GPD NOEL ET AL HILLS WEST

M-65 AND M-65A

Drilling Authority No. 435

Date Issued 23 March 1970

WELL NAME [redacted] CPD ROSE et al HILLS West H-65

FIELD Area:

LOCATION Unit H Section 65 Grid 61-30-119-15

Latitude 61-44-48 Longitude 119-27-40

U.W.L.R. 61.74666 --- 119.46111

U.W.I. 300H656150119150

Rig Release Date:

Status

Information Release Date

CHANGE OF NAME:

DATE RECEIVED	INDEX
23/3/70	Application for a Drilling Authority.
	Well Completion Data.
	Well History Report.
	Application to Amend a Drilling Authority.
	Application to change a Well Name.
3/4/70	Application to Abandon a Well or ~~Suspend Drilling~~
	Application to Alter Condition of a Well.
	Well History Supplement.
9/6/70	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.....

LAND 53-90 (3-69)

Drilling Authority No. 433
Date Issued March 23, 1970

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
RESOURCE MANAGEMENT DIVISION

WELL COMPLETION DATA

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

Well name and number: GPD NOEL ET AL HILLS WEST M-65

Permit No. 4314   Lease No. N.A.

Northern Oil Explorers & Andex Oil Co. Ltd. (Permittee, Licensee, Lessee)   Exploratory Licence No. 1327 & 1642   1271 & 1751

Great Plains Development Company of Canada, Ltd. (Operator)   Exploratory Licence No. 1275 & 1640

Location: Unit M   Section 65   Grid 61°30'119°15'

Latitude 61°44' 48"   Longitude 119°27'40"

From Established Reference Marker: 79,248' North Lat. 61°40'N & 6,737 East Long.

Universal Well Location Reference: Lat. 61.74666°N. Long. 119.46111°W 119°30'W

	DATE	DEPTH
Spudded	Mar.26/70	0
Suspended		
Resumed Operations		
Finished Drilling	Mar.29/70	1548
Deepened		
Complete (gas/oil)		
Abandoned	Mar.31/70	1548
Rig released	Mar.31/70	1548

Pool(s)
Interval(s) open to production

Elevation: Gr. 756.13   K.B. 766
Rig No.
Drilling Contractor: Tri-City Drilling Ltd.
Contractor's Business Licence No. 675 & 787

CASING RECORD

	Casing Size (Inches)	Grade	Weight	Amount	Set at —	Sacks of Cement and Additives
1.	7	J-55	20#	250'	255'	90 sax. cement + 2% $CaCl_2$
2.						
3.						
4.						
5.						
6.						

GEOLOGICAL TOPS	ELEVATION Depths	ELEVATION Subsea
Glacial Till	0-260	
Hay River	260	+506
Horn River Shale	1140'	-374
Lonely Bay	1372'	-606

CORE RECORD

From	To	Rec.	From	To	Rec.
	No cores cut				

LOG RECORD

Run No.	Type of Log	From	To
	No logs run		

DEPT. OF INDIAN AFFAIRS & NORTHERN DEVELOPMENT OIL & MINERAL DIVISION
JUN 1 1970
RECEIVED

IAND 13-90(2) (5-67)

CEMENTING RECORD (Plug, Squeeze, etc.)

Date	From	To	Remarks
March 30/70	1410	1250	50 sax. cement + 3% $CaCl_2$ Felt @ 1235
March 31/70	300	200	135 sax. cement + 7% $CaCl_2$ Felt @ 150' 10 sax. at surface Welded on plate and left 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	Mar.27/70	Lonely Bay	1373	1403	60	60	60	133	133	66	55	639	639	Test satisfactory Rec. 60' of mud Pressures shown are field pressures

ANALYSIS

Lab. No.	Sample	From	To	Source	Remarks
C70-5879	Water		1534	Flow line	
C70-5880		1373	1403	Top of tool	

PRESENT STATUS OF WELL

Oil ____ (Interval) ____

Gas ____ (Interval) ____

Dry ____

Susp. ____

Company Great Plains Development Company of Canada, Ltd.

Signed by J.M. SCOTT

Title Production Assistant

Date June 9, 1970.

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

File No.
Drilling Authority No. 433

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: GPD HUEL et al Hills West M-65

Location: Unit M Section 65 Grid 61° 30'; 119° 15'

Latitude 61° 44' 48" Longitude 119° 27' 40"

From Established Reference Marker 29,240' North Lat. 61° 40' & 6,757' E Long. 119° 30' W

Universal Well Location Reference Lat. 61-34'06" N, Long. 19.46131"W

Permit No. 4336 Lease No. E.A.

Northern Oil Explorers Limited and Anden Oil Co. Ltd.
(Permittee, Licensee, Lessee)

Date of commencement of proposed program March 30, 1970

OIL, GAS, AND WATER ENCOUNTERED
(Depths)

Oil at
Gas at
Water at 1533' - sulphurous water flow.
Total Depth 1,540' Date of last operations March 30, 1970
Present condition of well

CASING RECORD

	Casing Size O.D. Inches	Weight	Amount	Set At	Sacks of Cement and Additives	Amount Pulled
1.	7"	20#	270	250	90 sx. + 2% $CaCl_2$	0
2.						
3.						
4.						
5.						

PROPOSED ABANDONMENT PROGRAM

Plug No.	Plug Position	Geological Formation	Number of Sacks of Cement	Remarks
1	1,410 - 1,250'	Across top to Lonely Bay	50	Felt for after 8 hrs.
2	300 - 200'	Across Surface Casing Shoe	65	Felt for after 8 hrs. Surface casing cut off 3' below ground. 5 sax cement plug plate welded on & marker installed

The following logs have been run: Nil

Other operations proposed: Rig will be skidded 100' north of original site due to poor gravel conditions and a new hole will be spudded.

Operations to be carried out by: Great Plains Develop. Contractor Licence No. 675

Address 736 - 8th Ave. S.W., Calgary 2, Alberta Address 14305 - 120th Ave., Edmonton

Responsible Agent in field: George Isian

Dated at Calgary, this 31 Day of March 19 70

Signed by [signature] Company GREAT PLAINS [illegible]

Title Drilling Superintendent Operator's Exploratory Licence No. 1275 & 1640

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 30th March 1970 and 1st April 1970.

Dated 3rd April, 19 70 [signature]
Oil Conservation Engineer

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

POOR COPY

Drilling Authority No. 431

Project No.

File No.

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
RESOURCE MANAGEMENT DIVISION
OIL AND MINERAL DIVISION

MAR 20 1970

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: GPD NOEL et al Mills West M-65

Location: Unit M Section 65 Grid 61°30', 119° 15'

Latitude 61°44'48" Longitude 119°27'40"

From Established Reference Marker 29,348' North Lat. 61°40'N., 6,737' E Long. 119°30'W

Universal Well Location Reference Lat. 61.74666° N., Long. 119.46111 W.

Elevation: Ground 756.1 K.B. 766.1 feet above sea-level.

Well is expected to produce from Lonely Bay Formation formation at a depth of about 1,300 feet. Expected total final depth 2,000

Area assigned to well

(for Oil Conservation Engineer's use only)

Permit No. 4314 Lease No. N.A. Acreage 60,622

Permittee, licensee, or lessee: Northern Oil Explorers Limited & Andes Oil Co. Ltd.

Exploratory Licence No. 1,332 & 1642 1271

Surface owned by Crown or Crown

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

Petroleum and natural gas rights owned by Crown

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

	Casing Size O.D. (Inches)	Weight (Lb./Ft.)	Grade	New or Used	Estimated Depth	Sacks of Cement
1.	7"	20#	J-55	New	200	80 sacks
2.						
3.						
4.						
5.						

Expected water, gas, and oil horizons and type of control equipment: Surface casing will control gas and water in the glacial drift, hydrostatic pressure of mud column and 6" x 900 series BOP's to control all formations below surface casing.

Well will be drilled with Rotary Rig No. 3 by Tri-City Drilling Ltd. (Drilling Contractor or company)
14305 - 120th Avenue,
Edmonton, Alberta.

Responsible agent of applicant:— Contractor's business Licence No. 675

At well: G. M. Hunter At registered office: N. H. Lehto,

Address: 736 - 8th Avenue S.W., Calgary 2, Alberta Address: 736 - 8th Avenue S.W., Calgary 2, Alta.

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

Dated at Calgary, this 20 day of March 19 70

Signed by [illegible] Company GREAT PLAINS DEVELOPMENT COMPANY OF CANADA LTD.

Title: Drilling Superintendent Operator's Licence No. 1895 & 1640

(For Resource Management Division use only)

APPROVED

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

1. The Company will submit to this office, on Tuesday of each week, the latest reports received by radio on the progress of the well.
2. During well drilling and testing operations, every effort shall be made to ensure

Dated 23rd March 19 70 Please see over page
Oil Conservation Engineer

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

IAND 53-04-1 (3-67)

UNIQUE WELL IDENTIFIER - 300M656130119150

tant 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.

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

4. Production casing progress is to be approved by the Oil Conservation Engineer before the casing is run.

5. This Drilling Authority is being issued contingent upon registration by Andex Oil Co. Ltd. with the Registrar of Companies in the Northwest Territories, and the receipt in this office of a letter from Andex Oil Co. Ltd. appointing Great Plains Development Company of Canada, Ltd. as Operator of Permit 4314.

B.H.J. Thomas

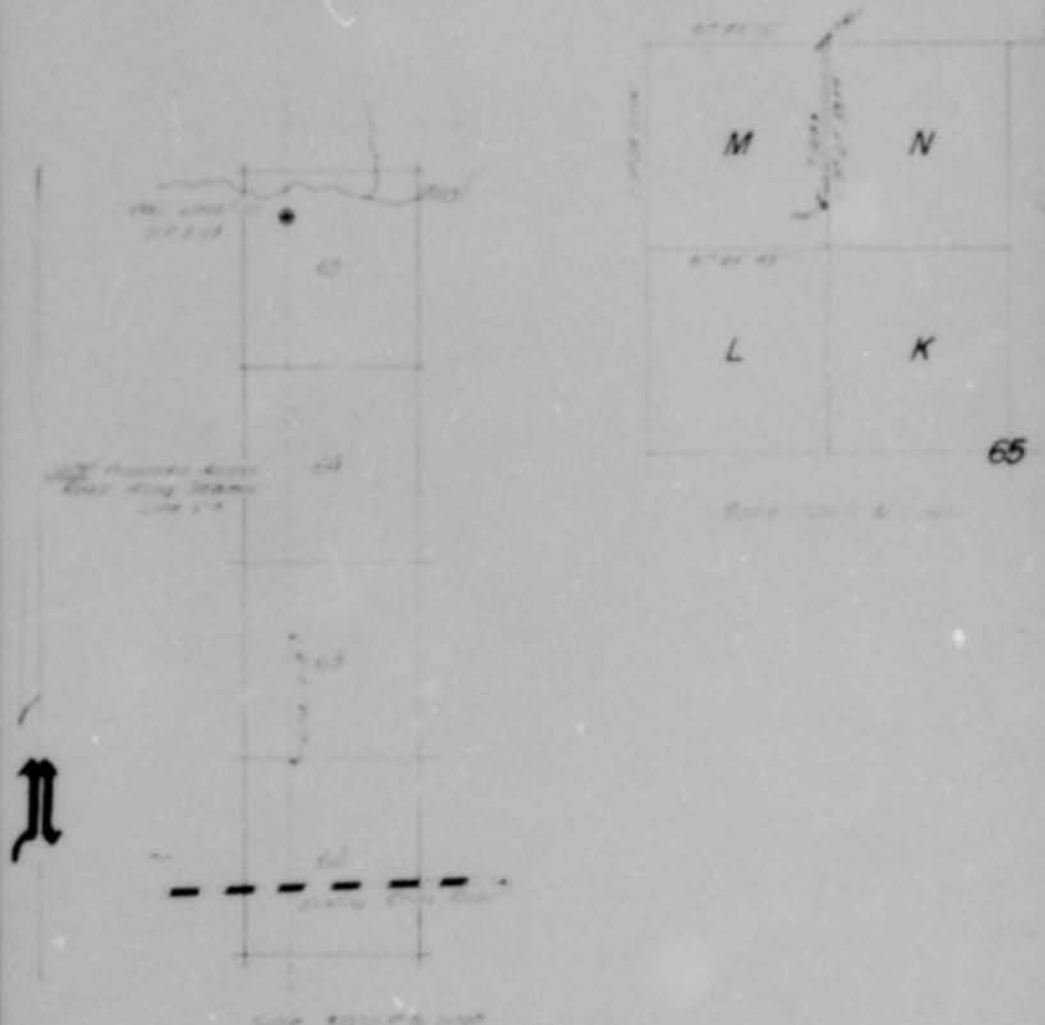
B.H.J. Thomas, Oil Conservation Engineer

GPD NOEL ET AL MILLS W

● Unit M Section 65 Grid Area 61°50'-119°15'

Latitude 61°44'48" Longitude 119°27'40"

NORTHWEST TERRITORIES



GREAT PLAINS DEVELOPMENT COMPANY OF CANADA, LTD

Prepared by
MIDWEST SURVEYS CO. LTD.

C-144 70

Drilling Authority No. 434

Date Issued 31 March 1970

WELL NAME GPD NOEL et al Hills West B-65-A

FIELD Area

LOCATION Unit K Section 65 Grid 61-50-119-15

Latitude 61-44-50 Longitude 119-27-40

U.W.L.R. 61.74722 ---- 119.46111

U.W.I. 3028061501191150

Rig Release Date

Status

Information Release Date

CHANGE OF NAME

DATE RECEIVED	INDEX
31-3-70	Application for a Drilling Authority.
	Well Completion Data.
	Well History Report.
	Application to Amend a Drilling Authority.
	Application to change a Well Name.
10-4-70	Application to Abandon a Well ~~or Suspend Drilling~~.
	Application to Alter Condition of a Well.
	Well History Supplement.
9/6/70	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

LAND 5240 (3-69)

Drilling Authority No. 434
Date Issued March 23, 1970

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
RESOURCE MANAGEMENT DIVISION

WELL COMPLETION DATA

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

Well name and number: GPD NOEL ET AL HILLS WEST H-63-A

Permit No. 4314 Lease No. N.A.

Northern Oil Explorers & Andes Oil Co. Ltd. (Permittee, Licensee, Lessee) Exploratory Licence No. 1322 & 1042 1271 & 1[illegible]

Great Plains Development Company of Canada, Ltd. (Operator) Exploratory Licence No. 1273 & 1040

Location: Unit H Section 63 Grid 61°50' 119°15'

Latitude 61°46' 50" Longitude 119°27' 40"

From Established Reference Marker 29,448' North Lat. 61°40' 6,737' East Long.

Universal Well Location Reference Lat. 61.78222°N. Long. 119.46111°W 119°30'

	DATE	DEPTH
Spudded	March 31/70	0
Suspended		
Resumed Operations		
Finished Drilling	Apr. 6/70	1850'
Deepened		
Complete (gas/oil)		
Abandoned	Apr. 8/70	1850'
Rig released	Apr. 8/70	1850'

Pool(s)

Interval(s) open to production

Elevation: Gr. 756.3' K.B. 764

Rig No. 3

Drilling Contractor Tri-City Drilling

Contractor's Business Licence No. 675 & 787

CASING RECORD

	Casing Size (Inches)	Grade	Weight	Amount	Set at -	Sacks of Cement and Additives
1.	7"	J-55	20#	373.75	370'	170 sax. cement + 2% $CaCl_2$
2.						
3.						
4.						
5.						
6.						

