Drilling Authority No. 490

Date Issued 28-1-71

WELL NAME Horn R Candel et al Willowlake 4-47

FIELD ..... Area: .....

LOCATION: Unit G Section 47 Grid 62-40-122-45

Latitude 62-36-23 Longitude 122-53-12

U.W.L.R. 62.60639 —— 122.8[illegible]666

U.W.I. 300W762L0122450

Rig Release Date: .....

Status .....

Information Release Date .....

CHANGE OF NAME:

DATE RECEIVED	INDEX
28-1-71	Application for a Drilling Authority.
	~~Well Completion Data.~~
	Well History Report.
	Application to Amend a Drilling Authority.
	Application to change a Well Name.
3-5-71	Application to Abandon a Well or Suspend Drilling.
	Application to Alter Condition of a Well.
	Well History Supplement.
	Well Completion Data.
	Work-over Report No. .....
	Application to Commingle Production before Measurement.
	Data for Back Pressure Test on Natural Gas Wells – Monograph 7 Method.
	Data for Back Pressure Test on Natural Gas Wells – Vitter's Method.
	M.P.R. – Oil – Calculations.
	New Oil Well Report.
	New Gas Well Report.
	Well Inspection Report.
	Rig Inspection Report.
	Battery Inspection Report.
	Equipment Report.
	Well Card.
	New Service Well Report.
	Monthly Water Flood Operations Report
	Monthly Water Receipts and Disposal of Fluids Report
	Logs. Large scale..... Small scale.....

IAND 5290 (3-69)

File No.
Drilling Authority No. 490

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
OIL AND MINERAL DIVISION

Application to Abandon a Well ~~or Suspend Drilling~~

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

Name and number of well HORN R CANDEL ET AL WILLOW LAKE G-47

Location: Unit G Section 47 Grid 62°40'N.L 122°45'W.L

Latitude 62° 36' 23" Longitude 122°53'12"

From Established Reference Marker

Universal Well Location Reference Lat. 62.60639°N Long. 122.88666° W

Permit No. 4419 Lease No.

Canada Cities Service, Standard Oil Company of British Columbia (Permittee, Licensee, Lessee)

Date of commencement of proposed program March 15,1971 9:00 P.M.

OIL, GAS, AND WATER ENCOUNTERED
(Depths)

Oil at Nil
Gas at Nil
Water at Nil DST #1 = 3110 to 3240
Total Depth 4300' K.B. Date of last operations April 7, 1971 8:00 P.M.
Present condition of well D and A

CASING RECORD

Casing Size O.D. Inches	Weight	Amount	Set At—	Sacks of Cement and Additives	Amount Pulled
1. 8-5/8	24#	16 jts.	496.67K.B.	270 plus 3% $CaCl_2$	Nil
2.					
3.					
4.					
5.					

PROPOSED ABANDONMENT PROGRAM

Plug No.	Plug Position	Geological Formation	Number of Sacks of Cement	Remarks
1	3800 to 3630	Ronning	80 + 2%$CaCl_2$	Top at 3645'
2	2050 to 1800	Arnica, Manetoe	110 + 3%$CaCl_2$	Top at 1805'
3	550 to 450		60 + 3%$CaCl_2$	Top at 438'
Run	5 sack plug in top of casing.			
Cut	casing off 3 feet below ground. Weld on plate and rod with well marker.			

The following logs have been run IES, BHGSC, SNP, FD Log
Other operations proposed Nil

Operations to be carried out by Petrolia Oilwell Drlg. Ltd. Contractor Licence No. 957
Address Ft. Simpson, N.W.T. Address
Responsible Agent in field Bud Coleman
Dated at Calgary, this 19th Day of April 1971
Signed by [signature] Company Horn River Resources Ltd.
Title President Operator's Exploratory Licence No. 1785

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

(For OIL AND MINERAL DIVISION use only)

APPROVAL

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

Confirming oral approval given by Mr. G. E. Blue on the 6th April 1971.

Dated May 3, 19 71 [signature] Oil Conservation Engineer

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

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

Drilling Authority No. 490

Date Issued January 28, 1971

CANADA

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT

OIL AND MINERAL DIVISION

IAND 52-90 (2) (3-70)

WELL COMPLETION DATA

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

Well name and number HORN R CANDEL ET AL WILLOWLAKE G-47

Permit No. 4419 Lease No.

Canada Cities Service Petroleum Corp. and Standard Oil Company of British Columbia (Permittee, Licensee, Lessee) Exploratory Licence No. 1650 and 1631

Horn River Resources Ltd. (Operator) Exploratory Licence No. 1785

Location: Unit G Section 47 Grid 62°40' N., 120°45' W.

Latitude 62°36'23" N. Longitude 122°53'12" W.

Unique well identifier ~~300647624012~~450 300647624012~~0~~450

Universal Well Location Reference Lat. 62.60639°N., Long. 122.08666°W.

	DATE	DEPTH
Spudded	Mar. 15/71	
Suspended		
Resumed Operations		
Finished Drilling	Apr. 5/71	4300 (Drlr)
Deepened		
Complete (gas/oil)		
Abandoned	Apr. 8/71	4299 (Log)
Rig released	Apr. 7/71	

Pool(s) NA

Interval(s) open to production NA

Elevation: Gr. 951 K.B. 966

Rig No. 7

Drilling Contractor Petrolia Oilwell Drilling

Contractor's Business Licence No. 957

CASING RECORD

	Casing Size (Inches)	Grade	Weight	Amount	Set at —	Sacks of Cement and Additives
1.	8 5/8"	J55	24#	511.54'	496.67'	270 sx normal Portland cement + 3% $CaCl_2$
2.						
3.						
4.						
5.						
6.						

GEOLOGICAL TOPS	ELEVATION Log Depths	Sub-Sea
Horn River	1322	- 356
Nahanni	1374	- 408
Headless	1792	- 826
Manetoe	1850	- 884
Arnica	1988	- 1022
Bear Rock Anhy.	2090	- 1124
Ronning	3209	- 2342
TD	4300	

CORE RECORD

From	To	Rec.	From	To	Rec.
1902	1944	42'			
1944	1952	8'			

LOG RECORD

Run No.	Type of Log	From	To
1	IES	4297	496
2	BHCSGRC	4297	494
3	Formation Density	4298	496
1	Sidewall Neutron Porosity	4298	496

CEMENTING RECORD (Plug, Squeeze, etc.)			
Date	From	To	Remarks
Apr. 7/71	3800	3630	80 sx + 2% $CaCl_2$. Felt at 3645'.
Apr. 7/71	2050	1800	110 sx + 3% $CaCl_2$. Felt at 1805'.
Apr. 7/71	550	450	140 sx + 3% $CaCl_2$. Felt at 438'.
		Surface	5 sx Welded on steel plate and marker

PERFORATING RECORD (Bullet, Jet)			
Date	From	To	Remarks

SERVICING RECORD (Acidizing, Fracing, etc.)			
Date	From	To	Remarks

DRILL STEM TESTS

No.	Date	Formation	From	To	V.O. Mins.	I.S.I. Mins.	F.S.I. Mins.	I.S.I.B.H.P.	F.S.I.B.H.P.	I.F.B.H.P.	F.F.B.H.P.	I.H.P.	F.H.P.	REMARKS
1	Apr. 6/71	Bear Rock Ronning	3130	3240	60	60	60	1232	1219	61	105	1447	1446	Recovered 210' drilling mud.

ANALYSIS

Lab. No.	Sample	From	To	Source	Remarks
913-1109	Core #1	1902	1944	Manetoe	
913-1109	Core #2	1944	1952	Manetoe	

PRESENT STATUS OF WELL

Oil		(Interval.)
Gas		(Interval.)
Dry	X	
Susp.		

Company Horn River Resources Ltd.

Signed by [signature]

Title President

Date July 9, 1971

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

Drilling Authority No. 420

Project No.

File No.

CANADA

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
OIL AND MINERAL DIVISION

Application for a Drilling Authority

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

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

Name and number of well: Horn R Candel et al Willowlake O-47

Location: Unit G Section 47 Grid 62°40' N. Lat., 122°45' W. Long.

Latitude 62°36'23" Longitude 122°53'12"

Unique Well Identifier 300G476240122450

Universal Well Location Reference Lat. 62.60639° N., Long. 122.89666° W.

Elevation: Ground 951 K.B. (est.) 961 feet above sea-level.

Well is expected to produce from Middle Devonian & Silurian Carbonates formation at a depth of about 1300 and/or 3000 feet. Expected total final depth 4700

Area assigned to well

(for Oil Conservation Engineer's use only)

Permit No. 4419 Lease No. Acreage 58,980

Permittee, licensee, or lessee Canada-Cities Service, Standard Oil Company of British Columbia

Exploratory Licence No. 1650

Surface owned by Crown or Crown

(If alienated submit name and address of owner and occupant.)

Petroleum and natural-gas rights owned by Crown

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

Casing Size O.D. (Inches)	Weight (Lb./Ft.)	Grade	New or Used	Estimated Depth	Sacks of Cement
1. 8 5/8"	24#	J-55	New	475	230
2.					
3.					
4.					
5.					

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

GK 10" 900 Series Hydril B.O.P.
10" 900 Series Mechanical

Well will be drilled with Rotary Rig No. 9 by Lanting Oilwell Drilling

(Drilling Contractor or company)

Responsible agent of applicant:— Contractor's business Licence No. 300

At well Gordon Gillis At registered office F. L. Woolley

Address Can.Del., Ft. Simpson Address 1020 Aquitaine Tower, 540 Fifth Ave. S.W. Calgary 1, Alta.

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

Dated at Calgary, this 14th day of January 19 71

Signed by F. L. Woolley Company Horn River Resources Ltd.

Title President Operator's Licence No. 1785

(For Oil and Mineral Division use only)

APPROVED

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

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

Dated 28th January 19 71

Please see over page

Oil Conservation Engineer

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

IAND 52-90-1 (3-69)

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. We draw your attention to Sections 95 and 96 of the Canada Oil and Gas Land Regulations.

5. Any additional strings of casing are to receive the approval of the Oil Conservation Engineer prior to running.

B.H.J. Thomas

B.H.J. Thomas, Oil Conservation Engineer

GEOLOGICAL PROGNOSIS

Well Name: Horn R Candel et al WILLOWLAKE G-47

Location: G-47-62-40-122-45

Elevation: Ground est. 951' (shot point 508)

K.B. est. 964'

Operator: Canadian Delhi Oil Ltd.

Formation		Drilling Depth	Sub-Sea Depth
U. Devonian			
	Imperial	Near Surface	
M. & L. Devonian			
	Nahanni (Hume)	1264	-300
	Headless	1589	-625
	Landry	1794	-830
	Manetoe	1874	-910
	Arnica-Bear Rock	2074	-1110
	Delorme ?	2904	-1940
Sil-Ord			
	Ronning	3064	-2100
	Fault ??	?	
Total Depth		4300	-3336

Note:

1. Anhydrite and possibly salt can be expected in the Bear Rock section.
2. If fault is encountered, possible loss circulation could occur.

Samples:

Two bags of washed samples will be taken at 10 foot interval, from surface to total depth.

Testing:

All tests at discretion of wellsite geologist.

Coring:

If water free hydrocarbons are recovered on a test, a core should be cut and further tests run if warranted.

- A 50 foot core will be cut starting at the top of the Manetoe dolomite.

..... 2

Logging:

Dual Ind. Laterolog	2" T.D. to surface casing 5" T.D. to surface casing	These Logs Must Be Run First
BHC Sonic Gamma w/ Caliper	2" T.D. to surface casing 5" T.D. to surface casing	
Formation Density	2" T.D. to surface casing 5" T.D. to surface casing	
Sidewall Neutron Porosity	2" T.D. to surface casing 5" T.D. to surface casing	

****

Canadian Delhi Oil Ltd.,
28th Floor, Calgary Place No. 1,
330 - 5th Avenue S.W.,
CALGARY 1; Alberta. Phone: 265-3430

K. E. Basaraba	Home Phone:	282-4698
D. M. Ericson	" "	252-3277
R. K. Terrell	" "	289-7652

OPERATION REEF

NORTHWEST TERRITORIES

CANADA

Geological and Engineering

REPORT

HORN R CANDEL et al WILLOWLAKE G-47

PREPARED FOR

HORN RIVER RESOURCES LTD.

PREPARED BY

JAMES A. LEWIS ENGINEERING CO. LTD.

Petroleum Reservoir Analysts

CALGARY - ALBERTA

INTRODUCTION

This is a concise report of the operations conducted at the well,

Horn R Candel et al Willowlake G-47

The well was drilled through the co-operative exploration program conducted by Horn River Resources Ltd. under

"OPERATION REEF"

This report was compiled by James A. Lewis Engineering Co. Ltd. from drilling data taken from tour reports of Petrolia Oilwell Drilling Ltd. and geological data supplied by Canadian Delhi Oil Ltd.

JAMES A. LEWIS ENGINEERING CO. LTD.

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Section 1

GENERAL

SUMMARY OF WELL DATA

WELL: Horn R Candel et al Willowlake G-47

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

LEGAL DESCRIPTION: Unit G, Section 47, Grid 62° 40' Lat. 120° 45' W Long.

LOCATION: LATITUDE: 62° 36' 23" LONGITUDE: 122° 53' 12"

UNIVERSAL WELL LOCATION REFERENCE: Lat. 62.60639° N, Long 122.08666° W

UNIQUE WELL IDENTIFIER: 300C476240122450

CO-ORDINATES:

PERMIT OR LEASE: 4419

PERMITTEE, LICENCEE, LESSEE: Canada Cities Service and Standard Oil Company of British Columbia

DRILLING AUTHORITY: 490 DATE: January 28, 1971

CLASSIFICATION: New Field Wildcat

ELEVATION: GROUND: 951' K.B. 966'

DRILLING CONTRACTOR: Petrolia Oilwell Drilling Ltd. Rig No. 7 Rotary

WELLSITE GEOLOGIST: T. A. D. Haddow, Canadian Delhi Oil Ltd.

SURFACE CASING: 8-5/8" - 24 lb. - J-55 Set @ 496.67' c/w 270 sax + 3% $CaCl_2$

HOLE SIZE: Surface Hole 12-1/4" 0' - 515', Main Hole - 7-7/8" 515' - 4,300'

MUD SYSTEM: Gel Chemical

CORES: No. 1: 1,902' - 1,944' Manetoe, Recovered 42'
No. 2: 1,944' - 1,952' Manetoe, Recovered 8'

FORMATION TESTS: DST No. 1: 3,130' - 3,240' Bear Rock, Ronning

ABANDONMENT PLUGS: Plug No. 1: 3,800' - 3,630', 80 sax + 2% $CaCl_2$, Felt at 3,645'
Plug No. 2: 2,050' - 1,800', 110 sax + 3% $CaCl_2$, Felt at 1,805'
Plug No. 3: 550' - 450', 140 sax + 3% $CaCl_2$, Felt at 438'
Plug No. 4: 0' 5 sax

LOST CIRCULATION: None

LOGS:

FDL	4,298' - 496'	SNP	4,298' - 496'
IES	4,297' - 496'	BHCSGRC	4,297' - 494'

WELL SPUDDED: 9:00 p.m. March 15, 1971

FINISHED DRILLING: 12:15 a.m. April 5, 1971

RIG RELEASED: 8:00 p.m. April 7, 1971

TOTAL DEPTH: 4,300'

STATUS: Drilled and Abandoned

Section 2

GEOLOGICAL

FORMATION TOPS

WELL: Horn R Candel et al Williowlake G-47

FORMATION	DEPTH, Feet	DATUM, Feet	REMARKS
Glacial Till	0	966	
Imperial Shale	60	906	
Horn River	1320	- 354	
Nahanni (Hume)	1371	- 405	
Headless	1790	- 824	
Manitoe	1845	- 879	
Arnica	1990	-1024	
Bear Rock Anhydrite	2090	-1124	
Ronning	3210	-2244	
Final Total Depth	4300	-3334	

James A. Lewis Engineering Co. Ltd.

CORE No. 1	1902' - 1944' Recovered 42'
Coring Time: Mins/Ft.	4 5 3 4 3 4 4 4 5 4 4 5 5 4 4 4 5 6 5 5 5 4 5 5 6 5 6 5 6 7 6 6 7 5 5 4 6 8 7 12 8 25
1902.0'-1909.0' 7'	Dolomite, white very coarse crystalline secondary dolomite with irregular inclusions of dark brownish grey coarse crystalline dolomite, reefoid, slight to poor scattered vuggy porosity - vugs are drusy and up to 2" across, scattered infilled fractures, some scattered stylolites.
1909.0'-1911.0' 2'	Dolomite, dark brownish grey fine to medium crystalline with irregular roughly horizontal streaks and blebs of very coarse crystalline secondary dolomite, poor pinpoint and small vuggy porosity - fine coating of salt crystals on core surface, scattered fractures and stylolites.
1911.0'-1941.5' 30.5'	Dolomite, dark brownish grey and white as above, reefoid - some intervals are bedded, slight to poor drusy vuggy porosity, scattered stylolites, scattered steep dipping fractures filled with secondary dolomite - limy in part, fine coating of salt crystals on the core surface. Some partings of black bituminous shale.
1941.5'-1944.0' 2.5'	Dolomite, medium to dark brownish grey, fine crystalline - some medium to coarse crystalline, slightly calcitic in part, bedded, streaky slight to poor intercrystalline porosity - fine coating of salt crystals. Some scattered fractures, some partings of black bituminous shale.
CORE No. 2	1944' - 1952' Recovered 8'
Coring Time: Mins/Ft.	8 6 6 6 7 6 8 10
1944.0'-1952.0' 8'	Dolomite, grey to dark brownish grey, fine and some medium crystalline, bedded, streaky slight to poor intercrystalline and scattered pinpoint porosity, scattered stylolites, some steep dipping fractures filled with calcite.

Interval	Sample Description
10' - 30'	Boulders, fragments of boulders some dark grey brittle shale. (Glacial Drift).
30'- 40'	Sandstone, white to light grey, fine to medium grained, quartzose, very silicous - grading to a quartzite in part, tight.
40'- 60'	Boulders and Gravel, boulder fragments and very coarse gravel, some interbedded dark grey shale.
	Imperial Shale. 60'
60'- 230'	Shale, greenish grey, fissile, micromicaceous. (samples mostly gravel cavings).
230'- 300'	Shale, greenish grey, fissile, micromicaceous.
300'- 540'	Shale, as above, scattered calcareous streaks, some thin interbeds of dense limestone, - silty and sandy in part, scattered pyrite.
540'- 650'	Shale, as above, interbedded silty and sandy limestone - grading to a limy sand in part.
650'- 690'	Shale, greenish grey, fissile, micromicaceous.
690'- 890'	Shale, as above, some streaks and thin interbeds of silty and sandy dense limestone - grading to a limy sandstone in part.
890'- 980'	Shale, as above, abundant, silty and sandy limestone - grading to a limy sandstone.
980'-1250'	Shale, greenish grey, fissile, micromicaceous.
1250'-1320'	Shale, greenish grey - dark streaks, fissile, micromicaceous, some of the dark streaks are bituminous.
	Horn River. 1320'
1320'-1370'	Shale, black, fissile to blocky in part, bituminous micromicaceous.
	Nahanni (Hume). 1371'
1370'-1380'	Shale, as above. Limestone, grey to medium dark grey, microcrystalline to very fine crystalline, bituminous, calcarenite, dense, scattered fractures filled with calcite.

1380'-1390'	Limestone, as above - micritic in part, dolomitic in part, scattered fossils.
1390'-1400'	Limestone, grey, microcrystalline to very fine crystalline, calcilutite - fragmental in part dense scattered fractures.
1400'-1410'	Limestone, grey to tan, microcrystalline, calcilutite, slightly bituminous, dense, scattered fractures.
1410'-1430'	Limestone, brownish grey, cryptocrystalline to microcrystalline calcilutite, dense, scattered fractures, scattered fossils, pyritic in part.
1430'-1440'	Limestone, as above - dolomitic in part, fragmental and bioclastic in part.
1440'-1470'	Limestone, medium dark brownish grey, microcrystalline to very fine and some fine crystalline, slightly bituminous, slightly dolomitic in part, dense, scattered fractures filled with calcite
1470'-1490'	Limestone, grey to brownish grey, microcrystalline to very fine crystalline, organic and bioclastic, slightly bituminous, dolomitic in part, dense, scattered fractures, some shale partings.
1490'-1510'	Limestone, medium dark brownish grey, very fine to fine crystalline, very dolomitic, streaky, slight noneffective intercrystalline porosity, some partings of black bituminous shale, scattered fractures.
1510'-1530'	Limestone as above; limestone - grey, microcrystalline, calcilutite, dense.
1530'-1600'	Limestone, medium dark brownish grey, microcrystalline to very fine and some fine crystalline, very dolomitic, tight for the most part - some streaky noneffective intercrystalline porosity, bituminous scattered fractures, partings of black bituminous shale.
1600'-1640'	Limestone, medium dark brownish grey, microcrystalline to very fine crystalline - cryptocrystalline in part, calcilutite - organic and bioclastic in part, dolomitic in part, bituminous, partings of black bituminous shale, scattered fractures filled with calcite.
1640'-1670'	Limestone, medium dark brownish grey, cryptocrystalline to microcrystalline, organic and bioclastic for the most part, bituminous, dense, scattered fractures filled with calcite, some partings of black bituminous shale.
1670'-1680'	Limestone, as above - calcilutite, some interbedded greyish green shale.
1680'-1700'	Limestone, as above - some interbedded greyish green shale - finely disseminated pyrite.
1700'-1710'	Limestone, grey, cryptocrystalline - sublithographic, calcilutite, dense, streaks and interbeds of greyish green shale with finely disseminated pyrite.

1710'-1720'	Limestone, grey - some medium dark brownish grey, cryptocrystalline to microcrystalline, a calcilutite for the most part - organic and bioclastic in part, dense, shaly.
1720'-1750'	Limestone, as above - very fine crystalline in part, scattered partings of black bituminous shale, scattered fractures filled with calcite.
1750'-1770'	Limestone, brownish grey, microcrystalline to very fine crystalline, organic and bioclastic - micritic in part, bituminous, shaly partings.
1770'-1790'	Limestone, grey, cryptocrystalline to microcrystalline, organic and bioclastic, scattered fractures filled with calcite, dense.
	Headless. 1790'
1790'-1800'	Limestone, medium dark brownish grey, microcrystalline to very fine crystalline, calcarenite, dense scattered fractures filled with calcite, bituminous, partings of black bituminous shale.
1800'-1830'	Limestone, as above - organic and bioclastic, partings of black bituminous shale, streaks and thin interbeds of greyish green shale.
1830'-1840'	Limestone, brownish grey, microcrystalline to very fine crystalline organic - bioclastic and micritic in part, scattered fractures filled with calcite; trace of white coarse crystalline dolomite.
	Manetoe. 1845'
1840'-1860'	Dolomite, white, medium to very coarse crystalline, poor to fair intercrystalline and scattered vuggy porosity, scattered flecks of carbonaceous material.
1860'-1880'	Dolomite, grey - fine to medium crystalline and white - medium to very coarse crystalline (secondary dolomite), poor - some fair intercrystalline and scattered vuggy porosity, scattered flecks of carbonaceous material.
1880'-1890'	Dolomite, brownish grey fine to medium crystalline and white medium to very coarse crystalline, poor intercrystalline and scattered vuggy porosity.
1890'-1900'	Dolomite as above and brownish grey very fine to fine crystalline - sucrosic in part, slight to poor intercrystalline porosity.

1952'-1980'	Dolomite, brownish grey, fine to medium crystalline, dense for the most part - some streaky slight intercrystalline porosity, some inclusions of white coarse to very coarse crystalline secondary dolomite, some inclusions of quartz crystals, trace of gypsum, scattered partings of black bituminous shale.
1980'-1990'	Dolomite, medium dark brownish grey, medium to coarse crystalline - inclusions of white coarse to very coarse crystalline secondary dolomite. Slight to poor intercrystalline and scattered vuggy porosity.
	Arnica. 1990'
1990'-2000'	Dolomite, brownish grey fine to medium crystalline slight streaky intercrystalline porosity.
2000'-2010'	Dolomite, grey-slightly brownish microcrystalline - dense and very fine to fine crystalline - streaky slight intercrystalline porosity.
2010'-2030'	Dolomite, brownish grey, fine crystalline, streaky slight intercrystalline porosity, inclusions of gypsum crystals.
2030'-2060'	Dolomite, grey - slightly brownish, microcrystalline - dense and brownish grey fine crystalline with streaky intercrystalline porosity inclusions of gypsum.
2060'-2090'	Dolomite, grey, microcrystalline to very fine crystalline, dense, some gypsum.
	Bear Rock Anhydrite. 2090'
2090'-2110'	Dolomite, as above. Anhydrite, grey, microcrystalline
2110'-2150'	Dolomite, grey, microcrystalline, dense. Anhydrite, grey - slightly brownish in part, microcrystalline, to very fine crystalline.
2150'-2160'	Dolomite, grey, microcrystalline to very fine crystalline, dense, some interbedded anhydrite.
2160'-2190'	Dolomite, grey, microcrystalline, dense. Anhydrite, very light grey to brownish grey microcrystalline to very fine crystalline.
2190'-2200'	Anhydrite, light brownish grey, microcrystalline some interbedded dolomite.
2200'-2210'	Dolomite and Anhydrite, as above.
2210'-2230'	Anhydrite, some interbedded dolomite as above.
2230'-2240'	Dolomite, grey - slightly brownish, microcrystalline to very fine crystalline, dense, some interbedded anhydrite.
2240'-2250'	Anhydrite, as above, some dolomite.

2250'-2300'	Dolomite, slightly brownish grey, microcrystalline to very fine crystalline, streaky slight intercrystalline porosity - non-effective. Anhydrite, brownish grey, microcrystalline to very fine crystalline.
2300'-2330'	Anhydrite, as above - dolomitic in part.
2330'-2380'	Dolomite, grey, microcrystalline, dense. Anhydrite, as above.
2380'-2400'	Dolomite, grey, microcrystalline to very fine crystalline - sucrosic in part streaky slight noneffective intercrystalline porosity, some interbedded anhydrite.
2400'-2410'	Dolomite and Anhydrite, as above.
2410'-2420'	Dolomite, brownish grey, microcrystalline, dense, anhydritic.
2420'-2440'	Dolomite, as above. Anhydrite, as above.
2440'-2460'	Anhydrite, dolomitic as above.
2460'-2480'	Dolomite, tan, microcrystalline, slight noneffective inter-crystalline porosity, anhydritic.
2480'-2540'	Dolomite, grey, microcrystalline, dense. Anhydrite, brownish grey, microcrystalline.
2540'-2600'	Dolomite, grey microcrystalline to very fine crystalline, anhydritic, dense, some scattered partings of black bituminous shale.
2600'-2630'	Anhydrite, brownish grey, microcrystalline to very fine crystalline. Dolomite, grey, microcrystalline to very fine crystalline, dense.
2630'-2660'	Dolomite, brownish grey - slightly greenish in part, micro-crystalline, dense, silty streaks. Some shale streaks. Anhydrite, brownish grey, microcrystalline to very fine crystalline.
2660'-2690'	Anhydrite, as above - some dolomite - silty streaks, partings of black bituminous shale.
2690'-2630'	Anhydrite, as above. Dolomite, grey - greenish to brownish in part, microcrystalline, sucrosic in part, anhydritic, silty streaks, streaky noneffective intercrystalline porosity, partings of black bituminous shale.
2630'-2640'	Dolomite, as above, some inclusions of quartz crystals, some interbedded anhydrite.
2640'-2790'	Dolomite, grey - greenish to brownish in part, microcrystalline to very fine crystalline, dense, silty streaks. Anhydrite, as above.

2790'-2870'	Anhydrite, as above. Dolomite, as above - sucrosic in part - streaky noneffective intercrystalline porosity.
2870'-2880'	Anhydrite, grey to brownish grey, microcrystalline to very fine crystalline, streaks of dolomite - silty streaks.
2880'-2890'	Anhydrite, as above. Dolomite, as above.
2890'-2920'	Anhydrite, as above, dolomite streaks.
2920'-2930'	Anhydrite, as above. Dolomite, grey - slightly brownish, microcrystalline to very fine crystalline, slightly silty, dense, partings of black bituminous shale, scattered blebs and streaks of anhydrite, scattered fractures filled with anhydrite.
2930'-2980'	Dolomite, as above - anhydritic.
2980'-3000'	Dolomite, as above. Anhydrite, brownish grey, microcrystalline to very fine crystalline.
3000'-3020'	Anhydrite, brownish grey, microcrystalline to very fine crystalline, dolomite streaks.
3020'-3040'	Dolomite, grey - slightly brownish, microcrystalline to very fine crystalline, anhydritic, silty streaks, partings of black bituminous shale.
3040'-3050'	Dolomite, grey, microcrystalline to very fine crystalline, anhydritic, dense, partings of black bituminous shale.
3050'-3060'	Dolomite, brownish grey, microcrystalline to very fine crystalline, interbedded anhydrite, slightly silty, dense.
3060'-3080'	Dolomite, as above. Anhydrite, as above.
3080'-3100'	Anhydrite, some interbedded dolomite.
3100'-3130'	Dolomite, grey, microcrystalline, dense, some interbedded anhydrite.
3130'-3140'	Dolomite, grey, microcrystalline to very fine crystalline, anhydritic, dense, scattered partings of black bituminous shale.
3140'-3150'	Dolomite, light grey, very fine crystalline - sucrosic in part, streaky slight intercrystalline porosity.
3150'-3160'	Dolomite, as above - trace of pinpoint porosity; dolomite - grey very fine crystalline, anhydritic, dense.

3160'-3170'	Dolomite, grey, very fine crystalline, dense, some anhydrite.
3170'-3210'	Anhydrite, brownish grey, microcrystalline to very fine crystalline - streaks of dolomite.
	Ronning. 3210'
3210'-3230'	Dolomite, brownish grey, very fine to fine crystalline, slight vuggy porosity, vugs are drusy - quartz and secondary dolomite crystals - some flecks of carbonaceous or asphaltic material.
3230'-3240'	Dolomite, brownish grey - light in part, very fine crystalline dense, scattered partings of black bituminous shale.
3240'-3260'	Dolomite, brownish grey, very fine and some fine crystalline, slight to poor intercyrstalline and drusy vuggy porosity - dense streaks, dolomite and quartz druses, flecks of carbonaceous material scattered partings of black bituminous shale. Some anhydrite.
3260'-3270'	Cavings
3270'-3300'	Dolomite, brownish grey, very fine to fine crystalline, slight intercrystalline and vuggy porosity, dolomite and quartz druses.
3300'-3320'	Dolomite, as above - slight to poor intercrystalline and vuggy porosity, gypsum, quartz and secondary dolomite crystals lining the vugs.
3320'-3330'	Dolomite, light grey to buff, microcrystalline to very fine crystalline - sucrosic in part, slight intercrystalline and scattered vuggy porosity.
3330'-3340'	Dolomite, as above and medium dark brownish grey, very fine to fine crystalline, dense, slightly bituminous, trace of sand grains.
3340'-3360'	Dolomite, medium dark brownish grey to black very fine to fine crystalline slight vuggy porosity, bituminous, scattered fractures filled with white secondary dolomite.
3360'-3370'	Dolomite, brownish grey, very fine crystalline, slight to poor intercrystalline and scattered vuggy porosity, - druses as above.
3370'-3470'	Dolomite, light to medium dark brownish grey, microcrystalline to fine crystalline, slight to poor and some fair intercrystalline and scattered vuggy porosity, druses as above, scattered fractures filled with secondary dolomite, some silty streaks.
3470'-3490'	Dolomite, as above; dolomite - grey - slight greenish cast, cryptocrystalline, silty, dense, finely disseminated pyrite.
3490'-3500'	Dolomite, grey to brownish grey, very fine to fine crystalline, slight intercrystalline and vuggy porosity.

3500'-3510'	Dolomite, grey, very fine crystalline - sucrosic for the most part, abundant salt casts.
3510'-3520'	Dolomite, brownish grey, very fine crystalline, dense for the most part a few scattered drusy vugs (quartz and secondary dolomite crystals).
3520'-3530'	Dolomite, as above - abundant white coarse secondary dolomite crystals.
3530'-3540'	Dolomite, grey to brownish grey, microcrystalline to very fine crystalline, dense.
3540'-3590'	Dolomite, as above, - some greenish grey silty dolomite - finely disseminated pyrite.
3590'-3610'	Dolomite, grey - slightly greenish to brownish, microcrystalline to very fine crystalline, dense, silty, finely disseminated pyrite.
3610'-3620'	Dolomite, light grey, microcrystalline to very fine crystalline, dense, slightly anhydritic.
3620'-3630'	Dolomite, as above - slightly brownish.
3630'-3650'	Dolomite, light grey as above.
3650'-3660'	Dolomite, light grey - brownish in part as above.
3660'-3670'	Dolomite, greenish to brownish grey, microcrystalline, silty and argillaceous, dense, some sandy streaks, shale streaks, finely disseminated pyrite.
3670'-3680'	Dolomite, grey - slightly greenish to brownish, microcrystalline to very fine crystalline, silty streaks, dense, finely disseminated pyrite.
3680'-3690'	Dolomite, as above, dolomite - brownish grey, very fine to fine crystalline, fair intercrystalline and vuggy porosity.
3690'-3720'	Dolomite, brownish grey, very fine to fine crystalline - sucrosic in part, fair intercrystalline and vuggy porosity, trace of dead oilstain, some quartz crystals.
3720'-3740'	Dolomite, brownish grey to dark brownish grey, very fine to fine crystalline, sucrosic in part, poor to fair intercrystalline and vuggy porosity - salt casts, bituminous.
3740'-3760'	Dolomite, brownish grey to dark brownish grey, very fine to fine crystalline, dense for the most part, some scattered vugs, bituminous.
3760'-3770'	Dolomite as above; dolomite - light brownish grey, very fine sucrose, slight to poor intercrystalline porosity.
3770'-3790'	Dolomite, medium to dark grey, very fine to fine crystalline,

	bituminous, dense, some scattered fractures filled with white secondary dolomite.
3790'-3810'	Dolomite, grey - slightly brownish in part, very fine to fine crystalline - sucrosic in part, slight intercrystalline and scattered vuggy porosity, some dense silty streaks, trace of breccia.
3810'-3820'	Dolomite, light brownish grey, microcrystalline to very fine crystalline - sucrosic in part, slight streaky intercrystalline porosity.
3820'-3850'	Dolomite, as above; dolomite - slightly greenish grey, microcrystalline, silty, dense, finely disseminated pyrite.
3850'-3860'	Dolomite, brownish grey, very fine and some fine crystalline, slight intercrystalline and vuggy porosity. Some quartz crystals.
3860'-3870'	Dolomite, as above, some interbedded greenish grey microcrystalline, silty, dense, dolomite.
3870'-3880'	Dolomite, greenish to brownish grey, microcrystalline to very fine crystalline, dense, some salt casts, scattered pyrite.
3880'-3930'	Dolomite, brownish grey, some dark streaks, very fine crystalline, slight scattered vuggy porosity, some streaks of greenish grey, microcrystalline, silty, dense dolomite.
3930'-3940'	Dolomite, as above - slight intercrystalline and vuggy porosity.
3940'-4000'	Dolomite, brownish grey - slightly greenish in part, microcrystalline to very fine crystalline, silty streaks dense for the most part, some scattered vugs.
4000'-4070'	Dolomite, slightly greenish to brownish grey, - microcrystalline to very fine crystalline, slightly silty, dense.
4070'-4090'	Dolomite, as above - laminae of greenish grey shale, pryitic in part.
4090'-4100'	Dolomite, slightly greenish grey, microcrystalline to very fine crystalline, silty, sandy - fine rounded quartz grains, dense, shale laminae, pyritic.
4100'-4110'	Dolomite as above - grading to a dolomitic sandstone in part. Sandstone, very light grey - glassy, fine grained some medium grained - quartzose - rounded grains, silicous - grading to a quartzite in part, tight, some dead oilstain.
4110'-4120'	Dolomite, brownish grey microcrystalline to very fine crystalline - some fine crystalline, dense.

