

FINA ET AL WILLOW LAKE

L-59

Drilling Authority No. L65
Date Issued 7 December 1970

WELL NAME Finnet al Willow Lake L-59
FIELD Area:
LOCATION: Unit I Section 59 Grid 62-10-121-45
Latitude 62-08-40 Longitude 121-56-00
U.W.L.R. 62-11-44 121-93333
U.W.S. 3001596210121450

Rig Release Date:

Status:

Information Release Date:

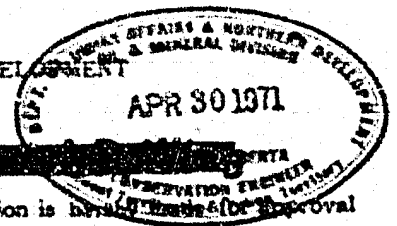
CHANGE OF NAME:

DATE RECEIVED	INDEX
<u>7-12-70</u>	Application for a Drilling Authority. Well Completion Data. Well History Report.
	Application to Amend a Drilling Authority.
	Application to change a Well Name.
<u>14-5-71</u>	Application to Abandon a Well or Suspend Drilling.
	Application to Alter Condition of a Well. Well History Supplement.
<u>29-4-71</u>	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. **465**

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 **FIDR ET AL WILSON CASE 1-79**
Location: Unit **L** Section **39** Grid **62°10' 121°45'**
Latitude **62°08'40"N** Longitude **121°05'00"W**
From Established Reference Marker **3008596210121450**
Universal Well Location Reference **Lat. 62.14444°N Long. 121.08333°W**
Permit No. **4376** Lease No. **-**

Imperial Oil Enterprises Ltd.
(Permitter, Licensee, Lessee)

Date of commencement of proposed program **February 25, 1971**

OIL, GAS, AND WATER ENCOUNTERED
(Depths)

Oil at **N/A**
Gas at **N/A**
Water at **N/A**
Total Depth **2750'** Date of last operations **February 26, 1971**
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. 9 5/8"	36# and 40#	606'	6'	500 sacks plus 2% CaCl₂	
2.					
3. Conductor Pipe					
4. 12"			12'	32 sacks cement + 3% CaCl₂	
5.					

PROPOSED ABANDONMENT PROGRAM

Plug		Geological Formation	Number of Sacks of Cement	Remarks
No.	Position			
1	2750' to 2100'	Chinichega	250 plus 4½ Gal	Tailed in with 10 sacks. Plug down 11.00 p.m. 25/2
2	650' to 550'	Fort Simpson	105 plus 2½ CaCl₂.	Plug down 9.00 a.m. 26/2
3	surface		5 sacks	Cut off casing 3' below ground. Welded on plate. Identification marker.

The following logs have been run: **US, BECSPEC, FD, SFP.**
Other operations proposed: _____

Operations to be carried out by **Commonwealth Drilling** Contractor Licence No. **931.**
Address **535 - 7 Avenue S. E., Calgary** Address _____
Responsible Agent in field **J. A. Ankla**
Dated at **Calgary, Alberta** this **27** Day of **April** 19 **71**
Signed by **J. G. Campbell** Company **Canadian Pipe Oil Limited**
Title **Drilling Superintendent** Operator's Exploratory Licence No. **3655**

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. B.H.J. Boers on the 27th February 1971.

Dated **14th May**, 19 **71**
Oil Conservation Engineer



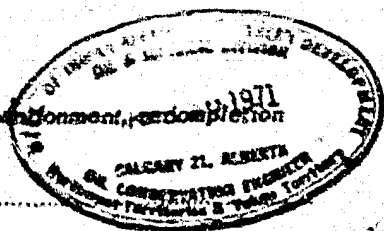
Drilling Authority No. 465
Date issued December 7, 1970

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT

REGULATORY AND COMPLIANCE DIVISION
OIL AND MINERAL DIVISION

WELL COMPLETION DATA

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



Well name and number **YFA ET AL WILLOW LAKE L-59**
Permit No. **4576** Lease No. **-**
Imperial Oil Enterprises Ltd. Exploratory Licence No. **1674**
(Permittee, Licensee, Lessee)
Canadian Film Oil Limited Exploratory Licence No. **1655**
(Operator)

Location: Unit **I** Section **59** Grid **62010 121045**
Latitude **62°08'40"N** Longitude **121°56'00"W**
From Established Reference Marker **3001596210121450**
Universal Well Location Reference **Lat. 62.144444N Long. 121.933333W**

	DATE	DEPTH	Pool(s)
			Interval(s) open to production
Spudded	Feb. 2/71		
Suspended	Jan. 31/71	started Conductor Hole.	
Resumed Operations			
Finished Drilling	Feb. 24/71	2750' Driller	
Deepened		2754' Logger	Elevation: Gr. 588' K.B. 601'
Complete (gas/oil?)			Rig No. 12
Abandoned	Feb. 25/71	2750'	Drilling Contractor Commonwealth Drilling (Western)
Rig released	Feb. 26/71	2750'	Contractor's Business Licence No. 931 Limited
		at 8.00 p.m.	

CASING RECORD

Casing Size (Inches)	Grade	Weight	Amount	Set at -	Sacks of Cement and Additives
1. 9 5/8"	K55	36# - 40#	606'	601'	500 sacks plus 2% CaCl ₂
2. Conductor Pipe					
3. 3 1/2"				18"	32 sacks cement + 3% CaCl ₂
4.					
5.					
6.					

GEOLOGICAL TOPS	ELEVATION		CORE RECORD					
	Depth	Sub-Sea	From	To	Rsc.	From	To	Rec.
Fort Simpson	Surface		1. 1300	1308	1.5	6. 2375	2387	10
Spence River	814	- 213	2. 1308	1324	14			
Hume	904	- 303	3. 1324	1368	36.5			
Headless	1269 1	- 668	4. 2245	2253	6.5			
Arctic	1230	- 689	5. 2340	2375	35'			
Chinichaga	1250	- 749						
Roaring	2258	- 1657						
Basal Clastics	2432	- 1831						
Pre-Cambrian	2714	- 2113						
TOTAL DEPTH	2750'							

CEMENTING RECORD (PLUG STOPPED IN H23)

CEMENTING RECORD (Plug, Spigot, Plug or Spigot)				PERFORATING RECORD (Guns, Jet)			
Date	From	To	Remarks	Date	From	To	Remarks
Feb. 25	2750	2100	250 plus 10 sacks plus 4 1/2 Gal. Plug down at 11.00 p.m. Felt @ 2030'	N/A			
Feb. 26	650	550	105 sacks plus 2 1/2 CaCl2 Plug down at 9.00 a.m. Felt @ 450'.				
Feb. 26	surface		5 sacks. Cut off casing 3' below ground. Welded plate - installed sign.				

DRILL STEM TESTS

[illegible]

ANALYST 918

ANALYSIS						PRESENT STATUS OF WELL			
Lab. No.	Sample	From	To	Source	Remarks				
933-1306	Water	2270	2387	DST #1 (B.J. Tool RFB #18)	Mailed analysis report March 23/71				
						Oil	(Interval)		
						Gas	(Interval)		
						Dry			
						Susp.			

CANADIAN FIRE OIL LIMITED

Company

J. G. Campbell

Signed by John J. Hall J. J. Hall
Drilling Superintendent

APR 11 29 1971

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

Drilling Authority No. 165

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: FIBA ET AL WILLOW LAKE L-59

Location: Unit I Section 59 Grid 62° 10' 121° 45'

Latitude 62° 08' 40" N Longitude 121° 56' 00" W

Unique Well Identifier 3001596210121450

Universal Well Location Reference 1st 62.1444° N Long 121.9333° W

Elevation: Ground 588 K.R. 600 feet above sea-level.

Well is expected to produce from Manitowish formation at a depth

of about 1350 feet. Expected total final depth 2850'

Area assigned to well:

(For Oil Conservation Engineer's use only)

Permit No. 4326 Lease No. - Acreage 59.968

Permittee, licensee, or lessee Imperial Oil Enterprises Ltd.

Exploratory License No. 1671

Surface owned by Crown or Crown

(If applicant 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	Grade of Cement
1. <u>9 5/8</u>	<u>36 & 40</u>	<u>K55</u>	<u>New & Used</u>	<u>600'</u>	<u>460</u>
2.	...	...	...	...	...
3.	...	...	...	...	...
4.	...	...	...	...	...
5.	...	...	...	...	...

Expected water, gas, and oil horizons and type of control equipment Manitowish, Boonville, and Cambrian.

Type "G", 10" x 900 Series Hydril, Sniffer Type B, 10" x 900 Series,

Double End Hydraulic Preventer.

Well will be drilled with Rotary Rig No. 12 by Commonwealth Drilling (Western) Limited
(Drilling Contractor or company)

Responsible agent of applicant:-

Contractor's business licence No. 931

At well J. A. Ankles

At registered office J. G. Campbell

Address 9th Flr. 726-8 Ave. S.W.

Address 9th Flr. 726-8 Ave. S.W., Calgary 2, Alberta

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

Dated at Calgary, Alberta, this 7th day of December, 19 70

Signed by J. G. Campbell Company CANADIAN FIBA OIL LIMITED

Title Drilling Superintendent Operator's Licence No. 1655

(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 Dughouse and the Drilling Foreman's Office between the spud and rig release dates.
2. The Company will submit to this office, on Tuesday of each week, the latest reports

Dated 7th December, 19 70

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, 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. ~~Pay close~~ ^{Pay} attention to Sections 75 and 76 of the Canada Oil and Gas Land Regulations.
5. All further strings of casing are to receive the approval of the Oil Conservation Engineer prior to running.

B.H. Thomas
B.H. Thomas, Oil Conservation Engineer

TRAIL RIVER AIRSTRIP

N

SEISMIC LINE 23

WELLSITE

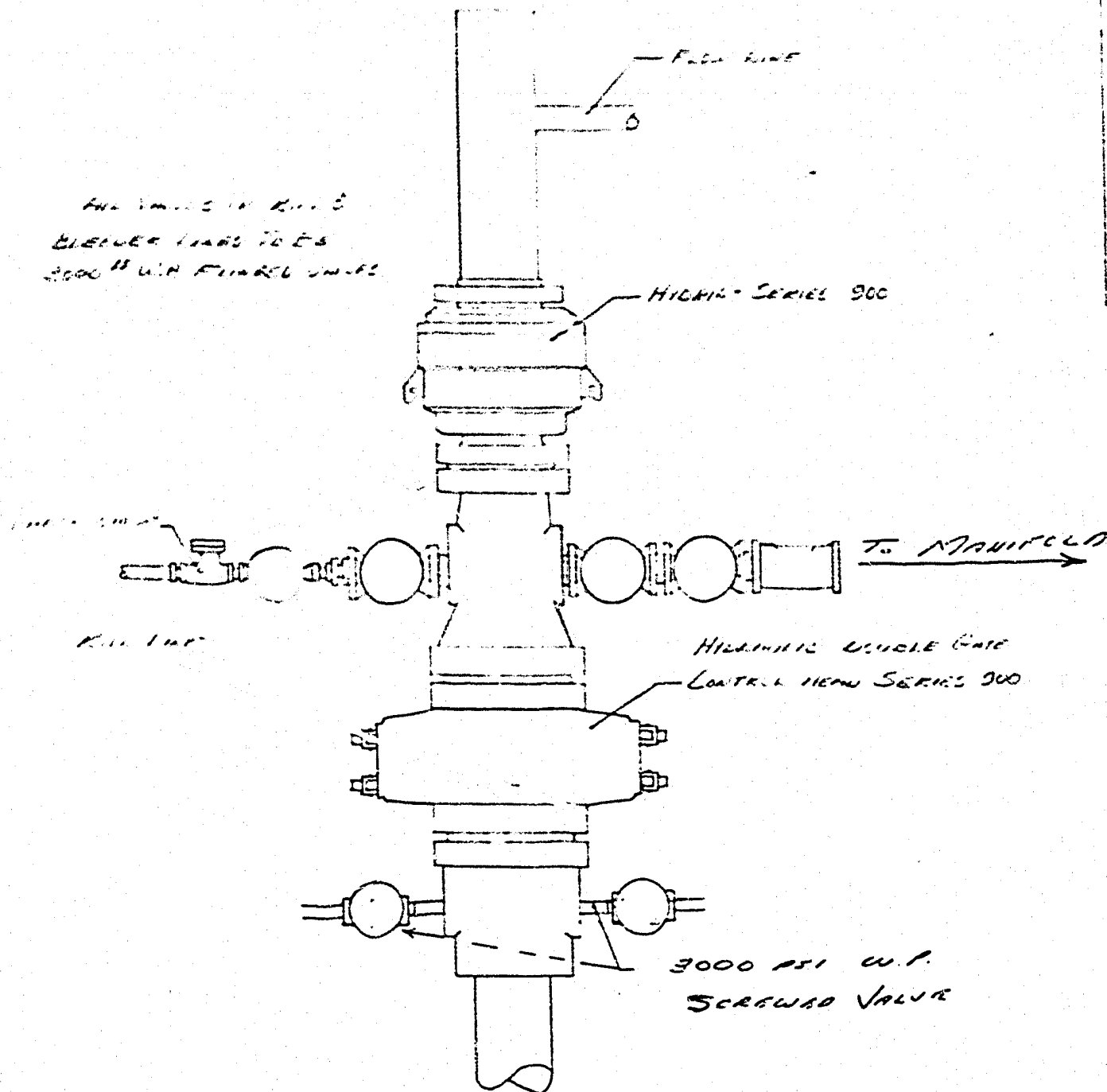
FINA ET-AL WILLOW LAKE L-59

WELL NAME: FINA ET-AL WILLOW LAKE L-59

LOCATION: L, SECTION: 59, GRID: 62°10', 121°45'

LATITUDE: 62°08'40" LONGITUDE: 121°56'00"

UNIVERSAL WELL LOCATION REFERENCE: SEISMIC LINE No. 23, S.P.#49



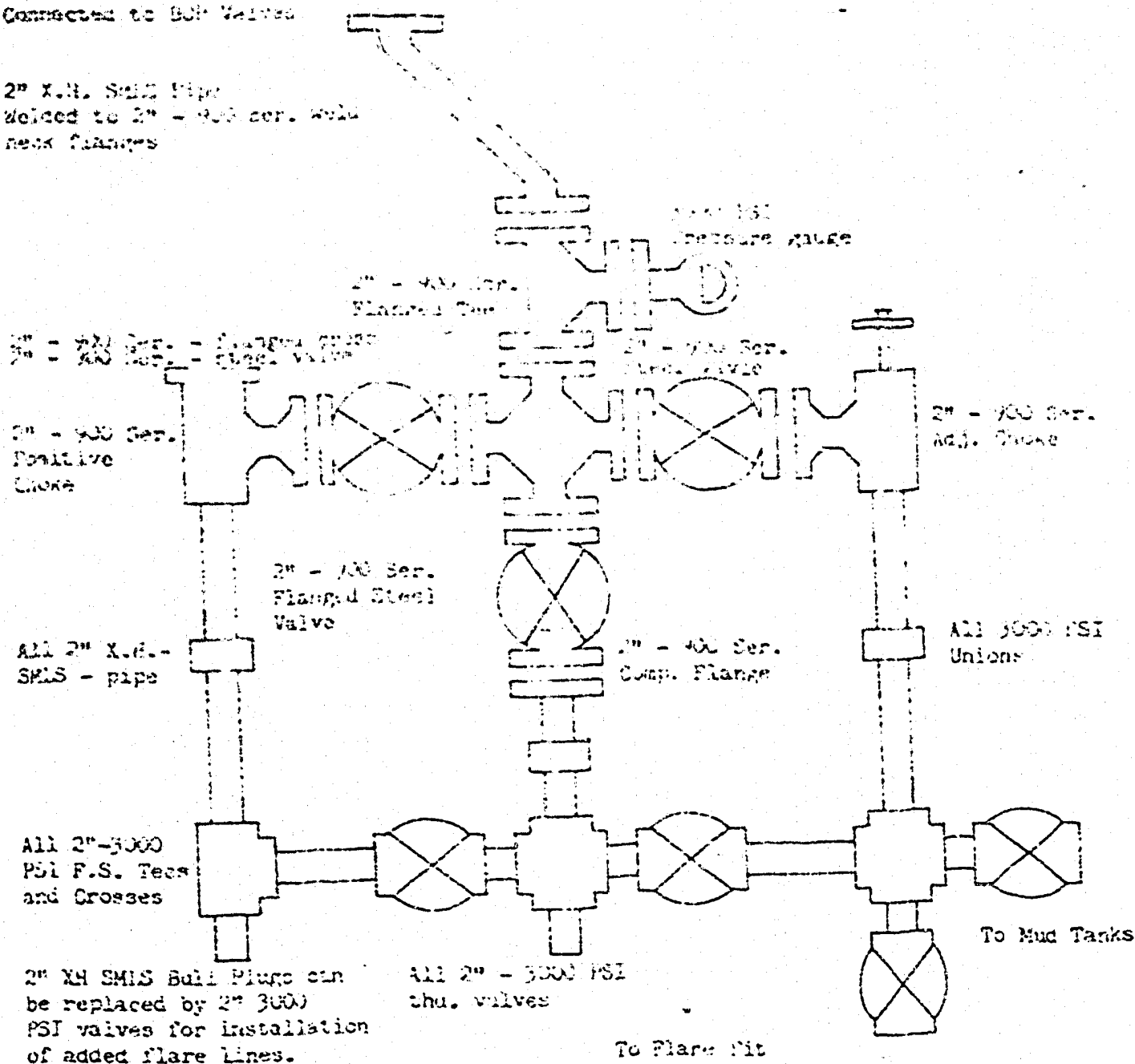
CANADIAN FINA OIL LIMITED
 BLOW-OUT PREVENTER HOOR-UP
 FOR
 FINA RT AL WILLOW LAKE J-66
 AND
 FINA RT AL WILLOW LAKE L-59

CAVADIAN FINE OIL LIMITED

WELL HEADS, MANIFOLDS

Connected to BOP Valves

2" X.H. SMIS Pipe
Welded to 2" - 900 ser. weld
neck flanges



This manifold can be constructed of 2" or 3" or
a combination of 2" and 3" fittings.

FOR USE AT

FINA RT AL WILLOW LAKE J-66

AND

FINA RT AL WILLOW LAKE L-58

GEOLOGICAL PROGNOSIS AND PROGRAMME

WELL NAME: Fina et al Willow Lake L-59 Line 23 Shot Point 49

LOCATION: L-59, 62°- 10' 121° - 45'

CO-ORDINATES:

ELEVATION: Ground: 588 feet (estimated)
 Kelly Bushing: 600 feet (estimated)

OPERATOR: Canadian Fina Oil Limited

	<u>Cost</u>	<u>Benefit</u>
PARTICIPATING COMPANIES: Canadian Fina Oil Limited	50%	25%
Canadian Superior Oil Ltd.	50%	25%
Imperial Oil Enterprises Ltd.	0%	50%

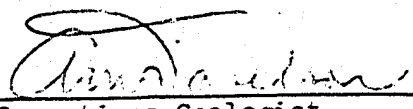
SUPERVISION: Geologist: Consultant
 Drilling Supv: J. Ankle

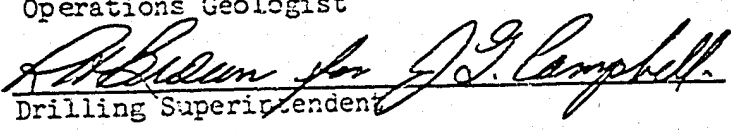
CONTRACTORS: Drilling: Commonwealth Drilling
 Cementing: Haliburton Services Ltd.
 Mud: International Drilling Fluids
 Coring: Johnston Testers
 Testing: Johnston Testers
 Logging: Schlumberger of Canada
 Core Analysis: Core Laboratories (Canada) Ltd. Edmonton
 Gas Analysis: Core Laboratories (Canada) Ltd. Edmonton
 Fluid Analysis: Core Laboratories (Canada) Ltd. Edmonton

OBJECTIVES: Main: Manetoe formation
 Secondary: Ronning formation, Cambrian sands.

TOTAL DEPTH: 2850 feet, approximately

Approved by:


 Operations Geologist


 Drilling Superintendent

WELL NAME:

Pina et al Willow Lake L-59

Line 23, Shot Point 40

LOCATION:

L-59, 52° - 10' 121° - 45'

Lsd. __, Section __, Township __, Range __, W __ Meridian

KB ELEVATION:

600 feet (estimated)

GEOLOGICAL PROGNOSIS

GEOLOGICAL MARKER	DEPTH	SUBSEA	MAXIMUM SHUT-IN PRESSURE
Drift	----	-----	
Simpson	163'	+ 437	
Spence River	850'	- 250	
Hume	950'	- 350	
Manetoe	1350'	- 750	
Chinchaga	1530'	- 930	
Ronning	2170'	-1570	1025 psi.
Basal Clastics	2370'	-1770	
Pre Cambrian	2840'	-2240	
Total Depth	2850'	-2250	

From several different seismic calculations using different velocity and time values, and from regional geological computations, the top Hume could be up to 100 feet higher than indicated in this prognosis.

GEOLOGICAL PROGRAMME

SAMPLES

Ten foot washed and bottled samples are to be caught as follows:

From surface casing shoe to total depth.

The Conservation Board's requirements will be made known later.

DRILLING TIMES

The rig will be equipped with a mechanical time drilling device .

CORING

A sixty foot (60') core of the Manetoe Dolomite formation should be taken immediately after recognition.

Coring of other prospective zones will depend on drill stem test results.

TESTING

A test will be run over the cored interval in the Manetoe formation.

The Ronning formation, if porous, should be tested after ten feet (10') of porous section has been penetrated. Other testing will be at the discretion of the wellsite geologist.

Cont'd.....

GEOLOGICAL PROGRAMME (cont'd)

LOGGING

- 1) Schlumberger - Dual Induction Laterolog from total depth to surface casing shoe 2" = 100 feet and 5" = 100 feet.
- 2) Schlumberger - BHC Sonic Log with Gamma Ray and Caliper from total depth to surface casing shoe 2" = 100 feet and 5" = 100 feet. This log is to be integrated.
- 3) Schlumberger - Compensated Formation Density Log from total depth to surface casing shoe 2" = 100 feet and 5" = 100 feet.
- 4) Schlumberger - Sidewall Neutron Porosity Log from total depth to surface casing shoe 2" = 100 feet and 5" = 100 feet.
- 5) Schlumberger - Synergetic Log System to be constructed 5" = 100 feet.

SPECIAL INSTRUCTIONS

1) Mud cake and mud filtrate samples will be taken 1 hour, 1/2 hour and immediately on coming out of the hole for logging. The resistivities of the samples should be measured and marked on the logs. The resistivities of drill stem test recoveries should be measured and marked on the logs.

