Nahanni (-475')
Run on limestone porosity scale
Vert. scales:- 5" = 100'
A 200' repeat will be made at T.D.
A lithology overlay will be made - FDC/SNP

Eight field prints are required.

J. Fluid Samples

- a) Representative fluid samples from all D.S.T. recoveries are required for lab analysis. Samples are required from the top, middle and bottom of the fluid column. One sample is sufficient for recoveries under 60'. A set of water samples is required by the logging company for Rw determinations.
- b) An extra quart sample of any clean oil, or oil cut liquids obtained on D.S.T. is to be taken and forwarded to the Edmonton Producing office. The wellsite personnel should have on hand a supply of special containers for these samples.
- c) Three one quart mud samples should be collected at 15 minute intervals from the flowline prior to each logging run for Rm and Rmf measurements at the wellsite.

Approved:

NHS/1b

Calgary, March 2, 1971

BIS MOUNT DRILLING RIG 57
B. O. P. & CHOKER MANIFOLD

REGAN TAPERS
8" X 900 SERIES

3 1/2" pipe rms

DOUBLE SHAFFER
8" X 900 SERIES

blind rsn

2" steel
kill line

2 X 2000# CAMERON VALVES

CASING bowl

2000# CAMERON
VALVE

1000# psi
gauge

FLARE LINE

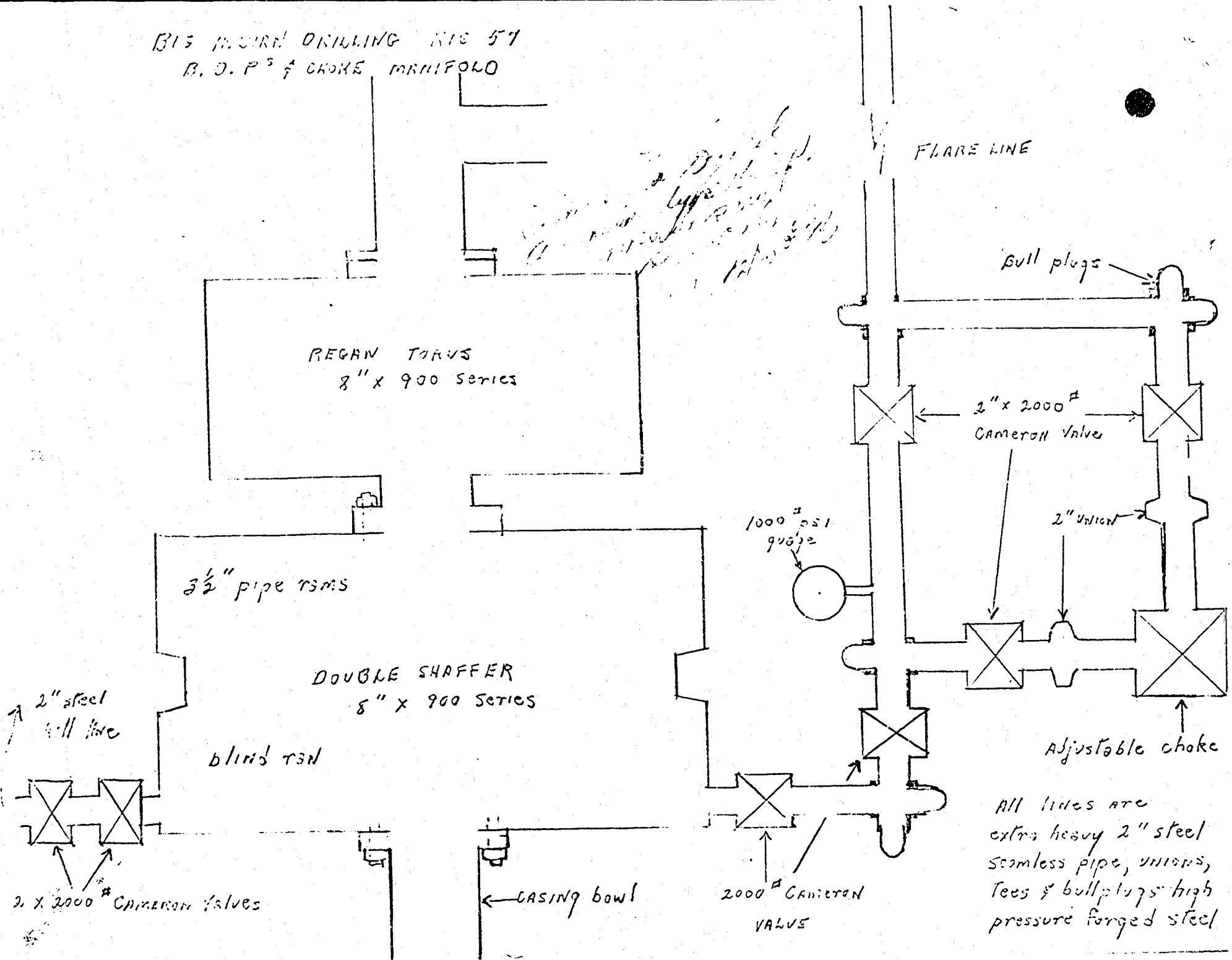
bull plugs

2" X 2000#
CAMERON Valve

2" UNION

Adjustable choke

All lines are
extra heavy 2" steel
seamless pipe, unions,
tees & bullplugs high
pressure forged steel



APPOINTMENT OF AGENT

KNOW ALL MEN BY THESE PRESENTS THAT:

ANDEX OIL CO. LTD., a body corporate, of 1350
Guinness House, Calgary 2, Alberta,

has appointed and does hereby appoint:

ICORN RIVER RESOURCES LTD., a body corporate, of 1020
Aquiline Tower, Calgary 1, Alberta

to be its true and lawful agent to transact business with the
Resource Management Division of the Department of Indian Affairs
and Northern Development in Ottawa, Ontario, Canada, in connection
with and limited to the following transactions only:

1. The submission of notices in advance of commencing
operations;
2. The filing of reports on operations conducted;
3. The submission of statements of expenditure; and
4. The drilling and completion of an exploratory test
well pursuant to "Operation Reef"

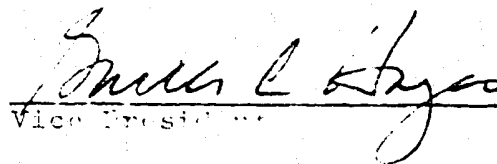
in respect of Oil and Gas Exploratory Permit numbered 4465 (here-
inafter called "the Permit").

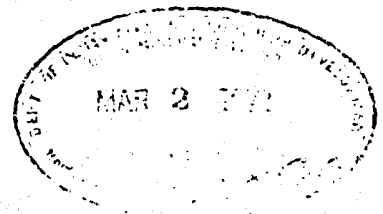
Provided that the powers and authorities hereby conferred on the
said Iorn River Resources Ltd. shall be applicable solely to the
said Permit and solely for the purposes herein above mentioned.

The powers and authorities given under this Appointment shall not
be assigned or transferred.

IN WITNESS WHEREOF, Andex Oil Co. Ltd. has caused these presents
to be executed this 1st day of March, A.D. 1971

ANDEX OIL CO. LTD.

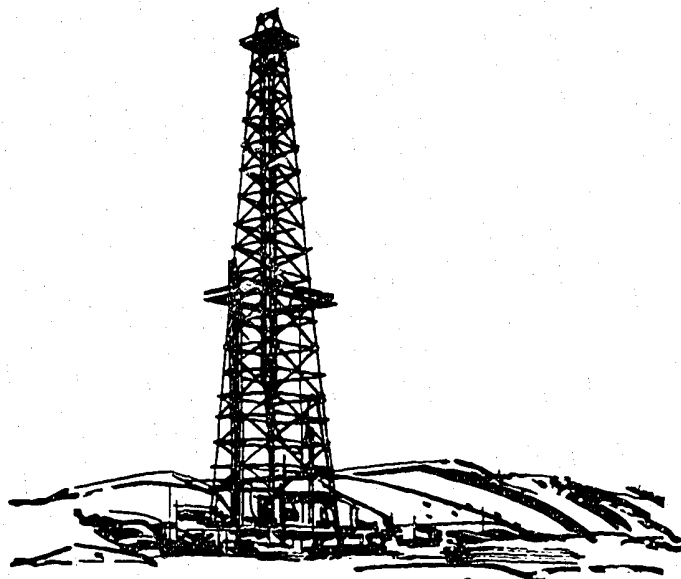

Vice President



LYNES

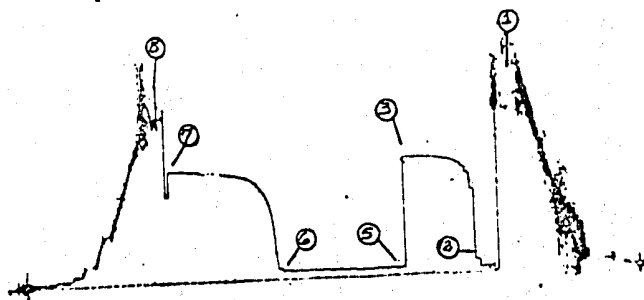
BRIGHT NAME IN THE OIL PATCH

Inflatable and Conventional Packer Tools

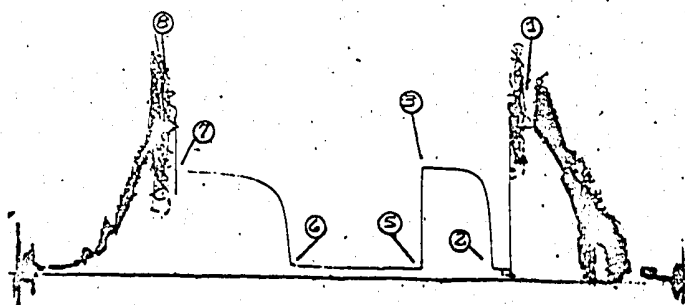


DRILL STEM TEST
TECHNICAL SERVICE REPORT

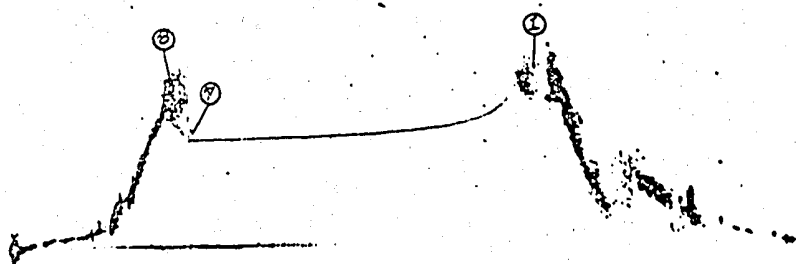
HORAI RIVER 508C ANDEX ALMA GREEN I 0-24
 G1° 53' 46.00 120° 19' 32.00
 1077-1



HORAI RIVER 508C ANDEX ALMA GREEN I 0-24
 G1° 53' 46.00 120° 19' 32.00
 2816-1



HORAI RIVER 288C ANDEX ALMA GREEN I 0-24
 G1° 53' 46.00 120° 19' 32.00
 916-1 Below Straddle



NOMENCLATURE (Definition of Symbols)

Q	= average production rate during test, bbls./day
Q _g	= measured gas production rate during test, MCF/day
k	= permeability, md
h	= net pay thickness, ft. (when unknown, test interval is chosen)
μ	= fluid viscosity, centipoise
Z	= compressibility factor
T _r	= reservoir temperature, ° Rankine
m	= slope of final SIP buildup plot, psig/cycle (psig ² /cycle for gas)
b	= approximate radius of investigation, feet
r _w	= wellbore radius, feet
t _o	= total flowing time, minutes
P _o	= Extrapolated maximum reservoir pressure, psig
P _f	= final flowing pressure, psig
P.I.	= productivity index, bbls./day/psi
P.I. _t	= theoretical productivity index with damage removed, bbl./day/psi
D.R.	= damage ratio
E.D.R.	= estimated damage ratio
AOF	= absolute open flow potential, MCF/D
AOF _t	= theoretical absolute open flow if damage were removed
Z	= subsea depth
W	= water gradient based on salinity
H _w	= potentiometric surface

In making any interpretation, our employees will give Customer the benefit of their best judgment as to the correct interpretation. Nevertheless, since all interpretations are opinions based on inferences from electrical, mechanical or other measurements, we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not be liable or responsible, except in the case of gross or wilful negligence on our part, for any loss, costs, damages or expenses incurred or sustained by Customer resulting from any interpretation made by any of our agents or employees.

DEFINITION OF SYMBOLS

Recorder Depth 1722 ft. Subsea depth ft. Ticket No. 2963 Hour Recorder No. 2816

$t_o = 10$ Mins. Initial Shut-In Pressure				Second Flow Pressure		$t_o = 00$ Mins. Final Shut-In Pressure			
Time, Min. ϕ	$\frac{t_o + \phi}{\phi}$	PSIG	PSIG ² +10 ⁶ (Gas)	Time Defl. .000"	PSIG	Time, Min. ϕ	$\frac{t_o + \phi}{\phi}$	PSIG	PSIG ² +10 ⁶ (Gas)
0	-----	42				0	-----	47	
5	3.000	462				9	12.111	430	
10	2.000	557				18	6.556	509	
15	1.667	589				27	4.703	541	
20	1.500	606				36	3.778	559	
25	1.400	615				45	3.222	569	
30	1.333	619				54	2.851	577	
35	1.285	624				63	2.587	580	
40	1.250	628				72	2.389	585	
45	1.222	629				81	2.234	587	
50	1.200	630				90	2.111	589	
55	1.181	631							
60	1.167	633							

Recorder Depth ft. Subsea depth ft. Ticket No. Hour Recorder No.

[illegible]

Interval of Pressure Readings (Mins.) ISIP

2nd Flow Press.

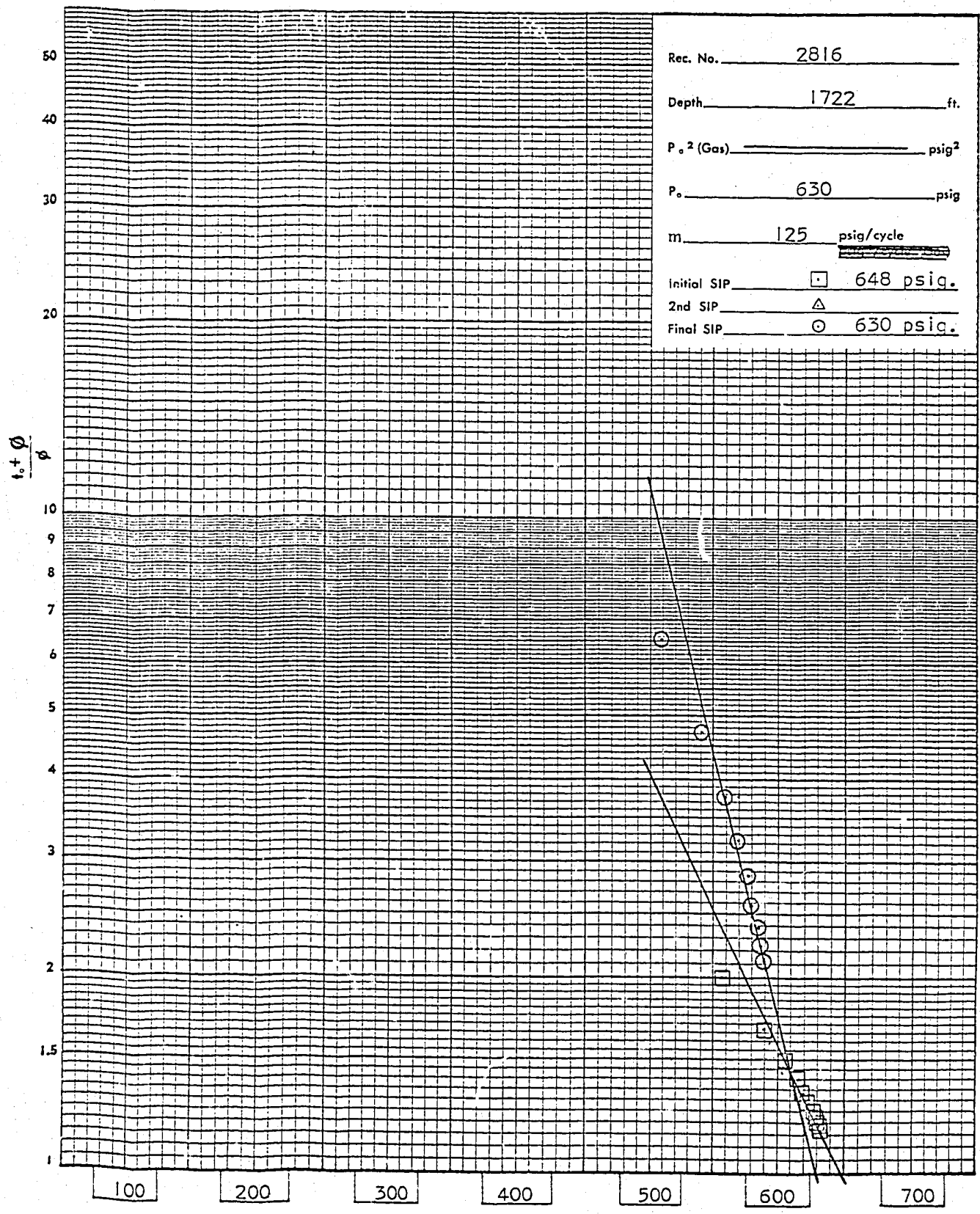
FSIP

C

Remarks:

DST # 1

PRESSURE DATA



Rec. No. 2816

Depth 1722 ft.