4120'-4140'	Dolomite, as above; dolomite - light grey - grey, fine to medium crystalline, slight intercrystalline porosity - scattered asphaltic stain.
4140'-4160'	Dolomite, brownish grey, fine crystalline, slight intercrystalline porosity - dense streaks, scattered flecks of asphaltic material, loose coarse rounded quartz grains.
4160'-4180'	Dolomite, as above, slight to poor intercrystalline and vuggy porosity, quartz and gypsum crystals lining the vugs and as inclusions.
4180'-4200'	Dolomite, brownish grey, very fine to fine crystalline, dense.
4200'-4240'	Dolomite, greenish to brownish grey, microcrystalline, silty, shaly streaks, dense, finely disseminated pyrite.
4240'-4270'	Dolomite, light grey to grey - slightly greenish to brownish, microcrystalline to very fine crystalline - sucrosic in part streaky slight intercrystalline porosity, silty streaks, cherty - light grey and white, pyritic in part, some shaly streaks.
4270'-4280'	Dolomite, as above - slight intercrystalline and scattered vuggy porosity, some patchy asphaltic staining.
4280'-4300'	Dolomite, slightly brownish grey, very fine and some fine crystalline - sucrosic in part, slight intercrystalline and vuggy porosity - quartz crystals, very cherty.

F.T.D. 4300'

Section 3

DRILLING AND ENGINEERING

SUMMARY OF DAILY DRILLING OPERATIONS

Horn R Candel et al Willowlake G-47

Date	Depth	Operation
3-15-71	0′	Rigging up to spud.
3-16-71	40′	Drilling 12-1/4″ surface hole. Spudded at 9:00 p.m., March 15, 1971.
3-17-71	135′	Fishing for drill collars. Reduced hole size at 46′ to 7-7/8″. Drilled to 135′ when on trip for bit left collars in hole.
3-18-71	484′	Drilling 12-1/4″ hole.
3-19-71	515′	Waiting on cement, surface casing; drilled to 515′. Ran 16 joints 8-5/8″ - 24 lb. - J-55 casing; landed at 496.67′. Cemented with 270 sacks of normal portland cement plus 3% $CaCl_2$. Plug down 12:00 midnight, March 18, 1971.
3-20-71	765′	Drilling 7-7/8″ hole. Mud wt. 8.5 lb./gal. Vis. 33 Headed up surface casing, tested Blind Rams, Pipe Rams and Hydril to 1800 psi. Each unit held for 15 minutes.
3-21-71	1315′	Drilling 7-7/8″ hole. Mud wt. 9.1 Vis. 36
3-22-71	1552′	Drilling 7-7/8″ hole. Mud wt. 8.6 Vis. 37
3-23-71	1792′	Drilling 7-7/8″ hole. Mud wt. 8.5 Vis. 36
3-24-71	1952′	Pulling Core No. 2. Cut Core No. 1: 1902′ to 1944′. Recovered 42′. Cut Core No. 2: 1944′ to 1952′. Recovered 8′.
3-25-71	2135′	Drilling 7-7/8″ hole. Mud wt. 8.7 Vis. 38
3-26-71	2375′	Drilling 7-7/8″ hole. Mud wt. 8.7 Vis. 35
3-27-71	2595′	Drilling 7-7/8″ hole. Mud wt. 8.7 Vis. 33
3-28-71	2855′	Drilling 7-7/8″ hole. Mud wt. 9.0 Vis. 34
3-29-71	3000′	Drilling 7-7/8″ hole. Mud wt. 8.7 Vis. 32

SUMMARY OF DAILY DRILLING OPERATIONS (Continued)

Horn R Candel et al Willowlake G-47

Date	Depth	Operation
3-30-71	3213′	Drilling 7-7/8″ hole. Mud wt. 8.8 Vis. 36
3-31-71	3490′	Drilling 7-7/8″ hole. Mud wt. 8.8 Vis. 43
4- 1-71	3675′	Drilling 7-7/8″ hole. Mud wt. 8.8 Vis. 34
4- 2-71	3842′	Drilling 7-7/8″ hole. Mud wt. 8.8 Vis. 34
4- 3-71	4023′	Drilling 7-7/8″ hole. Mud wt. 8.7 Vis. 38
4- 4-71	4158′	Drilling 7-7/8″ hole. Mud wt. 8.8 Vis. 38
4- 5-71	4300′	Logging. Mud wt. 8.8 Vis. 58
4- 6-71	4300′	Waiting on orders. Ran Logs:

Induction Electric	4297′ - 496′
BHCSGRC	4297′ - 494′
SNP	4298′ - 496′
Formation Density	4298′ - 496′

Ran DST No. 1: 3130′ - 3240′. Dual Straddle. Bear Rock, Ronning. Times: 5 minutes, 60 minutes, 60 minutes, 60 minutes.

Pressures:	Initial H.S.	1436 psi
	Flow	42 psi
	Initial S.I.	1235 psi
	Flow	67 psi
	Final Flow	102 psi
	Final S.I.	1218 psi
	Final H.S.	1431 psi

Recovered 210′ drilling mud.

4- 7-71	4300′	Abandoning. Ran Plug No. 1: 3800′ to 3630′, 80 sacks cement plus 3% $CaCl_2$. Felt plug no. 1 at 3645′. Ran Plug No. 2: 2050′ to 1800′, 110 sacks cement plus 3% $CaCl_2$.

SUMMARY OF DAILY DRILLING OPERATIONS (Continued)

Horn R Candel et al Willowlake G-47

Date	Depth	Operation
4- 8-71		Abandoned. Felt Plug No. 2 at 1805'. Ran Plug No. 3, 550' to 450', 140 sacks cement plus 3% $CaCl_2$.
		Felt Plug No. 3 at 438'. Ran 5 sack plug at surface cut off casing. Welded on cap and marker plate.
		Rig released 8:00 p.m., April 7, 1971.

DRILL STEM TEST REPORT

WELL: Horn R Candel et al Willowlake G-47

DATE: April 6, 1971 TEST NO. 1

INTERVAL TESTED: 3130 - 3240' FORMATION: Bear Rock, Ronning

TOTAL DEPTH DRILLER: 4300' LOGS: IES, BHCSGRC

HOLE SIZE: 7-7/8" RAT HOLE SIZE: -

TESTING COMPANY: Lynes United OPERATOR: Lewchuk

MUD		DRILL PIPE		TEST TOOL	
Type	Gel Chemical	Type	F.H.	Size Rubber	7"
Wt.	8.8	Size	4-1/2"	Type	-
Visc.	58	Size T.J.	5-13/16	Tool Type	-
W.L.	14	Collars	4-1/2" H 90	Size Choke	3/4
pH	-	Jars	-	Wt. to Set	-
F.C.	2/32	Safety Joint	-	Pull Loose	-
Conditions	Good	Pumpout Sub.	-	Fluid Cushion	-

Bit off Bottom	2:45 a.m. 4/5/71	Preflow	5 min.	B.H. Temp.	130 °F.
Start Tester in	10:00 p.m.	I.S.I.	60 min.	Gauge Depths	3142 K.B.
Tester on Bottom	11:15 p.m.	Tool Open	60 min.		3147 K.B.
Tool Open	11:15 p.m.	F.S.I.	60 min.		-
Tool Closed	11:20 p.m.	**Upper Gauge**		**Lower Gauge**	
Tool Open	12:20 a.m. 4/6/71	I.H.S.	1436 psig	I.H.S.	1447 psig
Tool Closed	1:20 a.m.	Preflow	42 psig	Preflow	39 psig
Tool Loose	2:45 a.m.	I.S.I.	1235 psig	I.S.I.	1232 psig
Tool Out	4:00 a.m.	Initial Flow	67 psig	Initial Flow	61 psig
Rubber Condition	-	Final Flow	102 psig	Final Flow	105 psig
Test O.K.	Yes	Final S.I.	1218 psig	Final S.I.	1219 psig
		F.H.S.	1431 psig	F.H.S.	1446 psig

BLOW: Fair initial puff. Small air blow throughout test.

RECOVERY: 210 feet drilling mud.

James A. Lewis Engineering Co. Ltd.

SURFACE CASING REPORT

Horn R Candel et al Willowlake G-47

Date: March 18, 1971

Ran 16 joints, new 8-5/8", 24 lb./ft. casing plus guide shoe and float collar.

Total Length:	511.54'
Landed at:	496.67'

Cemented with 270 sacks of normal cement and 3% $CaCl_2$. Slurry weight was 15.8 lb./gal. to 16.4 lb./gal. Displaced with 32 barrels water. Bumped plug to 500 psi and plug held O.K.

BIT RECORD

WELL: Horn R Candel et al Willowlake G-47

BIT NO.	SIZE & SER. NO.	DEPTH OUT, Feet	FOOTAGE, Feet	HOURS	WEIGHT, M Pounds	R.P.M.	PUMP PRESSURE, Psi
SURFACE HOLE							
1A	12-1/4	40	40	14	4		200
2A	12-1/4	42	2	10	5		200
3A	12-1/4	42	0	5	5		200
4A	7-7/8-DZ381	46	4	4	5		200
5A	7-7/8	135	99	5	5		200
6A	12-1/4-TB128	251	116	13½	10	80	200
7A	12-1/4 T5523	515	264	11½	10	110	350
MAIN HOLE							
1	7-7/8-783824	1377	862	29¾	20	110	1250
Core	6-3/16-FC17102	1952	50	5¾	10	83	650
2	7-7/8-29568	2315	838	75¼	35	45	1200
3	7-7/8-678975	2864	549	46	30	44	1200
4	7-7/8-28990	3490	626	50¾	30	48	1300
5	7-7/8-28899	3842	352	28¼	30	44	800
6	7-7/8-20867	4113	271	33	30	44	725
7	7-7/8-29563	4300	187	21	28	40	750
TALLY CORRECTION			40				

SUMMARY

Surface Hole 515 of 12-1/4 " 63 hours on bottom.

Main Hole 3685 of 7-7/8 " 289-3/4 hours on bottom.

Core Hole 50 of 6-3/16 " 5-3/4 hours on bottom.

SURVEY RECORD

Horn R Candel et al Willowlake G-47

Depth, Feet	Deviation, Degrees
Surface Hole	
105	½
135	1
192	¾
278	½
367	¾
484	2
Main Hole	
614	3
727	3½
821	3¾
883	3¾
1165	4½
1259	4½
1352	5
1451	5
1543	5
1637	4¾
1731	5
1825	4½
1902	4½
2050	5
2176	6
2239	6-1/8
2332	7¾
2396	8½
2437	8½
2458	9
2521	9½
2552	9¾
2584	10
2619	9¾
2646	9¾

SURVEY RECORD (Continued)

Horn R Candel et al Willowlake G-47

Depth, Feet	Deviation, Degrees
Main Hole (Cont'd)	
2677	9¼
2739	9
2802	9
2864	9¾
2932	10¼
2964	11
2995	11
3026	11
3057	11
3088	11¼
3119	11-1/8
3151	10¼
3182	10
2344	11
3307	10¾
3370	10½
3432	10½
3490	11
3557	11
3620	11
3683	11
3745	12
3777	12
3839	
3964	12
4059	12
4113	12
4300	12

SUMMARY OF MUD ADDITIVES

Horn R Candel et al Willowlake G-47

Hydra-gel	92,700 lbs.
Benex	95 lbs.
CMC	1,750 lbs.
Soda Ash	1,000 lbs.
Caustic	50 lbs.
DV-68	15 gal.

ABANDONMENT REPORT

Horn R Candel et al Willowlake G-47

Plug No. 1: 3800′ to 3630′. Ran 80 sacks cement plus 3% Calcium Chloride.
Plug down 8:00 p.m., April 6, 1971.
Felt Plug No. 1 at 3:00 a.m. April 7, 1971 at 3645′.

Plug No. 2: 2050′ to 1800′. Ran 110 sacks cement plus 3% Calcium Chloride.
Plug down 5:30 a.m., April 7, 1971.
Felt Plug No. 2 at 12:00 noon, April 7, 1971 at 1805′.

Plug No. 3: 550′ to 450′. Ran 140 sacks of cement plus 3% Calcium Chloride.
Plug down 2:15 p.m., April 7, 1971.
Felt Plug No. 3 at 5:15 p.m., April 7, 1971 at 438′.

Plug No. 4: Surface. 5 sacks cement, cut off casing 3′ below ground, welded on plate and marker.

Rig released 8:00 p.m., April 7, 1971.

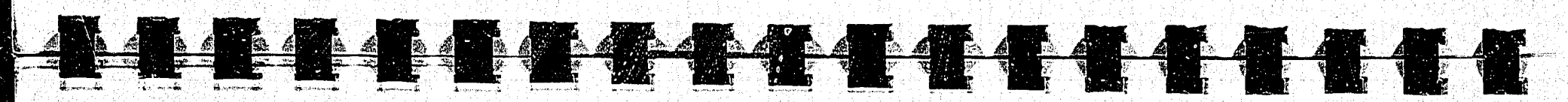
Section 4

WELL LOG DATA

Horn R Candel et al Willowlake G-47

Log	Scale	Interval
Induction Electrical	2" & 5"/100'	4297' - 496'
Borehole Compensated Sonic Gamma-Ray Caliper	2" & 5"/100'	4297' - 494'
Formation Density		4298' - 496'
Sidewall Neutron Porosity	2" & 5"/100'	4298' - 496'

Section 5



CORE LABORATORIES – CANADA LTD.

COMPANY HORN RIVER EXPLORATION LIMITED
WELL HORN R. CANDEL ET AL WILLOW LK G-47
FIELD WILDCAT, WILLOW LAKE AREA, N.W.T.
LOCATION 62 36' 23.00 NORTH LAT.
122 53' 12.00 WEST LONG.

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

PAGE 1 OF 3
FILE 913-1109
DATE REPORT APR. 12/71
ANALYSTS RM, BK

ABT	APPEARS SIMILAR TO	-	PERMEABILITY <	CONG	CONGLOMERATE	SHY	SHALY	A	ANHYDRITE	V	VUGULAR	I	INTERGRANULAR	SS	SMALL PLUG SAMPLE
*	BROKEN CORE REQUIRED FOR SUMMARY PURPOSES	FS	FINE SAND	DOL	DOLOMITE	/SK	SPECKS	FOSS	FOSSILIFEROUS	LV	LARGE VUGS	STY	STYLOLITIC	SL	SLIGHTLY
		MS	MEDIUM SAND	SH	SHALE	BIT	BITUMEN	CRYSTALLINE		SV	SMALL VUGS	HF	HORIZONTAL FRACTURE	VY	VERY
**	PERMEABILITY > 20000 MD	CS	COARSE SAND	LMY	LIMY	CARB	CARBONACEOUS	LAM	LAMINATIONS	PPV	PIN POINT VUGS	VF	VERTICAL FRACTURE	W/	WITH

SAMPLE NUMBER	INTERVAL REPRESENTED, FEET		PERMEABILITY TO AIR, MILLIDARCYS			PERMEABILITY FEET	POROSITY, PER CENT	POROSITY FEET	DENSITY, gm/cc		VISUAL EXAMINATION
	DEPTH	THICK	KMAX	K90°	KV				BULK	GRAIN	
	CORED INTERVAL 1902 - 1952										
	CORE NO. 1 1902 - 1944 REC. 42.0' 10 BOXES										
1	1902.0- 3.4	1.4	.17	.11	-0.1	.24	1.0	1.40	2.80	2.83	SV F
2	1903.4- 5.0	1.6	5.98	.63	.26	9.57	1.0	1.60	2.79	2.82	SV F
3	1905.0- 6.5	1.5	1.21	1.10	.08	1.82	4.6	6.90	2.70	2.83	SV VF
4	1906.5- 7.9	1.4	5.57	1.25	.05	7.80	4.0	5.60	2.72	2.83	SV F
5	1907.9- 8.7	.8	581.00	57.50	5.44	464.80	5.6	4.48	2.68	2.84	SV
6	1908.7- 9.4	.7	.56	.35	.05	.39	9.6	6.72	2.56	2.83	SV
7	1909.4-10.4	1.0	4.95	2.01	.22	4.95	3.7	3.70	2.72	2.82	SV F
8	1910.4-11.2	.8	.76	.53	-0.1	.61	3.4	2.72	2.74	2.84	SV
9	1911.2-12.0	.8	.03	.03	-0.1	.02	.2	.16	2.82	2.83	DENSE
10	1912.0-12.6	.6	.05	.05	-0.1	.03	1.7	1.02	2.79	2.83	SV STY
11	1912.6-14.0	1.4	.05	.05	-0.1	.07	.3	.42	2.82	2.83	DENSE
12	1914.0-15.0	1.0	.28	.28	-0.1	.28	1.5	1.50	2.79	2.83	I PPV
13	1915.0-15.8	.8	9.47	8.71	.06	7.58	2.7	2.16	2.76	2.84	SV F
14	1915.8-16.8	1.0	6.05	5.40	.65	6.05	3.5	3.50	2.73	2.83	SV F
15	1916.8-18.1	1.3	.07	.07	-0.1	.09	1.0	1.30	2.80	2.83	PPV STY
16	1918.1-19.1	1.0	.88	.13	-0.1	.88	4.5	4.50	2.71	2.83	SV
17	1919.1-19.9	.8	5.00	1.47	.28	4.00	8.3	6.64	2.59	2.83	SV
18	1919.9-21.1	1.2	*	10.30	*	12.36	4.7	5.64	2.69	2.82	SV OVF
19	1921.1-22.0	.9	1.73	-0.1	.36	1.56	.9	.81	2.80	2.82	FEW SV F
20	1922.0-22.9	.9	**	.46	-0.1	.41	3.7	3.33	2.73	2.84	LVUG SV
21	1922.9-23.6	.7	**	20.00	.09	14.00	5.7	3.99	2.67	2.83	LVUG SV
22	1923.6-24.7	1.1	4.13	2.63	.12	4.54	6.5	7.15	2.65	2.84	SV
23	1924.7-26.0	1.3	**	.11	-0.1	.14	6.9	8.97	2.64	2.83	SV
24	1926.0-27.0	1.0	**	9.59	.05	9.59	7.0	7.00	2.64	2.83	SV
25	1927.0-28.2	1.2	.11	.04	-0.1	.13	2.3	2.76	2.76	2.83	FEW SV

Form 51

CORE LABORATORIES – CANADA LTD.

COMPANY HORN RIVER EXPLORATION LIMITED
WELL HORN R. CANDEL ET AL WILLOW LAKE G-47

FILE 913-1109

SAMPLE NUMBER	INTERVAL REPRESENTED, FEET		PERMEABILITY TO AIR, MILLIDARCYS			PERMEABILITY FEET	POROSITY, PER CENT	POROSITY FEET	DENSITY, gm./cc.		VISUAL EXAMINATION
	DEPTH	THICK	KMAX	K90°	KV				BULK	GRAIN	
26	1928.2-29.3	1.1	.56	.47	-0.1	.62	1.9	2.09	2.77	2.82	FEW SV
27	1929.3-30.0	.7	.73	.07	-0.1	.51	.6	.42	2.81	2.83	DENSE F
28	1930.0-31.0	1.0	14.10	2.09	3.18	14.10	1.3	1.30	2.79	2.83	I
29	1931.0-32.6	1.6	8.41	5.89	3.41	13.46	2.1	3.36	2.77	2.83	PPV F
30	1932.6-34.3	1.7	.08	.08	-0.1	.14	1.6	2.72	2.78	2.82	FEW SV
31	1934.3-35.6	1.3	.36	.10	-0.1	.47	2.5	3.25	2.77	2.84	I SV F
32	1935.6-36.5	.9	.47	.43	-0.1	.42	4.3	3.87	2.71	2.83	SV
33	1936.5-37.1	.6	**	4.68	4.61	2.80	10.2	6.12	2.55	2.84	LV SV
34	1937.1-38.0	.9	.41	.34	-0.1	.37	4.7	4.23	2.69	2.82	SV
35	1938.0-38.8	.8	2.54	2.45	.05	2.03	2.9	2.32	2.74	2.82	FEW SV
36	1938.8-39.7	.9	**	11.50	-0.1	10.35	3.9	3.51	2.72	2.83	SV F
37	1939.7-40.7	1.0	9.48	.37	.06	9.48	2.1	2.10	2.77	2.83	PPV STY F
38	1940.7-41.6	.9	1.38	.30	-0.1	1.24	1.6	1.44	2.78	2.83	PPV F
39	1941.6-42.8	1.2	.11	.09	-0.1	.13	2.4	2.88	2.76	2.83	PPV
40	1942.8-44.0	1.2	.20	.08	-0.1	.24	1.0	1.20	2.80	2.83	PPV STY F
	CORE NO. 2 1944 - 1952 REC. 8.5' 2 BOXES										
41	1944.0-45.2	1.2	3.85	.10	.07	4.62	4.6	5.52	2.71	2.84	I PPV F
42	1945.2-46.1	.9	65.80	1.54	4.04	59.22	4.2	3.78	2.71	2.83	I PPV F
43	1946.1-47.3	1.2	.36	.33	-0.1	.43	4.3	5.16	2.71	2.83	I PPV
44	1947.3-48.3	1.0	4.89	4.45	1.70	4.89	6.7	6.70	2.64	2.82	I F
45	1948.3-49.0	.7	9.62	.64	1.09	6.73	3.9	2.73	2.71	2.82	I F
46	1949.0-50.0	1.0	.94	.12	-0.1	.94	1.5	1.50	2.79	2.83	FEW SV STY F
47	1950.0-51.0	1.0	179.00	19.70	38.00	179.00	2.9	2.90	2.74	2.83	I SV F
48	1951.0-51.8	.8	32.60	3.85	.80	26.08	1.7	1.36	2.79	2.84	I F
49	1951.8-52.5	.7	125.00	.44	7.91	87.50	1.0	.70	2.79	2.82	I F

Form 51A

CORE LABORATORIES – CANADA, LTD.

Petroleum Reservoir Engineering

WELL: HORN R. CANDEL ET AL WILLOW LAKE G-47

PAGE: 3 OF 3

FILE: 913-1109

FORMATION:

SUMMARY INTERVAL: 1902.0 - 1952.5

TOTAL FOOTAGE: 50.5

FOOTAGE ANALYZED 50.5

FOOTAGE NOT ANALYZED: TOTAL: .0 DENSE .0 LOST .0 DRILLED .0 *NABR .0 RUBBLE .0

SUMMARY OF ANALYZED CORE:

	FOOTAGE	% OF ANALYZED CORE	WEIGHTED AVERAGE POROS. %	POROSITY FEET	WEIGHTED AVERAGE PERM. MD.	PERM. FEET	WEIGHTED AVERAGE RESID OIL %	WEIGHTED AVERAGE TOT. WATER %
TOTAL	50.5	100.00	3.27	165.13	19.36	977.69	.00	.00
BY PERM RANGES								
LESS THAN 0.10 Md.	5.8	11.49	.97	5.62	.06	.35	.00	.00
0.10 0.49 Md.	12.5	24.75	3.08	38.55	.26	3.27	.00	.00
0.50 0.99 Md.	5.3	10.50	3.39	17.95	.74	3.95	.00	.00
1.00 9.99 Md.	18.9	37.42	3.99	75.35	5.43	102.71	.00	.00
GREATER THAN 9.99 Md.	8.0	15.84	3.46	27.66	108.43	867.41	.00	.00

*NOT ANALYZED BY REQUEST

Kantina Oilwell Drilling

62° 36' 23.00 122° 53' 12.00"

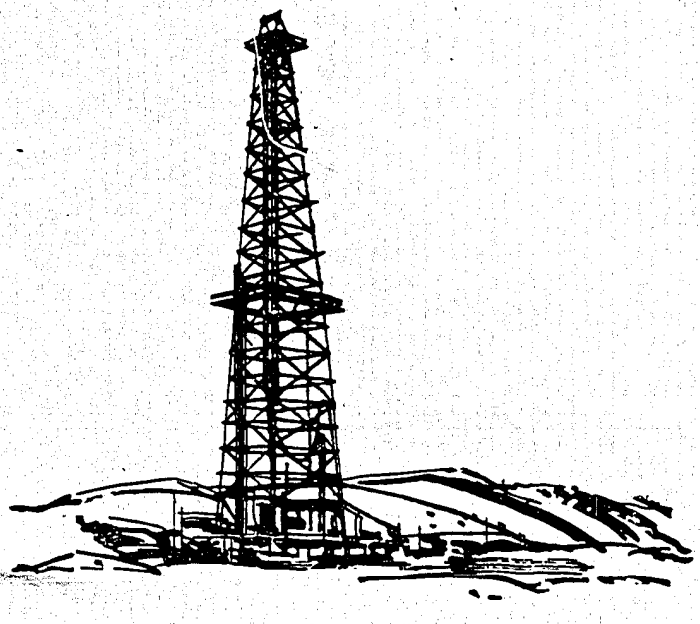
Horn River Randal et al Willowlake G-47 #1

April 6/71

LYNES

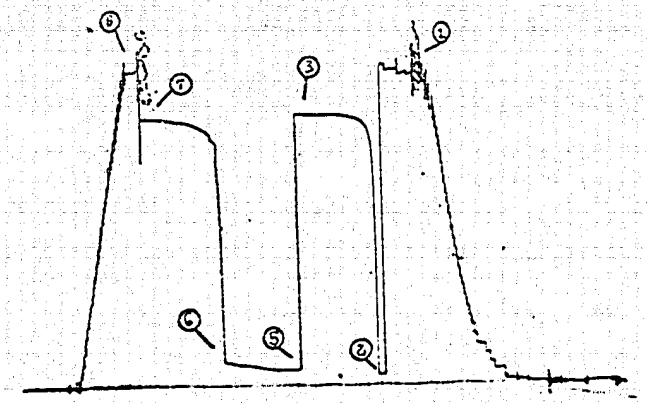
BRIGHT NAME IN THE OIL PATCH

Inflatable and Conventional Packer Tools

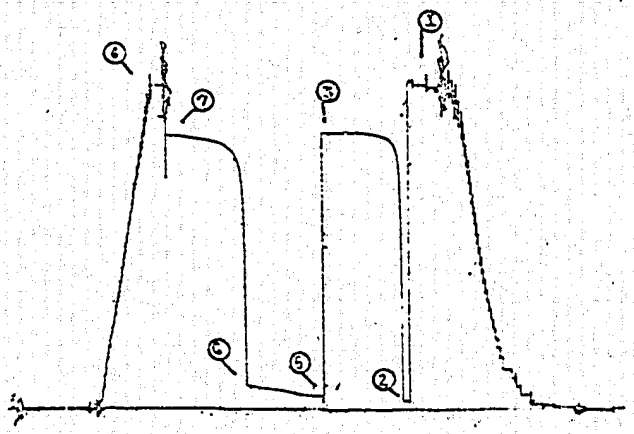


DRILL STEM TEST
TECHNICAL SERVICE REPORT

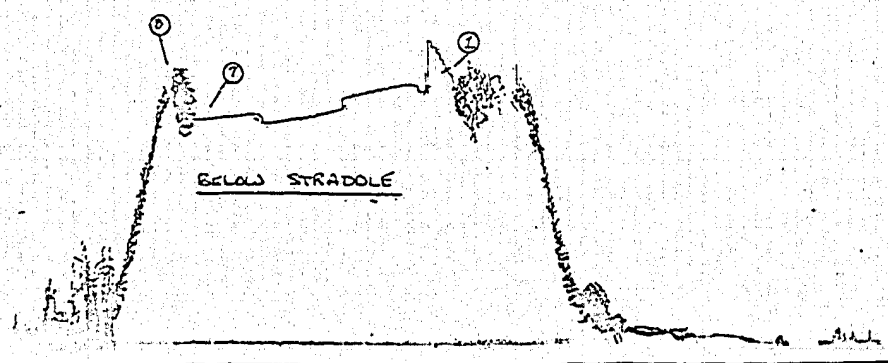
HORN RIVER CANDEL at al WILLOW LAKE G-47
62° 36' 23.00 122° 53' 12.00 901-1



HORN RIVER CANDEL at al WILLOW LAKE G-47
62° 36' 23.00 122° 53' 18.00 902-1



HORN RIVER CANDEL at al WILLOW LAKE G-47
62° 36' 23.00 122° 53' 12.00 1135-1



Kenting Oilwell Drilling
Horn River Candel et al Willow Lake G-47
62° 36' 122° 53' DST # 1

NOMENCLATURE (Definition of Symbols)

Q	=	average production rate during test, bbls./day
Q_g	=	measured gas production rate during test, MCF/day
k	=	permeability, md
h	=	net pay thickness, ft. (when unknown, test interval is chosen)
μ	=	fluid viscosity, centipoise
Z	=	compressibility factor
T_f	=	reservoir temperature, ° Rankine
m	=	slope of final SIP buildup plot, psig/cycle (psig²/cycle for gas)
b	=	approximate radius of investigation, feet
r_w	=	wellbore radius, feet
t_o	=	total flowing time, minutes
P_o	=	Extrapolated maximum reservoir pressure, psig
P_f	=	final flowing pressure, psig
P.I.	=	productivity index, bbls./day/psi
$P.I._t$	=	theoretical productivity index with damage removed, bbl./day/psi
D.R.	=	damage ratio
E.D.R.	=	estimated damage ratio
AOF	=	absolute open flow potential, MCF/D
AOF_t	=	theoretical absolute open flow if damage were removed
Z	=	subsea depth
W	=	water gradient based on salinity
H_w	=	potentiometric surface

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

DEFINITION OF SYMBOLS

Recorder Depth 3147 ft. Subsea depth ..... ft. Ticket No. 3028 Hour Recorder No. 9 02

t_o = 5 Mins. Initial Shut-In Pressure				Second Flow Pressure		t_o = 65 Mins. Final Shut-In Pressure			
Time, Min. Ø	$\frac{t_o + Ø}{Ø}$	PSIG	PSIG² ÷10⁶ (Gas)	Time Defl. .000"	PSIG	Time, Min. Ø	$\frac{t_o + Ø}{Ø}$	PSIG	PSIG² ÷10⁶ (Gas)
0	----	39				0	----	105	
5	2.000	1151				5	14.000	1092	
10	1.500	1201				10	7.500	1151	
15	1.333	1215				15	5.333	1175	
20	1.250	1223				20	4.250	1186	
25	1.200	1226				25	3.600	1193	
30	1.167	1228				30	3.167	1199	
35	1.143	1230				35	2.857	1204	
40	1.125	1232				40	2.625	1208	
45	1.111	1232				45	2.444	1212	
50	1.100	1232				50	2.300	1215	
55	1.091	1232				55	2.182	1218	
60	1.083	1232				60	2.083	1219	

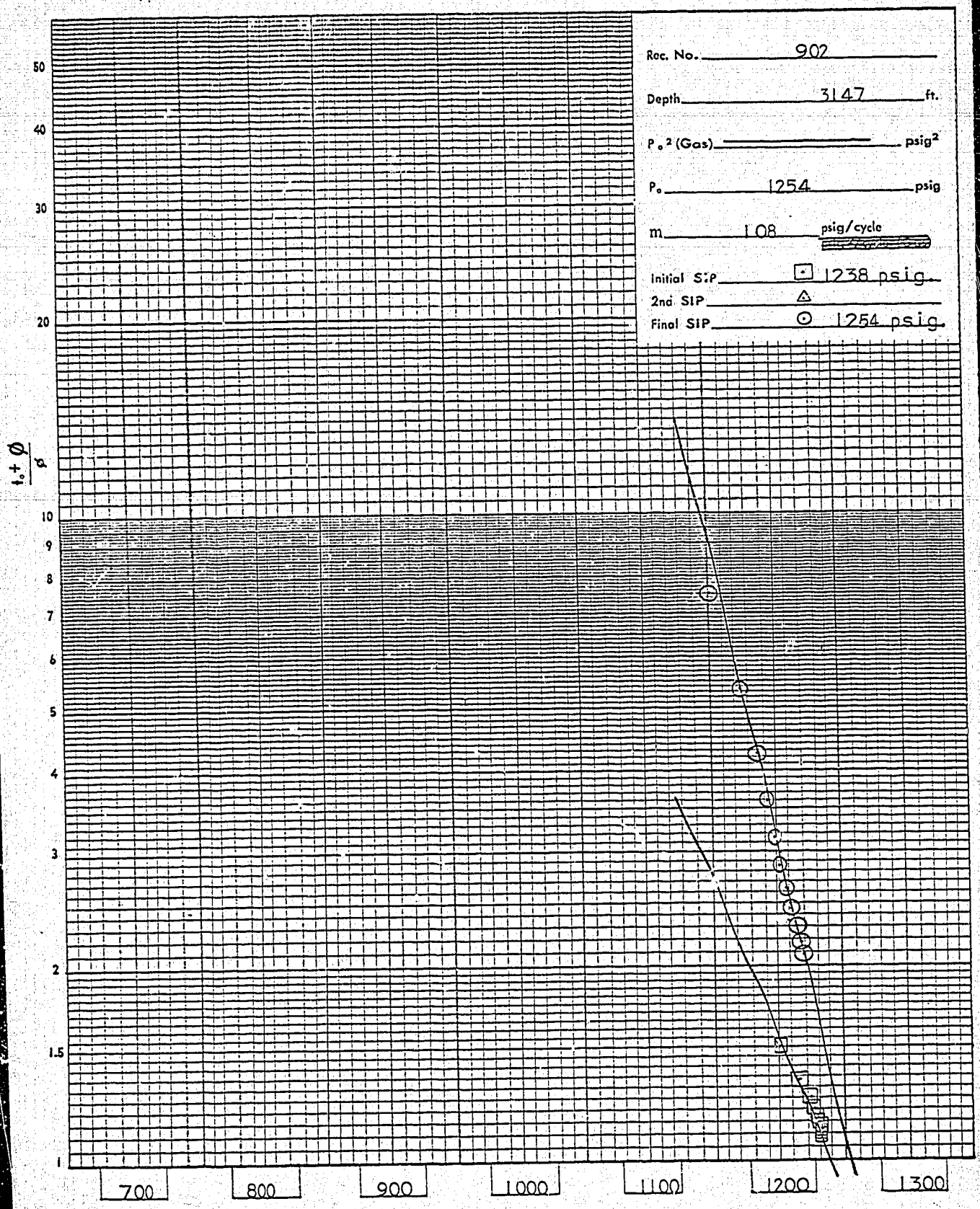
Recorder Depth ..... ft. Subsea depth ..... ft. Ticket No. ..... Hour Recorder No. .....

t_o = Mins. Initial Shut-In Pressure				Second Flow Pressure		t_o = Mins. Final Shut-In Pressure			
Time, Min. Ø	$\frac{t_o + Ø}{Ø}$	PSIG	PSIG² ÷10⁶ Ø	Time Defl. .000"	PSIG	Time, Min. Ø	$\frac{t_o + Ø}{Ø}$	PSIG	PSIG² ÷10⁶ (Gas)

Interval of Pressure Readings (Mins.) ISIP 5 2nd Flow Press. FSIP 5

Remarks: DST # 1

PRESSURE DATA



DST # 1

PRESSURE EXTRAPOLATION PLOT

LYNES UNITED SERVICES LTD.