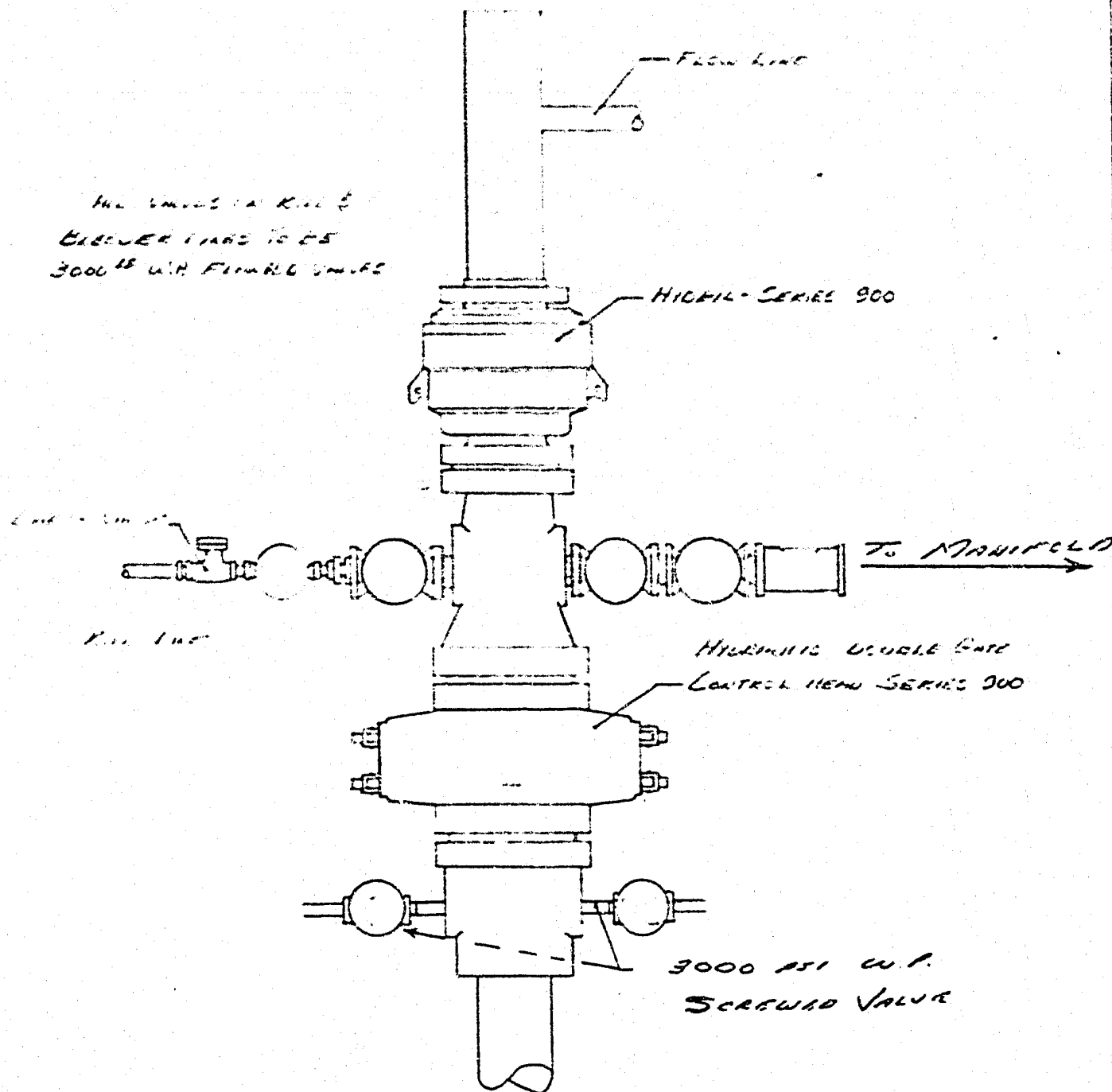
2) Cores, after completion of description, will be sent to Core Laboratories, Edmonton for analysis.

3) Seven (7) field prints of all logs are required, four (4) of these are to be marked in the usual manner. Three (3) unmarked sets and two (2) marked sets are to be forwarded to the Calgary office, as soon as possible. Two (2) marked sets are to be retained at the wellsite. Twelve (12) final prints of all logs are required.

4) Morning reports are to be called in to the Calgary office by 8:30 A.M.

5) Weekend calls to:

- | | |
|-------------------|------------|
| 1) A. M. Davidson | 249 - 5739 |
| 2) R. Morris | 249 - 7878 |
| 3) R. Thiers | 245 - 3866 |



CANADIAN FINA OIL LIMITED
 BLOW-OUT PREVENTER HOOK-UP
 FOR
 FINA RT AL WILLOW LAKE J-66
 AND
 FINA RT AL WILLOW LAKE L-59

690-11-4

FINA et al WILLOW LAKE 1-59

690-11-4-

FINA et al WILLOW LAKE L-59

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No completion attempted	



Section I

(a) Well Name and No.

FINA et al WILLOW LAKE L-59

(b) Permittee

Imperial Oil Enterprises Ltd.

(c) Name of Operator

Canadian Fina Oil Ltd.
735 Eighth Avenue S.W.
Calgary 2, Alberta

(d) Location

Unit L, Section 59, Grid 62-10-121-45
Latitude 62° 08' 40" N; Longitude 121° 56' 00" W.
Universal Well Location Reference No.
Lat. 62.14444°N. Long. 121.93333°W.

(e) Co-ordinates

Does not apply - not a development well.

(f) Permit or Lease No.

Permit No. 4376

(g) Drilling Contractor

Commonwealth Drilling (Western) Ltd.
Rig No. 12; Make: Unit, Model 34

(h) Drilling Authority

No. 465 issued December 7, 1970.

(i) Classification

New field wildcat

(j) Elevations

Ground: 588' K.B. 601'

(k) Spud Date

February 2, 1971 (Started Conductor Hole Jan. 31/71)

(l) Completed Drilling

February 24, 1971

(m) Total Depth

2750 Driller
2754 Schlumberger

(n) Well Status

Dry and abandoned

(o) Rir Release Date

February 26, 1971

(p) Hole Size

13-3/4 inch from surface - 605 K.B.
8-3/4 inch from 605 - 2750 K.B.

(q) Casing

9-5/8 inch, 40 and 36 lb. to 601 K.B.
18" conductor pipe was run to 18' and cemented with 32 sacks cement
plug 3% CaCl_2 .

Section II(a)

<u>Formation</u>	<u>Sample Tops</u>		<u>Log Tops</u>	
	<u>Depth</u>	<u>Datum</u>	<u>Depth</u>	<u>Datum</u>
Simoson	150	+ 451	-	-
Spence River	810	- 209	814	- 213
Hume	895	- 294	904	- 303
Headless	1260	- 659	1269	- 668
Arnica	1280	- 679	1290	- 689
Chinchaga	1355	- 754	1350	- 749
Ronning	2270	-1669	2258	-1657
Basal Clastics	2420	-1819	2432	-1831
Pre-Cambrian	2710	-2109	2714	-2113
Total Depth	2750 (Driller) 2754 (Schlumberger)			

CORED INTERVALS

<u>Core No.</u>	<u>Interval</u>	<u>Formation</u>	<u>Recovery (ft.)</u>
1	1300-08	Arnica	1.5
2	1308-24	Arnica	14
3	1324-68	Arnica and Chinchaga	36.5
4	2245-53	Chinchaga	6.5
5	2340-75	Ronning	33
6	2375-87	Ronning	10

CORE RECORDCORE NO. 1

Formation: ARNICA
Interval: 1300-08 feet (8')
Recovered: 1.5 feet (14 $\frac{1}{2}$)

CORING TIMES:

1300-01	15 mins.
-02	28 "
-03	28 "
-04	24 "
-05	32 "
-06	37 "
-07	39 "
-08	28 "

CORE DESCRIPTION:

1.5 ft. DOLOMITE: dark brown, micro-crystalline, argillaceous: thin veins and large lenses (to 2 in.) of white, coarse crystalline DOLOMITE and CALCITE. Tight except for a few isolated small vugs in white zones. Strong odor of sour gas when first broken. No other traces of hydrocarbons. Appears to be a breccia.

CORE RECORD

CORE NO. 2

Formation: ARNICA

Interval: 1308-24 feet (15')

Recovered: 14 feet (88%)

CORING TIMES:

1308-09	16 mins.	1316-17	21 mins.
10	21 "	18	24 "
11	30 "	19	22 "
12	24 "	20	25 "
13	25 "	21	31 "
14	25 "	22	33 "
15	20 "	23	46 "
16	25 "	24	38 "

CORE DESCRIPTION:

16 ft. DOLOMITE, dark brown, micro to very fine crystalline, argillaceous. Abundant thin veins and a few large lenses of white, coarse crystalline.

Several thin, black, bituminous zones in lower two-thirds, and one zone near middle with inclusions of light gray sand.

Most of core is fractured at all angles; takes on brecciated appearance in a few places.

Devoid of porosity except for isolated vugs within white, coarse crystalline in lower 5 ft.

CORE RECORD

CORE NO. 2

Formation: ARNICA

Interval: 1308-24 feet (16')

Recovered: 14 feet (88')

CORING TIMES:

1308-09	16 mins.	1316-17	21 mins.
10	21 "	18	24 "
11	30 "	19	22 "
12	24 "	20	25 "
13	25 "	21	31 "
14	25 "	22	33 "
15	20 "	23	45 "
16	25 "	24	38 "

CORE DESCRIPTION:

16 ft. DOLOMITE, dark brown, micro to very fine crystalline, argillaceous. Abundant thin veins and a few large lenses of white, coarse crystalline.

Several thin, black, bituminous zones in lower two-thirds, and one zone near middle with inclusions of light gray shale.

Most of core is fractured at all angles; takes on brecciated appearance in a few places.

Devoid of porosity except for isolated vugs within white, coarse crystalline in lower 5 ft.

CORE RECORD

CORE NO. 3

Formation: ARNICA and CHINCHAGA
Interval: 1324-68 feet (44 ft.)
Recovered: 36.5 feet (83%)

CORING TIMES:

20, 12, 17, 14, 17, 18, 16, 19, 23, 22, 21,
25, 25, 24, 23, 22, 26, 24, 23, 22, 21, 25,
29, 20, 25, 25, 21, 22, 20, 23, 22, 23, 22,
22, 20, 20, 37, 25, 23, 17, 20, 20, 15, 15.

CORE DESCRIPTION:

1324-30 6 ft. DOLOMITE, light-dark brown, micro-very fine crystalline; few thin veins of white, coarse crystalline. Thin partings of SHALE, dark gray, waxy. Poor inter-crystalline porosity and a few pin point vugs in top half.

1330-32 2 ft. CONGLOMERATE, gray and brown DOLOMITE pebbles in matrix of dark brown DOLOMITE and gray SHALE. Tight.

1332-43 11 ft. DOLOMITE, light gray-tan, micro-crystalline, calcareous, with abundant thin, dark gray, argillaceous zones; several stylolites; tight.

1343-55 12 ft. DOLOMITE, dark brown, micro-very fine crystalline, argillaceous; scattered inclusions of coarse crystalline, white and sometimes black (pyro-bitumen?). Abundant thin, black bituminous partings; several beds of gray SHALE, 1-4 inches thick. Tight.

1355-68 13 ft. ANHYDRITE, dark gray-black, argillaceous and bituminous; some mottling of light brown, clean; dolomitic in places. Grades from very fine crystalline at top to crypto-crystalline at base. Tight.

CORE RECORD

CORE NO. 4

Formation: CHINCHAGA
Interval: 2245-53 feet (8')
Recovered: 6.5 feet (81%)

CORING TIMES:

2245-45	21 mins.
47	23 "
48	47 "
49	22 "
50	28 "
51	29 "
52	31 "
53	36 "

CORE DESCRIPTION:

2245-48 3 ft.

DOLOMITE, light gray, micro-crystalline, anhydritic; inclusions and thin partings of gray to black marl. Tight.

2248-53 5 ft.

ANHYDRITE, brown, very fine-fine crystalline with black, marly inclusions and thin partings. Zones of dark brown with isolated vugs (up to 1/2 inch) alternate with zones of light brown, dolomitic. Vugs often contain clear anhydrite crystals.

CORE RECORD

CORE NO. 5

Formation: ROWING

Interval: 2340-75 feet (35')

Recovered: 33 feet (94%)

CORING TIMES:

19, 23, 19, 23, 22, 21, 21, 19, 21, 20,
27, 27, 26, 24, 22, 21, 22, 27, 33, 28,
28, 32, 34, 31, 31, 37, 38, 31, 30, 30,
27, 32, 32, 32, 48.

CORE DESCRIPTION:

2340-50 10 ft.

DOLOMITE, dark brown, very fine crystalline, slightly argillaceous, with very thin lenses of soft, black, carbonaceous matter; abundant pyrite well disseminated as fine crystals; random patches of disseminated anhydrite. Good vugular porosity. A few cavernous vugs several inches across; numerous smaller vugs (1/4 to 1 inch). Vugs filled with large, clear dolomite rhombs. No stain or fluorescence.

2350-62 12 ft.

DOLOMITE, as above except porosity reduced; vugs fewer and smaller.

2362-75 13 ft.

DOLOMITE, as above, but with anhydrite absent and porosity reduced to poor - only a few vugs of up to half inch. Contains numerous cream-coloured blebs of irregular shape and up to 2 inches across; appear to be a silicified lime mud and contain fossils (ostracods?).

Throughout the core, matrix between vugs is devoid of any porosity or permeability.

CORE RECORD

CORE NO. 6

Formation: RONNING

Interval: 2375-87 feet (12')

Recovered: 10 feet (83%)

CORING TIMES:

2375-76	17 mins.	2383-84	9 mins.
77	16 "	85	10 "
78	7 "	86	12 "
79	10 "	87	21 "
2379-80	12 "		
81	12 "		
82	11 "		
83	12 "		

CORE DESCRIPTION:

2375-80 5 ft.

DOLOMITE, dark brown to gray, very fine crystalline; slightly argillaceous and containing abundant thin lenses and stylolites of soft, black, carbonaceous matter. A few blebs of cream, silicified lime mud with scattered ostracods. Occasional small patches of tan, earthy anhydrite.

2380-87 7 ft.

DOLOMITE, as above, with absence of cream blebs and addition of abundant white, well disseminated as small cubes. Large fossil (stromatolite?) at 2383-84.

Porosity throughout classed as very poor; a few small vugs (1/4 inch). No stain.

SAMPLE DESCRIPTION

- 10 - 110 GRAVEL, ranges from coarse grains to large pebbles. Predominantly quartz, clear, sub-rounded. Minor feldspar, orange and red. Both quartz and feldspar contain biotite and mafic minerals in places. Scattered pieces of dark brown limestone and tan chert.
- 110 - 130 GRAVEL, as above (50%), and SHALE, light gray (50%).
- 130 - 150 SHALE increasing to 80% of sample.
- FT. SIMPSON: 150'
- 150 - 330 SHALE, light gray, blocky, soft, micro-micaceous.
- 330 - 390 SHALE, as above, with a few thin beds SHALE, olive brown.
- 390 - 500 SHALE, light gray, as above, with occasional limy spot.
- 500 - 670 SHALE, light gray, micro-micaceous, with some interbeds SHALE, green gray, smooth.
- 670 - 780 SHALE, light gray, with green gray siliceous zones containing flakes muscovite and small black spots.
- 780 - 810 SHALE, light gray with minor black, bituminous (10-30%).
- SPENCE RIVER: 810' (no drilling break)
- 810 - 90 SHALE, brown black with muscovite and a little pyrite. Traces LIMESTONE, buff, earthy in lower 20 ft.
- HUME: 895' (good slow drilling break)
- 890 - 900 SHALE, black, as above. (poor sample - caught after trip at 899).
- 900 - 50 LIMESTONE, dark brown argillaceous with minor tan, clean earthy; cryptocrystalline; few brachiopods; tight.
- 950 - 1030 LIMESTONE, mostly tan earthy; very minor development of fine-medium crystalline; fine skeletal framework on a few pieces. Thin beds black SHALE and LIMESTONE. Tight.

- 1030 - 70 LIMESTONE, dark brown argillaceous with minor tan earthy; micro-crystalline with spotty development of fine-medium crystalline on dark brown; earthy, a lime mud with crystalline development. Trace inter-crystalline porosity in fine-medium.
- 1070 - 80 DOLOMITE, dark brown, fine crystalline, argillaceous, calcareous, with poor porosity.
- 1080 - 1110 LIMESTONE, dark brown dirty with minor tan earthy as above. Dark is micro-crystalline; tan is dense with some skeletal debris. Tight. Thin beds bituminous SHALE and LIMESTONE.
- 1110 - 60 As above but earthy decreasing and dark brown becoming very fine crystalline. Tight.
- 1160 - 1200 LIMESTONE, medium brown, crypto-crystalline; clean and hard; siliceous in spots. Tight.
- 1200 - 60 Generally as above with minor buff chalk and a few thin beds bituminous SHALE.
- HEADLESS: 1260'
- 1260 - 70 SHALE, pale green, smooth, with some pyrite. (30% of sample; remainder LIMESTONE as above).
- 1270 - 80 MARL, light gray, smooth, calcareous, with pyrite. (80% of sample).
- MANETOE: 1280' (no drilling break)
- 1280 - 90 DOLOMITE, mostly brown with some milky white; coarse crystalline; well cemented and tight. Minor LIMESTONE as in 1160-1260; minor pyrite. No stain or fluorescence.
- 1290 - 1300 DOLOMITE, medium brown, micro-crystalline with spotty development of fine-medium crystals; a few large white crystals; no apparent porosity; no stain.
- CORES NO. 1, 2 and 3: 1300-68 (see separate description - Section II(c))
- 1300 - 55 DOLOMITE, mostly dark brown, argillaceous; some light brown clean; micro-very fine crystalline. Abundant thin partings of black bitumen and dark gray SHALE. Veins and inclusions of white, coarse crystalline DOLOMITE. Most of core fractured and brecciated. Poor porosity in one 5 ft. zone.

CHINCHAGA: 1355 (no change in coring time)

- 1355 - 68 ANHYDRITE, dark gray, crypto-very fine crystalline, dirty; dolomitic in places.
- 1368 - 1400 ANHYDRITE (100%); mostly tan to dark gray, crypto to micro-crystalline; some white, very fine crystalline.
- 1400 - 70 DOLOMITE (60-80%); light to dark brown; micro to medium crystalline with varying amounts of anhydrite infill; poor porosity in fine-medium crystalline. Remainder ANHYDRITE, white sucrosic to tan and gray.
- 1470 - 1510 ANHYDRITE (60-80%); white sucrosic to light gray, very fine crystalline. Remainder DOLOMITE, brown, anhydritic and tight.
- 1510 - 20 DOLOMITE (70%); light brown, crypto-crystalline; siliceous and very hard; tight.
- 1520 - 30 ANHYDRITE (70%); white, very fine crystalline.
- 1530 - 90 DOLOMITE (80-90%); light-dark brown, crypto-micro crystalline; anhydritic and hard; tight. Remainder ANHYDRITE.
- 1590 - 1700 ANHYDRITE, tan, crypto-micro crystalline, dolomitic in places. Tight.
- 1700 - 1950 As above, together with some dark gray, argillaceous.
- 1950 - 60 ANHYDRITE, tan, very fine to fine crystalline, dolomitic; semi-sucrosic with poor inter-crystalline porosity.
- 1960 - 80 ANHYDRITE, mixture of above plus white sucrosic and dark gray, micro-crystalline.
- 1980 - 2000 ANHYDRITE, light to dark brown, bituminous; fine crystalline, semi-sucrosic with poor to fair porosity; dolomitic (has appearance of a dolomite).
- 2000 - 30 ANHYDRITE, light brown to dark gray dirty, crypto-crystalline; dolomitic in places.
- 2030 - 40 DOLOMITE, tan, very fine crystalline, anhydritic; sucrosic with poor porosity.
- 2040 - 2130 ANHYDRITE, dark brown to dark gray dirty, crypto-crystalline; thin black bituminous partings.
- 2130 - 2180 ANHYDRITE, light to dark brown, crypto-crystalline; dolomitic areas ranging from buff earthy to brown, fine crystalline. A few bituminous zones.

- 2180 - 2220 ANHYDRITE, white through various shades of brown and gray, crypto-micro crystalline, earthy in part; becoming very dolomitic.
- 2220 - 40 DOLOMITE, buff earthy to tan and gray; crypto-micro crystalline; anhydrite disseminated and also present as pure white inclusions. Tight.
- 2240 - 45 DOLOMITE, buff to light gray, micro crystalline; minor ANHYDRITE, white earthy (distinctly different appearance from samples 2180-2240). Tight.

CORE NO. 4: 2245-53 (see detailed description - Section II(c))

3 ft. DOLOMITE, as above, 2240-45.
5 ft. ANHYDRITE, brown, fine crystalline; isolated vugs and black marly inclusions.

- 2253 - 70 ANHYDRITE, tan earthy to dark brown; micro-very fine crystalline, very dolomitic; small inclusions of bituminous material; trace vugular porosity.

RONNING: 2274' (fair fast drilling break)

- 2270 - 90 DOLOMITE, light brown, very fine-fine crystalline; very anhydritic. Spotty development of bituminous material within dolomite. Occasional development of clear rhombs with dead oil stain. Trace to poor vugular porosity; no fluorescence. Very minor pyrite as cubes.

- 2290 - 2340 As above, becoming darker brown with increasing black bituminous material. Trace only of vugular porosity. Anhydrite content gradually decreasing.

CORES NO. 5 and 6: 2440-87' (see detailed description - Section II(c))

- 2340 - 87 DOLOMITE, dark brown, very fine crystalline, slightly argillaceous, thin lenses soft, black, carbonaceous matter; disseminated pyrite; anhydritic patches. Lower half has blebs of cream, silicified lime mud. Porosity vugular, grading from good at top to very poor at base. No stain or fluorescence.
- 2387 - 2420 As above, with minor buff and smoky chert; rock appears lighter colour than in core. Occasional white, coarse dolomite crystals indicating a few large vugs.

2420 - 30 SHALE, black, silty and dolomitic, with minor pyrite.

2430 - 40 SHALE, gray, soft, and ANHYDRITE, cream to gray.
BASAL CLASTICS: 2441' (good fast drilling break)

2440 - 80 QUARTZITE, clear, coarse grained, vitreous; minor white clay. Tight.

2480 - 90 SHALE, gray, soft, with minor limestone, anhydrite, and quartz pebbles.

2490 - 2500 SANDSTONE, medium grained, with dolomitic cement and thin beds DOLOMITE: mottled buff to light orange. Tight.

2500 - 10 As above, plus minor anhydrite and gray shale.

2510 - 20 DOLOMITE and ANHYDRITE, buff to gray, with minor quartz pebbles and gray shale.

2520 - 40 QUARTZ pebbles; large and frosted; minor quartzite, becoming light red; traces light green and maroon shale.

2540 - 50 DOLOMITE, brown, anhydritic; minor quartz pebbles and sandstone.

2550 - 80 SANDSTONE and QUARTZITE; white to clear colourless, medium to coarse grained; large, loose pebbles (possible porosity - fast drilling).

2580 - 2710 QUARTZITE and SANDSTONE, clear, vitreous and colourless to light red and maroon; fine to coarse grained with light red, maroon and purple argillaceous zones; occasional interbeds of dolomite and anhydrite. Tight.

PRE-CAMBRIAN: 2710'

2710 - 30 IGNEOUS; crystalline rock; mostly dark green - some maroon; rather soft feldspars (basic?) with about 20% dark mafic minerals; quartz rare. Partially weathered - turning to clay.

2730 - 50 PARA-SEDIMENT (?); buff to maroon or purple; quartzite plus what appear to be highly indurated anhydrites and dolomites. Some weathered dark green and black as above.

TOTAL DEPTH: 2750'

DRILL STEM TEST RECORDDRILL STEM TEST NO. 1

Formation: RONNING
Interval: 2270-2387 ft. (117')
Duration: PF 7 min. ISI 58 min.
VO 60 " FSI 117 "
Results: Strong air blow on pre-flow;
initial strong air blow on M.F. -
weak in 15", dead in 30".
Recovered: 1120 ft. mud and 990 ft. slightly
muddy salt water.
Pressures: ISIP 1035 IFP 927 IHP 1218
FSIP 1040 FFP 1037 FHP 1218

DRILL STEM TEST NO. 2

Formation: ARNICA
Interval: 1320-70 ft. (50')
Duration: PF 10 min. ISI 59 min.
VO 59 " FSI 111 "
Results: Weak air blow on pre-flow; weak
air blow on main flow - died in
20 min.
Recovered: 30 ft. mud.
Pressures: ISIP 380 IFP 69 IHP 730
FSIP 540 FFP 60 FHP 730

CASING RECORD

Ran and cemented 18" conductor pipe at 18' with 32 sacks cement + 3% CaCl_2

Ran 19 joints (606 ft.) of 9-5/8 inch, 40 and 36 lb., K-55, LT & C plus ST & C, R. 2 & 3.

Cemented at 601 ft. K.B. with 500 bags construction cement plus 2% CaCl_2 .

Plug down 2:36 P.M. February 5, 1971.