GEOLOGICAL TOPS	ELEVATION Depths	Subsea
Glacial Till	0-280	
Hay River	260	+504
Horn River Shale	1140	-376
Lonely Bay	1379	-615

CORE RECORD

From	To	Rec.	From	To	Rec.
	No cores cut				

LOG RECORD

Run No.	Type of Log	From	To
	BHC SGR-C	1845	372
	S.N.P.	1846	371
	F.D.C.	1846	372
	D.I.L.	1846	371
	Lithology Plot	1846	1300

DEPT. OF INDIAN AFFAIRS & NORTHERN DEVELOPMENT OIL & MINERAL DIVISION
JUN 1 - 1970
[illegible] RESOURCE ENGINEER Northwest Territories & Yukon Territory

[illegible]

CEMENTING RECORD (Plug, Squeeze, etc.)

Date	From	To	Remarks
April 8/70	1850	1750	30 sacks cement
April 8/70	1470	1370	40 sacks cement + 2% CaCl2 Felt at 1367'
April 8/70	420	320	50 sacks cement + 2% CaCl2 Felt at 300' 5 sack top plug Welded on steel plate and installed 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.P.H.P.	F.S.I.P.H.P.	I.F.P.H.P.	F.F.P.H.P.	I.H.P.	F.H.P.	REMARKS
1	Apr7/70	Lonely Bay	1480	1610	-	60						722	722	Misrun Packer Failure
2	Apr 7/70	Lonely Bay	1470	1610	60	60	60	648	621	94	148	769	742	Recovery 230; drilling mud Test unsatisfactory Pressures are field figures

ANALYSIS

Lab. No.	Sample	From	To	Source	Remarks
C-70-5881-3	Water	1470	1610	Top of tool	

PRESENT STATUS OF WELL

Oil (Interval)

Gas (Interval)

Dry

Susp.

Company: Great Plains Development Company of Canada, Ltd.

Signed by: J. M. SCOTT

Title: Production Assistant

Date: June 9, 1970

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

File No.
Drilling Authority No. 434

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 GPD BORL et al Mills West M65A

Location Unit H Section 65 Grid 61°50'119°15'

Latitude 61°44'50" Longitude 119°27'40"

From Established Reference Marker 29,448'North Lat. 61°40'6.757"East Long.

Universal Well Location Reference Lat. 61.74722° N. Long. 119.46111°W 119° 30'

Permit No. 4314 Lease No. N.A.

Northern Oil Explorers Ltd. and Andex Oil Co. Ltd.
(Permittee, Licensee, Lessee)

Date of commencement of proposed program

OIL, GAS AND WATER ENCOUNTERED
(Depths)

Oil at Nil
Gas at Nil
Water at Nil
Total Depth 1850 Date of last operations April 7, 1970
Present condition of well Abandoned

CASING RECORD

	Casing Size (O.D. Inches)	Weight	Amount	Set At	Sacks of Cement and Additives	Amount Pulled
1	7"	20#	375.75"	370'	170 sacks + 2% $CaCl_2$	0
2						
3						
4						
5						

PROPOSED ABANDONMENT PROGRAM

Plug No.	Plug Position	Geological Formation	Number of Sacks of Cement	Remarks
1	1850 - 1750	Chinchaga	30	No feel 20% excess
2	1470 - 1370	Across top to Lonely Bay	30	Feel after 2 hours
3	420 - 320	Across surface casing shoe	50	Surface casing cut off, 3' below ground level 5 sacks cement plug plate welded on and marker installed.

The following logs have been run D.I.L., BHC F.D.L., S.N.F.L., BHC S.G.R.L., LITHOLOG PLOT
Other operations proposed

Operations to be carried out by Great Plains Develop. Contractor Licence No. 675
Address 736 - 8th Avenue S. W., Calgary 2, Alta. Address 14305 - 120th Ave., Edmonton.
Responsible Agent in field George Isfan
Dated at Calgary , this 7 Day of April 19 70
Signed by A.G.Lindholm Company Great Plains Development Co. of Canada, Ltd.
Title Operator's Exploratory Licence No. 1275 & 1640

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 8th April 1970.

Dated 10th April , 19 70

Oil Conservation Engineer

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

POOR COPY

Drilling Authority No. 434
Project No.
File No.

CANADA

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
RESOURCE MANAGEMENT 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: GTE NOEL et al Wrigley West N-63A

Location: Unit N Section 63 Grid 61°50'; 119°15'

Latitude 61° 44' 30" Longitude 119° 27' 40"

From Established Reference Marker 29,448' North Lat. 61° 40' 6,757' East Long. 119° 30'

Universal Well Location Reference Lat. 61.74722° N. Long.119.46111°W.

Elevation: Ground 757 K.B. 767 feet above sea-level.

Well is expected to produce from Lonely Bay Formation formation at a depth of about 1,300 feet Expected total final depth 2,000

Area assigned to well

(for Oil Conservation Engineer's use only)

Permit No. 4314 Lease No. N.A. Acreage 60,622

Permittee, licensee, or lessee Northern Oil Explorers Limited & Anden Oil Co. Ltd.

Exploratory Licence No. 1,322 & 1642

Surface owned by Crown or Crown

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

Petroleum and natural gas rights owned by Crown

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

	Casing Size O.D. (Inches)	Weight (Lb./Ft.)	Grade	New or Used	Estimated Depth	Sacks of Cement
1.	7"	20#	J-55	New	300	100 sax
2.						
3.						
4.						
5.						

Expected water, gas, and oil horizons and type of control equipment: surface casing will control gas and water in the glacial drift; hydrostatic pressure of mud column and 6" x 900 series BOP's to control all formations below surface casing.

Well will be drilled with Rotary Rig No. 3 by Tri-City Drilling Ltd. (Drilling Contractor or company)
14305 - 120th Avenue,
EDMONTON, Alberta.

Responsible agent of applicant: Contractor's business Licence No. 675

At well: George Isaac At registered office: D. L. Gingerich

Address Address: 736 - 8th Avenue S.W., Calgary 2

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

Dated at Calgary, this 30 day of March 19 70

Signed by Company: Great Plains Development Company of Canada, Ltd.

Title: Drilling Superintendent Operator's Licence No. 1275 & 1640

(For Resource Management Division use only)

APPROVED

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

1. The Company will submit to this office, on Tuesday of each week, the latest reports received by radio on the progress of the well.
2. During well drilling and testing operations, every effort shall be made to ensure

Dated 31st March 19 70 Please turn 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 (9-67)

UNIQUE WELL IDENTIFIER - 300N636140119150

3

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.

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

4. This Drilling Authority is issued subject to Andex Oil Co. Ltd. being in receipt of a 1970-71 Oil and Gas Exploratory Licence.

5. Any further strings of casing are to receive the approval of the Oil Conservation Engineer before being run.

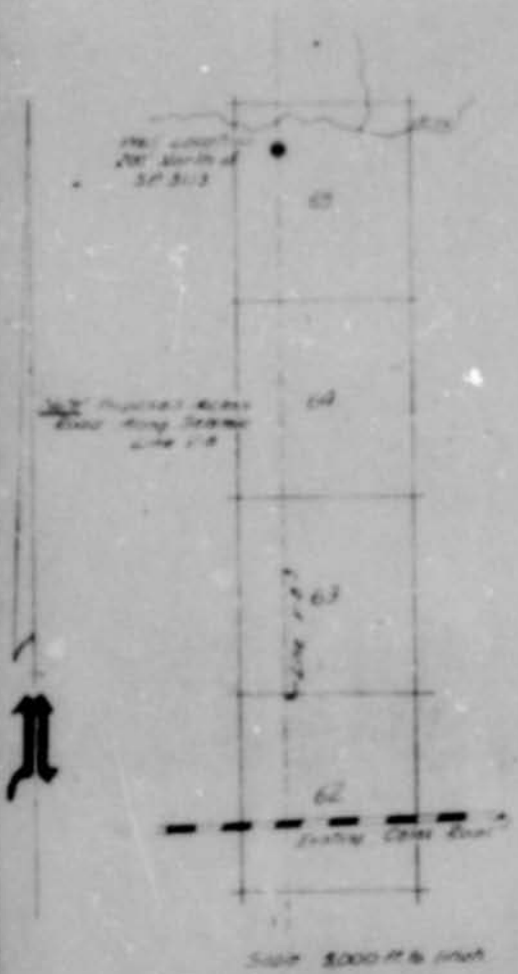
B.H.J. Thoms, Oil Conservation Engineer

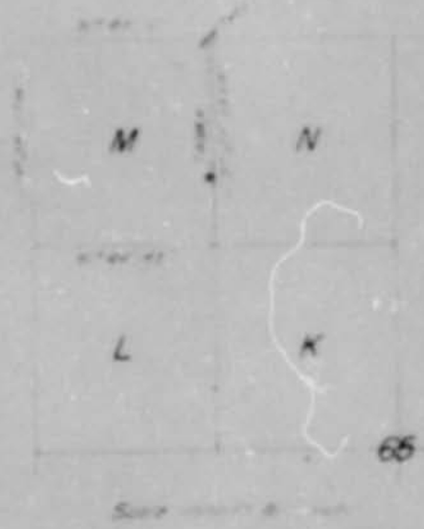
GPD NOEL ET AL "A" MILLS W

● Unit M Section 65 Grid Area 61°50' - 119°15'

Latitude 61°44'50" Longitude 119°27'40"

NORTHWEST TERRITORIES





Elevation 757 Ground
Taken from Seismic Records

GREAT PLAINS DEVELOPMENT COMPANY
OF CANADA, LTD.

P. Eng.

Date March 20, 1970 Revised March 30, 1970

Prepared by
MIDWEST SURVEYS CO. LTD.

C-144-70

76-11-4-14

DRILLING AND ABANDONMENT REPORT
OF
GPD NOEL ET AL MILLS WEST M-65 AND M65-A
IN
UNIT M, SEC. 65, NORTHWEST TERRITORIES

DRILLING AND ABANDONMENT REPORT

OF

GPD NOEL ET AL MILLS WEST M-65 and M65-A

IN

Unit M, Sec. 65, Northwest Territories

BY

J. M. SCOTT

Distribution

Company	No. of copies
Great Plains Development Company of Canada, Ltd.	2
Noel	1
Noranda Mines Ltd.	1
Barber Oil Corporation	1
Anderson Oil Co. Ltd.	2
Gulf Oil Canada Ltd.	2
Shell Canada Limited, Edmonton	2
Dept. of Indian Affairs & Northern Development	3

Phone 262-3363

OILMEN'S WELLSITE SERVICES LTD.

308 - 8th AVENUE SOUTH WEST - CALGARY 2, ALBERTA

GPD NOEL et al MILLS W. M-65

Unit M, Sec. 65

Northwest Territories

D & A

This report prepared and
submitted by:
Oilmen's Wellsite Services Ltd.

per: George Istan

PREFACE

Drilling Authority No. 433 was issued to Great Plains Development Company of Canada Ltd. as authorization to drill GPD Noel et al Mills West M-65. The operator engaged Tri-City Drilling Ltd. on a turnkey basis to drill the above well with Rotary Rig No. 3.

The well was spudded and 9 7/8" hole was drilled to 255' K.B. This hole was cased with 7" casing, landed at 250' K.B. and cemented to surface. The casing shoe was drilled out and 6 1/4" hole was drilled using clean water to 1403' K.B. In the process of drilling this hole it was noted that approximately 5 feet of gravel was encountered below the surface casing shoe. In addition, the cement around this casing failed to "set-up" properly and the entire casing string dropped approximately 3 feet in the hole. A small sweet gas flow and fresh water flow was occurring at this stage in the operations. The casing and B.O.P. stack was subsequently picked up, and the hole displaced with a 40-50 sec. per quart viscosity mud. The hole was conditioned and D.S.T. #1 was run from 1373-1403 to determine the source of the gas flow. The test indicated that the Lonely Bay Formation (top @ 1372' K.B.) was not the source of the gas (later evidence indicates the Pleistocene gravels overlying the Hay River shale to be the source of the gas and fresh water). Furthermore, gravel from surface hole sloughed into

the hole and the packer was stuck in the hole at approximately 700' while hoisting. The packer was recovered by circulating through the pump-out sub which was located 60' above the packer.

The mud and hole was again conditioned and 6 1/4" hole was drilled from 1403' to 1533' at which depth some very coarse, cavernous porosity was encountered and after drilling 2 feet to 1535' K. B. a complete loss of circulation occurred. The drilling string was immediately hoisted until the bit was inside the surface casing. A new supply of drilling mud with approximately 25 sacks of sawdust mixed for lost circulation purpose was prepared on surface. While this operation was in progress, some material (gravel) sloughed into the hole causing several bridges to form which permitted circulation of the hole above them. It was found that the hole had plugged off at approximately 1525-30' K. B. At this point the hole was completely displaced to mud conditioned with lost circulation material. While displacing the hole from approximately 1525', a black, sulphurous salt water was noted and a sample obtained. (Field tests indicated this water has a salinity of 30,100 $\pm$ p.p.m. NaCl.). The bridge on bottom was cleaned out whereupon a complete loss of circulation occurred again. Additional 6 1/4" hole was drilled to a final total depth of 1548' K. B. The interval from 1535 to 1548' also exhibited very coarse, cavernous porosity with some "vugs" appearing to be as much as 1/2 to 1 foot in diameter. Gravels caving into the hole

from below and from behind surface casing made it necessary to hoist the drilling string at this point; (the drilling string was again stuck while hoisting, but worked free).

After hoisting the bit to surface, the decision was made to abandon this well and drill an offset well M-65-A, located 102' north of M-65.

The well history reports give all pertinent data relative to both wells.

SUMMARY OF PERTINENT WELL DATA

PERMITTEE: Northern Oil Explorers & Andex Oil Co.

NAME OF OPERATOR: Great Plains Development Company of Canada, Ltd.

ADDRESS: 736 8th Avenue S. W., Calgary 2, Alberta.

WELL NAME: GPD HOEL ET AL PEACE WEST M-65

LICENCE NO: 433 March 23, 1970

LOCATION: Unit M, Section 65, Grid 61°50' 119°15'

CO-ORDINATES: 61°44' 40" N. Lat.
119°27' 40" W.Long.

UNIVERSAL WELL LOCATION REF: Lat. 61.24666°N. 119.46111°W. Long.

ELEVATION: Ground: 756.1
Kelly Bushing 766
Kelly Bushing to Casing Flange: 9.0

TECHNICAL SUPERVISION: George Iofan, P. Geol.