TEST DATA

Test No. 1 Lynes Test 1

Formation T.D. 4300 Ft.

Interval Tested 3130 Ft. to 3240 Ft.

Feet of Net Pay Tested 110 Ft.

Type of Test: Dual Straddle

Cushion Amount Ft.

Started in Hole at 7:45 Hrs. Tool Open at 11:15 Hrs.

Pre-Flow 5 Mins. Initial Shut-in 60 Mins.

2nd Flow Mins. Second Shut-in Mins.

Final Flow 60 Mins. Final Shut-in 60 Mins.

Remarks:

Blow: Tool opened with fair initial puff. Small air blow throughout the test.

GENERAL INFORMATION

Company: Kenting Oilwell Drilling

Address:

Well Name: Horn River Candel et al Willow Lake

Well Number: G-47 62° 36' 122° 53'

K.B. Elevation: 964 Sub-Sea Elevation:

Area: Willow Lake Province: N.W.T.

Company Rep.: E. Brown

Tester: G. Lewchuk

Contractor: Petrolia Drilling Rig No. 7

Ticket No. 3028 Date April 6/71

Service Reports To:

5 - above address

+ 40 xeroxed copies.

GAS BLOW MEASUREMENTS

Measured with

Time	Surface Choke	Reading Inches	Cubic Feet/Day

MUD AND HOLE DATA

Mud Type: Gel

Weight 8.8 Viscosity 58 Water Loss

Filter Cake 2/32" Bottom Hole Temperature 130°

Drill Pipe Size 3 1/2" H90 Weight 13.30

Drill Collars 4 1/2" H90 I.D. 2 7/8" Feet Run 400

Main Hole or Casing Size 7 7/8"

Rathole or Liner Size No. of Feet

Bottom Hole Choke Size 3/4"

Surface Choke Size 1"

Packer Rubber Size 7"

REMARKS

Shut-in pressures suggest average permeability within the interval tested.

RECOVERY

TOTAL FLUID RECOVERED 210 Ft. Consisting of:

210 Ft. of drilling mud

Ft. of

Ft. of

Ft. of

Test was/was not Reverse Circulated

Oil Recovery A.P.I. Water Specific Gravity

Salinity

PRESSURE READINGS

	Inside ___ Outside X	Inside ___ Outside X	Inside ___ Outside X	Inside ___ Outside ___
Recorder No.	901	902	1135	
Capacity	3400	3300	4500	
Depth	3142	3147	3267	
NUMBER KEY:				
1 - INITIAL HYDROSTATIC	1436	1447	1530	
2 - PRE-FLOW	42	39		
3 - INITIAL SHUT-IN	1235	1232		
4a - 2nd INITIAL FLOW				
4b - 2nd FINAL FLOW				
4c - 2nd SHUT-IN				
5 - 3rd INITIAL FLOW	67	61		
6 - FINAL FLOW	102	105		
7 - FINAL SHUT-IN	1218	1219	1346 (bleed off)	
8 - FINAL HYDROSTATIC	1431	1446	1481	

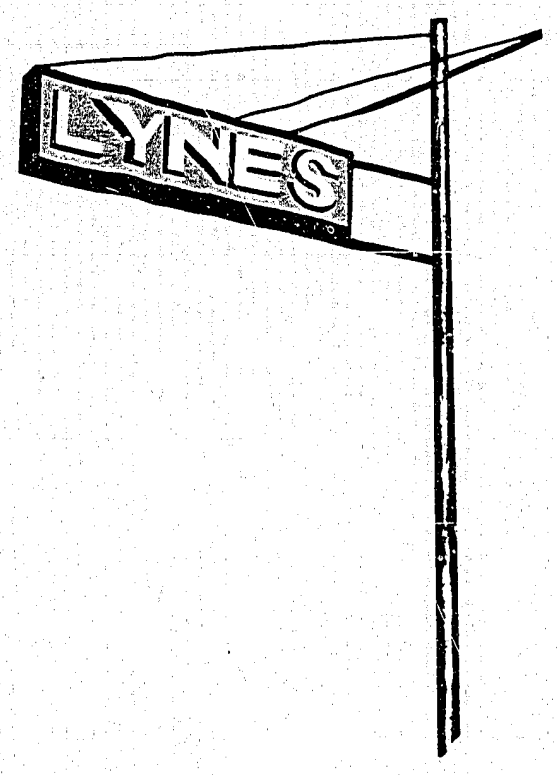
Kenting Oilwell Drilling — Company

Horn River Candel et al Willowlake G-47 — Well Name and Description

62° 36' 23.00 122° 53' 12.00"

#1 — Test No.

April 6/71 — Date of Test



LYNES UNITED SERVICES LTD. 262-4501 CALGARY, ALBERTA

CORE ANALYSIS REPORT

FOR

HORN RIVER EXPLORATION LIMITED

HORN R. CANDEL ET AL WILLOW LK G-47
WILDCAT, WILLOW LAKE AREA
N.W.T.

CORE LABORATORIES - CANADA LTD.
Petroleum Reservoir Engineering
CALGARY - EDMONTON - REGINA

CORE LABORATORIES — CANADA LTD.

COMPANY HORN RIVER EXPLORATION LIMITED
WELL HORN R. CANDEL ET AL WILLOW LK G-47
FIELD WILDCAT, WILLOW LAKE AREA, N.W.T.
LOCATION 62 36' 23.00 NORTH LAT.
122 53' 12.00 WEST LONG.

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

PAGE 1 OF 3
FILE 913-1109
DATE REPORT APR. 12/71
ANALYSTS RM, BK

AST - APPEARS SIMILAR TO
* - BROKEN CORE (KSO USED FOR SUMMARY PURPOSES)
** - PERMEABILITY > 20000. MD.
- - PERMEABILITY <
FS - FINE SAND
MS - MEDIUM SAND
CS - COARSE SAND
CONG - CONGLOMERATE
DOL - DOLOMITE
SH - SHALE
LMY - LIMY
SHY - SHALY
/BK - BREAK
BIT - PYROBITUMEN
CARB - CARBONACEOUS
A - ANHYDRITE
/OSB - FOSSILIFEROUS
XLN - CRYSTALLINE
LAM - LAMINATIONS
V - VUGULAR
LV - LARGE VUGS
SV - SMALL VUGS
PPV - PIN POINT VUGS
IG - INTERGRANULAR
/DOL - DOLOMITIC
HF - HORIZONTAL FRACTURE
VF - VERTICAL FRACTURE
SP - SMALL PLUG SAMPLE
SL/ - SLIGHTLY
V/ - VERY
W/ - WITH

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

CORED INTERVAL 1902 - 1952

CORE NO. 1 1902 - 1944 REC. 42.0' 10 BOXES

1	1902.0- 3.4	1.4	.17	.11	-0.1	.24	1.0	1.40	2.80	2.83	SV F
2	1903.4- 5.0	1.6	5.98	.63	.26	9.57	1.0	1.60	2.79	2.82	SV F
3	1905.0- 6.5	1.5	1.21	1.10	.08	1.82	4.6	6.90	2.70	2.83	SV VF
4	1906.5- 7.9	1.4	5.57	1.25	.05	7.80	4.0	5.60	2.72	2.83	SV F
5	1907.9- 8.7	.8	581.00	57.50	5.44	464.80	5.6	4.48	2.68	2.84	SV
6	1908.7- 9.4	.7	.56	.35	.05	.39	9.6	6.72	2.56	2.83	SV
7	1909.4-10.4	1.0	4.95	2.01	.22	4.95	3.7	3.70	2.72	2.82	SV F
8	1910.4-11.2	.8	.76	.53	-0.1	.61	3.4	2.72	2.74	2.84	SV
9	1911.2-12.0	.8	.03	.03	-0.1	.02	.2	.16	2.82	2.83	DENSE
10	1912.0-12.6	.6	.05	.05	-0.1	.03	1.7	1.02	2.79	2.83	SV STY
11	1912.6-14.0	1.4	.05	.05	-0.1	.07	.3	.42	2.82	2.83	DENSE
12	1914.0-15.0	1.0	.28	.28	-0.1	.28	1.5	1.50	2.79	2.83	I PPV
13	1915.0-15.8	.8	9.47	8.71	.06	7.58	2.7	2.16	2.76	2.84	SV F
14	1915.8-16.8	1.0	6.05	5.40	.65	6.05	3.5	3.50	2.73	2.83	SV F
15	1916.8-18.1	1.3	.07	.07	-0.1	.09	1.0	1.30	2.80	2.83	PPV STY
16	1918.1-19.1	1.0	.88	.13	-0.1	.88	4.5	4.50	2.71	2.83	SV
17	1919.1-19.9	.8	5.00	1.47	.28	4.00	8.3	6.64	2.59	2.83	SV
18	1919.9-21.1	1.2	*	10.30	*	12.36	4.7	5.64	2.69	2.82	SV OVF
19	1921.1-22.0	.9	1.73	-0.1	.36	1.56	.9	.81	2.80	2.82	FEW SV F
20	1922.0-22.9	.9	**	.46	-0.1	.41	3.7	3.33	2.73	2.84	LVUG SV
21	1922.9-23.6	.7	**	20.00	.09	14.00	5.7	3.99	2.67	2.83	LVUG SV
22	1923.6-24.7	1.1	4.13	2.63	.12	4.54	6.5	7.15	2.65	2.84	SV
23	1924.7-26.0	1.3	**	.11	-0.1	.14	6.9	8.97	2.64	2.83	SV
24	1926.0-27.0	1.0	**	9.59	.05	9.59	7.0	7.00	2.64	2.83	SV
25	1927.0-28.2	1.2	.11	.04	-0.1	.13	2.3	2.76	2.76	2.83	FEW SV

CORE LABORATORIES – CANADA LTD.

COMPANY HORN RIVER EXPLORATION LIMITED
WELL HORN R. CANDEL ET AL WILLOW LAKE G-47

FILE 913-1109

SAMPLE NUMBER	INTERVAL REPRESENTED, FEET		PERMEABILITY TO AIR, MILLIDARCYS			PERMEABILITY FEET	POROSITY, PERCENT	POROSITY FEET	DENSITY, gm./cc.		VISUAL EXAMINATION
	DEPTH	THICK	KMAX	K90°	KV				BULK	GRAIN	
26	1928.2-29.3	1.1	.56	.47	-0.1	.62	1.9	2.09	2.77	2.82	FEW SV
27	1929.3-30.0	.7	.73	.07	-0.1	.51	.6	.42	2.81	2.83	DENSE F
28	1930.0-31.0	1.0	14.10	2.09	3.18	14.10	1.3	1.30	2.79	2.83	I
29	1931.0-32.6	1.6	8.41	5.89	3.41	13.46	2.1	3.36	2.77	2.83	PPV F
30	1932.6-34.3	1.7	.08	.08	-0.1	.14	1.6	2.72	2.78	2.82	FEW SV
31	1934.3-35.6	1.3	.36	.10	-0.1	.47	2.5	3.25	2.77	2.84	I SV F
32	1935.6-36.5	.9	.47	.43	-0.1	.42	4.3	3.87	2.71	2.83	SV
33	1936.5-37.1	.6	**	4.68	4.61	2.80	10.2	6.12	2.55	2.84	LV SV
34	1937.1-38.0	.9	[illegible]	.34	-0.1	.37	4.7	4.23	2.69	2.82	SV
35	1938.0-38.8	.8	2.[illegible]	2.45	.05	2.03	2.9	2.32	2.74	2.82	FEW SV
36	1938.8-39.7	.9	**	11.50	-0.1	10.35	3.9	3.51	2.72	2.83	SV F
37	1939.7-40.7	1.0	9.48	.37	.06	9.48	2.1	2.10	2.77	2.83	PPV STY F
38	1940.7-41.6	.9	1.38	.30	-0.1	1.24	1.6	1.44	2.78	2.83	PPV F
39	1941.6-42.8	1.2	.11	.09	-0.1	.13	2.4	2.88	2.76	2.83	PPV
40	1942.8-44.0	1.2	.20	.08	-0.1	.24	1.0	1.20	2.80	2.83	PPV STY F
	CORE NO. 2 1944 - 1952 REC. 8.5' 2 BOXES										
41	1944.0-45.2	1.2	3.85	.10	.07	4.62	4.6	5.52	2.71	2.84	I PPV F
42	1945.2-46.1	.9	65.80	1.54	4.04	59.22	4.2	3.78	2.71	2.83	I PPV F
43	1946.1-47.3	1.2	.36	.33	-0.1	.43	4.3	5.16	2.71	2.83	I PPV
44	1947.3-48.3	1.0	4.89	4.45	1.70	4.89	6.7	6.70	2.64	2.82	I F
45	1948.3-49.0	.7	9.62	.64	1.09	6.73	3.9	2.73	2.71	2.82	I F
46	1949.0-50.0	1.0	.94	.12	-0.1	.94	1.5	1.50	2.79	2.83	FEW SV STY F
47	1950.0-51.0	1.0	179.00	19.70	38.00	179.00	2.9	2.90	2.74	2.83	I SV F
48	1951.0-51.8	.8	32.60	3.85	.80	26.08	1.7	1.36	2.79	2.84	I F
49	1951.8-52.5	.7	125.00	.44	7.91	87.50	1.0	.70	2.79	2.82	I F

CORE LABORATORIES – CANADA, LTD.

Petroleum Reservoir Engineering

WELL: HORN R. CANDEL ET AL WILLOW LAKE G-47

FILE: 913-1109

FORMATION:

SUMMARY INTERVAL: 1902.0 - 1952.5

TOTAL FOOTAGE: 50.5

FOOTAGE ANALYZED 50.5

FOOTAGE NOT ANALYZED: TOTAL: .0 DENSE .0 LOST .0 DRILLED .0 *NABR .0 RUBBLE .0

SUMMARY OF ANALYZED CORE:	FOOTAGE	% OF ANALYZED CORE	WEIGHTED AVERAGE POROS. %	POROSITY FEET	WEIGHTED AVERAGE PERM. MD.	PERM. FEET	WEIGHTED AVERAGE RESID. OIL %	WEIGHTED AVERAGE TOT. WATER %
TOTAL	50.5	100.00	3.27	165.13	19.36	977.69	.00	.00
BY PERM RANGES:								
LESS THAN 0.10 Md.	5.8	11.49	.97	5.62	.06	.35	.00	.00
0.10 0.49 Md.	12.5	24.75	3.08	38.55	.26	3.27	.00	.00
0.50 0.99 Md.	5.3	10.50	3.39	17.95	.74	3.95	.00	.00
1.00 9.99 Md.	18.9	37.42	3.99	75.35	5.43	102.71	.00	.00
GREATER THAN 9.99 Md.	8.0	15.84	3.46	27.66	108.43	867.41	.00	.00

*NOT ANALYZED BY REQUEST

DAILY DRILLING REPORT REPORT NO.

LEASE	WELL NO.	API WELL NUMBER	DATE
HR Candel G-47			Jul 7/71

OPERATOR	CONTRACTOR	RIG NO.
Horn River Resource	Petrolia Drilling	7

SIGNATURE OF OPERATOR'S REPRESENTATIVE	SIGNATURE OF CONTRACTOR'S TOOL PUSHER
	L. Coleman

D.P. SIZE	WT./FT.	GRADE	TOOL JT O.D.	TYPE THREAD	STRING NO.	PUMP NO.	PUMP MANUFACTURER	TYPE	STROKE LENGTH

LOCATION

LAST CASING TUBING OR LINER	SIZE	MAKE	WT. & GR.	NO. JOINTS	FEET	RKB. TO CSG. HD.	SET AT

WIRE LINE RECORD REEL NO.

SIZE	NO. LINES	FT. SLIPPED

FT. CUT OFF PRESENT LENGTH

TON MI. OR TRIPS SINCE LAST CUT

CUMULATIVE TON MI. OR TRIPS

TIME DISTRIBUTION – HOURS

CODE NO. – OPERATION	MORN.	DAY	EVE.
1. RIG UP AND TEAR DOWN			
2. DRILL ACTUAL			
3. REAMING			
4. CORING			
5. CONDITION MUD & CIRCULATE			
6. TRIPS			
7. LUBRICATE RIG			
8. REPAIR RIG			
9. CUT OFF DRILLING LINE			
10. DEVIATION SURVEY			
11. WIRE LINE LOGS			
12. RUN CASING & CEMENT			
13. WAIT ON CEMENT			
14. NIPPLE UP B.O.P.			
15. TEST B.O.P.			
16. DRILL STEM TEST			
17. PLUG BACK			
18. SQUEEZE CEMENT			
19. FISHING			
20. DIR. WORK			
21.			
22.			
23.			
COMPLETION: A. PERF'R'T'N			
B. TBG TRIPS			
C. TREATING			
D. SWABBING			
E. TESTING			
F. ADDIT'N'L			
G.			
TOTALS			

DAY WORK TIME SUMMARY (OFFICE USE ONLY)

HRS. W/CONTR. D.P.	
HRS. W/OPR. D.P.	
HRS. W/O D.P.	
HRS. STANDBY	
TOTAL DAY WORK	
NO. OF DAYS FROM SPUD	
CUMULATIVE ROTATING HRS.	
TOTAL MUD COST	

MORNING TOUR

NO.	DRILLING ASSEMBLY (At end of tour)		
	BIT		FT.
	STB RMR	OD	FT.
	D.C. ID	OD	FT.
	STB RMR	OD	FT.
	D.C. ID	OD	FT.
	STB RMR	OD	FT.
	STANDS DP		FT.
	SINGLES DP		FT.
	KELLY DOWN		FT.
	TOTAL		FT.
WT. OF STRING			LBS.

BIT RECORD	
BIT NO.	
SIZE	
MFG.	
TYPE	
JETS 1/32"	
SER. NO.	
DEPTH OUT	
DEPTH IN	
TOTAL FTG.	
TOTAL HRS. RUN	
COND. 1/8's T/B/ GAGE	
GPM/ PD–PSI	

MUD RECORD			
TIME			
WEIGHT			
PRESSURE GRADIENT			
VISC.–SEC.			
PV/YP			
GELS.			
WL –CC'S.			
pH			
SOLIDS %			

MUD & CHEMICALS ADDED			
TYPE	AMT.	TYPE	AMT.

DAY TOUR

NO.	DRILLING ASSEMBLY (At end of tour)		
	BIT		FT.
	STB RMR	OD	FT.
	D.C. ID	OD	FT.
	STB RMR	OD	FT.
	D.C. ID	OD	FT.
	STB RMR	OD	FT.
	STANDS DP		FT.
	SINGLES DP		FT.
	KELLY DOWN		FT.
	TOTAL		FT.
WT. OF STRING			LBS.

BIT RECORD	
BIT NO.	
SIZE	
MFG.	
TYPE	
JET 1/32"	
SER. NO.	
DEPTH OUT	
DEPTH IN	
TOTAL FTG.	
TOTAL HRS. RUN	
COND. 1/8's T/B/ GAGE	
GPM/ PD–PSI	

MUD RECORD			
TIME			
WEIGHT			
PRESSURE GRADIENT			
VISC.–SEC.			
PV/YP			
GELS.			
WL –CC'S.			
pH			
SOLIDS %			

MUD & CHEMICALS ADDED			
TYPE	AMT.	TYPE	AMT.

EVENING TOUR

NO.	DRILLING ASSEMBLY (At end of tour)		
	BIT		FT.
	STB RMR	OD	FT.
	D.C. ID	OD	FT.
	STB RMR	OD	FT.
	D.C. ID	OD	FT.
	STB RMR	OD	FT.
	STANDS DP		FT.
	SINGLES DP		FT.
	KELLY DOWN		FT.
	TOTAL		FT.
WT. OF STRING			LBS.

BIT RECORD	
BIT NO.	
SIZE	
MFG.	
TYPE	
JETS 1/32"	
SER. NO.	
DEPTH OUT	
DEPTH IN	
TOTAL FTG.	
TOTAL HRS. RUN	
COND. 1/8's T/B/ GAGE	
GPM/ PD–PSI	

MUD RECORD			
TIME			
WEIGHT			
PRESSURE GRADIENT			
VISC.–SEC.			
PV/YP			
GELS.			
WL –CC'S.			
pH			
SOLIDS %			

MUD & CHEMICALS ADDED			
TYPE	AMT.	TYPE	AMT.

MORNING TOUR

FOOTAGE FROM	TO	DR.D RM.R CORE.C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SCL.–S PARFL.–P COM.D.C.
				Plug #2 - Ran 110 sks const cement + 3% Ca Cl. displaced w/ Mud, Plug down @ 2:30 Am.								

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
12:00	3:00	3		W.O.C.
3:00	4:30	1½		Fed Plug #1 @ 3645 & Lay Down Pipe
4:30	5:30	1		Ran Plug #2 2050' & 1800'
5:30	8:00	2½		W.O.C

DRILLER E. Updegrove.

DAY TOUR

FOOTAGE FROM	TO	DR.D RM.R CORE.C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SCL.–S PARFL.–P COM.D.C.
				Plug #3 Ran 140 sks Const cement + 3% Ca Cl. displaced w/ water Plug down @ 2:15 pm								

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
8:00	11:30	3½		W.O.C
11:30	12:00	½		Fed Plug #2 @ 1805' – Hoist
12:00	12:15	¼		Ran Plug #3
12:15	4:00	3¾		W.O.C

DRILLER L. Mattson

EVENING TOUR

FOOTAGE FROM	TO	DR.D RM.R CORE.C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SCL.–S PARFL.–P COM.D.C.
				Plug #4 - 5 sk Const @ surface								

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
4:00	5:15	1¼		W.O.C
5:15	5:30	¼		Fed Plug #3 @ 438'
5:30	8:00	2½		Lay Pipe, Rig Out B.O.Ps, Ran 5 sk Plug at Top of Csg, Welded on Cap w/ Well marker
8:00	12:00	4		Rig Out
				Rig Released @ 8:00 PM July 7/71

DRILLER

FORM 3T5 APPROVED APPROVED

A.A.O.D.C.--A.P.I. OFFICIAL DAILY DRILLING REPORT FORM

PETROLIA OILWELL DRILLING LTD.

DAILY DRILLING REPORT REPORT NO.

LEASE	WELL NO.	API WELL NUMBER	DATE
Candell Etal Willow Lake 6-40			4-6-71

OPERATOR	CONTRACTOR	RIG NO.
Horn River Resources	Petrolia Oilwell Drlg	7

SIGNATURE OF OPERATOR'S REPRESENTATIVE	SIGNATURE OF CONTRACTOR'S TOOL PUSHER
	D. Coleman

D.P. SIZE	WT./FT.	GRADE	TOOL JT O.D.	TYPE THREAD	STRING NO.	PUMP NO.	PUMP MANUFACTURER	TYPE	STROKE LENGTH
						1	Emsco	D-500	16
						2	National	C-120	14

LOCATION

LAST CASING TUBING OR LINER	SIZE	MAKE	WT. & GR.	NO. JOINTS	FEET	RKB. TO CSG. HD.	SET AT

WIRE LINE RECORD REEL NO.

SIZE	NO. LINES	FT. SLIPPED

FT. CUT OFF PRESENT LENGTH

TON MI. OR TRIPS SINCE LAST CUT

CUMULATIVE TON MI. OR TRIPS

TIME DISTRIBUTION – HOURS

CODE NO. – OPERATION	MORN.	DAY	EVE.
1. RIG UP AND TEAR DOWN			
2. DRILL ACTUAL			
3. REAMING			
4. CORING			
5. CONDITION MUD & CIRCULATE			
6. TRIPS			
7. LUBRICATE RIG			
8. REPAIR RIG			
9. CUT-OFF DRILLING LINE			
10. DEVIATION SURVEY			
11. WIRE LINE LOGS			
12. RUN CASING & CEMENT			
13. WAIT ON CEMENT			
14. NIPPLE UP B.O.P.			
15. TEST B.O.P.			
16. DRILL STEM TEST			
17. PLUG BACK			
18. SQUEEZE CEMENT			
19. FISHING			
20. DIR. WORK			
21.			
22.			
23.			
COMPLETION: A. PERF'R'T'N			
B. TBG TRIPS			
C. TREATING			
D. SWABBING			
E. TESTING			
F. ADDIT'N'L			
G.			
TOTALS			

DAY WORK TIME SUMMARY (OFFICE USE ONLY)

HRS. W/CONTR. D.P.	
HRS. W/OPR. D.P.	
HRS. WO/D.P.	
HRS. STANDBY	
TOTAL DAY WORK	
NO. OF DAYS FROM SPUD	
CUMULATIVE ROTATING HRS.	
TOTAL MUD COST	

MORNING TOUR

DRILLING ASSEMBLY (At end of tour)

NO.			
BIT			FT.
STB RMR	OD		FT.
D.C. ID	OD		FT.
STB RMR	OD		FT.
D.C. ID	OD		FT.
STB RMR	OD		FT.
STANDS DP			FT.
SINGLES	DP		FT.
KELLY DOWN			FT.
TOTAL			FT.
WT. OF STRING			LBS.

BIT RECORD

BIT NO.	
SIZE	
MFG.	
TYPE	
JETS 1/32"	
SER. NO.	
DEPTH OUT	
DEPTH IN	
TOTAL FTG.	
TOTAL HRS. RUN	
COND. 1/8's T/B/ GAGE	
GPM/ PD–PSI	

MUD RECORD

TIME		
WEIGHT		
PRESSURE GRADIENT		
VISC.–SEC.		
PV/YP	/	/
GELS.	/	/
WL –CC'S.		
pH		
SOLIDS %		

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

DAY TOUR

DRILLING ASSEMBLY (At end of tour)

NO.			
BIT			FT.
STB RMR	OD		FT.
D.C. ID	OD		FT.
STB RMR	OD		FT.
D.C. ID	OD		FT.
STB RMR	OD		FT.
STANDS DP			FT.
SINGLES	DP		FT.
KELLY DOWN			FT.
TOTAL			FT.
WT. OF STRING			LBS.

BIT RECORD

BIT NO.	
SIZE	
MFG.	
TYPE	
JET 1/32"	
SER. NO.	
DEPTH OUT	
DEPTH IN	
TOTAL FTG.	
TOTAL HRS. RUN	
COND. 1/8's T/B/ GAGE	
GPM/ PD–PSI	

MUD RECORD

TIME	1:00	3:30
WEIGHT	8.7	8.7
PRESSURE GRADIENT		
VISC.–SEC.	50	49
PV/YP	/	/
GELS.	/	/
WL –CC'S.		
pH		
SOLIDS %		

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

EVENING TOUR

DRILLING ASSEMBLY (At end of tour)

NO.			
BIT			FT.
STB RMR	OD		FT.
D.C. ID	OD		FT.
STB RMR	OD		FT.
D.C. ID	OD		FT.
STB RMR	OD		FT.
STANDS DP			FT.
SINGLES	DP		FT.
KELLY DOWN			FT.
TOTAL			FT.
WT. OF STRING			LBS.

BIT RECORD

BIT NO.	
SIZE	
MFG.	
TYPE	
JETS 1/32"	
SER. NO.	
DEPTH OUT	
DEPTH IN	
TOTAL FTG.	
TOTAL HRS. RUN	
COND. 1/8's T/B/ GAGE	
GPM/ PD–PSI	

MUD RECORD

TIME		
WEIGHT		
PRESSURE GRADIENT		
VISC.–SEC.		
PV/YP	/	/
GELS.	/	/
WL –CC'S.		
pH		
SOLIDS %		

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

MORNING TOUR

FOOTAGE FROM	TO	DR.–D RM.–R CORE.–C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SGL.–S PAR.–P FL.–P COM.–C
4300				Sand 3'								

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
12:00	2:30	2½		Testing
2:30	2:45	¼		Tear Out Testing Head
2:45	4:00	1¼		Hoist Packer
4:00	5:30	1½		Break Down Packer Recover Charts & Load Out Sample
5:30	6:00	½		Hoist Faith Pipe
6:00	8:00	2		Lay Drlg Collars

DRILLER [signature]

DAY TOUR

FOOTAGE FROM	TO	DR.–D RM.–R CORE.–C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SGL.–S PAR.–P FL.–P COM.–C

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
8:00	4:00	8		W.O.O.

DRILLER [signature]

EVENING TOUR

FOOTAGE FROM	TO	DR.–D RM.–R CORE.–C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SGL.–S PAR.–P FL.–P COM.–C

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
4:00	6:30	2½		Wait On Orders
6:30	7:30	1		Run Plug #1 & Displace 3800 – 3630
7:30	8:00	½		Pull 10 Stds. & Circ.
8:00	12:00	4		WOC

DRILLER [signature]

FORM 3T5 APPROVED APPROVED

A.A.O.D.C.--A.P.I. OFFICIAL DAILY DRILLING REPORT FORM

PETROLIA OILWELL DRILLING LTD.

DAILY DRILLING REPORT REPORT NO.

LEASE	WELL NO.	API WELL NUMBER	DATE
Candle Lake Willow Lake E27			4-5-7

OPERATOR	CONTRACTOR	RIG NO.
Hook River Resources	Petrolia Oilwell Drlg	7

SIGNATURE OF OPERATOR'S REPRESENTATIVE

SIGNATURE OF CONTRACTOR'S TOOL PUSHER: D. Coleman

D.P. SIZE	WT./FT.	GRADE	TOOL JT O.D.	TYPE THREAD	STRING NO.

PUMP NO.	PUMP MANUFACTURER	TYPE	STROKE LENGTH
1	Emsco	D-500	16
2	National	C-150	12

LOCATION

LAST CASING TUBING OR LINER	SIZE	MAKE	WT. & GR.	NO. JOINTS	FEET	RKB. TO CSG. HD.	SET AT

WIRE LINE RECORD REEL NO.

SIZE	NO. LINES	FT. SLIPPED

FT. CUT OFF PRESENT LENGTH

TON MI. OR TRIPS SINCE LAST CUT

CUMULATIVE TON MI. OR TRIPS

TIME DISTRIBUTION – HOURS

CODE NO. – OPERATION	MORN.	DAY	EVE.
1. RIG UP AND TEAR DOWN			
2. DRILL ACTUAL	1/4		
3. REAMING			
4. CORING			
5. CONDITION MUD & CIRCULATE	1 3/4		
6. TRIPS	2 1/2		4 3/4
7. LUBRICATE RIG			
8. REPAIR RIG			
9. CUT OFF DRILLING LINE			
10. DEVIATION SURVEY			
11. WIRE LINE LOGS	3 1/2	8	2 1/2
12. RUN CASING & CEMENT			
13. WAIT ON CEMENT			
14. NIPPLE UP B.O.P.			
15. TEST B.O.P.			
16. DRILL STEM TEST			3/4
17. PLUG BACK			
18. SQUEEZE CEMENT			
19. FISHING			
20. DIR. WORK			
21.			
22.			
23.			
COMPLETION: A. PERF'R'TN			
B. TBG TRIPS			
C. TREATING			
D. SWABBING			
E. TESTING			
F. ADDIT'NL			
G.			
TOTALS	8		8

DAY WORK TIME SUMMARY (OFFICE USE ONLY)

HRS. W/CONTR. D.P.	
HRS. W/OPR. D.P.	
HRS. WO/D.P.	
HRS. STANDBY	
TOTAL DAY WORK	
NO. OF DAYS FROM SPUD	
CUMULATIVE ROTATING HRS.	
TOTAL MUD COST	

MORNING TOUR

DRILLING ASSEMBLY (At end of tour)

NO.			
	BIT		FT.
4	STB RMR 6 1/4 OD	21.63	FT.
17	D.C. 6 1/2 OD	487.89	FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
1	Sub	2.15	
10	STANDS DP	3761.25	FT.
	SINGLES DP		FT.
	KELLY DOWN	14	FT.
	TOTAL	4314	FT.
WT. OF STRING		68	LBS.

BIT RECORD

BIT NO.	7
SIZE	7 7/8
MFG.	H.W.
TYPE	155R
JETS 1/32"	13 13 13
SER. NO.	29563
DEPTH OUT	4300
DEPTH IN	4113
TOTAL FTG.	187
TOTAL HRS. RUN	31
COND. 1/8's T/B/ GAGE	
GPM/ PD–PSI	

MUD RECORD

TIME	230
WEIGHT	8.8
PRESSURE GRADIENT	
VISC.–SEC.	58.
PV/YP	/
GELS.	/
WL.–CC'S.	
pH	
SOLIDS %	

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

FOOTAGE

FROM	TO	DR.–D RM.–R CORE.–C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SGL.–S PAR'EL–P COM'D.–C
4295	4300	5			40	30	750	5	60			
				Lost 4 1/2								

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
	4300	12°							

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
1200	1215	1/4		Drlg
1215	100	3/4		Circ Bttm Hole Sample. 4300'
100	145	3/4		Dummy Trip 10 Std
145	245	1		Circ To Log
245	430	1 3/4		Survey Brow Kelly & Hoist To Log.
430	445	1/4		Rig To Log.
445	800	3 1/4		Logging
				No Fill on Dummy Trip

DRILLER: [illegible]

DAY TOUR

DRILLING ASSEMBLY (At end of tour)

NO.			
	BIT		FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
	STANDS DP		FT.
	SINGLES DP		FT.
	KELLY DOWN		FT.
	TOTAL		FT.
WT. OF STRING			LBS.

BIT RECORD

BIT NO.	
SIZE	
MFG.	
TYPE	
JET 1/32"	
SER. NO.	
DEPTH OUT	
DEPTH IN	
TOTAL FTG.	
TOTAL HRS. RUN	
COND. 1/8's T/B/ GAGE	
GPM/ PD–PSI	

MUD RECORD

TIME	
WEIGHT	
PRESSURE GRADIENT	
VISC.–SEC.	
PV/YP	/
GELS.	/
WL.–CC'S.	
pH	
SOLIDS %	

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

FOOTAGE

FROM	TO	DR.–D RM.–R CORE.–C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SGL.–S PAR'EL–P COM'D.–C

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
800	400	8		Logging.

DRILLER: G. J. Ulberson

EVENING TOUR

DRILLING ASSEMBLY (At end of tour)

NO.			
	BIT		FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
17	D.C. ID 6 1/2 OD	487.89	FT.
	STB RMR OD		FT.
1	XO Sub	2.15	
39	STANDS DP		FT.
12	SINGLES DP		FT.
	KELLY DOWN		FT.
	TOTAL		FT.
WT. OF STRING			LBS.