BIT RECORD

<u>No.</u>	<u>Size (Ins.)</u>	<u>Type</u>	<u>Make</u>	<u>Serial No.</u>	<u>Depth Out</u>	<u>Feet</u>	<u>Hours</u>
1A	13.75	OSC3J	Hughes	27007	417	417	43-3/4
2A	13.75	DSTJ	Smith	FT250	605	188	20-1/4
1	8.75	STLACT	Reed	684185	999	294	13-1/2
2	8.75	V2HJ	Smith	DV685	1033	134	16-1/4
3	8.75	5JS	Smith	FV589	1300	267	23
CH1	6.125	CORE.H	Christ- ensen	65740	1370	70	
4	8.75	W4HJ	Smith	FF266	1370	Reamed 70' in 11-1/4 hrs.	
RR3	8.75	5JS	Smith	FV589	1779	409	57
5	8.75	4JS	Smith	FW307	2245	466	67-1/2
CH2	6.125	CORE.H	Christ- ensen	6110	2253	8	4-3/4
RR4	8.75	W4HJ	Smith	FF266	2260	Reamed 8' Drilled 7'	
RR3	8.75	5JS	Smith	FV589	2340	80	9-1/2
CH1	6.125	CORE.H	Christ.	65740	2375	35	17-1/4
6	8.75	WDRJ	Hughes	26440	2375	Reamed 35' in 6-1/2 hrs.	
CH3	6.125	CORE.H	Christ.	FC27102	2387	12	3
RR4	8.75	W4HJ	Smith	FF266	2387	Reamed 12'	
RR3	8.75	5JS	Smith	FV589	2602	215	30-1/2
7	8.75	5JS	Smith	FW729	2750	148	28-3/4

MUD REPORTMud Additives

Barytes	14,800 lbs.
Bicarb	200 "
Caustic Soda	700 "
CMC reg.	200 "
Hydrogel	24,900 "
Lime	200 "
Peltex	500 "
Plaster of Paris	850 "
Preservative	250 "
Sawdust	81 bags
Soda Ash	1,000 lbs.
Starch	9,600 "
De-Foamer	4 gals.
Salt Gel	5,200 lbs.
Dowcite B	200 lbs.

DEVIATION RECORD

<u>Depth</u>	<u>Deviation - degrees</u>
138	3/4
165	3/4
193	1/2
222	1/2
249	1
277	3/4
309	1/4
340	1
372	3/4
404	3/4
434	1
465	1
496	3/4
528	3/4
559	1-1/2
591	1
665	1
728	1/2
760	1
790	3/4
820	3/4
853	1/4
884	3/4
938	3/4
1001	1/2
1033	3/4
1064	1/2
1300	3/4
1779	3/4
2245	2
2602	1-1/2

ABANDONMENT PLUGS

Plug No. 1: 2750-2100

10 bags neat cement ahead plus 240 bags cement with 4% gel, tailed in with 10 bags neat cement. Plug down 11 p.m., February 25, 1971. Felt plug at 2080 (20 ft. high), 7 a.m., February 26, 1971.

Plug No. 2: 650-550

105 bags cement plus 2% CaCl_2 . Plug down 9 a.m., February 26, 1971. Felt plug at 450 (100 ft. high due to excess cement), 5 p.m., February 26, 1971.

Plug No. 3:

Ran cement plug at top of surface casing.

Section III(g)

LOST CIRCULATION ZONES

Lost circulation at 2387 ft. Lost approximately 50 barrels of mud. Added 13 bags sawdust and regained circulation in 2 hours.

LOGS all run over the interval 601-2753'
on February 24, 1971.

1. Induction Electric (IES)
2. Bore Hole Compensated Sonic (BHC-GS)
3. Formation Density (FD)
4. Sidewall Neutron Porosity (SNP)
5. Lithology Overlay or Synergistic

Logs 1 through 4 run on both 2-inch and 5-inch = 100 ft.
Scales from surface casing (601) to 2754 T.D.

Logs 2, 3 and 4 run with gamma and caliper curves.

Log 5 is composite of logs 3 and 4.

Total Depth 2754 ft. - Logger

All logs run by Schlumberger of Canada Ltd.



CORE LABORATORIES - CANADA LTD.

PETROLEUM RESERVOIR ENGINEERING

WATER ANALYSIS

Section V(b)



File 933-1306 Page 1 of 1

Company Canadian Fina Oil Limited

Well Fina et al Willow Lake L-59 K.B. Willow Grd. 588'

Location 62 08'40.00 N.L. 121 56'00.00 W.L. Field Lake Area Province N.W.T.

Formation Interval 2270' - 2387'

Sampled from DST #1 (BJ Tool RFS #18) by

Date sampled Feb. 21/71 Date analyzed Mar. 16/71 Analyst AH

Recovery Tool Recovery: 3000 cc Water
DST Recovery: 2050' Liquid

Mud type Water cushion

Resistivity 0.051 Ohm-meters @ 67 °FSpecific gravity 1.1269 @ 60°FpH 6.70 H₂S AbsentRefractive Index 1.363 @ 67°F

Total Solids:

Calculated 182,260 mg/literBy evaporation @ 110°C - mg/literBy evaporation @ 180°C - mg/literAt ignition - mg/liter

MILLIGRAMS PER LITER

Na + K	Ca	Mg	Fe	Ba	Br	I	Cl	HCO ₃	SO ₄	CO ₃	OH
66893	3484	464	Pres.	Abs.	-	-	108565	93	2761	Nil	Nil

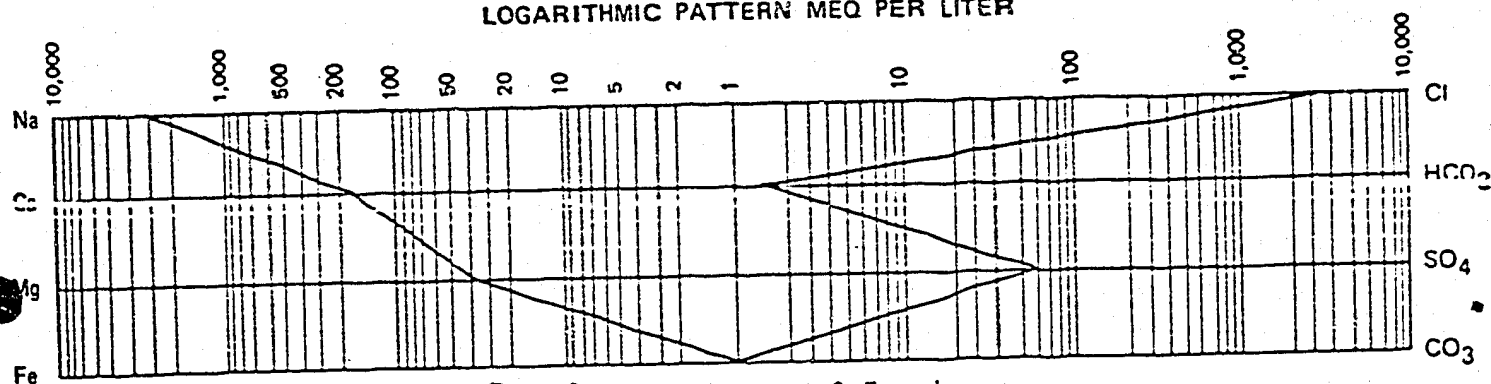
PER CENT CALCULATED SOLIDS

36.7	1.9	.3	Pres.	Abs.	-	-	59.6	.1	1.5	.0	.0
------	-----	----	-------	------	---	---	------	----	-----	----	----

MEQ PER LITER

2908.4	173.9	38.1	Pres.	Abs.	-	-	3061.5	1.5	57.4	.0	.0
--------	-------	------	-------	------	---	---	--------	-----	------	----	----

LOGARITHMIC PATTERN MEQ PER LITER



Remarks: Tool opened @ 5 psig

181102. 66893.0

Well Name FINA ET AL WILLOW LAKE

Test No. 1

Well Number L-59

Zone Tested RONNING

Company CANADIAN FINA OIL LIMITED

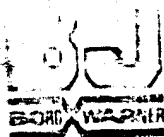
Interval 2270 - 2387

Comp. Rep. J. ANKLE

Tester C. MILLER

Date FEB. 21, 1971

BJ SERVICE DIVI
BORG-WARNER (CANADA)



DRILL-STEM TEST DATA

Well Name FINA ET AL WILLOW LAKE

Test No. 1

Well Number L-59

Zone Tested RONNING

Company CANADIAN FINA OIL LIMITED

Interval 2270 - 2387

Comp. Rep. J. ANKLE

Tester C. MILLER

Date FEB. 21, 1971

Type of Test DUAL BOTTOM HOLE

RFS Tool No. 18

Prelow 7 mins ISI 58 min. Flow 60 min. FSI 117 min.

	I REC. No. 2844	O REC. No. 2845	REC. No.
	6350 RANGE	6400 RANGE	RANGE
DEPTH	12 HR. CLOCK	12 HR. CLOCK	HR. CLOCK
Initial Injuring Mud Press	2253	2297	
Initial Shut-In Press	1196	1218	
Initial Flowing Press	1016	1035	
Final Flowing Press	883	927	
Final Shut-In Press	1016	1037	
Final Injuring Mud Press	1020	1040	
	1185	1218	

Mud Drop NIL

Fluid Loss 12.2

Mud Weight 9.8

Viscosity 39

Temperature °F 90

Net Pay Tested EST 10

Top Packer Depth 2264

Bottom Packer Depth 2270

Total Depth 2387

Drill Pipe Size 4 F.H.

Wt. 14.0

Drill Collar I.D.

2.875

ft. Run 436

Surface Choke Size

Bottom Choke Size 0.5

Main Hole Size 8.75

Anchor Size 4.75

Bit Hole Size

Feet of Rat Hole

Cushion Amount

Type

Rubber Size 7.5

Fluid Recovery Total Feet 2050

Recovered 494

Recovered 436

Recovered 60

Recovered 1120

Recovered

Feet of MUDDY SALT WATER AT 138,000 P.P.M. SALT WATER.
Feet of MUDDY SALT WATER AT 150,000 P.P.M. SALT WATER
Feet of MUDDY SALT WATER AT 158,000 P.P.M. SALT WATER
Feet of DRUG MUD (BECAUSE OF LOST CIRC ZONE)

Gas Recovery

How Measured

Riser size

mins.	Temp. °F	Press. Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press. Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press. Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press. Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press. Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press. Rdg.	psi	Orifice Size	=	MCF/Day

Bleed Off Time for Drill Pipe

REMARKS:

STRONG INITIAL BLOW, STRONG AIR BLOW, DECREASING TO WEAK
IN 15 MINS. DEAD IN 30 MINS.



DST #1

TESTING REPORT

45 LANDING SUB _____

45 CHAMBER _____

20000000.0. SUB _____ 1.00

CO SUB _____

SHUT IN TOOL _____ 5.20

R.F.S. No. 18 _____ 2.50

R.F.S. No. _____

HYDRAULIC TOOL _____ 7.15

JARS _____ 6.30

RECORDER No. 2844 _____ 4.75 DEPTH 2253

RECORDER No. _____ DEPTH _____

SAFETY JOINT _____ 1.75

BY PASS SUB _____

PACKER DEPTH 2264

PACKER _____ 6.00

PACKER DEPTH 2270

PACKER _____ 5.00
1.00

ANCHOR—SPECIFY _____

PERFS _____ 25.00

BLANK OFF OR BY PASS SUB _____

RECORDER No. 2845 _____ 4.75 DEPTH 2297

PACKER DEPTH _____

PACKER _____ TOTAL INTERVAL 117.38

PACKER DEPTH _____

PACKER _____

ANCHOR—SPECIFY _____

RECORDER No. _____ DEPTH _____

COS _____ 1.00

Drill Collar _____ 81.63

COS _____ 1.00

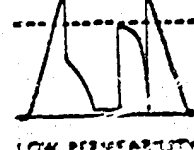
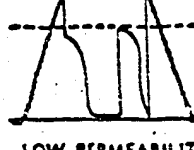
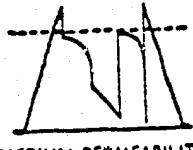
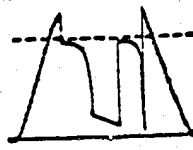
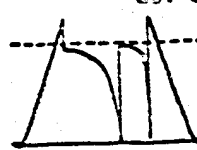
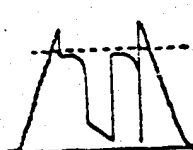
BULLNOSE _____ 3.00

TOTAL DEPTH 2387

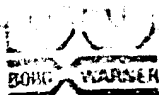
TOTAL TAIL PIPE 117.38

TOTAL TEST TOOL 75.40

DST CHARTS FOR COMPARATIVE VISUAL ANALYSIS



HIGH PERMEABILITY MEDIUM PERMEABILITY MEDIUM PERMEABILITY MEDIUM PERMEABILITY LOW PERMEABILITY LOW PERMEABILITY



WELL NAME FINA ET AL WILLOW LAKE

DST. NO. 1

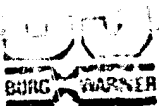
LOCATION L-59

REC. NO. 2844

DEPTH 2253.

MEASURED PRESSURES

	<u>POINT NUMBER</u>	<u>TIME MIN</u>	<u>PRESSURE PSIG</u>
RUN IN HOLE	1	0.0	0.0
	2	54.0	1195.7
INITIAL HYDRO PRESSURE	3	72.0	1195.7
INITIAL PREFLOW PRESSURE	4	72.0	778.8
FINAL PREFLOW PRESSURE	5	79.0	922.1
START INITIAL SHUT IN	6	79.0	922.1
	7	80.0	1009.3
	8	81.0	1010.9
	9	84.0	1012.4
	10	94.0	1014.0
	11	109.0	1014.0
	12	124.0	1014.0
INITIAL SHUT IN PRESSURE	13	137.0	1015.5
START FLOW PERIOD	14	137.0	1015.5
INITIAL FLOW PRESSURE	15	138.0	883.2
	16	142.0	923.7
	17	147.0	962.6
	18	152.0	992.2
	19	157.0	1006.2
	20	162.0	1012.4
	21	167.0	1012.4
	22	172.0	1014.0
	23	177.0	1014.0
	24	182.0	1014.0
	25	187.0	1014.0
	FINAL FLOW PRESSURE	26	197.0
START FINAL SHUT IN	27	197.0	1015.5
	28	198.0	1018.6
	29	217.0	1018.6
	30	237.0	1018.6
	31	257.0	1018.6
	32	277.0	1020.2
	33	297.0	1020.2



WELL NAME FINA ET AL WILLOW LAKE

DST. NO. 1

LOCATION L-59

REC. NO. 2844

DEPTH 2253.

MEASURED PRESSURES

	<u>POINT NUMBER</u>	<u>TIME MIN</u>	<u>PRESSURE PSIG</u>
FINAL SHUT IN PRESSURE	34	314.0	1020.2
RUN OUT OF HOLE	35	314.0	1020.2
FINAL HYDRO PRESSURE	36	315.0	1184.8
	37	333.0	1184.8
OUT OF HOLE	38	438.0	0.0



WELL NAME FINA ET AL WILLOW LAKE

DST. NO. 1

LOCATION L-59

REC. NO. 2844

DEPTH 2253.

CALCULATIONS FOR LIQUID RECOVERY (FIRST SHUT-IN)

(A) EXTRAPOLATED RESERVOIR PRESSURE	1014.9
NO. OF POINTS CONSIDERED IN BUILD-UP	7
NO. OF POINTS USED IN EXTRAPOLATION	7
ROOT MEAN SQUARE DEVIATION OF BEST-FIT LINE (PSI)	0.33
EFFECTIVE PRODUCING TIME (MIN)	7.0
(B) IN SITU CAPACITY (KH - MD FT)	3720.77
SLOPE OF BUILD-UP CURVE (PSI/CYCLE)	6.23
PRODUCING RATE (BBL/DAY)	190.30
FLUID VISCOSITY (CP)	0.750
FORMATION VOLUME FACTOR (RES BBL/ST BBL)	1.000
(C) EFFECTIVE PERMEABILITY (MD)	372.08
FORMATION THICKNESS	10.00
(D) PRODUCTIVITY INDEX (BBL/DAY/PSI)	2.05
FLOWING PRESSURE (PSIG)	922.1
(E) APPROXIMATE DRAINAGE RADIUS (FT)	212.8
TOTAL FLOWING TIME (MIN)	7.0
(F) ESTIMATED DAMAGE RATIO	2.69
RESERVOIR POROSITY (PERCENT)	20.00
TOTAL COMPRESSIBILITY (VOL/VOL/PSI X 10 ⁻⁶)	6.70
WELL-BORE RADIUS (IN)	4.38
CALCULATED SKIN FACTOR	11.05
(G) PRODUCTION WITH DAMAGE REMOVED (BBL/DAY)	511.9



WELL NAME FINA ET AL WILLOW LAKE

DST. NO. 1

LOCATION L-59

REC. NO. 2844

DEPTH 2253.

DATA FOR BUILD-UP PLOT (FIRST SHUT-IN)

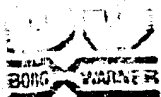
<u>POINT NUMBER</u>	<u>TIME MIN</u>	<u>PRESSURE PSIG</u>	<u>PRESSURE CALC FROM BEST FIT LINE</u>	<u>PRESSURE DIFFERENCE CALC - OBSERVED</u>	<u>T+DELTA(T)/ DELTA(T)</u>
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POINTS USED IN EXTRAPOLATION

7	1.0	1009.3	1009.3	-0.1	8.00
8	2.0	1010.9	1010.8	-0.1	4.50
9	5.0	1012.4	1012.5	0.1	2.40
10	15.0	1014.0	1013.8	-0.1	1.47
11	30.0	1014.0	1014.3	0.3	1.23
12	45.0	1014.0	1014.5	0.5	1.16
13	58.0	1015.5	1014.6	-1.0	1.12

ASSUMPTIONS AND LIMITATIONS

THE ENCLOSED DST INTERPRETATION CALCULATIONS REQUIRE SEVERAL NECESSARY ASSUMPTIONS TO PROVIDE A QUICK ESTIMATE OF MANY OF THE FACTORS INVOLVED. AS A RESULT THE INFORMATION GAINED SHOULD BE USED TO FORM AN OPINION OR ESTIMATE ONLY, UNTIL THE ASSUMPTIONS OF RESERVOIR AND FLUID PROPERTIES CAN BE WHOLLY OR PARTIALLY CLARIFIED BY MORE COMPLETE ANALYSIS AND TESTING.



WELL NAME FINA ET AL WILLOW LAKE

DST. NO. 1

LOCATION L-59

REC. NO. 2844

DEPTH 2253.

CALCULATIONS FOR LIQUID RECOVERY (SECOND SHUT-IN)

(A) EXTRAPOLATED RESERVOIR PRESSURE	1022.0
NO. OF POINTS CONSIDERED IN BUILD-UP	7
NO. OF POINTS USED IN EXTRAPOLATION	4
ROOT MEAN SQUARE DEVIATION OF BEST-FIT LINE (PSI)	0.08
EFFECTIVE PRODUCING TIME (MIN)	67.0



WELL NAME FINA ET AL WILLOW LAKE

DST. NO. 1

LOCATION L-59

REC. NO. 2844

DEPTH 2253.

DATA FOR BUILD-UP PLOT (SECOND SHUT-IN)

POINT NUMBER	TIME MIN	PRESSURE PSIG	PRESSURE CALC FROM BEST FIT LINE	PRESSURE DIFFERENCE CALC - OBSERVED	$T + \Delta T(T) /$ $\Delta T(T)$
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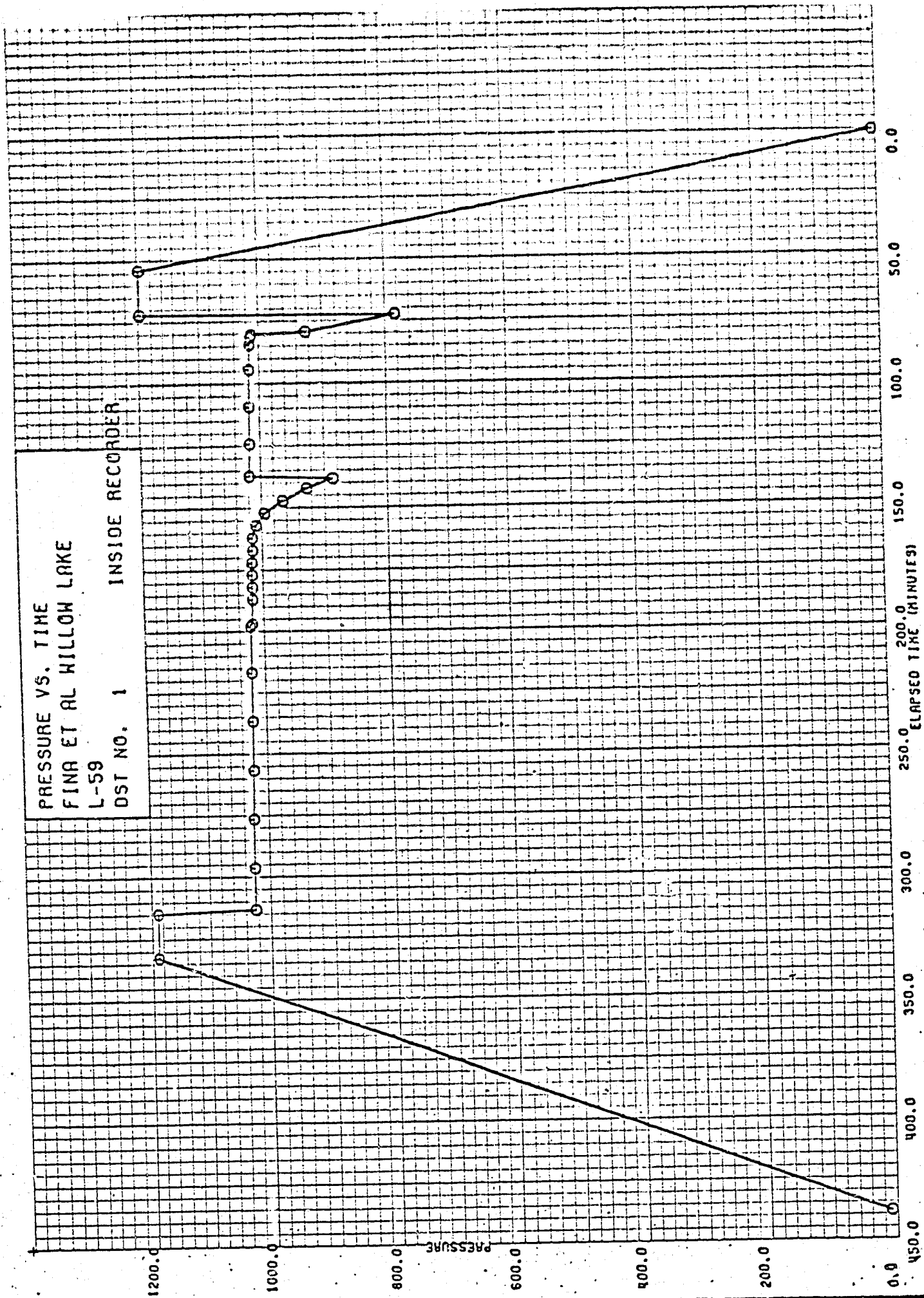
PORTION OF BUILD-UP CURVE NOT USED IN EXTRAPOLATION

28	1.0	1018.6			68.00
29	20.0	1018.6			4.35
30	40.0	1018.6			2.67

POINTS USED IN EXTRAPOLATION

31	60.0	1018.6	1019.2	0.5	2.12
32	60.0	1020.2	1019.7	-0.5	1.84
33	100.0	1020.2	1020.1	-0.1	1.67
34	117.0	1020.2	1020.3	0.1	1.57

PRESSURE VS. TIME
 FINA ET AL WILLOW LAKE
 L-59
 DST NO. 1 INSIDE RECORDER



HORNER PRES. EXTRAPOLATION
FINA ET AL WILLOW LAKE

L-59

DST NO. 1

PM = 1022.0

BOTTOM - HOLE PRESSURE (psig)