DRILLING CONTRACTOR: Name: Tri City Drilling Ltd.
Rig No.: 3 Failing 2500
Mast: GD Fog 6" x 10"
Pump: 10" 600 series Shaffer & Hydrill
B.O.P.:

STATUS: Dry and Abandoned

PRODUCING ZONE:

DATE SPUDDED: 2:00 A.M., March 24, 1970

TOTAL DEPTH: Driller: 1549 Logs:

PLUGGED BACK DEPTH: Surface

DATE ABANDONED: 6:30 P.M., March 31, 1970

DATE RIG RELEASED: 6:30 P.M., March 31, 1970

NO. OF RIG DAYS: 8

PERMIT NUMBER 4314

WELL CLASSIFICATION Wildcat

UNIQUE WELL IDENTIFIER [illegible]656150119150

Summary of Pertinent Well Data - Continued CPD PIKE ET AL MILLS WEST #65

DRILLING DATA:

Hole Size Inches	Depth From Feet	Depth To Feet
9-7/8	0	255
6-1/4	255	1568

CASING:

(a) Surface

Ran 6 jts. 350.0' of 7" 20# J-55 new csg. landed at 255' K. B. Cemented with 90 sacks cement + 2% CaCl. Plug down at 7:15 P.M., March 26, 1970. Approx. 4 bbls. cement returns

(b) Intermediate

(c) Production

TUBING:

MUD TYPE: Gel chemical water

Summary of Pertinent Well Data - Continued GPD NOEL ET AL MILLS WEST 3-M-85

GEOLOGICAL MARKERS:

Formation	Samples Depth Feet	Samples Subsea Elevation Feet	Logs Depth Feet	Logs Subsea Elevation Feet
Bay River Shale	255	(+ 349)		
Lonely Bay	1370	(- 606)		
Belgrade	1510	(-746)		

CORE SUMMARY:

	Interval Feet	Recovered Feet	Formation
No. 1	911		
No 2			

Summary of Pertinent Well Data - Continued GPD NOEL ET AL MILLS WEST M-63 4.

No. 3 _____ _____ _____

No. 4 _____ _____ _____

No. 5 _____ _____ _____

No. 6 _____ _____ _____

FORMATION TEST SUMMARY: D.S.T. #4 1373-1403 (Bottom Hole) F.P. 7, I.S.I. 60, F.O. 60 F.S.I. 60, Good initial puff, weak continuous air blow Recovered 60' drilling mud (Packer stuck in hole on trip out)

ISIP - 130 FSIP - 444

IFP - 64 FFP - 83

IHP - 660 FHP - 656

LOGS:

Company	Name	Depth Feet	Scale Inches
_____	Induction Electrical	_____	_____
_____	Gamma Ray Neutron	_____	_____
_____	Sonic Gamma Ray	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

PLUGS:

Number	Cement	Feet
1. 1410 - 1250	50 sacks + 3% CaCl2	1275'
2. 360 - 200	135 sacks + 2% CaCl2	150'
Surface	10 sacks	

Remarks:

Casing cut off 3' below ground level, riser 4' above ground level welded on plate on casing after 10 sacks placed in casing. Well names inscribed on surface.

Drilling

DAILY DRILLING RECORD

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA, LTD.

DRILLING HISTORY

GPD NOEL ET AL MILLS WEST M-65

Date 1970	Depth 8:00 AM	Hours Drilled	Mud Wt.	Mud Vis.	Mud W.L.	Mud pH	Survey Depth	Survey Dev.	Remarks
Mar. 24	126	6-3/4					126	3/4	Spudded 7:00 A.M. Mar. 24, 1970 Ran 7" surface casing to 150 K. B.
25	355	4	9.8	65			315 636	3/4 1/2	
26	1402	15	9.4	78			1156	1	Drilling 6¼ hole Mud up to kill gas blow
27	1402	0	9.2	32					Waiting on tester Load out tester at 8:00 A.M.
28	1402	0	9.2	37					
29	1480	9-1/4	9.1	40					Drilling 6¼" hole
30	1548	7-3/4	9.3	42					Lost circulation @ 1533' mix mud
31	1548	-	8.5	38					Ran Plug #1 Rigged to run Plug #2 Ran Plug #2, Rig Released @ 6:30 P.M., March 31, 1970
Apr. 1	1548								Rig moved to M-65A

DAILY MUD RECORD

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA LTD.

DRILLING MUD RECORD

WELL CPD NOEL ET AL MILLS WEST M-65 AREA Mills Lake, N.W.T.

MUD COMPANY IMC SERVICE ENGINEER Don Sailer

Date 1970	Depth 8:00 AM	Formation	Additives in lbs. A	B	C	D	E	F	G	H	I	J
Mar. 25	255	Surface	800	100	50							
26	1002	Hay River				100						
27	1402		2000									
29	1480	Lone Ty Bay	3800	50								
30	1548	Lone Ty Bay	8000	200	50		25 sacks					
31	1548	Lone Ty Bay	5700	150								
SUB-TOTAL												
TOTAL												

A Gel D Bicarb G J

B Caustic E Sawdust H

C Lime F Soda Ash I

GEOLOGY

OILMEN'S WELLSITE SERVICES LTD.

SAMPLE RECORD

Well Name GPD NOEL et al MILLS W. M-65 K.B. 766

DEPTH From	DEPTH To	DESCRIPTION
0	180	Glacial Till, consisting of clay, silt, sand and gravel with inter-mixed small boulders, varies in color from yellow to grey.
180	260	Gravel, grades from coarse sand to coarse gravels up to 3 inches in diameter; some poorly sorted "pea gravel" in upper portions of interval with coarse gravel at base of interval.
		HAY RIVER 260' (+506)
260	730	Shale, dark grey to black, fissile to hard, massive, blocky; slightly calcareous with scattered inclusions of hard, silty limestone and limy shale.
730	850	Shale, grey to greenish grey in large part; generally hard, massive, blocky, micromicaceous, calcareous to very calcareous and grading in part to shaly limestone; trace silty and pyritic.
850	1140	Shale, 50%, light greenish grey to dark grey, hard, massive, brittle, blocky to very slightly fissile in parts, micromicaceous, calcareous grading to limy with minor amounts fragmental lime-stone inclusions; trace pyrite. Shale 50%, black, slightly fissile to hard, massive, blocky, micro-micaceous, slightly bituminous and carbonaceous; slightly calcareous and trace pyritic.
		HORN RIVER SHALE 1140' (-374)
1140	1372	Shale 100%, black to brownish black in parts; fissile to hard blocky, slightly micromicaceous, very slightly calcareous in parts; very carbonaceous and bituminous giving Shale a very dark black coal-like appearance; scattered inclusions pyrite grains and crystals.

OILMEN'S WELLSITE SERVICES LTD.

SAMPLE RECORD

Well Name: GPD NOEL et al MILLS W. M-65 KB 766

DEPTH From	DEPTH To	DESCRIPTION
		LONELY BAY 1372 (-606)
1372	1500	Limestone, 100%, buff to medium brown, crypto to microcrystalline, fragmental and fossiliferous in large part; very slightly bituminous and argillaceous in parts; generally hard, massive bedded, dense.
1500	1510	Limestone 50% dark brown, microcrystalline, very fragmental, fossiliferous dolomitic and argillaceous in part; dense. Dolomite 50%, medium to dark brown, microcrystalline to granular in part; generally an incompletely dolomitized bioclastic limestone; argillaceous in part; trace to poor leached microvuggy porosity; no oil staining.
1510	1520	Dolomite, medium to dark brown, microcrystalline; fragmental, mainly bioclastic with a microcrystalline matrix; abundant fossil fragments that are generally not recognizable (partly due to dolomitization); trace pyrobitumen, argillaceous to very argillaceous in parts, appears to be a dolomitized biohermal reef; porosity mainly poor to fair, leached microvuggy, no oil staining or fluorescence.
1520	1548	No samples - Lost circulation @ 1533' with consequent loss of 1530 sample. Drilled from 1533 to 1535' - no returns; pulled up into surface casing with bit and mixed mud with lost circulation material; hole bridged off on bottom - ran back in to approximately 1525' and circulated hole; (recovered sample of salt water apparently from bottom of hole); drilled out bridge on bottom; lost circulation again - drilled blind from 1535 to 1548' K.B. with no returns to surface - ~~Hoisted bit out of hole~~ due to problems with sloughing surface hole gravels; final total depth 1548' K.B.

BIT

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA LTD.

BIT RECORD

Well CPD MOFL ET AL MILLS WEST H-65 Field Mills Lake, N. W. T.

Bit No.	Depth From	Depth To	Size	Make and Type	Footage	Hours Run	Remarks
1A	0	255	9-7/8	#23431 IBV 09C3	755	8-1/2	Rerun
1	255	1402	6-1/4	#16505 IBV 09C 3	1147	15	
2	1402	1509	6-1/4	#21667 IBV 09V	107	13	
3	1509	1548	6-1/4	IBV 09V #19979	39	1-1/4	

DRILL STEM TEST REPORT

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA LTD. **P-8**

DRILL STEM TEST REPORT

Well: GPD TOEL ET AL HILLS WEST N-45 Test No.: 1 Date: March 27, 1970

Testing Company: Drill Stem Testers Operator: A. Kaluma

Formation Tested: Lonely Bay Carbonate Depth of Well: 1603'

Interval Tested from: 1371 to: 1603 Hole Size: 6-1/4" Rat Hole Size:

Drill Pipe Size: 3-1/2 No. & Size Drill Collars Run: 10" 6-3/4

Type of Mud: Gel - water Weight: 9.2 Viscosity: 37 Water Loss:

Type of Test Run: Bottom hole No. & Size Packer Rubbers: 5½

Ch. Size Surface: Bottom Hole: 3/4 Safety Joint: X Jars: X P.O. Sub: X

Time Tester Started in Hole: 3:15 p.m. On Bottom: 6:30 p.m.

When tool opened did mud level drop: No

Initial Shut In Time: [illegible] min. Final Shut In Time: 60 min. Valve Open Time: 60 min.

Packer Set with: 25,000 # Pulled Loose With: 15,000 # Time Tester Out of Hole: 8:00 A.M., March 28 1970

Blow Description: Good initial puff, Good air blow on pre flow. Weak initial puff continuous weak air blow through valve open time. No gas to surface

Recovered: 60' drlg. mud *(below P.O. sub) feet: ___ stands

Recovery Description: 60 * feet of drlg. mud

___ feet of ___ feet of ___

Salinity Test: 13,470 ppm NaCl

Samples Sent to: Chem & Geol. Labs By: G. Isfan

GAS FLOW MEASUREMENTS

Method of Measurement: No gas to surface

Time	Reading (inches)	Mcf/Day

Field Interpretation		
Pressures	Top Chart	Bottom Chart
I.H.P.	639	
F.H.P.	639	
I.F.P.	66	
F.F.P.	55	
I.S.I.P.	133	
F.S.I.P.	133	
B.H. Temp.	98°	

Gas Sample Sent To:

Do you consider test satisfactory: Yes

Remarks: *Packer stuck @ 200' K. B., while tripping out of hole, opened pump out sub to circulate hole: packer came free, course gravel falling in hole from surface hole (pump out sub located 60' above tool)

Note: Tool plugged with sand and gravel upon reaching surface.

Operator's Representative: G. Isfan

DRILL STEM TESTING & CORING LTD.

EDMONTON PHONE - [illegible] CALGARY PHONE [illegible]

P.O. BOX [illegible] EDMONTON, ALBERTA

TEST NUMBER 1

Date: MARCH 27, 1970.

Customer: GREAT PLAINS DEVELOPMENT COMPANY OF CANADA LTD., 736 - 8th AVENUE S.W., CALGARY 2, ALBERTA.

Well Name: [illegible] HILLS WEST [illegible]

Location: 61 44'40" N.L. 119 27'40" W.L.

Area: HILLS LK WEST N.W.T.

Formation: ---

Est. Pay Thick: ---

Ticket No.: D-1736

Purchase Order No.: ---

Interval: 1373' TO 1403'

Test Duration: 180 MINUTES

Initial Hydrostatic: 662

Final Hydrostatic: 656

PRE- 57

Initial Flowing: 81

Final Flowing: 93 after 60 mins.

Initial Shut-In: 141 after 60 mins.

Final Shut-In: 164 after 60 mins.

Blow: WEAK

Recovery: 60'

Mud Type	[illegible]	Size Full Hole	6-1/4"	Size Rubber	5-1/2"
Mud Wt.	9.2	Size Rat Hole	NIL	O.D. Drill Collar	4-3/4"
Vis.	37	Size & Type Pipe	3-1/2" I.F.	O.D. Sub or T.J.	4-3/4"
W. L.	--	Time Circulated	8 Hrs.	Tool Length	41.97'
pH	--	Where Circulated	BOTTOM	Rat Hole Length	--
F. C.	2/32	Bit off Bottom	3.15 P.M.	Difference	--
Condition	GOOD	Formation	---	Total Depth	1403'

TEST EXTRAS: [illegible]

Type of Test: [illegible] BOTTOM HOLE — Wt. to Set Packer: 25,000 — 15,000 To Pull Loose

Initial Puff: GOOD — Gas Flow: NIL — Size Bean: 3/4" — Fluid Cushion: NIL

Temp.: [illegible] — Gravity: --- — No. Drill Collars: 10(3/2P) — Length: [illegible] — I.D.'s: [illegible]

PRESSURES

			Inside	Outside	
Started In	1.00 P.M.	Recorder No.	3033	3145	
Tool Open	6.47 P.M.	Depth Run	1391'	1394'	
" Closed	[illegible].55 P.M.	Hydrostatics	656-653	662-656	
" Open	7.55 P.M.	Flow	76-78	81-93	
" Closed	[illegible].55 P.M.	Initial S.I.P.	130	141	
" Loose	9.55 P.M.	Final S.I.P.	160	164	
" Out	6.30 A.M.	Difference	30	23	

FLUID RECOVERY

Mud: 60'

Oil:

Water:

Total: 60'

Sampled at: TOP OF TOOL

Description of Fluid: 60' OF MUD.

Witnessed By: G. [illegible]

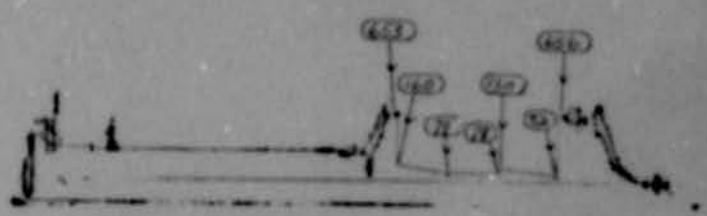
REMARKS: GOOD AIR BLOW ON PRE-FLOW. WEAK AIR BLOW ON FLOW. [illegible] WITH 15,000# OVER STRING WT. [illegible] TOP OF PIPE [illegible] MOVE TOOL UP OR DOWN. [illegible] AND [illegible] PIPE [illegible] TOOL WAS FULL OF GRAVEL & SHALE. [illegible] LOTS OF GRAVEL [illegible]

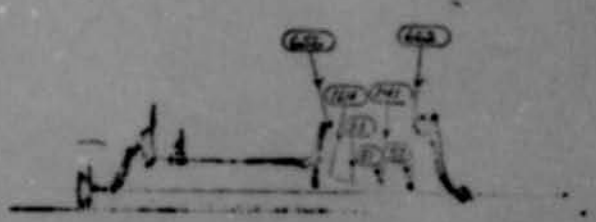
TEST SATISFACTORY.

ALVIN J. KATONA. — Testing Supervisor

BEN [illegible]. — Customer's Representative

D.S.T. # 1 — WELL NAME [illegible]





CASING and TUBULAR REPORT

Casing

CASING INFORMATION

Surface Casing 9"
~~Intermediate~~ Casing O.D.
Production Casing
Liner

Well GPD NOEL ET AL HILLS WEST M-65 Location Date March 26, 1970

Joints on Location	Feet on Location	Casing Weight	Grade	Range	Thread	Threads & Coupling	Make	Joints Run	Depth Landed	Feet Run in Well
7	250	20#	J-55	2	8rd	STLC	Phoenix	7	255	250

Shoe: Make ______ Type ______ Length ______

Collar: Make ______ Type ______ Length ______

Landing Joint (when used) Length ______

Overall Length of Casing String ______

Feet up from K.B. (Subtract) ______

Setting Depth ______ By Driller ______ By Tally ______

Shoe Joint ______ Overall ______ (Subtract) ______

Float Collar Landed ______ By Driller ______ By Tally ______

CENTRALIZERS

Make ______

Number ______

Position ______

SCRATCHERS

Make ______

Number ______

Position ______

No. of Joints Welded ______

Remarks: Run by contractor, information not available.

