

Drilling Authority No. 493
Date Issued 28 January 1971

WELL NAME Horn R Shell Lewis D-76
FIELD Area
LOCATION Unit D Section 76 Grid 62-30-118-15
Latitude 62-25-06 Longitude 118-29-34
U.W.L.R. 62-11836 -- 118-49277
U.W.I. 3000786230115150

Rig Release Date

Status

Information Release Date

CHANGE OF NAME:

DATE RECEIVED	INDEX
28-1-71	Application for a Drilling Authority.
	Well Completion Data.
	Well History Report.
	Application to Amend a Drilling Authority.
	Application to change a Well Name.
3-3-71	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.R. - 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. 493

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
OIL AND MINERAL DIVISION

Application to Abandon a Well

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. SHELL LEVIS D-76
Location: Unit D Section 76 Grid 62° 30' N. Lat. 118° 15' W. Long.
Latitude 62° 25' 06" Longitude 118° 29' 34"
From Established Reference Marker
Universal Well Location Reference Lat. 62,41834° N., Long. 118,49277° W.
Permit No. 4652 Lease No. _____

Shell Canada Limited
(Permitter, Licensee, Lessee)

Date of commencement of proposed program Spud in: February 10, 1971 5:00 A.M.

OIL, GAS, AND WATER ENCOUNTERED
(Depths)

Oil at Nil
Gas at Nil
Water at DST #1 535 - 630
Total Depth 1463 Date of last operations Rig released: Feb. 19/71 3:30 P.M.
Present condition of well Dry and abandoned

CASING RECORD

Casing Size O.D. Inches	Weight	Amount	Set At—	Sacks of Cement and Additives	Amount Pulled
1. 7"	20#	181	181	120 plus 3% CCL ₂	Nil
2.					
3.					
4.					
5.					

PROPOSED ABANDONMENT PROGRAM

Plug		Geological Formation	Number of Sacks of Cement	Remarks
No.	Position			
1	1463 up to surface	Hume, Bear Rock, Cold Lake, Red Shale, Ernestina Lake, Basil Sand Precambrian	335 sacks	Plus 4% Gel Run in 3 stages.

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

The following logs have been run IES, BHGSC, FDCGR
Other operations proposed Nil

Operations to be carried out by Big Indian Drlg. Contractor Licence No. 791
Address Fort Providence, N.W.T. Address _____
Responsible Agent in field Dennis Comm

Dated at Calgary, this 24 Day of February 19 71
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. Hine
on the 17th February 1971.

Dated 3rd March 1971

[Signature]
Oil Conservation Engineer

IAND 52-90 (5) (2-69)

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

Drilling Authority No. 493

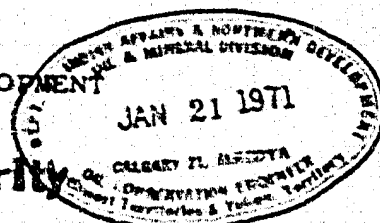
Project No.

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 Shell Levis D-76

Location: Unit D Section 76 Grid 62°30' N. Lat., 118°15' W. Lon.

Latitude 62°25'06" Longitude 118°29'34"

Unique Well Identifier 2000766230112150

Universal Well Location Reference Lat. 62.4183° N., Long. 118.4927° W.

Elevation: Ground (est.) 790 K.B. (est.) 798 feet above sea-level.

Well is expected to produce from Hume, Bear Rock, and/or Ernestina Lake formation at a depth of about 500' and/or 1400 feet. Expected total final depth 1650'

Area assigned to well

(for Oil Conservation Engineer's use only)

Permit No. 4652 Lease No. Acreage 59,310

Permittee, licensee, or lessee Shell Canada Limited

Exploratory Licence No. 108

Surface owned by Crown or Crown

(If alternate 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	Scale of Cement
1. 7"	20#	J-55	Used	180	75
2.					
3.					
4.					
5.					

Expected water, gas, and oil horizons and type of control equipment. Middle Devonian carbonates and Granite Wash formation - control with

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 Whitteron

At registered office F. L. Woolley

Address Gen. Del., Ft. Providence

Address 1020 Aquitaine Tower, 540 Fifth Ave. S.W.

CALGARY 1, Alta.

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

Dated at Calgary

this 20

day of January

1971

Signed by

President

Company Horn River Resources Ltd.

Title

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 28th January

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.

POOR COPY

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, cuttings 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. Surface casing shall extend at least 75 feet into a consolidated formation.
6. Additional strings of casing shall be approved by the Oil Conservation Engineer prior to running.

B.H.J. Thom, Oil Conservation Engineer

GEOLOGICAL PROGNOSIS HORN RIVER-SHELL LEVIS D-76

Location 62°25'; 118°30' (approximate)

Ground Elevation +950 estimated
KB +960 estimated
TD 1660' estimated

<u>Drilling Depth</u>	<u>Formation</u>	<u>Lithology</u>
0-100'	Fort Simpson	grey, green shale
100-300'	R.A. Shale	dark brown shale
300-700'	Hume*	limestone w some carbonate
700-1000'	Bear Rock	anhydrite w interbeds of dolomite
1000-1300'	Cold Lake	salt
1300-1500'	Ernestina*	dolomite possibly w anhydrite
1500-1650'	Granite Wash*	sandstone and red shale
1650-1660'	Precambrian	Granite

* objectives

- Note
- 1) Hume carbonate may be built up into overlying shale.
 - 2) Drill 20 feet into Hume carbonate then cut 50 feet continuous core.
 - 3) A density-log from 0-TD is required in addition to log suite supplied under Horn River Agreement.

North

HAN R. SHELL
LEVIS D. 76

AC567-30

North

HORN R. SHELL
LEWIS D. 76



Date Issued.....January 28, 1971

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. SHELL LEVIS D-76.....
 Permit No. 4652.....Lease No.
 Shell Canada Limited.....Exploratory Licence No. 108.....
 (Permittee, Licensee, Lessee)
 Horn River Resources Ltd.Exploratory Licence No. 1785.....
 (Operator)



Location: Unit D Section 76 Grid 62°30' N. Lat., 118°15' W. Long.
Latitude 62°25'06" N. Longitude 118°29'34" W.
Unique well identifier 300D 766230118150
Universal Well Location Reference Lat. 62.41834° N., Long. 118.49277° W.