P_o² (Gas) _____ psig²

P_o 630 psig

m 125 psig/cycle

Initial SIP $\square$ 648 psig.

2nd SIP $\triangle$ _____

Final SIP $\circ$ 630 psig.

PSIG (OIL OR WATER) DST # 1

PRESSURE EXTRAPOLATION PLOT

LYNES UNITED SERVICES LTD.

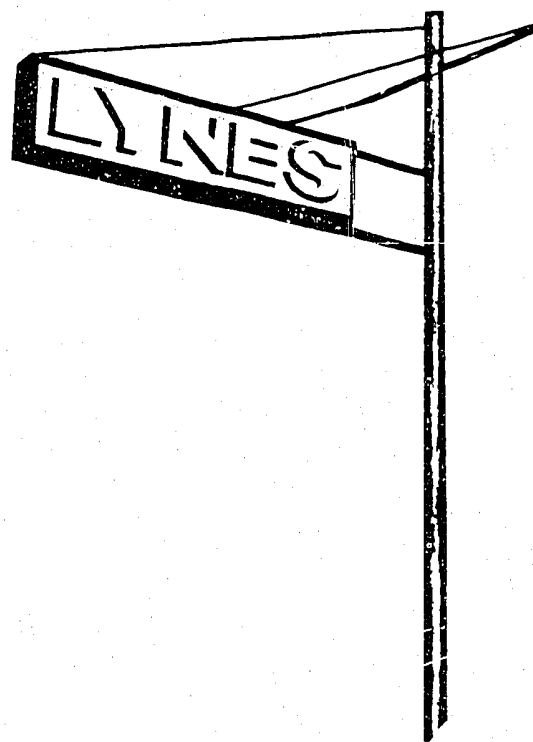
TEST DATA		Test No.		Lynes Test		GENERAL INFORMATION	
Formation	Chinchaga	T.D.	2447	Ft.	Company	Chevron Standard Ltd.	
Interval Tested	1702	Ft. to	1774	Ft.	Address		
Feet of Net Pay Tested	72						
Type of Test	Conventional Straddle						
Cushion	nil	Amount			Ft.	Well Name	Horn River SOBC Andex Almx Green I
Started in Hole at	6:45	Hrs.	Tool Open at	7:55	Hrs.	Well Number	61° 53' 46.06 120° 19' 32.00
Pre-Flow	10	Mins.	Initial Shut-in	60	Mins.	K.B. Elevation	1033 Sub-Sea Elevation
2nd Flow		Mins.	Second Shut-in		Mins.	Area	Ft. Simpson Province N.W.T.
Final Flow	90	Mins.	Final Shut-in	90	Mins.	Company Rep.	R. Schriener
Remarks:						Tester	E. Harris
					Contractor	Big Indian	Ria No. 57
					Ticket No.	2963	Date March 19/71
Slow: Weak initial puff, very weak air blow throughout the test.					Service Reports To:		
					5 - Lewis Engineering Ltd. + 40 xeroxed copies.		
GAS BLOW MEASUREMENTS				MUD AND HOLE DATA			
Measured with				Mud Type Gel Chem			
				Weight 9.9 Viscosity 47 Water Loss			
				Filter Cake 2/32" Bottom Hole Temperature 860			
Time	Surface Choke	Reading Inches	Cubic Feet/Day		Drill Pipe Size 3 1/2" IF Weight		
					Drill Collars 3 1/2" IF I.D. 2 1/8" Feet Run 206		
					Main Hole or Casing Size 6 1/4"		
					Rathole or Liner Size No. of Feet		
					Bottom Hole Choke Size 1/2"		
					Surface Choke Size		
					Packer Rubber Size 5 1/2"		
				REMARKS Shut-in pressures suggest relatively low permeability within the interval tested.			
RECOVERY							
TOTAL FLUID RECOVERED 20 Ft. Consisting of:							
20 Ft. of salt water							
Ft. of							
Ft. of							
Ft. of							
Test was/was not Reverse Circulated							
Oil Recovery A.P.I. Water Specific Gravity							
Salinity 196,000 PPM							
PRESSURE READINGS							
Inside _____ Outside _____ X		Inside _____ Outside _____ X		Inside _____ Outside _____ X		Inside _____ Outside _____	
Recorder No. 1097		Recorder No. 2816		Recorder No. 966		Recorder No. _____	
Capacity 4100		Capacity 4600		Capacity 5040		Capacity _____	
Depth 1717		Depth 1722		Depth 1803		Depth _____	
NUMBER KEY: 1 - INITIAL HYDROSTATIC 2 - PRE-FLOW 3 - INITIAL SHUT-IN 4a - 2nd INITIAL FLOW 4b - 2nd FINAL FLOW 4c - 2nd SHUT-IN 5 - 3rd INITIAL FLOW 6 - FINAL FLOW 7 - FINAL SHUT-IN 8 - FINAL HYDROSTATIC							
878		878		947			
30		42					
631		633					
51		44					
47		47					
594		589		675(bleed off)			
878		878		947			

Company
Chevron Standard Ltd

61° 53' 46.06 120° 19' 32.00
Horn River SOBC Andex Almx Green I 0-24
Well Name and Description

#1
Test No.

March 19/71
Date of Test



LYNES UNITED SERVICES LTD. 262-4501 CALGARY, ALBERTA

CORE ANALYSIS REPORT

FOR

HORN RIVER EXPLORATION LIMITED

HORN R. SOBC ANDEX ALMC GREEN I. O-24
WILDCAT, GREEN ISLAND
N. W. T.

CORE LABORATORIES - CANADA LTD.

Petroleum Reservoir Engineering
CALGARY - EDMONTON - REGINA

CORE LABORATORIES - CANADA LTD.

COMPANY HORN RIVER EXPLORATION LIMITED
WELL HORN R. SOBC ANDEX ALMC GREEN I. 0-24
FIELD WILDCAT, GREEN ISLAND, N.W.T.
LOCATION 61 53' 46.00 NORTH LAT.
120 19' 37.00 WEST LONG.

FORMATION
DRILLING FLUID
ELEVATION
ANALYSIS
REMARKS

WATER BASE MUD

FULL DIAMETER
ALL SAMPLES SANDBLASTED
PRIOR TO KH ANALYSIS.

PAGE 1 OF 2
FILE 913-195
DATE REPORT MAR. 26/71
ANALYSTS BK, CC

AST - APPEARS SIMILAR TO
B - BROKEN CORE (KNO USED FOR SUMMARY PURPOSES)
C - PERMEABILITY > 20000 MD
F - FINE SAND
M - MEDIUM SAND
C - COARSE SAND
CONG - CONGLOMERATE
DOL - DOLOMITE
SH - SHALE
LMY - LIMY
S - SHALY
/BK - BREAK
SIT - PYROBITUMEN
CARB - CARBONACEOUS
A - ANHYDRITE
FOS - FOSSILIFEROUS
XLM - CRYSTALLINE
LAM - LAMINATION
V - VUGULAR
LV - LARGE VUGS
SV - SMALL VUGS
PPV - PIN POINT VUGS
I - INTERGRANULAR
STV - STYLITIC FRACTURE
HP - HORIZONTAL FRACTURE
VF - VERTICAL FRACTURE
SE - SMALL PLUG SAMPLE
SL - SLIGHTLY
V - VERY
W - WITH

SAMPLE NUMBER	INTERVAL REPRESENTED, FEET		PERMEABILITY TO AIR, MILLIDARCYS			PERMEABILITY FEET	POROSITY PER CENT	POROSITY FEET	DENSITY, gm./cc.		VISUAL EXAMINATION
	DEPTH	THICK	KMAX	K90°	KV				BULK	GRAIN	

CORED INTERVAL 1744 - 1794.5

CORE NO. 1 1744 - 1794.5 REC. 49.5' 11 BOXES

1	1744.0-45.1	1.1	.06	.04	-0.1	.07	5.9	6.49	2.64	2.80	I
2	1745.1-46.0	.9	.07	.06	-0.1	.06	10.8	9.72	2.49	2.79	I
3	1746.0-47.0	1.0	-0.1	-0.1	-0.1	-	7.6	7.60	2.60	2.81	I
4	1747.0-48.0	1.0	.02	-0.1	-0.1	.02	6.2	6.20	2.62	2.79	I
5	1748.0-48.8	.8	-0.1	-0.1	-0.1	-	3.9	3.12	2.69	2.80	I
6	1748.8-49.7	.9	-0.1	-0.1	-0.1	-	6.2	5.58	2.62	2.79	I
7	1749.7-50.6	.9	-0.1	-0.1	-0.1	-	6.8	6.12	2.60	2.79	I
8	1750.6-51.3	.7	.11	.11	-0.1	.08	7.6	5.32	2.58	2.79	I
	1751.3-53.1	1.8	-	-	-	-	-	-	-	-	DENSE
9	1753.1-54.1	1.0	-0.1	-0.1	-0.1	-	.7	.70	2.73	2.75	DENSE
10	1754.1-55.2	1.1	.19	.05	-0.1	.21	.9	.99	2.77	2.80	DENSE STY
11	1755.2-55.8	.6	.17	.13	-0.1	.10	9.1	5.46	2.55	2.81	I
12	1755.8-56.8	1.0	.24	.07	-0.1	.24	8.5	8.50	2.57	2.81	I
13	1756.8-57.8	1.0	-0.1	.05	-0.1	.05	6.1	6.10	2.61	2.78	I
14	1757.8-58.9	1.1	.48	.37	-0.1	.53	10.1	11.11	2.50	2.78	I
15	1758.9-59.8	.9	-0.1	-0.1	-0.1	-	.6	.54	2.79	2.80	DENSE
16	1759.8-61.0	1.2	.17	.15	-0.1	.20	6.8	8.16	2.65	2.85	I FEW PPV F
17	1761.0-61.7	.7	.08	.05	-0.1	.06	9.3	6.51	2.54	2.80	I STY
18	1761.7-62.5	.8	-0.1	-0.1	-0.1	-	.6	.48	2.75	2.76	DENSE
19	1762.5-63.2	.7	.34	.30	-0.1	.24	9.4	6.58	2.55	2.81	I STY
20	1763.2-63.9	.7	.14	.12	-0.1	.10	10.9	7.63	2.48	2.79	I
21	1763.9-64.4	.5	.82	.67	.04	.41	13.9	6.95	2.41	2.80	I
	1764.4-93.5	29.1	-	-	-	-	-	-	-	-	NABR
	1793.5-94.5	1.0	-	-	-	-	-	-	-	-	LOST CORE

CORE LABORATORIES - CANADA, LTD.

Petroleum Reservoir Engineering

WELL:

HORN R. SOBC ANDEX ALMC GREEN I. 0-24

PAGE: 2 OF 2

FORMATION:

FILE: 913-195

SUMMARY INTERVAL:

1744.0 - 1794.5

TOTAL FOOTAGE:

50.5

FOOTAGE ANALYZED

18.6

FOOTAGE NOT ANALYZED:

TOTAL: 31.9 DENSE 1.8 LOST 1.0 DRILLED .0 *NABR 29.1 RUBBLE .0

SUMMARY
OF
ANALYZED CORE:

TOTAL

BY
PERM
RANGES:

LESS THAN 0.10 Md.

0.10 0.49 Md.

0.50 0.99 Md.

1.00 9.99 Md.

GREATER THAN 9.99 Md.

FOOTAGE	% OF ANALYZED CORE	WEIGHTED AVERAGE POROS. %	POROSITY FEET	WEIGHTED AVERAGE PERM. MD.	PERM. FEET	WEIGHTED AVERAGE RESID. OIL %	WEIGHTED AVERAGE TOT. WATER %
18.6	100.00	6.44	119.86	.12	2.31	.00	.00
11.0	59.14	5.38	59.16	.02	.21	.00	.00
7.1	38.17	7.57	53.75	.24	1.70	.00	.00
.5	2.69	13.90	6.95	.82	.41	.00	.00
.0	.00	.00	.00	.00	.00	.00	.00
.0	.00	.00	.00	.00	.00	.00	.00

*NOT ANALYZED BY REQUEST

HORN R SOBC ANDEX ALMX GREEN I O-24
61° 53' 46" N. Lat. 120° 19' 37" W. Long.

SPUD: March 10, 1971 12:01 A.M.

SURFACE CASING: 7" - 20# J-55. Landed at 302 K.B.
Cemented with 120 sacks cement plus 3% calcium
chloride. Plug down March 10, 1971 11:45 A.M.

TOTAL DEPTH: 2447 K.B.

CORE NO. 1: 1744 - 1794 - recovered 50 feet.

DST NO. 1: 1702 - 1774
Prewell 10 min.
Initial shut in 60 min.
Valve open 90 min.
Final shut in 90 min.
Initial hydrostatic 875 psi
Initial flow 40 psi
Initial shut in 630 psi
Final hydrostatic 875 psi
Final flow 40 psi
Final shut in 589 psi
Recover 20 feet muddy salt water
196,000 PPM salt
28 PPM nitrate

LOGS RUN: Schlumberger
Dual Induction Laterolog, BHC Sonic Gamma Caliper
(Integrated), Formation Density Log (Compensated),
Sidewall Neutron Porosity Log.

LOG TOPS: Nahanni 1544'
Chinchaga Dolomite 1704'
Chinchaga Anhydrite 1867'
Cold Lake Salt 2165'
Ernestina Dolomite 2318'
Basal Clastics 2378'
Proterozoic 2402'
T.D. 2447'

ABANDONMENT PROGRAM:

Plug No. 1 2447 to 1500 = 947'
Run 155 sacks cement plus 4% Gel
No feel

Plug No. 2 352 to surface = 352 feet
Run 60 sacks cement plus 4% Gel

Cut casing off 3 feet below ground, weld on plate and
rod with well marker.

Rig released March 22, 1971 8:00 A.M.

OPERATION REEF
NORTHWEST TERRITORIES
CANADA

Geological and Engineering
REPORT

HORN R SOBC ANDEX ALMX GREEN I. O-24

PREPARED FOR
HORN RIVER RESOURCES LTD.

PREPARED BY
JAMES A. LEWIS ENGINEERING CO. LTD.
Petroleum Reservoir Analysts
CALGARY - ALBERTA

INTRODUCTION

This is a concise report of the drilling operations at the well:

Horn R SOBC Andex Almx Green I. O-24

This well was drilled through the co-operative exploration program conducted by Horn River Resources Ltd. in the Northwest Territories of Canada under,

"OPERATION REEF"

Geological data in this report were supplied by Chevron Standard Limited. Drilling data were extracted from the tour sheets of Big Indian Drilling Co. Ltd., Rig No. 57. This report was compiled by James A. Lewis Engineering Co. Ltd.

JAMES A. LEWIS ENGINEERING CO. LTD.



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Section 1

GENERAL

SUMMARY OF WELL DATA

WELL: Horn R SOBC Andex Almx Green I. O-24

NAME OF OPERATOR: Horn River Resources Ltd.
1020 Aquitaine Tower, 540 Fifth Avenue S.W., Calgary 1

LEGAL DESCRIPTION: Unit O, Section 24 Grid 62° 00' N. Lat. 120° 15' W Long.

LOCATION: LATITUDE: 61° 53' 46" N LONGITUDE: 120° 19' 37" W

UNIVERSAL WELL LOCATION REFERENCE: Lat 61. 89611° N Long 120. 32695° W

UNIQUE WELL IDENTIFIER: 3000246200120150

CO-ORDINATES: None

PERMIT OR LEASE: Permit No. 4465

PERMITTEE, LICENCEE, LESSEE: Standard Oil Company of British Columbia, Andex Oil Co. Ltd.

DRILLING AUTHORITY: No. 516 DATE: March 5, 1971

CLASSIFICATION: New Field Wildcat

ELEVATION: GROUND: 988' K.B. 998'

DRILLING CONTRACTOR: Big Indian Drilling Co. Ltd. Rig No. 57

WELLSITE GEOLOGIST: Chevron Standard Limited

SURFACE CASING: 7" - 20lb. - J-55 Used, Set @ 302' K.B. with 120 sax + 3% CaCl₂

HOLE SIZE: Surface Hole 0' - 308' - 9-7/8", Main Hole 308' - 2,447' - 6-1/4"

MUD SYSTEM: Salt - Gel Chemical

CORES: No. 1: 1,744' - 1,794.5' Upper Chinchaga, Recovered 50.5'

FORMATION TESTS: DST No. 1: 1,702' - 1,774' Upper Chinchaga

ABANDONMENT PLUGS: No. 1: 2,447' - 1,500', 155 sax + 4% Gel
No. 2: 360' - surface 70 sax + 4% Gel

LOST CIRCULATION: None

LOGS: FDL 2,445' - 1,500' Laterolog 2,438' - 202'
BHCSGRC 2,444' - 302' (integrated) SNP 2,445' - 1,500'

WELL SPUDED: 12:01 a.m., March 10, 1971

FINISHED DRILLING: 8:30 a.m., March 18, 1971

RIG RELEASED: 8:00 a.m., March 22, 1971

TOTAL DEPTH: 2,447' K.B.

STATUS: Drilled and Abandoned

Section 2
GEOLOGICAL

WELL: Horn R SOBC Andex Almx Green I. O-24

James A. Lewis Engineering Co. Ltd.