Operator's Representative ______

CORE AND FLUID ANALYSIS

Analysis

CHEMICAL & GEOLOGICAL LABORATORIES LTD. — WATER ANALYSIS — Lab No. C70-58

Received: April 14, 1970 Reported: April 16, 1970 Well Location: G.P.D. Noel et al Mills West M-65

Operator: GREAT PLAINS DEVELOPMENT COMPANY OF CANADA LTD. Field or Area: M-65 N.W.T.

Elev.: K.B. Grd. Zone/Formation: Lonely Bay Sample Interval: 1534'

Method of Production: CIRC Sampled from: Flow Line Sampled by: Date: Mar. 29, 1970

OTHER PERTINENT DATA: CIRC Hole After Last CIRC at 1533
Hole Bridged off on KTM CIRC Hole.

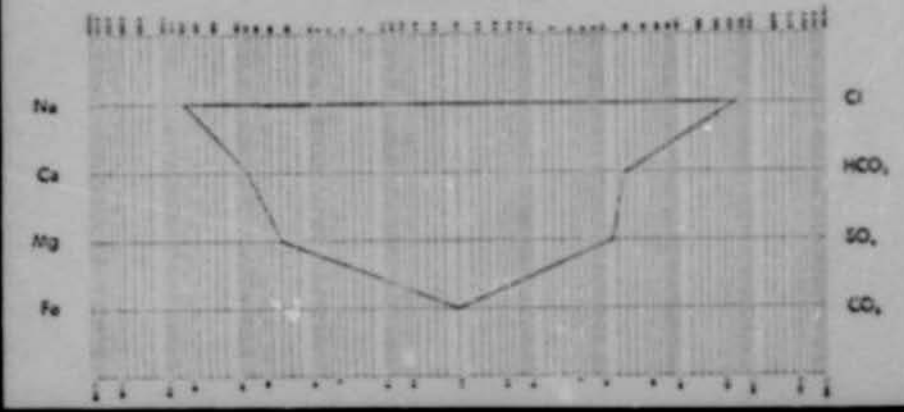
Signed:

	Na	K	Ca	Mg					SO_4	Cl			CO_3	HCO_3		
Mg./L	13,600		1520	365					630	23,600				1100		
Meq./L	590.81		75.85	30.00					13.10	665.52				18.04		
Meq. %	42.41		5.44	2.15					0.94	47.77				1.29		

Total Solids Mg/L: By Evaporation 40,920 Fe Present Specific Gravity 1.031 @60°F Observed pH 7.4 @ 73 °F

Calculated 40,815 After Ignition 37,440 H_2S Nil Refractive Index 1.3399 @25°C Resistivity 0.16 ohm meters @ 68 °F

Pattern Unit Meq./L



Remarks and Conclusions

The sample as received contained approximately 10% grey sediment. The filtrate was colorless.

CHEMICAL & GEOLOGICAL LABORATORIES LTD.

WATER ANALYSIS

Lab No. C70-5[illegible]

Received Apr. 14, 1970 Reported Apr. 16, 1970

Well Location: G.P.D. Noel et al Mills West M-65

Operator: GREAT PLAINS DEVELOPMENT COMPANY OF CANADA LTD.

Field or Area: Wildcat

Elev.: K.B. Grd. Zone/Formation: Lonely Bay

Sample Interval: 1373' - 1403'

Method of Production: D.S.T. #1 Sampled from: Top of Tool

Sampled by: Drill Stem Testers Data Limited

OTHER PERTINENT DATA: Recovery: 60' Drilling Mud.

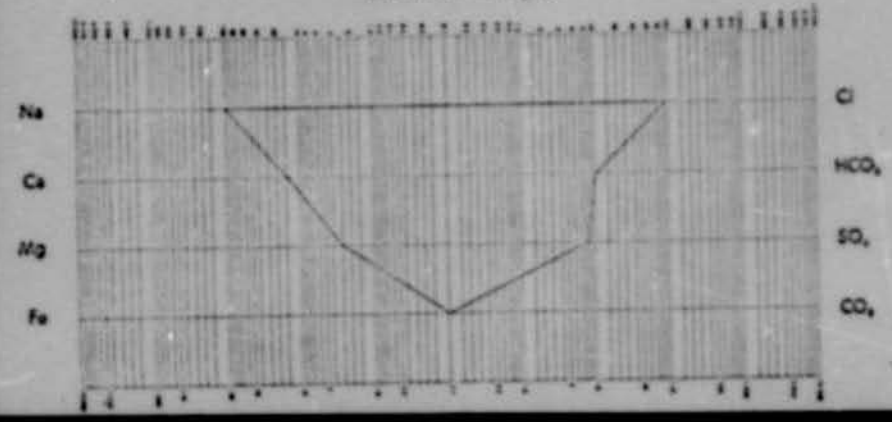
(Signed)

	Na	K	Ca	Mg					SO4	Cl			CO3	HCO3		
Mg/L	2250		284	39					410	3390			Trace	680		
Meq/L	97.90		14.17	3.21					8.53	95.60			Trace	11.15		
Meq. %	42.46	-	6.15	1.39					3.70	41.46				4.84		

Total Solids Mg/L: By Evaporation 7334 Fe Present Specific Gravity 1.010 @60°F Observed pH 8.3 @ 73 °F

Calculated 7053 After Ignition 6896 H_2S Nil Refractive Index 1.3342 @25°C Resistivity 0.913 ohm meters @ 68 °F

Pattern Unit Meq./L



Remarks and Conclusions

The sample as received contained approximately 80% grey sediment. The filtrate was colorless.

MISCELLANEOUS

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA LTD.

PLUG BACK AND ABANDONMENT REPORT

Well GPD HUEL ET AL MILLS UNIT — Location M-65, Mills Lake N. W.T.

K.B. Elevation 796

T.D. 1548

Mud in Hole Mud gel

Plug Back String 3-1/2"

Service Company Txt City

Csng. Rt. Approved

Csng. Rt. Witness

Hole Size	6-1/4"
Depth	

Casing in Hole	Size	Set At	Top of Cement
Surface Casing	7"	255'	surface
Prod. String			

	Plug #	Plug #	Plug #	Plug #	Plug #
Date	March 30	March 31			
Interval Top	1250	260			
Bottom	1410	300			
Felt Plug Depth	1235	135			
Formation - Name Depth					
Caliper Hole Size (Avg.)	6-1/4				
Type of Mud	gel	gel			
No. of Sacks	50	135			
Additives	3% $CaCl_2$	2% $CaCl_2$			
Bbls. of Water Ahead					
Displacement Bbls. Water Bbls. Mud	9	1.5			
Slurry Weight					
Mixing Times Start Finish					
Displacing Times Start Finish	9:00 P.M. 9:30 P.M.				
Felt Plug Time	6:00 A.M.	8:00 P.M.			

Surf. Csg. Cut 3' Ft. Below Grd. Surf. Plug 10 Sacks. Pipe Welded Yes No

Casing Salvage: Shoe at: No. of Jts. Recovered

Remarks: Riser 4' above surface with well name inscribed welded on plate

Operator's Representative

Drilling Authority No. 433
Date Issued March 23, 1970

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
OIL AND MINERAL DIVISION

WELL COMPLETION DATA

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

Well name and number: GPD NOEL ET AL MILLS WEST M-65
Permit No. 4314 Lease No. N.A.
Northern Oil Explorers & Andes Oil Co. Ltd. (Permittee, Licensee, Lessee) Exploratory Licence No. 1222 & 1662
Great Plains Development Company of Canada, Ltd. (Operator) Exploratory Licence No. 1275 & 1660

Location: Unit M Section 65 Grid 61°50' 119°15'
Latitude 61°44' 40" Longitude 119°27' 40"
From Established Reference Marker: 29,700' North Lat. 61°40'N. 6,237 East Long.
Universal Well Location Reference Lat. 61.744444N. Long. 119.461110W 119°30'W

	DATE	DEPTH
Spudded	Mar. 24/70	0
Suspended		
Resumed Operations		
Finished Drilling		
Deepened		
Complete (gas, oil)		
Abandoned	Mar. 31/70	1545
Rig released	Mar. 31/70	1545

Pool(s)
Interval(s) open to production

Elevation: Gr. 756.1 K.B. 766
Rig No. 3
Drilling Contractor Tri-City Drilling Ltd.
Contractor's Business Licence No. 675 & 702

CASING RECORD

	Casing Size (inches)	Grade	Weight	Amount	Set at	Sacks of Cement and Additives
1.	7	J-55	20#	270'	250'	90 sks. cement + 2% $CaCl_2$
2.						
3.						
4.						
5.						
6.						

GEOLOGICAL TOPS	ELEVATION Depths	ELEVATION Subsea
Glacial Till	0-260	
Hay River	26'	+576
Horn River Shale	1140'	-374
Lonely Bay	1372'	-606

CORE RECORD

From	To	Rec.	From	To	Rec.

LOG RECORD

Run No.	Type of Log	From	To

Date	From	To	Remarks
	1410	1250	50 sax. cement
	300	200	85 sax. cement
			10 sax. at surface welded on plate and left marker

Date	From	To	Remarks

Date	From	To	Remarks

DRILL STEM TESTS

No.	Date	Formation	From	To	S.O. Min.	I.S.I. Min.	F.S.I. Min.	I.H.P.	F.H.P.	I.F.P.	F.F.	S.I.P.	F.S.I.P.	REMARKS
1	Mar.27/70	Lonely Bay	1373	1403	60	60	60	133	133	66	33	639	639	Test satisfactory

ANALYSIS

Lab. No.	Sample	From	To	Report	Remarks

PRESENT STATUS OF WELL

Oil (Suspended)

Gas (Suspended)

Dry

Susp.

Company: Great Plains Development Company of Canada, Ltd

Signed by: A. C. [illegible]

Title: Drilling Supervisor

Date: May 1, 1970

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

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA, LTD.
736 - 8th Avenue S.W., Calgary, Alberta - Phone 2[illegible]-0860

DRILLING AND GEOLOGICAL PROGRAM
[illegible] "A"
INSTRUCTIONS TO THE CONTRACTOR

Lat. 61°44'48"
Long. 119°22'40"

GPD NOEL ET AL MILLS W

Location: Unit NSU. M, Sec. 65, Grid Area Twp. 61°30' Rge. 119°15'.

Elevations: Ground 736 Surv. K.B. 768 Est.
(taken from seismic records)

Note: Record in tour book and report K.B. to Ground and K.B. to surface casing flange immediately after drilling out.

Surface Hole:

(a) Drill 9-7/8 " surface hole to 200 ' Minimum.

(b) Take Totco readings at 100' intervals to 200 '
(Maximum deviations 1°).

(c) Round trip prior to running casing to ensure the hole is clean.

(c) Double tally drill pipe on last trip prior to running casing.

(e) Measure and record distance from K.B. to Ground and K.B. to casing bowl flange and report with surface casing details.

Surface Casing: To be conducted by Contractor,

(a) Run and cement 7 ", 20 #, J-55 , Casing at 200 ' minimum, using ______ sacks cement plus 2% $CaCl_2$. Casing string to be as follows: guid shoe, one joint of casing, float collar and balance of casing to ______ '. One centralizer to be placed in the middle of joints ______ #, # ______ and # ______ and a scratcher five feet from each end of the same joints. Weld guid shoe, float collar and two joints of casing. Cement returns to surface must be obtained. Casing must be set so that the casing bowl flange is at ground level or above.

(b) Land casing after 12 hours, make up bowl and blowout preventors.

Samples:

Conservation Board - 10' samples — Surface - T.D.
Great Plains - 10' samples — Surface - T.D. (1300')

Mud Control:	Depth	Viscosity (Sec./Qt.)	Water Loss (cc/30 mins.)	Remarks
	Surface Hole			Spud in mud. After drilling out guide shoe and jetting cement-out mud, add S.A.P.P. or Bicarbonate of Soda to treat out residual cement.
	Turnkey supplied by Contractor			
				Water

General Mud Requirements:

(a) Weight approximately _____ #/U.S. gallon.

(b) A complete record of all mud and additives used must be correctly logged in the daily reports by "the contractor".

(c) Check all mud properties at least twice per tour and note results in tour report.

(d) Lost circulation - Circulation losses may occur during the surface hole and _____

_____

Main Hole Drilling:

(a) Drill ahead with _____" bit and follow sample collection.

(b) Tallies - Drillpipe is to be tallied out every 1000' and prior to:

(1) Coring
(2) Drillstem testing
(3) Logging
(4) Running casing

If pipe measurement varies more than three feet from the recorded tally, it must be remeasured and the tally adjusted if necessary. A record of adjustment is to be made in the daily report.

(c) Hole conditions - Great Plains' Drilling Department is to be notified immediately if poor hole conditions develop, if drillpipe is stuck, or if a fishing job develops.

Abnormal Formation Pressures: _____

_____

_____

_____

_____

DRILLING AND GEOLOGICAL PROGRAM
PART "5"
INSTRUCTIONS TO GREAT PLAINS PERSONNEL

Samples: Make 2 cuts of samples at wellsite
CPD
Shell

cloth sacked samples for Oil & Gas Cons. Bd. Yes ✓ No

Zones of Interest	Approximate Depth	Evaluation Procedure
Lonely Bay Carbonate	1250	Core and porosity and test zones warranted
		N.S. - Porosity may occur at the top of Lonely Bay Formation and at the top of the reef platform approximately 200' below.

Coring Notes: (a) Jars are to be run during coring operations.
(b) At lease two stands of collars are to be left off the coring string.

Drillstem Tests: To be conducted in the following manner:
I.S.I. 60 mins. F.O. As required. G.S.I. 60 mins. minimum, or equal to F.O. Time

NOTE: (a) Jars, safety joint and pump out sub are to be run on all tests.
(b) No more than one-half the number of collars in the drilling string are to be run, with a maximum of three stands of collars.
(c) Gas samples are to be analysed for helium as well as subjected to the conventional analyses. One gas sample per test is to be collected, and at least one quart of oil and/or water should be collected for routine analysis.

N.B. Benzene analysis will be conducted on all oilfield waters recovered and special containers will be provided for this purpose.

The Production Department of Great Plains Development Company of Canada, Ltd., should be informed of all samples taken. Attn: Mr. Jerry Carter

Logging: See attached or below:

Log Type Schlumberger	Scale	Interval
Dual Induction Laterolog	2" = 100'	T.D. - Base Surface Casing
	5" = 100'	
BHC Formation Density log	5" = 100'	T.D. - Base Surface Casing
Sidewall Neutron Porosity Log	5" = 100'	T.D. - Base Surface Casing
BHC Sonic Gamma Ray Log	2" = 100'	T. D. - Base Surface Casing
	5" = 100'	T. D. - Base Surface Casing
Litholog Plot	5" = 100'	

Production Casing: To be determined.

Cementing Operations: To be determined. State clearly in drilling reports cement mixed and Admix dry volumes and calculate slurry volumes pumped.

Service Companies:

Cementing

Testing " TURNKEY SUPPLIED BY CONTRACTOR"

DIAMOND CORING

Mud

Logging Schlumberger Canada, Rainbow Lake Location.

Sample Log Ting: Samples are to be logged as directed.