BIT RECORD

BIT NO.	
SIZE	
MFG.	
TYPE	
JETS 1/32"	
SER. NO.	
DEPTH OUT	
DEPTH IN	
TOTAL FTG.	
TOTAL HRS. RUN	
COND. 1/8's T/B/ GAGE	
GPM/ PD–PSI	

MUD RECORD

TIME	
WEIGHT	
PRESSURE GRADIENT	
VISC.–SEC.	
PV/YP	/
GELS.	/
WL.–CC'S.	
pH	
SOLIDS %	

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

FOOTAGE

FROM	TO	DR.–D RM.–R CORE.–C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SGL.–S PAR'EL–P COM'D.–C

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
400	600	2 1/2		Logging & Load Out Same.
630	645	1/4		Pick Up 1000' Tail Pipe.
645	1000	3 1/4		Make Up Packer.
1000	1115	1 1/4		Run In w/ Packer.
1115	1200	3/4		Testing.

DRILLER: G. Wattam

FORM 3T5 APPROVED APPROVED

A.A.O.D.C.--A.P.I. OFFICIAL DAILY DRILLING REPORT FORM

PETROLIA OILWELL DRILLING LTD.

DAILY DRILLING REPORT REPORT NO.

LEASE	WELL NO.	API WELL NUMBER	DATE
CANDEL ETAL WINDOW LAKE C.49			4-4-71

OPERATOR	CONTRACTOR	RIG NO.
HORN RIVER RESOURCES	PETROLIA OILWELL DRLG	7

SIGNATURE OF OPERATOR'S REPRESENTATIVE

SIGNATURE OF CONTRACTOR'S TOOL PUSHER: D. Coleman

D.P. SIZE	WT./FT.	GRADE	TOOL JT O.D.	TYPE THREAD	STRING NO.

PUMP NO.	PUMP MANUFACTURER	TYPE	STROKE LENGTH
1	EMSCO	D-500	16
2.	NATIONAL	C-150	14

LAST CASING TUBING OR LINER

SIZE	MAKE	WT. & GR.	NO. JOINTS	FEET	RKB. TO CSG. HD.	SET AT

WIRE LINE RECORD REEL NO.

SIZE	NO. LINES	FT. SLIPPED

FT. CUT OFF PRESENT LENGTH

TON MI. OR TRIPS SINCE LAST CUT

CUMULATIVE TON MI. OR TRIPS

TIME DISTRIBUTION – HOURS

CODE NO. – OPERATION	MORN.	DAY	EVE.
1. RIG UP AND TEAR DOWN			
2. DRILL ACTUAL	5	7 3/4	8
3. REAMING			
4. CORING			
5. CONDITION MUD & CIRCULATE	1/4		
6. TRIPS	2 3/4		
7. LUBRICATE RIG		1/4	
8 REPAIR RIG			
9. CUT OFF DRILLING LINE			
10. DEVIATION SURVEY			
11. WIRE LINE LOGS			
12. RUN CASING & CEMENT			
13. WAIT ON CEMENT			
14. NIPPLE UP B.O.P.			
15. TEST B.O.P.			
16. DRILL STEM TEST			
17. PLUG BACK			
18. SQUEEZE CEMENT			
19. FISHING			
20. DIR. WORK			
21.			
22.			
23.			
COMPLETION: A. PERF'R'T'N			
B. TBG TRIPS			
C. TREATING			
D. SWABBING			
E. TESTING			
F. ADDIT'N'L			
G.			
TOTALS	4	8	8

DAY WORK TIME SUMMARY (OFFICE USE ONLY)

HRS. W/CONTR. D.P.	
HRS. W/OPR. D.P.	
HRS. WO/D.P.	
HRS. STANDBY	
TOTAL DAY WORK	
NO. OF DAYS FROM SPUD	
CUMULATIVE ROTATING HRS.	
TOTAL MUD COST	

MORNING TOUR

NO.	DRILLING ASSEMBLY (At end of tour)		
	BIT		FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
17	D.C. 6 1/2 ID OD	487.89	FT.
4	STB RMR 6 1/4 OD	21.63	FT.
1	SUB	2.15	
28	STANDS DP		FT.
2	SINGLES DP	3631.17	FT.
	KELLY DOWN 20	26	FT.
	TOTAL	4184	FT.
WT. OF STRING	88		LBS.

BIT RECORD	
BIT NO.	7
SIZE	7 7/8
MFG.	H.W.
TYPE	X55R
JETS 1/32"	13 13 13
SER. NO.	29563
DEPTH OUT	
DEPTH IN	4113
TOTAL FTG.	45
TOTAL HRS. RUN	5
COND. 1/8's T/B/ GAGE	RUN
GPM/ PD-PSI	

MUD RECORD			
TIME	4.00	6.00	7.00
WEIGHT	8.7+	8.5	8.8
PRESSURE GRADIENT			
VISC.-SEC.	34	37	35
PV/YP	5/10	7/8	6/5
GELS.	/	/	/
WL -CC'S.			
pH			
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Gel	4000		
CMC	50		

DAY TOUR

NO.	DRILLING ASSEMBLY (At end of tour)		
	BIT		FT.
4	STB RMR 6 1/4 OD	20.63	FT.
17	D.C. 6 1/2 ID OD	487.89	FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
1	XO	2.15	
39	STANDS DP		FT.
1	SINGLES DP	3695.71	FT.
	KELLY DOWN	16.00	FT.
	TOTAL	4223.	FT.
WT. OF STRING	88 m		LBS.

BIT RECORD	
BIT NO.	7
SIZE	7 7/8
MFG.	H.W.
TYPE	X55R
JET 1/32"	13 13 13
SER. NO.	29563.
DEPTH OUT	
DEPTH IN	4113.
TOTAL FTG.	110
TOTAL HRS. RUN	12 3/4
COND. 1/8's T/B/ GAGE	
GPM/ PD-PSI	

MUD RECORD			
TIME	9.00	12.00	2:00
WEIGHT	8.8	8.8	8.8
PRESSURE GRADIENT			
VISC.-SEC.	38	36	34
PV/YP	9/8	6/6	5/4
GELS.	/	/	/
WL -CC'S.			
pH	8.0	8.0	8.0
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Gel	2100#		
CMC	100#		

EVENING TOUR

NO.	DRILLING ASSEMBLY (At end of tour)		
	BIT		FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
17	D.C. 6 1/2 ID OD	487.89	FT.
4	STB RMR 6 1/4 OD	21.63	FT.
1	XO SUB	2.15	
40	STANDS DP	3761.25	FT.
	SINGLES DP		FT.
	KELLY DOWN	22	FT.
	TOTAL	4295	FT.
WT. OF STRING	88		LBS.

BIT RECORD	
BIT NO.	7
SIZE	7 7/8
MFG.	H.W.
TYPE	X55R
JETS 1/32"	13 13 13
SER. NO.	29563
DEPTH OUT	
DEPTH IN	4113
TOTAL FTG.	182
TOTAL HRS. RUN	20 3/4
COND. 1/8's T/B/ GAGE	
GPM/ PD-PSI	

MUD RECORD			
TIME	400	700	1000
WEIGHT	8.7+	8.8	8.8
PRESSURE GRADIENT			
VISC.-SEC.	30	35	43
PV/YP	9/6	9/5	11/9
GELS.	/	/	/
WL -CC'S.	WT	VIS	PV/YP
pH	11.20	8.8	58 20/20
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Lite	3600		
CMC	100		

MORNING TOUR

FOOTAGE FROM	TO	DR-D RM-R CORE-C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SCI-S PARTI-P COM-DC
4113	4158	45			42	25	725	5	60			

Pull 5'

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
	4113	1/2°							

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
1200	245	2 3/4		TRIP F/BIT
245	300	1/4		BREAK CIRC & CIRC
300	800	5		DRLG

CORRECTION ON STAND 289

DRILLER

DAY TOUR

FOOTAGE FROM	TO	DR-D RM-R CORE-C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SCI-S PARTI-P COM-DC
4158					40	28	700	5	60			

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
800	815	1/4		RIG SERVICE ✓ BOP'S.
815	400	7 3/4		DRILLING.

DRILLER

EVENING TOUR

FOOTAGE FROM	TO	DR-D RM-R CORE-C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SCI-S PARTI-P COM-DC
4223	4295	72			40	28	750	5	60			

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
400	1200	8		DRILL.

DRILLER

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A.A.O.D.C.--A.P.I. OFFICIAL DAILY DRILLING REPORT FORM

PETROLIA OILWELL DRILLING LTD.

DAILY DRILLING REPORT REPORT NO.

LEASE	WELL NO.	API WELL NUMBER	DATE
Carder Estate Willowbank Gas			4-3-71

OPERATOR	CONTRACTOR	RIG NO.
Horn River Resources	Petrolia Oilwell Drlg	7

SIGNATURE OF OPERATOR'S REPRESENTATIVE

SIGNATURE OF CONTRACTOR'S TOOL PUSHER: D. Coleman

D.P. SIZE	WT./FT.	GRADE	TOOL JT O.D.	TYPE THREAD	STRING NO.

PUMP NO.	PUMP MANUFACTURER	TYPE	STROKE LENGTH
1	Emsco	D-500	16
2	National	C-150	14

LOCATION

LAST CASING TUBING OR LINER	SIZE	MAKE	WT. & GR.	NO. JOINTS	FEET	RKB. TO CSG. HD.	SET AT

WIRE LINE RECORD REEL NO.

SIZE	NO. LINES	FT. SLIPPED

FT. CUT OFF PRESENT LENGTH

TON MI. OR TRIPS SINCE LAST CUT

CUMULATIVE TON MI. OR TRIPS

TIME DISTRIBUTION – HOURS

CODE NO. – OPERATION	MORN.	DAY	EVE.
1. RIG UP AND TEAR DOWN			
2. DRILL ACTUAL	7	6 1/4	6 1/4
3. REAMING			
4. CORING			
5. CONDITION MUD & CIRCULATE			
6. TRIPS			1 1/2
7. LUBRICATE RIG		1/4	1/4
8. REPAIR RIG			
9. CUT OFF DRILLING LINE			
10. DEVIATION SURVEY	1	1 1/2	
11. WIRE LINE LOGS			
12. RUN CASING & CEMENT			
13. WAIT ON CEMENT			
14. NIPPLE UP B.O.P.			
15. TEST B.O.P.			
16. DRILL STEM TEST			
17. PLUG BACK			
18. SQUEEZE CEMENT			
19. FISHING			
20. DIR. WORK			
21.			
22.			
23.			
COMPLETION: A. PERF'R'T'N			
B. TBG TRIPS			
C. TREATING			
D. SWABBING			
E. TESTING			
F. ADDIT'N'L			
G.			
TOTALS	8	8	8

DAY WORK TIME SUMMARY (OFFICE USE ONLY)

HRS. W/CONTR. D.P.	
HRS. W/OPR. D.P.	
HRS. WC/D.P.	
HRS. STANDBY	
TOTAL DAY WORK	
NO. OF DAYS FROM SPUD	
CUMULATIVE ROTATING HRS.	
TOTAL MUD COST	

MORNING TOUR

DRILLING ASSEMBLY (At end of tour)

NO.			
	BIT		FT.
4	STB RMR 6 1/4 OD	21.63	FT.
17	D.C. ID 6 1/2 OD	487.89	FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
1	Sub	2.15	
37	STANDS DP	3474.56	FT.
	SINGLES DP		FT.
	KELLY DOWN	39	FT.
	TOTAL	4027	FT.
	WT. OF STRING	88	LBS.

BIT RECORD

BIT NO.	6
SIZE	7 7/8
MFG.	H.W
TYPE	X55R
JETS 1/32"	13 13 13
SER. NO.	20867
DEPTH OUT	
DEPTH IN	3842.
TOTAL FTG.	181
TOTAL HRS. RUN	20 1/2.
COND. 1/8's T/B GAGE	RUN
GPM/ PD–PSI	

MUD RECORD

TIME	2:00	4:00	7:00
WEIGHT	8.7	8.7	8.7
PRESSURE GRADIENT			
VISC.–SEC.	34	42	37
PV/YP	5/4	12/13	6/5
GELS.	/	/	/
WL –CC'S.			
pH			
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Gel	1000#		
CMC	50#		

DRILLING ASSEMBLY (At end of tour)

NO.			
	BIT		FT.
4	STB RMR 6 1/4 OD	21.63	FT.
17	D.C. ID 6 1/2 OD	487.89	FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
1	X O	2.15	
37	STANDS DP		FT.
2	SINGLES DP	38.26	FT.
	KELLY DOWN	19.00	FT.
	TOTAL	4068	FT.
	WT. OF STRING	90m.	LBS.

BIT RECORD

BIT NO.	6
SIZE	7 7/8
MFG.	H.W.
TYPE	X55R.
JETS 1/32"	13 13 13.
SER. NO.	20867
DEPTH OUT	
DEPTH IN	3842.
TOTAL FTG.	226
TOTAL HRS. RUN	26 3/4
COND. 1/8's T/B GAGE	
GPM/ PD–PSI	

MUD RECORD

TIME	10.00	12.00	3:30
WEIGHT	8.7	8.7	8.7
PRESSURE GRADIENT			
VISC.–SEC.	38	36	36
PV/YP	4/19	6/13	7/5
GELS.	/	/	/
WL –CC'S.			
pH	8.0	8.0	8.0
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Gel	1200#		
CMC	50#		

DRILLING ASSEMBLY (At end of tour)

NO.			
	BIT		FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
17	D.C. ID 6 1/2 OD	487.89	FT.
4	STB RMR 6 1/4 OD	21.63	FT.
1	X O Sub	2.15	
38	STANDS DP	3568.53	FT.
	SINGLES DP		FT.
	KELLY DOWN	23	FT.
	TOTAL	4113	FT.
	WT. OF STRING	90	LBS.

BIT RECORD

BIT NO.	6
SIZE	7 7/8
MFG.	HW.
TYPE	X55R.
JETS 1/32"	13 13 13.
SER. NO.	20867
DEPTH OUT	4113
DEPTH IN	3842.
TOTAL FTG.	271
TOTAL HRS. RUN	33
COND. 1/8's T/B GAGE	
GPM/ PD–PSI	

MUD RECORD

TIME	5:00	7:00	10:00
WEIGHT	8.7	8.7	8.7
PRESSURE GRADIENT			
VISC.–SEC.	33	35	34
PV/YP	6/14	5/5	5/4
GELS.	/	/	/
WL –CC'S.			
pH			
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

DAY TOUR

FOOTAGE FROM	TO	DR'D RM'R CORE'C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SGL'S PART'L'D COM'PL'D
3953	4023	70		Fuel 4'	48	30	725	5	60			

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
	3964	12°							

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
1200	1245	3/4		DRLG.
1245	145	1		SURVEY & PULL 5 STD TO RECOVER SAME.
145	800	6 1/4		DRLG

DRILLER

EVENING TOUR

FOOTAGE FROM	TO	DR'D RM'R CORE'C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SGL'S PART'L'D COM'PL'D
4023.	4068	45			40	30	725	5	60			

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
	4059	12°							

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
800	815	1/4		RIG SERVICE ✓ BOP'S
815	1245	4 1/2		DRILLING.
1245	215	1 1/2		DROP SURVEY HOIST 6 STDS. RECOVER SURVEY, RUN
215	400	1 3/4		DRILLING

DRILLER

MIDNIGHT TOUR

FOOTAGE FROM	TO	DR'D RM'R CORE'C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SGL'S PART'L'D COM'PL'D
4068	4113	45			40	30	725	5	60			

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
400	700	3		DRILL.
700	715	1/4		RIG SERVICE.
715	1030	3 1/4		DRILL.
1030	1200	1 1/2		TRIP F/BIT & STRAP OUT

DRILLER

FORM 3T5 APPROVED APPROVED

A.A.O.D.C.--A.P.I. OFFICIAL DAILY DRILLING REPORT FORM

PETROLIA OILWELL DRILLING LTD.

DAILY DRILLING REPORT REPORT NO.

LEASE	WELL NO.	API WELL NUMBER	DATE
Candel Fee-Wilmouthake G#7			4-2-71

OPERATOR	CONTRACTOR	RIG NO.
Horn River Resources	Petrolia Oilwell Drlg.	7

SIGNATURE OF OPERATOR'S REPRESENTATIVE

SIGNATURE OF CONTRACTOR'S TOOL PUSHER: D. Coleman

D.P. SIZE	WT./FT.	GRADE	TOOL JT O.D.	TYPE THREAD	STRING NO.

PUMP NO.	PUMP MANUFACTURER	TYPE	STROKE LENGTH
1	Emsco	D-500	16
2	National	C-130	14

LOCATION

LAST CASING TUBING OR LINER	SIZE	MAKE	WT. & GR.	NO. JOINTS	FEET	RKB. TO CSG. HD.	SET AT

WIRE LINE RECORD REEL NO.

SIZE	NO. LINES	FT. SLIPPED

FT. CUT OFF PRESENT LENGTH

TON MI. OR TRIPS SINCE LAST CUT

CUMULATIVE TON MI. OR TRIPS

TIME DISTRIBUTION – HOURS

CODE NO. – OPERATION	MORN.	DAY	EVE.
1. RIG UP AND TEAR DOWN			
2. DRILL ACTUAL		6	7½
3. REAMING	3	2	
4. CORING			
5. CONDITION MUD & CIRCULATE			
6. TRIPS	3½		
7. LUBRICATE RIG			
8. REPAIR RIG	½		
9. CUT OFF DRILLING LINE	1		
10. DEVIATION SURVEY			½
11. WIRE LINE LOGS			
12. RUN CASING & CEMENT			
13.			
14.			
15. TEST B.O.P.			
16. DRILL STEM TEST			
17. PLUG BACK			
18. SQUEEZE CEMENT			
19. FISHING			
20. DIR. WORK			
21.			
22.			
23.			
COMPLETION: A. PERF'R'TN			
B. TBG TRIPS			
C. TREATING			
D. SWABBING			
E. TESTING			
F. ADDIT'N'L			
G.			
TOTALS	8	8	8

DAY WORK TIME SUMMARY (OFFICE USE ONLY)

HRS. W/CONTR. D.P.			
HRS. W/OPR. D.P.			
HRS. WO/D.P.			
HRS. STANDBY			
TOTAL DAY WORK			

NO. OF DAYS FROM SPUD

CUMULATIVE ROTATING HRS.

TOTAL MUD COST

MORNING TOUR

NO.	DRILLING ASSEMBLY (At end of tour)		
	BIT		FT.
4	STB RMR 6¼ OD	21.63	FT.
17	D.C. 6½ ID 6½ OD	487.89	FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
1	SUB	2.15	
33	STANDS DP		FT.
1	SINGLES DP	33 12.68	FT.
	KELLY DOWN	13	FT.
	TOTAL	3870	FT.
WT. OF STRING	88		LBS.

BIT RECORD	
BIT NO.	6
SIZE	7 7/8
MFG.	H W
TYPE	X55R
JETS 1/32"	13 13 13
SER. NO.	20867
DEPTH OUT	
DEPTH IN	3842
TOTAL FTG.	
TOTAL HRS. RUN	
COND. 1/8's T/B/ GAGE	
GPM/ PD-PSI	

MUD RECORD			
TIME			
WEIGHT			
PRESSURE GRADIENT			
VISC.-SEC.			
PV/YP	/	/	/
GELS	/	/	/
WL-CC'S			
pH			
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

DAY TOUR

NO.	DRILLING ASSEMBLY (At end of tour)		
	BIT		FT.
4	STB RMR 6¼ OD	21.63	FT.
17	D.C. 6½ ID 6½ OD	487.89	FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
1	XO	2.15	
35	STANDS DP		FT.
2	SINGLES DP	3348.96	FT.
	KELLY DOWN	26.00	FT.
	TOTAL	3887.	FT.
WT. OF STRING	88m.		LBS.

BIT RECORD	
BIT NO.	6
SIZE	7 7/8
MFG.	H.W.
TYPE	X55R
JET 1/32"	13 13 13
SER. NO.	20867
DEPTH OUT	
DEPTH IN	3842.
TOTAL FTG.	
TOTAL HRS. RUN	62
COND. 1/8's T/B/ GAGE	
GPM/ PD-PSI	

MUD RECORD			
TIME	9.00	12:00	3.30
WEIGHT	8.8	8.8	8.8
PRESSURE GRADIENT			
VISC.-SEC.	34	35	34
PV/YP	/	7/6	5/4
GELS	/	/	/
WL-CC'S			
pH		8.0	8.0
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Gel	2400#		
CMC	25#		

EVENING TOUR

NO.	DRILLING ASSEMBLY (At end of tour)		
	BIT		FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
17	D.C. ID 6½ OD	487.89	FT.
4	STB RMR 6¼ OD	21.63	FT.
1	XO SUB	2.15	
36	STANDS DP		FT.
1	SINGLES DP	341.60	FT.
	KELLY DOWN	30	FT.
	TOTAL	3953	FT.
WT. OF STRING	88		LBS.

BIT RECORD	
BIT NO.	6
SIZE	7 7/8
MFG.	H.W.
TYPE	X55R
JETS 1/32"	13 13 13
SER. NO.	20867
DEPTH OUT	
DEPTH IN	3842
TOTAL FTG.	111
TOTAL HRS. RUN	13½
COND. 1/8's T/B/ GAGE	
GPM/ PD-PSI	

MUD RECORD			
TIME	400	700	1030
WEIGHT	8.8	8.8	9.7
PRESSURE GRADIENT			
VISC.-SEC.	30	33	34
PV/YP	5/4	6/3	5/4
GELS	/	/	/
WL-CC'S			
pH			
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Gel	2000.		
CMC	50		

FOOTAGE / FORMATION

FROM	TO	DR.-D RM-R CORE-C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SGL-S PAR-P FL-P COM-C
3842					48	2	225	5	60			

DEVIATION RECORD

DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
1200	100	1		Slip & Cut Drlg Line
100	245	1¾		Hoist F/Bit
245	315	½		Repair High Chain
315	500	1¾		Run In
500	800	3		Ream From [redacted] 3776

DRILLER [signature]

FROM	TO	DR.-D RM-R CORE-C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SGL-S PAR-P FL-P COM-C
3842.					44	25	800	5	62			

DEVIATION RECORD

DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
800	1000	2		Reaming under Guage Hole. / BOPS
1000	400	6		Drilling.

DRILLER [signature]

FROM	TO	DR.-D RM-R CORE-C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SGL-S PAR-P FL-P COM-C
3887	3953	66			44	28	800	5	62			

DEVIATION RECORD

DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
400	530	1½		Drill
530	600	½		Survey @ 3902 Line 150' Too Short. Rig Service
600	1200	6		Drill.

DRILLER [signature]

FORM 3T5 APPROVED APPROVED

A.A.O.D.C.--A.P.I. OFFICIAL DAILY DRILLING REPORT FORM

PETROLIA OILWELL DRILLING LTD.

DAILY DRILLING REPORT REPORT NO.

LEASE	WELL NO.	API WELL NUMBER	DATE
Candel Estate Willow Lake C-47			4-1-71

OPERATOR	CONTRACTOR	RIG NO.
Horn River Resources	Petrolia Oilwell Drlg	7

SIGNATURE OF OPERATOR'S REPRESENTATIVE

SIGNATURE OF CONTRACTOR'S TOOL PUSHER: D. Coleman

D.P. SIZE	WT./FT.	GRADE	TOOL JT O.D.	TYPE THREAD	STRING NO.	PUMP NO.	PUMP MANUFACTURER	TYPE	STROKE LENGTH
						1	Emsco	D-500	16
						2	National	C-150	16

LOCATION

LAST CASING TUBING OR LINER	SIZE	MAKE	WT. & GR.	NO. JOINTS	FEET	RKB. TO CSG. HD.	SET AT

WIRE LINE RECORD REEL NO.

SIZE	NO. LINES	FT. SLIPPED
FT. CUT OFF	PRESENT LENGTH	

TON MI. OR TRIPS SINCE LAST CUT

CUMULATIVE TON MI. OR TRIPS

MORNING TOUR

TIME DISTRIBUTION – HOURS

CODE NO. – OPERATION	MORN.	DAY	EVE.
1. RIG UP AND TEAR DOWN			
2. DRILL ACTUAL	7½	6	6½
3. REAMING			
4. CORING			
5. CONDITION MUD & CIRCULATE			
6. TRIPS			½
7. LUBRICATE RIG			
8. REPAIR RIG		1	
9. CUT OFF DRILLING LINE			
10. DEVIATION SURVEY	½	1	1
11. WIRE LINE LOGS			
12. RUN CASING & CEMENT			
13. WAIT ON CEMENT			
14. NIPPLE UP B.O.P.			
15. TEST B.O.P.			
16. DRILL STEM TEST			
17. PLUG BACK			
18. SQUEEZE CEMENT			
19. FISHING			
20. DIR. WORK			
21.			
22.			
23.			
COMPLETION: A. PERF'R'T'N			
B. TBG TRIPS			
C. TREATING			
D. SWABBING			
E. TESTING			
F. ADDIT'N'L			
G.			
TOTALS	8	8	8

DAY WORK TIME SUMMARY (OFFICE USE ONLY)

HRS. W/CONTR. D.P.	
HRS. W/OPR. D.P.	
HRS. NO D.P.	
HRS. STANDBY	
TOTAL DAY WORK	
NO. OF DAYS FROM SPUD	
CUMULATIVE ROTATING HRS.	
TOTAL MUD COST	

DRILLING ASSEMBLY (At end of tour)

NO.			
	BIT		FT.
4	STB RMR 6¼ OD	21.63	FT.
17	D.C. ID 6½ OD	487.89	FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
1	Sub	2.15	
33	STANDS DP	3098.79	FT.
1	SINGLES DP	31.64	FT.
	KELLY ~~DOWN~~	40.8	FT.
	TOTAL	3683	FT.
WT. OF STRING		72	LBS.

BIT RECORD

BIT NO.	5
SIZE	7⅞
MFG.	H.W.
TYPE	X55R
JETS 1/32"	13 13 13
SER. NO.	28899
DEPTH OUT	
DEPTH IN	3490
TOTAL FTG.	185
TOTAL HRS. RUN	15¾
COND. 1/8's T/B/ GAGE	RW-1
GPM/ PD-PSI	

MUD RECORD

TIME	100	300	700
WEIGHT	8.8	8.8	8.8
PRESSURE GRADIENT			
VISC.-SEC.	40	35	37
PV/YP	7/10	3/6	6/3
GELS.	/	/	/
WL.-CC'S.			
pH			
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Gel	320.0		
Conc	10		

FOOTAGE / FORMATION

FROM	TO	DR.-D RM.-R CORE.-C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN
3582	3675	93			48	30	725	5	60			
				Surf 4½								

DEVIATION RECORD: DEPTH 3620, DEV. 11°

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
12:00	3:00	3		Drlg.
3:00	3:30	½		Survey
3:30	8:00	4½		Drlg.

DRILLER: [illegible]

DAY TOUR

DRILLING ASSEMBLY (At end of tour)

NO.			
	BIT		FT.
4	STB RMR 6¼ OD	21.63	FT.
17	D.C. ID 6½ OD	487.89	FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
1	XO	2.15	
34	STANDS DP		FT.
1	SINGLES DP	32.23.92	
	KELLY DOWN	20.41	FT.
	TOTAL	3756.	FT.
WT. OF STRING		78m	LBS.

BIT RECORD

BIT NO.	5
SIZE	7⅞
MFG.	H.W.
TYPE	X55R
JET 1/32"	13 13 13
SER. NO.	28899.
DEPTH OUT	
DEPTH IN	3490
TOTAL FTG.	266
TOTAL HRS. RUN	21¾
COND. 1/8's T/B/ GAGE	
GPM/ PD-PSI	

MUD RECORD

TIME	9:30	12:00	3:00
WEIGHT	8.8	8.8	8.8
PRESSURE GRADIENT			
VISC.-SEC.	33	32	32
PV/YP	6/5	6/5	6/5
GELS.	/	/	/
WL.-CC'S.			
pH	8.0	8.0	8.0
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Gel	800#		

FOOTAGE / FORMATION

FROM	TO	DR.-D RM.-R CORE.-C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN
3675	3756	81			40	20	800	5	62			

DEVIATION RECORD: DEPTH 3683, DEV. 11°; DEPTH 3745, DEV. 12°

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
8:00	8:30	½		Drilling.
8:30	9:00	½		Rig Service Conn. & Survey Bops ok.
9:00	12:00	3		Drilling.
12:00	1:00	1		Change air compressors
1:00	1:30	½		Drilling.
1:30	2:00	½		Conn. & Survey
2:00	4:00	2		Drilling.

DRILLER: [illegible]

EVENING TOUR

DRILLING ASSEMBLY (At end of tour)

NO.			
	BIT		FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
17	D.C. ID 6½ OD	487.89	FT.
4	STB RMR 6¼ OD	21.63	FT.
1	XO. Sub	2.15	
35	STANDS DP		FT.
1	SINGLES DP	3317.68	FT.
	KELLY DOWN	13	FT.
	TOTAL	3842	FT.
WT. OF STRING		78	LBS.

BIT RECORD

BIT NO.	5
SIZE	7⅞
MFG.	H.W.
TYPE	X55R.
JETS 1/32"	13 13 13
SER. NO.	28899
DEPTH OUT	
DEPTH IN	3490
TOTAL FTG.	352
TOTAL HRS. RUN	28¼
COND. 1/8's T/B/ GAGE	
GPM/ PD-PSI	

MUD RECORD

TIME	400	700	1000
WEIGHT	8.4	8.8	8.8
PRESSURE GRADIENT			
VISC.-SEC.	30	32	35
PV/YP	3/5	6/3	6/2
GELS.	/	/	/
WL.-CC'S.			
pH			
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Gel	1500.		
CMC	50#		

FOOTAGE / FORMATION

FROM	TO	DR.-D RM.-R CORE.-C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN
3756	3842	86			40	28	750	5	60			

DEVIATION RECORD: DEPTH 3777, DEV. 12°; DEPTH 3839

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
4:00	5:15	1¼		Drill.
5:15	5:45	½		Survey & Rig Service
5:45	10:45	5		Drill
10:45	11:15	½		Survey - Sandline Broke
11:15	11:30	¼		Drill.
11:30	12:00	½		Hoist.

DRILLER: [illegible]

FORM 3T5 APPROVED APPROVED

A.A.O.D.C.--A.P.I. OFFICIAL DAILY DRILLING REPORT FORM

PETROLIA OILWELL DRILLING LTD.

DAILY DRILLING REPORT REPORT NO.

LEASE	WELL NO.	API WELL NUMBER	DATE
CANDEL FEDERAL WILLOWBANK	6-47		3-31-71

OPERATOR	CONTRACTOR	RIG NO.
HOOD RIVER RESOURCES	PETROLIA OILWELL DRLG	7

SIGNATURE OF OPERATOR'S REPRESENTATIVE

SIGNATURE OF CONTRACTOR'S TOOL PUSHER: D. Coleman

D.P. SIZE	WT./FT.	GRADE	TOOL JT O.D.	TYPE THREAD	STRING NO.

PUMP NO.	PUMP MANUFACTURER	TYPE	STROKE LENGTH
1	EMSCO	D-500	16
2	NATIONAL	C-150	14

LOCATION

LAST CASING TUBING OR LINER	SIZE	MAKE	WT. & GR.	NO. JOINTS	FEET	RKB. TO CSG. HD.	SET AT

WIRE LINE RECORD REEL NO.

SIZE	NO. LINES	FT. SLIPPED

FT. CUT OFF PRESENT LENGTH

TON MI. OR TRIPS SINCE LAST CUT

CUMULATIVE TON MI. OR TRIPS

MORNING TOUR

TIME DISTRIBUTION – HOURS

CODE NO. – OPERATION	MORN.	DAY	EVE.
1. RIG UP AND TEAR DOWN			
2. DRILL ACTUAL	5 1/4		7 1/4
3. REAMING			
4. CORING			
5. CONDITION MUD & CIRCULATE			
6. TRIPS			
7. LUBRICATE RIG			
8. REPAIR RIG	2 1/4		1/4
9. CUT OFF DRILLING LINE			
10. DEVIATION SURVEY	1/2		1/2
11. WIRE LINE LOGS			
12. RUN CASING & CEMENT			
13. WAIT ON CEMENT			
14. NIPPLE UP B.O.P.			
15. TEST B.O.P.			
16. DRILL STEM TEST			
17. PLUG BACK			
18. SQUEEZE CEMENT			
19. FISHING			
20. DIR. WORK			
21.			
22.			
23.			
COMPLETION: A. PERF'R'T'N			
B. TBG TRIPS			
C. TREATING			
D. SWABBING			
E. TESTING			
F. ADDIT'N'L			
G.			
TOTALS	8.		8

DAY WORK TIME SUMMARY (OFFICE USE ONLY)

HRS. W/CONTR. D.P.
HRS. W/OPR. D.P.
HRS. WO D.P.
HRS. STANDBY
TOTAL DAY WORK
NO. OF DAYS FROM SPUD
CUMULATIVE ROTATING HRS.
TOTAL MUD COST

DRILLING ASSEMBLY (At end of tour)

NO.			
	BIT		FT.
4	STB RMR 6 1/4 OD	21.63	FT.
17	D.C. 16 6 1/2 OD	487.89	FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
1	SUB	2.15	
31	STANDS DP	2911.01	FT.
1	SINGLES DP	31.66	FT.
	KELLY DOWN	5	FT.
	TOTAL	3495	FT.
WT. OF STRING		71	LBS.

BIT RECORD

BIT NO.	4
SIZE	7 7/8
MFG.	H.W.
TYPE	X55R
JETS 1 32"	10 10 10
SER. NO.	28990
DEPTH OUT	3490
DEPTH IN	2864
TOTAL FTG.	626
TOTAL HRS. RUN	50 3/4
COND. 1/8's T/B/ GAGE	RWO
GPM/ PD–PSI	/ /

MUD RECORD

TIME	1:00	3:00	6:00
WEIGHT	8.7+	88	8.8
PRESSURE GRADIENT			
VISC.–SEC.	43	50	43
PV/YP	11 15	4 14	8 19
GELS.	/	/	/
WL.–CC'S.			
pH			
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
GEL	7600		
CMC	50		

DRILLING ASSEMBLY (At end of tour)

NO.			
	BIT		FT.
4	STB RMR 6 1/4 OD	21.63	FT.
17	D.C. ID 6 1/2 OD	487.89	FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
1	XO	2.15	
31	STANDS DP	2911.01	FT.
1	SINGLES DP	31.66	FT.
	KELLY DOWN	41.40	FT.
	TOTAL	3495.74	FT.
WT. OF STRING		70m.	LBS.

BIT RECORD

BIT NO.	5
SIZE	7 7/8
MFG.	H.W.
TYPE	X55R
JET 1/32"	13 13 13
SER. NO.	28899
DEPTH OUT	
DEPTH IN	3490
TOTAL FTG.	5
TOTAL HRS. RUN	1
COND. 1/8's T/B/ GAGE	
GPM/ PD–PSI	/ /

MUD RECORD

TIME			
WEIGHT			
PRESSURE GRADIENT			
VISC.–SEC.			
PV/YP	/	/	/
GELS.	/	/	/
WL.–CC'S.			
pH			
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

DRILLING ASSEMBLY (At end of tour)

NO.			
	BIT		FT.
4	STB RMR 6 1/4 OD	21.63	FT.
17	D.C. ID 6 1/2 OD	487.89	FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
1	XO SUB	2.15	
32	STANDS DP		FT.
1	SINGLES DP	30.86.07	FT.
	KELLY DOWN	34	FT.
	TOTAL	3582	FT.
WT. OF STRING		72	LBS.