CORE DESCRIPTION

Horn R SOBC Andex Almx Green I. O-24

1744' - 1750.5' Chinchaga Dolomite - brown to light brown to cream, aphanitic to very fine grained, some bedding and laminations present due to varying argillaceous content, upper part contains small veinlets and blebs of calcite, stylolites common throughout, blebs and lenses of anhydrite more common in lower part of core, tight throughout except for small intervals of earthy and pinpoint porosity.

SAMPLE DESCRIPTION

Horn R SOBC Andex Almx Green I. O-24

Depth	Lithology
0' - 1310'	Shale, light green to light grey, calcareous to dolomitic, slightly fissile, rare carbonaceous specks, micromicaceous, trace pyrite.
1310' - 1540'	Shale, grey to dark grey, very slightly calcareous, bituminous, pyritic.
	NAHANNI
1540' - 1660'	Limestone, brown to grey to buff, biomicrite, some fractures cemented by clear calcite, trace earthy porosity.
1660' - 1705'	Limestone, cream to brown; biomicrite becoming a pelsparite at base, trace of bitumen and pyrite.
	CHINCHAGA
1705' - 1744'	Dolomite, brown - aphanitic to very finely crystalline, some clear calcite veins, trace earthy porosity.
1744' - 1794'	Cored interval.
1794' - 1840'	Dolomite, light brown to cream, aphanitic to very finely crystalline, trace of pyrite and anhydrite.
	GREEN MARKER
1840' - 1865'	Shale, light green, cryptocrystalline showing papery laminations, waxy, pyritic.
	LOWER CHINCHAGA
1865' - 2168'	Anhydrite, light grey to brown to cream, cryptocrystalline, translucent in part with traces of dolomite.
2168' - 2318'	Cold Lake salt.
	ERNESTINA
2318' - 2333'	Anhydrite - light grey to brown, cryptocrystalline, massive, salt casts in the anhydrite.

SAMPLE DESCRIPTION (Continued)

Horn R SOBC Andex Aimx Green I. O-24

Depth	Lithology
2333' - 2378'	Dolomite, brown, aphanitic to finely crystalline, interbedded with anhydrite as above, dolomite shows trace intercrystalline porosity, trace pyrite and bitumen, no cut with clorothene.
TOTAL DEPTH	
2378' - 2447'	Sandstone, orthoquartzitic fine grained, silica cemented, no porosity, approaching a metaquartzite towards total depth.

Section 3

DRILLING AND ENGINEERING

SUMMARY OF DAILY DRILLING OPERATIONS

Horn R SOBC Andex Almx Green I. O-24

Date	Depth	Operation
3- 7-71	0'	Rigging up.
3- 8-71	0'	Rigging up.
3- 9-71	0'	Rigging up.
3-10-71	160'	Drilling 9-7/8" surface hole. Spudded in at 12:01 a.m., March 10, 1971.
3-11-71	308'	Heading up surface casing. Drilled 9-7/8" hole to 308'. Ran 9 joints 7" - 20 lb. - J-55 casing with guide shoe and baffle plate. Landed at 302' K.B. Cemented with 120 sacks of neat portland cement plus 3% CaCl ₂ . Cement poor, circulated cement to sump. Recemented with 50 sacks plus 3% CaCl ₂ .
3-12-71	1475'	Drilling 6-1/4" hole. Mud wt. 8.8 Vis 30. Headed up surface casing, tested Blind Rams, Pipe Rams, manifold and Reagan B.O.P. to 800 psi each unit held for 15 minutes.
3-13-71	1656'	Drilling 6-1/4" hole. Mud wt. 8.8 lb./gal. Vis. 42
3-14-71	1800'	Drilling 6-1/4" hole. Mud wt. 8.7 lb./gal. Vis. 50 Cut Core No. 1: 1744' to 1794.5'. Recovered 50.5' Upper Chinchaga. Reamed Rat hole. Drilling ahead.
3-15-71	1950'	Drilling 6-1/4" hole. Mud wt. 8.9 lb./gal. Vis. 38
3-16-71	2127'	Drilling 6-1/4" hole. Mud wt. 9.0 lb./gal. Vis. 38
3-17-71	2390'	Drilling 6-1/4" hole. Mud wt. 9.4 lb./gal. Vis 36
3-18-71	2444'	Drilling 6-1/4" hole. Mud wt. 9.8 lb./gal. vis. 36
3-19-71	2447'	Logging 10:00 p.m. March 18, 1971. Mud wt. 10.1 lb./gal. Vis. 45.

SUMMARY OF DAILY DRILLING OPERATIONS (Continued)

Horn R SOBC Andex Almx Green I. O-24

Date	Depth	Operation
3-20-71	2447'	Waiting on repairs to rig. Ran DST No. 1 after logging. Logs: Laterolog 2438' to 302' Sidewal Neutron Porosity 2445' to 1500' Formation Density 2445' to 1500' BHCSGRC 2444' to 302' Ran DST No. 1: 1702' - 1774', Chinchaga. Straddle test. Times: 10 minutes open, 60 minutes I.S.I., 90 minutes flow 90 minutes final shut in. Pressures: I.S.I. 878 psi Initial Flow 30 psi Initial Shut In 631 psi Flow 51 psi Final Flow 47 psi Final Shut In 594 psi Final H.S. 878 psi Recovered 20' salt water salinity 196,000 ppm.
3-21-71	2447'	Wait on repairs for rig.
3-22-71		Well abandoned. Ran Plug No. 1: 2447' to 1500', 155 sacks cement plus 4% Gel. Plug down 2:00 a.m. Not felt. Plug No. 2: 360' to surface, 70 sacks of cement plus 4% Gel. Plug down 3:30 a.m. March 22, 1971. Cut off casing, welded on cap and well sign. Rig released 8:00 a.m., March 22, 1971.

DRILL STEM TEST REPORT

WELL: Horn R SOBC Andex Almx Green I. O-24

DATE: March 19, 1971 TEST NO. 1
 INTERVAL TESTED: 1702' - 1774' FORMATION: Upper Chinchaga
 TOTAL DEPTH DRILLER: 2447' LOGS: Laterolog, BHCSGRC, FDL, SNP
 HOLE SIZE: 6-1/4" RAT HOLE SIZE: -
 TESTING COMPANY: Lynes United OPERATOR: Harris

MUD	DRILL PIPE	TEST TOOL
Type <u>Salt Gel-Chemical</u>	Type <u>I.F.</u>	Size Rubber <u>5-1/2"</u>
Wt. <u>9.9</u>	Size <u>3-1/2"</u>	Type <u>-</u>
Visc. <u>47</u>	Size T.J. <u>4-13/16</u>	Tool Type <u>-</u>
W.L. <u>-</u>	Collars <u>3-1/2" I.F.</u>	Size Choke <u>1/2"</u>
pH <u>-</u>	Jars <u>-</u>	Wt. to Set <u>-</u>
F.C. <u>2/32</u>	Safety Joint <u>-</u>	Pull Loose <u>-</u>
Conditions <u>Good</u>	Pumpout Sub. <u>-</u>	Fluid Cushion <u>-</u>

Bit off Bottom <u>12:01 a.m. 3/19/71</u>	Preflow <u>10</u> min.	B.H. Temp. <u>86</u> °F.
Start Tester in <u>6:30 p.m.</u>	I.S.I. <u>60</u> min.	Gauge Depths <u>1717</u> K.B.
Tester on Bottom <u>7:40 p.m.</u>	Tool Open <u>90</u> min.	<u>1722</u> K.B.
Tool Open <u>7:55 p.m.</u>	F.S.I. <u>90</u> min.	<u>1803</u>
Tool Closed <u>8:05 p.m.</u>	<u>Upper Gauge</u>	<u>Lower Gauge</u>
Tool Open <u>9:05 p.m.</u>	I.H.S. <u>878</u> psig	I.H.S. <u>878</u> psig
Tool Closed <u>10:35 p.m.</u>	Preflow <u>30</u> psig	Preflow <u>42</u> psig
Tool Loose <u>12:05 a.m. 3/20/71</u>	I.S.I. <u>631</u> psig	I.S.I. <u>633</u> psig
Tool Out <u>3:00 a.m.</u>	Initial Flow <u>51</u> psig	Initial Flow <u>44</u> psig
Rubber Condition <u>-</u>	Final Flow <u>47</u> psig	Final Flow <u>47</u> psig
Test O.K. <u>Yes</u>	Final S.I. <u>594</u> psig	Final S.I. <u>589</u> psig
	F.H.S. <u>878</u> psig	F.H.S. <u>878</u> psig

BLOW: Weak.

RECOVERY: 20 feet salt water 190,000 ppm salinity.

James A. Lewis Engineering Co. Ltd.

SURFACE CASING REPORT

Horn R SOBC Andex Almx Green I. O-24

Date: March 10, 1971

Ran 9 joints of used J-55, 7", 20 lb./ft., standard threads and couplers casing with Davis guide shoe, Davis baffle plate and one centralizer set 10 ft. above shoe.

Total Length:	292.70'
Landed at:	302.00' K.B.

Cemented with 120 sacks of normal Portland cement plus 3% calcium chloride.
Displaced with fresh water.

SUMMARY OF MUD ADDITIVES

Horn R SOBC Andex Almx Green I. O-24

Hydra-gel	206 sacks
Salt gel	31 sacks
Caustic	9 sacks
Rapidrill	5 sacks
Bicarbonate	2 sacks
CMC	2 sacks
Lime	1 sack
DV-68	15 gals.
Defoamer	5 gals.

BIT RECORD

WELL: Horn R SOBC Andex Almx Green I. O-24

BIT NO.	SIZE & SER. NO.	DEPTH OUT, Feet	FOOTAGE, Feet	HOURS	WEIGHT, M Pounds	R.P.M.	PUMP PRESSURE, Psi
<u>SURFACE HOLE</u>							
1A	9-7/8-	308	308	12½	Total	120	100
<u>MAIN HOLE</u>							
1	6-1/4-E2384	1575	1234	18	20	180	350
2	6-1/4-15034	1656	114	10½	20	90	400
3	6-1/4-21774	1744	126	11½	20	70	400
Core	6-3/16-EC9916	1794	50	5½	12	80	575
4	6-1/4-13258	1899	105	15¼	20	85	375
5	6-1/4-20060	2070	171	19¼	20	80	400
6	6-1/4-17436	2307	237	11¾	20	85	400
7	6-1/4-12812	2386	79	8	20	85	400
8	6-1/4-20078	2390	4	2¼	20	65	400
9	6-1/4-	2395	5	3	25	55	400
10	6-1/4-00166	2447	52	13½	20	30	450
<u>TALLY CORRECTION</u>							
			38				

SUMMARY

Surface Hole 308 of 9-7/8 " 12-1/2 hours on bottom.
Main Hole 2127 of 6-1/4 " 113 hours on bottom.
Core Hole 50 of 6-3/16 " 5-1/2 hours on bottom.

SURVEY RECORD

Horn R SOBC Andex A\mx Green I. O-24

Depth, Feet	Deviation, Degrees
Surface Hole	
68	$\frac{1}{2}$
114	$\frac{1}{2}$
160	$\frac{3}{4}$
217	$\frac{3}{4}$
308	$\frac{3}{4}$
Main Hole	
784	$1\frac{1}{4}$
1220	2
1542	2
1899	$2\frac{1}{2}$
2136	2
2447	$1\frac{1}{2}$

ABANDONMENT REPORT

Horn R SOBC Andex Almx Green I. O-24

Plug No. 1: From total depth, 247' to 1500' with 155 sacks of construction cement and 4% Gel. Slurry weight was at 2 lb./gal.

Plug No. 2: From 360' to surface with 70 sacks of construction cement and 4% Gel. Slurry weight was 15.2 lb./gal.

The casing was cut off 3' below ground level and a cap and sign were welded on.

Section 4

WELL LOG DATA

Horn R SOBC Andex Almx Green I. O-24

Log	Scale	Interval
Laterolog	2" & 5"/100'	2438' to 302'
Sidewall Neutron Porosity	5"/100'	2445' to 1500'
Borehole Compensated Sonic Gamma-Ray Caliper	2" & 5"/100'	2444' to 302'
Formation Density	5"/100'	2445' to 1500'
Computerized Lithology Plot	5"/100'	2445' to 1500'

Section 5

CORE ANALYSIS

CORE LABORATORIES - CANADA LTD.

COMPANY HORN RIVER EXPLORATION LIMITED
WELL HORN R. SOBC ANDEX ALMC GREEN I. Q-24
FIELD WILDCAT, GREEN ISLAND, N.W.T.
LOCATION 61 53' 46.00 NORTH LAT.
120 19' 37.00 WEST LONG.

FORMATION
DRILLING FLUID
ELEVATION
ANALYSIS
REMARKS

WATER BASE MUD

FULL DIAMETER
ALL SAMPLES SANDBLASTED
PRIOR TO KH ANALYSIS.

PAGE 1 OF 2
FILE 913-195
DATE REPORT MAR. 26/71
ANALYSTS BK, CC

ABT - APPEARS SIMILAR TO
B - BROKEN CORE (SEE USED
FOR SUMMARY PURPOSES)
CC - PERMEABILITY > 2000 MD
FB - FINE SAND
MS - MEDIUM SAND
CS - COARSE SAND
CORG - CONGLOMERATE
DOL - DOLomite
SH - SHALE
LMT - LIMST
SHV - SHALE
SHE - SHEAL
ST - STRATIGRAPHY
CARB - CARBONACEOUS
A - ANHYDRITE
FOS - FOSSILIFEROUS
ELN - CRYSTALLINE
LAM - LAMINATION
V - VESICULAR
LV - LARGE VES
SV - SMALL VES
PPV - PNEUMATIC
I - INTERGRANULAR
ST - STYLITIC
H - HORIZONTAL FRACTURE
VF - VERTICAL FRACTURE
BS - BEST - FINEST SAMPLE
SL - SLIGHTLY
V - VERY
W - WITH

SAMPLE NUMBER	INTERVAL REPRESENTED, FEET		PERMEABILITY TO AIR, MILLIDARCY			PERMEABILITY FEET	POROSITY PER CENT	POROSITY FEET	DENSITY, gm/cc.		VISUAL EXAMINATION
	DEPTH	THICK	KMAX	K90°	KV				BULK	GRAIN	

CORED INTERVAL 1744 - 1794.5

CORE NO. 1 1744 - 1794.5 REC. 49.5' 11 BOXES

1	1744.0-45.1	1.1	.06	.04	-0.1	.07	5.9	6.49	2.64	2.80	I
2	1745.1-46.0	.9	.07	.06	-0.1	.06	10.8	9.72	2.49	2.79	I
3	1746.0-47.0	1.0	-0.1	-0.1	-0.1	-	7.6	7.60	2.60	2.81	I
4	1747.0-48.0	1.0	.02	-0.1	-0.1	.02	6.2	6.20	2.62	2.79	I
5	1748.0-48.8	.8	-0.1	-0.1	-0.1	-	3.9	3.12	2.69	2.80	I
6	1748.8-49.7	.9	-0.1	-0.1	-0.1	-	6.2	5.58	2.62	2.79	I
7	1749.7-50.6	.9	-0.1	-0.1	-0.1	-	6.8	6.12	2.60	2.79	I
8	1750.6-51.3	.7	.11	.11	-0.1	.08	7.6	5.32	2.58	2.79	I
	1751.3-53.1	1.8	-	-	-	-	-	-	-	-	DENSE
9	1753.1-54.1	1.0	-0.1	-0.1	-0.1	-	.7	.70	2.73	2.75	DENSE
	1754.1-55.2	1.1	.19	.05	-0.1	.21	.9	.99	2.77	2.80	DENSE STY
10	1755.2-55.8	.6	.17	.13	-0.1	.10	9.1	5.46	2.55	2.81	I
11	1755.8-56.8	1.0	.24	.07	-0.1	.24	8.5	8.50	2.57	2.81	I
12	1756.8-57.8	1.0	-0.1	.05	-0.1	.05	6.1	6.10	2.61	2.78	I
13	1757.8-58.9	1.1	.48	.37	-0.1	.53	10.1	11.11	2.50	2.78	I
14	1758.9-59.8	.9	-0.1	-0.1	-0.1	-	.6	.54	2.79	2.80	DENSE
15	1759.8-61.0	1.2	.17	.15	-0.1	.20	6.8	8.16	2.65	2.85	I FEW PPV F
16	1761.0-61.7	.7	.08	.05	-0.1	.06	9.3	6.51	2.54	2.80	I STY
17	1761.7-62.5	.8	-0.1	-0.1	-0.1	-	.6	.48	2.75	2.76	DENSE
18	1762.5-63.2	.7	.34	.30	-0.1	.24	9.4	6.58	2.55	2.81	I STY
19	1763.2-63.9	.7	.14	.12	-0.1	.10	10.9	7.63	2.48	2.79	I
20	1763.9-64.4	.5	.82	.67	.04	.41	13.9	6.95	2.41	2.80	I
21	1764.4-93.5	29.1	-	-	-	-	-	-	-	-	NABR
	1793.5-94.5	1.0	-	-	-	-	-	-	-	-	LOST CORE

CORE LABORATORIES - CANADA, LTD.