Telephone Numbers:

Office	264-0660
G. M. Hunter	255-7312
N.M. Lehto	289-4350
L.L. Sanoli	289-3980
D.L. Gingerich	249-4700

Data Requirements:

To be completed by N.O.E.I.			Logs		Analyses		DST Completion	
Partners	% Participation	Samples	Field	Final	Core	Fluid	Charts	Report
NOEL			1	1	1	1	1	1
CFP	18%	X	2	2	1	1	1	2
BOCAGEL	14%		1	1	1	1	1	1
MIRANDA	9%		1	1	1	1	1	1
AMOCO	23%		2	2	2	2	2	2
SHELL	13%	X	2	2	2	2	2	2
GULF	13%		2	2	2	2	2	2
O & G.C.B.		X		1	2	1	1	

Prepared by: _____

Approved G.P.D.: _____

Approved N.O.E.I.: _____

Data Requirements:

To be completed by N.O.E.L.			Logs		Analyses		DST Completion	
Partners	% Participation	Samples	Field	Final	Core	Fluid	Charts	Report
NOEL			1	1	1	1	1	1
CFD	18%	X	2	2	1	1	1	2
ROCAEL	14%		1	1	1	1	1	1
ROSANDA	9%		1	1	1	1	1	1
ARDOX	25%		2	2	2	2	2	2
SHELL	15%	X	2	2	2	2	2	2
GULF	15%		2	2	2	2	2	2
O & G.C.B.		X		1	2	1	1	

Prepared by: _____

Approved G.P.D.: _____

Approved N.O.E.L.: _____

GEOLOGICAL PROGNOSIS

GPD NOEL ET AL MILLE N
UNIT M SEC. 43 GRID AREA 61°30' - 119°15'

Ground Elev. 736 (taken from seismic record)
K. B. Elev. 768 (est.)

FORMATION	DEPTH	SUBSEA	INTERVAL
Lonely Bay Carb.	1290	-522	
T. D.	1850	-1082	

SUMMARY OF PERTINENT WELL DATA

PERMITTEE:	Northern Oil Explorers & Aztec Oil Co.
NAME OF OPERATOR:	Great Plains Development Company of Canada, Ltd.
ADDRESS:	736 8th Avenue S.W., Calgary 2, Alberta.
WELL NAME:	GPD NOEL ET AL MILLS WEST M-65-A
LICENSE NO:	434 March 31, 1970
LOCATION:	Unit M, Section 65, Grid 61°50' 119°15'
CO-ORDINATES:	61°46' 50" N. Lat.
	119°27' 40" W. Long.
UNIVERSAL WELL LOCATION REF:	61.34722°N. Lat. 119.46111°W. Long
ELEVATION:	Ground: 756.5
	Kelly Bushing 764.0
	Kelly Bushing to Casing Flange: 9.0
TECHNICAL SUPERVISION:	George Iafon, P. Geol.
DRILLING CONTRACTOR:	Name: Tri-City Drilling Ltd.
	Rig No. 3 Failing 2500
	Mast: Failing 55'
	Pump: CD Exp 66" x 10"
	B.O.P.: 10" 600 Series Shaffer & Hydril
STATUS:	Dry and abandoned
PRODUCING ZONE:	
DATE SPUDDED:	11:15 P.M. March 31, 1970
TOTAL DEPTH:	Driller: 1850 Logs: 1848
PLUGGED BACK DEPTH:	Surface
DATE COMPLETED DRILLING OR ABANDONED:	10:00 A.M., April 6, 1970
DATE RIG RELEASED:	7:30 P.M., April 8, 1970.
NO. OF RIG DAYS:	8
PERMIT NUMBER	4314
WELL CLASSIFICATION	Wildcat
UNIQUE WELL IDENTIFIER	302M656150119150

Summary of Pertinent Well Data - Continued GPD NOEL MILLS WEST M-65A

DRILLING DATA:

Hole Size Inches	Depth From Feet	Depth To Feet
9-7/8	0	375
6-1/4	375	1850

CASING:

(a) Surface

Ran 11 jts. 77#-75' of 7", J55, 6.55 New Csg. with guide shoe and insert float, landed at 320' K. B. Cemented with 150 sacks Natural Portland + 2% CaCl, plus 50 sacks + 2% CaCl2 as exp. Plug down 8:15 A.M., April 2, 1970

(b) Intermediate

(c) Production

TUBING:

MUD TYPE: Gel chemical water

GEOLOGICAL MARKERS:

Formation	Samples Depth Feet	Samples Subsea Elevation Feet	Logs Depth Feet	Logs Subsea Elevation Feet
Hay River Shale	460	(+ 305)		
Horn River Shale	1140	(- 376)	1138	(- 375)
Lonely Bay	1379	(- 615)	1379	(- 615)
Chinchaga Equiv.	1765	(-1001)	1762	(- 998)
Total Depth	1850	(-1086)	1848	(-1084)

CORE SUMMARY:

	Interval Feet	Recovered Feet	Formation
No. 1	Nil		
No. 2			

Summary of Pertinent Well Data - Cont'd CPD NOEL ET AL MILLS WEST H-65A 4.

No. 3

" 4

No. 5

No. 6

FORMATION TEST SUMMARY: D.S.T. #1 1580 - 1610 Conventional straddle, P.F. 3 min. I.S.I. 30 min. Upper packer seat failure on valve open, packer pulled loose. Rec. 750' drilling mud

D.S.T. #2 1670 - 1610 Conventional straddle P.F. 1 min. I.S.I. 60 min. V.O. 60 min. F.S.I. 60 min. Fair initial blow, weak continuous air blow. Rec. 230' drilling mud

IHP 722 FHP 722

Other pressures not dependable.

LOGS: Run 6th April 1970

Company	Name	Depth Feet	Scale Inches
~~Schlumberger~~	Dual Induction Lateroleg	1846 - 371	2" & 5"
	Gamma Ray Neutron		
"	BHC Sonic Gamma Ray C	1846 - 372	2" & 5"
"	Sidewall Neutron Porosity	1846 - 371	5"
"	Formation Density	1846 - 372	5"
"	Lithology Plot	1846 - 1300	[illegible]

PLUGS:

Number	Cement	Felt @
1. 1850 - 1250	30 sacks cement	Not felt
2. 1470 - 1370	40 sacks + 2% CaCl2	1367'
3. 470 - 320	50 sacks + 2% CaCl2	300'
Surface	5 sacks	

Remarks:

Casing cut off 3' below ground level; riser 4' above ground level welded on plate on casing after 7 sacks cement placed in top of casing. Well names inscribed on markers.

DAILY DRILLING RECORD

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA, LTD.

DRILLING HISTORY

CPD NO. 1 ET AL MILLS WEST M-65A

1970	Depth 6:00 AM	Hours Drilled	Mud Wt.	Mud Vis.	Mud W.L.	Mud pH	Surveys Depth	Surveys Dev.	Remarks
Apr. 1	184	4-1/4	9.2	30			126	3/4	Spudded 11:15 P.M. March 31, 1970
							213	3/4	Ran 7" surface csg. to 370'
2	375	8-1/4	10.2	45			375	1	T.D.
3	637	4	8.5	29					Drlg. 6¼" hole
							789	1-1/4	
4	1475	19-3/4	8.9	34			1097	1-1/2	Drlg. 6¼" hole
5	1704	20-1/2	8.6	30			1589	1-1/4	Drlg. 6¼" hole
6	1830	15-1/4	9.3	40					Drlg. 6¼" hole
7	1850	1-3/4	9.3	60			1850	1/2	Running D.S.T. #2 in hole
8	1850								Waiting on cement Plug #2
9	1850								Rig Released 7:30 P.M., April 8, 1970.

E

DAILY MUD RECORD

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA LTD.

DRILLING MUD RECORD

WELL: GPD NWL ET AL MILLS WEST M-65A AREA: Mills Lake, N.W.T.

MUD COMPANY: IMC SERVICE ENGINEER: Don Sailer

Date 1970	Depth 8:00 AM	Formation	A	B	C	D	E	F	G	H	I	J
			Approx. In lbs.									
Apr. 1	106	Sur face	6100	100	150							
2	375	Sur face	1500	50	50							
3	627	Bay Ri.er				100						
6	1830	Chin chaga	3500	150				200				
7	1850	Chin chaga	1100									
SUBTOTAL												
TOTAL												

A Gel D Bicarb G J

B Caustic E Sawdust H

C Lime F Soda Ash I

GEOLOGY

Phone 262 3363

OILMEN'S WELLSITE SERVICES LTD.

308 - 8th AVENUE SOUTH WEST - CALGARY 2, ALBERTA

GPD NOEL et al MILLS W. M-65-A

Unit M, Sec. 65

Northwest Territories

D & A

This report prepared and
submitted by:
Oilmen's Wellsite Services Ltd.

per: _____
George Isian

OILMEN'S WELLSITE SERVICES LTD.

SAMPLE RECORD

Well Name GPD NOEL et al MILLS W. M-65-A KB 764

DEPTH From	DEPTH To	DESCRIPTION
0	200	Glacial Till: consisting of yellow clay, silt, sand gravel and small boulders; gravel generally arkosic, derived from weathered granites
200	260	Gravel, fine pea gravel grading to coarse, up to 2-3" in diameter. gravel appears to be better sorted than in overlying till, with beds of fine rounded granitic material overlying a generally coarse base.
		HAY RIVER SHALE 260' (+504)
260	650	Shale, dark grey to black, slightly fissile to hard, massive, blocky; micromicaceous, slightly calcareous; scattered inclusions, hard, limy silty shale; trace fragmental limestone inclusions; traces pyrite.
650	850	Shale, grey to greenish grey in large part; hard, massive, blocky, micromicaceous, calcareous, grading in very large part to shaly limestone; limestone partly fragmental, trace silty hard, massive, dense.
850	1140	Shale 50%, black, slightly fissile to hard, massive, blocky; micromicaceous, trace pyrite, slightly carbonaceous and bituminous in parts; slightly calcareous in parts. Shale 50%, light greenish grey to dark grey, hard, massive, brittle, blocky, very slightly fissile in parts; micromicaceous; calcareous grading to limy; minor amounts fragmental-fossiliferous inclusions; trace silty and pyritic.

OILMEN'S WELLSITE SERVICES LTD.

SAMPLE RECORD

Well Name GPD NOEL et al MILLS W. M-45-A K.B. 764

DEPTH From	DEPTH To	DESCRIPTION
		HORN RIVER SHALE 1140' (-376)
1140	1379	Shale 100%, black to brownish black in parts; fissile to hard, ~~blocky in parts; micromicaceous, very slightly calcareous in~~ parts; very carbonaceous and bituminous; pyritic to very pyritic in parts; scattered inclusions and fracture - infillings of calcite.
		LONELY BAY 1379' (-615)
1379	1510	Limestone 100%, buff to medium brown, crypto to microcrystalline, fragmental-fossiliferous in part; very slightly argillaceous and dolomitic in parts; traces pyrobitumen inclusions; generally hard, massive, dense.
1510	1580	Limestone 60%, light to dark brown, micro to very fine crystalline; slightly granular in part; very fragmental, fossiliferous, pelletoidal; considerable bioclastic material with a microcrystalline matrix-cement; dolomitic to very dolomitic; argillaceous in parts; traces pyrobitumen; traces to mainly fair to good micro to coarse vuggy porosity, no oil staining.
		Dolomite 40%, medium to dark brown, micro to very fine crystalline; granular in part; generally a dolomitized limestone, with abundant relict fragmental limestone texture, fair to some good vuggy and intercrystalline porosity; no oil staining.

OILMEN'S WELLSITE SERVICES LTD.

SAMPLE RECORD

Well Name GPD NOEL ET AL MILLS W. M-65-A K.B. 764

DEPTH From	DEPTH To	DESCRIPTION
1580	1730	Limestone 65-85%, medium to dark brown, crypto to microcrystalline; fragmental-fossiliferous, partly bioclastic with a microcrystalline matrix; dolomitic to very dolomitic in parts; argillaceous to shaly in parts; traces pyrobitumen and pyrite; generally hard, massive, dense; no oil staining. Dolomite 15-35%, medium to dark brown, microcrystalline; essentially a more completely dolomitized limestone as described above; argillaceous in parts; mainly dense, no oil staining. (NOTE: Samples contain abundant cavings of shale and sand grains from surface gravels).
1730	1765	Dolomite, light greenish grey to greenish brown and light brown, crypto to microcrystalline; partly fossiliferous and pelletoidal, argillaceous grading to very shaly and grading to dolomitic shale at base; anhydritic; trace pyritic; slightly silty in parts; very hard, massive, dense.
		CHINCHAGA EQUIV. 1765 (-1001)
1765	1850	Anhydrite 90%, white to light brown, translucent in part; some with a shiny greasy luster; crypto to soft microcrystalline in part; generally very hard, massive; dolomitic in part, traces interbedded shaly dolomite, traces pyrite, dense. Dolomite 10%, medium brown and greenish grey in part, microcrystalline, anhydritic; argillaceous, dense.

BIT

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA LTD.

BIT RECORD

Well CPD NWCL ET AL MILLS WEST H-65A Field Mills Lake, N. W. T.

Bit No.	Depth From	Depth To	Size	Make and Type	Footage	Hours Run	Remarks
1A	0	213	9-7/8	#20363 HW OSC3	213	6-1/4	Rerun
2A	213	375	9-7/8	Rerun HW OSC 3	162	7-1/4	Rerun
1	375	1605	6-1/4	#21773 HW OSC 1G	1030	18-1/2	4-5-1
2	1605	1620	6-1/4	#17550 HW OWV	215	17-1/2	5-6-1
3	1620	1729	6-1/4	#19997 HW OWV	109	12-1/2	5-5-1
4	1729	1850	6-1/4	#21657 HW OWV	121	13-1/4	5-4-1

DRILL STEM TEST REPORT

DST

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA, LTD. P-8

DRILL STEM TEST REPORT

well CPD HOEL ET AL HILLS WEST M-65A Test No. 1 Date April 7, 1970

Testing Company Drill Stem Testers Operator R. Gunderson

Formation Tested Lower Ivy Depth of Well 1850

Interval Tested from 1450 to 1610 Hole Size 6-1/4 Rat Hole Size

Drill Pipe Size 3-1/2 No. & Size Drill Collars Run 10 4-3/4

Type of Mud Gel Chem Weight 9.3 Viscosity 60 Water Loss 7 5-1/2

Type of Test Run Straddle conventional No. & Size Packer Rubbers

Choke Size Surface 3/4 Bottom Hole 3/4 Safety Joint N Jars N P.O. Sub N

Time Tester Started in Hole 12:30 A.M. On Bottom 2:30 A.M.

When tool opened did mud level drop 3ft

Initial Shut-in Time 60 min. Final Shut-in Time min. Valve Open Time 3 min. preflow 60 min.

Packer Set with 28,000 # Pulled Loose With 5,000 # Time Tester Out of Hole 8:00 A.M.

Blow Description Strong blow due to packer seat failure

Recovered 750' feet 24 Hours

Recovery Description 750 feet of Drilling mud

feet of feet of

Salinity Test

Samples Sent to Chem. & Geol. Lab By C. Infan

GAS FLOW MEASUREMENTS

Method of Measurement

Time	Reading (inches)	Mcf/Day

Gas Sample Sent To

Recorder	Top Chart	Bottom Chart
I.H.P.	722	
F.H.P.	722	
I.F.P.		
F.F.P.		
I.S.I.P.		
F.S.I.P.		
B.H. Temp.		