	DATE	DEPTH
Spudded.....	Feb. 10/71	
Suspended.....		
Resumed Operations.....		
Finished Drilling.....	Feb. 17/71	1463 (Dr1r)
Deepened.....		
Complete (gas/oil).....		
Abandoned.....	Feb. 19/71	1463
Rig released.....	Feb. 19/71	

Pool(s).....NA

Interval(s) open to production.....NA

Elevation: Gr.790.....K.B.798

Rig No.57

Drilling Contractor Big Indian Drilling Co

Contractor's Business Licence No.791

CASING RECORD

Casing Size (Inches)	Grade	Weight	Amount	Set at -	Sacks of Cement and Additives
7"	J-55	20#	5 jts.	181	120 sx plus 3% CaCl ₂
1.					
2.					
3.					
4.					
5.					
6.					

GEOLOGICAL TOPS	ELEVATION		CORE RECORD					
	Depths	Sub-Sea	From	To	Rec.	From	To	Rec.
Hume	406	+ 392	600	650	32'			
Bear Rock	760	+ 38						
Red Beds	940	- 142						
Ernestina Lake	974	- 176						
Basal Clastics	1140	- 342						
Precambrian	1456	- 658	LOG RECORD					

LOG RECORD

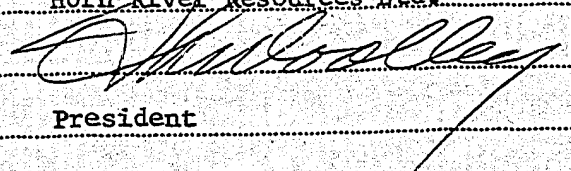
[illegible]

CEMENTING RECORD (Plug, Squeeze, etc.)				PERFORATING RECORD (Bullet, Jet)				SERVICING RECORD (Acidizing, Fracing, etc.)			
Date	From	To	Remarks	Date	From	To	Remarks	Date	From	To	Remarks
Feb. 19/71	1463	Surface	335 sx plus 4% Gel. Welded on plate and rod with well marker				Nil				Nil

DRILL STEM TESTS

No.	Date	Formation	From	To	V.O. Mins.	LS.I. Mins.	F.S.I. Mins.	LS.I.B.H.P.	F.S.I.B.H.P.	LP.B.H.P.	F.F.B.H.P.	L.H.P.	F.H.P.	REMARKS
1	Feb. 18/71	Hume	535	630	35	30	30	220	227	218	227	252	250	Recover 380' muddy water (11,500 ppm)

ANALYSIS						PRESENT STATUS OF WELL		
Lab. No.	Sample	From	To	Source	Remarks	Oil		(Interval.)
913-160	core	600	632	Hume formation				
						Gas		(Interval.)
						Dry	X	
						Susp.		

Company Horn River Resources Ltd.
Signed by 
Title President
Date June 16, 1971

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

CORE ANALYSIS REPORT
FOR
HORN RIVER EXPLORATION LIMITED
HORN R. SHELL LEVIS D-76
WILDCAT, LEVIS AREA
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. SHELL LEVIS D-76
 FIELD WILDCAT, LEVIS AREA, N.W.T.
 LOCATION 62 25' 06.00 NORTH LAT.
 118 29' 34.00 WEST LONG.

FORMATION
 DRILLING FLUID WATER BASE MUD
 ELEVATION
 ANALYSIS FULL DIAMETER
 REMARKS ALL SAMPLES SANDBLASTED
 PRIOR TO KH ANALYSIS.

PAGE 1 OF 3
 FILE 913-160
 DATE REPORT FEB. 26/71
 ANALYSTS MH, CC

AST - APPEARS SIMILAR TO
 B - BROKEN CORE (KHS USED)
 S - FOR SUMMARY PURPOSES
 P - PERMEABILITY > 30000 MD.

- PERMEABILITY <
 FS - FINE SAND
 MS - MEDIUM SAND
 CS - COARSE SAND

CONG - CONGLOMERATE
 DOL - DOLOMITE
 SH - SHALE
 LMY - LIMY

SHY - SHALY
 BR - BREAK
 BT - BITUMEN
 CARB - CARBONACEOUS

A - ANHYDRITE
 FORS - FOSSEILIFEROUS
 KLN - CRYSTALLINE
 LAM - LAMINATIONS

V - VUGULAR
 LV - LARGE VUGS
 SV - SMALL VUGS
 PPV - PIN POINT VUGS

I - INTERGRANULAR
 STV - STYLOLITIC
 HF - HORIZONTAL FRACTURE
 VF - VERTICAL FRACTURE

SS - SMALL PLUG SAMPLE
 SL - SLIGHTLY
 V - VERY
 W - WITH

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

CORED INTERVAL 600 - 650

CORE NO. 1 600 - 650 REC. 32.5' 7 BOXES

1SS	600.0-1.2	1.2	3.75	-	-	4.50	22.2	26.64	-	-	I
	601.2-5.6	4.4	-	-	-	-	-	-	-	-	DENSE
2	605.6-6.7	1.1	.33	.33	-0.1	.36	13.5	14.85	2.48	2.87	I
3	606.7-7.7	1.0	.27	.27	-0.1	.27	14.9	14.90	2.39	2.81	I
4	607.7-8.2	.5	1.88	1.77	.49	.94	17.3	8.65	2.24	2.71	I GYP F
5	608.2-8.7	.5	.25	.17	-0.1	.13	11.2	5.60	2.45	2.76	I GYP
6	608.7-9.2	.5	.65	.65	.12	.33	17.9	8.95	2.30	2.80	I
7	609.2-10.1	.9	15.90	4.58	3.36	14.31	23.9	21.51	2.13	2.80	I PPV F
	610.1-11.2	1.1	-	-	-	-	-	-	-	-	DENSE
8	611.2-11.8	.6	2.29	1.64	.53	1.37	20.2	12.12	2.20	2.76	I GYP F
9	611.8-12.7	.9	1.68	1.32	.79	1.51	20.4	18.36	2.22	2.79	I F
10	612.7-13.3	.6	5.67	.30	.43	3.40	5.4	3.24	2.65	2.80	I F
11	613.3-14.3	1.0	.93	.77	.21	.93	5.3	5.30	2.64	2.78	I F
12	614.3-15.0	.7	.28	.28	.34	.20	6.2	4.34	2.63	2.80	I PPV
13	615.0-15.5	.5	.14	.14	-0.1	.07	3.6	1.80	2.69	2.79	PPV
14	615.5-16.2	.7	.94	.67	.79	.66	12.6	8.82	2.45	2.80	I F
15	616.2-16.8	.6	2.71	2.28	.59	1.63	15.8	9.48	2.38	2.82	I
16	616.8-18.0	1.2	.97	.97	.25	1.16	12.2	14.64	2.47	2.82	I
17	618.0-19.0	1.0	.16	.16	.45	.16	5.8	5.80	2.64	2.80	I PPV
18	619.0-19.9	.9	**	.62	.11	.55	7.8	7.02	2.55	2.76	I PPV SV
19	619.9-20.7	.8	.34	.34	1.69	.27	7.8	6.24	2.56	2.78	I PPV GYP
20	620.7-21.8	1.1	.55	.45	-0.1	.61	6.5	7.15	2.60	2.78	I PPV
21	621.8-22.8	1.0	*	.10	*	.10	3.6	3.60	2.67	2.77	PPV VF
22	622.8-23.9	1.1	.27	.20	-0.1	.30	13.0	14.30	2.42	2.79	I F
	623.9-26.4	2.5	-	-	-	-	-	-	-	-	DENSE