Petroleum Reservoir Engineering

HORN R. SOBC ANDEX ALMC GREEN I. 0-24

PAGE: 2 OF 2

FILE: 913-195

WELL:

FORMATION:

SUMMARY INTERVAL:

1744.0 - 1794.5

TOTAL FOOTAGE:

50.5

FOOTAGE ANALYZED

18.6

FOOTAGE NOT ANALYZED:

TOTAL: 31.9 DENSE 1.8 LOST 1.0 DRILLED .0 *NABR 29.1 RUBBLE .0

SUMMARY
OF
ANALYZED CORE:

TOTAL

BY
PERM
RANGES:

LESS THAN 0.10 Md.

0.10 0.49 Md.

0.50 0.99 Md.

1.00 9.99 Md.

GREATER THAN 9.99 Md.

FOOTAGE	% OF ANALYZED CORE	WEIGHTED AVERAGE POROS. %	POROSITY FEET	WEIGHTED AVERAGE PERM. MD.	PERM. FEET	WEIGHTED AVERAGE RESID OIL %	WEIGHTED AVERAGE TOT. WATER %
18.6	100.00	6.44	119.86	.12	2.31	.00	.00
11.0	59.14	5.38	59.16	.02	.21	.00	.00
7.1	38.17	7.57	53.75	.24	1.70	.00	.00
.5	2.69	13.90	6.95	.82	.41	.00	.00
.0	.00	.00	.00	.00	.00	.00	.00
.0	.00	.00	.00	.00	.00	.00	.00

*NOT ANALYZED BY REQUEST

RIG. NO. LOCATION

DATE Mar 22/71

LOCATION DATE

TOUR	MIDN.	T	O	HOLE NO. FROM TO T.D. IF FIN. SIZE CASING SET TO DEPTH AMOUNT SAC CEMENT AVERAGE TIME PER LOAD OF W. LOST DRILL TIME WAIT ON WATER														STRAIGHT LOG / PUMP TEST		CLASS	REMARKS	TIME																	
				LT:	LF:	AF:	AT:	% LEFT	COND	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM			% LEFT	COND.	FROM FT. / TIME	TO FT. / RATE IN 16 PM	DESCRIPTION / DEPTH TO WATER IN FT.	START	STOP	INTERVAL										
1		T	O	MUD 12MN. 2A.M. 4 A.M. 6 A.M.														PUMP		PUMP	SURVEY		PICK UP DRILL PIPE Plug to cement Run Plug #1 Log down pipe Run plug #2 Log down pipe Jelly out to main	12 ⁰⁰	1 ⁰⁰	1													
				WT.														PRESS						RPM		DEPTH		PRESS		RPM		DEPTH		AT		DEG.		LOG TO DEPTH	
				VISC.														DRILL						MOTOR HOURS		FUEL GALS.		NEXT OIL CHANGE AT		WEATHER		MIDN. 4 A.M.							
				GEL.														W. TRUCK										TEMPERATURE:											
				W. L. F.C. P.H.														MOB. PUMP										WIND VELOCITY:											
				ADDITIVES: WATER GALS.														GENERAL										RAIN, SNOW, FOG, ETC.											
				1.																																			
				2.																																			
				3.																																			
				CREW TIME SUMMARY														DRILLING AND OTHER RIG OPER.						PUMPTST		REPAIRS & MAINTENANCE		RIG UP OR TEAR DOWN		LOST TIME TRAVEL TIME		TOTAL HOURS							
DRILLER																																							
HELPER																																							
HELPER																																							
TOTAL																																							
INJURIES AND REMARKS:																																							
2		T	O	MUD 8 A.M. 10 A.M. 12 N.H. 2 P.M.														PUMP		PUMP	SURVEY		Casing Cut off 3' below ground. Casing segment will be on																
				WT.														PRESS						RPM		DEPTH		PRESS		RPM		DEPTH		AT		DEG.		LOG TO DEPTH	
				VISC.														DRILL						MOTOR HOURS		FUEL GALS.		NEXT OIL CHANGE AT		WEATHER		8 A.M. NOON							
				GEL.														W. TRUCK										TEMPERATURE:											
				W. L. F.C. P.H.														MOB. PUMP										WIND VELOCITY:											
				ADDITIVES: WATER GALS.														GENERAL										RAIN, SNOW, FOG, ETC.											
				1.																																			
				2.																																			
				3.																																			
				CREW TIME SUMMARY														DRILLING AND OTHER RIG OPER.						PUMPTST		REPAIRS & MAINTENANCE		RIG UP OR TEAR DOWN		LOST TIME TRAVEL TIME		TOTAL HOURS							
DRILLER																																							
HELPER																																							
HELPER																																							
TOTAL																																							
INJURIES AND REMARKS:																																							
3		T	O	MUD 4 P.M. 6 P.M. 8 P.M. 10 P.M.														PUMP		PUMP	SURVEY																		
				WT.														PRESS						RPM		DEPTH		PRESS		RPM		DEPTH		AT		DEG.		LOG TO DEPTH	
				VISC.														DRILL						MOTOR HOURS		FUEL GALS.		NEXT OIL CHANGE AT		WEATHER		4 P.M. 8 A.M.							
				GEL.														W. TRUCK										TEMPERATURE:											
				W. L. F.C. P.H.														MOB. PUMP										WIND VELOCITY:											
				ADDITIVES: WATER GALS.														GENERAL										RAIN, SNOW, FOG, ETC.											
				1.																																			
				2.																																			
				3.																																			
				CREW TIME SUMMARY														DRILLING AND OTHER RIG OPER.						PUMPTST		REPAIRS & MAINTENANCE		RIG UP OR TEAR DOWN		LOST TIME TRAVEL TIME		TOTAL HOURS							
DRILLER																																							
HELPER																																							
HELPER																																							
TOTAL																																							
INJURIES AND REMARKS:																																							
4		T	O	MUD 4 P.M. 6 P.M. 8 P.M. 10 P.M.														PUMP		PUMP	SURVEY																		
				WT.														PRESS						RPM		DEPTH		PRESS		RPM		DEPTH		AT		DEG.		LOG TO DEPTH	
				VISC.														DRILL						MOTOR HOURS		FUEL GALS.		NEXT OIL CHANGE AT		WEATHER		4 P.M. 8 A.M.							
				GEL.														W. TRUCK										TEMPERATURE:											
				W. L. F.C. P.H.														MOB. PUMP										WIND VELOCITY:											
				ADDITIVES: WATER GALS.														GENERAL										RAIN, SNOW, FOG, ETC.											
				1.																																			
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				3.																																			
				CREW TIME SUMMARY														DRILLING AND OTHER RIG OPER.						PUMPTST		REPAIRS & MAINTENANCE		RIG UP OR TEAR DOWN		LOST TIME TRAVEL TIME		TOTAL HOURS							
DRILLER																																							
HELPER																																							
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TOTAL																																							
INJURIES AND REMARKS:																																							
5		T	O	MUD 4 P.M. 6 P.M. 8 P.M. 10 P.M.														PUMP		PUMP	SURVEY																		
				WT.														PRESS						RPM		DEPTH		PRESS		RPM		DEPTH		AT		DEG.		LOG TO DEPTH	
				VISC.														DRILL						MOTOR HOURS		FUEL GALS.		NEXT OIL CHANGE AT		WEATHER		4 P.M. 8 A.M.							
				GEL.														W. TRUCK										TEMPERATURE:											
				W. L. F.C. P.H.														MOB. PUMP										WIND VELOCITY:											
				ADDITIVES: WATER GALS.														GENERAL										RAIN, SNOW, FOG, ETC.											
				1.																																			
				2.																																			
				3.																																			
				CREW TIME SUMMARY														DRILLING AND OTHER RIG OPER.						PUMPTST		REPAIRS & MAINTENANCE		RIG UP OR TEAR DOWN		LOST TIME TRAVEL TIME		TOTAL HOURS							
DRILLER																																							
HELPER																																							
HELPER																																							
TOTAL																																							
INJURIES AND REMARKS:																																							
6		T	O	MUD 4 P.M. 6 P.M. 8 P.M. 10 P.M.														PUMP		PUMP	SURVEY																		
				WT.														PRESS						RPM		DEPTH		PRESS		RPM		DEPTH		AT		DEG.		LOG TO DEPTH	
				VISC.														DRILL						MOTOR HOURS		FUEL GALS.		NEXT OIL CHANGE AT		WEATHER		4 P.M. 8 A.M.							
				GEL.														W. TRUCK										TEMPERATURE:											
				W. L. F.C. P.H.														MOB. PUMP										WIND VELOCITY:											
				ADDITIVES: WATER GALS.														GENERAL										RAIN, SNOW, FOG, ETC.											
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				2.																																			
				3.																																			
				CREW TIME SUMMARY														DRILLING AND OTHER RIG OPER.						PUMPTST		REPAIRS & MAINTENANCE		RIG UP OR TEAR DOWN		LOST TIME TRAVEL TIME		TOTAL HOURS							
DRILLER																																							
HELPER																																							
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TOTAL																																							
INJURIES AND REMARKS:																																							
7		T	O	MUD 4 P.M. 6 P.M. 8 P.M. 10 P.M.														PUMP		PUMP	SURVEY																		
				WT.														PRESS						RPM		DEPTH		PRESS		RPM		DEPTH		AT		DEG.		LOG TO DEPTH	
				VISC.														DRILL						MOTOR HOURS		FUEL GALS.		NEXT OIL CHANGE AT		WEATHER		4 P.M. 8 A.M.							
				GEL.														W. TRUCK										TEMPERATURE:											
				W. L. F.C. P.H.														MOB. PUMP										WIND VELOCITY:											
				ADDITIVES: WATER GALS.														GENERAL										RAIN, SNOW, FOG, ETC.											
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				3.																																			
				CREW TIME SUMMARY														DRILLING AND OTHER RIG OPER.						PUMPTST		REPAIRS & MAINTENANCE		RIG UP OR TEAR DOWN		LOST TIME TRAVEL TIME		TOTAL HOURS							
DRILLER																																							
HELPER																																							
HELPER																																							
TOTAL																																							
INJURIES AND REMARKS:																																							
8		T	O	MUD 4 P.M. 6 P.M. 8 P.M. 10 P.M.														PUMP		PUMP	SURVEY																		
				WT.														PRESS						RPM		DEPTH		PRESS		RPM		DEPTH		AT		DEG.		LOG TO DEPTH	
				VISC.														DRILL						MOTOR HOURS		FUEL GALS.		NEXT OIL CHANGE AT		WEATHER		4 P.M. 8 A.M.							
				GEL.														W. TRUCK										TEMPERATURE:											
				W. L. F.C. P.H.														MOB. PUMP										WIND VELOCITY:											
				ADDITIVES: WATER GALS.														GENERAL										RAIN, SNOW, FOG, ETC.											
				1.																																			
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				CREW TIME SUMMARY														DRILLING AND OTHER RIG OPER.						PUMPTST		REPAIRS & MAINTENANCE		RIG UP OR TEAR DOWN		LOST TIME TRAVEL TIME		TOTAL HOURS							
DRILLER																																							
HELPER																																							
HELPER																																							
TOTAL																																							
INJURIES AND REMARKS:																																							
9		T	O	MUD 4 P.M. 6 P.M. 8 P.M. 10 P.M.														PUMP		PUMP	SURVEY																		
				WT.														PRESS						RPM		DEPTH		PRESS		RPM		DEPTH		AT		DEG.		LOG TO DEPTH	
				VISC.														DRILL						MOTOR HOURS		FUEL GALS.		NEXT OIL CHANGE AT		WEATHER		4 P.M. 8 A.M.							
				GEL.														W. TRUCK										TEMPERATURE:											
				W. L. F.C. P.H.														MOB. PUMP										WIND VELOCITY:											
				ADDITIVES: WATER GALS.														GENERAL										RAIN, SNOW, FOG, ETC.											
				1.																																			

RIG. NO. 57 LOCATION BIG INDIAN DRILLING CO. LTD. PROJECT NO. DATE Mar 20/71

LT: AF: HOLE NO. FROM TO T.D. IF FIN. SIZE CASING SET TO DEPTH AMOUNT SAC CEMENT AVERAGE TIME PER LOAD OF W. LOST DRILL TIME WAIT ON WATER

2447

BIT RECORD

MUD 12MN. 2A.M. 4A.M. 6A.M.

PUMP PUMP SURVEY

WT. VISC. GEL. W.L. F.C. P.H. DRILL W. TRUCK 303 MOB. PUMP 21 GENERAL 110

WEATHER MIDN. 4A.M. 20 15

TEMPERATURE: WIND VELOCITY: RAIN, SNOW, FOG, ETC.

CREW TIME SUMMARY

DRILLER G. Jacobson

HELPER L. Bourassa

HELPER M. Mechan

HELPER V. Higgins

TOTAL 8 6 8 5

INJURIES AND REMARKS:

STRATIGRAPHIC LOG 1 PUMP TEST

CLASS REMARKS TIME

Water Cost 75.00

Total 1145.00

1702-1774

875 PSI Initial Hydro

40 " Preflow

630 " 1.51

40 " First flow

50 " Final flow

589 " F.S.I.

875 " Final Hydro

10 min Preflow

60 " 1.51

90 " Flow

90 " F.S.I.

Reamed 20 ft. Mud

Salt water

178000 P.M.

Tested by Hypro United

DRILLER G. Jacobson

COMPANY TIME CONT'R TIME

8

CLASS REMARKS TIME

Wait on mechanics

parts for Rig motor

Work on rig motor

800 1:50 5 1/2

4:00 2 1/2

LT: AF: HOLE NO. FROM TO T.D. IF FIN. SIZE CASING SET TO DEPTH AMOUNT SAC CEMENT AVERAGE TIME PER LOAD OF W. LOST DRILL TIME WAIT ON WATER

2447

BIT RECORD

MUD 8A.M. 10A.M. 12N. 2P.M.

PUMP PUMP SURVEY

WT. VISC. GEL. W.L. F.C. P.H. DRILL W. TRUCK 311 MOB. PUMP 21 GENERAL 118

WEATHER 8A.M. NOON

TEMPERATURE: WIND VELOCITY: RAIN, SNOW, FOG, ETC.

CREW TIME SUMMARY

DRILLER Chuck Hutchinson

HELPER Tim Ottenbreit

HELPER Gary Hofmann

HELPER Sam Smith

TOTAL 8 8 8 8

INJURIES AND REMARKS:

CLASS REMARKS TIME

Wait on mechanics

parts for Rig motor

Work on rig motor

800 1:50 5 1/2

4:00 2 1/2

LT: AF: HOLE NO. FROM TO T.D. IF FIN. SIZE CASING SET TO DEPTH AMOUNT SAC CEMENT AVERAGE TIME PER LOAD OF W. LOST DRILL TIME WAIT ON WATER

2447

BIT RECORD

MUD 4P.M. 6P.M. 8P.M. 10P.M.

PUMP PUMP SURVEY

WT. VISC. GEL. W.L. F.C. P.H. DRILL W. TRUCK 514 MOB. PUMP 37 GENERAL 126

WEATHER 4P.M. 8A.M. 25 15

TEMPERATURE: WIND VELOCITY: RAIN, SNOW, FOG, ETC.