Do you consider test satisfactory No

Remarks Packer seat failure on top rubber; mud level dropped when tool opened, packer pulled loose and hoisted; rubber O.K. not damaged. Hole size apparently too large for adequate seal upon expansion of packer rubber

Operator's Representative C. Infan

DRILL STEM TESTING & CORING LTD.

EDMONTON PHONE 433- CALGARY PHONE 269-2923

P.O. BOX 4188, EDMONTON, ALBERTA

TEST NUMBER 1

Date	APRIL 7, 1970.
Customer	GREAT PLAINS DEVELOPMENT COMPANY OF CANADA, LTD., 736 - 8th AVENUE S.W., CALGARY 2, ALBERTA.
Well Name	GPD [illegible] ET AL HILLS WEST I-65A
Location	61 44'50.00 119 27'40.00
Area	HILLS LAKE WEST, N.W.T.
Formation	TIGHT
Est. Pay Thick.	---
Ticket No.	B-1193
Purchase Order No.	---

Interval	1480' TO 1610'
Test Duration	MIS-RUN
Initial Hydrostatic	733
Final Hydrostatic	733
Initial Flowing	--
Final Flowing	-- after -- mins.
Initial Shut-in	-- after 60 mins.
Final Shut-in	-- after -- mins.
Blow	---
Recovery	750'

Mud Type	GEL.	Size Full Hole	6-1/4"	Size Rubber	5-1/2"
Mud Wt.	9.3	Size Rat Hole	---	O.D. Drill Collar	4-3/4"
Vis.	60	Size & Type Pipe	3-1/2" I.F.	O.D. Sub or T.J.	4-3/4"
W. L.	--	Time Circulated	-- Hrs.	Tool Length	91.38'
pH	--	Where Circulated	--	Rat Hole Length	--
F. C.	2/32	Bit off Bottom	PRIOR TO LOGGING M.	Difference	--
Condition	---	Formation	---	Total Depth	1850'

TEST EXTRAS: SAFETY JT. JARS. PUMP OUT SUB. 1ST PACKER. 3RD RECORDER. FAIL [illegible] HEAD.

Type of Test	CONV. STRADDLE	Wt. to Set Packer	28,000	5,000	To Pull Loose
Initial Puff	FAIR	Gas Flow	NIL	Size Bean 3/4"	Fluid Cushion NIL
Temp.	97°	Gravity	---	No. Drill Collars 8(3/IF)	Length 234.10' I.D.'s 2-1/8"

PRESSURES

Started In	1.45 A.M.	Recorder No.	3153	3152	2832
Tool Open	3.05 A.M.	Depth Run	1595'	1600'	1623'
" Closed	3.07 A.M.	Hydrostatics	732-732	733-733	769-713
" Open	4.07 A.M.	Flow			
" Closed	4.10 A.M.	Initial S.I.P.			
" Loose	--- M.	Final S.I.P.			
" Out	8.00 A.M.	Difference			

FLUID RECOVERY

Mud	750'
Oil	---
Water	---
Total	750'
Sampled at	DRILL PIPE AND COLLARS.

Description of Fluid 750' DRILLING MUD.

Witnessed By: ---

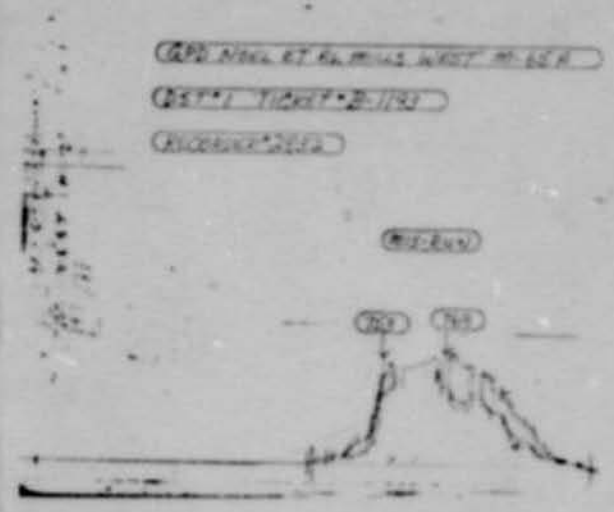
REMARKS: WHEN TOOL OPENED FOR PRE-FLOW, MUD DROPPED SLOWLY. SHUT IN FOR ONE HOUR. WHEN TOOL OPENED FOR FLOW MUD DROPPED RAPIDLY. PULLED OUT OF HOLE. PACKER SEAT FAILURE.

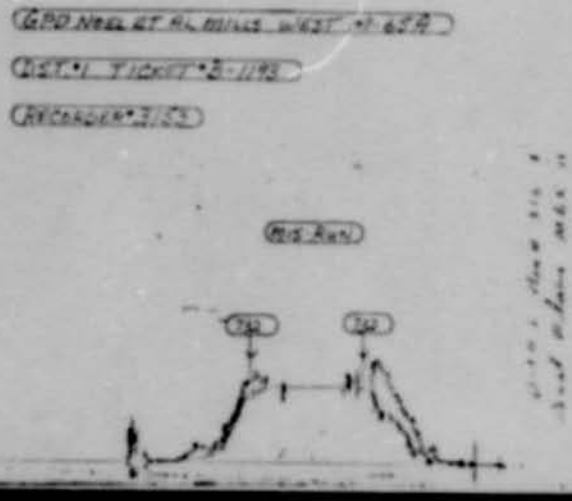
TEST MIS-RUN.

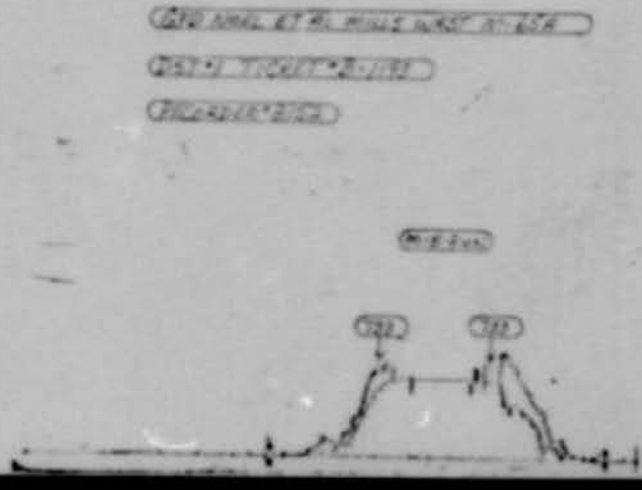
R.H. GUDBRANDSON. — Testing Supervisor

DAN HUMAN. — Customer's Representative

D.S.T. # 1 WELL NAME GPD [illegible] ET AL HILLS WEST I-65A







GREAT PLAINS DEVELOPMENT COMPANY OF CANADA, LTD. **P-8**

DRILL STEM TEST REPORT

Well GPD NOEL ET AL HILLS WEST M-65A Test No. 2 Date April 7, 1970

Testing Company Drill Stem Testers Ltd. Operator R. Gunderson

Formation Tested Lonely Bay Depth of Well 1650

Interval Tested from 1570 to 1610 Hole Size 8-1/4 Rat Hole Size

Drill Pipe Size 3½I.F. No. & Size Drill Collars Run 10 6-3/4"

Type of Mud Gel Chem Weight 9.3 Viscosity 60 Water Loss

Type of Test Run Straddle No. & Size Packer Rubbers 5½" 1 on btm. 2 on top

Choke Size: Surface Bottom Hole 3/4 Safety Joint N Jars N P.O. Sub N

Time Tester Started in Hole 9:00 A.M. On Bottom 10:00 A.M.

When final open valve did mud level drop Inch

Initial Shut In Time 60 min. Final Shut In Time 60 min. Valve Open Time 60 min.

Packer Set with 28,000 # Pulled Loose With 5,000 # Time Tester Out of Hole 4:00 P.M.

Blow Description: Fair initial flow on preflow, weak continuous air blow through valve open period

Recovered 230' feet drilling mud Metals

Recovery Description: feet of

feet of feet of

Salinity Test: 0% salt content

Samples Sent to: Chem. & Geol. Labs. By: G. Infon

GAS FLOW MEASUREMENTS

Method of Measurement: nil

Time	Reading (inches)	Mcf/Day

Gas Sample Sent To:

Field Interpretation		
Pressure	Top Chart	Bottom Chart
I.H.P.	769	756
F.H.P.	742	729
I.F.P.	94	94
F.F.P.	135	148
I.S.I.P.	648	648
F.S.I.P.	621	621
B.H. Temp.	98°F	98°F

Do you consider test satisfactory: yes

Remarks: Charts indicate rapid build up of F.S.I.P. indicating good permeability. Flow curve indicates possible slight plugging or packer seat leak near start of valve open period, but no plugging found in tool at surface; flow curve otherwise normal

Operator's Representative C. Infon

DRILL STEM TESTING & CORING LTD.

EDMONTON PHONE 4 [illegible] CALGARY PHONE [illegible]

P.O. BOX 4188, EDMONTON, ALBERTA

TEST NUMBER 2

Date	APRIL 7, 1970.
Customer	GREAT PLAINS DEVELOPMENT COMPANY OF CANADA LTD., 736 - 8th AVENUE S.W., CALGARY 2, ALBERTA.
Well Name	GPD DOAL ET AL HILLS WEST D-65A
Location	61 44'30.00 119 27'40.00
Area	HILLS LAKE WEST, N.W.T.
Formation	TIGHT
Est. Pay Thick.	---
Ticket No.	B-1194
Purchase Order No.	----

Interval	1470' TO 1610'			
Test Duration	183 MINUTES			
Initial Hydrostatic	750			
Final Hydrostatic	741			
Initial Flowing	PRE- 72 / 89			
Final Flowing	148	after	60	mins.
Initial Shut-in	636	after	60	mins.
Final Shut-in	627	after	60	mins.
Blow	WEAK			
Recovery	230'			

Mud Type	GEL.	Size Full Hole	6-1/4"	Size Rubber	5-1/2"
Mud Wt.	9.3	Size Rat Hole	---	O.D. Drill Collar	4-3/4"
Vis.	60	Size & Type Pipe	3-1/2" I.F.	O.D. Sub or T.J.	4-3/4"
W. L.	--	Time Circulated	--- Hrs.	Tool Length	103.24'
pH	--	Where Circulated	---	Rat Hole Length	---
F. C.	--	Bit off Bottom	PRIOR TO TEST # 1 M.	Difference	---
Condition	GOOD	Formation	---	Total Depth	1850'

TEST EXTRAS: SAFETY JT. DOUBLE SHUT IN. JARS. PUMP OUT SUB. FAIL SAFE HEAD. 1 PACKER. [illegible]

Type of Test	CONV. STRADDLE	Wt. to Set Packer	20,000	5,000	To Pull Loose
Initial Puff	FAIR	Gas Flow	NIL	Size Bean	3/4"
Fluid Cushion	---				
Temp.	8	Gravity	---	No. Drill Collars	8(3½IF)
Length	234.10'	I.D.'s	2-1/4"		

Started In	9.00 A.M.	Recorder No.	3152	3153	2032
Tool Open	10.07 A.M.	Depth Run	1460'	1468'	1428'
" Closed	10.10 A.M.	Hydrostatics	750-741	753-743	812-806
" Open	11.10 A.M.	Flow	89-148	89-145	HELD AT
" Closed	12.10 P.M.	Initial S.I.P.	636	637	852
" Loose	1.10 P.M.	Final S.I.P.	627	626	
" Out	4.00 P.M.	Difference	9	11	

FLUID RECOVERY

Mud	230'
Oil	---
Water	---
Total	230'
Sampled at	DRILL COLLAR.

Description of Fluid: 230' DRILLING MUD.

Witnessed By: ---

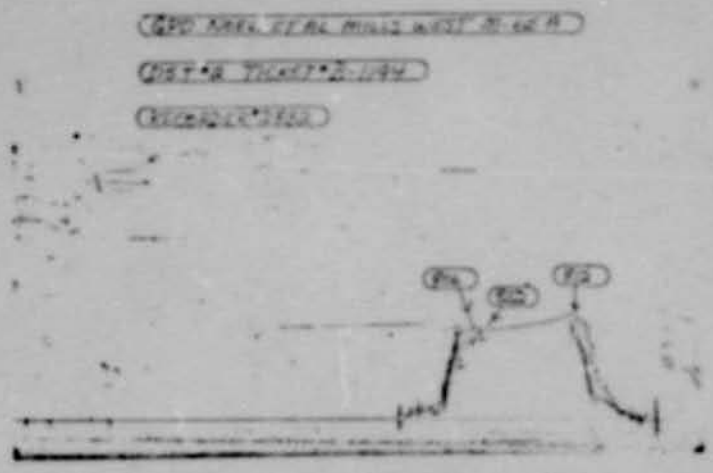
REMARKS: FAIR INITIAL AIR PUFF ON PRE-FLOW. WEAK AIR BLOW ON FLOW, HOLDING STEADY THROUGHOUT FLOW PERIOD.

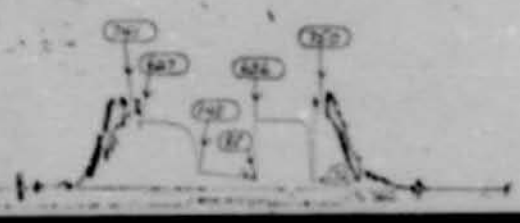
TEST SATISFACTORY.

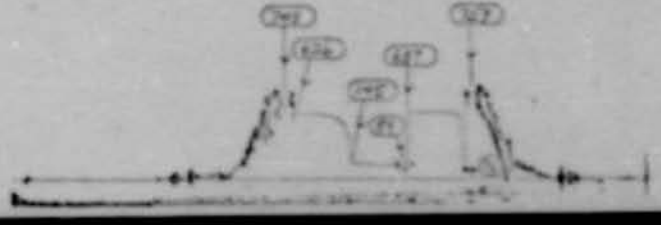
R.H. GUNDERSON.
Testing Supervisor

BEN HUBER.
Customer's Representative

D.S.T. # 2 WELL NAME GPD DOAL ET AL HILLS WEST D-65A







CASING and TUBULAR REPORT

Casing

CASING INFORMATION

Surface Casing ~~Intermediate Casing~~ O.D. 7"
Production Casing
Liner

Well GPD NOEL ET AL MILLS WEST Location N65-A Date April 2, 1970

Joints on Location	Feet on Location	Casing Weight	Grade	Range	Thread	Threads & Coupling	Make	Joints Run	Depth Landed	Feet Run in Well
11	359.25	20#	J-55	2	8rd	ST&C	Phoenix	11	370'KB	359.25

Shoe: Make Davis Lynch	Type Guide	Length 1.50
Collar: Make Davis Float	Type Insert	Length 0.00
Landing Joint (when used) Length		15.00
Overall Length of Casing String		375.75
Feet up from K.B. (Subtract)		5.00
Setting Depth: 370 By Driller		By Tally 370.75
Shoe Joint 34.56 Chem.		(Subtract) 34.56
Float Collar Landed 335.44 By Driller		By Tally 336.19

CENTRALIZERS

Make BAW

Number 1

Positions 1st St.

SCRATCHERS

Make Nil

Number

Positions

No. of Joints Welded Guide Shoe, 1st St. - Thread Locked

Remarks

Operator's Representative G. Isfan

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA, LTD. **P-3**

RUNNING AND CEMENTING

Surface Casing 7"
Intermediate Casing O.D. _____
Production Casing
Liner

GENERAL

Well GPD NOEL ET AL HILLS WEST Location M-65A Date April 2, 1970

K.B. Elevation 764.0' K.B. Csg. Flange 9.0' Total Depth (Driller) 325'

Hole Size	9-7/8			Casing in Hole	7"		
Depth	325			Depth Set	320' K.B.		