1040.0

1035.0

1030.0

1025.0

1020.0

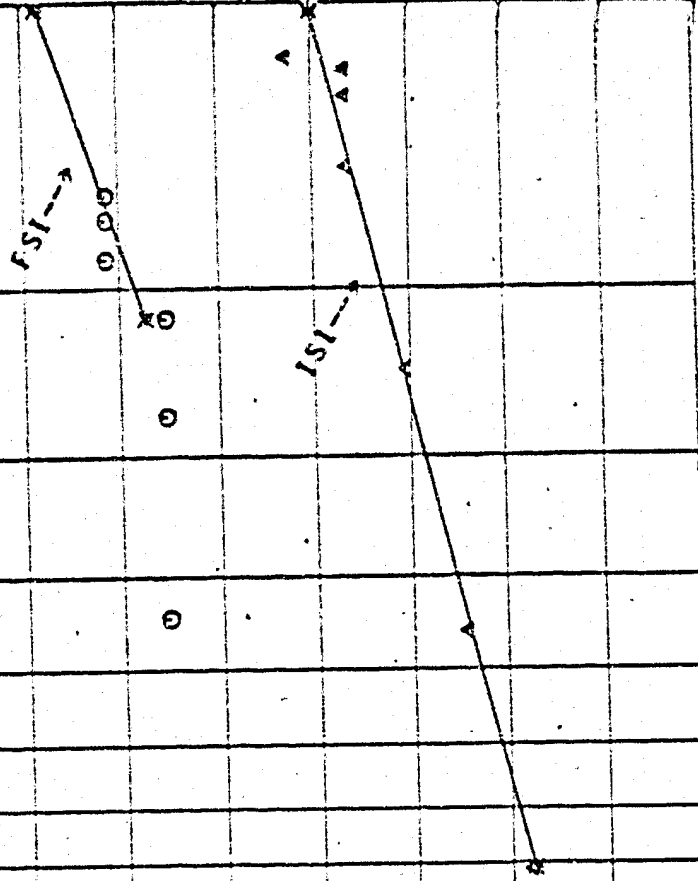
1015.0

1010.0

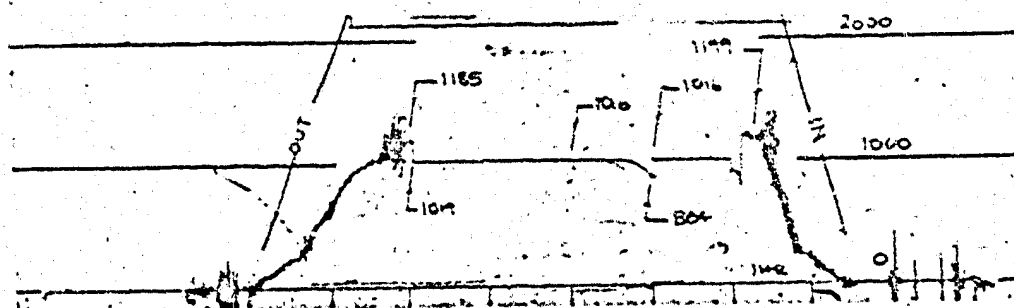
1005.0

100

$(T + \Delta t) / \Delta t$

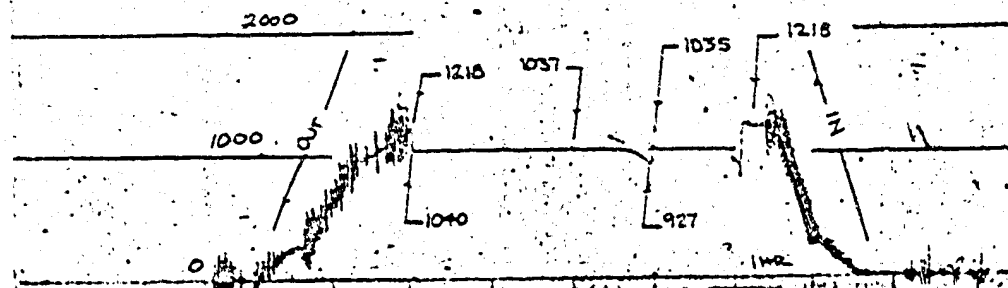


2340 FINA L-59 DST #1 12Clnk



2345 FINA L-59 DST #1 12Clnk

2448



Well Name FINA ET AL WILLOW LAKE

Test No. 2

Well Number L-59

Zone Tested HUME

Company CANADIAN FINA OIL LIMITED

Interval 1320 - 1370

Comp. Rep. J. ANKLE

Tester C. MILLER

Date FEB. 25, 1971

BJ SERVICE DIV
BORG-WARNER (CANADA)



DRILL-STEM TEST DATA

Well Name FINA ET AL WILLOW LAKE

Test No. 2

Well Number L-59

Zone Tested HUME

Company CANADIAN FINA OIL LIMITED

Interval 1320 - 1370

Comp. Rep. J. ANKLE

Tester C. MILLER

Date FEB. 25, 1971

Type of Test DUAL STRADDLE BY PASS

RFS Tool No. 113

Preflow

10 mins. ISI

59 mins. Flow

59 mins. PSI

111 mins.

DEPTH	1 REC. No. 3689	0 REC. No. 2845	REC. No.	
	5700 RANGE 12 HR. CLOCK	6400 RANGE 12 HR. CLOCK	RANGE	HR. CLOCK
Initial Hydro Mucal Press	1302	1337		
Initial Shut-In Press	684	730		
Initial Flow Press	560	380		
Final Flow Press	26	69		
Final Shut-In Press	31	60		
Final Hydro Mucal Press	520	540		
	684	730		

Mud Drop NIL

Fluid Loss 14.2

Mud Weight 10.0

Viscosity 50

Temperature °F 68

Net Pay Tested EST 10

Top Packer Depth 1320

Bottom Packer Depth 1370

Total Depth 2750

Drill Pipe Size 4 F.H.

Wt. 14.6 Drill Collar I.D. 2.875

Pl. Run 490

Surface Choke Size CLOSED

Bottom Choke Size 0.5

Main Hole Size 8.75

Anchor Size 4.75

Rot Hole Size

Feet of Rot Hole

Cushion Amount

Type

Rubber Size 7.5

Fluid Recovery Total feet 30

Recovered 30

Feet of DRLG MUD

Recovered

Feet of

Recovered

Feet of

Recovered

Feet of

Recovered

Feet of

Gas Recovery

How Measured

Riser sizes

mins.	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day

Bleed Off Time for Drill Pipe

REMARKS: W.I.P. WEAK AIR BLOW, DECREASING STEADILY. DEAD IN 25 MINS.



DST #2

TESTING REPORT

45 LANDING SUB _____

45 CHAMBER _____

XOCCOCCOCCO P.O. SUB _____ 1.00

CO SUB _____ 1.00

SHUT IN TOOL _____ 5.20

R.F.S. No. 113 _____ 2.50

R.F.S. No. _____

HYDRAULIC TOOL _____ 7.15

JARS _____ 6.50

RECORDER No. _____ 4.75 DEPTH 1302

RECORDER No. _____ DEPTH _____

SAFETY JOINT _____ 1.75

BY PASS SUB _____ 1.00

PACKER DEPTH 1314

PACKER _____ 6.00

PACKER DEPTH 1320

PACKER _____ 5.00

ANCHOR—SPECIFY _____ 1.00

PERFS _____ 14.00

BLANK OFF OR BY PASS SUB _____ 1.00

RECORDER No. _____ 1.00 DEPTH 1337

C. O. S. & Collar _____ 29.59

PACKER DEPTH 1370

PACKER _____ 3.00

PACKER _____ 3.00

PACKER _____ 5.00

PACKER _____ 1.00

ANCHOR—SPECIFY _____

PERFS _____ 6.00

RECORDER No. _____ DEPTH _____

C. O. S. _____ 1.00

DrLG Pipe _____ 1360.24

C. O. S. _____ 1.00

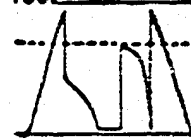
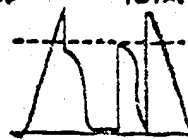
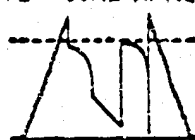
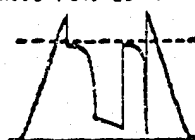
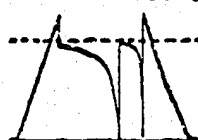
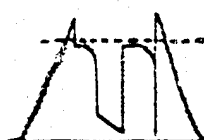
AL DEPTH 2750

BULLNOSE _____ 3.00

DST CHARTS FOR COMPARATIVE VISUAL ANALYSIS

TOTAL TAIL PIPE 1380.24

TOTAL TEST TOOL 83.85



HIGH PERMEABILITY

HIGH PERMEABILITY

MEDIUM PERMEABILITY

MEDIUM PERMEABILITY

LOW PERMEABILITY

LOW PERMEABILITY



WELL NAME FINA ET AL WILLOW LAKE

DST. NO. 2

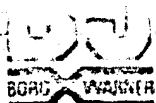
LOCATION L-59

REC. NO. 3689

DEPTH 1302.

MEASURED PRESSURES

	<u>POINT NUMBER</u>	<u>TIME MIN</u>	<u>PRESSURE PSIG</u>
RUN IN HOLE	1	0.0	0.0
	2	47.0	268.6
	3	61.0	684.3
INITIAL HYDRO PRESSURE	4	92.0	684.3
INITIAL PREFLOW PRESSURE	5	92.0	30.0
	6	97.0	20.0
	7	100.0	20.0
FINAL PREFLOW PRESSURE	8	102.0	57.1
START INITIAL SHUT IN	9	102.0	57.1
	10	107.0	387.1
	11	112.0	464.3
	12	117.0	500.0
	13	122.0	518.6
	14	127.0	530.0
	15	132.0	540.0
	16	137.0	545.7
	17	142.0	550.0
	18	147.0	554.3
	19	152.0	557.1
	20	157.0	558.6
INITIAL SHUT IN PRESSURE	21	161.0	560.0
START FLOW PERIOD	22	161.0	560.0
INITIAL FLOW PRESSURE	23	162.0	25.7
	24	166.0	27.1
	25	181.0	27.1
	26	201.0	30.0
FINAL FLOW PRESSURE	27	220.0	31.4
START FINAL SHUT IN	28	220.0	31.4
	29	225.0	282.9
	30	230.0	355.7
	31	235.0	394.3
	32	240.0	418.6
	33	245.0	437.1



WELL NAME FINA ET AL WILLOW LAKE

DST. NO. 2

LOCATION L-59

REC. NO. 3689

DEPTH 1302.

MEASURED PRESSURES

	<u>POINT NUMBER</u>	<u>TIME MIN</u>	<u>PRESSURE PSIG</u>
	34	250.0	450.0
	35	255.0	461.4
	36	260.0	470.0
	37	265.0	477.1
	38	270.0	482.9
	39	275.0	488.6
	40	280.0	492.9
	41	285.0	497.1
	42	290.0	501.4
	43	295.0	504.3
	44	300.0	507.1
	45	305.0	510.0
	46	310.0	511.4
	47	315.0	514.3
	48	320.0	515.7
	49	325.0	517.1
	50	330.0	520.0
FINAL SHUT IN PRESSURE	51	331.0	520.0
RUN OUT OF HOLE	52	331.0	520.0
FINAL HYDRO PRESSURE	53	332.0	684.3
	54	341.0	684.3
OUT OF HOLE	55	337.0	0.0



WELL NAME FINA ET AL WILLOW LAKE

DST. NO. 2

LOCATION L-59

REC. NO. 3689

DEPTH 1302.

CALCULATIONS FOR LIQUID RECOVERY (FIRST SHUT-IN)

(A) EXTRAPOLATED RESERVOIR PRESSURE	588.8
NO. OF POINTS CONSIDERED IN BUILD-UP	12
NO. OF POINTS USED IN EXTRAPOLATION	9
ROOT MEAN SQUARE DEVIATION OF BEST-FIT LINE (PSI).....	0.70
EFFECTIVE PRODUCING TIME (MIN)	10.0



WELL NAME FINA ET AL WILLOW LAKE

DST. NO. 2

LOCATION L-59

REC. NO. 3689

DEPTH 1302.

DATA FOR BUILD-UP PLOT (FIRST SHUT-IN)

<u>POINT NUMBER</u>	<u>TIME MIN</u>	<u>PRESSURE PSIG</u>	<u>PRESSURE CALC FROM BEST FIT LINE</u>	<u>PRESSURE DIFFERENCE CALC - OBSERVED</u>	<u>T+DELTA(T)/ DELTA(T)</u>
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PORTION OF BUILD-UP CURVE NOT USED IN EXTRAPOLATION

10	5.0	387.1			3.00
11	10.0	464.3			2.00
12	15.0	500.0			1.67

POINTS USED IN EXTRAPOLATION

13	20.0	518.6	517.2	-1.4	1.50
14	25.0	530.0	529.4	-0.6	1.40
15	30.0	540.0	538.0	-2.0	1.33
16	35.0	545.7	544.4	-1.3	1.29
17	40.0	550.0	549.4	-0.6	1.25
18	45.0	554.3	553.3	-1.0	1.22
19	50.0	557.1	556.6	-0.6	1.20
20	55.0	558.6	559.3	0.7	1.18
21	59.0	560.0	561.1	1.1	1.17



WELL NAME FINA ET AL WILLOW LAKE

DST. NO. 2

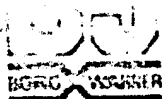
LOCATION L-59

REC. NO. 3689

DEPTH 1302.

CALCULATIONS FOR LIQUID RECOVERY (SECOND SHUT-IN)

(A) EXTRAPOLATED RESERVOIR PRESSURE	564.1
NO. OF POINTS CONSIDERED IN BUILD-UP	23
NO. OF POINTS USED IN EXTRAPOLATION	9
ROOT MEAN SQUARE DEVIATION OF BEST-FIT LINE (PSI).....	0.30
EFFECTIVE PRODUCING TIME (MIN)	69.0
(B) IN SITU CAPACITY (KH - MD FT)	3.79
SLOPE OF BUILD-UP CURVE (PSI/CYCLE)	211.42
PRODUCING RATE (BBL/DAY)	5.03
FLUID VISCOSITY (CP)	0.980
FORMATION VOLUME FACTOR (RES BBL/ST BBL).....	1.000
(C) EFFECTIVE PERMEABILITY (MD)	0.38
FORMATION THICKNESS	10.00
(D) PRODUCTIVITY INDEX (BBL/DAY/PSI)	0.01
FLOWING PRESSURE (PSIG)	31.4
(E) APPROXIMATE DRAINAGE RADIUS (FT)	24.3
TOTAL FLOWING TIME (MIN)	69.0
(F) ESTIMATED DAMAGE RATIO	0.69
RESERVOIR POROSITY (PERCENT)	10.00
TOTAL COMPRESSIBILITY (VOL/VOL/PSI X 10-6)	7.90
WELL-BORE RADIUS (IN)	4.38
CALCULATED SKIN FACTOR	-1.01



WELL NAME FINA ET AL WILLOW LAKE

DST. NO. 2

LOCATION L-59

REC. NO. 3689

DEPTH 1302.

DATA FOR BUILD-UP PLOT (SECOND SHUT-IN)

<u>POINT NUMBER</u>	<u>TIME MIN</u>	<u>PRESSURE PSIG</u>	<u>PRESSURE CALC FROM BEST FIT LINE</u>	<u>PRESSURE DIFFERENCE CALC - OBSERVED</u>	<u>T+DELTA(T)/ DELTA(T)</u>
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PORTION OF BUILD-UP CURVE NOT USED IN EXTRAPOLATION

29	5.0	282.9			14.80
30	10.0	355.7			7.90
31	15.0	394.3			5.60
32	20.0	418.6			4.45
33	25.0	437.1			3.76
34	30.0	450.0			3.30
35	35.0	461.4			2.97
36	40.0	470.0			2.72
37	45.0	477.1			2.53
38	50.0	482.9			2.36
39	55.0	488.6			2.25
40	60.0	492.9			2.15
41	65.0	497.1			2.06
42	70.0	501.4			1.99

POINTS USED IN EXTRAPOLATION

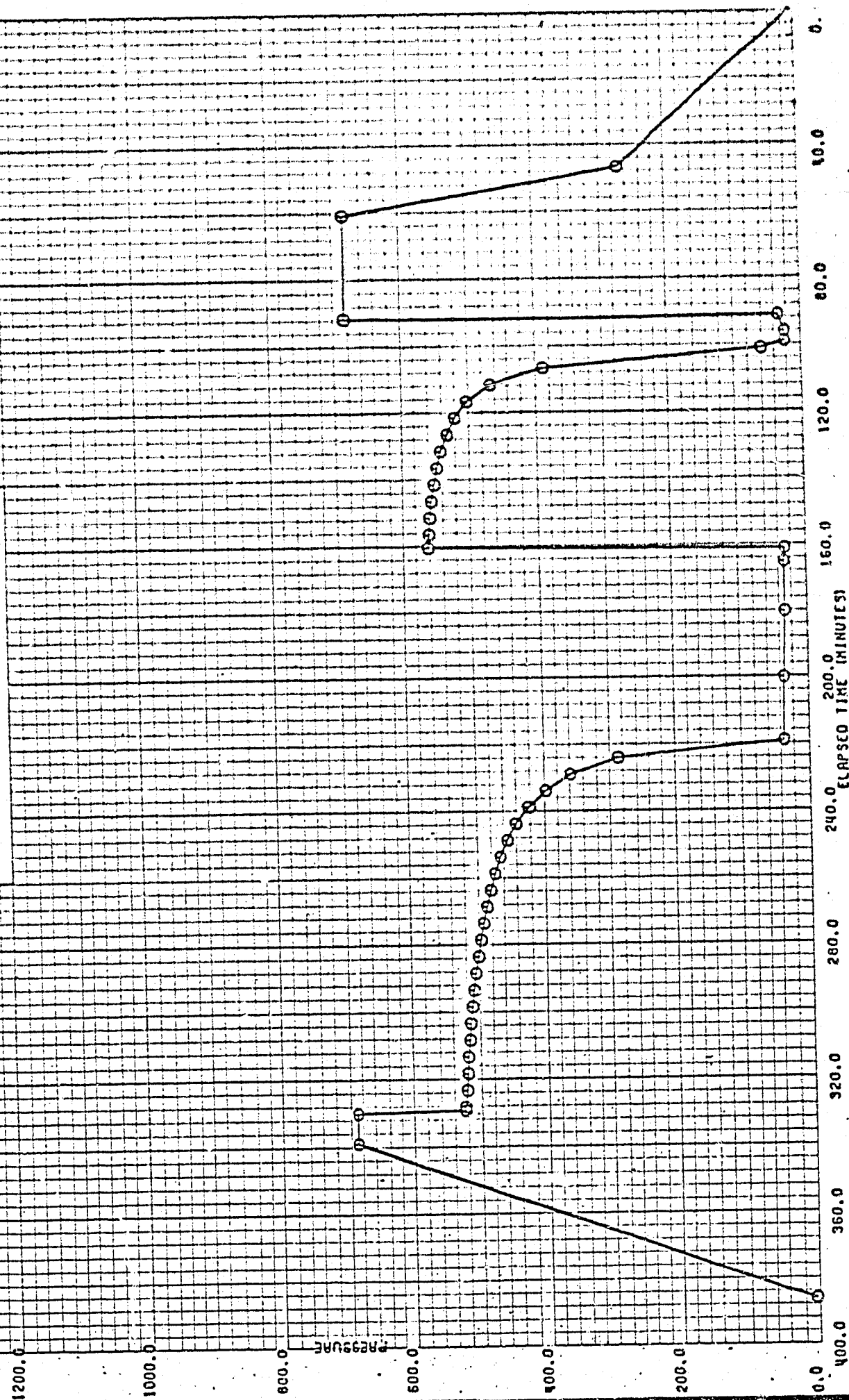
43	75.0	504.3	504.2	-0.1	1.92
44	80.0	507.1	507.0	-0.1	1.86
45	85.0	510.0	509.6	-0.4	1.81
46	90.0	511.4	511.9	0.4	1.77
47	95.0	514.3	514.0	-0.3	1.73
48	100.0	515.7	515.9	0.2	1.69
49	105.0	517.1	517.7	0.6	1.66
50	110.0	520.0	519.4	-0.6	1.63
51	111.0	520.0	519.7	-0.3	1.62

ASSUMPTIONS AND LIMITATIONS

THE ENCLOSED DST INTERPRETATION CALCULATIONS REQUIRE SEVERAL NECESSARY ASSUMPTIONS TO PROVIDE A QUICK ESTIMATE OF MANY OF THE FACTORS INVOLVED. AS A RESULT THE INFORMATION GAINED SHOULD BE USED TO FORM AN OPINION OR ESTIMATE ONLY, UNTIL THE ASSUMPTIONS OF RESERVOIR AND FLUID PROPERTIES CAN BE WHOLLY OR PARTIALLY CLARIFIED BY MORE COMPLETE ANALYSIS AND TESTING.