CORE LABORATORIES - CANADA LTD.

COMPANY HORN RIVER EXPLORATION LIMITED
WELL HORN R. SHELL LEVIS D-76

PAGE 2 OF 3
FILE 913-160

SAMPLE NUMBER	INTERVAL REPRESENTED, FEET		PERMEABILITY TO AIR, MILLIDARCYS			PERMEABILITY FEET	POROSITY, PER CENT	POROSITY FEET	DENSITY, gmt./cc.		VISUAL EXAMINATION
	DEPTH	THICK	KMAX	K90°	KV				BULK	GRAIN	
23	626.4-27.3	.9	1.83	.66	.16	1.65	4.2	3.78	2.68	2.80	I PPV F GYP
24	627.3-27.9	.6	.23	.23	-0.1	.14	9.9	5.94	2.51	2.79	I
	627.9-28.3	.4	-	-	-	-	-	-	-	-	DENSE
25	628.3-29.5	1.2	.03	-0.1	-0.1	.04	4.8	5.76	2.65	2.79	I
26	629.5-30.5	1.0	.05	-0.1	-0.1	.05	4.3	4.30	2.69	2.81	I FEW PPV
27	630.5-31.5	1.0	.30	.10	-0.1	.30	11.2	11.20	2.49	2.80	I
28	631.5-32.5	1.0	.75	.75	-0.1	.75	13.4	13.40	2.41	2.78	I F GYP
	632.5-50.0	17.5	-	-	-	-	-	-	-	-	LOST CORE

CORE LABORATORIES - CANADA, LTD.

Petroleum Reservoir Engineering

WELL:

HORN R. SHELL LEVIS D-76

PAGE: 3 OF 3

FORMATION:

FILE: 913-160

SUMMARY INTERVAL:

600.0 - 650.0

TOTAL FOOTAGE:

50.0

FOOTAGE ANALYZED

24.1

FOOTAGE NOT ANALYZED:

TOTAL: 25.9 DENSE 8.4 LOST 17.5 DRILLED .0 *NABR .0 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.

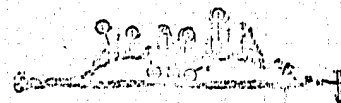
1.00 9.99 Md.

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 %
24.1	100.00	11.11	267.69	1.52	36.68	.00	.00
2.2	9.13	4.57	10.06	.04	.09	.00	.00
9.3	38.59	9.52	88.57	.25	2.29	.00	.00
6.4	26.56	10.20	65.28	.78	4.99	.00	.00
5.3	21.99	15.52	82.27	2.83	15.00	.00	.00
.9	3.73	23.90	21.51	15.90	14.31	.00	.00

*NOT ANALYZED BY REQUEST

THE UNIVERSITY OF CHICAGO
PRESS



THE UNIVERSITY OF CHICAGO
PRESS



THE UNIVERSITY OF CHICAGO
PRESS



LYNES UNITED SERVICES LTD.

TEST DATA		Test No.		Lynes Test		GENERAL INFORMATION						
Formation		Hume		T.D. 1464		Fr.		Company Horn River Resources Ltd.				
Interval Tested		535		Ft. to 630		Fr.		Address c/o Kenting Oilwell Drilling				
Feet of Net Pay Tested		95				Fr.						
Type of Test		Dual Straddle Conventional										
Cushion		nil		Amount		Fr.		Well Name Horn River Shell Levis D-76				
Started in Hole at		7:30		Hrs.		Tool Open. at 9:31		Hrs.		Well Number 62° 25' 118o 20'		
Pre-Flow		4 Mins.		Initial Shut-in 30		Mins.		K.B. Elevation 798		Sub-Sea Elevation		
2nd Flow		Mins.		Second Shut-in		Mins.		Area Horn River		Province N.W.T.		
Final Flow		35 Mins.		Final Shut-in 30		Mins.		Company Rep. B. France				
Remarks:										Tester E. Harris		
										Contractor Big Indian		Ria No. 57
										Ticket No. 2960		Date February 18/71
										Service Reports To:		
Blow:		Good initial puff. Fair air blow Dead in 4 minutes. Reset in 15 mins. Dead.								5 + 40 xeroxed copies sent to Lewis Engineering Ltd.		
GAS BLOW MEASUREMENTS										MUD AND HOLE DATA		
Measured with										Mud Type Gel Chem & sawdust		
										Weight 9.6 Viscosity 80 Water Loss		
										Filter Cake 2/32" Bottom Hole Temperature		
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 1/4" Feet Run 506.00				
								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 x 2 1/8"				
		REMARKS								Shut-in pressures suggest high permeability within the interval tested.		
RECOVERY												
TOTAL FLUID RECOVERED		380		Fr. Consisting of:								
		380 Ft. of muddy salt water										
		Ft. of										
		Ft. of										
		Ft. of										
		Ft. of										
Test was/was not Reverse Circulated												
Oil Recovery A.P.I.		Water Specific Gravity										
Salinity		11,540 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 549		Depth 564		Depth 646		Depth _____				
NUMBER KEY:												
1 - INITIAL HYDROSTATIC		248		252		290						
2 - PRE-FLOW		130		217								
3 - INITIAL SHUT-IN		218		220								
4a - 2nd INITIAL FLOW												
4b - 2nd FINAL FLOW												
4c - 2nd SHUT-IN												
5 - 3rd INITIAL FLOW		211		218								
6 - FINAL FLOW		223		227								
7 - FINAL SHUT-IN		223		227		268 (bleed off)						
8 - FINAL HYDROSTATIC		242		250		290						

Horn River Resources Ltd.
Company

Well Name and Description	Horn River	Shell	Levis	D-76	620	25'	118°	20'
---------------------------	------------	-------	-------	------	-----	-----	------	-----

Test No.