BIT RECORD

BIT NO.	5
SIZE	7 7/8
MFG.	H.W.
TYPE	X55R
JET 1/32"	13 13 13
SER. NO.	28899
DEPTH OUT	
DEPTH IN	3490
TOTAL FTG.	92
TOTAL HRS. RUN	8 1/4
COND. 1/8's T/B/ GAGE	
GPM/ PD–PSI	/ /

MUD RECORD

TIME	400	700	1000
WEIGHT	8.8	8.8	8.8
PRESSURE GRADIENT			
VISC.–SEC.	36	36	37
PV/YP	6 15	9 13	5 14
GELS.	/	/	/
WL.–CC'S.			
pH			
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
GEL	1600.		

DAY TOUR

FOOTAGE

FROM	TO	DR.–D RM.–R CORE.–C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SGL.–S PARTL.–P COM.PL.–C
3395	3490	95			48	30		5 1/2	5		44	

DEVIATION RECORD

DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
3432	10 1/2°							

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
12 00	12 30	1/2		WORK ON D-500 PUMP
12 30	2 30	2		DRLG.
2 30	3 00	1/2		SURVEY
3 00	6 00	3		DRLG.
6 00	6 15	1/4		WORK ON D-500
6 15	6 30	1/4		DRLG.
6 30	8 00	1 1/2		WORK ON D-500

DRILLER

FOOTAGE

FROM	TO	DR.–D RM.–R CORE.–C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SGL.–S PARTL.–P COM.PL.–C
3490	3495	5			44	20	550	5	64			

DEVIATION RECORD

DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
8 00	8 45	3/4		RIG SERVICE, CHECK BOP'S BLOW KELLY
8 45	10 00	1 1/4		HOIST FOR BIT.
10 00	12 00	2		CHANGE BITS WORK ON PUMPS.
12 00	1 30	1 1/2		RUN IN W/ BIT #5.
1 30	3 00	1 1/2		WORK ON PUMPS.
3 00	4 00	1		DRILLING.

DRILLER

EVENING TOUR

FOOTAGE

FROM	TO	DR.–D RM.–R CORE.–C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 2 LINER SIZE	PUMP NO. 2 S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SGL.–S PARTL.–P COM.PL.–C
3495	3540	45			44	20	550	5	64			
3540	3582	42			44	28	750	5	62	Pump #1		

DEVIATION RECORD

DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
3557	11°							

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
4 00	7 45	3 3/4		DRILL.
7 45	8 00	1/4		WORK ON PUMP.
8 00	9 15	1 1/4		DRILL.
9 15	9 45	1/2		SURVEY
9 45	12 00	2 1/4		DRILL.

DRILLER

FORM 3T5 APPROVED APPROVED

A.A.O.D.C.--A.P.I. OFFICIAL DAILY DRILLING REPORT FORM

PETROLIA OILWELL DRILLING LTD.

DAILY DRILLING REPORT — REPORT NO.

LEASE	WELL NO.	API WELL NUMBER	DATE
Candel Fed Windwalk Lake	6-47		3-30-71

OPERATOR	CONTRACTOR	RIG NO.
Horn River Resources	Petrolia Oilwell Drlg	7

SIGNATURE OF OPERATOR'S REPRESENTATIVE

SIGNATURE OF CONTRACTOR'S TOOL PUSHER: D. Coleman

D.P. SIZE	WT./FT.	GRADE	TOOL JT O.D.	TYPE THREAD	STRING NO.

PUMP NO.	PUMP MANUFACTURER	TYPE	STROKE LENGTH
1	Emsco	D-500	16
2.	National	C-150	14

LOCATION

LAST CASING TUBING OR LINER	SIZE	MAKE	WT. & GR.	NO. JOINTS	FEET	RKB. TO CSG. HD.	SET AT

WIRE LINE RECORD — REEL NO.

SIZE	NO. LINES	FT. SLIPPED
FT. CUT OFF		PRESENT LENGTH
TON MI. OR TRIPS SINCE LAST CUT		
CUMULATIVE TON MI. OR TRIPS		

TIME DISTRIBUTION – HOURS

CODE NO. – OPERATION	MORN.	DAY	EVE.
1. RIG UP AND TEAR DOWN			
2. DRILL ACTUAL	7	7	6½
3. REAMING			
4. CORING			
5. CONDITION MUD & CIRCULATE			
6. TRIPS			
7. LUBRICATE RIG		½	
8. REPAIR RIG			½
9. CUT OFF DRILLING LINE			
10. DEVIATION SURVEY	1	½	1
11. WIRE LINE LOGS			
12. RUN CASING & CEMENT			
13. WAIT ON CEMENT			
14. NIPPLE UP B.O.P.			
15. TEST B.O.P.			
16. DRILL STEM TEST			
17. PLUG BACK			
18. SQUEEZE CEMENT			
19. FISHING			
20. DIR. WORK			
21.			
22.			
23.			
COMPLETION: A. PERF'R'T'N			
B. TBG TRIPS			
C. TREATING			
D. SWABBING			
E. TESTING			
F. ADDIT'N'L			
G.			
TOTALS	8	8	8

DAY WORK TIME SUMMARY (OFFICE USE ONLY)

HRS. W/CONTR. D.P.	
HRS. W/OPR. D.P.	
HRS. WO/D.P.	
HRS. STANDBY	
TOTAL DAY WORK	
NO. OF DAYS FROM SPUD	
CUMULATIVE ROTATING HRS.	
TOTAL MUD COST	

MORNING TOUR

DRILLING ASSEMBLY (At end of tour)

NO.			FT.
	BIT		
4	STB RMR 6¼ OD	21.63	FT.
17	D.C. ID 6½ OD	487.89	FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
1	SUB	2.15	
28	STANDS DP	2629.66	FT.
1	SINGLES DP	31.19	FT.
	KELLY DOWN	✓	FT.
	TOTAL	3213	FT.
WT. OF STRING		70	LBS.

BIT RECORD

BIT NO.	4
SIZE	7⅞
MFG.	H.W.
TYPE	XSSR
JETS 1/32"	10 10 10
SER. NO.	28990
DEPTH OUT	
DEPTH IN	2864
TOTAL FTG.	349
TOTAL HRS. RUN	32
COND. 1/8's T/B/ GAGE	R W W
GPM/ PD–PSI	

MUD RECORD

TIME	1200	300	700
WEIGHT	88+	88	8.8
PRESSURE GRADIENT			
VISC.–SEC.	38	36	36
PV/YP	9/6	8/3	/
GELS.	/	/	/
WL –CC'S.			
pH			
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
CFL	3300		
CMC	50#		

DAY TOUR

DRILLING ASSEMBLY (At end of tour)

NO.			FT.
	BIT		
4	STB RMR 6¼ OD	2163.	FT.
17	D.C. ID 6½ OD	487.89	FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
1	XO	2.15	
29	STANDS DP		FT.
1	SINGLES DP	2754.32	FT.
	KELLY DOWN	41.40	FT.
	TOTAL	3307.45	FT.
WT. OF STRING		70m.	LBS.

BIT RECORD

BIT NO.	4
SIZE	7⅞
MFG.	H.W.
TYPE	XSSR.
JET 1/32"	10 10 10
SER. NO.	28990
DEPTH OUT	
DEPTH IN	2864
TOTAL FTG.	443.
TOTAL HRS. RUN	39
COND. 1/8's T/B/ GAGE	
GPM/ PD–PSI	

MUD RECORD

TIME	9.00	11.30	2.30
WEIGHT	8.8	8.8	8.8
PRESSURE GRADIENT			
VISC.–SEC.	36	37	35
PV/YP	5/3	8/7	8/6
GELS.	/	/	/
WL –CC'S.			
pH	8.0	8.0	8.0
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Gel	1200#		
CMC	50#		
Sod ASH	200#		

EVENING TOUR

DRILLING ASSEMBLY (At end of tour)

NO.			FT.
	BIT		
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
17	D.C. ID 6½ OD	487.89	FT.
4	STB RMR 6¼ OD	21.63	FT.
1	XO SUB	2.15	
30	STANDS DP		FT.
1	SINGLES DP	2848.80	FT.
	KELLY DOWN	35	FT.
	TOTAL	3395	FT.
WT. OF STRING		71	LBS.

BIT RECORD

BIT NO.	4
SIZE	7⅞
MFG.	H.W.
TYPE	RxSSR
JETS 1/32"	10 10 10
SER. NO.	28990
DEPTH OUT	
DEPTH IN	2864
TOTAL FTG.	531
TOTAL HRS. RUN	45½
COND. 1/8's T/B/ GAGE	
GPM/ PD–PSI	

MUD RECORD

TIME	HOO	800	1030
WEIGHT	8.7	8.7	8.7+
PRESSURE GRADIENT			
VISC.–SEC.	33	44	38
PV/YP	7/5	11/10	7/6
GELS.	/	/	/
WL –CC'S.			
pH			
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
GEL	2900		
CMC	100		
SODA ASH	200		

MORNING TOUR

FOOTAGE FROM	TO	DR–D RM–R CORE–C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SCR–S PART–P COM–D.C.
3129	3213	84			48	30	1400	5	46			

DEVIATION RECORD: DEPTH 3151 DEV. 10⅛° DIRECTION Fwd 4½ — DEPTH 3182 DEV. 10° DIRECTION

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
1200	130	1½		DRLG.
130	200	½		RIG SERVICE & SURVEY
200	500	3		DRLG
500	530	½		SURVEY
530	800	2½		DRLG.

DRILLER

DAY TOUR

FOOTAGE FROM	TO	DR–D RM–R CORE–C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SCR–S PART–P COM–D.C.
3213.	3307	94			48	30	1300	5	44			

DEVIATION RECORD: DEPTH 3244 DEV. 11° DIRECTION — DEPTH DEV. DIRECTION — DEPTH DEV. DIRECTION

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
800	830	½		RIG SERVICE REPAIR LOW CHAIN.
830	1030	2		DRILLING.
1030	1100	½		SURVEY CHECK BOPS – OK.
1100	400	5		DRILLING.
				Changed oil & filter #1 Light plant

DRILLER

EVENING TOUR

FOOTAGE FROM	TO	DR–D RM–R CORE–C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SCR–S PART–P COM–D.C.
3307	3395	88			48	28	1300	5	4			

DEVIATION RECORD: DEPTH 3307 DEV. 10¾ DIRECTION — DEPTH 3370 DEV. 10½ DIRECTION — DEPTH DEV. DIRECTION

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
400	430	½		SURVEY & RIG SERVICE
430	645	2¼		DRILL.
645	700	¼		CHANGE GLAND PACKING ON DRIVE SIDE D500
700	930	2½		DRILL.
930	1000	½		SURVEY
1000	1015	¼		WORK ON PUMP.
1015	1200	1¾		DRILL.

DRILLER

FORM 3T5 — APPROVED — APPROVED

A.A.O.D.C.--A.P.I. OFFICIAL DAILY DRILLING REPORT FORM

PETROLIA OILWELL DRILLING LTD.

DAILY DRILLING REPORT REPORT NO.

LEASE	WELL NO.	API WELL NUMBER	DATE
Candel Etal Willow Lake 6.47			3-29-71

OPERATOR	CONTRACTOR	RIG NO.
Horn River Resources	Petrolia Oilwell Drlg.	7

SIGNATURE OF OPERATOR'S REPRESENTATIVE

SIGNATURE OF CONTRACTOR'S TOOL PUSHER: D. Coleman

D.P. SIZE	WT./FT.	GRADE	TOOL JT O.D.	TYPE THREAD	STRING NO.

PUMP NO.	PUMP MANUFACTURER	TYPE	STROKE LENGTH
1	Emsco	D-500	16
2	National	C-150	14

LOCATION

LAST CASING TUBING OR LINER	SIZE	MAKE	WT. & GR.	NO. JOINTS	FEET	RKB. TO CSG. HD.	SET AT

WIRE LINE RECORD REEL NO.

SIZE	NO. LINES	FT. SLIPPED

FT. CUT OFF PRESENT LENGTH

TON MI. OR TRIPS SINCE LAST CUT

CUMULATIVE TON MI. OR TRIPS

TIME DISTRIBUTION – HOURS

CODE NO. – OPERATION	MORN.	DAY	EVE.
1. RIG UP AND TEAR DOWN			
2. DRILL ACTUAL	4 3/4	7	6 1/2
3. REAMING			
4. CORING			
5. CONDITION MUD & CIRCULATE			
6. TRIPS			
7. LUBRICATE RIG	1/4		
8. REPAIR RIG			
9. CUT OFF DRILLING LINE			
10. DEVIATION SURVEY	3	1	1
11. WIRE LINE LOGS			
12. RUN CASING & CEMENT			
13. WAIT ON CEMENT			
14. NIPPLE UP B.O.P.			
15. TEST B.O.P.			1/2
16. DRILL STEM TEST			
17. PLUG BACK			
18. SQUEEZE CEMENT			
19. FISHING			
20. DIR. WORK			
21.			
22.			
23.			
COMPLETION: A. PERF'R'T'N			
B. TBG TRIPS			
C. TREATING			
D. SWABBING			
E. TESTING			
F. ADDIT'N'L			
G.			
TOTALS	8	8	8

DAY WORK TIME SUMMARY (OFFICE USE ONLY)

HRS. W/CONTR. D.P.
HRS. W/OPR. D.P.
HRS. WO/D.P.
HRS. STANDBY
TOTAL DAY WORK
NO. OF DAYS FROM SPUD
CUMULATIVE ROTATING HRS.
TOTAL MUD COST

MORNING TOUR

NO.	DRILLING ASSEMBLY (At end of tour)		
	BIT		FT.
4	STB RMR 6 1/4 OD	21.63	FT.
17	D.C. ID 6 1/2 OD	487.89	FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
1	SUB	2.15	
26	STANDS DP	2442.2	FT.
1	SINGLES DP	30.78	FT.
	KELLY DOWN UP	26	FT.
	TOTAL	3026	FT.
WT. OF STRING	68		LBS.

BIT RECORD	
BIT NO.	4
SIZE	7 7/8
MFG.	HW
TYPE	XSSR
JETS 1/32"	10 10 10
SER. NO.	28990
DEPTH OUT	
DEPTH IN	2864
TOTAL FTG.	136
TOTAL HRS. RUN	11 1/2
COND. 1/8" T/B/ GAGE	RUN
GPM/ PD–PSI	

MUD RECORD			
TIME	12:00	4:00	7:00
WEIGHT	8.5	8.5	8.6
PRESSURE GRADIENT			
VISC.–SEC.	31	32	34
PV/YP	5/4	5/5	7/4
GELS.	/	/	/
WL.–CC'S.			
pH			
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Gel	4200		
DV68	4 Gals.		
CMC	75		

DAY TOUR

NO.	DRILLING ASSEMBLY (At end of tour)		
	BIT		FT.
4	STB RMR 6 1/4 OD	21.63	FT.
17	D.C. ID 6 1/2 OD	487.89	FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
1	X-O	2.15	
27	STANDS DP	2535.35	FT.
	SINGLES DP		FT.
	KELLY DOWN	17.00	FT.
	TOTAL	3065.00	FT.
WT. OF STRING	68		LBS.

BIT RECORD	
BIT NO.	4
SIZE	7 7/8
MFG.	H.W.
TYPE	XSSR
JET 1/32"	10 10 10
SER. NO.	28990
DEPTH OUT	
DEPTH IN	2864
TOTAL FTG.	201
TOTAL HRS. RUN	18 1/2
COND. 1/8" T/B/ GAGE	IN
GPM/ PD–PSI	

MUD RECORD			
TIME	10:00	1:00	3:00
WEIGHT	8.7	8.7	8.7
PRESSURE GRADIENT			
VISC.–SEC.	32	38	41
PV/YP	5/5	10/7	11/12
GELS.	/	/	/
WL.–CC'S.			
pH	8.0	8.0	8.0
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Gel	1900#		
CMC	75#		
DV68	2 gal.		
Soda Ash	400#		

EVENING TOUR

NO.	DRILLING ASSEMBLY (At end of tour)		
	BIT		FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
19	D.C. ID 6 1/2 OD	487.89	FT.
4	STB RMR 6 1/4 OD	21.63	FT.
1	XO SUB	2.15	
27	STANDS DP		FT.
2	SINGLES DP	2598.16	FT.
	KELLY DOWN	19	FT.
	TOTAL	3129	FT.
WT. OF STRING	68		LBS.

BIT RECORD	
BIT NO.	4
SIZE	7 7/8
MFG.	H.W.
TYPE	RXSSR
JETS 1/32"	10 10 10
SER. NO.	28990
DEPTH OUT	
DEPTH IN	2864
TOTAL FTG.	265
TOTAL HRS. RUN	25
COND. 1/8" T/B/ GAGE	
GPM/ PD–PSI	

MUD RECORD			
TIME	1100	700	1000
WEIGHT	8.8	8.8	8.8
PRESSURE GRADIENT			
VISC.–SEC.	35	40	43
PV/YP	9/10	10/10	9/11
GELS.	/	/	/
WL.–CC'S.			
pH			
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Gel	1100		
CMC	50#		
Soda Ash	200		

MORNING TOUR

FOOTAGE FROM	TO	DR.–D RM.–R CORE.–C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SCL.–S PART.–P COMP.–C
2936	3000	64			45	28	1300	5	60			

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
	2964	11°		2995	11°				

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
1200	145	1 3/4		DRLG
145	200	1/4		RIG SERVICE
200	400	2		SURVEY - LOST SURVEY BOX. REBUN FOR SURVE
400	445	3/4		DRLG
445	515	1/2		RUN TO RECOVER SURVEY & RECOVER.
515	700	1 3/4		DRLG.
700	730	1/2		SURVEY
730	800	1/2		DRLG

DRILLER: [illegible]

DAY TOUR

FOOTAGE FROM	TO	DR.–D RM.–R CORE.–C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SCL.–S PART.–P COMP.–C
3000	3065	65			44	28	1300	5	60			

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
	3026	11°		3057	11°				

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
8:00	10:00	2		Drilling.
10:00	10:30	1/2		Conn. Rig Service, Survey
10:30	2:00	3 1/2		Drilling.
2:00	2:30	1/2		Survey
2:30	4:00	1 1/2		Drilling.

DRILLER: [illegible]

EVENING TOUR

FOOTAGE FROM	TO	DR.–D RM.–R CORE.–C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SCL.–S PART.–P COMP.–C
3065	3129	64			44	28	1300	5	60			

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
	3088	11 1/4		3119	11 1/8				

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
4:00	4:30	1/2		B.O.P. DRILL.
4:30	6:45	2 1/4		DRILL
6:45	7:15	1/2		SURVEY
7:15	10:15	3		DRILL.
10:15	10:45	1/2		SURVEY
10:45	12:00	1 1/4		DRILL.

DRILLER: A. Mathen

FORM 3T5 APPROVED APPROVED

A.A.O.D.C.--A.P.I. OFFICIAL DAILY DRILLING REPORT FORM

PETROLIA OILWELL DRILLING LTD.

DAILY DRILLING REPORT REPORT NO.

LEASE	WELL NO.	API WELL NUMBER	DATE
CANDEL FTAL WINDWLAKE	C-47		3-28-71

OPERATOR	CONTRACTOR	RIG NO.
HORN RIVER RESOURCES.	PETROLIA OILWELL DRLG	7

SIGNATURE OF OPERATOR'S REPRESENTATIVE	SIGNATURE OF CONTRACTOR'S TOOL PUSHER
	D. Coleman

D.P. SIZE	WT./FT.	GRADE	TOOL JT O.D.	TYPE THREAD	STRING NO.

PUMP NO.	PUMP MANUFACTURER	TYPE	STROKE LENGTH
1	EMSCO	D-500	16
2	NATIONAL	C-150	14

LOCATION

LAST CASING TUBING OR LINER	SIZE	MAKE	WT. & GR.	NO. JOINTS	FEET	RKB. TO CSG. HD.	SET AT

WIRE LINE RECORD REEL NO.

SIZE	NO. LINES	FT. SLIPPED
FT. CUT OFF		PRESENT LENGTH
TON MI. OR TRIPS SINCE LAST CUT		
CUMULATIVE TON MI. OR TRIPS		

MORNING TOUR

TIME DISTRIBUTION – HOURS

CODE NO. – OPERATION	MORN.	DAY	EVE.
1. RIG UP AND TEAR DOWN			
2. DRILL ACTUAL	7 1/4	3/4	6 3/4
3. REAMING			
4. CORING			
5. CONDITION MUD & CIRCULATE		3 1/2	
6. TRIPS		3 3/4	1/2
7. LUBRICATE RIG			
8. REPAIR RIG			
9. CUT OFF SLIP DRILLING LINE		1/2	
10. DEVIATION SURVEY	3/4	1/2	1/2
11. WIRE LINE LOGS			
12. RUN CASING & CEMENT			
13. WAIT ON CEMENT			
14. NIPPLE UP B.O.P.			
15. TEST B.O.P.			
16. DRILL STEM TEST			
17. PLUG BACK			
18. SQUEEZE CEMENT			
19. FISHING			
20. DIR. WORK			
21. Work On Road			1/4
22.			
23.			
COMPLETION: A. PERF'R'T'N			
B. TBG TRIPS			
C. TREATING			
D. SWABBING			
E. TESTING			
F. ADDIT'N'L			
G.			
TOTALS	8	8	8

DAY WORK TIME SUMMARY (OFFICE USE ONLY)

HRS. W/CONTR. D.P.	
HRS. W/OPR. D.P.	
HRS. WO/D.P.	
HRS. STANDBY	
TOTAL DAY WORK	
NO. OF DAYS FROM SPUD	
CUMULATIVE ROTATING HRS.	
TOTAL MUD COST	

DRILLING ASSEMBLY (At end of tour)

NO.			
	BIT		FT.
4	STB RMR 6 1/4 OD	21.63	FT.
19	D.C. ID 6 1/2 OD	546.45	FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
1	SUB	2.15	
24	STANDS DP	2253.73	FT.
	SINGLES DP		FT.
	KELLY ~~DOWN~~ UP	10	FT.
	TOTAL	2865	FT.
WT. OF STRING		72	LBS.

BIT RECORD

BIT NO.	3		
SIZE	7 7/8		
MFG.	REED		
TYPE	SCM5		
JETS 1/32"	10 10 10		
SER. NO.	678975		
DEPTH OUT			
DEPTH IN	2315		
TOTAL FTG.	340		
TOTAL HRS. RUN	45 1/4		
COND. 1/8's T/B/ GAGE	RUN		
GPM/ PD-PSI			

MUD RECORD

TIME	12:00	7:00	6:00
WEIGHT	8.9+	8.9+	9.0
PRESSURE GRADIENT			
VISC.-SEC.	37	34	34
PV/YP	6/4	6/9	6/6
GELS.	/	/	/
WL.-CC'S.			
pH			
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
CEL	4200#		

FOOTAGE

FROM	TO	DR.-D RM.-R CORE.-C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SCHLUM. PARTIC. COMPUTE
2765	2855				44	30	1375	5	44			

DEVIATION RECORD

DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
2802	9°							

TIME LOG

FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
12:00	3:00	3		DRLG.
3:00	3:45	3/4		SURVEY + RIG SERVICE
3:45	8:00	4 1/4		DRLG

DRILLER [signature]

DAY TOUR

DRILLING ASSEMBLY (At end of tour)

NO.			
	BIT		FT.
4	STB RMR 6 1/4 OD	21.63	FT.
17	STB RMR 6 1/2 OD	487.89	FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
1	X O	2.15	
24	STANDS DP		FT.
2	SINGLES DP	2316.47	FT.
	KELLY DOWN	36	FT.
	TOTAL	2864	FT.
WT. OF STRING			LBS.

BIT RECORD

BIT NO.	3		
SIZE	7 7/8		
MFG.	REED		
TYPE	SCM5		
JET 1/32"	10 10 10		
SER. NO.	678975		
DEPTH OUT	2864		
DEPTH IN	2315		
TOTAL FTG.	549		
TOTAL HRS. RUN	46		
COND. 1/8's T/B/ GAGE	8 3 1		
GPM/ PD-PSI			

MUD RECORD

TIME	8:00		
WEIGHT	9.0		
PRESSURE GRADIENT			
VISC.-SEC.	33		
PV/YP	5/7	/	/
GELS.	/	/	/
WL.-CC'S.			
pH	8.0		
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Gel	2500#		
DN68	12 gal		
CMC	75#		

FOOTAGE

FROM	TO	DR.-D RM.-R CORE.-C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SCHLUM. PARTIC. COMPUTE
2855					44	30	1200	5	42			

DEVIATION RECORD

DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
2864	9 3/4							

TIME LOG

FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
8:00	8:45	3/4		DRILLING.
8:45	9:15	1/2		DROP SURVEY RIG SERVICE + BOPS
9:15	10:30	1 1/4		HOIST FOR BIT.
10:30	11:30	1		RUN IN D.C. LAY DOWN 2 WASHED D.C's.
11:30	12:00	1/2		SLIP 52 FT. DRILLING LINE.
12:00	3:30	3 1/2		MIXING MUD. (CHANGE OVER.)
3:30	4:00	1/2		RUN IN

DRILLER J. Odegaard

EVENING TOUR

DRILLING ASSEMBLY (At end of tour)

NO.			
	BIT		FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
17	D.C. ID 6 1/2 OD	487.89	FT.
4	STB RMR 6 1/4 OD	21.63	FT.
1	X O SUB	2.15	
25	STANDS DP		FT.
2	SINGLES DP	2411.32	FT.
	KELLY DOWN	13	FT.
	TOTAL	2936	FT.
WT. OF STRING		65	LBS.

BIT RECORD

BIT NO.	4		
SIZE	7 7/8		
MFG.	HW.		
TYPE	RX55R		
JETS 1/32"	10 10 10		
SER. NO.	28990		
DEPTH OUT			
DEPTH IN	2864		
TOTAL FTG.	72		
TOTAL HRS. RUN	6 3/4		
COND. 1/8's T/B/ GAGE			
GPM/ PD-PSI			

MUD RECORD

TIME	600	800	1100
WEIGHT	8.4	8.4	8.4
PRESSURE GRADIENT			
VISC.-SEC.	34	35	30
PV/YP	5/5	7/6	9/2
GELS.	/	/	/
WL.-CC'S.			
pH			
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
CEL	3000		
CMC	50		
DUR	2 gal		

FOOTAGE

FROM	TO	DR.-D RM.-R CORE.-C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SCHLUM. PARTIC. COMPUTE
2864	2936	72			40	25	1200	5	58			

DEVIATION RECORD

DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
2932	10 1/4							

TIME LOG

FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
4:00	4:30	1/2		RUN IN & BREAK CIRC.
4:30	5:15	3/4		DRILL
5:15	5:30	1/4		BUILD VOLUME & PRIME PUMP.
5:30	11:00	5 1/2		DRILL.
11:00	11:30	1/2		SURVEY
11:30	12:00	1/2		DRILL.

DRILLER A. Mathes

FORM 3T5 APPROVED APPROVED

A.A.O.D.C.--A.P.I. OFFICIAL DAILY DRILLING REPORT FORM

PETROLIA OILWELL DRILLING LTD.

DAILY DRILLING REPORT REPORT NO.

LEASE	WELL NO.	API WELL NUMBER	DATE
Cruzen Gas Willow Creek	C-47		3-27-91

OPERATOR	CONTRACTOR	RIG NO.
Horn River Resources	Petrolia Oilwell Drlg.	7

SIGNATURE OF OPERATOR'S REPRESENTATIVE

SIGNATURE OF CONTRACTOR'S TOOL PUSHER: D. Coleman

D.P. SIZE	WT./FT.	GRADE	TOOL JT O.D.	TYPE THREAD	STRING NO.

PUMP NO.	PUMP MANUFACTURER	TYPE	STROKE LENGTH
1	Emsco	D-500	16
2	National	C-150	14

LOCATION

LAST CASING TUBING OR LINER	SIZE	MAKE	WT. & GR.	NO. JOINTS	FEET	RKB. TO CSG. HD.	SET AT

WIRE LINE RECORD REEL NO.

SIZE	NO. LINES	FT. SLIPPED

FT. CUT OFF PRESENT LENGTH

TON MI. OR TRIPS SINCE LAST CUT

CUMULATIVE TON MI. OR TRIPS

TIME DISTRIBUTION – HOURS

CODE NO. – OPERATION	MORN.	DAY	EVE.
1. RIG UP AND TEAR DOWN			
2. DRILL ACTUAL	5 1/4	6 3/4	7
3. REAMING			
4. CORING			
5. CONDITION MUD & CIRCULATE			
6. TRIPS			
7. LUBRICATE RIG	1 3/4		
8. REPAIR RIG			
9. CUT OFF DRILLING LINE			
10. DEVIATION SURVEY	1	1 1/4	1
11. WIRE LINE LOGS			
12. RUN CASING & CEMENT			
13. WAIT ON CEMENT			
14. NIPPLE UP B.O.P.			
15. TEST B.O.P.			
16. DRILL STEM TEST			
17. PLUG BACK			
18. SQUEEZE CEMENT			
19. FISHING			
20. DIR. WORK			
21.			
22.			
23.			
COMPLETION: A. PERF'R'T'N			
B. TBG TRIPS			
C. TREATING			
D. SWABBING			
E. TESTING			
F. ADDIT'N'L			
G.			
TOTALS	8	8	8

DAY WORK TIME SUMMARY (OFFICE USE ONLY)

HRS. W/CONTR. D.P.
HRS. W/OPR. D.P.
HRS. WO/D.P.
HRS. STANDBY
TOTAL DAY WORK
NO. OF DAYS FROM SPUD
CUMULATIVE ROTATING HRS.
TOTAL MUD COST

MORNING TOUR

DRILLING ASSEMBLY (At end of tour)

NO.			
	BIT		FT.
4	STB RMR 6 1/4 OD	21.63	FT.
19	D.C. 6 1/2 OD	546.45	FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
1	SUB	2.15	
21	STANDS DP	2004.93	FT.
1	SINGLES DP	31.65	FT.
	KELLY DOWN	21	FT.
	TOTAL	2616	FT.
WT. OF STRING		72	LBS.

BIT RECORD

BIT NO.	3
SIZE	7 7/8
MFG.	REED
TYPE	SCM5
JETS 1/32"	10 10 10
SER. NO.	678975
DEPTH OUT	
DEPTH IN	2315
TOTAL FTG.	280
TOTAL HRS. RUN	24 1/4
COND. 1/8's T/B/ GAGE	RJB
GPM/ PD–PSI	

MUD RECORD

TIME	1200	3:00	
WEIGHT	8.9	8.8+	
PRESSURE GRADIENT			
VISC.–SEC.	32	33	
PV/YP	4/3	5/5	/
GELS.	/	/	/
WL –CC'S.			
pH			
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
GEL	4900		

DAY TOUR

DRILLING ASSEMBLY (At end of tour)

NO.			
	BIT		FT.
4	STB RMR 6 1/4 OD	21.63	FT.
19	D.C. ID 6 1/2 OD	546.45	FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
1	xo	2.15	
22	STANDS DP	2065.74	FT.
	SINGLES DP		FT.
	KELLY DOWN	24.00	FT.
	TOTAL	2660	FT.
WT. OF STRING		70m.	LBS.

BIT RECORD

BIT NO.	3
SIZE	7 7/8
MFG.	REED.
TYPE	SCM5
JET 1/32"	10 10 10
SER. NO.	678975
DEPTH OUT	
DEPTH IN	2315
TOTAL FTG.	345
TOTAL HRS. RUN	31
COND. 1/8's T/B/ GAGE	
GPM/ PD–PSI	

MUD RECORD

TIME	8:00	10:00	12:30
WEIGHT	8.7	8.8	8.9
PRESSURE GRADIENT			
VISC.–SEC.	33	33	37
PV/YP	5/4	5/9	8/8
GELS.	~~5/4~~	~~5/9~~	/
WL –CC'S.			
pH	8.0	8.0	8.0
SOLIDS %	W.L. 8.9	Visc. 37	
	P.V.	8 1/8	

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Del 1300#			

EVENING TOUR

DRILLING ASSEMBLY (At end of tour)

NO.			
	BIT		FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
19	D.C. ID 6 1/2 OD	546.45	FT.
4	STB RMR 6 1/4 OD	21.63	FT.
1	xo SUB	2.15	
23	STANDS DP	2159.34	FT.
	SINGLES DP		FT.
	KELLY DOWN	36	FT.
	TOTAL	2765	FT.
WT. OF STRING		71	LBS.

BIT RECORD

BIT NO.	3
SIZE	7 7/8
MFG.	REED
TYPE	SCM5
JETS 1/32"	10 10 10
SER. NO.	678975
DEPTH OUT	
DEPTH IN	2315
TOTAL FTG.	450
TOTAL HRS. RUN	38
COND. 1/8's T/B/ GAGE	
GPM/ PD–PSI	

MUD RECORD

TIME	4:00	8:00	10:30
WEIGHT	8.9	8.9	8.9
PRESSURE GRADIENT			
VISC.–SEC.	32	36	35
PV/YP	5/9	7/2	9/11
GELS.	/	/	/
WL –CC'S.			
pH	8.0	8.0	8.0
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
GEL			

FOOTAGE / FORMATION

FROM	TO	DR.–D RM.–R CORE.–C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SGL.–S PAR'L.–P COM'D.–C
2525	2595	70			44	28	1200	5	42			
				fuel 2 1/2								

DEVIATION RECORD

DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
2552	9 3/4		2584	10°				

TIME LOG

FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
1200	200	2		DRLG
200	230	1/2		RIG SER. & SURVEY
230	500	2 1/2		DRLG
500	530	1/2		SURVEY
530	715	1 3/4		WORK ON D-500 PUMP
715	8:00	3/4		DRLG

DRILLER

FROM	TO	DR.–D RM.–R CORE.–C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SGL.–S PAR'L.–P COM'D.–C
2595					44	30	1200	5	42			

DEVIATION RECORD

DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
2619	9 3/4		2646	9 3/4				

TIME LOG

FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
8:00	10:30	2 1/2		Drilling.
10:30	11:00	1/2		Survey + Rig Service. ✓BOPs
11:00	2:00	3		Drilling.
2:00	2:45	3/4		Conn. + Survey
2:45	4:00	1 1/4		Drilling.

DRILLER

FROM	TO	DR.–D RM.–R CORE.–C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SGL.–S PAR'L.–P COM'D.–C
2660	2765	105			44	30	1300	5	41			

DEVIATION RECORD

DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
2677	9 1/4		2739	9°				

TIME LOG

FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
4:00	5:00	1		DRILL.
5:00	5:30	1/2		RIG SERVICE & SURVEY
5:30	9:30	4		DRILL.
9:30	10:00	1/2		SURVEY.
10:00	12:00	2		DRILL.

DRILLER

DAILY DRILLING REPORT REPORT NO.

LEASE	WELL NO.	API WELL NUMBER	DATE
Candel Gal Willow Lake	C-47		3-26-71

OPERATOR	CONTRACTOR	RIG NO.
Horn River Resources	Petrolia Oilwell Drlg	7

SIGNATURE OF OPERATOR'S REPRESENTATIVE

SIGNATURE OF CONTRACTOR'S TOOL PUSHER: D. Coleman

LOCATION

D.P. SIZE	WT./FT.	GRADE	TOOL JT O.D.	TYPE THREAD	STRING NO.	PUMP NO.	PUMP MANUFACTURER	TYPE	STROKE LENGTH
						1	Emsco	D-500	16
						2	National	C-150	14

LAST CASING TUBING OR LINER	SIZE	MAKE	WT. & GR.	NO. JOINTS	FEET	RKB. TO CSG. HD.	SET AT

WIRE LINE RECORD REEL NO.