CREW TIME SUMMARY

DRILLER H. Wheeler

HELPER H. Higgins

HELPER H. Higgins

TOTAL 8 8 8 8

INJURIES AND REMARKS:

CLASS REMARKS TIME

Re pair Rig Motor

4 15

DRILLER H. Wheeler

COMPANY TIME CONT'R TIME

TOTAL CONTRACT TIME HRS. TOOLPUSHER OR DRILLER

TOTAL COMPANY TIME HRS. APPROVED BY

TOUR 1	LT:	LF:	HOLE NO.	FROM	TO	T.D. IF FIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER LOAD OF W.	LOST DRILL TIME WAIT ON WATER	STRATIGRAPHIC LOG 1		PUMP TEST		CLASS	REMARKS	TIME													
	AF:	AT:				2447							FROM	TO	RATE	DEPTH TO WATER IN FT.			START	STOP	INTERVAL											
	% LEFT	COND	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.																		
	MUD												12MN.	2A.M.	4A.M.	6A.M.			PUMP		PUMP		SURVEY									
	WT.												PRESS		RPM	DEPTH			PRESS		RPM	DEPTH	AT	DEG.	E LOG TO DEPTH							
	VISC.																															
	GEL.																															
	W.L.												F.C.		P.H.				DRILL		MOTOR HOURS		FUEL GALS.		NEXT OIL CHANGE AT		WEATHER		MIDN.		4A.M.	
	ADDITIVES: WATER												GALS.		W. TRUCK				27.9		250		TEMPERATURE:		20		15					
	1.														MOB. PUMP				3.18				WIND VELOCITY:		-		-					
2.														GENERAL:		86				RAIN, SNOW, FOG, ETC.		-		-								
3.																																
CREW TIME SUMMARY												DRILLING AND OTHER RIG OPER.		PUMPTST		REPAIRS & MAINTENANCE		RIG UP OR TEAR DOWN		LOST TIME TRAVEL TIME		TOTAL HOURS										
DRILLER G. Jacobson																				8												
HELPER H. Jacobson																				8												
HELPER M. Mehan																				8												
TOTAL																				2												
INJURIES AND REMARKS:																																
TOUR 2	LT:	LF:	HOLE NO.	FROM	TO	T.D. IF FIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER LOAD OF W.	LOST DRILL TIME WAIT ON WATER	STRATIGRAPHIC LOG 1		PUMP TEST		CLASS	REMARKS	TIME													
	AF:	AT:				2447							FROM	TO	RATE	DEPTH TO WATER IN FT.			START	STOP	INTERVAL											
	% LEFT	COND	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.																		
	MUD												8A.M.	10A.M.	12N.H.	2P.M.			PUMP		PUMP		SURVEY									
	WT.												PRESS		RPM	DEPTH			PRESS		RPM	DEPTH	AT	DEG.	E LOG TO DEPTH							
	VISC.																															
	GEL.																															
	W.L.												F.C.		P.H.				DRILL		MOTOR HOURS		FUEL GALS.		NEXT OIL CHANGE AT		WEATHER		8A.M.		NOON	
	ADDITIVES: WATER												GALS.		W. TRUCK				185				TEMPERATURE:									
	1.														MOB. PUMP				5				WIND VELOCITY:									
2.														GENERAL:		94				RAIN, SNOW, FOG, ETC.												
3.																																
CREW TIME SUMMARY												DRILLING AND OTHER RIG OPER.		PUMPTST		REPAIRS & MAINTENANCE		RIG UP OR TEAR DOWN		LOST TIME TRAVEL TIME		TOTAL HOURS										
DRILLER Chuck Hutchinson																				10												
HELPER Don Offenberg																				8												
HELPER Gary Holmann																				13												
TOTAL																				8												
INJURIES AND REMARKS:																																
TOUR 3	LT:	LF:	HOLE NO.	FROM	TO	T.D. IF FIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER LOAD OF W.	LOST DRILL TIME WAIT ON WATER	STRATIGRAPHIC LOG 1		PUMP TEST		CLASS	REMARKS	TIME													
	AF:	AT:				2447							FROM	TO	RATE	DEPTH TO WATER IN FT.			START	STOP	INTERVAL											
	% LEFT	COND	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.																		
	MUD												4P.M.	6P.M.	8P.M.	10P.M.			PUMP		PUMP		SURVEY									
	WT.												PRESS		RPM	DEPTH			PRESS		RPM	DEPTH	AT	DEG.	E LOG TO DEPTH							
	VISC.																															
	GEL.																															
	W.L.												F.C.		P.H.				DRILL		MOTOR HOURS		FUEL GALS.		NEXT OIL CHANGE AT		WEATHER		4P.M.		8A.M.	
	ADDITIVES: WATER												GALS.		W. TRUCK				193				TEMPERATURE:		35		30					
	1.														MOB. PUMP				13				WIND VELOCITY:		30MPH							
2.														GENERAL:		102				RAIN, SNOW, FOG, ETC.		CLEAR										
3.																																
CREW TIME SUMMARY												DRILLING AND OTHER RIG OPER.		PUMPTST		REPAIRS & MAINTENANCE		RIG UP OR TEAR DOWN		LOST TIME TRAVEL TIME		TOTAL HOURS										
DRILLER H. WHEELDON																				8												
HELPER H. Higgins																				5												
HELPER W. Higgins																				5												
TOTAL																				18												
INJURIES AND REMARKS:																																
TOUR 4	LT:	LF:	HOLE NO.	FROM	TO	T.D. IF FIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER LOAD OF W.	LOST DRILL TIME WAIT ON WATER	STRATIGRAPHIC LOG 1		PUMP TEST		CLASS	REMARKS	TIME													
	AF:	AT:				2447							FROM	TO	RATE	DEPTH TO WATER IN FT.			START	STOP	INTERVAL											
	% LEFT	COND	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.																		
	MUD												4P.M.	6P.M.	8P.M.	10P.M.			PUMP		PUMP		SURVEY									
	WT.												PRESS		RPM	DEPTH			PRESS		RPM	DEPTH	AT	DEG.	E LOG TO DEPTH							
	VISC.																															
	GEL.																															
	W.L.												F.C.		P.H.				DRILL		MOTOR HOURS		FUEL GALS.		NEXT OIL CHANGE AT		WEATHER		4P.M.		8A.M.	
	ADDITIVES: WATER												GALS.		W. TRUCK				295				TEMPERATURE:		35		30					
	1.														MOB. PUMP				13				WIND VELOCITY:		30MPH							
2.														GENERAL:		102				RAIN, SNOW, FOG, ETC.		CLEAR										
3.																																
CREW TIME SUMMARY												DRILLING AND OTHER RIG OPER.		PUMPTST		REPAIRS & MAINTENANCE		RIG UP OR TEAR DOWN		LOST TIME TRAVEL TIME		TOTAL HOURS										
DRILLER H. WHEELDON																				8												
HELPER H. Higgins																				5												
HELPER W. Higgins																				5												
TOTAL																				18												
INJURIES AND REMARKS:																																
TOUR 5	LT:	LF:	HOLE NO.	FROM	TO	T.D. IF FIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER LOAD OF W.	LOST DRILL TIME WAIT ON WATER	STRATIGRAPHIC LOG 1		PUMP TEST		CLASS	REMARKS	TIME													
	AF:	AT:				2447							FROM	TO	RATE	DEPTH TO WATER IN FT.			START	STOP	INTERVAL											
	% LEFT	COND	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.																		
	MUD												4P.M.	6P.M.	8P.M.	10P.M.			PUMP		PUMP		SURVEY									
	WT.												PRESS		RPM	DEPTH			PRESS		RPM	DEPTH	AT	DEG.	E LOG TO DEPTH							
	VISC.																															
	GEL.																															
	W.L.												F.C.		P.H.				DRILL		MOTOR HOURS		FUEL GALS.		NEXT OIL CHANGE AT		WEATHER		4P.M.		8A.M.	
	ADDITIVES: WATER												GALS.		W. TRUCK				295				TEMPERATURE:		35		30					
	1.														MOB. PUMP				13				WIND VELOCITY:		30MPH							
2.														GENERAL:		102				RAIN, SNOW, FOG, ETC.		CLEAR										
3.																																
CREW TIME SUMMARY												DRILLING AND OTHER RIG OPER.		PUMPTST		REPAIRS & MAINTENANCE		RIG UP OR TEAR DOWN		LOST TIME TRAVEL TIME		TOTAL HOURS										
DRILLER H. WHEELDON																				8												
HELPER H. Higgins																				5												
HELPER W. Higgins																				5												
TOTAL																				18												
INJURIES AND REMARKS:																																
TOUR 6	LT:	LF:	HOLE NO.	FROM	TO	T.D. IF FIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER LOAD OF W.	LOST DRILL TIME WAIT ON WATER	STRATIGRAPHIC LOG 1		PUMP TEST		CLASS	REMARKS	TIME													
	AF:	AT:				2447							FROM	TO	RATE	DEPTH TO WATER IN FT.			START	STOP	INTERVAL											
	% LEFT	COND	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.																		
	MUD												4P.M.	6P.M.	8P.M.	10P.M.			PUMP		PUMP		SURVEY									
	WT.												PRESS		RPM	DEPTH			PRESS		RPM	DEPTH	AT	DEG.	E LOG TO DEPTH							
	VISC.																															
	GEL.																															
	W.L.												F.C.		P.H.				DRILL		MOTOR HOURS		FUEL GALS.		NEXT OIL CHANGE AT		WEATHER		4P.M.		8A.M.	
	ADDITIVES: WATER												GALS.		W. TRUCK				295				TEMPERATURE:		35		30					
	1.														MOB. PUMP				13				WIND VELOCITY:		30MPH							
2.														GENERAL:		102				RAIN, SNOW, FOG, ETC.		CLEAR										
3.																																
CREW TIME SUMMARY												DRILLING AND OTHER RIG OPER.		PUMPTST		REPAIRS & MAINTENANCE		RIG UP OR TEAR DOWN		LOST TIME TRAVEL TIME		TOTAL HOURS										
DRILLER H. WHEELDON																				8												
HELPER H. Higgins																				5												
HELPER W. Higgins																				5												
TOTAL																				18												
INJURIES AND REMARKS:																																
TOUR 7	LT:	LF:	HOLE NO.	FROM	TO	T.D. IF FIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER LOAD OF W.	LOST DRILL TIME WAIT ON WATER	STRATIGRAPHIC LOG 1		PUMP TEST		CLASS	REMARKS	TIME													
	AF:	AT:				2447							FROM	TO	RATE	DEPTH TO WATER IN FT.			START	STOP	INTERVAL											
	% LEFT	COND	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.																		
	MUD												4P.M.	6P.M.	8P.M.	10P.M.			PUMP		PUMP		SURVEY									
	WT.												PRESS		RPM	DEPTH			PRESS		RPM	DEPTH	AT	DEG.	E LOG TO DEPTH							
	VISC.																															
	GEL.																															
	W.L.												F.C.		P.H.				DRILL		MOTOR HOURS		FUEL GALS.		NEXT OIL CHANGE AT		WEATHER		4P.M.		8A.M.	
	ADDITIVES: WATER												GALS.		W. TRUCK				295				TEMPERATURE:		35		30					
	1.														MOB. PUMP				13				WIND VELOCITY:		30MPH							
2.														GENERAL:		102				RAIN, SNOW, FOG, ETC.		CLEAR										
3.																																
CREW TIME SUMMARY												DRILLING AND OTHER RIG OPER.		PUMPTST		REPAIRS & MAINTENANCE		RIG UP OR TEAR DOWN		LOST TIME TRAVEL TIME		TOTAL HOURS										
DRILLER H. WHEELDON																				8												
HELPER H. Higgins																				5												
HELPER W. Higgins																				5												
TOTAL																				18												
INJURIES AND REMARKS:																																
TOUR 8	LT:	LF:	HOLE NO.	FROM	TO	T.D. IF FIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER LOAD OF W.	LOST DRILL TIME WAIT ON WATER	STRATIGRAPHIC LOG 1		PUMP TEST		CLASS	REMARKS	TIME													
	AF:	AT:				2447							FROM	TO	RATE	DEPTH TO WATER IN FT.			START	STOP	INTERVAL											
	% LEFT	COND	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.																		
	MUD												4P.M.	6P.M.	8P.M.	10P.M.			PUMP		PUMP		SURVEY									
	WT.												PRESS		RPM	DEPTH			PRESS		RPM	DEPTH	AT	DEG.	E LOG TO DEPTH							
	VISC.																															
	GEL.																															
	W.L.												F.C.		P.H.				DRILL		MOTOR HOURS		FUEL GALS.		NEXT OIL CHANGE AT		WEATHER		4P.M.		8A.M.	
	ADDITIVES: WATER												GALS.		W. TRUCK				295				TEMPERATURE:		35		30					
	1.														MOB. PUMP				13				WIND VELOCITY:		30MPH							
2.														GENERAL:		102				RAIN, SNOW, FOG, ETC.		CLEAR										
3.																																
CREW TIME SUMMARY												DRILLING AND OTHER RIG OPER.		PUMPTST		REPAIRS & MAINTENANCE		RIG UP OR TEAR DOWN		LOST TIME TRAVEL TIME		TOTAL HOURS										
DRILLER H. WHEELDON																				8												
HELPER H. Higgins																				5												
HELPER W. Higgins																				5												
TOTAL																				18												
INJURIES AND REMARKS:																																
TOUR 9	LT:	LF:	HOLE NO.	FROM	TO	T.D. IF FIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER LOAD OF W.	LOST DRILL TIME WAIT ON WATER	STRATIGRAPHIC LOG 1		PUMP TEST		CLASS	REMARKS	TIME													
	AF:	AT:				2447							FROM	TO	RATE	DEPTH TO WATER IN FT.			START	STOP	INTERVAL											
	% LEFT	COND	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.																		
	MUD												4P.M.	6P.M.	8P.M.	10P.M.			PUMP		PUMP		SURVEY									
	WT.												PRESS		RPM	DEPTH			PRESS		RPM	DEPTH	AT	DEG.	E LOG TO DEPTH							
	VISC.																															

RIG. NO. 57 LOCATION BIG INDIAN DRILLING CO. LTD. PROJECT NO. 116-205C-Anderson Annex Green Is. N24 DATE Mar 18/71

LT:	LF:	HOLE NO.	FROM	TO	T.D. IF FIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER LOAD OF W.	LOST DRILL TIME WAIT ON WATER		
AF:	AT:		2440	2444									
% LEFT	COND	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.
		10	6 1/4	SS5	DD166	20	40	49		13			
MUD 12 M.N. 2A.M. 4 A.M. 6 A.M. PUMP PUMP SURVEY													
WT. 9.5 9.5 9.5 9.5 PRESS RPM DEPTH PRESS RPM DEPTH AT DEG. LOG TO DEPTH													
VISC. 37 37 37 37 480 80 2430													
GEL. 37 37 37 37													
W.L. F.C. F.H.													
ADDITIVES: WATER GALS. W. TRUCK 263 MOB. PUMP 332 GENERAL 70													
CREW TIME SUMMARY													
DRILLER B. Jacobson													
HELPER L. Bourassa													
HELPER M. Wephan													
HELPER L. Thomas													
TOTAL 8													

LT:	LF:	HOLE NO.	FROM	TO	T.D. IF FIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER LOAD OF W.	LOST DRILL TIME WAIT ON WATER		
AF:	AT:		2444	2447									
% LEFT	COND	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.
		10	6 1/4	SS5	DD166	20	40	52		13 1/2			
MUD 8 A.M. 10 A.M. 12 N.H. 2 P.M. PUMP PUMP SURVEY													
WT. 7.8 9.8 9.8 9.7 PRESS RPM DEPTH PRESS RPM DEPTH AT DEG. LOG TO DEPTH													
VISC. 36 35 35 48 450 50 2445													
GEL. 36 35 35 48													
W.L. F.C. P.H.													
ADDITIVES: WATER 1. 100 lbs DEFENDER "E" 2. 1. 100 lbs DEFENDER "E" 3. 2. 100 lbs DEFENDER "E" GENERAL 79													
CREW TIME SUMMARY													
DRILLER Chuck Hutchison													
HELPER Jim Ottebreit													
HELPER Gary Holman													
HELPER Sam Smith													
TOTAL 8													

LT:	LF:	HOLE NO.	FROM	TO	T.D. IF FIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER LOAD OF W.	LOST DRILL TIME WAIT ON WATER		
AF:	AT:		2447										
% LEFT	COND	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.
		10	6 1/4	SS5	DD166	-	30	52		13 1/2			
MUD 4 P.M. 6 P.M. 8 P.M. 10 P.M. PUMP PUMP SURVEY													
WT. 9.8 9.8 10 10.4 PRESS RPM DEPTH PRESS RPM DEPTH AT DEG. LOG TO DEPTH													
VISC. 46 47 46 45 250 30													
GEL. 46 47 46 45													
W.L. F.C. P.H.													
ADDITIVES: WATER 1. 100 lbs DEFENDER "E" 2. 1. 100 lbs DEFENDER "E" 3. 2. 100 lbs DEFENDER "E" GENERAL 86													
CREW TIME SUMMARY													
DRILLER AL WHEELDON													
HELPER H. HIGGINS													
HELPER H. HIGGINS													
TOTAL 8													

LT:	LF:	HOLE NO.	FROM	TO	T.D. IF FIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER LOAD OF W.	LOST DRILL TIME WAIT ON WATER		
AF:	AT:												
% LEFT	COND	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.
MUD 4 P.M. 6 P.M. 8 P.M. 10 P.M. PUMP PUMP SURVEY													
WT. 9.8 9.8 10 10.4 PRESS RPM DEPTH PRESS RPM DEPTH AT DEG. LOG TO DEPTH													
VISC. 46 47 46 45 250 30													
GEL. 46 47 46 45													
W.L. F.C. P.H.													
ADDITIVES: WATER 1. 100 lbs DEFENDER "E" 2. 1. 100 lbs DEFENDER "E" 3. 2. 100 lbs DEFENDER "E" GENERAL 86													
CREW TIME SUMMARY													
DRILLER AL WHEELDON													
HELPER H. HIGGINS													
HELPER H. HIGGINS													
TOTAL 8													

CLASS	REMARKS	TIME
	Drilling	START 12:00 STOP 8:00 INTERVAL 8
	Water Cost 75.00	
	Total 995.00	
DRILLER	B. Jacobson	
COMPANY TIME		CONTR TIME 8
CLASS	REMARKS	TIME
	Drilling 6 1/4 hole	START 8:00 STOP 8:30 INTERVAL 30
	Wait on loggers	START 8:30 STOP 4:00 INTERVAL 7 1/2
		8
DRILLER		
COMPANY TIME		CONTR TIME
CLASS	REMARKS	TIME
	Ship - Port 75'	
	Hoist Line	
	P.R. SERVICE	START 4:00 STOP 4:00 INTERVAL 0
	Wait on Log Truck	START 4:00 STOP 4:00 INTERVAL 0
DRILLER	AL WHEELDON	
COMPANY TIME		CONTR TIME
TOTAL CONTRACT TIME	HRS.	TOOLPUSHER OR DRILLER
TOTAL COMPANY TIME	HRS.	APPROVED BY

RIG. NO. 57 LOCATION H.P. SOBC. Abner's Green Is. N24 DATE Mar 7/71 PROJECT NO. BIG INDIAN DRILLING CO. LTD. LOCATION Green Is. N24 DATE Mar 17/71 PROJECT NO.