February 18/71
Date of Test

OPERATION REEF
NORTHWEST TERRITORIES
CANADA

Geological and Engineering
REPORT

HORN R SHELL LEVIS D-76

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 operations conducted at the well

Horn R Shell Levis D-76

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"

Data in this report were compiled by James A. Lewis Engineering Co. Ltd. Drilling data were taken from the tour reports of Big Indian Drilling Co. Ltd. Geological data were supplied by Shell Canada Limited.



TABLE OF CONTENTS

	Page
Section 1	
GENERAL:	
Summary of Well Data	1
 Section 2	
GEOLOGICAL:	
Formation Tops	2
Sample Description	3
Core Description	5
Coring Time	6
 Section 3	
DRILLING AND ENGINEERING:	
Daily Drilling Reports	7
Bit Record	8
Survey Record	9
Abandonment Report	9
Drill Stem Test Report	10
 Section 4	
Well Log Data	11

Section 1

GENERAL

SUMMARY OF WELL DATA

WELL: Horn R Shell Levis D-76

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

LEGAL DESCRIPTION: Unit D, Section 76, Grid 62° 30' N, 118° 15' W.

LOCATION: LATITUDE: 62° 25' 06" LONGITUDE: 118° 29' 34"

UNIVERSAL WELL LOCATION REFERENCE: Lat 62. 41834° N. Long 118. 49277° W

UNIQUE WELL IDENTIFIER: 300D766230118150

CO-ORDINATES: _____

PERMIT OR LEASE: 4652

PERMITTEE, LICENCEE, LESSEE: Shell Canada Limited

DRILLING AUTHORITY: 493 DATE: January 28, 1971

CLASSIFICATION: New Field Wild Cat

ELEVATION: GROUND: 790 K.B. 798

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

WELLSITE GEOLOGIST: Shell Canada Limited

SURFACE CASING: 7" - 20 lb. - J55 set @ 181' K.B. w/c 120 sacks cement + 3% CaCl₂

HOLE SIZE: 9-7/8" from Surface to 183', 6-1/8" from 183' to 1463'

MUD SYSTEM: Gel Chemical

CORES: No. 1 600' to 650'

FORMATION TESTS: No. 1 535' to 630' Recovered water

ABANDONMENT PLUGS: No. 1: 1463' to Surface, 3 stages, 335 sacks plus 4% Gel

LOST CIRCULATION: Nil

LOGS: IES 1463' to 180'
FDL 1463' to 180'
BHCSGRC 1462' to 180'

WELL SPUDDED: 5:30 a.m. February 10, 1971

FINISHED DRILLING: 8:00 p.m. February 17, 1971

RIG RELEASED: 3:30 p.m. February 19, 1971

TOTAL DEPTH: 1463'

STATUS: Drilled and Abandoned

Section 2

GEOLOGICAL

FORMATION TOPS

Horn R Shell Levis D-76

Formation Tops	Depth	LOGS	Subsea
Hume	406'		+392'
Bear Rock	760'		+ 38'
Red Beds	940'		-142'
Ernestina Lk.	974'		-176'
Basal Clastic Unit	1140'		-342'
Precambrian	1456'		-658'

HORN RIVER SHELL LEVIS D-76

<u>INTERVAL</u>	<u>SAMPLE DESCRIPTION</u>
0-400	<u>Shale</u> , dark grey, and some Glacial Drift.
400-580	<u>Limestone</u> , buff to medium brown, compact crystalline, very fine crystal size, no visible porosity, slightly argillaceous with a trace of calcite crystals and pyrite.
580-680	<u>Dolomite</u> , buff to light brown, compact crystalline, very fine crystal size, trace visible porosity (see core description), slightly argillaceous, slightly limey, with traces of calcite crystals & elemental sulphur, some massive anhydrite bands.
680-760	<u>Anhydrite</u> , light buff, with a trace of buff <u>Dolomite</u> , compact crystalline, very fine crystal size, no visible porosity, slightly argillaceous to clean.
760-770	<u>Anhydrite</u> , buff and <u>Limestone</u> , brown, compact crystalline, sub-lithographic crystal size, no visible porosity, clean.
770-940	<u>Anhydrite</u> , buff & white
940-960	<u>Anhydrite</u> , buff & white and <u>Dolomite</u> (either shaly dolomite or dolomitic shale), red, compact crystalline, very fine crystal size, no visible porosity, moderately argillaceous.
960-970	<u>Anhydrite</u> , buff & white with a trace of <u>Dolomite</u> as above.
970-990	No Samples.
990-1160	<u>Dolomite</u> , brown & gray, compact crystalline to chalky, very fine crystal size, no visible porosity, slightly to moderately argillaceous and/or silty with some sand grains. Occasional Anhydrite Bands.

- 1160-1250 Shale, green, red & gray. With Siltstone.
- 1250-1320 Sandstone, sub angular & very fine grains,
siliceous cement, hard, no visible porosity,
with some gray shale.
- 1320-1400 Shale, gray & red-brown, with some sandstone
as above.
- 1400-1456 Shale and Sandstone as above with a trace of
round quartz pebbles.
- 1456-1464 Quartz and trace of chert pebbles.