Mud Type Gel wt. 9.7 Vis. 50 W.L. _____

B.O.P.'s _____

RUNNING

Power Tongs _____ Tongue Max. _____ Nom. _____ Min. _____

Time Pipe Started 7:00 A.M. Time on Bottom 7:30 A.M. Time Circ. 15 mins.

Fill-up Points Every 2 jts. Bbls. to Casing 370' Ft. up from K.B. 5.00'

Remarks _____

CEMENTING

Cement Co. Tri-City Operator B. Huber Time on Location _____

Types & Quantities of Cement Normal Portland 170 sacks + 2% $CaCl_2$

(130 sacks displaced; 40 sacks cemented from top)

Water ahead 2 Bbls. Mix Time: Start 7:50 A.M. Finish 8:00 A.M. Slurry Wt. 14.8

Calc. Disp. 13.7 Bbls. Est. Disp. time 7 Min. Start 8:05 A.M. Finish 8:12 A.M.

Max. Pumping Press. 75 Bump. Press. 500 Bumped by Tri-City No. times bump. 1

Cement Returns: Yes/No. Remarks Cemented upper 50; with 1" line from top with 40 sacks.

LANDING

Time Landed 8:00 P.M. Date April 2, 1970 Est. Wt. of Csg. String (Less Blks.) _____

Wt. Landed in Slips _____ Make of Bowl _____ Nom. Size _____ Series _____

Slip and Seal Assembly _____ Remarks _____

Operator's Representative C. Infan

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA, LTD. P.4

CASING AND TUBING TALLY

Page 1 of 1 Joint No. 1 to 1 Date April 7 19 70

Well GPD NOEL ET AL MILLS WEST Size 7" Weight 20# Grade J-55 Range 2 Condition New

Manufacturer Phoenix H65A Threads: On Off No. of Threads 8 rd Coupling: Short X Long

No. of Joints: Received at Well 11 Used 11 Disposition of Joints not used

Length of Cut-Off Joint above casing bowl Disposition

Joint No.	Length of Joint		Joint No.	Length of Joint		Joint No.	Length of Joint		Joint No.	Length of Joint	
01	33	06	21			41			61		
02	32	80	22			42			62		
03	33	12	23			43			63		
04	32	84	24			44			64		
05	33	12	25			45			65		
06	33	08	26			46			66		
07	29	92	27			47			67		
08	33	08	28			48			68		
09	32	75	29			49			69		
10	32	44	30			50			70		
TOTAL	326	21	TOTAL			TOTAL			TOTAL		
11	33	04	31			51			71		
12			32			52			72		
13			33			53			73		
14			34			54			74		
15			35			55			75		
16			36			56			76		
17			37			57			77		
18			38			58			78		
19			39			59			79		
20			40			60			80		
TOTAL	33	04	TOTAL			TOTAL			TOTAL		
21			41			61			81		
22			42			62			82		
23			43			63			83		
24			44			64			84		
25			45			65			85		
26			46			66			86		
27			47			67			87		
28			48			68			88		
29			49			69			89		
30			50			70			90		
TOTAL			TOTAL			TOTAL			TOTAL		

(Note: Include casing shoe and collar in first joint)

TALLY SUMMARY

Group No. Ending	Length (Forward)	
10	326	21
11	33	04
12	Csg. Shoe 1	50
20		
30		
40		
50		
60		
70		
80		
90		
00		
TOTAL	360	75

Tally By Tri-City Drlg.

Checked By: G. Infan

REMARKS: Landing jt. 15.90' not inclued in above string.

Operator's Representative G. Infan

CORE AND FLUID ANALYSIS

Analysis

CHEMICAL & GEOLOGICAL LABORATORIES LTD. — **WATER ANALYSIS** — Lab No. C70-5881-3

Received: Apr. 14, 1970 Reported: Apr. 16, 1970 Well Location: C.P.D. Noel et al Mills West M-65-A N.W.T.

Operator: GREAT PLAINS DEVELOPMENT COMPANY OF CANADA LTD. Field or Area:

Elev.: K.B. 764 Grd. 756 Zone/Formation: Lonely Bay Sample Interval: 1470' - 1610'

Method of Production: D.S.T. #2 Sampled from: Top of Tool Sampled by: Drill Stem Testers Limited Date: Apr. 7, 1970

OTHER PERTINENT DATA: Recovery: 230' Drilling Mud.

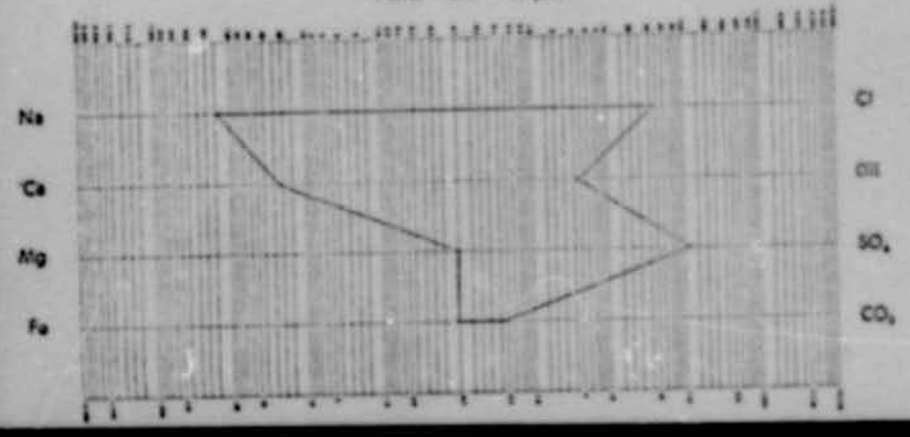
(Signed)

	Na	K	Ca	Mg					SO_4	Cl			CO_3	OH		
Mg/L	3450		517	1					5950	1670			12	78		
Meq/L	149.96		25.80	0.08					123.76	47.09			0.40	4.59		
Meq. %	62.64	-	7.34	0.02					35.19	13.39			0.11	1.31		

Total Solids Mg/L: By Evaporation 11,750 Fe Present Specific Gravity 1.013 @60°F Observed pH 11.4 @ 73 °F

Calculated 11,678 After Ignition 11,390 H_2S Nil Refractive Index 1.3347 @25°C Resistivity 0.747 ohm meters @ 68 °F

Pattern Unit Meq/L



Remarks and Conclusions

The sample as received was a grey mud. The filtrate was pale yellow in color.

LABORATORY NUMBER	SAMPLED FROM	RESISTIVITY (Ohm-meters at 68°F)
C70-5881-1	100' Above Tool	0.873
C70-5881-2	220' Above Tool	0.850

MISCELLANEOUS

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA, LTD.

PLUG-BACK AND ABANDONMENT REPORT

Well: CPD SOCL ET AL MILLS WEST

Location: M-65A, Mills Lake, N. W. T.

K.B. Elevation: 765

T.D.: 1850

Mud in Hole: Mud gel

Plug Back String: 3½" I.F. 13.30 D.P.

Service Company: Tri-City Drilling

Cons. Bd. Approval:

Cons. Bd. Witness:

Hole Size	6-1/4"
Depth	1850

Casing in Hole	Size	Set At	Type of Cement
Surface Casing	7"	370'	surface
Prod. String			

	Plug #1	Plug #2	Plug #3	Plug #4	Plug #5
Date	Apr. 8/70	Apr. 8/70	Apr. 8/70		
Interval: Top	1750	1370	320		
Bottom	1850	1470	420		
Felt Plug Depth		1367	300		
Formation: Name		Lonely Bay	Surface csg.		
Depth		1329	370'		
Caliper Hole Size (Avg.)	6-1/4"	7"	7"		
Type of Mud	gel	gel	gel		
No. of Sacks	30	40	50		
Additives		2% $CaCl_2$	2% $CaCl_2$		
Bbls. of Water Ahead	1	2	1		
Displacement: Bbls. Water / Bbls. Mud	12.9 mud	10 mud	2.3 water		
Slurry Weight	14.8	14.9	15.0		
Mixing Times: Start	12:00 a.m.	12:30 a.m.	9:15 a.m.		
Finish	12:07	[illegible]:40 a.m.	[illegible]:25 a.m.		
Displacing Times: Start	12:08	12:40 a.m.	9:25 a.m.		
Finish	12:15	12:50 a.m.	9:29 a.m.		
Felt Plug Time	not required	8:55 a.m.	5:20 P.M.		

Surf. Csg. Cut: 3 Ft. Below Grd. Surf. Plug: 7 Sacks Plate Welded Yes/No

Casing Salvage: Shot off at: No. of Jts. Recovered:

Remarks: 4' riser (above ground level) welded on top of plate: Well Name CPD MILLS W. M-65-A inscribed with welder on 7" steel riser

Operator's Representative: C. Isfan

Drilling Authority No. 434

Date Issued March 31, 1970

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT

OIL AND MINERAL DIVISION

WELL COMPLETION DATA

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

Well name and number: CPD NOEL ET AL HILLS W M-65-A

Permit No. 434 | Lease No. N.A.

Northern Oil Explorers Ltd. & Andex Oil Co. Ltd. (Permittee, Licensee, Lessee) | Exploratory Licence No. 1322 & 1642

Great Plains Development Co. of Canada Ltd. (Operator) | Exploratory Licence No. 1725 & 1640

Location: Unit M | Section 65 | Grid 61°50' 119°15'

Latitude 61°44' 30" | Longitude 119°27' 40"

From Established Reference Marker: 79.448' North Lat. 61°40'6.737' East Long.

Universal Well Location Reference: Lat. 61.74722°N. Long. 119.46111° W 119°30'

	DATE	DEPTH
Spudded	March 31/70	0
Suspended		
Resumed Operations		
Finished Drilling		
Deepened		
Complete (gas/oil)		
Abandoned	Apr. 8/70	1850'
Rig released	Apr. 8/70	1850'

Pool(s)

Interval(s) open to production

Elevation: Gr. 756.5' K.B. 764

Rig No. 3

Drilling Contractor Tri-City Drilling

Contractor's Business Licence No. 675 & 787

CASING RECORD

	Casing Size (inches)	Grade	Weight	Amount	Set at	Sacks of Cement and Additives
1.	7"	J-55	20#	375.75	370'	170 sax. cement + 2% $CaCl_2$
2.						
3.						
4.						
5.						
6.						

GEOLOGICAL TOPS	ELEVATION Depths	ELEVATION Subsea
Glacial Till	0-260	
Hay River	260	+504
Horn River Shale	1140	-376
Lonely Bay	1379	-615

CORE RECORD

From	To	Rec.	From	To	Rec.

LOG RECORD

Run No.	Type of Log	From	To

IAND 5240 (2-1-69)

CEMENTING RECORD (Plug, Squeeze, etc.)

Date	From	To	Remarks
	1850	1750	30 sacks cement
	1470	1370	30 sacks cement
	420	320	50 sacks cement
			5 sack top plug
			Welded on steel plate and installed

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.S.H.P.	F.F.S.H.P.	I.H.P.	F.H.P.	REMARKS
1	Apr.7/70	Lonely Bay	1480	1610	-	60						722	722	Storm Packer Failure
2	Apr.7/70	Lonely Bay	1470	1610	60	60	60	648	621	94	148	769	742	Recovery 730' Drilling mud Test satisfactory

ANALYSIS

Lab. No.	Sample	From	To	Source	Remarks

PRESENT STATUS OF WELL

Oil (Interval)

Gas (Interval)

Dry

Susp.

Company: Great Plains Development Company of Canada, Ltd.

Signed by: A. C. Lippert

Title: Drilling Superintendent

Date: May 1, 1970

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

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA, LTD.
736 - 8th Avenue S.W., Calgary, Alberta - Phone 264-0660

DRILLING AND GEOLOGICAL PROGRAM
PART "A"
INSTRUCTIONS TO THE CONTRACTOR

Lat. 61°44'48"
Long. 119°27'40"

GPD NOEL ET AL MILLS W

Location: Unit ~~NW~~, M, Sec. 63, Grid Area Twp. 61°50' Rge. 119°15'.

Elevations: Ground 756 Surv. K.B. 768 Est.
(taken from seismic records)

Note: Record in tour book and report K.B. to Ground and K.B. to surface casing flange immediately after drilling out.

Surface Hole:

(a) Drill 9-7/8 " surface hole to 200 ' Minimum.

(b) Take Totco readings at 100' intervals to 200 ' (Maximum deviations 1°).

(c) Round trip prior to running casing to ensure the hole is clean.

(c) Double tally drill pipe on last trip prior to running casing.

(e) Measure and record distance from K.B. to Ground and K.B. to casing bowl flange and report with surface casing details.

Surface Casing: To be conducted by Contractor,

(a) Run and cement 7 ", 20 #, J-55 , Casing at 200 ' minimum, using ______ sacks cement plus 2% $CaCl_2$. Casing string to be as follows: guid shoe, one joint of casing, float collar and balance of casing to ______'. One centralizer to be placed in the middle of joints ______#, # ______ and # ______ and a scratcher five feet from each end of the same joints. Weld guid shoe, float collar and two joints of casing. Cement returns to surface must be obtained. Casing must be set so that the casing bowl flange is at ground level or above.

(b) Land casing after 12 hours, make up bowl and blowout preventors.

Samples:

Conservation Board - 10' samples	Surface - T.D.
Great Plains - 10' samples	Surface - T.D. (1500')

Mud Control:	Depth	Viscosity (Sec./Qt.)	Water Loss (cc/30 mins.)	Remarks
	Surface Hole			Spud in mud. After drilling out guide shoe and jetting cement-cut mud, add S.A.P.F. or Bicarbonate of Soda to treat out residual cement.
	Turnkey supplied by Contractor			
				Water

General Mud Requirements:

(a) Weight approximately _____/U.S. gallon.

(b) A complete record of all mud and additives used must be correctly logged in the daily reports by "the contractor".

(c) Check all mud properties at least twice per tour and note results in tour report.

(d) Lost circulation - Circulation losses may occur during the surface hole and _____

Main Hole Drilling:

(a) Drill ahead with _____" bit and follow sample collection.

(b) Tallies - Drillpipe is to be tallied out every 1000' and prior to:

(1) Coring
(2) Drillstem testing
(3) Logging
(4) Running casing

If pipe measurement varies more than three feet from the recorded tally, it must be remeasured and the tally adjusted if necessary. A record of adjustment is to be made in the daily report.

(c) Hole conditions - Great Plains' Drilling Department is to be notified immediately if poor hole conditions develop, if drillpipe is stuck, or if a fishing job develops.

Abnormal Formation Pressures: _____

DRILLING AND GEOLOGICAL PROGRAM
PART "B"
INSTRUCTIONS TO GREAT PLAINS PERSONNEL

Samples: Make 2 cuts of samples at wellsite
GPD
Shell

cloth sacked samples for Oil & Gas Cons. Bd. Yes X No __

Zones of Interest	Approximate Depth	Evaluation Procedure
Lonely Bay Carbonate	1290	Take any porosity and test where warranted
		N.B. - Porosity can occur at the top of Lonely Bay Formation and at the top of the reef platform approximately 300' below.

Coring Notes: (a) Jars are to be run during coring operations.
(b) At lease two stands of collars are to be left off the coring string.