TOUR 1	LT:	LF:	HOLE NO.	FROM	TO	T.D. IF FIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER LOAD OF W.	LOST DRILL TIME WAIT ON WATER	STRATIGRAPHIC LOG	PUMP TEST	CLASS	REMARKS	TIME				
	AF:	AT:		2371	2390												START	STOP	INTERVAL		
	% LEFT	COND	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.							
			7	6 1/4	OWV	12812	20	85	79		8										
			8	6 1/4	W7	20078	20	65	74		2 1/4										
	MUD												12MN.	2A.M.	4A.M.	6A.M.					
	PUMP												PRESS	RPM	DEPTH	PRESS	RPM	DEPTH	AT	DEG.	E LOG TO DEPTH
	PUMP												400	50	243						
	SURVEY																				
	W.T.												9.1	9.1		9.2					
VISC.												37	37		37						
GEL																					
W.L.												F.C.	P.H.								
ADDITIVES: WATER																					
1.																					
2.																					
3.																					
GENERAL												46									
CREW TIME SUMMARY												DRILLING AND OTHER RIG OPER.		PUMPTST	REPAIRS & MAINTENANCE	RIG UP OR TEAR DOWN	LOST TIME TRAVEL TIME	TOTAL HOURS			
DRILLER												G. Jacobson						8			
HELPER												L. Bourassa						9			
HELPER												M. Meehan						8			
HELPER												L. Thomas						15			
TOTAL																					
INJURIES AND REMARKS:												Work on camp trailers - L. Thomas.									

TOUR 2	LT:	LF:	HOLE NO.	FROM	TO	T.D. IF FIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER LOAD OF W.	LOST DRILL TIME WAIT ON WATER	STRATIGRAPHIC LOG	PUMP TEST	CLASS	REMARKS	TIME				
	AF:	AT:															START	STOP	INTERVAL		
	% LEFT	COND	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.							
			9	6 1/4	RR	2500	20	55	5		3										
			10	6 1/4	SSS	DD166	20	40													
	MUD												8A.M.	10A.M.	12N.	2P.M.					
	PUMP												PRESS	RPM	DEPTH	PRESS	RPM	DEPTH	AT	DEG.	E LOG TO DEPTH
	PUMP												400	50	239						
	SURVEY																				
	W.T.												9.8	9.6							
VISC.												36	39								
GEL																					
W.L.												F.C.	P.H.								
ADDITIVES: WATER																					
1.																					
2.																					
3.																					
GENERAL												64									
CREW TIME SUMMARY												DRILLING AND OTHER RIG OPER.		PUMPTST	REPAIRS & MAINTENANCE	RIG UP OR TEAR DOWN	LOST TIME TRAVEL TIME	TOTAL HOURS			
DRILLER												Chuck Hutchison						8			
HELPER												Jim O'Leary						8			
HELPER												Gary Hutchison						12			
HELPER												Sam Smith						8			
TOTAL																					
INJURIES AND REMARKS:																					

TOUR 3	LT:	LF:	HOLE NO.	FROM	TO	T.D. IF FIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER LOAD OF W.	LOST DRILL TIME WAIT ON WATER	STRATIGRAPHIC LOG	PUMP TEST	CLASS	REMARKS	TIME				
	AF:	AT:		2395	2420												START	STOP	INTERVAL		
	% LEFT	COND	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.							
			10	6 1/4	SSS	DD166	20	40	25		5										
	MUD												4P.M.	6P.M.	8P.M.	10P.M.					
	PUMP												PRESS	RPM	DEPTH	PRESS	RPM	DEPTH	AT	DEG.	E LOG TO DEPTH
	PUMP												450	50	2400						
	SURVEY																				
	W.T.												9.6	9.6		9.6					
	VISC.												37	35	35						
GEL																					
W.L.												F.C.	P.H.								
ADDITIVES: WATER																					
1.																					
2.																					
3.																					
GENERAL												62									
CREW TIME SUMMARY												DRILLING AND OTHER RIG OPER.		PUMPTST	REPAIRS & MAINTENANCE	RIG UP OR TEAR DOWN	LOST TIME TRAVEL TIME	TOTAL HOURS			
DRILLER												R. WHEELDON						8			
HELPER												H. HIGGINS						8			
HELPER												V. HIGGINS						8			
TOTAL																					
INJURIES AND REMARKS:																					

TOTAL CONTRACT TIME												HRS.	TOOLPUSHER OR DRILLER												
TOTAL COMPANY TIME												HRS.	APPROVED BY												

TOUR 1	LT:	LF:	HOLE NO.	FROM	TO	T.D. IF FIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER LOAD OF W.	LOST DRILL TIME WAIT ON WATER	STRATIGRAPHIC LOG 1		PUMP TEST		CLASS	REMARKS	TIME					
	AF:	AT:		2020	2127								FROM 1 TIME	TO 1 TIME	RATE IN 16 PM	DEPTH TO WATER IN FT.			START	STOP	INTERVAL			
	% LEFT	COND.	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.										
	BIT RECORD		6	6 1/4	ODU	17436	20	110	57		6 1/2				Water Cost - 93.00 Total 845.00									
	MUD			12M.N.	2A.M.	4A.M.	6A.M.	PUMP			PUMP			SURVEY										
	WT.		9.0	9.0	9.0																			
	VISC.		43	43	40																			
	GEL		9	8.8	8.9																			
	W.L.	F.C.	P.H.	PUMP			PUMP			SURVEY														
	ADDITIVES: WATER 1.5ac Caustic			GALS.			W. TRUCK			MOB. PUMP			GENERAL											
1. 2. 3.																								
CREW TIME SUMMARY			DRILLING AND OTHER RIG OPER.			PUMPTST			REPAIRS & MAINTENANCE			RIG UP OR TEAR DOWN			LOST TIME TRAVEL TIME			TOTAL HOURS						
DRILLER G. Jacobson															8									
HELPER L.B. Burgess															9									
HELPER M. McEwan															9									
HELPER L. Thomas															9									
TOTAL															8									
INJURIES AND REMARKS:																								
TOUR 2	LT:	LF:	HOLE NO.	FROM	TO	T.D. IF FIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER LOAD OF W.	LOST DRILL TIME WAIT ON WATER	STRATIGRAPHIC LOG 1		PUMP TEST		CLASS	REMARKS	TIME					
	AF:	AT:		2127	2301								FROM 1 TIME	TO 1 TIME	RATE IN 16 PM	DEPTH TO WATER IN FT.			START	STOP	INTERVAL			
	% LEFT	COND.	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.										
	BIT RECORD		6	6 1/4	ODU	17436	20	85	237		11 1/2				Drig 6 1/4 Hole Rig Serv + Survey Drig 6 1/4 Hole Trip for bit									
	MUD			8A.M.	10A.M.	12 N.H.	2 P.M.	PUMP			PUMP			SURVEY										
	WT.		9	8.9	9.2																			
	VISC.		38	37	31	36																		
	GEL																							
	W.L.	F.C.	P.H.	PUMP			PUMP			SURVEY														
	ADDITIVES: WATER 1.5ac Caustic			GALS.			W. TRUCK			MOB. PUMP			GENERAL											
1. 2. 3.																								
CREW TIME SUMMARY			DRILLING AND OTHER RIG OPER.			PUMPTST			REPAIRS & MAINTENANCE			RIG UP OR TEAR DOWN			LOST TIME TRAVEL TIME			TOTAL HOURS						
DRILLER Chuck Hutchison															8									
HELPER Jim Ottenbreit															8									
HELPER Gary Halverson															8									
HELPER Sam Smith															8									
TOTAL															8									
INJURIES AND REMARKS:																								
TOUR 3	LT:	LF:	HOLE NO.	FROM	TO	T.D. IF FIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER LOAD OF W.	LOST DRILL TIME WAIT ON WATER	STRATIGRAPHIC LOG 1		PUMP TEST		CLASS	REMARKS	TIME					
	AF:	AT:		2307	2377								FROM 1 TIME	TO 1 TIME	RATE IN 16 PM	DEPTH TO WATER IN FT.			START	STOP	INTERVAL			
	% LEFT	COND.	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.										
	BIT RECORD		7	6 1/4	ODU	17436	20	85	70		5 1/4				Trip Collars Rig Service Trip in Break Circulation Drill 6 1/4 Hole									
	MUD			4 P.M.	6 P.M.	8 P.M.	10 P.M.	PUMP			PUMP			SURVEY										
	WT.		9.2	9.6	9.3																			
	VISC.		37	37	34																			
	GEL																							
	W.L.	F.C.	P.H.	PUMP			PUMP			SURVEY														
	ADDITIVES: WATER 1.5ac Caustic			GALS.			W. TRUCK			MOB. PUMP			GENERAL											
1. 2. 3.																								
CREW TIME SUMMARY			DRILLING AND OTHER RIG OPER.			PUMPTST			REPAIRS & MAINTENANCE			RIG UP OR TEAR DOWN			LOST TIME TRAVEL TIME			TOTAL HOURS						
DRILLER PL WHEELDON															8									
HELPER H. Higgins															8									
HELPER V. Higgins															8									
HELPER L. Corrado															8									
TOTAL															2 1/2									
INJURIES AND REMARKS:																								
TOTAL CONTRACT TIME			HRS.			TOOLPUSHER OR DRILLER			HRS.			APPROVED BY												
TOTAL COMPANY TIME			HRS.																					

T O U R 1	LT:	LF:	HOLE NO.	FROM	TO	T.D. IF FIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER LOAD OF W.	LOST DRILL TIME WAIT ON WATER						
	AF:	AT:		1894	1850													
MIDN.	BIT RECORD	% LEFT	COND	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.			
				4	6 1/4	OWC	13258	2000	85	105	50	17						
8 A.M.	BIT RECORD			5	6 1/4	OWC	20060	2000	85	51		4 3/4						
T O	MUD	12MN.	2A.M.	4A.M.	6A.M.	PUMP			PUMP			SURVEY						
		WT.	4.5	4.4	4.4	PRESS	RPM	DEPTH	PRESS	RPM	DEPTH	AT	DEG.	LOG TO DEPTH				
8 A.M.	MUD	VISC.	8.8	8.8	8.9	400	500	1900				1899	2 1/2					
		GEL																
T O	W.L.	F.C.	P.H.	DRILL	MOTOR HOURS	FUEL GALS.	NEXT OIL CHANGE AT	WEATHER		MIDN.		4 A.M.						
				86				250	TEMPERATURE:	15	18							
8 A.M.	W.L.	F.C.	P.H.	W. TRUCK	MOB. PUMP	GENERAL		WIND VELOCITY:		RAIN, SNOW, FOG, ETC.								
				191	259	815												
T O	CREW TIME SUMMARY												DRILLING AND OTHER RIG OPER.	PUMPTST	REPAIRS & MAINTENANCE	RIG UP OR TEAR DOWN	LOST TIME TRAVEL TIME	TOTAL HOURS
	DRILLER G. Jacobson																	8
8 A.M.	HELPER A. Sournessa																	9
	HELPER M. Meehan																	8
T O	HELPER L. Thomas																	8
	TOTAL																	
INJURIES AND REMARKS:																		

T O U R 2	LT:	LF:	HOLE NO.	FROM	TO	T.D. IF FIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER LOAD OF W.	LOST DRILL TIME WAIT ON WATER						
	AF:	AT:		1950	2021													
8 A.M.	BIT RECORD	% LEFT	COND	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.			
				5	6 1/4	OWC	20060	2000	85	122		17 1/2						
8 A.M.	MUD	8 A.M.	10 A.M.	12 N.H.	2 P.M.	PUMP			PUMP			SURVEY						
		WT.	8.9	8.9	8.9	8.8	PRESS	RPM	DEPTH	PRESS	RPM	DEPTH	AT	DEG.	LOG TO DEPTH			
8 A.M.	MUD	VISC.	38	39	41	43	400	50	1955	700	50	1990						
		GEL																
T O	W.L.	F.C.	P.H.	DRILL	MOTOR HOURS	FUEL GALS.	NEXT OIL CHANGE AT	WEATHER		8 A.M.		NOON						
				94				10	TEMPERATURE:	15	30							
8 A.M.	W.L.	F.C.	P.H.	W. TRUCK	MOB. PUMP	GENERAL		WIND VELOCITY:		RAIN, SNOW, FOG, ETC.								
				199	268	6												
T O	CREW TIME SUMMARY												DRILLING AND OTHER RIG OPER.	PUMPTST	REPAIRS & MAINTENANCE	RIG UP OR TEAR DOWN	LOST TIME TRAVEL TIME	TOTAL HOURS
	DRILLER Chuck Hutchinsen																	8
4 P.M.	HELPER Jim Ottenbreit																	8
	HELPER Gary Hofmann																	8
T O	HELPER Sam Smith																	8
	TOTAL																	
INJURIES AND REMARKS:																		

T O U R 3	LT:	LF:	HOLE NO.	FROM	TO	T.D. IF FIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER LOAD OF W.	LOST DRILL TIME WAIT ON WATER						
	AF:	AT:		2021	2070													
4 P.M.	BIT RECORD	% LEFT	COND	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.			
				5	6 1/4	OWC	20060	2000	80	171		19 1/4						
4 P.M.	MUD	4 P.M.	6 P.M.	8 P.M.	10 P.M.	PUMP			PUMP			SURVEY						
		WT.	8.9	8.7	8.8	8.9	PRESS	RPM	DEPTH	PRESS	RPM	DEPTH	AT	DEG.	LOG TO DEPTH			
4 P.M.	MUD	VISC.	40	41	40	42	400	50	2050									
		GEL																
T O	W.L.	F.C.	P.H.	DRILL	MOTOR HOURS	FUEL GALS.	NEXT OIL CHANGE AT	WEATHER		4 P.M.		8 A.M.						
				8.5				20	TEMPERATURE:	25	20							
4 P.M.	W.L.	F.C.	P.H.	W. TRUCK	MOB. PUMP	GENERAL		WIND VELOCITY:		RAIN, SNOW, FOG, ETC.								
				207	276	14												
T O	CREW TIME SUMMARY												DRILLING AND OTHER RIG OPER.	PUMPTST	REPAIRS & MAINTENANCE	RIG UP OR TEAR DOWN	LOST TIME TRAVEL TIME	TOTAL HOURS
	DRILLER B. Wheelon																	8
MIDN.	HELPER H. Higgins																	8
	HELPER V. Higgins																	8
T O	TOTAL																	
	INJURIES AND REMARKS:																	

STRATIGRAPHIC LOG				PUMP TEST		CLASS	REMARKS	TIME		
FROM FT.	TO TIME	RATE IN 16PM	DESCRIPTION	DEPTH TO WATER IN FT.	START			STOP	INTERVAL	
			Water Cost				Drilling	12 ⁰⁰	12 ¹²	1/2
			75.00				Rig Serv.	12 ¹⁰	12 ⁴⁵	1/4
			Total 752.00				Trip For Bit	12 ⁴⁵	3 ⁰⁰	2 1/4
							Check valves in pump	3 ⁰⁰	3 ¹⁵	1/4
							Drilling	3 ¹⁵	4 ⁰⁰	4 3/4
						DRILLER	<i>B Jacobson</i>			
						COMPANY TIME	CONTR TIME			
							<i>8</i>			
						CLASS	REMARKS	TIME		
								START	STOP	INTERVAL
							Drill 6 1/4 Hole	8 ⁰⁰	8 ³⁰	1/2
							Rig Serv	8 ³⁰	8 ⁴⁵	1/4
							Drill 6 1/4 Hole	8 ⁴⁵	9 ⁰⁰	7 1/4
							<i>8</i>			
						DRILLER				
						COMPANY TIME	CONTR TIME			
						CLASS	REMARKS	TIME		
								START	STOP	INTERVAL
							DRILL 6 1/4" HOLE	4 ⁰⁰	7 ⁴⁵	3.45
							RIG SERVICE	7 ⁴⁵	8 ⁰⁰	15
							DRILL 6 1/4" HOLE	8 ⁰⁰	11 ⁰⁰	3
							TRIP OUT	11 ⁰⁰	12 ⁰⁰	1
							<i>8</i>			
						DRILLER	<i>W. Nelson</i>			
						COMPANY TIME	CONTR TIME			
						TOTAL CONTRACT TIME	HRS.		TOOLPUSHER OR DRILLER 1/2	
						TOTAL COMPANY TIME	HRS.		APPROVED BY	