CORE DESCRIPTION

Horn R Shell Levis D-76

Interval, Feet	Core Description	Comments
600 - 601	Dolomite, compact crystalline to chalky very fine grain size, no visible porosity and no shows.	Some Vugs but completely infilled with crystalline Anhydrite. Numerous hairline fractures filled with Anhydrite and some Pyrobitumen.
601 - 605.5	Dolomite, compact crystalline, very fine grain size, no visible porosity and no shows.	As above with some vertical fractures.
605.5 - 609.5	Dolomite, compact crystalline, very fine grain size, no visible porosity and no shows.	Small Pyrobitumen stringers, numerous Anhydrite filled fractures.
609.5 - 612.5	Dolomite, as above.	As Above.
613 - 623	Dolomite, compact crystalline, very fine grain size, traces of visible and vuggy porosity, no shows.	Some open vugs but mainly filled with Anhydrite.
623 - 632.5	Dolomite, compact crystalline, very fine grain size, no visible porosity and no shows.	As above with an occasional band of Anhydrite.
632.5 - 650	Lost Core.	

CORING TIMES

Horn R Shell Levis D-76

Interval	Min./Foot
600 - 602'	5.0
602 - 604'	6.0
604 - 606'	4.5
606 - 608'	4.0
608 - 610'	4.0
610 - 612'	3.5
612 - 614'	5.5
614 - 616'	6.0
616 - 618'	5.0
618 - 620'	5.0
620 - 622'	5.0
622 - 624'	5.5
624 - 626'	5.0
626 - 628'	5.0
628 - 630'	5.5
630 - 632'	6.5
632 - 634'	6.5
634 - 636'	9.5
636 - 638'	10.5
638 - 640'	10.0
640 - 642'	8.5
642 - 644'	11.5
644 - 646'	5.5
646 - 648'	5.5
648 - 650'	7.0

Section 3

DRILLING AND ENGINEERING

SUMMARY OF DAILY DRILLING REPORTS

Horn R Shell Levis D-76

Date	Depth	Operation
2-10-71	30'	Drilling 9-7/8" Surface Hole. Spudded in at 5:00 a.m. February 10, 1971.
2-11-71	183'	Wait on cement surface casing. Drilled to 183'. Ran 5 joints of 7" - 20 lb. - J-55 new casing with Float Collar and Guide Shoe to 181' K.B. Cemented with 120 sacks of Neat Portland cement plus 3% CaCl ₂ . Circulated 1 barrel of returns. Plug down at 7:30 a.m. February 11, 1971.
2-12-71	254'	Drilling 6-1/4" Hole. Pressure tested Blind Rams to 800 psi, held 15 minutes, O.K. Pressure tested Pipe Rams and Hydril to 800 psi each, held O.K. Mud wt. 8.6 Vis. 29
2-13-71	579'	Drilling 6-1/4" Hole. Mud wt. 8.8 Vis. 45
2-14-71	658'	Drilling 6-1/4" Hole. Mud wt. 8.4 Vis. 35 Cut core No. 1: 600' to 650' Recovered 32.5'
2-15-71	861'	Mixing mud attempting to regain circulation. Lost circulation while running with new bit.
2-16-71	1121'	Drilling 6-1/4" Hole. Mud wt. 8.8 Vis. 40
2-17-71	1354'	Drilling 6-1/4" Hole. Mud wt. 9.2 Vis. 34
2-18-71	1463'	Logging (waiting on repairs to log unit.)
2-19-71	1463'	Preparing to abandon well. Ran DST No. 1: 535' - 630'. Recovered 380' salt water.
2-20-71	1463'	Rigging out. Ran Plug No. 1: 1463' to surface, with 335 sacks of cement with 4% CaCl ₂ . Plug down 11:30 a.m. Rig released 3:30 p.m., February 19, 1971.

WELL: Horn R Shell Levis D-76

WELL: Horn R Shell Levis D-76

SUMMARY

Surface Hole 183' of 9-7/8 " 9 3/4 hours on bottom.
Main Hole 1280' of 6-1/4 " 109 hours on bottom.
Core Hole 50' of 6-3/16 " 5 3/4 hours on bottom.

James A. Lewis Engineering Co. Ltd.

SURVEY RECORD

Horn R Shell Levis D-76

Depth, Feet	Deviation, Degrees
114	2
183	2¼
546	3
758	5
1015	5½
1301	6
1463	6

ABANDONMENT REPORT

One Plug only was run from Total Depth - 1463' to surface in 3 stages with 335 sacks of cement plus 4% Gel.

Casing was cut off 3 feet below ground. A plate with marker was welded on.

DRILL STEM TEST REPORT

WELL: Horn R Shell Levis D-76

DATE: February 18, 1971 TEST NO. 1
 INTERVAL TESTED: 535' - 630' FORMATION: Hume
 TOTAL DEPTH DRILLER: 1463' LOGS: IES, FDL, BHCSGRC
 HOLE SIZE: 6-1/4" RAT HOLE SIZE: None
 TESTING COMPANY: Lynes United OPERATOR: E. Harris

"Dual Straddle"

MUD

Type Gel Chem
 Wt. 9.6 lb/gal
 Visc. 34 Sec.
 W.L. 32
 pH
 F.C. 2/32
 Conditions Good

DRILL PIPE

Type I.F.
 Size 3-1/2"
 Size T.J. 4-3/4
 Collars 3-1/2" I.F.
 Jars
 Safety Joint
 Pumpout Sub.

TEST TOOL

Size Rubber 5-1/2"
 Type -
 Tool Type -
 Size Choke 1/2"
 Wt. to Set -
 Pull Loose -
 Fluid Cushion -

Bit off Bottom <u>10:00 p.m. 2/17/71</u>	Preflow <u>4</u> min.	B.H. Temp. <u>N.R.</u> °F.
Start Tester in <u>7:30 p.m. 2/18/71</u>	I.S.I. <u>30</u> min.	Gauge Depths <u>549</u> K.B.
Tester on Bottom <u>9:15 p.m. 2/18/71</u>	Tool Open <u>35</u> min.	<u>564</u> K.B.
Tool Open <u>9:31 p.m.</u>	F.S.I. <u>30</u> min.	<u>646</u>
Tool Closed <u>9:35 p.m.</u>	<u>Upper Gauge</u>	<u>Lower Gauge</u>
Tool Open <u>10:05 p.m.</u>	I.H.S. <u>248</u> psig	I.H.S. <u>252</u> psig
Tool Closed <u>10:40 p.m.</u>	Preflow <u>130</u> psig	Preflow <u>217</u> psig
Tool Loose <u>11:10 p.m.</u>	I.S.I. <u>218</u> psig	I.S.I. <u>220</u> psig
Tool Out <u>2:30 a.m. 2/19/71</u>	Initial Flow <u>211</u> psig	Initial Flow <u>218</u> psig
Rubber Condition <u>Good</u>	Final Flow <u>223</u> psig	Final Flow <u>227</u> psig
Test O.K. <u>Yes</u>	Final S.I. <u>223</u> psig	Final S.I. <u>227</u> psig
	F.H.S. <u>242</u> psig	F.H.S. <u>250</u> psig

BLOW: Good initial puff. Dead in 4 minutes.