SIZE	NO. LINES	FT. SLIPPED
FT. CUT OFF	PRESENT LENGTH	
TON MI. OR TRIPS SINCE LAST CUT		
CUMULATIVE TON MI. OR TRIPS		

TIME DISTRIBUTION – HOURS

CODE NO. – OPERATION	MORN.	DAY	EVE.
1. RIG UP AND TEAR DOWN			
2. DRILL ACTUAL	5 1/2	7	1 1/2
3. REAMING			
4. CORING			
5. CONDITION MUD & CIRCULATE	1/4		
6. TRIPS	1		
7. LUBRICATE RIG	1/4		
8. REPAIR RIG			
9. CUT OFF DRILLING LINE	1/2		
10. DEVIATION SURVEY	1/2	1	1 1/2
11. WIRE LINE LOGS			
12. RUN CASING & CEMENT			
13. WAIT ON CEMENT			
14. NIPPLE UP B.O.P.			
15. TEST B.O.P.			
16. DRILL STEM TEST			
17. PLUG BACK			
18. SQUEEZE CEMENT			
19. FISHING			
20. DIR. WORK			
21.			
22.			
23.			
COMPLETION: A. PERF'R'T'N			
B. TBG TRIPS			
C. TREATING			
D. SWABBING			
E. TESTING			
F. ADDIT'N'L			
G.			
TOTALS	8	8	8

DAY WORK TIME SUMMARY (OFFICE USE ONLY)

HRS. W/CONTR. D.P.	
HRS. W/OPR. D.P.	
HRS. WO/D.P.	
HRS. STANDBY	
TOTAL DAY WORK	
NO. OF DAYS FROM SPUD	
CUMULATIVE ROTATING HRS.	
TOTAL MUD COST	

MORNING TOUR

NO.	DRILLING ASSEMBLY (At end of tour)		BIT RECORD		MUD RECORD			
	BIT	FT.	BIT NO.	3	TIME	3:00	5:00	7:00
			SIZE	7 7/8	WEIGHT	8.8	8.7	8.7
4	STB RMR 6 1/4 OD	21.63 FT.	MFG.	REED	PRESSURE GRADIENT			
19	D.C. ID 6 1/2 OD	546.45 FT.	TYPE	SCM5	VISC.-SEC.	34	35	35
	STB RMR OD	FT.	JETS 1 32"	10 10 10	PV/YP	7/4	6/4	7/3
	D.C. ID OD	FT.	SER. NO.	678975	GELS.	/	/	/
	STB RMR OD	FT.	DEPTH OUT		WL.-CC'S.			
1	Sub	2.15	DEPTH IN	2315	pH	8.0	8.0	8.0
			TOTAL FTG.	60	SOLIDS %			
			TOTAL HRS. RUN	3 1/2				
19	STANDS DP	1784.99	COND. 1/8" T/B/ GAGE	Run	MUD & CHEMICALS ADDED			
	SINGLES DP	FT.	GPM/ PD-PSI	/ /	TYPE	AMT.	TYPE	AMT.
	KELLY DOWN	29 FT.			GEL	#5000		
	TOTAL	2396 FT.			[illegible]			
WT. OF STRING	68	LBS.			CMC	100		

DAY TOUR

NO.	DRILLING ASSEMBLY (At end of tour)		BIT RECORD		MUD RECORD			
	BIT	FT.	BIT NO.	3	TIME	11:00	1:00	3:00
			SIZE	7 7/8	WEIGHT	8.7+	8.7	8.7
4	STB RMR 6 1/4 OD	21.63 FT.	MFG.	REED	PRESSURE GRADIENT			
19	D.C. ID 6 1/2 OD	546.45 FT.	TYPE	SCM5	VISC.-SEC.	35	33	32
	STB RMR OD	FT.	JET 1/32"	10 10 10	PV/YP	9/4	/	/
	D.C. ID OD	FT.	SER. NO.	678975	GELS.	/	/	/
	STB RMR OD	FT.	DEPTH OUT		WL.-CC'S.			
1	X.O.	2.15	DEPTH IN	2315	pH	8.0		
			TOTAL FTG.	125	SOLIDS %			
			TOTAL HRS. RUN	12 1/2				
19	STANDS DP	FT.	COND. 1/8" T/B/ GAGE		MUD & CHEMICALS ADDED			
2	SINGLES DP	1847.73 FT.	GPM/ PD-PSI	/ /	TYPE	AMT.	TYPE	AMT.
	KELLY DOWN	23.00 FT.			Gel	2300		
	TOTAL	2440.76 FT.			CMC	100		
WT. OF STRING	68m	LBS.						

EVENING TOUR

NO.	DRILLING ASSEMBLY (At end of tour)		BIT RECORD		MUD RECORD			
	BIT	FT.	BIT NO.	3	TIME	400	800	1000
			SIZE	7 7/8	WEIGHT	8.9	8.9	8.8
	STB RMR OD	FT.	MFG.	REED	PRESSURE GRADIENT			
	D.C. ID OD	FT.	TYPE	SCM5	VISC.-SEC.	32	35	34
	STB RMR OD	FT.	JETS 1/32"	10 10 10	PV/YP	5/4	9/3	6/4
21	D.C. ID 6 1/2 OD	546.45 FT.	SER. NO.	678975	GELS.	/	/	/
4	STB RMR 6 1/4 OD	21.63 FT.	DEPTH OUT		WL.-CC'S.			
1	X.O. Sub	2.15	DEPTH IN	2315	pH	8.0	9.0	9.0
			TOTAL FTG.	210	SOLIDS %			
			TOTAL HRS. RUN	19				
20	STANDS DP	FT.	COND. 1/8" T/B/ GAGE		MUD & CHEMICALS ADDED			
2	SINGLES DP	1941.11 FT.	GPM/ PD-PSI	/ /	TYPE	AMT.	TYPE	AMT.
	KELLY DOWN	14 FT.			GEL			
	TOTAL	2525 FT.			CMC.			
WT. OF STRING	69	LBS.						

MORNING TOUR

FOOTAGE FROM	TO	DR.-D RM-R CORE-C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SGL-S PART-P COM-D-C
2315	2375	60			40	30	1400	5	60			
				fuel 3 1/2								

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
	2322	7 3/4							

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
1200	1215	1/4		Rig Ser
1215	1245	1/2		Slip & Cut Drlg Line
1245	1415	1		Run in w/ Bit
1415	1500	1/4		Break Circ & Circ
1500	1700	2		Drlg
1700	1730	1/2		Survey
1730	2000	3 1/2		Drlg.

DRILLER: [illegible]

DAY TOUR

FOOTAGE FROM	TO	DR.-D RM-R CORE-C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SGL-S PART-P COM-D-C
2375					49	38		5	49			

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
	2396	8 1/2		2437	8 1/2				

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
800	930	1 1/2		Drilling.
930	1000	1/2		Conn, Rig Service, Survey & V Bops.
1000	200	4		Drilling.
200	230	1/2		Conn. & Survey
230	400	1 1/2		Drilling.

DRILLER: [illegible]

EVENING TOUR

FOOTAGE FROM	TO	DR.-D RM-R CORE-C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SGL-S PART-P COM-D-C
2440	2525	85			44	28	1400	5	44			

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
	2458	9°		2490	Miss		2521	9 1/2	

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
400	500	1		Drill
500	530	1/2		Rig Service & Survey
530	815	2 3/4		Drill
815	845	1/2		Survey
845	1100	2 1/4		Drill
1100	1130	1/2		Survey
1130	1200	1/2		Drill

DRILLER: [illegible]

Form 3T5 APPROVED APPROVED

A.A.O.D.C.--A.P.I. OFFICIAL DAILY DRILLING REPORT FORM

PETROLIA OILWELL DRILLING LTD.

DAILY DRILLING REPORT REPORT NO.

LEASE	WELL NO.	API WELL NUMBER	DATE
Canden Fee Willow Lake R.47			3-25-71

OPERATOR	CONTRACTOR	RIG NO.
Horn River Resources	Petrolia Oilwell Drlg	7

SIGNATURE OF OPERATOR'S REPRESENTATIVE	SIGNATURE OF CONTRACTOR'S TOOL PUSHER
J. R. Brown	D. Coleman

LOCATION

D.P. SIZE	WT./FT.	GRADE	TOOL JT O.D.	TYPE THREAD	STRING NO.

PUMP NO.	PUMP MANUFACTURER	TYPE	STROKE LENGTH
1	Emsco	D-500	16.
2.	National	C-150	14

LAST CASING TUBING OR LINER	SIZE	MAKE	WT. & GR.	NO. JOINTS	FEET	RKB. TO CSG. HD.	SET AT

WIRE LINE RECORD REEL NO.

SIZE	NO. LINES	FT. SLIPPED

FT. CUT OFF PRESENT LENGTH

TON MI. OR TRIPS SINCE LAST CUT

CUMULATIVE TON MI. OR TRIPS

TIME DISTRIBUTION – HOURS

CODE NO. – OPERATION	MORN.	DAY	EVE.
1. RIG UP AND TEAR DOWN			
2. DRILL ACTUAL	7 1/2	7 3/4	6
3. REAMING			
4. CORING			
5. CONDITION MUD & CIRCULATE			
6. TRIPS			1 1/4
7. LUBRICATE RIG & SURVEY	1/2	1/4	
8. REPAIR RIG			
9. CUT OFF DRILLING LINE			
10. DEVIATION SURVEY		1/2	3/4
11. WIRE LINE LOGS			
12. RUN CASING & CEMENT			
13. WAIT ON CEMENT			
14. NIPPLE UP B.O.P.			
15. TEST B.O.P.			
16. DRILL STEM TEST			
17. PLUG BACK			
18. SQUEEZE CEMENT			
19. FISHING			
20. DIR. WORK			
21.			
22.			
23.			
COMPLETION: A. PERF'R'T'N			
B. TBG TRIPS			
C. TREATING			
D. SWABBING			
E. TESTING			
F. ADDIT'N'L			
G.			
TOTALS	8	8	8

DAY WORK TIME SUMMARY (OFFICE USE ONLY)

HRS. W/CONTR. D.P.
HRS. W/OPR. D.P.
HRS. WO/D.P.
HRS. STANDBY
TOTAL DAY WORK
NO. OF DAYS FROM SPUD
CUMULATIVE ROTATING HRS.
TOTAL MUD COST

MORNING TOUR

NO.	DRILLING ASSEMBLY (At end of tour)		
	BIT		FT.
4	STB RMR 6 1/4 OD	21.63	FT.
19	D.C. 6 1/2 OD	546.45	FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
1	SUB	2.15	
16	STANDS DP	1500.17	FT.
1	SINGLES DP	31.62	FT.
	KELLY ~~DOWN~~ UP	10'	FT.
	TOTAL	2145	FT.
	WT. OF STRING	70	LBS.

BIT RECORD	
BIT NO.	2RR.
SIZE	7 7/8
MFG.	H.W.
TYPE	X55R
JETS 1/32"	10.10.10
SER. NO.	29568
DEPTH OUT	
DEPTH IN	1377
TOTAL FTG.	768 REAMED 50'
TOTAL HRS. RUN	62
COND. 1/8's T/B/ GAGE	R.W.D.
GPM/ PD–PSI	

MUD RECORD			
TIME	1200	300	700
WEIGHT	8.6	8.6	8.6
PRESSURE GRADIENT			
VISC.–SEC.	39	44	42
PV/YP	11/10	13/14	10/10
GELS.			
WL.–CC'S.			
pH			
SOLIDS %			

MUD & CHEMICALS ADDED			
TYPE	AMT.	TYPE	AMT.
Gel	1200#		
DJ68	16 gal		
Cmc	25#		

NO.	DRILLING ASSEMBLY (At end of tour)		
	BIT		FT.
4	STB RMR 6 1/4 OD	21.63.	FT.
19	D.C. ID 6 1/2 OD	546.45	FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
1	XO	2.15	
17	STANDS DP	1654.22	FT.
1	SINGLES DP		FT.
	KELLY DOWN	34.00	FT.
	TOTAL	2232.	FT.
	WT. OF STRING	70m.	LBS.

BIT RECORD	
BIT NO.	2R.R.
SIZE	7 7/8
MFG.	H.W.
TYPE	X55R
JET 1/32"	10.10.10
SER. NO.	29568
DEPTH OUT	
DEPTH IN	1377 REAMED 50
TOTAL FTG.	805
TOTAL HRS. RUN	69 1/4
COND. 1/8's T/B/ GAGE	
GPM/ PD–PSI	

MUD RECORD			
TIME	8:00	10:30	2:30
WEIGHT	8.7	8.7	8.7
PRESSURE GRADIENT			
VISC.–SEC.	38	38	36
PV/YP	7/16	8/16	
GELS.			
WL.–CC'S.			
pH	8.0	8.0	8.0
SOLIDS %			

MUD & CHEMICALS ADDED			
TYPE	AMT.	TYPE	AMT.
Gel	2000#		
CMC	100#		

NO.	DRILLING ASSEMBLY (At end of tour)		
	BIT		FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
19	D.C. ID 6 1/2 OD	546.45	FT.
4	STB RMR 6 1/4 OD	21.63	FT.
1	XO SUB	2.15	
18	STANDS DP		FT.
1	SINGLES DP	1721.32	FT.
	KELLY DOWN	26	FT.
	TOTAL	2315	FT.
	WT. OF STRING	71	LBS.

BIT RECORD	
BIT NO.	2RR.
SIZE	7 7/8
MFG.	H.W.
TYPE	X55R.
JETS 1/32"	10.10.10
SER. NO.	29568
DEPTH OUT	2315 REAM
DEPTH IN	1377 50'
TOTAL FTG.	888
TOTAL HRS. RUN	75 1/4
COND. 1/8's T/B/ GAGE	
GPM/ PD–PSI	

MUD RECORD			
TIME	400	700	1000
WEIGHT	8.7+	8.7+	8.8
PRESSURE GRADIENT			
VISC.–SEC.	34	36	35
PV/YP	3/8	5/14	4/8
GELS.			
WL.–CC'S.			
pH	8.0	8.0	8.0
SOLIDS %			

MUD & CHEMICALS ADDED			
TYPE	AMT.	TYPE	AMT.
Gel	1400		
~~[illegible]~~	~~[illegible]~~		
CMC	150#		

FOOTAGE FROM	TO	DR.–D RM.–R CORE.–C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	S.P.M.	PUMP NO. LINER SIZE	S.P.M.	METHOD RUN SGL.–S PART.–P COM.–C
2025	2135	110			45	35	1200	5	60			
				Surv 4 1/2°								

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
	2050	5°							

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
1200	115	1 1/4		Drlg.
115	145	1/2		Rig Ser + Survey
145	800	6 1/4		Drlg.

DAY TOUR

DRILLER [illegible]

FOOTAGE FROM	TO	DR.–D RM.–R CORE.–C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	S.P.M.	PUMP NO. LINER SIZE	S.P.M.	METHOD RUN SGL.–S PART.–P COM.–C
2135	2232.97				44	35	1000	5	60			

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
	2176	6 3/4							

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
800	815	1/4		Rig Service Check Bop's.
815	1100	2 3/4		Drilling.
1100	1130	1/2		Conn. & Survey
1130	400	4 1/2		Drilling.

EVENING TOUR

DRILLER J. Ubsdegraff

FOOTAGE FROM	TO	DR.–D RM.–R CORE.–C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	S.P.M.	PUMP NO. LINER SIZE	S.P.M.	METHOD RUN SGL.–S PART.–P COM.–C
2232.	2315	83			45	35	1200	5	60			

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
	2239	6 1/8							

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
400	430	1/2		Drill
430	500	1/2		Survey & Rig Service.
500	1030	5 1/2		Drill.
1030	1045	1/4		Drop Survey.
1045	1200	1 1/4		Trip f/Bit.

DRILLER G. Matson

FORM 3T5 APPROVED APPROVED

A.A.O.D.C.--A.P.I. OFFICIAL DAILY DRILLING REPORT FORM

PETROLIA OILWELL DRILLING LTD.

DAILY DRILLING REPORT REPORT NO.

LEASE	WELL NO.	API WELL NUMBER	DATE
Candell Exp. Wilmarth Lake	C-47		3-24-71

OPERATOR	CONTRACTOR	RIG NO.
Horn River Res.	Petrolia Oilwell Drlg.	7

SIGNATURE OF OPERATOR'S REPRESENTATIVE

SIGNATURE OF CONTRACTOR'S TOOL PUSHER: D. Coleman

D.P. SIZE	WT./FT.	GRADE	TOOL JT O.D.	TYPE THREAD	STRING NO.	PUMP NO.	PUMP MANUFACTURER	TYPE	STROKE LENGTH
						1	Emsco	D-500	14
						2.	National	C-150	14

LOCATION

LAST CASING TUBING OR LINER	SIZE	MAKE	WT. & GR.	NO. JOINTS	FEET	RKB. TO CSG. HD.	SET AT

WIRE LINE RECORD REEL NO.

SIZE	NO. LINES	FT. SLIPPED
FT. CUT OFF	PRESENT LENGTH	
TON MI. OR TRIPS SINCE LAST CUT		
CUMULATIVE TON MI. OR TRIPS		

TIME DISTRIBUTION – HOURS

CODE NO. – OPERATION	MORN.	DAY	EVE.
1. RIG UP AND TEAR DOWN			
2. DRILL ACTUAL			6
3. REAMING		3½	2
4. CORING	4		
5. CONDITION MUD & CIRCULATE	1/4		
6. TRIPS	2.	2½	
7. LUBRICATE RIG			
8. REPAIR RIG			
9. CUT OFF DRILLING LINE			
10. DEVIATION SURVEY			
11. WIRE LINE LOGS			
12. RUN CASING & CEMENT			
13. WAIT ON CEMENT			
14. NIPPLE UP B.O.P.			
15. TEST B.O.P.			
16. DRILL STEM TEST			
17. PLUG BACK			
18. SQUEEZE CEMENT			
19. FISHING			
20. DIR. WORK RECOVER BRK BRL	3/4	2	
21.			
22.			
COMPLETION: A. PERF'R'T'N			
B. TBG TRIPS			
C. TREATING			
D. SWABBING			
E. TESTING			
F. ADDIT'N'L			
G.			
TOTALS	8	8	

DAY WORK TIME SUMMARY (OFFICE USE ONLY)

HRS. W/CONTR. D.P.	
HRS. W/OPR. D.P.	
HRS. WO/D.P.	
HRS. STANDBY	
TOTAL DAY WORK	
NO. OF DAYS FROM SPUD	
CUMULATIVE ROTATING HRS.	
TOTAL MUD COST	

MORNING TOUR

DRILLING ASSEMBLY (At end of tour)

NO.			
	BIT		FT.
	STB RMR	OD	FT.
20	D.C. 6½ ID	6½ OD	576.96 FT.
	STB-RMR	OD	FT.
	D.C. ID	OD	FT.
	STB RMR	OD	FT.
1	XO SUB		2.15
	1C-BRL		65.30
13	STANDS DP		1261.15 FT.
2.	SINGLES DP		62.17 FT.
	KELLY DOWN		15 FT.
	TOTAL		1967 FT.
WT. OF STRING	68		LBS.

BIT RECORD

BIT NO.	3.
SIZE	6 3/16
MFG.	
TYPE	4
JETS 1/32"	
SER. NO.	FC 17102
DEPTH OUT	
DEPTH IN	1902
TOTAL FTG.	50
TOTAL HRS. RUN	5 3/4
COND. 1/8's T/B/ GAGE	Core.
GPM/ PD-PSI	/ /

MUD RECORD

TIME	12:00	730	
WEIGHT	8.6	8.6	
PRESSURE GRADIENT			
VISC.-SEC.	38	42.	
PV/YP	10/11	12/13	/
GELS.	/	/	/
WL.-CC'S.			
pH			
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Gel	500#		
DV68	1/2 Gal		

FOOTAGE FROM	TO	DR.-D RM.-R CORE.-C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SCL.-S PARTL.-P COM.PLC.
1902.	1952.	50			83	10	650	5	40			

DEVIATION RECORD

DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
1200	245	2 3/4		Cut Core #1
245	345	1		Hoist Core #1
345	445	1		Recover Core.
445	530	3/4		Service Core Brl.
530	630	1		Run in w/ Core Brl
630	645	1/4		Circ & Drop Ball.
645	800	1 1/4		Cut Core #2

DRILLER

DAY TOUR

DRILLING ASSEMBLY (At end of tour)

NO.			
	BIT		FT.
4	STB RMR 6¼	OD	21.63 FT.
19	D.C. 6½ ID	6½ OD	576.95 FT.
	STB RMR	OD	FT.
	D.C. ID	OD	FT.
	STB RMR	OD	FT.
1	XO		2.15
14	STANDS DP		1383.49 FT.
	SINGLES DP		FT.
	KELLY DOWN		34.00 FT.
	TOTAL		1917.52 FT.
WT. OF STRING	68m.		LBS.

BIT RECORD

BIT NO.	3
SIZE	7 7/8
MFG.	H.W. R.R.
TYPE	X55R.
JET 1/32"	10/10/10
SER. NO.	29568
DEPTH OUT	
DEPTH IN	1902
TOTAL FTG.	15 REAMED.
TOTAL HRS. RUN	3½
COND. 1/8's T/B/ GAGE	IN
GPM/ PD-PSI	/ /

MUD RECORD

TIME	8:00	2:00	3:15
WEIGHT	8.7	8.6+	8.6+
PRESSURE GRADIENT			
VISC.-SEC.	41	44	41
PV/YP	/	14/13	11/12
GELS.	/	/	/
WL.-CC'S.			
pH	8.0	8.0	8.0
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Gel	600#		
DV68	1 gal		

FOOTAGE FROM	TO	DR.-D RM.-R CORE.-C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SCL.-S PARTL.-P COM.PLC.
1902	1917	15			40	8	1200	5	60			

DEVIATION RECORD

DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
800	900	1		Hoist Core #2. ✓BOPS
900	1000	2		Recover Core Lay Down C. Brl & Bottom Hole Ass. Load out Same
1100	1230	1½		Run in w/ Bit #3 – R.R #2.
1230	400	3½		Ream Rat Hole.

DRILLER

EVENING TOUR

DRILLING ASSEMBLY (At end of tour)

NO.			
	BIT		FT.
4	STB RMR 6¼	OD	21.63 FT.
19	D.C. ID	OD	546.45 FT.
	STB RMR	OD	FT.
	D.C. ID	OD	FT.
	STB RMR	OD	FT.
1	XO SUB		2.15
15	STANDS DP		FT.
1	SINGLES DP		1439.09 FT.
	KELLY DOWN		16 FT.
	TOTAL		2025 FT.
WT. OF STRING	70		LBS.

BIT RECORD

BIT NO.	2RR.
SIZE	7 7/8
MFG.	H.W.
TYPE	X55R.
JETS 1/32"	10/10/10
SER. NO.	29568
DEPTH OUT	
DEPTH IN	1902 Ream
TOTAL FTG.	648 50'
TOTAL HRS. RUN	54½
COND. 1/8's T/B/ GAGE	
GPM/ PD-PSI	/ /

MUD RECORD

TIME	400	700	1100
WEIGHT	8.6	8.6	8.6
PRESSURE GRADIENT			
VISC.-SEC.	38	35	38
PV/YP	10/09	11/3	11/10
GELS.	/	/	/
WL.-CC'S.			
pH	8.0	8.0	8.0
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Gel	2000		
DV68	1 gal		
Gmc	50.		

FOOTAGE FROM	TO	DR.-D RM.-R CORE.-C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SCL.-S PARTL.-P COM.PLC.
1917	1952	35R.			40	10	1200	5	60			
1952	2025	73D			45	30 35	1200	5	60			

DEVIATION RECORD

DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
400	600	2		Ream Rat Hole
600	1200	6		Drill 7 7/8 Hole

DRILLER

FORM 3T5 APPROVED APPROVED

A.A.O.D.C.--A.P.I. OFFICIAL DAILY DRILLING REPORT FORM

PETROLIA OILWELL DRILLING LTD.

DAILY DRILLING REPORT REPORT NO.

LEASE	WELL NO.	API WELL NUMBER	DATE
HR Candel Etal willowlake	C-47		3-23-71

OPERATOR	CONTRACTOR	RIG NO.
	Petrolia oil well Drlg	7

SIGNATURE OF OPERATOR'S REPRESENTATIVE	SIGNATURE OF CONTRACTOR'S TOOL PUSHER
	D. Coleman

D.P. SIZE	WT./FT.	GRADE	TOOL JT O.D.	TYPE THREAD	STRING NO.

PUMP NO.	PUMP MANUFACTURER	TYPE	STROKE LENGTH
1	Emsco	D500	16
2	Nsco	C150	14

LOCATION

LAST CASING TUBING OR LINER	SIZE	MAKE	WT. & GR.	NO. JOINTS	FEET	RKB. TO CSG. HD.	SET AT
	8 5/8						515

WIRE LINE RECORD REEL NO.

SIZE	NO. LINES	FT. SLIPPED
1/8	8	

FT. CUT OFF PRESENT LENGTH

TON MI. OR TRIPS SINCE LAST CUT

CUMULATIVE TON MI. OR TRIPS

TIME DISTRIBUTION – HOURS

CODE NO. – OPERATION	MORN.	DAY	EVE.
1. RIG UP AND TEAR DOWN			
2. DRILL ACTUAL	6	4 1/4	7/2
3. REAMING			
4. CORING			3 1/4
5. CONDITION MUD & CIRCULATE			3/4
6. TRIPS	2		5
7. LUBRICATE RIG		1/2	
8. REPAIR RIG			
9. CUT OFF DRILLING LINE			
10. DEVIATION SURVEY		1/2	
11. WIRE LINE LOGS			
12. RUN CASING & CEMENT			
13. WAIT ON CEMENT			
14. NIPPLE UP B.O.P.			
15. TEST B.O.P.			
16. DRILL STEM TEST			
17. PLUG BACK			
18. SQUEEZE CEMENT			
19. FISHING			
20. DIR. WORK			
21.			
22.			
COMPLETION: A. PERF'R'T'N			
B. TBG TRIPS			
C. TREATING			
D. SWABBING			
E. TESTING			
F. ADDIT'N'L			
G.			
TOTALS	8	8	8

DAY WORK TIME SUMMARY (OFFICE USE ONLY)

HRS. W/CONTR. D.P.	
HRS. W/OPR. D.P.	
HRS. WO/D.P.	
HRS. STANDBY	
TOTAL DAY WORK	
NO. OF DAYS FROM SPUD	
CUMULATIVE ROTATING HRS.	
TOTAL MUD COST	

MORNING TOUR

NO.	DRILLING ASSEMBLY (At end of tour)		
	BIT		FT.
4	STB RMR 6 1/4 OD	21.63	FT.
21	D.C. ID 6 1/2 OD	603.28	FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
1	xo sub	2.15	
12	STANDS DP	1126.20	FT.
	~~SINGLES~~ DP		FT.
	KELLY DOWN	39	FT.
	TOTAL	1794.41	FT.
WT. OF STRING	70,000		LBS.

BIT RECORD			
BIT NO.	2		
SIZE	7 7/8		
MFG.	H-W		
TYPE	XSSR		
JETS 1/32"	10	10	10
SER. NO.	29568		
DEPTH OUT			
DEPTH IN	1377		
TOTAL FTG.	415		
TOTAL HRS. RUN	35 1/4		
COND. 1/8's T/B/ GAGE			
GPM/ PD–PSI			

MUD RECORD			
TIME	3:00	5:00	7:00
WEIGHT	8.5	8.5	8.5
PRESSURE GRADIENT			
VISC.–SEC.	37	36	36
PV/YP	10/4	11/9	7/11
GELS.	/	/	/
WL –CC'S.			
pH	8.0	8.0	8.0
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
CMC	50#		

DAY TOUR

NO.	DRILLING ASSEMBLY (At end of tour)		
	BIT		FT.
4	STB RMR 6 1/4 OD	21.63	FT.
21	D.C. ID 6 1/2 OD	603.28	FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
1	X0.SUB	2.15	
13	STANDS DP		FT.
1	SINGLES DP	1250.78	FT.
	KELLY DOWN	22.	FT.
	TOTAL	1900.24	FT.
WT. OF STRING	70m.		LBS.

BIT RECORD			
BIT NO.	2		
SIZE	7 7/8		
MFG.	H-W		
TYPE	XSSR		
JET 1/32"	10	10	10
SER. NO.	29568		
DEPTH OUT			
DEPTH IN	1377		
TOTAL FTG.	523		
TOTAL HRS. RUN	42 1/2		
COND. 1/8's T/B/ GAGE	1.W.		
GPM/ PD–PSI			

MUD RECORD			
TIME	8:00	12:00	3:00
WEIGHT	8.5	8.5	8.5
PRESSURE GRADIENT			
VISC.–SEC.	37	35	36
PV/YP	10/6	10/6	7/9
GELS.	/	/	/
WL –CC'S.			
pH	8.0	8.0	8.0
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Gel	300#		
CMC	25		
DV68	1/4 gal		

EVENING TOUR

NO.	DRILLING ASSEMBLY (At end of tour)		
	BIT		FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
20	D.C. ID 6 1/2 OD	576.69	FT.
	STB RMR OD		FT.
1	X0.SUB.	2.15	
1	CORE ST.	65.30	
13	STANDS DP		FT.
1	SINGLES DP	1250.78	FT.
	KELLY DOWN		FT.
	TOTAL		FT.
WT. OF STRING	71		LBS.

BIT RECORD			
BIT NO.	2		3
SIZE	7 7/8		
MFG.	HW.		
TYPE	XSSR		◇
JETS 1/32"	10	10	10
SER. NO.	29568		
DEPTH OUT	1902		
DEPTH IN	1377	1902	
TOTAL FTG.	525	20	
TOTAL HRS. RUN	43.	1 3/4	
COND. 1/8's T/B/ GAGE	1	1	1
GPM/ PD–PSI			

MUD RECORD			
TIME	4:30		10:15
WEIGHT	8.5+		8.6
PRESSURE GRADIENT			
VISC.–SEC.	40		43
PV/YP	12/12	/	11/09
GELS.	/	/	/
WL –CC'S.			
pH	8.0		8.0
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Gel	1300#		
CMC	50#		
DV68	1 GAL.		

MORNING TOUR

FOOTAGE FROM	TO	DR.D ~~RM.R~~ ~~CORE.C~~	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SGL.–S PAR.FL.–P COM'D.–C
1731	1792	61			44	30	1200	5	60			

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
12:00	2:00	2		Finish Trip
2:00	8:00	6		Drlg
				Fuel 3'

DRILLER Francis

DAY TOUR

FOOTAGE FROM	TO	DR.D ~~RM.R~~ ~~CORE.C~~	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SGL.–S PAR.FL.–P COM'D.–C
1792	1900	108										

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
	1823	4 1/2.							

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
8:00	8:15	1/4		Rig Service + ✓ Bops.
8:15	11:00	2 3/4		Drilling.
11:00	11:30	1/2		Conn. + Survey.
11:30	4:00	4 1/2		Drilling.

DRILLER [illegible]

EVENING TOUR

FOOTAGE FROM	TO	DR.D ~~RM.R~~ CORE.C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SGL.–S PAR.FL.–P COM'D.–C
1900	1902	2			44	30	1200	5	60			
1902	1922	20	1		83	13	650	5	45			

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
	1902	4 1/2							

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
4:00	4:30	1/2		Drilling.
4:30	5:00	1/2		Circ. Bottom Hole Sample.
5:00	6:00	1		Hoist To Core.
6:00	10:00	4		Pick up Core Bbl. Run In & Lay Two Washed Collars
10:00	10:15	1/4		Circ.
10:15	12:00	1 3/4		Cut Core # 1

DRILLER [illegible]

APPROVED APPROVED

A.A.O.D.C.--A.P.I. OFFICIAL DAILY DRILLING REPORT FORM

PETROLIA OILWELL DRILLING LTD.

DAILY DRILLING REPORT REPORT NO.

LEASE	WELL NO.	API WELL NUMBER	DATE
H.R. Candel et al Willow Lake	G 47		3-22-[illegible]

OPERATOR	CONTRACTOR	RIG NO.
	Petrolia Oil Well Drlg	7

SIGNATURE OF OPERATOR'S REPRESENTATIVE	SIGNATURE OF CONTRACTOR'S TOOL PUSHER	LOCATION
	D. Coleman	

D.P. SIZE	WT./FT.	GRADE	TOOL JT O.D.	TYPE THREAD	STRING NO.

PUMP NO.	PUMP MANUFACTURER	TYPE	STROKE LENGTH
1	Emsco	D500	16
2	NSCO	C150	14

	SIZE	MAKE	WT. & GR.	NO. JOINTS	FEET	RKB. TO CSG. HD.	SET AT
LAST CASING TUBING OR LINER	8 5/8						515

WIRE LINE RECORD REEL NO.