TOUR 1 MIDN. 8 A.M.	LT:	LF:	HOLE NO.	FROM	TO	T.D. IF FIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER LOAD OF W.	LOST DRILL TIME WAIT ON WATER	STRATIGRAPHIC LOG	PUMP TEST	CLASS	REMARKS	TIME			
	AF:	AT:		1777	1800								FROM FT.	TO FT.	RATE IN 15 PM	DESCRIPTION	DEPTH TO WATER IN FT.	START	STOP	INTERVAL
	% LEFT	COND	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.						
	BIT RECORD		4	6 1/4	OWC	13258	20	80	50	50	5 1/2									
	MUD	12 M.	2 A.M.	4 A.M.	6 A.M.	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP
	WT.	8.8	8.6			WT.	8.8	8.6			WT.	8.8	8.6			WT.	8.8	8.6		
	VISC.	70	64			VISC.	70	64			VISC.	70	64			VISC.	70	64		
	GEL					GEL					GEL					GEL				
	W. L.	F.C.	P.H.			W. L.	F.C.	P.H.			W. L.	F.C.	P.H.			W. L.	F.C.	P.H.		
	ADDITIVES: WATER					ADDITIVES: WATER					ADDITIVES: WATER					ADDITIVES: WATER				
1.	3 bags				1.	3 bags				1.	3 bags				1.	3 bags				
2.	1 bag				2.	1 bag				2.	1 bag				2.	1 bag				
3.					3.					3.					3.					
CREW TIME SUMMARY					CREW TIME SUMMARY					CREW TIME SUMMARY					CREW TIME SUMMARY					
DRILLER	G. Jacobson				DRILLER	G. Jacobson				DRILLER	G. Jacobson				DRILLER	G. Jacobson				
HELPER	L. Jacobson				HELPER	L. Jacobson				HELPER	L. Jacobson				HELPER	L. Jacobson				
HELPER	M. McEwan				HELPER	M. McEwan				HELPER	M. McEwan				HELPER	M. McEwan				
HELPER	L. Thomas				HELPER	L. Thomas				HELPER	L. Thomas				HELPER	L. Thomas				
TOTAL					TOTAL					TOTAL					TOTAL					
INJURIES AND REMARKS:					INJURIES AND REMARKS:					INJURIES AND REMARKS:					INJURIES AND REMARKS:					
TOUR 2 8 A.M. 4 P.M.	LT:	LF:	HOLE NO.	FROM	TO	T.D. IF FIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER LOAD OF W.	LOST DRILL TIME WAIT ON WATER	STRATIGRAPHIC LOG	PUMP TEST	CLASS	REMARKS	TIME			
	AF:	AT:		1800	1844								FROM FT.	TO FT.	RATE IN 15 PM	DESCRIPTION	DEPTH TO WATER IN FT.	START	STOP	INTERVAL
	% LEFT	COND	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.						
	BIT RECORD		4	6 1/4	OWC	13258	20	85	70	8 1/4										
	MUD	8 A.M.	10 A.M.	12 N.	2 P.M.	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP
	WT.	8.7	8.7	8.8	8.7	WT.	8.7	8.7	8.8	8.7	WT.	8.7	8.7	8.8	8.7	WT.	8.7	8.7	8.8	8.7
	VISC.	50	39	50	40	VISC.	50	39	50	40	VISC.	50	39	50	40	VISC.	50	39	50	40
	GEL					GEL					GEL					GEL				
	W. L.	F.C.	P.H.			W. L.	F.C.	P.H.			W. L.	F.C.	P.H.			W. L.	F.C.	P.H.		
	ADDITIVES: WATER					ADDITIVES: WATER					ADDITIVES: WATER					ADDITIVES: WATER				
1.	5 bags				1.	5 bags				1.	5 bags				1.	5 bags				
2.	1 bag				2.	1 bag				2.	1 bag				2.	1 bag				
3.					3.					3.					3.					
CREW TIME SUMMARY					CREW TIME SUMMARY					CREW TIME SUMMARY					CREW TIME SUMMARY					
DRILLER	Chuck Hutchinson				DRILLER	Chuck Hutchinson				DRILLER	Chuck Hutchinson				DRILLER	Chuck Hutchinson				
HELPER	Tim Ottenbreit				HELPER	Tim Ottenbreit				HELPER	Tim Ottenbreit				HELPER	Tim Ottenbreit				
HELPER	Gary Hoffmann				HELPER	Gary Hoffmann				HELPER	Gary Hoffmann				HELPER	Gary Hoffmann				
HELPER	S. Smith				HELPER	S. Smith				HELPER	S. Smith				HELPER	S. Smith				
TOTAL					TOTAL					TOTAL					TOTAL					
INJURIES AND REMARKS:					INJURIES AND REMARKS:					INJURIES AND REMARKS:					INJURIES AND REMARKS:					
TOUR 3 4 P.M. MIDN.	LT:	LF:	HOLE NO.	FROM	TO	T.D. IF FIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER LOAD OF W.	LOST DRILL TIME WAIT ON WATER	STRATIGRAPHIC LOG	PUMP TEST	CLASS	REMARKS	TIME			
	AF:	AT:		1844	1894								FROM FT.	TO FT.	RATE IN 15 PM	DESCRIPTION	DEPTH TO WATER IN FT.	START	STOP	INTERVAL
	% LEFT	COND	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.						
	BIT RECORD		4	6 1/4	OWC	13258	20	80	16 1/2											
	MUD	4 P.M.	6 P.M.	8 P.M.	10 P.M.	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP
	WT.	8.8	8.7	8.8	8.7	WT.	8.8	8.7	8.8	8.7	WT.	8.8	8.7	8.8	8.7	WT.	8.8	8.7	8.8	8.7
	VISC.	39	40	43	41	VISC.	39	40	43	41	VISC.	39	40	43	41	VISC.	39	40	43	41
	GEL					GEL					GEL					GEL				
	W. L.	F.C.	P.H.			W. L.	F.C.	P.H.			W. L.	F.C.	P.H.			W. L.	F.C.	P.H.		
	ADDITIVES: WATER					ADDITIVES: WATER					ADDITIVES: WATER					ADDITIVES: WATER				
1.	2 bags				1.	2 bags				1.	2 bags				1.	2 bags				
2.	1 bag				2.	1 bag				2.	1 bag				2.	1 bag				
3.					3.					3.					3.					
CREW TIME SUMMARY					CREW TIME SUMMARY					CREW TIME SUMMARY					CREW TIME SUMMARY					
DRILLER	R. WHELDON				DRILLER	R. WHELDON				DRILLER	R. WHELDON				DRILLER	R. WHELDON				
HELPER	H. HIGGINS				HELPER	H. HIGGINS				HELPER	H. HIGGINS				HELPER	H. HIGGINS				
HELPER	H. HIGGINS				HELPER	H. HIGGINS				HELPER	H. HIGGINS				HELPER	H. HIGGINS				
HELPER	L. GORDON				HELPER	L. GORDON				HELPER	L. GORDON				HELPER	L. GORDON				
TOTAL					TOTAL					TOTAL					TOTAL					
INJURIES AND REMARKS:					INJURIES AND REMARKS:					INJURIES AND REMARKS:					INJURIES AND REMARKS:					

TOUR 1	LT:	LF:	HOLE NO.	FROM	TO	T.D. IFFIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER LOAD OF W.	LOST DRILL TIME WAIT ON WATER		
	AF:	AT:	1654		1636						1-30			
			1694											
	BIT RECORD	% LEFT	COND	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT
			2	6 1/4	OW	15035	20	85	114		10 1/2			
			3	6 1/4	W7	21774	20	70	38		4 1/2			
MIDN.	MUD	12MN.	2A.M.	4 A.M.	6 A.M.	PUMP			PUMP			SURVEY		
	WT.	87		87	86	PRESS	RPM	DEPTH	PRESS	RPM	DEPTH	AT	DEG.	E LOG TO DEPTH
	VISC.	37		38	40	400	50	1690						
	GEL					MOTOR HOURS		FUEL GALS.	NEXT OIL CHANGE AT		WEATHER		MIDN.	4 A.M.
	W. L.	F.C.		P.H.		DRILL	38				TEMPERATURE:	10	5	
TO	ADDITIVES	WATER		GALS.		W. TRUCK	143				WIND VELOCITY:			
	1. GEL	6.34X				MOB. PUMP	211				RAIN, SNOW, FOG, ETC.	CLEAR		
	2. DV68	1. GEL				GENERAL:	267							
	3.													
8 A.M.	CREW TIME SUMMARY					DRILLING AND OTHER RIG OPER.	PUMPTST	REPAIRS & MAINTENANCE	RIG UP OR TEAR DOWN	LOST TIME TRAVEL TIME	TOTAL HOURS			
	DRILLER	H. WHEELDON										8		
	HELPER	H. HIGGINS										9		
	HELPER	V. HIGGINS										8		
	L. RODDLO											8		
	TOTAL													

LT:	LF:	HOLE NO.	FROM	TO	T.D. IF FIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER LOAD OF W.	LOST DRILL TIME WAIT ON WATER
AF:	AT:		1656	1744							

BIT RECORD	% LEFT	COND	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.
			3	6 1/4	W75	21774	20000	70	8 1/2		11 1/2			

MUD	8 A.M.	10 A.M.	12 N.H.	2 P.M.	PUMP	PUMP	SURVEY
WT.	8.8	8.8	8.7	8.8	PRESS RPM	DEPTH	DEG.
VISC.	42	44	41	65	400	50	1710
GEL							

W.L.	F.C.	P.H.	DRILL	MOTOR HOURS	FUEL GALS.	NEXT OIL CHANGE AT	WEATHER	8 A.M.	NOON
				46			TEMPERATURE:	10	28
ADDITIVES: WATER - 1 sac CMC			W. TRUCK	151			WIND VELOCITY:	-	-
1. 7 sacs gel			MOB. PUMP	219			RAIN, SNOW, FOG, ETC.	-	-
2. 1 sac Rapidril			GENERAL	275					
3.									

CREW TIME SUMMARY	DRILLING AND OTHER RIG OPER.	PUMPTST	REPAIRS & MAINTENANCE	RIG UP OR TEAR DOWN	LOST TIME TRAVEL TIME	TOTAL HOURS
DRILLER G. Jacobson						8
HELPER L. Bourassa						
HELPER M. L. Neenan						
L. Thomas						
TOTAL						

LT:	LF:	HOLE NO.	FROM	TO	T.D. IF FIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER 100' OF W.	LOST DRILL TIME WAIT ON WATER
AF:	AT:		1744	1777							

BIT RECORD	% LEFT	COND	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.
			3A7	◇	EC9914	6 3/4	12000	80	33		3 1/2			

MUD	4 P.M.	6 P.M.	8 P.M.	10 P.M.	PUMP	PUMP	SURVEY							
4-156			60	63	PRESS	RPM	DEPTH	PRESS	RPM	DEPTH	AT	DEG.	E LOG TO DEPTH	
W.T.			8.7	8.8				575	50	1750				

GEL					MOTOR HOURS	FUEL GAL.	NEXT OIL CHANGE AT	WEATHER:	4 P.M.	8 A.M.
W.L.	F.C.	P.H.			DRILL			TEMPERATURE:	20	20
ADDITIVES: WATER				GALS.	W. TRUCK			WIND VELOCITY:	-	-
1. 5 sacs of Gel					MOB. PUMP			RAIN, SNOW, FOG, ETC.		
2. 1/2 gal. PV-68					GENERAL					
3. 1000 Bapi Drill										

CREW TIME SUMMARY				DRILLING AND OTHER RIG OPER.	PUMPTST	REPAIRS & MAINTENANCE	RIG UP OR TEAR DOWN	LOST TIME TRAVEL TIME	TOTAL HOURS
DRILLER				Chack Hatchinson					8
HELPER				Jim Ottenbreit					8
HELPER				Gary Hofmann					8
				Sam Smith					8
TOTAL									32

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		COMPANY TIME	CONT'R TIME	8		
CLASS	REMARKS	TIME				
		START	STOP	INTERVAL		
	Finish Pulling out to	4:00				
	Core		4:30	1/2		
	Pick up + make up	4:30				
	core barrel		5:00	1/2		
	Run in with core barrel	5:00	6:30	1 1/2		
	Beam 40'	6:30	8:30	2		
	Coring	8:30	12:00	3 1/2		

TOUR 1	LT:	LF:	HOLE NO.	FROM	TO	T.D. IF FIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER LOAD OF W.	LOST DRILL TIME WAIT ON WATER		
	AF:	AT:		965	1475									
BIT RECORD	% LEFT	COND.	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.
			1	6 1/4	DTJ E2384	20"	180	1167			155			
MUD	12M.N.	2A.M.	4A.M.	6A.M.	PUMP		PUMP		SURVEY					
	WT.	8.8	8.8	8.8	8.8	PRESS	RPM	DEPTH	PRESS	RPM	DEPTH	AT	DEG.	LOG TO DEPTH
VISC.		29	30	30	30	400	50	1200				12.20	2°	
GEL														
W.L.	F.C.	P.H.	DRILL		MOTOR HOURS	FUEL GALS.	NEXT OIL CHANGE AT	WEATHER		MIDN.		4 A.M.		
					226	14			TEMPERATURE:		5°	0°		
ADDITIVES: WATER	GALS.		W. TRUCK		MOB. PUMP		GENERAL		WIND VELOCITY:		RAIN, SNOW, FOG, ETC.			
	1. GEL 2 1/2 SACS		119		190		246		2 mph					
CREW TIME SUMMARY	DRILLING AND OTHER RIG OPER.		PUMPTST		REPAIRS & MAINTENANCE		RIG UP OR TEAR DOWN		LOST TIME TRAVEL TIME		TOTAL HOURS			
	DRILLER H. WHEELDON										8			
HELPER	H. HIGGINS										9			
	HELPER V. HIGGINS										8			
TOTAL	L. COOPERLO										8			
	INJURIES AND REMARKS:													
TOUR 2	LT:	LF:	HOLE NO.	FROM	TO	T.D. IF FIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER LOAD OF W.	LOST DRILL TIME WAIT ON WATER		
	AF:	AT:		1475	1575									
BIT RECORD	% LEFT	COND.	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.
			1	6 1/4	DTJ E2384	20"	180	1234			18			
MUD	8A.M.	10A.M.	12N.M.	2P.M.	PUMP		PUMP		SURVEY					
	WT.	8.8	8.9	8.7	PRESS	RPM	DEPTH	PRESS	RPM	DEPTH	AT	DEG.	LOG TO DEPTH	
VISC.		30	32	37	400	50	1500	350	50	1570	2°	1542		
GEL														
W.L.	F.C.	P.H.	DRILL		MOTOR HOURS	FUEL GALS.	NEXT OIL CHANGE AT	WEATHER		8 A.M.		NOON		
					22				TEMPERATURE:		10	20		
ADDITIVES: WATER	GALS.		W. TRUCK		MOB. PUMP		GENERAL		WIND VELOCITY:		RAIN, SNOW, FOG, ETC.			
	1. 15 SACS GEL		127		190		284		-		-			
CREW TIME SUMMARY	DRILLING AND OTHER RIG OPER.		PUMPTST		REPAIRS & MAINTENANCE		RIG UP OR TEAR DOWN		LOST TIME TRAVEL TIME		TOTAL HOURS			
	DRILLER G. Jacobson										8			
HELPER	H. Bourgeois										8			
	HELPER M. Meehan										8			
TOTAL	L. Thomas										8			
	INJURIES AND REMARKS:													
TOUR 3	LT:	LF:	HOLE NO.	FROM	TO	T.D. IF FIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER LOAD OF W.	LOST DRILL TIME WAIT ON WATER		
	AF:	AT:		1575	1654									
BIT RECORD	% LEFT	COND.	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.
			2	6 1/4	DWV 15035	19"	85	114			9 3/4			
MUD	4 P.M.	6 P.M.	8 P.M.	10 P.M.	PUMP		PUMP		SURVEY					
	WT.	8.7	8.6	8.7	8.6	PRESS	RPM	DEPTH	PRESS	RPM	DEPTH	AT	DEG.	LOG TO DEPTH
VISC.		31	34	36	36	400	50	1580	700	50	1620			
GEL														
W.L.	F.C.	P.H.	DRILL		MOTOR HOURS	FUEL GALS.	NEXT OIL CHANGE AT	WEATHER:		4 P.M.		8 A.M.		
					30				TEMPERATURE:		25			
ADDITIVES: WATER	GALS.		W. TRUCK		MOB. PUMP		GENERAL		WIND VELOCITY:		RAIN, SNOW, FOG, ETC.			
	1. CMC - 1 SACS		135		203		259		-		-			
CREW TIME SUMMARY	DRILLING AND OTHER RIG OPER.		PUMPTST		REPAIRS & MAINTENANCE		RIG UP OR TEAR DOWN		LOST TIME TRAVEL TIME		TOTAL HOURS			
	DRILLER Chuck Hutchinson										8			
HELPER	Jim Ottenbein										8			