RECOVERY: 380 feet muddy salt water, salinity 11,500 ppm

James A. Lewis Engineering Co. Ltd.

DRILL STEM TEST REPORT

WELL: Horn R Shell Levis D-76

DATE: February 18, 1971 TEST NO. 1
 INTERVAL TESTED: 535' - 630' FORMATION: Hume
 TOTAL DEPTH DRILLER: 1463' LOGS: IES, FDL, BHCSGRC
 HOLE SIZE: 6-1/4" RAT HOLE SIZE: None
 TESTING COMPANY: Lynes United OPERATOR: E. Harris
 "Dual Straddle"

<u>MUD</u>	<u>DRILL PIPE</u>	<u>TEST TOOL</u>
Type <u>Gel Chem</u>	Type <u>I.F.</u>	Size Rubber <u>5-1/2"</u>
Wt. <u>9.6 lb/gal</u>	Size <u>3-1/2"</u>	Type <u>-</u>
Visc. <u>34 Sec.</u>	Size T.J. <u>4-3/4</u>	Tool Type <u>-</u>
W.L. <u>32</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>10:00 p.m. 2/17/71</u>	Preflow <u>4</u> min.	B.H. Temp. <u>N.R.</u> °F.
Start Tester in <u>7:30 p.m. 2/18/71</u>	I.S.I. <u>30</u> min.	Gauge Depths <u>549</u> K.B.
Tester on Bottom <u>9:15 p.m. 2/18/71</u>	Tool Open <u>35</u> min.	<u>564</u> K.B.
Tool Open <u>9:31 p.m.</u>	F.S.I. <u>30</u> min.	<u>646</u>
Tool Closed <u>9:35 p.m.</u>	<u>Upper Gauge</u>	<u>Lower Gauge</u>
Tool Open <u>10:05 p.m.</u>	I.H.S. <u>248</u> psig	I.H.S. <u>252</u> psig
Tool Closed <u>10:40 p.m.</u>	Preflow <u>130</u> psig	Preflow <u>217</u> psig
Tool Loose <u>11:10 p.m.</u>	I.S.I. <u>218</u> psig	I.S.I. <u>220</u> psig
Tool Out <u>2:30 a.m. 2/19/71</u>	Initial Flow <u>211</u> psig	Initial Flow <u>218</u> psig
Rubber Condition <u>Good</u>	Final Flow <u>223</u> psig	Final Flow <u>227</u> psig
Test O.K. <u>Yes</u>	Final S.I. <u>223</u> psig	Final S.I. <u>227</u> psig
	F.H.S. <u>242</u> psig	F.H.S. <u>250</u> psig

BLOW: Good initial puff. Dead in 4 minutes.

RECOVERY: 380 feet muddy salt water, salinity 11,500 ppm

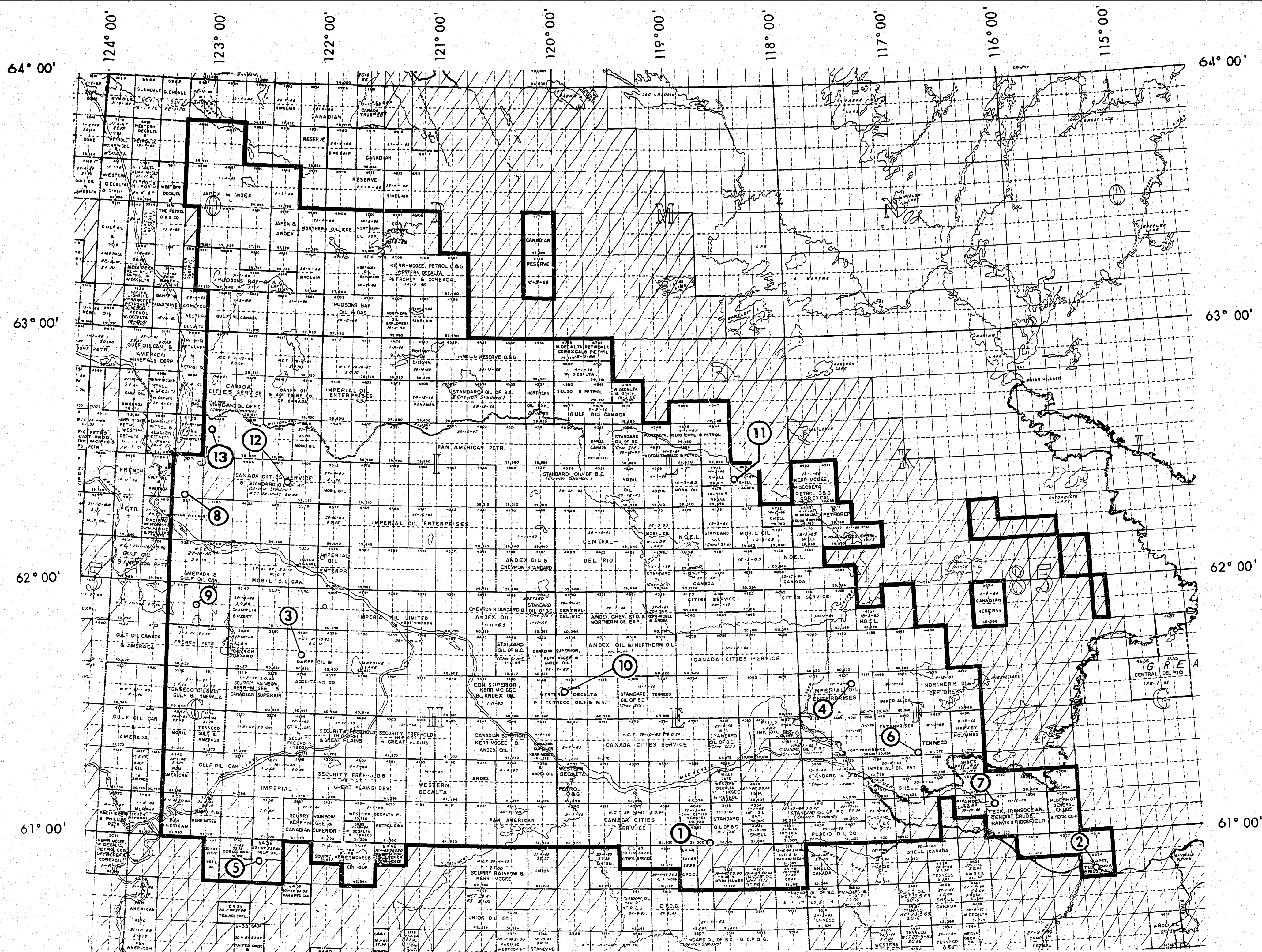
James A. Lewis Engineering Co. Ltd.