PRESSURE VS. TIME
 FINR ET AL WILLOW LAKE
 L-59
 DST NO. 2
 INSIDE RECORDER

INSIDE RECORDER

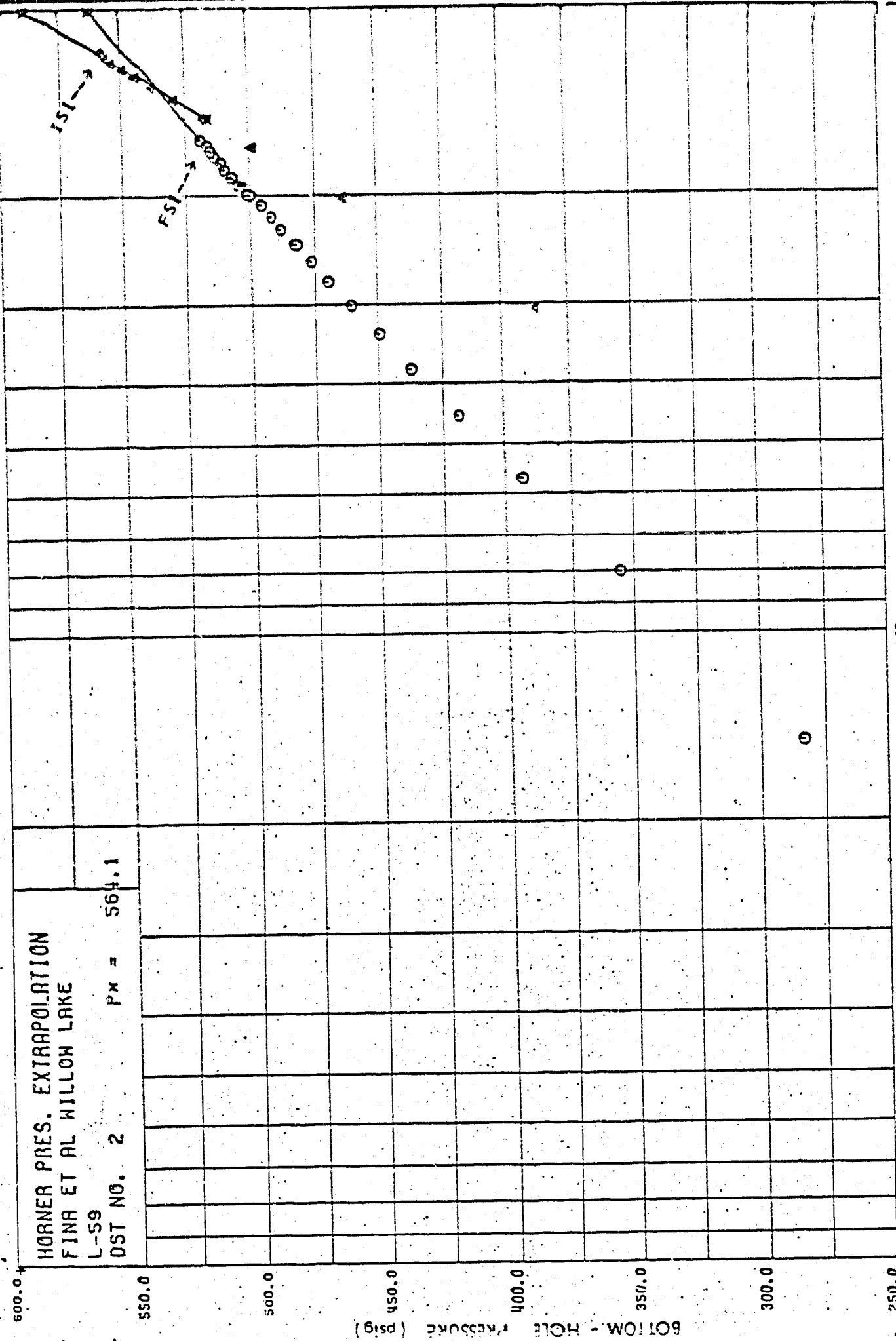


HORNER PRES. EXTRAPOLATION
FINA ET AL WILLOW LAKE

L-59

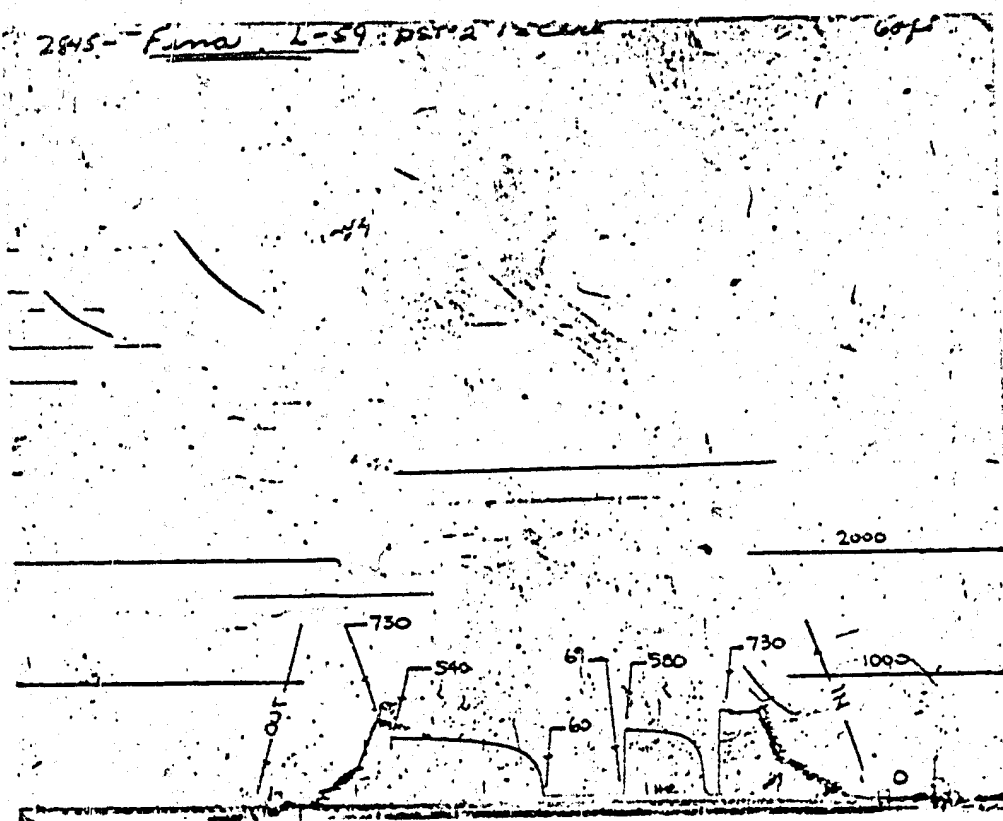
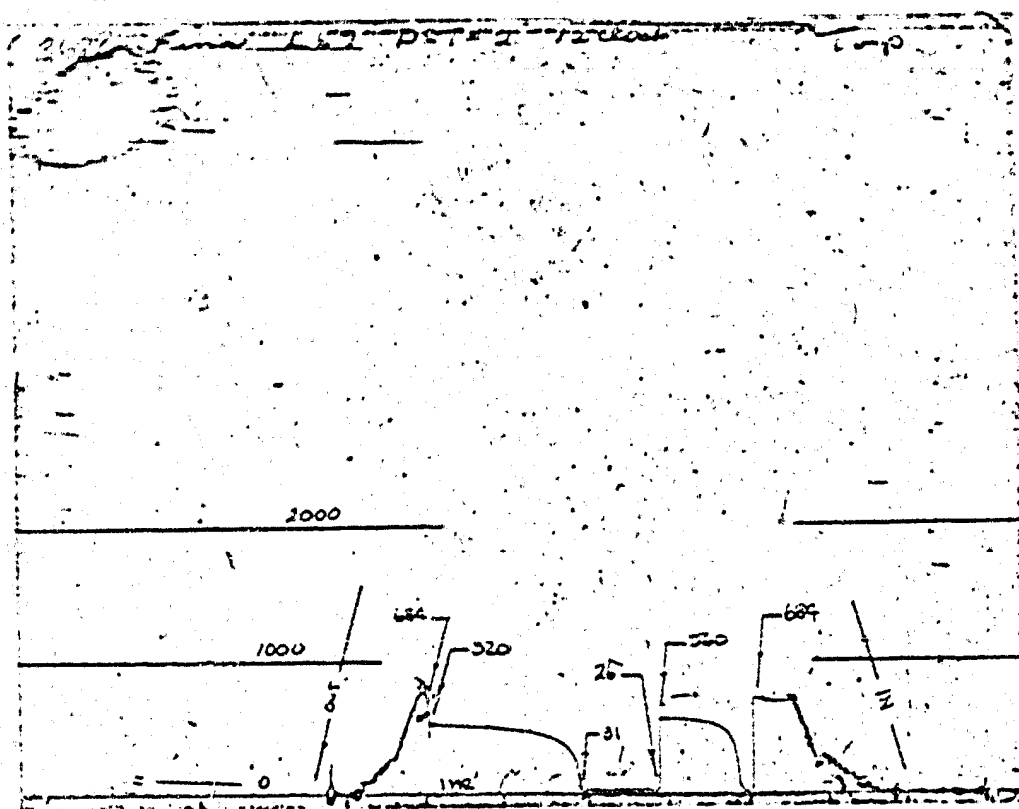
DST NO. 2

PM = 564.1



$(T + \Delta t) / \Delta t$

100



DAILY DRILLING LOG
DIRECTIONS TO
WELL

RIG NO. 12 LOCATION FINA RT AL WILLOW LAKE L-59 LSD. _____ SEC. _____ TWP. _____ RGE. _____ W. _____ DATE FEB 26 1971

MAILING POINT _____	SHIPPING POINT _____	MILES MOVED _____	ROAD CONDITIONS _____	DAYS FROM SPUD _____
------------------------	-------------------------	----------------------	--------------------------	-------------------------

TIME											REMARKS										
	START	STOP	INTVL.																		
B	No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Corred.	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.			
I	Run in Drill Plug @ 2090																				
T	Hoist To Run Plug #2																				
S	W.O.C.																				
M.U.D.	12 m.	2 a.m.	4 a.m.	6 a.m.	PUMP	12 m.	2 a.m.	4 a.m.	6 a.m.	PUMP	12 m.	2 a.m.	4 a.m.	6 a.m.	MOTOR HOURS	Next Oil Change					
WEIGHT					No. 1	PRES-SURE					No. 2	PRES-SURE									
VISCOSITY					MODEL	S.P.M.					MODEL	S.P.M.									
GEL					LINER SIZE					LINER SIZE											
W.L.	F.C.	pH.	DESILTER: Hours Op:		U. Flow:		O. Flow:		SURVEYS		At Feet		Degrees								
ADDITIVES:	GENERAL:																				
																		Weather		Water	
																		Temp.		Bbls.	
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool								
From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly						
B	No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Corred.	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.			
I	Run in Drill Plug #2																				
T	W.O.C.																				
S	Finish Out To Run Plug #2																				
M.U.D.	8 a.m.	10 a.m.	12 noon	2 p.m.	PUMP	8 a.m.	10 a.m.	12 noon	2 p.m.	PUMP	8 a.m.	10 a.m.	12 noon	2 p.m.	MOTOR HOURS	Next Oil Change					
WEIGHT					No. 1	PRES-SURE					No. 2	PRES-SURE									
VISCOSITY					MODEL	S.P.M.					MODEL	S.P.M.									
GEL					LINER SIZE					LINER SIZE											
W.L.	F.C.	pH.	DESILTER: Hours Op:		U. Flow:		O. Flow:		SURVEYS		At Feet		Degrees								
ADDITIVES:	GENERAL:																				
																		Weather		Water	
																		Temp.		Bbls.	
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool								
From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly						
B	No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Corred.	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.			
I	Run in Drill Plug #2																				
T	W.O.C.																				
S	Finish Out To Run Plug #2																				
M.U.D.	4 p.m.	6 p.m.	8 p.m.	10 p.m.	PUMP	4 p.m.	6 p.m.	8 p.m.	10 p.m.	PUMP	4 p.m.	6 p.m.	8 p.m.	10 p.m.	MOTOR HOURS	Next Oil Change					
WEIGHT					No. 1	PRES-SURE					No. 2	PRES-SURE									
VISCOSITY					MODEL	S.P.M.					MODEL	S.P.M.									
GEL					LINER SIZE					LINER SIZE											
W.L.	F.C.	pH.	DESILTER: Hours Op:		U. Flow:		O. Flow:		SURVEYS		At Feet		Degrees								
ADDITIVES:	GENERAL:																				
																		Weather		Water	
																		Temp.		Bbls.	
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool								
From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly						
B	No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Corred.	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.			
I	Run in Drill Plug #2																				
T	W.O.C.																				
S	Finish Out To Run Plug #2																				
M.U.D.	4 p.m.	6 p.m.	8 p.m.	10 p.m.	PUMP	4 p.m.	6 p.m.	8 p.m.	10 p.m.	PUMP	4 p.m.	6 p.m.	8 p.m.	10 p.m.	MOTOR HOURS	Next Oil Change					
WEIGHT					No. 1	PRES-SURE					No. 2	PRES-SURE									
VISCOSITY					MODEL	S.P.M.					MODEL	S.P.M.									
GEL					LINER SIZE					LINER SIZE											
W.L.	F.C.	pH.	DESILTER: Hours Op:		U. Flow:		O. Flow:		SURVEYS		At Feet		Degrees								
ADDITIVES:	GENERAL:																				
																		Weather		Water	
																		Temp.		Bbls.	
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool								
From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly						
B	No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Corred.	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.			
I	Run in Drill Plug #2																				
T																					

COM 42892

DAILY DRILLING LOG
DIRECTIONS TO
WELL

RIG NO. 12

LOCATION FINA LTA WILLOW LAKE L-59

2-59
LSD SEC

TWP BCE

DATE:

DATE FEB. 25

21

MAILING
POINTSHIPPING
POINT

MILES
MOVED

ROAD '

DAYS FROM

[illegible]

CONSERVATION BOARD COPY

COM 42891

DAILY DRILLING LOG
DIRECTIONS TO
WELL

RIG NO. 12 LOCATION FINA ET AL WILLOW LAKE L-59
LSD. SEC. TWP. RGE. W. DATE FEB 24 19 71
MAILING SHIPPING MILES ROAD DAYS
POINT MOVED SPUD CONDITIONS FROM

LOGGING																		TIME					
REMARKS																		START	STOP	INTVL			
2727 23 2750 5 1/2 74 22 1/2 30 DRILL COLLARS 14 6 2 1/2 517.79 465 27																		DRAIN 8 3/4" HOLE			12 00	5 1/2	5 1/2
No. 1 Size Type Jets/W.C. Serial No. Wgt. R.P.M. Drilled or Cored Hrs. Reamed Hrs. Pump No. Pump Pressure S.P.M. Table Torque T. B. G.																		RIG SERVICE + R.O.P.			5 30	6 00	1/4
M.U.D. 12 mn. 2 a.m. 4 a.m. 6 a.m. PUMP 12 mn. 2 a.m. 4 a.m. 6 a.m. MOTOR HOURS Next Oil Change																		CIR. TO LOG.			5 45	6 45	1
WEIGHT 9 9 9 9 9 10 No. 1 PRES-SURE 6 2 6 2 No. 2 PRES-SURE 1 1 1 1 1 1																		TRIP OUT TO LOG.			6 45	8 00	1 1/4
VISCOSITY 4.3 44 45 58 MODEL S.P.M. 64 64 64 MODEL S.P.M. 140 100 100																							
GEL W.L. 14.2 F.C. 55 pH. 7.5 DESILTER: Hours Op: U. Flow: O. Flow: SURVEYS At Feet Degrees																							
ADDITIVES: SAFE MUD 1000 GENERAL																							
Drilling Line Record																							
From Footage To Hrs. on Bottom Wt. Drill Pipe (1000 lbs.) Stands 35 Singles 30 DRILL COLLARS 14 6 2 1/2 517.79 465 27																		FINISH OUT (STOP)			8 00	8 15	1/4
No. 1 Size Type Jets/W.C. Serial No. Wgt. R.P.M. Drilled or Cored Hrs. Reamed Hrs. Pump No. Pump Pressure S.P.M. Table Torque T. B. G.																		RIG SERVO + CHECK BOPs			8 15	8 30	1/4
M.U.D. 8 a.m. 10 a.m. 12 noon 2 p.m. PUMP 8 a.m. 10 a.m. 12 noon 2 p.m. MOTOR HOURS Next Oil Change																		RIG UP TO LOG			8 30	8 45	1/4
WEIGHT 3 3 3 3 3 3 No. 1 PRES-SURE 3 3 3 3 3 3 No. 2 PRES-SURE 3 3 3 3 3 3																		LOGGING W/ SCHLUMBERGER			8 45	9 00	1/4
VISCOSITY 3 3 3 3 3 3 MODEL S.P.M. 5 1/2 x 14 5 1/2 x 14 5 1/2 x 14																							
GEL W.L. F.C. pH. DESILTER: Hours Op: U. Flow: O. Flow: SURVEYS At Feet Degrees																		Run Induction E. Log + B76C					
ADDITIVES: (Change) On In No. 2 GENERAL STRAP - 2736.24																		Sonrice Gamma Ray w/ Caliper					
Drilling Line Record																		Formation Description Log. +					
From Footage To Hrs. on Bottom Wt. Drill Pipe (1000 lbs.) Stands 35 Singles 30 DRILL COLLARS 14 6 2 1/2 517.79 465 27																		Side Wall Penetration Log					
No. 1 Size Type Jets/W.C. Serial No. Wgt. R.P.M. Drilled or Cored Hrs. Reamed Hrs. Pump No. Pump Pressure S.P.M. Table Torque T. B. G.																		T.D. to Surface Pacing.					
M.U.D. 4 p.m. 6 p.m. 8 p.m. 10 p.m. PUMP 4 p.m. 6 p.m. 8 p.m. 10 p.m. MOTOR HOURS Next Oil Change																		FIRES					
WEIGHT 3 3 3 3 3 3 No. 1 PRES-SURE 3 3 3 3 3 3 No. 2 PRES-SURE 3 3 3 3 3 3																		LOGGING			4 00	6 00	2
VISCOSITY 3 3 3 3 3 3 MODEL S.P.M. 5 1/2 x 14 5 1/2 x 14 5 1/2 x 14																		TEAR OUT SCHLUMBER			6 00	6 15	1/4
GEL W.L. F.C. pH. DESILTER: Hours Op: U. Flow: O. Flow: SURVEYS At Feet Degrees																		W.O.O.			6 15	10 30	4 1/4
ADDITIVES: GENERAL																		Run IN 22 STANDS TRAIL PIPE +			10 30		
Drilling Line Record																		MAKE LAP PACKER.			12 00	1 1/2	
From Footage To Hrs. on Bottom Wt. Drill Pipe (1000 lbs.) Stands 35 Singles 30 DRILL COLLARS 14 6 2 1/2 517.79 465 27																							
No. 1 Size Type Jets/W.C. Serial No. Wgt. R.P.M. Drilled or Cored Hrs. Reamed Hrs. Pump No. Pump Pressure S.P.M. Table Torque T. B. G.																							
M.U.D. 4 p.m. 6 p.m. 8 p.m. 10 p.m. PUMP 4 p.m. 6 p.m. 8 p.m. 10 p.m. MOTOR HOURS Next Oil Change																							
WEIGHT 3 3 3 3 3 3 No. 1 PRES-SURE 3 3 3 3 3 3 No. 2 PRES-SURE 3 3 3 3 3 3																							
VISCOSITY 3 3 3 3 3 3 MODEL S.P.M. 5 1/2 x 14 5 1/2 x 14 5 1/2 x 14																							
GEL W.L. F.C. pH. DESILTER: Hours Op: U. Flow: O. Flow: SURVEYS At Feet Degrees																							
ADDITIVES: GENERAL																							
Drilling Line Record																							
From Footage To Hrs. on Bottom Wt. Drill Pipe (1000 lbs.) Stands 35 Singles 30 DRILL COLLARS 14 6 2 1/2 517.79 465 27																							
No. 1 Size Type Jets/W.C. Serial No. Wgt. R.P.M. Drilled or Cored Hrs. Reamed Hrs. Pump No. Pump Pressure S.P.M. Table Torque T. B. G.																							
M.U.D. 4 p.m. 6 p.m. 8 p.m. 10 p.m. PUMP 4 p.m. 6 p.m. 8 p.m. 10 p.m. MOTOR HOURS Next Oil Change																							
WEIGHT 3 3 3 3 3 3 No. 1 PRES-SURE 3 3 3 3 3 3 No. 2 PRES-SURE 3 3 3 3 3 3																							
VISCOSITY 3 3 3 3 3 3 MODEL S.P.M. 5 1/2 x 14 5 1/2 x 14 5 1/2 x 14																							
GEL W.L. F.C. pH. DESILTER: Hours Op: U. Flow: O. Flow: SURVEYS At Feet Degrees																							
ADDITIVES: GENERAL																							
Drilling Line Record																							
B.O.P. Tested Elapsed Time Pressure Packing & Seal Inspected Date Crown-o-matic Chk'd. Fuel on Hand 12.01 a.m. gals. CASING REPORT RAN JTS CSG RENTAL EQUIPMENT ON HAND																							
Hydriil Fuel Rec'd Today (add) gals. TOTAL gals. TO KR. USED SAX CEM																							
Pipe Rams. Fuel on Hand 1:59 p.m. (deduct) gals. PLUS % PLUG DOWN A.M. P.M. DAYS FROM SPUD: TOTAL COMPANY TIME HRS. TOTAL CONTRACTOR'S TIME HRS.																							
Blind Rams. TO/CO RING ON BIT = Boiler Operated: 24. Hrs. Fire Equip. Chk'd. FUEL USED gals. CEMENT RETURNS - (YES/NO) EQUIPMENT CHANGES																							
Approved by Operator's Representative																							
Approved by Toolpusher																							

COMMONWEALTH DRILLING

DAILY DRILLING LOG
DIRECTIONS TO
WELL

RIG NO

12

LOCATION

FINN ETAL TILLY LAKE 197

LSD

SEC

TWP

RGE

W

DATE

12-22

1971

MAILING
POINTSHIPPING
POINTMILES
MOVEDROAD
CONDITIONSDAYS FROM
SPUD

From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly		
2602	53	2655	79	74M	211876			14	6	2 3/8	517.79		115		26		
No.	Size	Type	Jets/W.C.	Serial No.	Wt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T	B	G
1	RR7	3 3/4	1/2 1/2	FW 724	33	50	53	79				550	64		A	✓	✓
MUD	12 m.	2 a.m.	4 a.m.	6 a.m.	PUMP	12 m.	2 a.m.	4 a.m.	6 a.m.	PUMP	12 m.	2 a.m.	4 a.m.	6 a.m.	MOTOR HOURS	Next Oil Change	
WEIGHT	4.7	7.7	9.8	4.6	No. 1	PRES-SURE	550	550	550	550	No. 2	PRES-SURE	1100	1100			
VISCOSITY	34	39	39	48	MODEL	S.P.M.	64	64	64	64	MODEL	S.P.M.					
GEL					300	LINER SIZE	5 1/2	14			250	LINER SIZE	5 1/2	14			
W.L.	15.2	F.C.	3/32	pH.	8.0	DESILTER: Hours Op:	U. Flow:	O. Flow:	SURVEYS		At Feet		Degrees				
ADDITIVES:	Starch	500	GENERAL:														
	gel	500															
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool	Bbls.			

REMARKS		TIME	
START	STOP	INTVL	
1200	1214	14	
1214	1227	13	
Rig SER + BOPs			
DRILL 8 3/4 Hole			

From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly		
2655	45	2690	74	74	21149	97		14	6	2 3/8	517.79		465		22		
No.	Size	Type	Jets/W.C.	Serial No.	Wt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T	B	G
1	RR7	3 3/4	1/2 1/2	FW 724	33	50	98	13 1/2				550	64		A	✓	✓
MUD	8 a.m.	10 a.m.	12 noon	2 p.m.	PUMP	8 a.m.	10 a.m.	12 noon	2 p.m.	PUMP	8 a.m.	10 a.m.	12 noon	2 p.m.	MOTOR HOURS	Next Oil Change	
WEIGHT	9.8	9.8	9.8	9.8	No. 1	PRES-SURE	550	550	550	550	No. 2	PRES-SURE	1100	1100			
VISCOSITY	44	44	43	43	MODEL	S.P.M.	64	64	64	64	MODEL	S.P.M.					
GEL					300	LINER SIZE	5 1/2	14			250	LINER SIZE	5 1/2	15			
W.L.	18.2	F.C.	3/32	pH.	9.0	DESILTER: Hours Op:	U. Flow:	O. Flow:	SURVEYS		At Feet		Degrees				
ADDITIVES:	Starch	500	GENERAL:														
	C.M.C.	200															
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool	Bbls.			

REMARKS		TIME	
800	820	20	
820	825	5	
825	840	15	
DRILL 8 3/4 Hole			
Rig SERVICE + B.O.P.s			
DRILL			

From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly		
2690	37	2727	74	74	2181	97		14	6	2 3/8	517.79		465		17		
No.	Size	Type	Jets/W.C.	Serial No.	Wt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T	B	G
1	RR7	3 3/4	1/2 1/2	FW 724	33	50	135	23 1/2				700	64		A	✓	✓
MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.	PUMP	4 p.m.	6 p.m.	8 p.m.	10 p.m.	PUMP	4 p.m.	6 p.m.	8 p.m.	10 p.m.	MOTOR HOURS	Next Oil Change	
WEIGHT	9.9	10.0	10.0	10.0	No. 1	PRES-SURE	330	675	750	700	No. 2	PRES-SURE					
VISCOSITY	43	43	43	40	MODEL	S.P.M.	64	64	64	64	MODEL	S.P.M.					
GEL					300	LINER SIZE	5 1/2	14			250	LINER SIZE	5 1/2	15			
W.L.	11.8	F.C.	3/32	pH.	8.5	DESILTER: Hours Op:	U. Flow:	O. Flow:	SURVEYS		At Feet		Degrees				
ADDITIVES:	C.M.C.	100	165	GENERAL:													
	SALT	700	165														
	SALT	600	165														
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool	Bbls.			

REMARKS		TIME	
400	815	415	
815	820	5	
820	1230	310	
DRILL			
Rig SER + CHECK BOPs			
DRILL			

B.O.P.	Tested	Elapsed Time	Pressure	Packing & Seal Inspected Date	Crown-a-matic Chk'd.	Fuel on Hand 12.01 a.m.	gals.	CASING REPORT	RAN	JTS	CSG	RENTAL EQUIPMENT ON HAND	TRANSFER #
Hydril					Rig Savers Chk'd.	Fuel Rec'd Today (add)	gals.	TOTAL	gals.	TC	KB. USED	SAX	CEM
Pipe Rams.					Kelly Cock Chk'd.	Fuel on Hand 11.59 p.m. (deduct)	gals.	PLUS	%	PLUG DOWN	A.M.	P.M.	DAYS FROM SPUD
Blind Rams.					Fire Equip. Chk'd.	FUEL USED	gals.	CEMENT RETURN - (YES/NO)	EQUIPMENT CHANGES				
TOTCO RING ON BIT	Boiler Operated: 24.		Hrs.										