SIZE	NO. LINES	FT. SLIPPED
1 1/8	10	

FT. CUT OFF PRESENT LENGTH

TON MI. OR TRIPS SINCE LAST CUT

CUMULATIVE TON MI. OR TRIPS

TIME DISTRIBUTION – HOURS

CODE NO. – OPERATION	MORN.	DAY	EVE.
1. RIG UP AND TEAR DOWN			
2. DRILL ACTUAL		7 1/4	7
3. REAMING			
4. CORING			
5. CONDITION MUD & CIRCULATE			
6. TRIPS			1/2
7. LUBRICATE RIG		1/4	
8. REPAIR RIG			
9. CUT OFF DRILLING LINE			
10. DEVIATION SURVEY		1/2	1/2
11. WIRE LINE LOGS			
12. RUN CASING & CEMENT			
13. WAIT ON CEMENT			
14. NIPPLE UP B.O.P.			
15. TEST B.O.P.			
16. DRILL STEM TEST			
17. PLUG BACK			
18. SQUEEZE CEMENT			
19. FISHING			
20. DIR. WORK			
21.			
22.			
23.			
COMPLETION: A. PERF'R'T'N			
B. TBG TRIPS			
C. TREATING			
D. SWABBING			
E. TESTING			
F. ADDIT'N'L			
G.			
TOTALS			8

DAY WORK TIME SUMMARY (OFFICE USE ONLY)

HRS. W/CONTR. D.P.	
HRS. W/OPR. D.P.	
HRS. WO/D.P.	
HRS. STANDBY	
TOTAL DAY WORK	
NO. OF DAYS FROM SPUD	
CUMULATIVE ROTATING HRS.	
TOTAL MUD COST	

MORNING TOUR

NO.	DRILLING ASSEMBLY (At end of tour)		BIT RECORD		MUD RECORD			
	BIT	FT.	BIT NO.	2	TIME	12:00	3:00	7:00
			SIZE	7 7/8	WEIGHT	8.6		
4	STB RMR 6 1/4 OD	21.63 FT.	MFG.	H-W	PRESSURE GRADIENT			
21	D.C. ID 6 1/2 OD	603.28 FT.	TYPE	X55R	VISC.-SEC.	38	36	37
	STB RMR OD	FT.	JETS 1/32"	10 10 10	PV/YP	11/7	9/8	10/10
	D.C. ID OD	FT.	SER. NO.	29568	GELS.	/	/	/
	STB RMR OD	FT.	DEPTH OUT		WL.-CC'S.			
1	to sub	2.15	DEPTH IN	1377	pH			
			TOTAL FTG.	175	SOLIDS %			
			TOTAL HRS. RUN	15				
9	STANDS DP	844.66 FT.	COND. 1/8's T/B/ GAGE		MUD & CHEMICALS ADDED			
2	SINGLES DP	62.37 FT.	GPM/ PD-PSI	/	TYPE	AMT.	TYPE	AMT.
	KELLY DOWN	18' FT.			GEL	3000#		
	TOTAL	1575.21 FT.			DV68	3 gals		
WT. OF STRING	66,000 LBS.				CMC	50#		

FOOTAGE FROM	TO	DR.-D RM.-R CORE.-C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SCL.-S PAR.FL.-P COM.D.C.
1469	1552	83			40	25	1200	5	60			

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
	1451	5°		1543	5°				

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
12:00	6:30	6 1/2		Drlg
6:30	7:00	1/2		Survey
7:00	8:00	1		Drlg

DRILLER Francis

DAY TOUR

NO.	DRILLING ASSEMBLY (At end of tour)		BIT RECORD		MUD RECORD			
	BIT	FT.	BIT NO.	2	TIME	8	10	12
			SIZE	7 7/8	WEIGHT	8.5	8.5	8.5
4	STB RMR 6 1/4 OD	21.63 FT.	MFG.	H.W.	PRESSURE GRADIENT			
21	D.C. ID 6 1/2 OD	603.28 FT.	TYPE	X55R.	VISC.-SEC.	40	37	37
	STB RMR OD	FT.	JET 1/32"	10 10 10	PV/YP	10/7	8/8	9/10
	D.C. ID OD	FT.	SER. NO.	29568	GELS.	/	/	/
	STB RMR OD	FT.	DEPTH OUT		WL.-CC'S.			
1	xo	2.15	DEPTH IN	1377	pH	8.0	8.0	8.0
			TOTAL FTG.	275	SOLIDS %			
			TOTAL HRS. RUN	23 1/4				
10	STANDS DP	FT.	COND. 1/8's T/B/ GAGE	IN.	MUD & CHEMICALS ADDED			
2	SINGLES DP	100 8 18 FT.	GPM/ PD-PSI	/	TYPE	AMT.	TYPE	AMT.
	KELLY DOWN	24.00 FT.			GEL	1000#		
	TOTAL	1652.24 FT.			DV68	1 Gal.		
WT. OF STRING	69m. LBS.				CMC	25#		

FOOTAGE FROM	TO	DR.-D RM.-R CORE.-C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SCL.-S PAR.FL.-P COM.D.C.
1552	1652	100			44	36	1200	5	60			

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
	1637	4 3/4							

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
8:00	8:15	1/4		Rig Service ✓ BOPS.
8:15	2:15	6		Drilling.
2:15	2:45	1/2		Conn & Survey
2:45	4:00	1 1/4		Drilling.

DRILLER [illegible]

EVENING TOUR

NO.	DRILLING ASSEMBLY (At end of tour)		BIT RECORD		MUD RECORD			
	BIT	FT.	BIT NO.	2	TIME	4		
			SIZE	7 7/8	WEIGHT	8.5		
4	STB RMR 6 1/4 OD	21.63 FT.	MFG.	H-W	PRESSURE GRADIENT			
21	D.C. ID 6 1/2 OD	603.28 FT.	TYPE	X55R	VISC.-SEC.	36		
	STB RMR OD	FT.	JETS 1/32"	10 10 10	PV/YP	10/6	/	/
	D.C. ID OD	FT.	SER. NO.	29568	GELS.	/	/	/
	STB RMR OD	FT.	DEPTH OUT		WL.-CC'S.			
1	xo sub	2.15	DEPTH IN	1377	pH	8.0		
			TOTAL FTG.	354	SOLIDS %			
			TOTAL HRS. RUN	29 1/4				
11	STANDS DP	1032.63 FT.	COND. 1/8's T/B/ GAGE		MUD & CHEMICALS ADDED			
1	SINGLES DP	31.00 FT.	GPM/ PD-PSI	/	TYPE	AMT.	TYPE	AMT.
	KELLY DOWN	DOWN FT.			Gel	200#		
	TOTAL	1731.84 FT.			DV68	1 gal		
WT. OF STRING	70,000 LBS.				CMC	50#		

FOOTAGE FROM	TO	DR.-D RM.-R CORE.-C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SCL.-S PAR.FL.-P COM.D.C.
1652	1731	79			44	30	1200	5	60			

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
	1731	5°							

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
4:00	11:00	7		Drlg
11:00	11:30	1/2		Survey sinker bar backed off
11:30	12:00	1/2		Hoist to recover survey

DRILLER Francis

FORM 3T5 APPROVED APPROVED

A.A.O.D.C.--A.P.I. OFFICIAL DAILY DRILLING REPORT FORM

PETROLIA OILWELL DRILLING LTD.

DAILY DRILLING REPORT REPORT NO.

LEASE	WELL NO.	API WELL NUMBER	DATE
HR CANDEL ETAL WILLOW LAKE	C 47		3-21

OPERATOR	CONTRACTOR	RIG
	PETROLIA OILWELL DRLG	7

SIGNATURE OF OPERATOR'S REPRESENTATIVE	SIGNATURE OF CONTRACTOR'S TOOL PUSHER
	D. Coleman

D.P. SIZE	WT./FT.	GRADE	TOOL JT O.D.	TYPE THREAD	STRING NO.

PUMP NO.	PUMP MANUFACTURER	TYPE	STROKE LENGTH
1	EMSCO	D500	16
2	NSCO	C-150	14

LOCATION

	SIZE	MAKE	WT. & GR.	NO. JOINTS	FEET	RKB. TO CSG. HD.	SET AT
LAST CASING TUBING OR LINER	8 5/8						515

WIRE LINE RECORD REEL NO.

SIZE	NO. LINES	FT. SLIPPED
1 1/2	8	

FT. CUT OFF | PRESENT LENGTH

TON MI. OR TRIPS SINCE LAST CUT

CUMULATIVE TON MI. OR TRIPS

TIME DISTRIBUTION – HOURS

CODE NO. – OPERATION	MORN.	DAY	EVE.
1. RIG UP AND TEAR DOWN		2 1/4	
2. DRILL ACTUAL	7		7 1/2
3. REAMING			
4. CORING			
5. CONDITION MUD & CIRCULATE		3/4	
6. TRIPS		2 1/2	
7. LUBRICATE RIG		1/4	
8. REPAIR RIG		2	
9. CUT OFF DRILLING LINE			
10. DEVIATION SURVEY	1	1/4	1/2
11. WIRE LINE LOGS			
12. RUN CASING & CEMENT			
13. WAIT ON CEMENT			
14. NIPPLE UP B.O.P.			
15. TEST B.O.P.			
16. DRILL STEM TEST			
17. PLUG BACK			
18. SQUEEZE CEMENT			
19. FISHING			
20. DIR. WORK			
21.			
22.			
23.			
COMPLETION: A. PERF'R'T'N			
B. TBG TRIPS			
C. TREATING			
D. SWABBING			
E. TESTING			
F. ADDIT'N'L			
G.			
TOTALS	8	8	

DAY WORK TIME SUMMARY (OFFICE USE ONLY)

HRS. W/CONTR. D.P.	
HRS. W/OPR. D.P.	
HRS. WO/D.P.	
HRS. STANDBY	
TOTAL DAY WORK	
NO. OF DAYS FROM SPUD	
CUMULATIVE ROTATING HRS.	
TOTAL MUD COST	

MORNING TOUR

DRILLING ASSEMBLY (At end of tour)

NO.			FT.
	BIT		
4	STB RMR 6 1/4 OD	21.63	FT.
23	D.C. ID 6 1/2 OD	661.64	FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
1	X O SUB	2.15	
6	STANDS DP	1290.72	FT.
1	SINGLES DP	31.63	FT.
	KELLY DOWN	35	FT.
	TOTAL	1321.25	FT.
WT. OF STRING	68,000		LBS.

BIT RECORD

BIT NO.	1
SIZE	7 7/8
MFG.	REED
TYPE	STIAG
JETS 1 32"	16 10 10
SER. NO.	783824
DEPTH OUT	
DEPTH IN	515
TOTAL FTG.	900
TOTAL HRS. RUN	27 1/4
COND. 1/8's T/B/ GAGE	
GPM/ PD–PSI	/ /

MUD RECORD

TIME	2.00	5.00	7.00
WEIGHT	9.0	9.1	9.1
PRESSURE GRADIENT			
VISC.–SEC.	34	34	36
PV/YP	8/15	/	7/12
GELS.	/	/	/
WL –CC'S.			
pH			
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
GEL	2000#		
BENEX	8#		
CMC	25#		

FOOTAGE / FORMATION

FROM	TO	DR.D RM.R CORE.C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SGL–S PAR–P FL–F COM–C DC–C
1140	1315	175										

DEVIATION RECORD

DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
1165	4 1/2		1259	4 1/2				

TIME LOG

FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
12.00	1.00	1		DRLG
1.00	1.30	1/2		SURVEY
1.30	5.30	4		DRLG
5.30	6.00	1/2		SURVEY
6.00	8.00	2		DRLG

DRILLER Sussie

DAY TOUR

DRILLING ASSEMBLY (At end of tour)

NO.			FT.
	BIT		
4	STB RMR 6 1/4 OD	21.63	FT.
21	D.C. ID 6 1/2 OD	603.28	FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
1	X-O	2.15	
7	STANDS DP		FT.
2	SINGLES DP	71989	FT.
	KELLY DOWN	31.00	FT.
	TOTAL	1377 45	FT.
WT. OF STRING	62m.		LBS.

BIT RECORD

BIT NO.	1
SIZE	7 7/8
MFG.	REED
TYPE	STIAG5
JET 1/32"	10 10 10
SER. NO.	783824
DEPTH OUT	1377
DEPTH IN	515
TOTAL FTG.	862
TOTAL HRS. RUN	29 3/4
COND. 1/8's T/B/ GAGE	6 4 I
GPM/ PD–PSI	/ /

MUD RECORD

TIME	8.00	11.00	
WEIGHT	9.1	8.8+	T
PRESSURE GRADIENT			R
VISC.–SEC.	37	35	I
PV/YP	9/7	/	P
GELS.	/	/	/
WL –CC'S.			
pH	10.5	9.5	
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Gel	3000#		
Benex	12#		

FOOTAGE / FORMATION

FROM	TO	DR.D RM.R CORE.C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SGL–S PAR–P FL–F COM–C DC–C
1315	1377	62			110	25	1200	5	59			

DEVIATION RECORD

DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
1352	5							

TIME LOG

FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
8.00	8.15	1/4		RIG SERVICE & U BOPS
8.15	9.15	1		DRILLING
9.15	9.30	1/4		CONN + SURVEY
9.30	10.00	1 1/4		DRILLING.
10.00	11.30	3/4		COND. MUD FOR TRIP.
11.30	12.30	1		HOIST FOR BIT LAY DOWN 2 D.C.S. 6 5/8
12.30	2.30	2		REPLACE MAIN DRIVE CHAIN.
2.30	4.00	1 1/2		RUN IN W/ BIT #2.

DRILLER J. Oldgrave.

EVENING TOUR

DRILLING ASSEMBLY (At end of tour)

NO.			FT.
	BIT		
4	STB RMR 6 1/4 OD	21.63	FT.
21	D.C. ID 6 1/2 OD	603.28	FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
1	X O	2.15	
		751.27	
8	STANDS DP	~~682.48~~	FT.
2	SINGLES DP	62.40	FT.
	KELLY DOWN	30	FT.
	TOTAL	1481.85	FT.
WT. OF STRING	65,000		LBS.

BIT RECORD

BIT NO.	2
SIZE	7 7/8
MFG.	H.W
TYPE	X-55R
JETS 1/32"	10 10 10
SER. NO.	29568
DEPTH OUT	
DEPTH IN	1377.
TOTAL FTG.	92
TOTAL HRS. RUN	7 1/2
COND. 1/8's T/B/ GAGE	
GPM/ PD–PSI	/ /

MUD RECORD

TIME	5.00		
WEIGHT	8.8		
PRESSURE GRADIENT			
VISC.–SEC.	35		
PV/YP	9/5	/	/
GELS.	/	/	/
WL –CC'S.			
pH	9.0		
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Gel	5100#		
Benex	21#		

FOOTAGE / FORMATION

FROM	TO	DR.D RM.R CORE.C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SGL–S PAR–P FL–F COM–C DC–C
1377	1469	92			40	20	1200	5	59			

DEVIATION RECORD

DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
1451	50							

TIME LOG

FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
4:00	10.00	6		DRILLING
10.00	10.30	1/2		SURVEY
10.30	12.00	1 1/2		DRLG

DRILLER Sussie

FORM 3T5 APPROVED APPROVED

A.A.O.D.C.--A.P.I. OFFICIAL DAILY DRILLING REPORT FORM

PETROLIA OILWELL DRILLING LTD.

DAILY DRILLING REPORT REPORT NO.

LEASE	WELL NO.	API WELL NUMBER	DATE
H.R. Candelet et al Willow Lake	#47		3-20-71

OPERATOR: Hoch River Res

CONTRACTOR: Petrolia Drlg RIG NO.

SIGNATURE OF OPERATOR'S REPRESENTATIVE

SIGNATURE OF CONTRACTOR'S TOOL PUSHER: N. Coleman

D.P. SIZE	WT./FT.	GRADE	TOOL JT O.D.	TYPE THREAD	STRING NO.

PUMP NO.	PUMP MANUFACTURER	TYPE	STROKE LENGTH
1	Emsco	DA500	16
2	Nsco	F-150	14

LOCATION

WIRE LINE RECORD REEL NO.

	SIZE	MAKE	WT. & GR.	NO. JOINTS	FEET	RKB. TO CSG. HD.	SET AT
LAST CASING TUBING OR LINER	8 5/8						515

SIZE 1/1/8 NO. LINES 8 FT. SLIPPED

FT. CUT OFF PRESENT LENGTH

TON MI. OR TRIPS SINCE LAST CUT

CUMULATIVE TON MI. OR TRIPS

MORNING TOUR

TIME DISTRIBUTION – HOURS

CODE NO. – OPERATION	MORN.	DAY	EVE.
1. RIG UP AND TEAR DOWN			
2. DRILL ACTUAL	7		7
3. REAMING			
4. CORING			
5. CONDITION MUD & CIRCULATE			
6. TRIPS			
7. LUBRICATE RIG			
8. REPAIR RIG			
9. CUT OFF DRILLING LINE			
10. DEVIATION SURVEY	1		1
11. WIRE LINE LOGS			
12. RUN CASING & CEMENT			
13. WAIT ON CEMENT			
14. NIPPLE UP B.O.P.			
15. TEST B.O.P.			
16. DRILL STEM TEST			
17. PLUG BACK			
18. SQUEEZE CEMENT			
19. FISHING			
20. DIR. WORK			
21.			
22.			
23.			
COMPLETION: A. PERF'R'T'N			
B. TBG TRIPS			
C. TREATING			
D. SWABBING			
E. TESTING			
F. ADDIT'N'L			
G.			
TOTALS			

DAY WORK TIME SUMMARY (OFFICE USE ONLY)

HRS. W/CONTR. D.P.
HRS. W/OPR. D.P.
HRS. WO/D.P.
HRS. STANDBY
TOTAL DAY WORK
NO. OF DAYS FROM SPUD
CUMULATIVE ROTATING HRS.
TOTAL MUD COST

DRILLING ASSEMBLY (At end of tour)

NO.				
	BIT			FT.
4	STB RMR 6 3/4 OD		21.63	FT.
23	D.C. ID 6 1/2 OD		661.84	FT.
	STB RMR	OD		FT.
	D.C. ID	OD		FT.
	STB RMR	OD		FT.
1	X0		2.15	
	STANDS DP			FT.
2	SINGLES DP		63.17	FT.
	KELLY DOWN		16	FT.
	TOTAL		790.79	FT.
WT. OF STRING			58,000	LBS.

BIT RECORD

BIT NO.	1
SIZE	7 7/8
MFG.	Reed
TYPE	STIAG
JETS 1/32"	10 10 10
SER. NO.	783824
DEPTH IN	515
TOTAL FTG.	250
TOTAL HRS. RUN	7
COND. 1/8's T/B/ GAGE	
GPM/ PD–PSI	

MUD RECORD

TIME	3:00	6:00	7:00
WEIGHT	8.4	8.5	8.5
PRESSURE GRADIENT			
VISC.–SEC.	36	34	33
PV/YP	/	/	/
GELS.	/	/	/
WL –CC'S.			
pH			
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Gel	#4500		
Benex	18 lbs		

FOOTAGE FROM	TO	DR–D RM–R CORE–C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN
515	765	250			100	25	1000	5	60			

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
	614	3°		727	3 1/2				

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
12:00	4:00	4		Drlg
4:00	4:30	1/2		Survey
4:30	7:00	2 1/2		Drlg
7:00	7:30	1/2		Survey
7:30	8:00	1/2		Drlg
				Fuel 3'

DRILLER Smith

DAY TOUR

DRILLING ASSEMBLY (At end of tour)

NO.				
	BIT			FT.
4	STB RMR 6 3/4 OD		21.63	FT.
23	D.C. ID 6 1/2 OD		661.84	FT.
	STB RMR	OD		FT.
	D.C. ID	OD		FT.
	STB RMR	OD		FT.
1	X-O		2.15	
2	STANDS DP			FT.
2	SINGLES DP		59.81	FT.
	KELLY DOWN		28.00	FT.
	TOTAL		965.	FT.
WT. OF STRING			60m	LBS.

BIT RECORD

BIT NO.	1
SIZE	7 7/8
MFG.	Reed.
TYPE	STIAGJ
JET 1/32"	10 10 10
SER. NO.	783824
DEPTH OUT	
DEPTH IN	515
TOTAL FTG.	450
TOTAL HRS. RUN	13 3/4
COND. 1/8's T/B/ GAGE	
GPM/ PD–PSI	

MUD RECORD

TIME	9:30	12:00	2:30
WEIGHT	8.7	8.7	8.7
PRESSURE GRADIENT			
VISC.–SEC.	37	35	40
PV/YP	/	/	10/22
GELS.	/	/	/
WL –CC'S.			
pH			
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Gel	3100#		
Benex	12#		

FOOTAGE FROM	TO	DR–D RM–R CORE–C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN
765	965	200			110	20	1250	5	60			

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
	821	3 3/4		883	3 3/4				

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
8:00	8:45	3/4		Rig Service Start #2 Bank.
8:45	9:45	1		Drilling.
9:45	10:15	1/2		Survey + Conn.
10:15	12:00	1 3/4		Drilling.
12:00	12:30	1/2		Conn. + Survey
12:30	4:00	3 1/2		Drilling.

Changed all fuel filters in floor motors

DRILLER J. Allegier

EVENING TOUR

DRILLING ASSEMBLY (At end of tour)

NO.				
	BIT			FT.
4	STB RMR 6 1/4 OD		21.63	FT.
23	D.C. ID 6 1/2 OD		661.84	FT.
	STB RMR	OD		FT.
	D.C. ID	OD		FT.
	STB RMR	OD		FT.
1	X0		2.15	
4	STANDS DP		374.77	FT.
3	SINGLES DP		62.12	FT.
	KELLY DOWN		16	FT.
	TOTAL		1165.51	FT.
WT. OF STRING			24,000	LBS.

BIT RECORD

BIT NO.	1
SIZE	7 7/8
MFG.	Reed
TYPE	STIAG
JETS 1/32"	10 10 10
SER. NO.	783824
DEPTH OUT	
DEPTH IN	515
TOTAL FTG.	625
TOTAL HRS. RUN	20 1/4
COND. 1/8's T/B/ GAGE	
GPM/ PD–PSI	

MUD RECORD

TIME	6:00	8:00
WEIGHT	9.0	9.0
PRESSURE GRADIENT		
VISC.–SEC.	33	33
PV/YP	6/10	8/17
GELS.	/	/
WL –CC'S.		
pH		
SOLIDS %		

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Gel	900#		
Benex	4#		
CMC	25#		

FOOTAGE FROM	TO	DR–D RM–R CORE–C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN
965	1140	175			110	20	1250	5	60			

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
	978	4 1/2		1072	4°				

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
4:00	4:30	1/2		Drilling.
4:30	5:00	1/2		Rig Service + Survey
5:00	8:45	3 3/4		Drilling.
8:45	9:15	1/2		Survey
9:15	12:00	2 3/4		Drlg

DRILLER Smith

FORM 3T5 APPROVED APPROVED

A.A.O.D.C.--A.P.I. OFFICIAL DAILY DRILLING REPORT FORM

PETROLIA OILWELL DRILLING LTD.

DAILY DRILLING REPORT REPORT NO.

LEASE	WELL NO.	API WELL NUMBER	DATE
Ira Gandel Et Al Willowlake	G47	G47-62°40-122-45	3-29-71

OPERATOR

CONTRACTOR: Petrolia Drlg RIG NO. 7

SIGNATURE OF OPERATOR'S REPRESENTATIVE

SIGNATURE OF CONTRACTOR'S TOOL PUSHER: D. Coleman

D.P. SIZE	WT./FT.	GRADE	TOOL JT O.D.	TYPE THREAD	STRING NO.	PUMP NO.	PUMP MANUFACTURER	TYPE	STROKE LENGTH
						1	Emsco	D.500	16
						2	NSCC	R.150	14

LOCATION

LAST CASING TUBING OR LINER	SIZE	MAKE	WT. & GR.	NO. JOINTS	FEET	RKB. TO CSG. HD.	SET AT
	8 5/8			18	515		515

WIRE LINE RECORD REEL NO.

SIZE 1 1/8 NO. LINES 8 FT. SLIPPED

FT. CUT OFF PRESENT LENGTH

TON MI. OR TRIPS SINCE LAST CUT

CUMULATIVE TON MI. OR TRIPS

TIME DISTRIBUTION – HOURS

CODE NO. – OPERATION	MORN.	DAY	EVE.
1. RIG UP AND TEAR DOWN			
2. DRILL ACTUAL			
3. REAMING			
4. CORING			
5. CONDITION MUD & CIRCULATE			
6. TRIPS			
7. LUBRICATE RIG			
8. REPAIR RIG			
9. CUT OFF DRILLING LINE			
10. DEVIATION SURVEY			
11. WIRE LINE LOGS			
12. RUN CASING & CEMENT			
13. WAIT ON CEMENT	8		
14. NIPPLE UP B.O.P.			
15. TEST B.O.P.			
16. DRILL STEM TEST			
17. PLUG BACK			
18. SQUEEZE CEMENT			
19. FISHING			
20. DIR. WORK			
21.			
22.			
23.			
COMPLETION: A. PERF'R'T'N			
B. TBG TRIPS			
C. TREATING			
D. SWABBING			
E. TESTING			
F. ADDIT'N'L			
G.			
TOTALS			

DAY WORK TIME SUMMARY (OFFICE USE ONLY)

HRS. W./CONTR. D.P.	
HRS. W/OPR. D.P.	
HRS. WO/D.P.	
HRS. STANDBY	
TOTAL DAY WORK	
NO. OF DAYS FROM SPUD	
CUMULATIVE ROTATING HRS.	
TOTAL MUD COST	

MORNING TOUR

DRILLING ASSEMBLY (At end of tour)

BIT			FT.
STB RMR	OD		FT.
D.C. ID	OD		FT.
STB RMR	OD		FT.
D.C. ID	OD		FT.
STB RMR	OD		FT.
STANDS DP			FT.
SINGLES DP			FT.
KELLY DOWN			FT.
TOTAL			FT.
WT. OF STRING			LBS.

BIT RECORD

BIT NO.	
SIZE	
MFG.	
TYPE	
JETS 1/32"	
SER. NO.	
DEPTH OUT	
DEPTH IN	
TOTAL FTG.	
TOTAL HRS. RUN	
COND. 1/8's T/B/ GAGE	
GPM/ PD-PSI	

MUD RECORD

TIME	
WEIGHT	
PRESSURE GRADIENT	
VISC.-SEC.	
PV/YP	
GELS.	
WL -CC'S.	
pH	
SOLIDS %	

MUD & CHEMICALS ADDED: TYPE / AMT. / TYPE / AMT.

FOOTAGE

FROM	TO	DR-D RM-R CORE-C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN
515												

DEVIATION RECORD: DEPTH / DEV. / DIRECTION / DEPTH / DEV. / DIRECTION / DEPTH / DEV. / DIRECTION

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
12:00	8:00	8		W.O.C.

DRILLER Grassia

DAY TOUR

DRILLING ASSEMBLY (At end of tour)

NO.				
	BIT			FT.
4	STB RMR	6 3/4 OD	21.63	FT.
12	D.C. ID	6 1/2 OD	348.67	FT.
	STB RMR	OD		FT.
	D.C. ID	OD		FT.
	STB RMR	OD		FT.
	STANDS DP			FT.
1	SINGLES DP		31.54	FT.
	KELLY DOWN		41.40	FT.
	TOTAL		443.24	FT.
	WT. OF STRING		40.600	LBS.

BIT RECORD

BIT NO.	1
SIZE	7 7/8
MFG.	
TYPE	STAB J
JET 1/32"	10 10 10
SER. NO.	783824
DEPTH OUT	
DEPTH IN	
TOTAL FTG.	
TOTAL HRS. RUN	
COND. 1/8's T/B/ GAGE	
GPM/ PD-PSI	

MUD RECORD

TIME	
WEIGHT	
PRESSURE GRADIENT	
VISC.-SEC.	
PV/YP	
GELS.	
WL -CC'S.	
pH	
SOLIDS %	

MUD & CHEMICALS ADDED: TYPE / AMT. / TYPE / AMT.

FOOTAGE

FROM	TO	DR-D RM-R CORE-C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN
				PRESS TEST Blind Rams 1500 PSI 15 min o.k								
				Motor shut offs o.k.								

DEVIATION RECORD: DEPTH / DEV. / DIRECTION / DEPTH / DEV. / DIRECTION / DEPTH / DEV. / DIRECTION

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
8:00	2:00	6		Head up Bops
2:00	3:00	1		PRESS TEST Blind Rams
3:00	4:00	1		Make up bit + stab + Run in

DRILLER E.O. Wiberg

EVENING TOUR

DRILLING ASSEMBLY (At end of tour)

NO.				
	BIT			FT.
	STB RMR	OD		FT.
	D.C. ID	OD		FT.
	STB RMR	OD		FT.
	D.C. ID	OD		FT.
	STB RMR	OD		FT.
	STANDS DP			FT.
	SINGLES DP			FT.
	KELLY DOWN			FT.
	TOTAL			FT.
	WT. OF STRING			LBS.

BIT RECORD

BIT NO.	1
SIZE	7 7/8
MFG.	Reed
TYPE	STAB
JETS 1/32"	10 10 10
SER. NO.	783824
DEPTH OUT	
DEPTH IN	515
TOTAL FTG.	
TOTAL HRS. RUN	
COND. 1/8's T/B/ GAGE	
GPM/ PD-PSI	

MUD RECORD

TIME	
WEIGHT	
PRESSURE GRADIENT	
VISC.-SEC.	
PV/YP	
GELS.	
WL -CC'S.	
pH	
SOLIDS %	

MUD & CHEMICALS ADDED: TYPE / AMT. / TYPE / AMT.

FOOTAGE

FROM	TO	DR-D RM-R CORE-C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN
					100	25	1000	5	60			

DEVIATION RECORD: DEPTH / DEV. / DIRECTION / DEPTH / DEV. / DIRECTION / DEPTH / DEV. / DIRECTION

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
4:00	8:00	4		Press. TEST Hydril + Pipe Rams
8:00	8:30	1/2		Change pipe Rams ~~to 18:00 p.s.i. Heldwik~~
8:30	9:00	1/2		Press TEST pipe Rams to 18:00 PSI Heldwik
9:00	12:00	3		Drill out cement Float + shoe
				Top of cement 455
				Float 462
				shoe 502

DRILLER Grassia

Form 3T5 APPROVED APPROVED

A.A.O.D.C.--A.P.I. OFFICIAL DAILY DRILLING REPORT FORM

PETROLIA OILWELL DRILLING LTD.

DAILY DRILLING REPORT REPORT NO.

LEASE	WELL NO.	API WELL NUMBER	DATE
HR Cancel Et al Willow Lake	647		3-18-71

OPERATOR	CONTRACTOR	RIG NO.
	Petrolia Drlg	7

SIGNATURE OF OPERATOR'S REPRESENTATIVE	SIGNATURE OF CONTRACTOR'S TOOL PUSHER
	D. Coleman

D.P. SIZE	WT./FT.	GRADE	TOOL JT O.D.	TYPE THREAD	STRING NO.	PUMP NO.	PUMP MANUFACTURER	TYPE	STROKE LENGTH
						1	Emsco	D500	16
						2	NSCO	C150	14

LOCATION

LAST CASING TUBING OR LINER	SIZE	MAKE	WT. & GR.	NO. JOINTS	FEET	RKB. TO CSG. HD.	SET AT

WIRE LINE RECORD REEL NO.

SIZE	NO. LINES	FT. SLIPPED
1 1/8	8	

FT. CUT OFF PRESENT LENGTH

TON MI. OR TRIPS SINCE LAST CUT

CUMULATIVE TON MI. OR TRIPS

TIME DISTRIBUTION – HOURS

CODE NO. – OPERATION	MORN.	DAY	EVE.
1. RIG UP AND TEAR DOWN			
2. DRILL ACTUAL	6 1/4		2 1/4
3. REAMING			
4. CORING			
5. CONDITION MUD & CIRCULATE			1/2
6. TRIPS	1		3/4
7. LUBRICATE RIG			
8. REPAIR RIG			
9. CUT OFF DRILLING LINE			
10. DEVIATION SURVEY	3/4		
11. WIRE LINE LOGS			
12. RUN CASING & CEMENT			4 1/2
13. WAIT ON CEMENT			
14. NIPPLE UP B.O.P.			
15. TEST B.O.P.			
16. DRILL STEM TEST			
17. PLUG BACK			
18. SQUEEZE CEMENT			
19. FISHING			
20. DIR. WORK			
21.			
22.			
23.			
COMPLETION: A. PERF'RTN			
B. TBG TRIPS			
C. TREATING			
D. SWABBING			
E. TESTING			
F. ADDIT'N'L			
G.			
TOTALS			

DAY WORK TIME SUMMARY (OFFICE USE ONLY)

HRS. W/CONTR. D.P.	
HRS. W/OPR. D.P.	
HRS. WO. D.P.	
HRS. STANDBY	
TOTAL DAY WORK	
NO. OF DAYS FROM SPUD	
CUMULATIVE ROTATING HRS.	
TOTAL MUD COST	

MORNING TOUR

DRILLING ASSEMBLY (At end of tour)

NO.				
	BIT			FT.
	STB RMR	OD		FT.
11	D.C. ID 6 1/2	OD	319.74	FT.
	STB RMR	OD		FT.
	D.C. ID	OD		FT.
	STB RMR	OD		FT.
1	Bit sub		4.45	
1	X0 sub		2.15	
	STANDS DP			FT.
	SINGLES DP			FT.
	KELLY DOWN		15	FT.
	TOTAL		342	FT.
WT. OF STRING			35,000	LBS.

BIT RECORD

BIT NO.	5A	6A
SIZE	12 1/4	12 1/4
MFG.	HW	H-W
TYPE	X16	X3A
JETS 1/32"		BERUN
SER. NO.	TB128	TS523
DEPTH OUT	251	
DEPTH IN	135	251
TOTAL FTG.	116	91
TOTAL HRS. RUN	8 1/2	3 3/4
COND. 1/8's T/B/ GAGE		
GPM/ PD-PSI	/	/

MUD RECORD

TIME	1:00	3:00	6:00
WEIGHT			
PRESSURE GRADIENT			
VISC.-SEC.	54	50	70
PV/YP	/	/	/
GELS.	/	/	/
WL -CC'S.			
pH			
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Gel	1000#		
Caustic	50#		

DAY TOUR

DRILLING ASSEMBLY (At end of tour)

NO.				
	BIT			FT.
	STB RMR	OD		FT.
15	D.C. ID 6 1/2	OD	436.30	FT.
	STB RMR	OD		FT.
	D.C. ID	OD		FT.
	STB RMR	OD		FT.
1	B sub		4.45	
1	X0		2.15	
	STANDS DP			FT.
	SINGLES DP			FT.
	KELLY DOWN		41.40	FT.
	TOTAL		484.30	FT.
WT. OF STRING			40m.	LBS.

BIT RECORD

BIT NO.	6A
SIZE	12 1/4
MFG.	H.W.
TYPE	X3A
JET 1/32"	R.R.
SER. NO.	TJ523
DEPTH OUT	
DEPTH IN	251
TOTAL FTG.	134
TOTAL HRS. RUN	9 1/4
COND. 1/8's T/B/ GAGE	
GPM/ PD-PSI	/

MUD RECORD

TIME	9:00	1:00
WEIGHT		
PRESSURE GRADIENT		
VISC.-SEC.	56	60
PV/YP	/	/
GELS.	/	/
WL -CC'S.		
pH		
SOLIDS %		

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Gel	1300#		
Benex	4#		

EVENING TOUR

DRILLING ASSEMBLY (At end of tour)

NO.				
	BIT			FT.
	STB RMR	OD		FT.
16	D.C. ID 6 1/2	OD	467.84	FT.
	STB RMR	OD		FT.
	D.C. ID	OD		FT.
	STB RMR	OD		FT.
1	B. sub		4.45	
1	X0 sub		2.15	
	STANDS DP			FT.
	SINGLES DP			FT.
	KELLY DOWN			FT.
	TOTAL			FT.
WT. OF STRING				LBS.

BIT RECORD

BIT NO.	6A
SIZE	12 1/4
MFG.	H-W
TYPE	X3A
JETS 1/32"	R.R.
SER. NO.	TJ523
DEPTH OUT	515
DEPTH IN	251
TOTAL FTG.	264
TOTAL HRS. RUN	11 1/2
COND. 1/8's T/B/ GAGE	
GPM/ PD-PSI	/

MUD RECORD

TIME	5:00		
WEIGHT			
PRESSURE GRADIENT			
VISC.-SEC.	74		
PV/YP	/	/	/
GELS.	/	/	/
WL -CC'S.			
pH			
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

FOOTAGE / FORMATION

FROM	TO	DR.D RM.R CORE.C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SGL-S PAR-P FL-P COM-C
221	342	121			80	10	350	5	73			

DEVIATION RECORD

DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
278	1/2							

TIME LOG

FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
12:00	2:30	2 1/2		Drlg
2:30	3:30	1		trip for bit
3:30	4:15	3/4		Drlg
4:15	5:00	3/4		Conn & Survey
5:00	8:00	3		Drlg
				Fuel 4'

DRILLER Smasia

FROM	TO	DR.D RM.R CORE.C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SGL-S PAR-P FL-P COM-C
342	484	42			110	15	350	5	73			

DEVIATION RECORD

DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
367	3/4		484	2.				