Section 4

WELL LOG DATA

Horn R Shell Levis D-76

Log	Scale	Interval
Induction Electric	2" & 5"/100'	1463 to 180'
Borehole Compensated Sonic Gamma Ray Caliper	2" & 5"/100'	1462 to 180'
Formation Density	2" & 5"/100'	1463 to 180'



Well Name	Location
1 Horn River GPD Noel et al RABBIT LAKE H-01	61° 00' 25", 118° 45' 13"
2 Horn River et al HAY RIVER B-52	60° 51' 04", 115° 40' 17"
3 Horn River Gulf Aquit. Antoine M-34	61° 43' 54", 122° 07' 09"
4 Horn River Placid IOE Mink Lake I-38	61° 31' 31", 117° 35' 51"
5 Horn River S.R. et al CORMACK C-65	60° 54' 13", 122° 27' 21"
6 Horn River et al IOE DEEP BAY D-01	61° 20' 18", 117° 00' 38"
7 Horn River et al BIG ISLAND P-78	61° 07' 47", 116° 28' 38"
8 Horn R Gulf Amerada BERRY ISLAND A-42	62° 21' 04", 123° 07' 43"
9 Horn R Amerada Gulf CLI LAKE M-05	61° 54' 58", 123° 01' 29"
10 Horn R Decalta et al TROUT R D-66	Grid: 61° 40', 119° 45'
11 Horn R Shell LEVIS D-76	Grid: 62° 30', 118° 15'
12 G-05	Grid: 62° 30', 122° 15'
13 D-57	Grid: 62° 40', 122° 45'

PROJECT AREA

SCALE: 1" = 16 miles

1 ST. COMMITTED WELL MAP
HORN RIVER RESOURCES LIMITED

"OPERATION REEF"
NORTHWEST TERRITORIES

AFTER FIELD TITLE SERVICE

DRAWN BY: JRL
DATE: 27 12 70
APPROVED BY:
DATE:

REVISED BY:
DATE:
APPROVED BY:
JOB NO 9708

JAMES A. LEWIS ENGINEERING
CO., LTD.
Petroleum Reservoir Analysis

T
O
U
R
I

MID1178 A1-3A

100

4 F

1

41

N

1

100

RIG. NO. 5 LOCATION 7201-1107-2000 DATE 11/1/68 TIME 11:00

NO.	LOCATION	DATE	LOG															CLASS	REMARKS	TIME			
			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	FROM	TO	RATE IN 16 PM			DESCRIPTION	DEPTH TO WATER IN FT.	START	STOP
TOUR 1	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	FROM	TO	RATE IN 16 PM	DESCRIPTION	DEPTH TO WATER IN FT.	START	STOP	INTERVAL	
			AF.	AT.		1301	1354																
			% LEFT	COND.	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.							
			BIT RECORD																				
			MUD	12MN.	2A.M.	4A.M.	6A.M.	PUMP	PUMP	SURVEY													
			WT.					PRESS	RPM	DEPTH	PRESS	RPM	DEPTH	AT	DEG.	LOG TO DEPTH							
			VISC.																				
			GEL.																				
			W.L.	F.C.	P.H.																		
			ADDITIVES: WATER																				
TOUR 2	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	FROM	TO	RATE IN 16 PM	DESCRIPTION	DEPTH TO WATER IN FT.	START	STOP	INTERVAL	
			AF.	AT.		1354	1450																
			% LEFT	COND.	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.							
			BIT RECORD																				
			MUD	8 A.M.	10A.M.	12 N.H.	2 P.M.	PUMP	PUMP	SURVEY													
			WT.					PRESS	RPM	DEPTH	PRESS	RPM	DEPTH	AT	DEG.	LOG TO DEPTH							
			VISC.																				
			GEL.																				
			W.L.	F.C.	P.H.																		
			ADDITIVES: WATER																				
TOUR 3	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	FROM	TO	RATE IN 16 PM	DESCRIPTION	DEPTH TO WATER IN FT.	START	STOP	INTERVAL	
			AF.	AT.		1450	1463	1463															
			% LEFT	COND.	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.							
			BIT RECORD																				
			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.																				
			GEL.																				
			W.L.	F.C.	P.H.																		
			ADDITIVES: WATER																				
TOUR 4	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	FROM	TO	RATE IN 16 PM	DESCRIPTION	DEPTH TO WATER IN FT.	START	STOP	INTERVAL	
			AF.	AT.		1450	1463	1463															
			% LEFT	COND.	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.							
			BIT RECORD																				
			MUD	4 P.M.	6 P.M.	8 P.M.																	