REMARKS		TIME	
DRILL			
Rig SER + CHECK BOPs			
DRILL			

CONSERVATION BOARD COPY

COM 42889

COMMONWEALTH DRILLING

DAILY DRILLING LOG
DIRECTIONS TO
WELLRIG NO. 12 LOCATION FINA ETAL WILLOW LAKE L-59 SEC. TWP. RGE. W. DATE Feb 22 19 71
MAILING POINT SHIPPING POINT MILES MOVED ROAD CONDITIONS DAYS FROM SPUD

TOUR	From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly	REMARKS	TIME				
																		START	STOP	INTVL		
1	2456	48	2504	7 4	72m	19	301	14	6	2 3/8	51779	465	21	Rig SER 1 BOPS			12 00	12 15	15			
	No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.	DRILL 8 3/4" HOLE			
	RR3	8 3/4	53S	115 1/16	FH589	35	50	10 1	19			1	450	64								
2	2504	46	2550	7 4	72.	1994	81	14	6	2 3/8	517	79	7	FIRE Fuel 2.2 2 1/2 m. (Signature)			8 00	12 45	4 3/4			
	No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.	DRILL 8 3/4" HOLE			
	RR3	8 3/4	53S	115 1/16	FH589	35	50	10 1	19			1	450	64						RIG SERVICE & B.O.P.s		
																				DRILL		
3	2550	32	2602	3 4	74m	2058	05	14	6	2 3/8	51779	465	14	FIRE (Signature)			4 00	4 30	1/2			
	No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.	DRILL 8 3/4" HOLE			
	RR3	8 3/4	53S	115 1/16	FH589	35	50	2 15	305											RIG SERVICE & B.O.P.s		
	RR7	8 3/4	53S	115 1/16	FH729															DRILL		
4	2602	12	2614	1 4	74m	2058	05	14	6	2 3/8	51779	465	14	FIRE (Signature)			9 00	9 15	15			
	No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.	SURVEY 2602 i/c			
	RR3	8 3/4	53S	115 1/16	FH589	35	50	2 15	305											Hois T		
	RR7	8 3/4	53S	115 1/16	FH729															Run HOLE w/ BIT 7"		

DAILY DRILLING LOG
DIRECTIONS TO
WELL _____

RIG NO. 12 LOCATION FINA ETAL WILLOW LAKE L-59 LSD. _____ SEC. _____ TWP. _____ RGE. _____ W. _____ DATE FEB 21 1971

MAILING POINT _____ SHIPPING POINT _____ MILES MOVED _____ ROAD CONDITIONS _____ DAYS FROM SPUD _____

																								TIME					
																								START	STOP	INTVL.			
2357																								REMARKS			12:00 12:45 5		
Hoist To TEST																								12:45 1:00 15					
Rig SER 4 Blind Chain																								1:00 1:45 45					
Pick up 1 MAKE UP Testing Tool																								1:45 3:15 1:30					
Run HOPE slowly w/ PACKER																								3:15 7:30 4:15					
Testing																								7:30 8:00 30					
Hoist PACKER																													

COMMONWEALTH DRILLING

DAILY DRILLING LOG
DIRECTIONS TO
WELL

RIG NO. 12

LOCATION

FIRCH WILLOW LAKE L-59

LSD.

SEC.

TWP.

RGE.

W.

DATE

JUL 20

1971

MAILING
POINTSHIPPING
POINTMILES
MOVEDROAD
CONDITIONSDAYS FROM
SPUD

From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly	REMARKS	TIME		
No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.		
2346	29	2375	6 1/2	68m	1837	07		14	6	2 1/2	51779		465		25	REAM RAT HOLE	1200 445 4 1/4		
6	34	WDRS	H6	25440	6-10	50-80		35	5 1/2	1	575	63		4	3	I	Pig SEA & BOPS	445 500 4	
3	6 1/2			FC27102													REAM RAT HOLE	500 545 4	
M.U.D.	12 mn.	2 a.m.	4 a.m.	6 a.m.	PUMP	12 mn.	2 a.m.	4 a.m.	6 a.m.	PUMP	12 mn.	2 a.m.	4 a.m.	6 a.m.	MOTOR HOURS	Next Oil Change	HOIST TO CORE	545 700 1 1/4	
WEIGHT	10.2	10.2	10.1	T	No. 1	PRES-SURE	575	575	575	No. 2	PRES-SURE	Mud	10.1					PICK UP CORE BBL	700 715 4
VISCOSITY	38	40	42		MODEL	S.P.M.	63	63	63	MODEL	S.P.M.							Run in HOLE w/ CORE BBL	715 800 4
GEL					D300	LINER SIZE	5 1/2 X 14			250	LINER SIZE	5 1/2 X 15							
W.L.	12.2	F.C.	732	pH.	7.5	DESILTER: Hours Op:	U. Flow:	O. Flow:											
ADDITIVES	Salt gel 1500				901	500													
GENERAL:																			
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool						
2375	12	2387	3	70.	1736	73		14	6	2 1/2	517.79		465	70.15	28	FINISH IN W/ CORE B.B.L.	800 830 1/2		
3	34	O.C		FC27102	8	75	12	3			1	150	14			Pig SERVICE & B.O.P.s	830 845 1/4		
M.U.D.	8 a.m.	10 a.m.	12 noon	2 p.m.	PUMP	8 a.m.	10 a.m.	12 noon	2 p.m.	PUMP	8 a.m.	10 a.m.	12 noon	2 p.m.	MOTOR HOURS	Next Oil Change	CUT CORE No. 6	845 1145 3	
WEIGHT	10.2	10.2			No. 1	PRES-SURE	650	650		No. 2	PRES-SURE							Mix LOST CIR. MATERIAL	1145 1150 13/4
VISCOSITY	44	42			MODEL	S.P.M.	76	44		MODEL	S.P.M.							& REBAIN CIR. BUILD VOL.	1150 300 1 1/2
GEL					D300	LINER SIZE	5 1/2 X 14			250	LINER SIZE							HOIST JAMMED CORE BBL.	300 400 1
W.L.	12.2	F.C.		pH.	11.0	DESILTER: Hours Op:	U. Flow:	O. Flow:											
ADDITIVES	GEL 145K																		
GENERAL:																			
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool						
2375	12	2387	29					14	6		51779		465		13	FINISH OUT.	400 415 1/4		
4	34	WDRS	3/20	RF226	10	50		12	29									RECOVER CORE	415 445 1/2
M.U.D.	4 p.m.	6 p.m.	8 p.m.	10 p.m.	PUMP	4 p.m.	6 p.m.	8 p.m.	10 p.m.	PUMP	4 p.m.	6 p.m.	8 p.m.	10 p.m.	MOTOR HOURS	Next Oil Change	SERVICE & LAY DOWN CORE BBL	445 500 1/4	
WEIGHT	9.8	10.0	9.8		No. 1	PRES-SURE				No. 2	PRES-SURE							SLIP 12" LINK	500 515 1/4
VISCOSITY	40	41	39		MODEL	S.P.M.				MODEL	S.P.M.							Rig SERVICE & B.O.P.s	515 530 1/4
GEL					D300	LINER SIZE				MODEL	S.P.M.							RUN W/ BIT No. RR4.	530 645 1 1/4
W.L.		F.C.		pH.		DESILTER: Hours Op:	U. Flow:	O. Flow:										REAM RAT HOLE	645 900 2 1/4
ADDITIVES	Salt gel 1500				901	500/1000												CORE mud TO TEST	900 1130 2 1/2
GENERAL:																		HOIST TO TEST	1130 1200 2
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool						
B.O.P.	Tested	Elapsed Time	Pres-sure	Packing & Seal Inspected Date	Crown-o-matic Chk'd.	Fuel on Hand 12:31 a.m.	gals.	CASING REPORT	RAN	JTS	CSG	RENTAL EQUIPMENT ON HAND	TRANSFER #						
Hydri					Rig Savers Chk'd.	Fuel Rec'd Today (1:02)	gals.	TO	KB. USED	SAX	CEM								
Pipe Rams.					Kelly Cock Chk'd.	Fuel on Hand 1:59 p.m. (deduct)	gals.	PLUS	%	PLUG DOWN	A.M. P.M.	DAYS FROM SPUD:	TOTAL COMPANY TIME	HRS.	TOTAL CONTRACTOR'S TIME	HRS.			
Blind Rams.					Fire Equip. Chk'd.	FUEL USED	gals.	CEMENT RETURNS - (YES/NO)				EQUIPMENT CHANGES							
TOTCO RING ON BIT =				Boiler Operated: 24	Hrs.														

CONSERVATION BOARD COPY

COM 42885

DAILY DRILLING LOG
DIRECTIONS TO
WELL

RIG NO. 12 LOCATION from ETAL willow Lake L-57 LSD. _____ SEC. _____ TWP. _____ RGE. _____ W. _____ DATE Feb 19 1971

MAILING POINT _____ SHIPPING POINT _____ MILES MOVED _____ ROAD CONDITIONS _____ DAYS FROM SPUD _____

From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly	REMARKS			TIME		
																START	STOP	INTVL.			
2340	12	2352	64	65	27	53	14	6	2 1/8	57.77	465	704	26				Rig SER & BLIND RAM	1200	1212	12	
																	Run in Hole w/ CORE BBL	1215	1245	12	
																	Cut Core #5	1245	1300	12	
M.U.D.	12 mn.	2 a.m.	4 a.m.	6 a.m.	PUMP	12 mn.	2 a.m.	4 a.m.	6 a.m.	PUMP	12 mn.	2 a.m.	4 a.m.	6 a.m.	MOTOR HOURS	Next Oil Change					
WEIGHT	10.2	10.2			No. 1	PRES-SURE	550	550	550	No. 2	PRES-SURE	1100	1100								
VISCOSITY	42	42			MODEL	S.P.M.	37	37	37	MODEL	S.P.M.	37	37								
GEL					LINER SIZE		3 1/2	3 1/2	3 1/2	LINER SIZE		3 1/2	3 1/2								
W.L.	F.C.	pH.			DESILTER: Hours Op:		U. Flow:		O. Flow:								Weather	Water			
ADDITIVES:					GENERAL:												Temp.				
CORE #5-2340-2375 TRLC 33																					
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool								
From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly						
2352	18	2370	734	65	27	53	14	6	2 1/8	57.77	465	704	26								
M.U.D.	9 a.m.	10 a.m.	12 noon	2 p.m.	PUMP	8 a.m.	10 a.m.	12 noon	2 p.m.	PUMP	8 a.m.	10 a.m.	12 noon	2 p.m.	MOTOR HOURS	Next Oil Change					
WEIGHT	10.2	10.1	10.1	41	No. 1	PRES-SURE	550	550	550	600	No. 2	PRES-SURE	1100	1100							
VISCOSITY	42	41	41	41	MODEL	S.P.M.	35	35	32	32	MODEL	S.P.M.	35	35							
GEL					LINER SIZE		5 1/2	5 1/2	5 1/2	5 1/2	LINER SIZE		5 1/2	5 1/2							
W.L.	10	F.C.	pH. 10.5		DESILTER: Hours Op:		U. Flow:		O. Flow:								Weather	Water			
ADDITIVES:					GENERAL:												Temp.				
PENTEX 30																					
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool								
From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly						
2370	5	2375	734	65	27	53	14	6	2 1/8	57.77	465	704	26								
M.U.D.	4 p.m.	6 p.m.	8 p.m.	10 p.m.	PUMP	4 p.m.	6 p.m.	8 p.m.	10 p.m.	PUMP	4 p.m.	6 p.m.	8 p.m.	10 p.m.	MOTOR HOURS	Next Oil Change					
WEIGHT	10.2	10.2			No. 1	PRES-SURE	600	600			No. 2	PRES-SURE									
VISCOSITY	40	110			MODEL	S.P.M.	32	32			MODEL	S.P.M.									
GEL					LINER SIZE		5 1/2	5 1/2			LINER SIZE		5 1/2	5 1/2							
W.L.	11.0	F.C.	pH. 11		DESILTER: Hours Op:		U. Flow:		O. Flow:								Weather	Water			
ADDITIVES:					GENERAL:												Temp.				
PENTEX 30																					
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool								

COMMONWEALTH DRILLING

DAILY DRILLING LOG
DIRECTIONS TO
WELLRIG NO. 12 LOCATION FINA ETAL WILLOW LAKE L59 SEC TWP. RGE. W. DATE Feb 18 1971
MAILING POINT SHIPPING POINT JUNK SUB 210 MILES MOVED ROAD CONDITIONS DAYS FROM SPUD

From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly	REMARKS	TIME	START	STOP	INTVL.	
2250	3	2253	1 1/4	64				14	6	2 1/2	51779	465	7045			Cut Core	1200	1 15	1 17		
B	No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Corod	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.			
2	5 1/2	O			1110	12	99	9	1 1/4												
234	5 1/2	W4H	W4H	1110	11266				4	1 1/4											
M.U.D.	12 m.m.	2 a.m.	4 a.m.	6 a.m.	PUMP	12 m.m.	2 a.m.	4 a.m.	6 a.m.	PUMP	12 m.m.	2 a.m.	4 a.m.	6 a.m.	MOTOR HOURS	Next Oil Change					
WEIGHT	10.2	10.2			No. 1	PRES. SURE				No. 2	PRES. SURE				1						
VISCOSITY	42	42			MODEL	S.P.M.				MODEL	S.P.M.				2						
GEL					300	LINER SIZE				250	LINER SIZE				3						
W.L. 6.0	F.C.	pH.			DESILTER: Hours Op:	U. Flow:	O. Flow:								4						
ADDITIVES: STERIL 7250	GENERAL:														5						
Gel 500 - Salt gel 500															Weather	Water					
CORRET 4-2245-2253 REC 6:30															Temp.	Bbls.					
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool								
2253	41	2294	4	64	1744	96		14	6	2 1/2	517	79	7.65	7045	13						
B	No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Corod	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.			
1	5 1/2	W4H	W4H	1110	11266				8	3	1	800	64		4	4	1				
100	5 1/2	W4H	W4H	1110	11266				1	200	64				4	4	1				
M.U.D.	8 a.m.	10 a.m.	12 noon	2 p.m.	PUMP	8 a.m.	10 a.m.	12 noon	2 p.m.	PUMP	8 a.m.	10 a.m.	12 noon	2 p.m.	MOTOR HOURS	Next Oil Change					
WEIGHT	10.2	10.2		10.2	No. 1	PRES. SURE				No. 2	PRES. SURE				1						
VISCOSITY	41	41		40	MODEL	S.P.M.				MODEL	S.P.M.				2						
GEL					300	LINER SIZE				250	LINER SIZE				3						
W.L. 10.0	F.C.	pH. 1.0			DESILTER: Hours Op:	U. Flow:	O. Flow:								4						
ADDITIVES: DOWSOL B-10	GENERAL:														5						
PEREX-50 CAUSTIC-50															Weather	Water					
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool								
2294	21	2334	40	64	1776	73		14	6	2 1/2	51779	465			Down						
B	No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Corod	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.			
1	5 1/2	W4H	W4H	1110	11266				8	3	1	700	64		1	1	1				
100	5 1/2	W4H	W4H	1110	11266				1	200	64				1	1	1				
M.U.D.	6 p.m.	6 p.m.	8 p.m.	10 p.m.	PUMP	4 p.m.	6 p.m.	8 p.m.	10 p.m.	PUMP	4 p.m.	6 p.m.	8 p.m.	10 p.m.	MOTOR HOURS	Next Oil Change					
WEIGHT	10.2	10.3	10.3	10.3	No. 1	PRES. SURE				No. 2	PRES. SURE				1						
VISCOSITY	40	39	38	43	MODEL	S.P.M.				MODEL	S.P.M.				2						
GEL					300	LINER SIZE				250	LINER SIZE				3						
W.L. 9.5	F.C. 432	pH. 9.5			DESILTER: Hours Op:	U. Flow:	O. Flow:								4						
ADDITIVES: Salt gel 700	GENERAL:														5						
9:21 0 700															Weather	Water					
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool								
B.O.P.	Tested	Elapsed Time	Pressure	Packing & Seal Inspected Date	Crown-o-matic Chk'd.	Fuel on Hand 12.01 a.m.	gals.														
Hydri					Rig Savers Chk'd.	Fuel Rec'd Today (add)	gals.														
Pipe Rams.					Kelly Cock Chk'd.	TOTAL	gals.														
Blind Rams.					Firm Equip. Chk'd.	Fuel on Hand 11.59 p.m. (deduct)	gals.														
TOTCO RING ON BIT =	Boiler Operated: 24	Hrs.				FUEL USED	gals.														
CASING REPORT																PAN	JTS	CSG	RENTAL EQUIPMENT ON HAND	TRANSFER #	
TO																KB. USED	SAX	CEM			
PLUS																%	PLUG DOWN	A.M. P.M.	DAYS FROM SPUD:	TOTAL COMPANY TIME	TOTAL CONTRACTOR'S TIME
CEMENT RETURNS - (YES/NO)																EQUIPMENT CHANGES		HRS.		HRS.	
Approved by Operator's Representative																Approved by Toolpusher					

COMMONWEALTH DRILLING

DAILY DRILLING LOG
DIRECTIONS TO
WELL

RIG NO. 12

LOCATION FLUVA ETAL WILLOW LAKE L-59

SEC. TWP. RGE. W. DATE Feb 17

1971

MAILING
POINTSHIPPING
POINTMILES
MOVEDROAD
CONDITIONSDAYS FROM
SPUD

From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly	REMARKS	TIME			
No.	Size	Type	Jets/W.C.	Serial No.	Wt.	R.P.M.	Drilled or Corred	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T	B	G	START	STOP	INTVL
2125	62	2187	7 1/4	62m																
5	8 3/4	435	3/16	FW307	40	50	164	593			1	175	27							
DRILL 8 3/4" HOLE																		1200	3 15	3 30
RIG SER & BOP'S																		3 15	3 30	4 15
DRILL 8 3/4" HOLE																		3 30	8 00	4 45
4.0 inch																				
FIRE																				
DRILLER'S SIGNATURE																				
2187	58	2245	7 1/4	62	1684	16														
5	8 3/4	435	3/16	FW307	40	50	466	674			1	175	27							
DRILL 8 3/4" HOLE																		8 00	11 30	3 1/2
RIG SERVICE & BOP'S																		11 30	11 45	1 1/4
DRILL																		11 45	4 00	4 1/4
FIRE																				
DRILLER'S SIGNATURE																				
2245	5	2250	3	69	1622	27														
5	8 3/4	435	3/16	FW307	40	50	466	674			1	600	64							
2	6 5/8	Q		6110	12	88	5	3												
RIG SERVICE & BOP'S																		4 20	4 15	1 1/4
TIGHTEN WASHPIRE PACKING																		4 15	4 45	1/2
CIR. SAMPLE																		4 45	5 15	1/2
SURVEY																		5 15	5 30	1/4
HOIST FOR CORE B.B.L.																		5 30	7 00	1 1/2
PICK UP CORE B.B.L.																		7 00	7 30	1/2
RUN IN W. / CORE B.B.L.																		7 30	9 00	1 1/2
CUT CORE 4"																		9 00	12 00	3
FIRE																				
DRILLER'S SIGNATURE																				
Casing Report																				
RAN JTS CSG																				
TO KB. USED SAX CEM																				
PLUS % PLUG DOWN A.M. P.M.																				
CEMENT RETURNS - (YES/NO)																				
EQUIPMENT CHANGES																				
TOTAL COMPANY TIME HRS.																				
TOTAL CONTRACTOR'S TIME HRS.																				
Approved by Operator's Representative																				
Approved by Toolpusher																				

B.O.P.	Tested	Elapsed Time	Pressure	Packing & Seal Inspected Date	Crown-a-matic Chk'd.	Fuel on Hand 12.01 a.m.	gals.	Fuel Rec'd Today (add)	gals.	TOTAL	gals.	Fuel on Hand 11.59 p.m. (deduct)	gals.	FUEL USED	gals.	Boiler Operated: 24 Hrs.	Fire Equip. Chk'd.
Hydril																	
Pipe Rams.																	
Blind Rams.																	

TOTCO RING ON BIT =	Boiler Operated: 24 Hrs.	Fire Equip. Chk'd.	FUEL USED	gals.	CEMENT RETURNS - (YES/NO)	EQUIPMENT CHANGES	TOTAL COMPANY TIME HRS.	TOTAL CONTRACTOR'S TIME HRS.	Approved by Operator's Representative	Approved by Toolpusher

CONSERVATION BOARD COPY

COM 42882

RIG NO. 12 LOCATION FINN ET AL WILLOW LAKE LSD. L-59 SEC. _____ TWP. _____ RGE. _____ W. _____ DATE FEB 16 19 71

MAILING POINT _____ SHIPPING POINT _____ MILES MOVED _____ ROAD CONDITIONS _____ DAYS FROM SPUD _____

COM 42881

COMMONWEALTH DRILLING

DAILY DRILLING LOG
DIRECTIONS TO
WELL

RIG NO. 12 LOCATION FINEA RT. N. WILLOW LAKE L.S.D. 2-59 SEC. TWP. RGE. W. DATE FEB 15 1971

MAILING
POINTSHIPPING
POINTMILES
MOVEDROAD
CONDITIONSDAYS FROM
SPUD

From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly	REMARKS	TIME	START	STOP	INTVL
1840	52	1863	7 3/4	55	1311	60		14	6	2 7/8	517.79	465			11	Rig SERO + CHECK TIRE PRESS	12 00	12 15	15	7 1/4
No.	Size	Type	Jct/W.C.	Serial No.	Wgt.	R.P.M.	Drilled	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T	S	G			
5	8 1/4	435	3/16	FW307	35	45	54	13 1/4			1	550	65							
M.U.D.	12 m.m.	2 a.m.	4 a.m.	6 a.m.	PUMP	12 m.m.	2 a.m.	4 a.m.	6 a.m.	PUMP	12 m.m.	2 a.m.	4 a.m.	6 a.m.	MOTOR HOURS	Next Oil Change				
WEIGHT	10.1	10.1	10.2	10.2	No. 1	550	550	550	550	No. 2	550	550	550	550	1					
VISCOSITY	43	43	43	42	MODEL	62	62	62	62	MODEL	62	62	62	62	2					
GEL					LINE SIZE	5 1/2	14			LINE SIZE	5 1/2	15			3					
W.L.	14.4	F.C.	3/32	pH.	6.8	DESILTER: Hours Op:	U. Flow:	O. Flow:		SURVEYS	At Feet	Degrees			4					
ADDITIVES:	3 in. stream water														5					
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool							
1863	51	1914	7 1/4	56	1374	02		14	6	2 7/8	517.79	465			22	FUEL - 5'				
No.	Size	Type	Jct/W.C.	Serial No.	Wgt.	R.P.M.	Drilled	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T	S	G			
5	8 1/4	435	3/16	FW307	35	40	50	135			1	550	62							
M.U.D.	3 a.m.	10 a.m.	12 noon	2 p.m.	PUMP	8 a.m.	10 a.m.	12 noon	2 p.m.	PUMP	8 a.m.	10 a.m.	12 noon	2 p.m.	MOTOR HOURS	Next Oil Change				
WEIGHT	10.2	10.2	10.2	10.2	No. 1	550	550	550	550	No. 2	550	550	550	550	1					
VISCOSITY	41	40	40	37	MODEL	62	62	62	62	MODEL	62	62	62	62	2					
GEL					LINE SIZE	5 1/2	14			LINE SIZE	5 1/2	15			3					
W.L.	12.2	F.C.	3/32	pH.	7.6	DESILTER: Hours Op:	U. Flow:	O. Flow:		SURVEYS	At Feet	Degrees			4					
ADDITIVES:	Starch 250				GENERAL: 180 Gal. Diesel Fuel										5					
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool							
1914	55	1969	7 1/4	60	1436	24		14	6	2 7/8	517.79	465			30	FIRE				
No.	Size	Type	Jct/W.C.	Serial No.	Wgt.	R.P.M.	Drilled	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T	S	G			
5	8 1/4	435	3/16	FW307	40	50	190	28 1/2			1	550	62							
M.U.D.	4 p.m.	6 p.m.	8 p.m.	10 p.m.	PUMP	4 p.m.	6 p.m.	8 p.m.	10 p.m.	PUMP	4 p.m.	6 p.m.	8 p.m.	10 p.m.	MOTOR HOURS	Next Oil Change				
WEIGHT	10.2	10.2	10.1	10.1	No. 1	550	550	550	550	No. 2	550	550	550	550	1					
VISCOSITY	40	39	38	40	MODEL	62	62	62	62	MODEL	62	62	62	62	2					
GEL					LINE SIZE	5 1/2	14			LINE SIZE	5 1/2	15			3					
W.L.	20.4	F.C.	3/32	pH.	7.6	DESILTER: Hours Op:	U. Flow:	O. Flow:		SURVEYS	At Feet	Degrees			4					
ADDITIVES:	More 1 = 350				GENERAL:										5					
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool							
1969	55	1969	7 1/4	60	1436	24		14	6	2 7/8	517.79	465			30	FIRE				
No.	Size	Type	Jct/W.C.	Serial No.	Wgt.	R.P.M.	Drilled	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T	S	G			
5	8 1/4	435	3/16	FW307	40	50	190	28 1/2			1	550	62							
M.U.D.	4 p.m.	6 p.m.	8 p.m.	10 p.m.	PUMP	4 p.m.	6 p.m.	8 p.m.	10 p.m.	PUMP	4 p.m.	6 p.m.	8 p.m.	10 p.m.	MOTOR HOURS	Next Oil Change				
WEIGHT	10.2	10.2	10.1	10.1	No. 1	550	550	550	550	No. 2	550	550	550	550	1					
VISCOSITY	40	39	38	40	MODEL	62	62	62	62	MODEL	62	62	62	62	2					
GEL					LINE SIZE	5 1/2	14			LINE SIZE	5 1/2	15			3					
W.L.	20.4	F.C.	3/32	pH.	7.6	DESILTER: Hours Op:	U. Flow:	O. Flow:		SURVEYS	At Feet	Degrees			4					
ADDITIVES:	More 1 = 350				GENERAL:										5					
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool							
1969	55	1969	7 1/4	60	1436	24		14	6	2 7/8	517.79	465			30	FIRE				