4 .DATE MAR/11/71

TOTAL CONTRACT TIME _____ HRS. TOOL/PUSHER OR DRILLER 1/c *D. L. Williams*

TOTAL COMPANY TIME _____ HRS. APPROVED BY _____

TOUR 1	LT:	LF:	HOLE NO.	FROM	TO	T.D. IF FIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER LOAD OF W.	LOST DRILL TIME WAIT ON WATER	STRATIGRAPHIC LOG	PUMP TEST	CLASS	REMARKS	TIME						
	AF:	AT:		160									FROM / TIME	TO / RATE IN 160 M	DESCRIPTION	DEPTH TO WATER IN FT.	START	STOP	INTERVAL				
	% LEFT	COND	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.									
	MUD												PUMP		PUMP		SURVEY						
	WT.												PRESS		PRESS		AT		DEG.		LOG TO DEPTH		
	VISC.												RPM		RPM		DEPTH						
	GEL.												MOTOR HOURS		FUEL GALS.		NEXT OIL CHANGE AT		WEATHER		MIDN. 4 A.M.		
	W.L.												DRILL		W. TRUCK		MOB. PUMP		TEMPERATURE		WIND VELOCITY		
	ADDITIVES: WATER												GENERAL		RAIN, SNOW, FOG, ETC.								
	CREW TIME SUMMARY												DRILLING AND OTHER RIG OPER.		PUMPTST		REPAIRS & MAINTENANCE		RIG UP OR TEAR DOWN		LOST TIME TRAVEL TIME		TOTAL HOURS
DRILLER																							
HELPER																							
HELPER																							
TOTAL																							
INJURIES AND REMARKS:																							
TOUR 2	LT:	LF:	HOLE NO.	FROM	TO	T.D. IF FIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER LOAD OF W.	LOST DRILL TIME WAIT ON WATER			CLASS	REMARKS	TIME						
	AF:	AT:		160	308												START	STOP	INTERVAL				
	% LEFT	COND	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.									
	MUD												PUMP		PUMP		SURVEY						
	WT.												PRESS		PRESS		AT		DEG.		LOG TO DEPTH		
	VISC.												RPM		RPM		DEPTH						
	GEL.												MOTOR HOURS		FUEL GALS.		NEXT OIL CHANGE AT		WEATHER		8 A.M. NOON		
	W.L.												DRILL		W. TRUCK		MOB. PUMP		TEMPERATURE		WIND VELOCITY		
	ADDITIVES: WATER												GENERAL		RAIN, SNOW, FOG, ETC.								
	CREW TIME SUMMARY												DRILLING AND OTHER RIG OPER.		PUMPTST		REPAIRS & MAINTENANCE		RIG UP OR TEAR DOWN		LOST TIME TRAVEL TIME		TOTAL HOURS
DRILLER																							
HELPER																							
HELPER																							
TOTAL																							
INJURIES AND REMARKS:																							
TOUR 3	LT:	LF:	HOLE NO.	FROM	TO	T.D. IF FIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER LOAD OF W.	LOST DRILL TIME WAIT ON WATER			CLASS	REMARKS	TIME						
	AF:	AT:															START	STOP	INTERVAL				
	% LEFT	COND	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.									
	MUD												PUMP		PUMP		SURVEY						
	WT.												PRESS		PRESS		AT		DEG.		LOG TO DEPTH		
	VISC.												RPM		RPM		DEPTH						
	GEL.												MOTOR HOURS		FUEL GALS.		NEXT OIL CHANGE AT		WEATHER		4 P.M. 8 A.M.		
	W.L.												DRILL		W. TRUCK		MOB. PUMP		TEMPERATURE		WIND VELOCITY		
	ADDITIVES: WATER												GENERAL		RAIN, SNOW, FOG, ETC.								
	CREW TIME SUMMARY												DRILLING AND OTHER RIG OPER.		PUMPTST		REPAIRS & MAINTENANCE		RIG UP OR TEAR DOWN		LOST TIME TRAVEL TIME		TOTAL HOURS
DRILLER																							
HELPER																							
HELPER																							
TOTAL																							
INJURIES AND REMARKS:																							
TOUR 4	LT:	LF:	HOLE NO.	FROM	TO	T.D. IF FIN.	SIZE CASING	SET TO DEPTH	AMOUNT	SAC CEMENT	AVERAGE TIME PER LOAD OF W.	LOST DRILL TIME WAIT ON WATER			CLASS	REMARKS	TIME						
	AF:	AT:															START	STOP	INTERVAL				
	% LEFT	COND	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.									
	MUD												PUMP		PUMP		SURVEY						
	WT.												PRESS		PRESS		AT		DEG.		LOG TO DEPTH		
	VISC.												RPM		RPM		DEPTH						
	GEL.												MOTOR HOURS		FUEL GALS.		NEXT OIL CHANGE AT		WEATHER		4 P.M. 8 A.M.		
	W.L.												DRILL		W. TRUCK		MOB. PUMP		TEMPERATURE		WIND VELOCITY		
	ADDITIVES: WATER												GENERAL		RAIN, SNOW, FOG, ETC.								
	CREW TIME SUMMARY												DRILLING AND OTHER RIG OPER.		PUMPTST		REPAIRS & MAINTENANCE		RIG UP OR TEAR DOWN		LOST TIME TRAVEL TIME		TOTAL HOURS
DRILLER																							
HELPER																							
HELPER																							
TOTAL																							
INJURIES AND REMARKS:																							

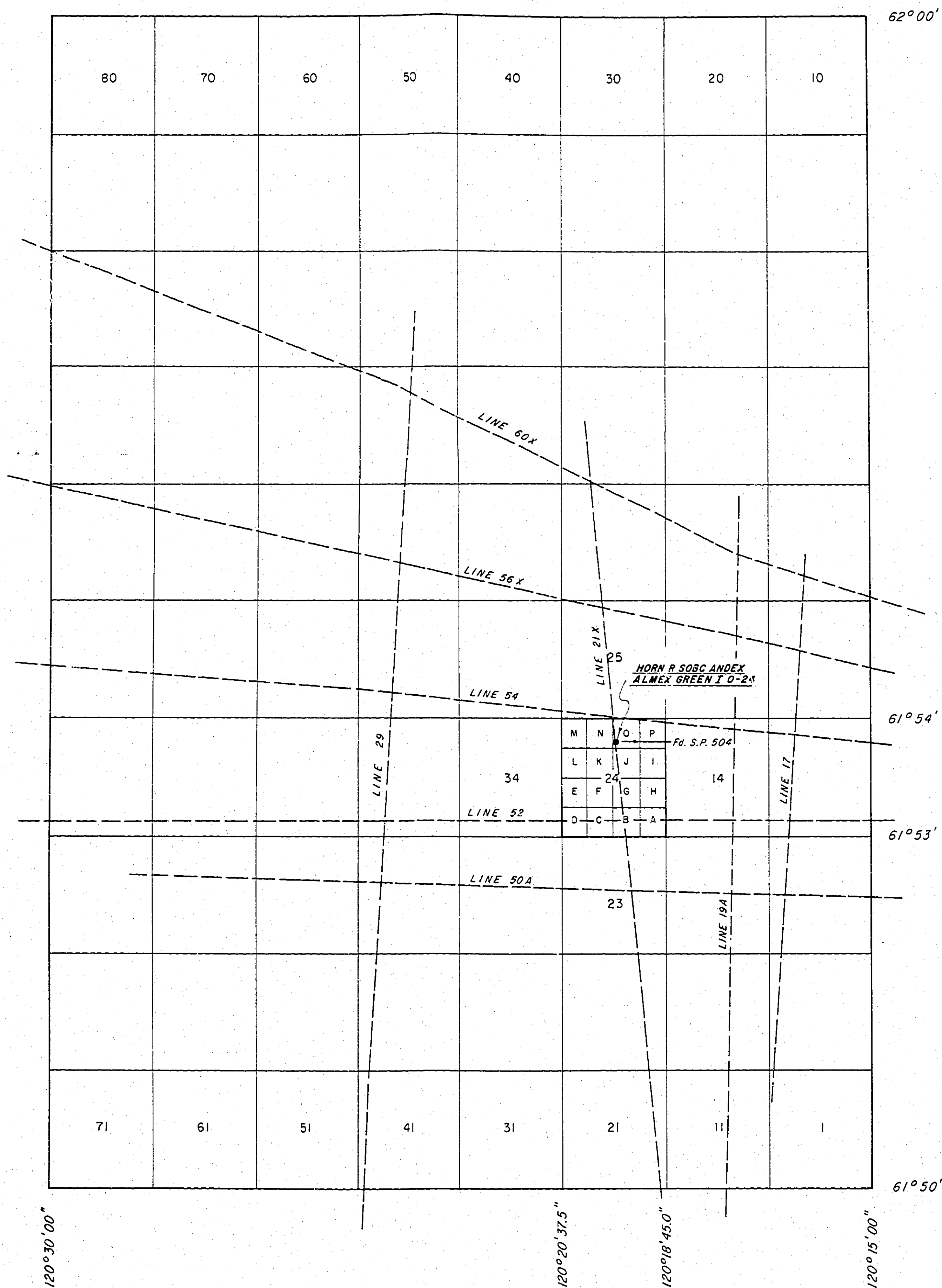
RIG. NO. 57 LOCATION HK Green Island N-24 DATE MARCH 9 1971 LOCATION _____ DATE MARCH 9 1971

[illegible]

PROJECT NO.

DATE MARCH 9th 1971

APPROVED BY.



Note: Well is to be drilled at Shot Point No. 504, Line 21X.

HORN RIVER RESOURCES LTD.

P L A N

SHOWING SHOT POINT LOCATION OF

HORN R SOBC ANDEX ALMEX GREEN I 0-24

FORT SIMPSON AREA

NORTHWEST TERRITORIES

Scale: 1" = 1 mile

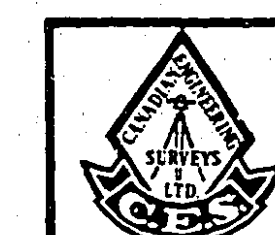
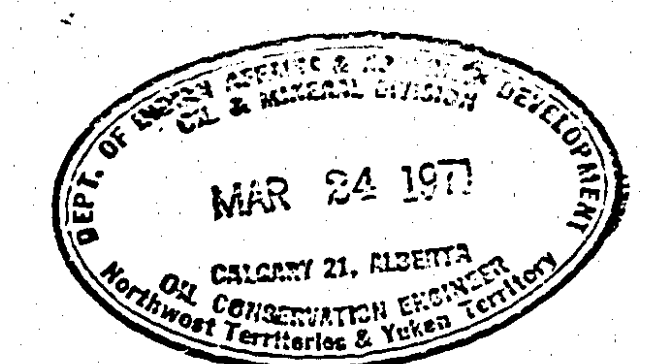
GRID AREA: 62°00' N., 120°15' W.

Certified correct, March 16th, 1971.

[Signature]
Dominion Land Surveyor

SIGNATURES FOR
HORN RIVER RESOURCES LTD.

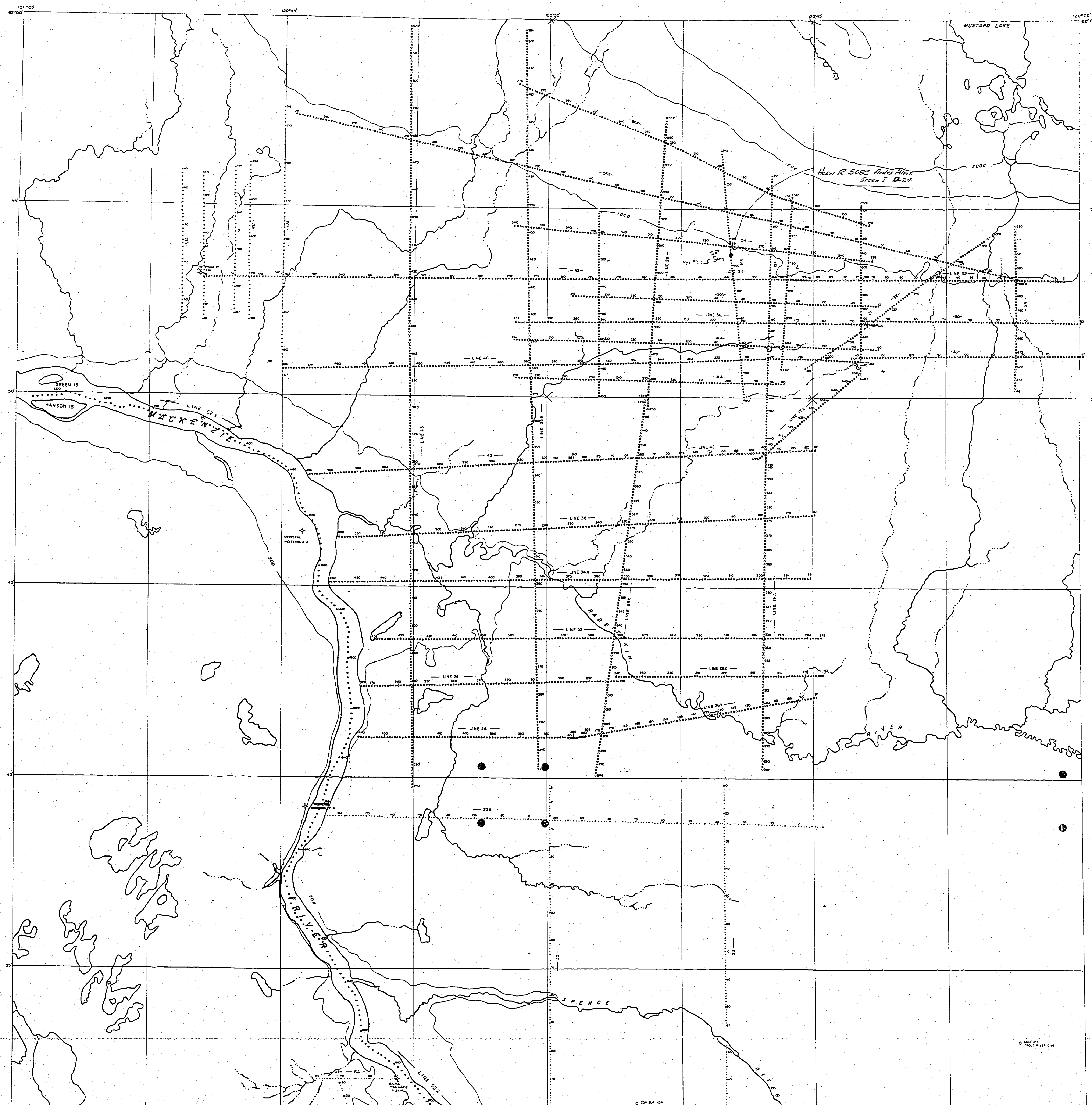
[Signature]



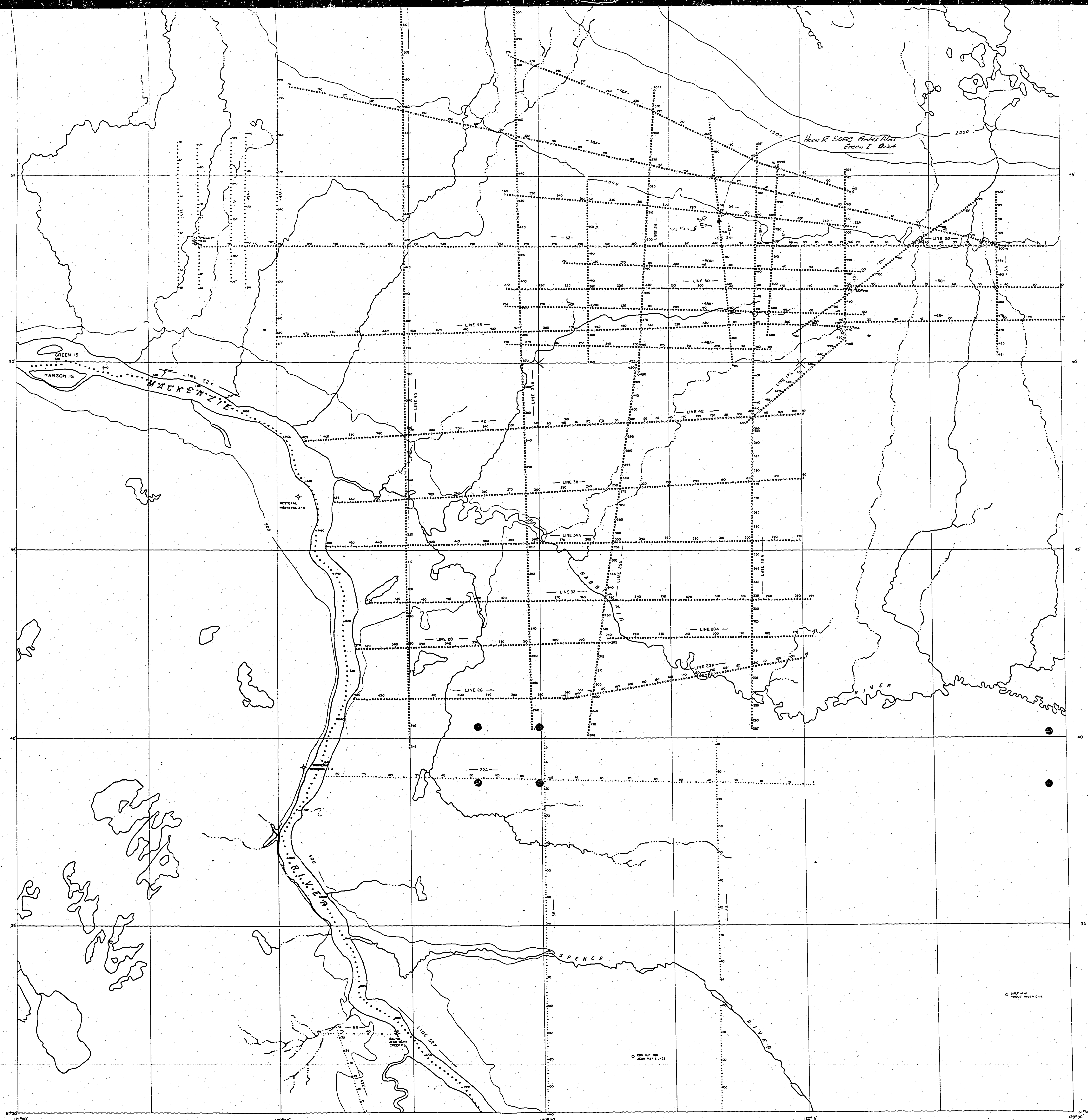
CANADIAN ENGINEERING SURVEYS CO. LTD.
EDMONTON ALBERTA

JOB NO.: C-6520
DATE: MARCH 16th/71
DRWG NO.: 6520-M-1

N.T.S. 95-H



NOTE FOR INDEX MAP SEE F-6791C-1



NOTE FOR INDEX MAP SEE F-6787E-1

CHEVRON STANDARD LIMITED			
95-4-N.E.			
GREEN ISLAND AREA			
SCALE	DATE	DRAWN	F-9876
1 INCH = 1 MILE	JUNE, 1965	DEW	
21-11-5 SEISMIC			

2-2