RIG. NO. 57 LOCATION Horn River Shell Levis D-26 PROJECT NO. DATE Feb. 16/71 LOCATION Levis D-26 PROJECT NO. DATE Feb. 16/71

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:		1065	1121								FROM 1/10 TIME	TO 1/10 TIME	DATE IN 10 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																			
	MUD	12 M.N.	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.	8.5	8.5	8.6	8.8	250	55	1075												
	VISC.	31	40	40	40															
	GEL																			
	W. L.	F.C.	P.H.																	
	ADDITIVES: WATER																			
1.	7 Sacs salt gel																			
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																	16 1/2		
HELPER	L. Bourassa																	12		
HELPER	L. Paranteau																	12		
HELPER	V. Higgins																	12		
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	STRATIGRAPHIC LOG	PUMP TEST	CLASS	REMARKS	TIME			
	AF:	AT:		1121	1145								FROM 1/10 TIME	TO 1/10 TIME	DATE IN 10 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																			
	MUD	8 A.M.	10 A.M.	12 N.M.	2 P.M.	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP	PUMP
	WT.		9.0	9.1	9.2	250	45	1150												
	VISC.		40	35	34															
	GEL																			
	W. L.	F.C.	P.H.																	
	ADDITIVES: WATER																			
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:																				
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:		1145	1301								FROM 1/10 TIME	TO 1/10 TIME	DATE IN 10 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																			
	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.		9.4	9.6	9.2	250	45	1200												
	VISC.		35	35	37															
	GEL																			
	W. L.	F.C.	P.H.																	
	ADDITIVES: WATER																			
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 Hutchinson																	7 1/2		
HELPER	W. Fedrark																	12		
HELPER	H. Theriault																	12		
HELPER	C. Hoffmann																	12		
TOTAL																				
INJURIES AND REMARKS:																				
TOTAL CONTRACT TIME _____ HRS. TOOLPUSHER OR DRILLER _____																				
TOTAL COMPANY TIME _____ HRS. APPROVED BY _____																				

T
O
U
R
1

MIDN.

10

8 A.M.

TO

2

11

T
O

4 P.M.

HC

3

11

	T
	O

MID

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----

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:		570	579								FROM 1 TO 1 RATE IN 16 PM	DESCRIPTION 1 DEPTH TO WATER IN FT.		Drilling	START 12:00	STOP 1:30	INTERVAL 1 1/2		
	% LEFT	COND	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.		Water Cost					
			2	6 1/4	K256A	98A	20	75	16		16 3/4					192.00					
	MUD			12MN.	2A.M.	4A.M.	6A.M.	PUMP			PUMP			SURVEY							
	WT.				PRESS			RPM	DEPTH	PRESS			RPM	DEPTH	AT	DEG.	LOG TO DEPTH				
	VISC.				250			50	650				546			30					
	GEL.				MOTOR HOURS			FUEL GALS.	NEXT OIL CHANGE AT			WEATHER			MIDN. 4A.M.						
	W.L.	F.C.			P.H.			DRILL			TEMPERATURE:			-10 -20							
	ADDITIVES: WATER	GA.			W. TRUCK			MOB. PUMP			WIND VELOCITY:			-							
1.				GENERAL			244			RAIN, SNOW, FOG, ETC.			-								
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																12					
HELPER L. Bourassa																13					
HELPER L. Parouton																12					
V. Higgins																12					
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	STRATIGRAPHIC LOG	PUMP TEST	CLASS	REMARKS	TIME				
	AF:	AT:		579	600								FROM 1 TO 1 RATE IN 16 PM	DESCRIPTION 1 DEPTH TO WATER IN FT.		Tip for bit	START 8:00	STOP 9:30	INTERVAL 1 1/2		
	% LEFT	COND	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.		Prime pump					
			3	6 1/4	DLV	17450	20	75	21		2					Beam one single	9:30	10:00	1/2		
	MUD			8A.M.	10A.M.	12N.P.	2P.M.	PUMP			PUMP			SURVEY							
	WT.				PRESS			RPM	DEPTH	PRESS			RPM	DEPTH	AT	DEG.	LOG TO DEPTH				
	VISC.				250			50	600												
	GEL.				MOTOR HOURS			FUEL GALS.	NEXT OIL CHANGE AT			WEATHER			8A.M. NOON						
	W.L.	F.C.			P.H.			DRILL			TEMPERATURE:			-15 20							
	ADDITIVES: WATER	GA.			W. TRUCK			MOB. PUMP			WIND VELOCITY:			10 5							
1. SAND	15 SAK			GENERAL						RAIN, SNOW, FOG, ETC.			-								
2. CAUSTIC	1 SAK																				
3. GEL	11 SAK																				
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	STRATIGRAPHIC LOG	PUMP TEST	CLASS	REMARKS	TIME				
	AF:	AT:		600	630								FROM 1 TO 1 RATE IN 16 PM	DESCRIPTION 1 DEPTH TO WATER IN FT.		Beam BARREL to Bottom	START 4:00	STOP 8:30	INTERVAL 4:30		
	% LEFT	COND	NO.	SIZE	TYPE	SER. NO.	WEIGHT	RPM	FT. DRILLED	REAMED	HRS.	FORM	% LEFT	COND.		Big SERVICE					
			636	7	EC916	12	80	30			3 1/4					CORE	8:30	8:45	15		
	MUD			4P.M.	6P.M.	8P.M.	10P.M.	PUMP			PUMP			SURVEY							
	WT.				PRESS			RPM	DEPTH	PRESS			RPM	DEPTH	AT	DEG.	LOG TO DEPTH				
	VISC.				600			50	600												
	GEL.				MOTOR HOURS			FUEL GALS.	NEXT OIL CHANGE AT			WEATHER:			4P.M. 8A.M.						
	W.L.	F.C.			P.H.			DRILL			TEMPERATURE:			-20 -25							
	ADDITIVES: WATER	GA.			W. TRUCK			MOB. PUMP			WIND VELOCITY:			5 mph							
1. SPERSENE	LSAK			GENERAL			256			RAIN, SNOW, FOG, ETC.			(-) (-)								
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 H. WHEELDON																12					
HELPER W. FEDORUK																12					
HELPER B. Theriault																12					
G. Hofmann																12					
TOTAL																					
INJURIES AND REMARKS:																					
DRILLER																					
COMPANY TIME												CONTR TIME									
TOTAL CONTRACT TIME												HRS.									
TOTAL COMPANY TIME												HRS.									
TOOLPUSHER OR DRILLER 1/4																					
APPROVED BY																					

[illegible]

T
O
U
R
I

MID

1

8 A.[illegible]8A

100

4.[illegible]

1

41

1

11

T
O
U
R
I

MID

1

8 A.[illegible]8A

100

4.[illegible]

1

41

1

11

PROJECT NO.

RIG. NO. 57 LOCATION HOAK RIVER SHOAL LEVIE D-786 DATE FEBRUARY 10 1971 LOCATION LEVIE D-78 DATE FEB 10/71

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:															START	STOP	INTERVAL
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
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:															START	STOP	INTERVAL