COMMONWEALTH DRILLING

DAILY DRILLING LOG
DIRECTIONS TO
WELLRIG NO. 12 LOCATION FINE ET 130 WILLOW LAKE L.S.D. SEC. TWP. RGE. W. DATE FEB 14/71 19
MAILING POINT SHIPPING POINT MILES MOVED ROAD CONDITIONS DAYS FROM SPUD

From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly	REMARKS	TIME	
START	STOP	INTVL.																
1670	60	730	7 3/4	55	1186	66		14	6	2 1/8	517	79	465		19	DRILL	12 1 45 13 1/4	
No.	Size	Type	Joint W.C.	Serial No.	Wt.	R.P.M.	Drilled or Corred	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.	1 45 2 1/4
RR3894	555	7 1/2	115	FFS89	35	60	629	7 1/4			2	725	59		R	O	A	2 8 6
362504																		
M.U.D. 12 m. 2 a.m. 4 a.m. 6 a.m. PUMP 12 m. 2 a.m. 4 a.m. 6 a.m. MOTOR HOURS Next Oil Change																		
WEIGHT	10.1	10.1	10.1	10.1	No. 1	PRES. SURE	725	725	725	725	1							
VISCOSITY	38	39	40	40	MODEL	S.P.M.	59	59	59	59	2							
GEL					LINER SIZE	5 1/2 x 14	250	LINER SIZE	5 1/2 x 15	3								
W.L. 7.14 F.C. 3/32 pH. 7.2 DESILTER: Hours Op: U. Flow: O. Flow: SURVEYS At Feet Degrees																		
ADDITIVES: March = 250 155 GENERAL: Weather Water Temp. Bbls.																		
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool	FIRES				DRILLER'S SIGNATURE
From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly	REMARKS	TIME	
1730	49	1779	8 3/4	58	1217	01		14	6	2 1/8	517	79	465		19	DRILL	800 10 45 2 3/4	
No.	Size	Type	Joint W.C.	Serial No.	Wt.	R.P.M.	Drilled or Corred	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.	10 45 11 00 4
RR3894	555	7 1/2	115	FFS89	35	60	629	7 1/4			2	725	59		R	O	A	11 00 300 4
M.U.D. 8 a.m. 10 a.m. 12 noon 2 p.m. PUMP 8 a.m. 10 a.m. 12 noon 2 p.m. MOTOR HOURS Next Oil Change																		
WEIGHT	10.1	10.1	10.1	10.1	No. 1	PRES. SURE	725	725	725	725	1							
VISCOSITY	39	40	40	41	MODEL	S.P.M.	59	59	59	59	2							
GEL					LINER SIZE	5 1/2 x 14	250	LINER SIZE	5 1/2 x 15	3								
W.L. 12.8 F.C. 3/32 pH. 8.0 DESILTER: Hours Op: U. Flow: O. Flow: SURVEYS At Feet Degrees																		
ADDITIVES: GENERAL: 180 Gal. Diesel Fuel - 180 gal. 1179 29 per Min. Weather Water Temp. Bbls.																		
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool	FIRES				DRILLER'S SIGNATURE
From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly	REMARKS	TIME	
1779	32	1811	5 1/2	55	1248	40		14	6	2 1/8	517	79	465		19	DRILL	400 4 45 2 3/4	
No.	Size	Type	Joint W.C.	Serial No.	Wt.	R.P.M.	Drilled or Corred	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.	4 45 5 00 3 1/2
RR3894	555	7 1/2	115	FFS89	35	60	629	7 1/4			2	725	59		R	O	A	5 00 630 1 1/2
M.U.D. 4 p.m. 6 p.m. 8 p.m. 10 p.m. PUMP 4 p.m. 6 p.m. 8 p.m. 10 p.m. MOTOR HOURS Next Oil Change																		
WEIGHT	10.1	10.1	10.1	10.1	No. 1	PRES. SURE	725	725	725	725	1							
VISCOSITY	43	42			MODEL	S.P.M.	59	59	59	59	2							
GEL					LINER SIZE	5 1/2 x 14	250	LINER SIZE	5 1/2 x 15	3								
W.L. 13.8 F.C. 3/32 pH. 6.8 DESILTER: Hours Op: U. Flow: O. Flow: SURVEYS At Feet Degrees																		
ADDITIVES: GENERAL: Weather Water Temp. Bbls.																		
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool	FIRES				DRILLER'S SIGNATURE
B.O.P.	Tested	Elapsed Time	Pressure	Packing & Seal Inspected Date	Crown-a-matic Chk'd.	Fuel on Hand 12.01 a.m.	gals.	CASING REPORT	RAN	JTS	CSG	RENTAL EQUIPMENT ON HAND	TRANSFER #					
Hydri					Rig Savers Chk'd.	Fuel Rec'd Today (add)	gals.	TO	KB. USED	SAX	CEM							
Pipe Rams.					Kelly Cock Chk'd.	TOTAL	gals.	PLUS	%	PUG DOWN	A.M. P.M.	DAYS FROM SPUD:	TOTAL COMPANY TIME	HRS.	TOTAL CONTRACTOR'S TIME	HRS.		
Blind Rams.					Fire Equip. Chk'd.	Fuel on Hand 11.59 a.m. (deduct)	gals.	CEMENT RETURNS - (YES/NO)	EQUIPMENT CHANGES									
TOTCO RING ON BIT # 1/2 Boiler Operated: 12 Hrs.																	Approved by Operator's Representative	
																	Approved by Toolpusher	

COMMONWEALTH DRILLING

DAILY DRILLING LOG
DIRECTIONS TO
WELLRIG NO. 12 LOCATION FINEA ET AL WILLOW LAKE L-59 SEC. TWP. RGE. W. DATE FEB 13th 1971
MAILING POINT SHIPPING POINT MILES MOVED ROAD CONDITIONS DAYS FROM SPUD

From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft	Ft. up on Kelly
1502	45	1547	7 3/4	54	1000	60		14	6	2 1/8	517.79		465		16

B	No.	Size	Type	Jct. W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T	B	G
1	252	5 1/4	SS	7 1/2	115	5589	23	20	179	50		2	750	59		R	U	N
T									(27)									

M.U.D.	12 mn.	2 a.m.	4 a.m.	6 a.m.	PUMP	12 mn.	2 a.m.	4 a.m.	6 a.m.	PUMP	12 mn.	2 a.m.	4 a.m.	6 a.m.	MOTOR HOURS	Next Oil Change
WEIGHT	10.1	10.2	10.2	10.2	No. 1	725	725	750	750	No. 2	725	725	750	750	1	
VISCOSITY	42	42	42	42	MODEL	59	59	59	59	MODEL	59	59	59	59	2	
GEL					LINER SIZE	5 1/4	5 1/4	5 1/4	5 1/4	LINER SIZE	5 1/4	5 1/4	5 1/4	5 1/4	3	
W.L.	8.2	F.C.	4/32	pH.	9.0	DESILTER: Hours Op:	U. Flow:	O. Flow:		SURVEYS	At Feet	Degrees			4	
ADDITIVES:	Starach	350	100	GENERAL:											5	
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Feet Left on Spool	Weather	Water	Bbls.

Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Feet or		At Miles	Date Slip or Cut		Next Slip	Fr. Left on Spool			
								Slip	Cut								
From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stand	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly		
1547	56	1603	7 3/4	54	1000	88		No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly		
								14	6	2 1/8	517.79	79	465		21		
No.	Size	Type	Jct. W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T	B	G
252	5 1/4	SS	7 1/2	115	5589	23	20	179	50		2	750	59		R	U	N
								(27)									

M.U.D.	12 mn.	2 a.m.	4 a.m.	6 a.m.	PUMP	12 mn.	2 a.m.	4 a.m.	6 a.m.	PUMP	12 mn.	2 a.m.	4 a.m.	6 a.m.	MOTOR HOURS	Next Oil Change
WEIGHT	10.2	10.3	10.2	10.2	No. 1	750	750	750	750	No. 2	750	750	750	750	1	
VISCOSITY	40	38	38	40	MODEL	59	59	59	59	MODEL	59	59	59	59	2	
GEL					LINER SIZE	5 1/4	5 1/4	5 1/4	5 1/4	LINER SIZE	5 1/4	5 1/4	5 1/4	5 1/4	3	
W.L.	9.8	F.C.	4/32	pH.	8.0	DESILTER: Hours Op:	U. Flow:	O. Flow:		SURVEYS	At Feet	Degrees			4	
ADDITIVES:	Starach	350	100	GENERAL:											5	
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Feet Left on Spool	Weather	Water	Bbls.

Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	on Spool				
From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stand	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up or Kelly		
1603	67	1670	7 3/4	54	1123	61		14	6	2 3/8	517.79	79	465		16		
No.	Size	Type	Jct. W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T	B	G
252	5 1/4	SS	7 1/2	115	5589	23	20	179	50		2	750	59		R	U	N
							302	402									

M.U.D.	12 mn.	2 a.m.	4 a.m.	6 a.m.	PUMP	12 mn.	2 a.m.	4 a.m.	6 a.m.	PUMP	12 mn.	2 a.m.	4 a.m.	6 a.m.	MOTOR HOURS	Next Oil Change
WEIGHT	9.3	9.2	10.1	10.1	No. 1	750	750	750	750	No. 2	750	750	750	750	1	
VISCOSITY	39	39	38	38	MODEL	59	59	59	59	MODEL	59	59	59	59	2	
GEL					LINER SIZE	5 1/4	5 1/4	5 1/4	5 1/4	LINER SIZE	5 1/4	5 1/4	5 1/4	5 1/4	3	
W.L.	11.6	F.C.	4/32	pH.	8.3	DESILTER: Hours Op:	U. Flow:	O. Flow:		SURVEYS	At Feet	Degrees			4	
ADDITIVES:	Starach	350	100	GENERAL:											5	
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Feet Left on Spool	Weather	Water	Bbls.

Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Pen. or	Cut	At Miles	Slip or Cut	Slip	on Spool
B. O. P.	Tested	Elapsed Time	Pressure	Packing & Seal Inspected Date		Crown-a-matic Chk'd.		Fuel on Hand 12.01 a.m.		gals.	CASING REPORT		RAN	
Hydril						Rig Savers Chk'd.		Fuel Rec'd Today (add)		gals.	TO		KB. USED	
Pipe Rams.						Kelly Cock Chk'd.		TOTAL		gals.	PLUS		PLUG DOWN	
Blind Rams.						Fire Equip. Chk'd.		Fuel on Hand 11:59 p.m. (deduct)		gals.	CEMENT RETURNS - (YES/NO)			
TOTCU RING ON BIT =			Boiler Operated: 24 Hrs.					FUEL USED		gals.				

REMARKS	START	STOP	INTVL.
DRILL	4:30	4:45	1/4
R.C. SERVO + CHECK BOP	4:45	5:00	1/4
DRILL	5:00	5:15	1/4

FUEL 5'6"			
FIRE			
DRILLER'S SIGNATURE: [Signature]			

DRILL 8 1/4 HOLE	8:00	10:00	2
Rig servo + BOP check	10:00	10:15	1/4
DRILL 8 1/4 HOLE	10:15	10:30	1/4

FIRE			
DRILLER'S SIGNATURE: [Signature]			

DRILL 8 1/4 HOLE	4:00	6:15	2 1/4
Rig SERVO + HYDRIL CHECK	6:15	6:30	1/4
DRILL	6:30	6:45	1/4

FIRE			
DRILLER'S SIGNATURE: [Signature]			

COMMONWEALTH DRILLING

DAILY DRILLING LOG
DIRECTIONS TO
WELL

RIG NO. 12

LOCATION FINE ET HL UNION LAKE

L-59

SEC. TWP. RGE. W. DATE APR 12 1971

MAILING
POINTSHIPPING
POINTMILES
MOVEDROAD
CONDITIONSDAYS FROM
SPUD

From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly
1266	28	1296	2 1/4	53	205.71				6	2 1/2	27.77		465		

	No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Roomed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.
B	4	2 1/2	45S	4 1/2	EE 266	10	115			30	1170	2	650	58		2	4	1
I	1	2 1/2	45S	4 1/2	RR	35	50	20	20			2	700	59				
S																		

M.U.D.	12 mn.	2 a.m.	4 a.m.	6 a.m.	PUMP	12 mn.	2 a.m.	4 a.m.	6 a.m.	PUMP	12 mn.	2 a.m.	4 a.m.	6 a.m.	MOTOR HOURS	Next Oil Change
WEIGHT	10.1			100	No. 1	PRE-SURE				No. 2	PRE-SURE	625	700	700	1	
VISCOSITY	43			42	MODEL	S.P.M.				MODEL	S.P.M.	59	59	59	2	
GEL					LINER SIZE					LINER SIZE		5 1/2	5 1/2	5 1/2	3	

W.L. 8.16 F.C. 432 pH. 7.0 DESILTER: Hours Op: U. Flow: O. Flow: SURVEYS At Feet Degrees

ADDITIVES: GENERAL: Weather Temp. Bbls.

Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool
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From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly
1346	56	1452	7 1/4	53m	906	54		14	6		517.79		465		17

No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	I.P.M.	Table Torque	T	B	G
4	2 1/2	45S	4 1/2	EE 266	10	115		30	1170	2	650	58		2	4	1	
5	2 1/2	45S	4 1/2	RR 35	50	20	20			2	700	59					
						40		34 1/2									

M.U.D.	8 a.m.	10 a.m.	12 noon	2 p.m.	PUMP	8 a.m.	10 a.m.	12 noon	2 p.m.	PUMP	8 a.m.	10 a.m.	12 noon	2 p.m.	MOTOR HOURS	Next Oil Change
WEIGHT	10.1	10.1	10.4	10.2	No. 1	PRE-SURE				No. 2	PRE-SURE	700	700	700	1	
VISCOSITY	43	43	40	42	MODEL	S.P.M.				MODEL	S.P.M.	59	59	59	2	
GEL					LINER SIZE					LINER SIZE		5 1/2	5 1/2	5 1/2	3	

W.L. 9.4 F.C. 732 pH. 8.0 DESILTER: Hours Op: U. Flow: O. Flow: SURVEYS At Feet Degrees

ADDITIVES: GENERAL: Weather Temp. Bbls.

Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool
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From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly
1452	50	1502	7 1/4	54	969.53			14	6		517.79		465		30

1436	2 1/2	45S	3 1/2	14	54	96% 53	14	6	21719	403	20						
No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.
RR3	2 1/2	45S	3 1/2	45	54	50	1 1/2	42			2	700	59		5	0	15
							11740										

M.U.D.	4 p.m.	6 p.m.	8 p.m.	10 p.m.	PUMP	4 p.m.	6 p.m.	8 p.m.	10 p.m.	PUMP	4 p.m.	6 p.m.	8 p.m.	10 p.m.	MOTOR HOURS	Next Oil Change
WEIGHT	10.1	10.1	10.1	10.1	No. 1	PRE-SURE				No. 2	PRE-SURE	700	700	700	1	
VISCOSITY	40	39	42	42	MODEL	S.P.M.				MODEL	S.P.M.	59	59	59	2	
GEL					LINER SIZE					LINER SIZE		5 1/2	5 1/2	5 1/2	3	

W.L. 11.8 F.C. 432 pH. 9.0 DESILTER: Hours Op: U. Flow: O. Flow: SURVEYS At Feet Degrees

ADDITIVES: GENERAL: Weather Temp. Bbls.

Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool
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B.O.P.	Tested	Elapsed Time	Pressure	Packing & Seal Inspected Date	Crown-o-matic Chk'd.	Fuel on Hand 12.01 a.m.	gals.	CASING REPORT	RAN	JTS	CSG	RENTAL EQUIPMENT ON HAND	TRANSFER #
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Hydril	Pipe Rams.	Blind Rams.	TOTCO RING ON BIT =	Boiler Operated: 24 Hrs.	Fire Equip. Chk'd.	Fuel Rec'd Today (add)	gals.	TOTAL	gals.	Fuel on Hand 11.59 p.m. (deduct)	gals.	PLUS	%	PLUG DOWN	A.M. P.M.	DAYS FROM SPUD:	TOTAL COMPANY TIME HRS.	TOTAL CONTRACTOR'S TIME HRS.
--------	------------	-------------	---------------------	--------------------------	--------------------	------------------------	-------	-------	-------	----------------------------------	-------	------	---	-----------	-----------	-----------------	-------------------------	------------------------------

CEMENT RETURNS - (YES/NO)	EQUIPMENT CHANGES	Approved by Operator's Representative	Approved by Toolpusher
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REMARKS

TIME
START STOP INTVL

KERN FATHOLE

Rig SERV + CHECK 120/6

TRIP

DRILL

FUEL 3 E

FIRE

DRILL 8 1/4 HOLE

Rig SERV + BOP'S CHECK

DRILL 8 1/4 HOLE

DRILL 8 1/4 HOLE

DRILL 8 1/4 HOLE

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COMMONWEALTH DRILLING

DAILY DRILLING LOG
DIRECTIONS TO
WELL

RIG NO. 12 LOCATION FINA ET PL WILLOW LAKE L-59 SEC. TWP. RGE. W. DATE FEB 11 71

From		Footage		To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly	REMARKS			TIME		
1338		20		1358	8	53				12	6	2 7/8	517.77		465			CUT CORE No 3			12	8	2
No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.						
1	6 1/8	Q		65740	10	75	58	25			2	800	48										
M.U.D. 12 m. 2 a.m. 4 a.m. 6 a.m. PUMP 12 m. 2 a.m. 4 a.m. 6 a.m. PUMP 12 m. 2 a.m. 4 a.m. 6 a.m. MOTOR HOURS Next Oil Change WEIGHT 10.6 10.6 10.6 10.5 No. 1 PRES-SURE 800 800 800 800 VISCOSITY 52 52 50 50 No. 2 PRES-SURE 800 800 800 800 GEL MODEL S.P.M. 38 38 38 38 W.L. 13.2 F.C. 432 pH. DESILTER: Hours Op. U. Flow: O. Flow: SURVEYS At Feet Degrees ADDITIVES: GENERAL: CORE "3-1324-1368" MEC.36.5 Drilling Line Record Size Make Serial No. No. Lines Trips Ton Miles Total Miles Slip Feet or Cut At Miles Date Slip or Cut Next Slip Ft. Left on Spool From 1354 Footage 10 To 1368 Hrs. on Bottom 34 Wt. Drill Pipe (1000 lbs.) 53 Stands 12 Singles 4 DRILL COLLARS 4 No. O.D. I.D. Length Air Wt. Sub. Wt. C.B. Ft. Ft. up on Kelly 8 No. 1 Size Type Jets/W.C. Serial No. Wgt. R.P.M. Drilled or Cored Hrs. Reamed Hrs. Pump No. Pump Pressure S.P.M. Table Torque T. B. G. 1 6 1/8 Q 65740 10 75 68 25 5 39 2 900 4 8 1/4 WITH 44 HS FF 266 M.U.D. 8 a.m. 10 a.m. 12 noon 2 p.m. PUMP 8 a.m. 10 a.m. 12 noon 2 p.m. PUMP 8 a.m. 10 a.m. 12 noon 2 p.m. MOTOR HOURS Next Oil Change WEIGHT 10.5 10.5 TR-IP No. 1 PRES-SURE 800 800 800 800 VISCOSITY 48 48 IP No. 2 PRES-SURE 800 800 800 800 GEL MODEL S.P.M. 38 38 38 38 W.L. F.C. pH. DESILTER: Hours Op. U. Flow: O. Flow: SURVEYS At Feet Degrees ADDITIVES: 200 400 GENERAL: STARCH #200 Drilling Line Record Size Make Serial No. No. Lines Trips Ton Miles Total Miles Slip Feet or Cut At Miles Date Slip or Cut Next Slip Ft. Left on Spool From 1365 Footage 52 To 1357 Hrs. on Bottom 7 1/4 Wt. Drill Pipe (1000 lbs.) 53 Stands 12 Singles 4 DRILL COLLARS 4 No. O.D. I.D. Length Air Wt. Sub. Wt. C.B. Ft. Ft. up on Kelly 19 No. 1 Size Type Jets/W.C. Serial No. Wgt. R.P.M. Drilled or Cored Hrs. Reamed Hrs. Pump No. Pump Pressure S.P.M. Table Torque T. B. G. 4 8 1/4 WITH 44 HS FF 266 4 120 ST 6 1/2 2 650 58 R U A M.U.D. 4 p.m. 6 p.m. 8 p.m. 10 p.m. PUMP 4 p.m. 6 p.m. 8 p.m. 10 p.m. PUMP 4 p.m. 6 p.m. 8 p.m. 10 p.m. MOTOR HOURS Next Oil Change WEIGHT 10.6 10.2 10.1 10.1 No. 1 PRES-SURE 650 650 625 625 VISCOSITY 50 45 38 40 No. 2 PRES-SURE 650 650 625 625 GEL MODEL S.P.M. 58 58 W.L. 23.0 F.C. 432 pH. DESILTER: Hours Op. U. Flow: O. Flow: SURVEYS At Feet Degrees ADDITIVES: 800 165 GENERAL: STARCH = 9 SKS. Drilling Line Record Size Make Serial No. No. Lines Trips Ton Miles Total Miles Slip Feet or Cut At Miles Date Slip or Cut Next Slip Ft. Left on Spool B.O.P. Tested Elapsed Time Pres-sure Packing & Seal Inspected Date Crown-o-matic Chk'd. Fuel on Hand 12.01 a.m. gals. CASING REPORT RAN JTS CSG RENTAL EQUIPMENT ON HAND Hydril Riq Savers Chk'd. Fuel Rec'd Today (add) gals. TO KS. USED SAX CEM Pipe Rams. Kelly Cock Chk'd. TOTAL gals. PLUS % PLUG DOWN A.M. P.M. DAYS FROM SPUD: TOTAL COMPANY TIME HRS. TOTAL CONTRACTOR'S TIME HRS. Blind Rams. Fire Equip. Chk'd. Fuel on Hand 11.59 p.m. (deduct) gals. CEMENT RETURNS (YES/NO) EQUIPMENT CHANGES TOTCO RING ON BIT = Boiler Operated: 24. Hrs. FUEL USED gals. Approved by Operator's Representative Approved by Toolpusher 																							

DAILY DRILLING LOG
DIRECTIONS TO
WELL

RIG NO. 12 LOCATION FINA ETDC WILLOW LAKE 4 LSD. S9 SEC. _____ TWP. _____ RGE. _____ W. _____ DATE 5-1-57 1957

MAILING _____ SHIPPING _____ MILES _____ ROAD _____ DAYS FROM _____
POINT _____ MOVED _____ CONDITIONS _____ SPUD _____

[illegible]

CONSERVATION BOARD COPY

COM 42875

DAILY DRILLING LOG
DIRECTIONS TO
WELL _____

RIG NO. 12 LOCATION Fish Pt. H. Willow Lake L-59 SEC. _____ TWP. _____ RGE. _____ W. _____ DATE 26 9 12

MAILING POINT _____ SHIPPING POINT _____ MILES MOVED _____ ROAD CONDITIONS _____ DAYS FROM SPUD _____

[illegible]