TIME LOG

FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
8:00	8:45	3/4		Drilling.
8:45	9:00	1/4		Survey & Rig Ser.
9:00	1:45	4 3/4		Drilling.
1:45	4:00	2 1/4		Drop Survey Strap out. SLM 8430 Tally 485.70
				40 ft. Fill.

DRILLER

FROM	TO	DR.D RM.R CORE.C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SGL-S PAR-P FL-P COM-C
484	515	31			120	10	350	5	73			

DEVIATION RECORD

DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION

TIME LOG

FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
4:00	6:15	2 1/4		Drilling.
6:15	6:45	1/2		Circ to Run Casing
6:45	7:30	3/4		Hoist
7:30	10:30	3		Rig to & Run Casing
10:30	11:15	3/4		Rig to & Circ Casing
11:15	12:00	3/4		Cement Casing

Run 16 jts 8 5/8 24# new csg. Ins. guide shoe & float collar total of 511.54 leaded @ 496.64 cemented w/270 sx normal cement w/3% CaCl2 slurry #15.8-16.4 Displaced w/32 bbls water bumped plug. 500 PSI Plugged

DRILLER Smasia

FORM 3T5 APPROVED APPROVED

A.A.O.D.C.--A.P.I. OFFICIAL DAILY DRILLING REPORT FORM

PETROLIA OILWELL DRILLING LTD.

DAILY DRILLING REPORT REPORT NO.

LEASE	WELL NO.	API WELL NUMBER	DATE
HR Gandel ETAL (Willow Lake)	C47		March 17-7

OPERATOR	CONTRACTOR	RIG NO.
Horn River Res	Petrolia Drlg	7

SIGNATURE OF OPERATOR'S REPRESENTATIVE: Horn River Res

SIGNATURE OF CONTRACTOR'S TOOL PUSHER: D. Coleman

D.P. SIZE	WT./FT.	GRADE	TOOL JT O.D.	TYPE THREAD	STRING NO.

PUMP NO.	PUMP MANUFACTURER	TYPE	STROKE LENGTH
1	Emsco	D500	16
2	NSCO	C150	14

LOCATION

LAST CASING TUBING OR LINER	SIZE	MAKE	WT. & GR.	NO. JOINTS	FEET	RKB. TO CSG. HD.	SET AT

WIRE LINE RECORD REEL NO.

SIZE	NO. LINES	FT. SLIPPED
1 1/8	8	

FT. CUT OFF PRESENT LENGTH

TON MI. OR TRIPS SINCE LAST CUT

CUMULATIVE TON MI. OR TRIPS

TIME DISTRIBUTION — HOURS

CODE NO. – OPERATION	MORN.	DAY	EVE.
1. RIG UP AND TEAR DOWN			
2. DRILL ACTUAL		5	6
3. REAMING			1/2
4. CORING			
5. CONDITION MUD & CIRCULATE			
6. TRIPS			
7. LUBRICATE RIG			
8. REPAIR RIG			
9. CUT OFF DRILLING LINE			
10. DEVIATION SURVEY			1 1/2
11. WIRE LINE LOGS			
12. RUN CASING & CEMENT			
13. WAIT ON CEMENT			
14. NIPPLE UP B.O.P.			
15. TEST B.O.P.			
16. DRILL STEM TEST			
17. PLUG BACK			
18. SQUEEZE CEMENT			
19. FISHING	8	3	
20. DIR. WORK			
21.			
22.			
23.			
COMPLETION: A. PERF'R'T'N			
B. TBG TRIPS			
C. TREATING			
D. SWABBING			
E. TESTING			
F. ADDIT'N'L			
G.			
TOTALS			8

DAY WORK TIME SUMMARY (OFFICE USE ONLY)

HRS. W/CONTR. D.P.	
HRS. W/OPR. D.P.	
HRS. W.O.D.P.	
HRS. STANDBY	
TOTAL DAY WORK	
NO. OF DAYS FROM SPUD	
CUMULATIVE ROTATING HRS.	
TOTAL MUD COST	

MORNING TOUR

NO.	DRILLING ASSEMBLY (At end of tour)		FT.
	BIT		
	Kelly	41.00	
	STB RMR OD		
	D.C. ID OD		
	STB RMR OD		
	D.C. ID OD		
	STB RMR OD		
1	Bit sub	4.45	
1	XO	2.15	
	STANDS DP		
	SINGLES DP		
	KELLY DOWN		
	TOTAL		
WT. OF STRING			LBS.

BIT RECORD			
BIT NO.			
SIZE			
MFG.			
TYPE			
JETS 1/32"			
SER. NO.			
DEPTH OUT			
DEPTH IN			
TOTAL FTG.			
TOTAL HRS. RUN			
COND. 1/8's T/B/ GAGE			
GPM/ PD-PSI			

MUD RECORD			
TIME			
WEIGHT			
PRESSURE GRADIENT			
VISC.-SEC.			
PV/YP	/	/	/
GELS.	/	/	/
WL -CC'S.			
pH			
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

FOOTAGE FROM	TO	DR.-D RM.-R CORE.-C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SCL.-S PARTL.-P COM'D.-C

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
12.00	8.00	8		Fish For D.Collar slips

DRILLER Swassia

DAY TOUR

NO.	DRILLING ASSEMBLY (At end of tour)		FT.
	BIT		
	STB RMR OD		
3	D.C. ID 6 1/2 OD	87.63	
	STB RMR OD		
	D.C. ID OD		
	STB RMR OD		
1	B. Sub	4.45	
1	XO	2.15	
	STANDS DP		
	SINGLES DP		
	KELLY DOWN	26.00	
	TOTAL	120.23	
WT. OF STRING		18,000	LBS.

BIT RECORD			
BIT NO.	5A		
SIZE	12 1/4		
MFG.	H.W.		
TYPE	~~FB3B~~ XIG		
JETS 1/32"			
SER. NO.	TB128		
DEPTH OUT			
DEPTH IN	42		
TOTAL FTG.	78		
TOTAL HRS. RUN	5		
COND. 1/8's T/B/ GAGE			
GPM/ PD-PSI			

MUD RECORD			
TIME	11.00	2:00	4:00
WEIGHT			
PRESSURE GRADIENT			
VISC.-SEC.	45	50	45
PV/YP	/	/	/
GELS.	/	/	/
WL -CC'S.			
pH			
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
Lol	700#		
Benek	2#		

FOOTAGE FROM	TO	DR.-D RM.-R CORE.-C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE	PUMP NO. 1 S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SCL.-S PARTL.-P COM'D.-C
42	120				80	5-10	200	5	73			

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
8.00	10.30	2 1/2		Fishing For D.C. Slips.
10.30	11.00	1/2		Weld on Conductor Bbl. Pick up 12 1/4 Bit. Run In.
11.00	4.00	5		~~Drilling~~ 12 1/4 Hole. (Reaming out 7 7/8).

DRILLER G. J. Ubegrade

EVENING TOUR

NO.	DRILLING ASSEMBLY (At end of tour)		FT.
	BIT		
	STB RMR OD		
6	D.C. ID 6 1/2 OD	173.18	
	STB RMR OD		
	D.C. ID OD		
	STB RMR OD		
1	Bit sub	4.45	
1	XO sub	2.15	
	STANDS DP		
	SINGLES DP		
	KELLY DOWN	41	
	TOTAL	221.18	
WT. OF STRING		28000	LBS.

BIT RECORD			
BIT NO.	5		
SIZE	12 1/4		
MFG.	H-W		
TYPE	XIG		
JETS 1/32"			
SER. NO.	TB 128		
DEPTH OUT			
DEPTH IN	135		
TOTAL FTG.	84		
TOTAL HRS. RUN	6		
COND. 1/8's T/B/ GAGE			
GPM/ PD-PSI			

MUD RECORD			
TIME	6:00	8.00	
WEIGHT			
PRESSURE GRADIENT			
VISC.-SEC.	44	48	
PV/YP	/	/	/
GELS.	/	/	/
WL -CC'S.			
pH			
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

FOOTAGE FROM	TO	DR.-D RM.-R ~~CORE.-C~~	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SCL.-S PARTL.-P COM'D.-C
120	135	Reamed.			80	5-10	200	5	73			
135	221	84										

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
	135	1°		192	3/4				

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
4.00	4.30	1/2		Drilling out Pilot Hole.
4.30	5.15	3/4		Rig Service, Conn. & Survey
5.15	8.45	3 1/2		Drilling 12 1/4 Hole.
8.45	9.30	3/4		Survey & Conn.
9.30	12.00	2 1/2		Drlg 12 1/4 Hole

DRILLER Swassia

FORM 3T5 APPROVED APPROVED

A.A.O.D.C.--A.P.I. OFFICIAL DAILY DRILLING REPORT FORM

PETROLIA OILWELL DRILLING LTD.

DAILY DRILLING REPORT REPORT NO.

LEASE	WELL NO.	API WELL NUMBER	DATE
		4R CANDEL ETEL	3-16-71

OPERATOR	CONTRACTOR	RIG NO.
HORN RIVER RES.	PETROLIA DRILLING	7

SIGNATURE OF OPERATOR'S REPRESENTATIVE	SIGNATURE OF CONTRACTOR'S TOOL PUSHER
	D. Coleman

D.P. SIZE	WT./FT.	GRADE	TOOL JT O.D.	TYPE THREAD	STRING NO.

PUMP NO.	PUMP MANUFACTURER	TYPE	STROKE LENGTH
1	Emsco	D500	16
2	NSCO	C150	14

LOCATION

LAST CASING TUBING OR LINER	SIZE	MAKE	WT. & GR.	NO. JOINTS	FEET	RKB. TO CSG. HD.	SET AT

WIRE LINE RECORD REEL NO.

SIZE	NO. LINES	FT. SLIPPED
FT. CUT OFF		PRESENT LENGTH
TON MI. OR TRIPS SINCE LAST CUT		
CUMULATIVE TON MI. OR TRIPS		

TIME DISTRIBUTION – HOURS

CODE NO. – OPERATION	MORN.	DAY	EVE.
1. RIG UP AND TEAR DOWN			
2. DRILL ACTUAL			
3. REAMING			
4. CORING			
5. CONDITION MUD & CIRCULATE			
6. TRIPS			
7. LUBRICATE RIG			
8. REPAIR RIG			
9. CUT OFF DRILLING LINE			
10. DEVIATION SURVEY			
11. WIRE LINE LOGS			
12. RUN CASING & CEMENT			
13. WAIT ON CEMENT			
14. NIPPLE UP B.O.P.			
15. TEST B.O.P.			
16. DRILL STEM TEST			
17. PLUG BACK			
18. SQUEEZE CEMENT			
19. FISHING			
20. DIR. WORK			
21.			
22.			
23.			
COMPLETION: A. PERF'R'T'N			
B. TBG TRIPS			
C. TREATING			
D. SWABBING			
E. TESTING			
F. ADDIT'N'L			
G.			
TOTALS			

DAY WORK TIME SUMMARY (OFFICE USE ONLY)

HRS. W/CONTR. D.P.	
HRS. W/OPR. D.P.	
HRS. WO/D.P.	
HRS. STANDBY	
TOTAL DAY WORK	
NO. OF DAYS FROM SPUD	
CUMULATIVE ROTATING HRS.	
TOTAL MUD COST	

MORNING TOUR

DRILLING ASSEMBLY (At end of tour)

NO.			
	BIT		FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
1	XO SUB	2.15	
1	BELL SUB	4.45	
	STANDS DP		FT.
	SINGLES DP		FT.
	KELLY DOWN		FT.
	TOTAL		FT.
	WT. OF STRING	4	LBS.

BIT RECORD

BIT NO.	1A	2A
SIZE	12 1/4	12 1/4
MFG.		
TYPE		STIAIG
JETS 1/32"	18 18 18	
SER. NO.		
DEPTH OUT	40	
DEPTH IN		
TOTAL FTG.		
TOTAL HRS. RUN		
COND. 1/8's T/B/ GAGE		
GPM/ PD-PSI	/	/

MUD RECORD

TIME	200	600	600
WEIGHT	8.4	8.4	8.4
PRESSURE GRADIENT			
VISC.-SEC.	42	45	47
PV/YP	/	/	/
GELS.	/	/	/
WL -CC'S.			
pH			
SOLIDS %			

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
BENEX	12		
GEL	3300		

DAY TOUR

DRILLING ASSEMBLY (At end of tour)

NO.			
	BIT		FT.
	KELLY	41.40	
	STB RMR OD		FT.
1	D.C. ID 6 1/16 OD	28.08	FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
1	XO sub	2.15	
1	Bit sub	4.15	
	STANDS DP		FT.
	SINGLES DP		FT.
	KELLY DOWN	16	FT.
	TOTAL		FT.
	WT. OF STRING	15,000	LBS.

BIT RECORD

BIT NO.	3A	4A
SIZE	12 1/4	7 7/8
MFG.		Smith
TYPE		OTJ
JET 1/32"		12 12 11
SER. NO.	RERUN	D2381
DEPTH OUT	42	46
DEPTH IN	38	42
TOTAL FTG.	4	4
TOTAL HRS. RUN	5	4
COND. 1/8's T/B/ GAGE		
GPM/ PD-PSI	/	/

MUD RECORD

TIME	5A	10.00	1.00
WEIGHT	8.4	8.4	8.4
PRESSURE GRADIENT	RK		
VISC.-SEC.	46	47	
PV/YP	/	/	/
GELS.	RK	/	/
WL -CC'S.			
pH	46		
SOLIDS %	9'		

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

EVENING TOUR

DRILLING ASSEMBLY (At end of tour)

NO.			
	BIT		FT.
3	D.C. ID 6 1/2 OD	97.13	FT.
	STB RMR OD		FT.
	D.C. ID OD		FT.
	STB RMR OD		FT.
1	Bit sub	4.45	
1	X O	2.15	
	STANDS DP		FT.
	SINGLES DP		FT.
	KELLY DOWN	41.00	FT.
	TOTAL	135.13	FT.
	WT. OF STRING		LBS.

BIT RECORD

BIT NO.	5A
SIZE	7 7/8
MFG.	~~Smith~~
TYPE	~~DTJ~~ GRK
JETS 1/32"	12 12 11
SER. NO.	~~D2381~~ RK
DEPTH OUT	135
DEPTH IN	46
TOTAL FTG.	89
TOTAL HRS. RUN	~~4~~ 5
COND. 1/8's T/B/ GAGE	
GPM/ PD-PSI	/

MUD RECORD

TIME	
WEIGHT	
PRESSURE GRADIENT	
VISC.-SEC.	
PV/YP	/
GELS.	/
WL -CC'S.	
pH	
SOLIDS %	

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.
GEL	400		
BENEX	2		

FOOTAGE / FORMATION (SHOW CORE RECOVERY)

FROM	TO	DR.-D RM.-R CORE.-C	CORE NO.	FORMATION	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SCL.-S PARTL.-P COM.D.-C
~~40~~ 38	40	2				4	200	5	45			

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
12.00	8.00	8		DRILL 12 1/4 HOLE (BOULDERS)

DRILLER L. Mathson

FOOTAGE / FORMATION (SHOW CORE RECOVERY)

FROM	TO	DR.-D RM.-R CORE.-C	CORE NO.	FORMATION	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SCL.-S PARTL.-P COM.D.-C
40	55	15				5	200	5	50			

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
8.00	9.30	1 1/2		DRLG 12 1/4 hole
9.30	10.00	1/2		LAY BELL sub pick BIT sub
10.00	2.00	4		DRLG 7 7/8 hole
2.00	2.30	1/2		TRIP. FOR BIT
2.30	4.00	1 1/2		DRILL 7 7/8

DRILLER Massia

FOOTAGE / FORMATION (SHOW CORE RECOVERY)

FROM	TO	DR.-D RM.-R CORE.-C	CORE NO.	FORMATION	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN SCL.-S PARTL.-P COM.D.-C

DEVIATION RECORD	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
	105	1/2		135	1°				

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
4.00	6.30	2 1/2		~~[illegible]~~. DRILLING 7 7/8 Hole.
6.30	7.00	1/2		SURVEY
7.00	8.00	1		DRILLING.
8.00	8.15	1/4		SURVEY
8.15	9.00	3/4		HOIST.
9.00	12.00	3		FISH FOR DC. SLIPS.

DRILLER E. J. Wellington

FORM 3T5 APPROVED APPROVED

A.A.O.D.C.--A.P.I. OFFICIAL DAILY DRILLING REPORT FORM

PETROLIA OILWELL DRILLING LTD.

DAILY DRILLING REPORT REPORT NO.

LEASE	WELL NO.	API WELL NUMBER	DATE 3-15-71
OPERATOR		CONTRACTOR PETROLIA DRILLING	RIG NO. 7
SIGNATURE OF OPERATOR'S REPRESENTATIVE		SIGNATURE OF CONTRACTOR'S TOOL PUSHER N. Coleman	

D.P. SIZE	WT./FT.	GRADE	TOOL JT O.D.	TYPE THREAD	STRING NO.	PUMP NO.	PUMP MANUFACTURER	TYPE	STROKE LENGTH

LOCATION

LAST CASING TUBING OR LINER	SIZE	MAKE	WT. & GR.	NO. JOINTS	FEET	RKB. TO CSG. HD.	SET AT

WIRE LINE RECORD REEL NO.

SIZE	NO. LINES	FT. SLIPPED

FT. CUT OFF PRESENT LENGTH

TON MI. OR TRIPS SINCE LAST CUT

CUMULATIVE TON MI. OR TRIPS

TIME DISTRIBUTION – HOURS

CODE NO. – OPERATION	MORN.	DAY	EVE.
1. RIG UP AND TEAR DOWN		8	
2. DRILL ACTUAL			
3. REAMING			
4. CORING			
5. CONDITION MUD & CIRCULATE			
6. TRIPS			
7. LUBRICATE RIG			
8. REPAIR RIG			
9. CUT OFF DRILLING LINE			
10. DEVIATION SURVEY			
11. WIRE LINE LOGS			
12. RUN CASING & CEMENT			
13. WAIT ON CEMENT			
14. NIPPLE UP B.O.P.			
15. TEST B.O.P.			
16. DRILL STEM TEST			
17. PLUG BACK			
18. SQUEEZE CEMENT			
19. FISHING			
20. DIR. WORK			
21.			
22.			
23.			
COMPLETION: A. PERF'R'T'N			
B. TBG TRIPS			
C. TREATING			
D. SWABBING			
E. TESTING			
F. ADDIT'N'L			
G.			
TOTALS		8	

DAY WORK TIME SUMMARY (OFFICE USE ONLY)

HRS. W/CONTR. D.P.	
HRS. W/OPR. D.P.	
HRS. WO/D.P.	
HRS. STANDBY	
TOTAL DAY WORK	
NO. OF DAYS FROM SPUD	
CUMULATIVE ROTATING HRS.	
TOTAL MUD COST	

MORNING TOUR

DRILLING ASSEMBLY (At end of tour)

NO.			
	BIT		FT.
	STB RMR	OD	FT.
	D.C. ID	OD	FT.
	STB RMR	OD	FT.
	D.C. ID	OD	FT.
	STB RMR	OD	FT.
	STANDS DP		FT.
	SINGLES DP		FT.
	KELLY DOWN		FT.
	TOTAL		FT.
WT. OF STRING			LBS.

BIT RECORD

BIT NO.	
SIZE	
MFG.	
TYPE	
JETS 1/32"	
SER. NO.	
DEPTH OUT	
DEPTH IN	
TOTAL FTG.	
TOTAL HRS. RUN	
COND. 1/8's T/B/ GAGE	
GPM/ PD–PSI	

MUD RECORD

TIME	
WEIGHT	
PRESSURE GRADIENT	
VISC.–SEC.	
PV/YP	/
GELS.	/
WL –CC'S.	
pH	
SOLIDS %	

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

FOOTAGE

FROM	TO	DR–D RM–R CORE–C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN

DEVIATION RECORD

DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
12:00	8:00	8		RIG TO SPUD

DRILLER G. Martson

DAY TOUR

DRILLING ASSEMBLY (At end of tour)

NO.			
	BIT		FT.
	STB RMR	OD	FT.
	D.C. ID	OD	FT.
	STB RMR	OD	FT.
	D.C. ID	OD	FT.
	STB RMR	OD	FT.
	STANDS DP		FT.
	SINGLES DP		FT.
	KELLY DOWN		FT.
	TOTAL		FT.
WT. OF STRING			LBS.

BIT RECORD

BIT NO.	
SIZE	
MFG.	
TYPE	
JET 1/32"	
SER. NO.	
DEPTH OUT	
DEPTH IN	
TOTAL FTG.	
TOTAL HRS. RUN	
COND. 1/8's T/B/ GAGE	
GPM/ PD–PSI	

MUD RECORD

TIME	
WEIGHT	
PRESSURE GRADIENT	
VISC.–SEC.	
PV/YP	/
GELS.	/
WL –CC'S.	
pH	
SOLIDS %	

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

FOOTAGE

FROM	TO	DR–D RM–R CORE–C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN

DEVIATION RECORD

DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION

TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
4:00	12:00	8		UNLOAD TRUCKS & RIG UP

DRILLER J. Kellymore

EVENING TOUR

DRILLING ASSEMBLY (At end of tour)

NO.			
	BIT		FT.
	STB RMR	OD	FT.
	D.C. ID	OD	FT.
	STB RMR	OD	FT.
	D.C. ID	OD	FT.
	STB RMR	OD	FT.
	STANDS DP		FT.
	SINGLES DP		FT.
	KELLY DOWN		FT.
	TOTAL		FT.
WT. OF STRING			LBS.

BIT RECORD

BIT NO.	1A
SIZE	12 1/4
MFG.	~~#~~ 1G
TYPE	
JETS 1/32"	
SER. NO.	R.T.
DEPTH OUT	38
DEPTH IN	38
TOTAL FTG.	38
TOTAL HRS. RUN	6
COND. 1/8's T/B/ GAGE	6 6 1
GPM/ PD–PSI	

MUD RECORD

TIME	
WEIGHT	
PRESSURE GRADIENT	
VISC.–SEC.	
PV/YP	/
GELS.	/
WL –CC'S.	
pH	
SOLIDS %	

MUD & CHEMICALS ADDED

TYPE	AMT.	TYPE	AMT.

FOOTAGE

FROM	TO	DR–D RM–R CORE–C	CORE NO.	FORMATION (SHOW CORE RECOVERY)	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	PUMP NO. LINER SIZE	PUMP NO. S.P.M.	METHOD RUN
					50	ALL	180	5	38			

DEVIATION RECORD

DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION

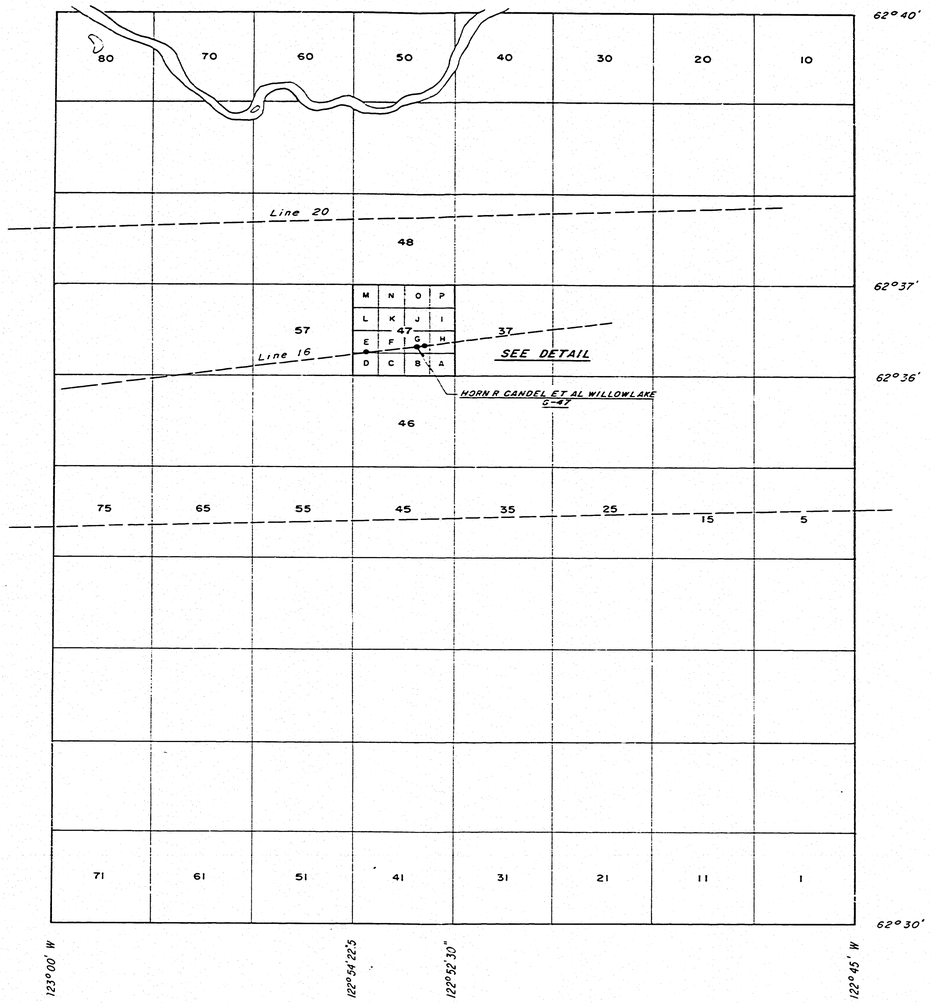
TIME LOG FROM	TO	ELAPSED TIME	CODE NO.	DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS
4:00	9:00	5		RIG TO SPUD
9:00	12:00	3		SPUD & DRILL 12 1/4

DRILLER

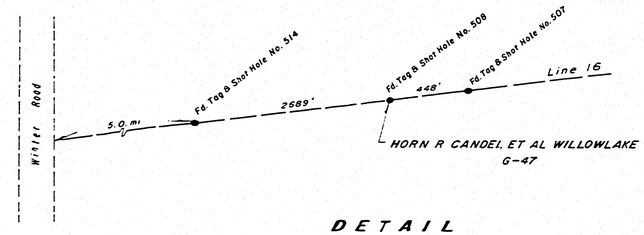
FORM 3T5 APPROVED APPROVED

A.A.O.D.C.--A.P.I. OFFICIAL DAILY DRILLING REPORT FORM

PETROLIA OILWELL DRILLING LTD.



NOTE: Relative to information supplied by client.



DETAIL

NOT TO SCALE

Note: Well is to be drilled at Shot Point No. 508, Line 16.

HORN RIVER RESOURCES LTD.

PLAN

SHOWING SHOT POINT LOCATION OF

HORN R CANDEL ET AL WILLOWLAKE G-47

CAMSELL BEND AREA

NORTHWEST TERRITORIES

Scale: 1" = 1 mile

GRID AREA: 62° 40' N., 122° 45' W.

Certified correct, February 1st, 1971.

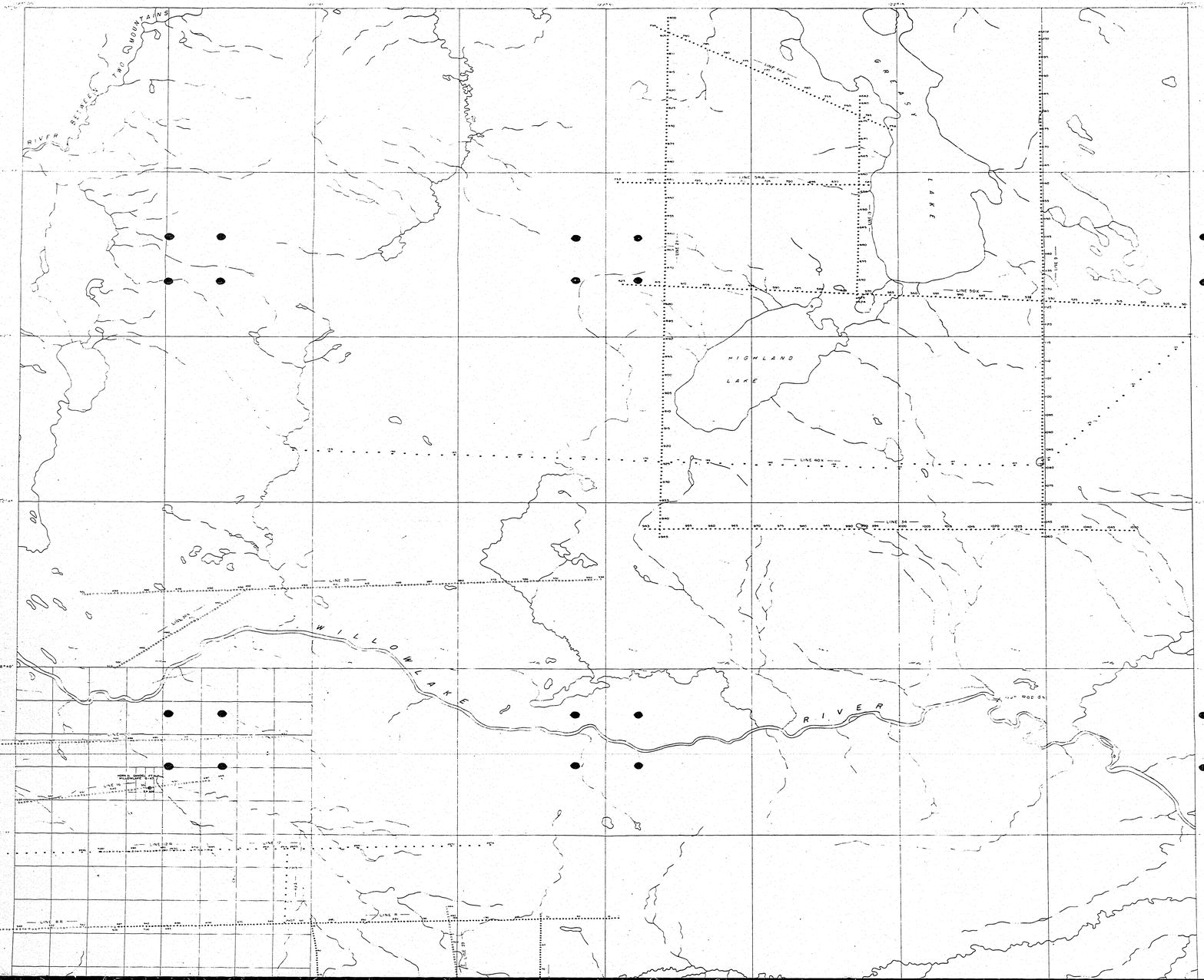
Dominion Land Surveyor

SIGNATURES FOR
HORN RIVER RESOURCES LTD.

CANADIAN ENGINEERING SURVEYS CO. LTD.
EDMONTON ALBERTA

JOB NO.	C-6492
DATE	FEB. 1st, 1971.
DRWG. NO.	6492-M-1

N.T.S. 95-J



NOTE:

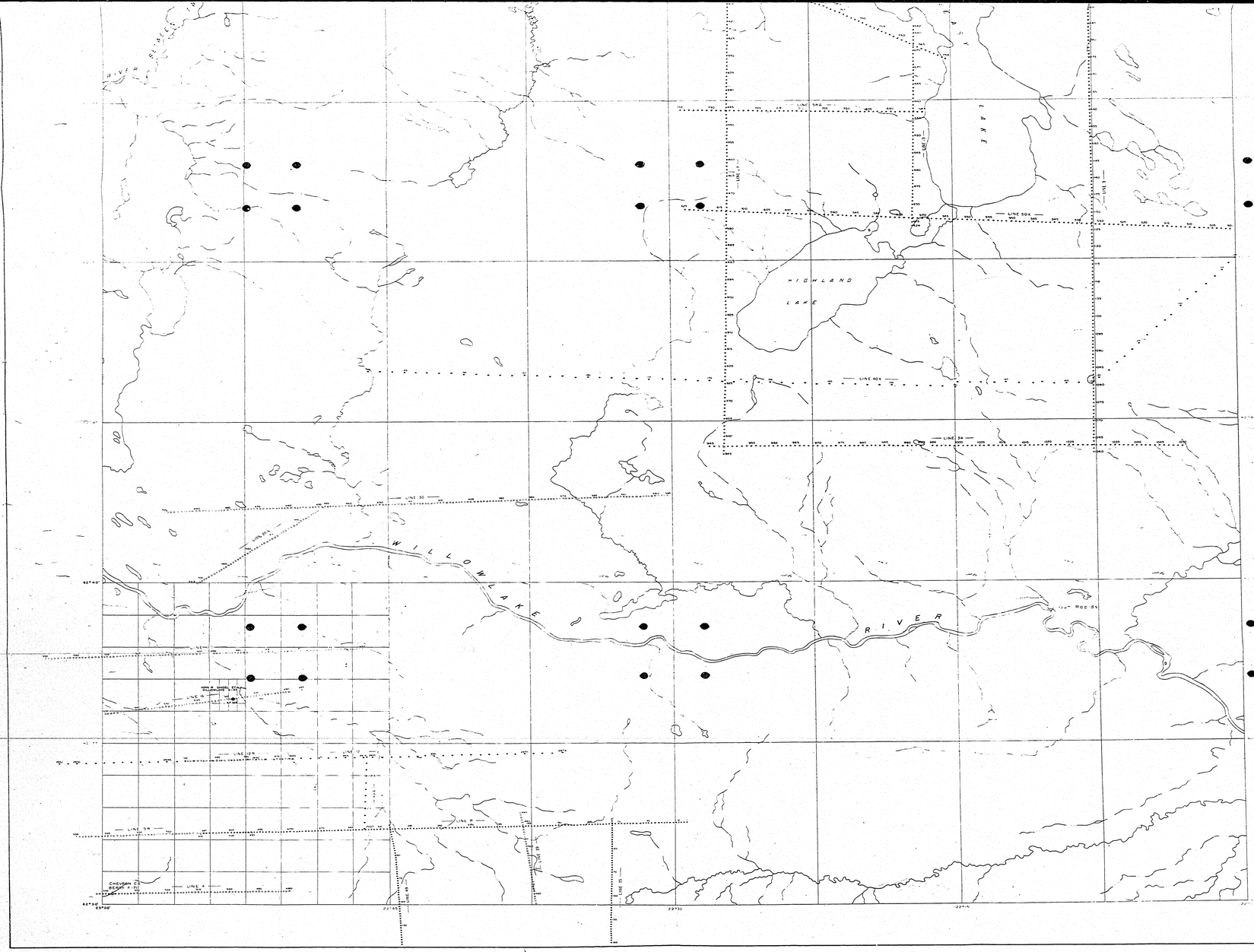
LINES 8R, 12R PLOTTED TO TIE EXISTING LINES.
BOTH LINES HAD TO BE SHIFTED 500' SOUTH TO TIE.

CANADIAN DELHI OIL LTD.
CALGARY ALBERTA

95 - J - NE

WILLOWLAKE AREA

1 OF 2



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CANADIAN DELHI OIL LTD.
CALGARY ALBERTA

95 - J - NE

WILLOWLAKE AREA

HORN R CANDEL ETAL WILLOWLAKE G-47
GHIO 62°40' 122°45'

DRAWN	DATE	CHECKED
N.F.P.	JAN 12, 1970	

SEISMIC

2 of 2