CONSERVATION BOARD COPY

COM 42874

COMMONWEALTH DRILLING

DAILY DRILLING LOG
DIRECTIONS TO
WELL

RIG NO. 12. LOCATION PINN E 1/4 Willow Lake L-59 SEC. TWP. RGE. W. DATE FEB 8 1971

MAILING
POINTSHIPPING
POINTMILES
MOVEDROAD
CONDITIONSDAYS FROM
SPUD

TOUR	From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly	REMARKS	TIME		
																		START	STOP	INTVL
1	938	58	996	7 1/2	1184	438	36		14	6 2 3/8	5 1/2	517.79	4465			5.50	Drill	12:00	12:15	15
B	No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Roomed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T	B	G		
1	2	5 1/2	WASH	2 1/2	10685	28	75	47	11			1	675	64						
S						135														
M.U.D.	12 m.	2 a.m.	4 a.m.	6 a.m.	PUMP	12 m.	2 a.m.	4 a.m.	6 a.m.	PUMP	12 m.	2 a.m.	4 a.m.	6 a.m.	MOTOR HOURS					
WEIGHT	9.6	9.6	9.6	47	No. 1	700	700	675	No. 2	700	700	675	No. 2	700	700	675				
VISCOSITY	42	42	42	42	MODEL	S.P.M.	64	64	64	MODEL	S.P.M.	64	64	64	MODEL	S.P.M.				
GEL					300	LINER SIZE	5	5	14	250	LINER SIZE	5	5	14	250	LINER SIZE				
W.L.	1.2	F.C.	pH.		DESILTER: Hours Op:		U. Flow:		O. Flow:											
ADDITIVES	Starch = 12.5X				GENERAL:															
	Preservative = 50																			
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool							
2	996	46	1042	6	48	501.22			14	6 2 3/8	5 1/2	517.79	4465			21	Drill	8:00	8:15	15
B	No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Roomed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T	B	G		
1	3	5 1/2	WASH	2 1/2	10685	25	70	134	12 1/2			1	675	64						
S						30	44	10 3/4												
M.U.D.	8 a.m.	10 a.m.	12 noon	2 p.m.	PUMP	8 a.m.	10 a.m.	12 noon	2 p.m.	PUMP	8 a.m.	10 a.m.	12 noon	2 p.m.	MOTOR HOURS					
WEIGHT	9.6	9.6	9.6	7	No. 1	658	658	700	No. 2	700	700	675	No. 2	700	700	675				
VISCOSITY	40	40	40	40	MODEL	S.P.M.	64	64	64	MODEL	S.P.M.	64	64	64	MODEL	S.P.M.				
GEL					300	LINER SIZE	5 1/2	5 1/2	14	250	LINER SIZE	5 1/2	5 1/2	14	250	LINER SIZE				
W.L.	14.4	F.C.	432	pH.	DESILTER: Hours Op:	2.4	U. Flow:	1.4	O. Flow:											
ADDITIVES	Starch				GENERAL:	MEASURE	1063.26													
	NO CORRECTION MADE																			
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool							
3	1043	81	1124	7 1/2	48	504.47			14	6 2 3/8	5 1/2	517.79	4465			391	Drill	4:00	4:15	15
B	No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Roomed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T	B	G		
1	4	5 1/2	WASH	2 1/2	10685	30	44	91	8 1/4			1	700	64						
S																				
M.U.D.	4 p.m.	6 p.m.	8 p.m.	10 p.m.	PUMP	4 p.m.	6 p.m.	8 p.m.	10 p.m.	PUMP	4 p.m.	6 p.m.	8 p.m.	10 p.m.	MOTOR HOURS					
WEIGHT	9.7	9.6	9.7	97	No. 1	700	700	700	No. 2	700	700	675	No. 2	700	700	675				
VISCOSITY	40	40	42	42	MODEL	S.P.M.	64	64	64	MODEL	S.P.M.	64	64	64	MODEL	S.P.M.				
GEL					300	LINER SIZE	5 1/2	5 1/2	14	250	LINER SIZE	5 1/2	5 1/2	14	250	LINER SIZE				
W.L.	17.3	F.C.	432	pH.	DESILTER: Hours Op:		U. Flow:		O. Flow:											
ADDITIVES	Starch = 5.5X				GENERAL:															
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool							
4																				
B	No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Roomed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T	B	G		
1	5	5 1/2	WASH	2 1/2	10685	30	44	91	8 1/4			1	700	64						
S																				
M.U.D.	4 p.m.	6 p.m.	8 p.m.	10 p.m.	PUMP	4 p.m.	6 p.m.	8 p.m.	10 p.m.	PUMP	4 p.m.	6 p.m.	8 p.m.	10 p.m.	MOTOR HOURS					
WEIGHT	9.7	9.6	9.7	97	No. 1	700	700	700	No. 2	700	700	675	No. 2	700	700	675				
VISCOSITY	40	40	42	42	MODEL	S.P.M.	64	64	64	MODEL	S.P.M.	64	64	64	MODEL	S.P.M.				
GEL					300	LINER SIZE	5 1/2	5 1/2	14	250	LINER SIZE	5 1/2	5 1/2	14	250	LINER SIZE				
W.L.	17.3	F.C.	432	pH.	DESILTER: Hours Op:		U. Flow:		O. Flow:											
ADDITIVES	Starch = 5.5X				GENERAL:															
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool							

CONSERVATION BOARD COPY

COM 42873

COMMONWEALTH DRILLING

DAILY DRILLING LOG
DIRECTIONS TO
WELL

RIG NO. 12

LOCATION FINE ET AL WILLOW LAKE
MAILING
POINTSHIPPING
POINTMILES
MOVEDROAD
CONDITIONSDAYS FROM
SPUD

DATE FEB 7

1971

TOUR	From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly	REMARKS	TIME				
																		START	STOP	INTVL.		
1	605	123	728	4 3/4	1114	313.54			10	6	2 1/8	1100.43	11.65			9.08	Drill out Cement - 5106-584	1:00				
	No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T	B	G				
	1	8 1/4	STAG	1/2 1/3	654185	5	85	123	4 1/4			1	1150			R	V	N				
																		TO 605			12:45	3/4
																		CHAND OUT SHANKER TANK - 12-5				
																		DISPLACE HOLE TO FRESH WATER	1:15			
																		MIXING MUD	1:15	2:50	1 1/4	
																		Drill	2:30	4:12	1 3/4	
																		SURVEY & RIG SER CK BOP	4:15	4:45	1/2	
																		Drill	4:45	7:45	3	
																	SURVEY	7:45	8:00	1/4		
																	FIRES					
																	DRILLER'S SIGNATURE					
2	728	146	874	2 1/4	42	428.86			10	6	2 1/8	400.13	4.65				Drill	8:00	9:00	1/4		
																		RIG SERVO T CHECK BOP	9:00	9:00	1/4	
																		SURVEY 759	9:00	9:00	1/4	
																		Drill	9:00	10:00	1 1/4	
																		SURVEY 760	10:00	11:00	1 1/4	
																		Drill	11:00	12:00	1 1/2	
																		SURVEY 820	12:00	12:00	1/4	
																		Drill	12:00	2:00	2	
																		SURVEY 822	2:00	2:00	1/4	
																		Drill	2:00	4:00	1	
																	FIRES					
																	DRILLER'S SIGNATURE					
3	874	64	938	5 1/2	46	374.80			10	6	2 1/8	400.43	4.65				16	Drill	4:00	4:00	1/2	
																		RIG SERVO T CHECK BOP	4:00	4:00	1/2	
																		SURVEY 880	4:00	5:00	1 1/4	
																		Drill	5:00	6:00	1 1/2	
																		SET UP BRAKES + BELOW KELLY	6:00	6:00	1/4	
																		HOIST	6:00	8:00	1 1/4	
																		PICK UP 4 MORE O.C. RUN IN	8:00	8:30	1/2	
																		Drill	8:30	12:00	3 1/2	
																		FIRES				
																		DRILLER'S SIGNATURE				

CONSERVATION BOARD COPY

COM 42872

DAILY DRILLING LOG
DIRECTIONS TO
WELL _____

RIG NO 12 LOCATION FIND FATH WILLOW LAKE L 59 SEC. TWP. RGE. W. DATE FEB. 6 1971

MAILING POINT SHIPPING POINT MILES MOVED ROAD CONDITIONS DAYS FROM SPUD

TOUR	LOG															TIME												
	From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stand	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly	REMARKS	START	STOP	INTVL.								
605						374	33	5	6	27/8		229	112	715			W.O.C.	1200	230	22								
BITS	No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	S.	G.										
MUD	12 mn.	2 a.m.	4 a.m.	6 a.m.	PUMP	12 mn.	2 a.m.	4 a.m.	6 a.m.	PUMP	12 mn.	2 a.m.	4 a.m.	6 a.m.	MOTOR HOURS	Next Oil Change												
WEIGHT					No. 1	PRES-SURE				No. 2	PRES-SURE																	
VISCOSITY					MODEL	S.P.M.				MODEL	S.P.M.																	
GEL					LINER SIZE					LINER SIZE																		
W.L.	F.C.	pH.	DESILTER: Hours Op:		U. Flow:		O. Flow:		SURVEYS		At Feet		Degrees															
ADDITIVES:															GENERAL:		Weather		Water									
																	Temp.		Bbls.									
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool															
From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stand	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly													
BITS	No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	S.	G.										
MUD	8 a.m.	10 a.m.	12 noon	2 p.m.	PUMP	8 a.m.	10 a.m.	12 noon	2 p.m.	PUMP	8 a.m.	10 a.m.	12 noon	2 p.m.	MOTOR HOURS	Next Oil Change												
WEIGHT					No. 1	PRES-SURE				No. 2	PRES-SURE																	
VISCOSITY					MODEL	S.P.M.				MODEL	S.P.M.																	
GEL					LINER SIZE					LINER SIZE																		
W.L.	F.C.	pH.	DESILTER: Hours Op:		U. Flow:		O. Flow:		SURVEYS		At Feet		Degrees															
ADDITIVES:															GENERAL:		Weather		Water									
																	Temp.		Bbls.									
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool															
From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stand	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly													
BITS	No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	S.	G.										
MUD	8 a.m.	10 a.m.	12 noon	2 p.m.	PUMP	8 a.m.	10 a.m.	12 noon	2 p.m.	PUMP	8 a.m.	10 a.m.	12 noon	2 p.m.	MOTOR HOURS	Next Oil Change												
WEIGHT					No. 1	PRES-SURE				No. 2	PRES-SURE																	
VISCOSITY					MODEL	S.P.M.				MODEL	S.P.M.																	
GEL					LINER SIZE					LINER SIZE																		
W.L.	F.C.	pH.	DESILTER: Hours Op:		U. Flow:		O. Flow:		SURVEYS		At Feet		Degrees															
ADDITIVES:															GENERAL:		Weather		Water									
																	Temp.		Bbls.									
Dr																												

COMMONWEALTH DRILLING

DAILY DRILLING LOG
DIRECTIONS TO
WELL

RIG NO. 12

MAILING
POINTSHIPPING
POINT

SEC.

TWP.

RGE.

W.

DATE

FEB 5, 1971

19 71

MILES
MOVEDROAD
CONDITIONSDAYS FROM
SPUD

From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly	REMARKS	TIME				
START	STOP	INTVL.																			
571	34	605	4	32	344	33		5	6	2 1/2	229	42	715		16.90	DRILL	1200	1230	1/2		
No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.	Rig Ser	1230	1245	1/4
1	2 1/2	DS	1/8 4/32	FT 250	3	160	188	20 1/4			1	700	64		3	6	1	MEASURE OUT - TRIP IN	1245	145	1
M.U.D.	12 m.	2 a.m.	4 a.m.	6 a.m.	PUMP	12 m.	2 a.m.	4 a.m.	6 a.m.	PUMP	12 m.	2 a.m.	4 a.m.	6 a.m.	MOTOR HOURS	Next Oil Change	DRILL	145	330	13/4	
WEIGHT	No. 1	PRES-SURE	700	700	No. 2	PRES-SURE											SURVEY C 591 10	330	345	1/4	
VISCOSITY	47	148	50	MODEL	S.P.M.	64	64	MODEL	S.P.M.								DRILL	345	530	13/4	
GEL				LINER SIZE	5 1/2	14		LINER SIZE	5 1/2	15							TRIP OUT	530	615	3/4	
W.L.	F.C.	pH.	DESILTER: Hours Op:	U. Flow:	O. Flow:	SURVEYS	At Feet	Degrees	591	10							Rig To Run 9 1/8 Casing	615			
ADDITIVES: DEL 800	GENERAL:																Running Casing		800	13/4	
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool	Bbls.			FIRES				
From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly			C.G. Ser	800	815	1/4
605																		FINISH CEMENTING C.C.	815	900	1 1/2
No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.	C.C. TO CEMENT	900	1200	2 1/4
1																		CEMENT Y CEMENT	1200	200	2 1/4
M.U.D.	8 a.m.	10 a.m.	12 noon	2 p.m.	PUMP	8 a.m.	10 a.m.	12 noon	2 p.m.	PUMP	8 a.m.	10 a.m.	12 noon	2 p.m.	MOTOR HOURS	Next Oil Change	W.O.C	200	400	1 1/4	
WEIGHT	No. 1	PRES-SURE			No. 2	PRES-SURE												RUN 9 1/8 JTS. 9 1/8 1555 CASING			
VISCOSITY	MODEL	S.P.M.			MODEL	S.P.M.												CEMENTED W/ 500 SKS. NORMAL CEM			
GEL	LINER SIZE				LINER SIZE													GOOD. RETURNS. PLUG DOWN			
W.L.	F.C.	pH.	DESILTER: Hours Op:	U. Flow:	O. Flow:	SURVEYS	At Feet	Degrees										@ 245			
ADDITIVES:	GENERAL:																				
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool	Bbls.				FIRES			
From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly			W.O.C	400	1200	
605																					
No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.				
1																					
M.U.D.	4 p.m.	6 p.m.	8 p.m.	10 p.m.	PUMP	4 p.m.	6 p.m.	8 p.m.	10 p.m.	PUMP	4 p.m.	6 p.m.	8 p.m.	10 p.m.	MOTOR HOURS	Next Oil Change					
WEIGHT	No. 1	PRES-SURE			No. 2	PRES-SURE															
VISCOSITY	MODEL	S.P.M.			MODEL	S.P.M.															
GEL	LINER SIZE				LINER SIZE																
W.L.	F.C.	pH.	DESILTER: Hours Op:	U. Flow:	O. Flow:	SURVEYS	At Feet	Degrees													
ADDITIVES:	GENERAL:																				
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool	Bbls.				FIRES			
B.O.P.	Tested	Elapsed Time	Pres-sure	Packing & Seal Inspected Date	Crown-a-matic Chk'd.	Fuel on Hand 12.01 a.m.	gals.	CASING REPORT	RAN	JTS	CSG	RENTAL EQUIPMENT ON HAND	TRANSFER #								
Hydrii					Rig Savers Chk'd.	Fuel Rec'd Today (add)	gals.	TO	K3. USED	SAX	CEM										
Pipe Rams.					Kelly Cock Chk'd.	TOTAL	gals.	PLUS	%	PLUG DOWN	A.M. P.M.	DAYS FROM SPUD:	TOTAL COMPANY TIME	HRS.	TOTAL CONTRACTOR'S TIME	HRS.					
Blind Rams.					Fire Equip. Chk'd.	Fuel on Hand 11.59 p.m. (educt)	gals.	CEMENT RETURNS - (YES/NO)													
TOTCO RING ON BIT #	Boiler Operated:	Hrs.				FUEL USED	gals.														
Approved by Operator's Representative																	Approved by Toolpusher				

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DAILY DRILLING LOG
DIRECTIONS TO
WELL

S:G NO. 12

LE

MAILING
POINT

SHIPPING
POINT_____

MILES
MOVEDROAD
CONDITIONS

DAYS FROM
SPUD

107

TOUR	B	I	T	S	LOG															REMARKS	TIME									
					From	Footage	To	Mrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly	START	STOP	INVL.							
					402	45	447	6	31	188.08				3	6	27	229.42	7.15	18	Drill		1200	1230	1/2						
					No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Mrs.	Reamed	Mrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.								
					1A	13 3/4	OS	45	133	27007	5-A	160	417	13 3/4		1	400	64		4	A	I.								
					2A	13 3/4	S-T-H	1/10	723		A	100	28	1 1/4		1	100	64		R	U	N								
					M.U.D.	12 mn.	2 a.m.	4 a.m.	6 a.m.	PUMP	12 mn.	2 a.m.	4 a.m.	6 a.m.	PUMP	12 mn.	2 a.m.	4 a.m.	6 a.m.	MOTOR HOURS										
					WEIGHT				10.6	No. 1	PRES-SURE	100		100	No. 2	PRES-SURE			100											
					VISCOSITY	48	47	48	48	MODEL	S.P.M.	64		64	MODEL	S.P.M.			64											
					GEL					LINER SIZE	5 1/2		1 1/4		LINER SIZE	5 1/2		1 1/4												
					W.L.	F.C.	pH.		DESILTER: Hours Op:		U. Flow:		O. Flow:		SURVEYS															
					ADDITIVES:				GENERAL:						At Feet	Degrees														
															1104	3/4														
															434	1														
					Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool												
					From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly										
					447	49	496	7 1/2	32	214.32			5	6	2 1/8	229.42	7.15													
					No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Mrs.	Reamed	Mrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.								
					2A	13 3/4		1/10	723	S	160	417				1	400	64		R	U	N								
					M.U.D.	8 a.m.	10 a.m.	12 noon	2 p.m.	PUMP	8 a.m.	10 a.m.	12 noon	2 p.m.	PUMP	8 a.m.	10 a.m.	12 noon	2 p.m.	MOTOR HOURS										
					WEIGHT					No. 1	PRES-SURE	100		100	No. 2	PRES-SURE			100											
					VISCOSITY	48	47	48	50	MODEL	S.P.M.	64		64	MODEL	S.P.M.			64											
					GEL					LINER SIZE	5 1/2		1 1/4		LINER SIZE	5 1/2		1 1/4												
					W.L.	F.C.	pH.		DESILTER: Hours Op:		U. Flow:		O. Flow:		SURVEYS															
					ADDITIVES:				GENERAL:						At Feet	Degrees														
															465	1														
					Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool												
					From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly										
					496	75	571	7	32	313	54		5	6	2 1/8	229.42	7.15													
					No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Mrs.	Reamed	Mrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.								
					2A	13 3/4		1/10	723	5-3	160	154	16 1/4			1	700	64		R	U	N								
					M.U.D.	4 p.m.	6 p.m.	8 p.m.	10 p.m.	PUMP	4 p.m.	6 p.m.	8 p.m.	10 p.m.	PUMP	4 p.m.	6 p.m.	8 p.m.	10 p.m.	MOTOR HOURS										
					WEIGHT					No. 1	PRES-SURE	700		700	No. 2	PRES-SURE	700		700											
					VISCOSITY	48	47	48		MODEL	S.P.M.	64		64	MODEL	S.P.M.			64											
					GEL					LINER SIZE	5 1/2		1 1/4		LINER SIZE	5 1/2		1 1/4												
					W.L.	F.C.	pH.		DESILTER: Hours Op:		U. Flow:		O. Flow:		SURVEYS															
					ADDITIVES:				GENERAL:						At Feet	Degrees														
															496	3/4														
															528	1 1/2														
															559	1 1/2														
					Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool												
					B.O.P.	Tested	Elapsed Time	Pressure	Packing & Seal Inspected Date	Crown-a-matic Chk'd.	Fuel on Hand 12.01 a.m.	gals.	CASING REPORT				RAN	JTS	CSG	RENTAL EQUIPMENT ON HAND				TRANSFER #						
					Hydril					Rig Savers Chk'd.	Fuel Rec'd Today (add)	gals.																		
					Pipe Rams.					Kelly Cock Chk'd.	TOTAL	gals.					TO	KB. USED	SAX	CEM										
					Blind Rams.						Fuel on Hand 11.59 p.m. (deduct)	gals.					PLUS	%	PLUG DOWN	A.M. P.M.	DAYS FROM SPUD:									
					707CO RING ON BIT =				Boiler Operated:	Hrs.	Fire Equip. Chk'd.	FUEL USED	gals.	CEMENT RETURNS - (YES/NO)				EQUIPMENT CHANGES				TOTAL COMPANY TIME	HRS.	TOTAL CONTRACTOR'S TIME	HRS.					
																							Approved by Operator's Representative							
																							Approved by Toolpusher							

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DAILY DRILLING LOG
DIRECTIONS TO
WELL

MAILING
POINT -

SHIPPING
POINT

MILES
MOVEDROAD
CONDITIONS

DAYS FROM
SPUD

From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly	REMARKS	TIME														
																	START	STOP	INTVL.												
267	60	327	7 1/4	30 1/4	62.82	3	5	7	6 7/8	229 1/2	7.15	1339				Drill	1200	130	1 1/2												
No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.														
1	13 1/4	40	100/125	27007	48	110	327	27			1	150	64		R	U	W														
M.U.D.	12 a.m.	2 a.m.	4 a.m.	6 a.m.	PUMP	12 m.m.	2 a.m.	4 a.m.	6 a.m.	PUMP	12 m.m.	2 a.m.	4 a.m.	6 a.m.	MOTOR HOURS	Next Oil Change															
WEIGHT					No. 1 PRES-SURE	100	100	100	No. 2 PRES-SURE																						
VISCOSITY	55	50	42	30	MODEL S.P.M.	64	64	64	MODEL S.P.M.																						
GEL					LINER SIZE	5 1/2	14		LINER SIZE	5 1/2	15																				
W.L.	F.C.	pH.	DESILTER: Hours Op:	U. Flow:	O. Flow:	SURVEYS		At Feet		Degrees		4		5		3															
ADDITIVES:																GENERAL:		377		3/4		5		3							
																		309		1/4		Weather		Water							
																						Temp.		Bbls.							
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool																		
From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly																
327	38	365	7 1/2	30	91.57		5	6	2 7/8	229 1/2	7.15				7																
No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.														
1	13 1/4	40	100/125	27007	48	110	327	27			1	150	64		R	U	W														
M.U.D.	8 a.m.	10 a.m.	12 noon	2 p.m.	PUMP	8 a.m.	10 a.m.	12 noon	2 p.m.	PUMP	8 a.m.	10 a.m.	12 noon	2 p.m.	MOTOR HOURS	Next Oil Change															
WEIGHT					No. 1 PRES-SURE	100	100		No. 2 PRES-SURE																						
VISCOSITY	47	48	30	48	MODEL S.P.M.	64	64		MODEL S.P.M.																						
GEL					LINER SIZE	5 1/2	14		LINER SIZE	5 1/2	15																				
W.L.	F.C.	pH.	DESILTER: Hours Op:	U. Flow:	O. Flow:	SURVEYS		At Feet		Degrees		4		5		3															
ADDITIVES:																GENERAL:		340		1		5									
																						Weather		Water							
																						Temp.		Bbls.							
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool																		
From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly																
365	37	402	6 1/2	30	126	79	5	6	2 7/8	229 1/2	7.15				2.56																
No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.														
1	13 1/4	40	100/125	27007	5	100	402	41			1	100	64		R	U	W														
M.U.D.	4 p.m.	6 p.m.	8 p.m.	10 p.m.	PUMP	4 p.m.	6 p.m.	8 p.m.	10 p.m.	PUMP	4 p.m.	6 p.m.	8 p.m.	10 p.m.	MOTOR HOURS	Next Oil Change															
WEIGHT					No. 1 PRES-SURE	400	400	100	100	No. 2 PRES-SURE																					
VISCOSITY	48	47	48	48	MODEL S.P.M.	64	64	64	64	MODEL S.P.M.																					
GEL			</																												

DAILY DRILLING LOG
DIRECTIONS TO
WELL _____

RIG NO. 12 LOCATION FINA RT AL WINDOW LAKE L-59 LSD. _____ SEC. _____ TWP. _____ RGE. _____ W. _____ DATE Feb 2 1971

MAILING _____ SHIPPING POINT _____ MILES MOVED _____ ROAD CONDITIONS _____ DAYS FROM SPUD _____

[illegible]

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COM 42867