Drillstem Tests: To be conducted in the following manner:
I.S.I. 60 mins. V.O. As required. C.S.I. 60 mins. minimum, or equal to V.O. Time

NOTE: (a) Jars, safety joint and pump out sub are to be run on all tests.
(b) No more than one-half the number of collars in the drilling string are to be run, with a maximum of three stands of collars.
(c) Gas samples are to be analysed for helium as well as subjected to the conventional analyses. One gas sample per test is to be collected, and at least one quart of oil and/or water should be collected for routine analysis.

N.B. Benzene analysis will be conducted on all oilfield waters recovered and special containers will be provided for this purpose.

The Production Department of Great Plains Development Company of Canada, Ltd., should be informed of all samples taken. Attn: Mr. Terry Carter

Logging: See attached or below:

Log Type Schlumberger	Scale	Interval
Dual Induction Laterolog	5" = 100'	T.D. - Base Surface Casing
	2" = 100'	
BHC Formation Density log	5" = 100'	T.D. - Base Surface Casing
Sidewall Neutron Porosity log	5" = 100'	T.D. - Base Surface Casing
BHC Sonic Gamma Ray Log	5" = 100'	T. D. - Base Surface Casing
	2" = 100'	T. D. - Base Surface Casing
Litholog Plot	5" = 100'	

Production Casing: To be determined.

Cementing Operations: To be determined. State clearly in drilling reports cement mixed and Admix dry volumes and calculate slurry volumes pumped.

Service Companies:

Cementing

Testing " TURNKEY SUPPLIED BY CONTRACTOR"

DIAMOND CORING

Mud

Logging Schlumberger Canada, Rainbow Lake location.

Sample Lag Time: Samples are to be lagged as directed.

Telephone Numbers:

Office	264-0660
G. M. Hunter	255-7312
N.M. Lehto	289-4350
L.L. Sanoil	289-3980
D.L. Gingerick	249-4700

Data Requirements:

To be completed by N.O.E.L.			Logs		Analyses		DST Completion	
Partners	% Participation	Samples	Field	Final	Core	Fluid	Charts	Report
NOEL			1	1	1	1	1	1
CFD	18%	X	2	2	1	1	1	2
ROCADEL	18%		1	1	1	1	1	1
NORANDA	9%		1	1	1	1	1	1
AMEX	25%		2	2	2	2	2	2
SHELL	13%	X	2	2	2	2	2	2
GULF	13%		2	2	2	2	2	2
O & G.C.B.		X		1	2	1	1	

Prepared by: _____

Approved C.F.D.: _____

Approved N.O.E.L.: _____

GEOLOGICAL PROGNOSIS

GFD NOEL ET AL MILLS N
UNIT N SEC. 65 GRID AREA 61°50' - 119°15'

Ground Elev. 756 (taken from seismic records)
K. B. Elev. 768 (est.)

FORMATION	DEPTH	SUBSEA	INTERVAL
Lonely Bay Carb.	1290	-522	
T. D.	1850	-1082	

CHEMICAL & GEOLOGICAL LABORATORIES LTD. — WATER ANALYSIS — Lab No. C70-5879

Received April 14, 1970 Reported April 16, 1970 Well Location G.P.D. Noel et al Mills West M-65

Operator GREAT PLAINS DEVELOPMENT COMPANY OF CANADA LTD. Field or Area M-65 N.W.T.

Elev. K.B. Grd. Zone/Formation Lonely Bay Sample Interval 1534'

Method of Production CIRC Sampled from Flow Line Sampled by Date Mar. 29, '70

OTHER PERTINENT DATA CIRC Hole After Last CIRC at 1533
Hole Bridged off on RIM CIRC Hole.

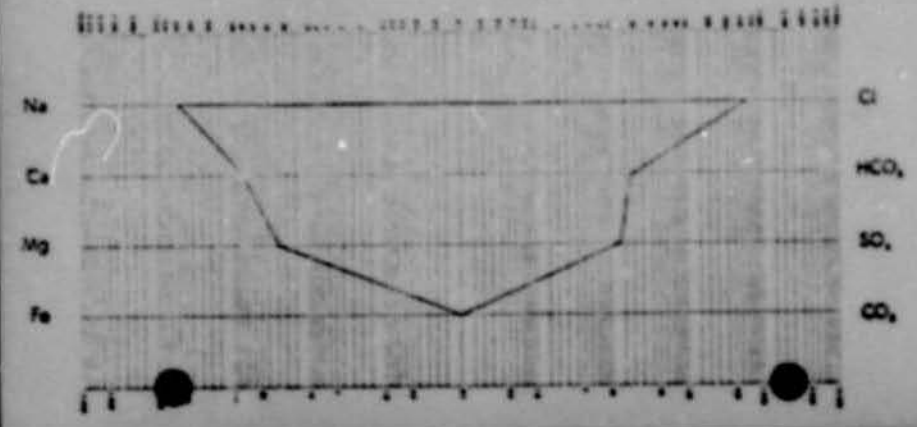
(Signed)

	Na	K	Ca	Mg					SO_4	Cl			CO_3	HCO_3		
Mg/L	13,600		1520	365					630	23,600				1100		
Meq/L	590.61		75.85	30.00					13.10	665.52				18.04		
Meq. %	42.61		5.44	2.15					0.94	47.77				1.29		

Total Solids Mg/L By Evaporation 40,920 Fe Present Specific Gravity 1.031 @60°F Observed pH 7.4 @ 73 °F

Calculated 40,815 After Ignition 37,440 H_2S Nil Refractive Index 1.3399 @25°C Resistivity 0.18 ohm meters @ 68 °F

Pattern Unit Meq/L



Remarks and Conclusions

The sample as received contained approximately 10% grey sediment. The filtrate was colorless.

CHEMICAL & GEOLOGICAL LABORATORIES LTD. — **WATER ANALYSIS** — Lab No. C70-5880

Received: Apr. 14, 1970 Reported: Apr. 16, 1970 — Well Location: G.P.D. Noel et al Mills West M-65

Operator: GREAT PLAINS DEVELOPMENT COMPANY OF CANADA LTD. — Field or Area: Wildcat

Elev: K.B. Grd. — Zone/Formation: Lonely Bay — Sample Interval: 1373' - 1403'

Method of Production: D.S.T. #1 — Sampled from: Top of Tool — Sampled by: Drill Stem Testers Data Limited

OTHER PERTINENT DATA: Recovery: 60' Drilling Mud.

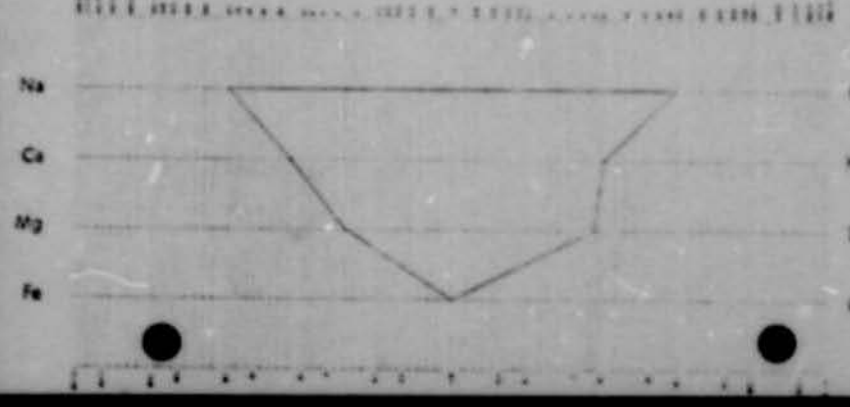
(Signed)

	Na	K	Ca	Mg					SO_4	Cl			CO_3	HCO_3		
Mg./L	2250		284	39					410	3390			Trace	680		
Meq./L	97.90		14.17	3.21					8.53	95.60			Trace	11.15		
Meq. %	42.46		6.15	1.39					3.70	41.46				4.84		

Total Solids Mg./L: By Evaporation 7334 — As Present: Specific Gravity 1.010 @60°F — Observed pH 8.3 @ 73 °F

Calculated 7053 — After Ignition 6894 — H_2S Nil — Refractive Index 1.3342 @25°C — Resistivity 0.913 ohm-meters @ 68 °F

Pattern Unit: Meq./L



Remarks and Conclusions

The sample as received contained approximately 80% grey sediment. The filtrate was colourless.

CHEMICAL & GEOLOGICAL LABORATORIES LTD. — WATER ANALYSIS — Lab No. C70-5881-3

Received: Apr. 14, 1970 Reported: Apr. 16, 1970 Well Location: G.P.D. Noel et al Mills West M-65-A N.W.T.

Operator: GREAT PLAINS DEVELOPMENT COMPANY OF CANADA LTD. Field or Area:

Elev.: K.B. 764 Grd. 756 Zone/Formation: Lonely Bay Sample Interval: 1470' - 1610'

Method of Production: D.S.T. #2 Sampled from: Top of Tool Sampled by: Drill Stem Testers Limited Date: Apr. 7, 1970

OTHER PERTINENT DATA: Recovery: 230' Drilling Mud.

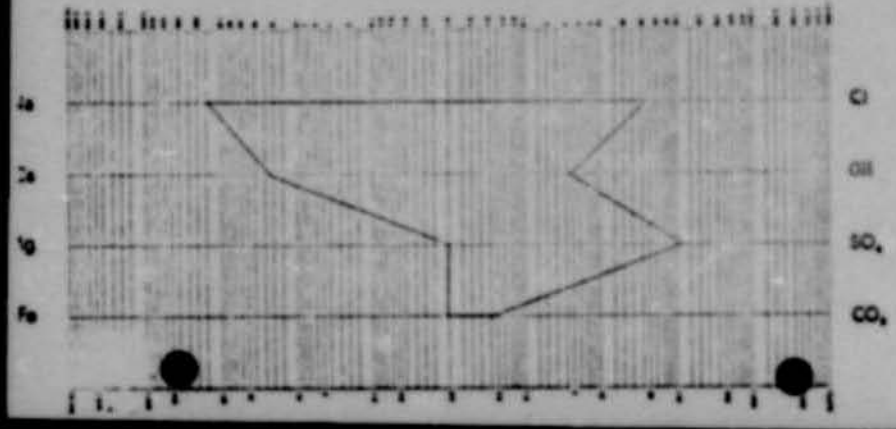
(Signed)

	Na	K	Ca	Mg					SO_4	Cl			CO_3	OH		
g/l	3450		517	1					5950	1670			12	78		
q/l	149.96		25.80	0.08					123.76	47.09			0.40	4.59		
g. %	42.64		7.34	0.02					35.19	13.39			0.11	1.31		

Total Solids Mg/L: By Evaporation 11,750 Fe Present Specific Gravity 1.013 @60°F Observed pH 11.4 @ 73 °F

Calculated 11,678 After Ignition 11,390 H_2S Nil Refractive Index 1.3347 @25°C Resistivity 0.747 ohm meters @ 68 °F

Pattern Unit Meq/L



Remarks and Conclusions

The sample as received was a grey mud. The filtrate was pale yellow in color.

LABORATORY NUMBER	SAMPLED FROM	RESISTIVITY (Ohm-meters at 68°F.)
C70-5881-1	100' Above Tool	0.873
C70-5881-2	220' Above Tool	0.850

DRILL STEM TESTING & CORING LTD.

EDMONTON PHONE - [illegible] CALGARY PHONE [illegible]

P.O. BOX 4188, EDMONTON, ALBERTA

TEST NUMBER 1

Date MARCH 27, 1970.

Customer GRANT PLAINS DEVELOPMENT COMPANY OF CANADA LTD., 736 - 6th AVENUE S.W., CALGARY 2, ALBERTA.

Well Name GPD HOOK ET AL HILLS WEST N-65

Location 61 44'48" N.L. 119 27'40" W.L.

Area HILLS W WEST S.W.T.

Formation ---

Est. Pay Thick. ---

Ticket No. B-1226

Purchase Order No. ---

Interval 1375' TO 1403'

Test Duration 180 MINUTES

Initial Hydrostatic 662

Final Hydrostatic 656

Pre-Flow 57

Initial Flowing 81

Final Flowing 83 after 60 min.

Initial Shut-In 141 after 60 mins.

Final Shut-In 164 after 60 mins.

Blow WEAK

Recovery 60'

Mud Type GEL. Size Full Hole 6-1/4" Size Rubber 5-1/2"

Mud Wt. 9.2 Size Rat Hole [illegible] O.D. Drill Collar 4-3/4"

Vis. 37 Size & Type Pipe 3-1/2" I.F. O.D. Sub or T.J. 4-3/4"

W. L. -- Time Circulated 8 Hrs. Tool Length 61.90'

pH -- Where Circulated BOTTOM Rat Hole Length --

F. C. 2/32 Bit off Bottom 5:15 P.M. Difference --

Condition GOOD Formation --- Total Depth 1403'

TEST EXTRAS: SAFETY JT. DOUBLE SHUT IN, JAM, PUMP OUT SUB, FAIL SAFE HEAD, LOK PACKER.

Type of Test DUAL BOTTOM HOLE Wt. to Set Packer 25,000 15,000 To Pull Loose

Initial Puff GOOD Gas Flow NIL Size Bean 3/4" Fluid Cushion NIL

Temp. 96° Gravity --- No. Drill Collars 10(3"IF) Length 290.90' I.D.'s 2-1/2"

PRESSURES

	INSIDE	OUTSIDE	
Recorder No.	8033	3149	
Depth Run	1391'	1391'	
Hydrostatics	656-653	662-656	
Flow	70-79	81-83	
Initial S.I.P.	130	141	
Final S.I.P.	160	164	
Difference	30	23	

Started In 5.00 P.M.

Tool Open 6.17 P.M.

" Closed 9:55 P.M.

" Open 7.55 P.M.

" Closed 8.55 P.M.

" Loose 9.35 P.M.

" Out 6.30 A.M.

FLUID RECOVERY

Mud 60'

Oil

Water

Total 60'

Sampled at TOP OF TOOL

Description of Fluid 60' OF MUD.

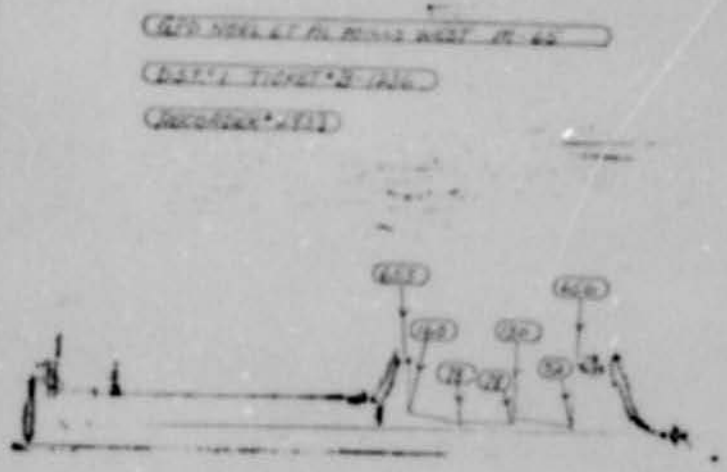
Witnessed By: G. IRFAN.

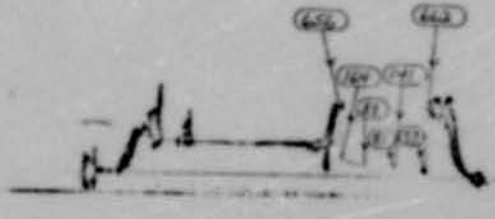
REMARKS: GOOD AIR BLOW ON PRE-FLOW. WEAK AIR BLOW ON FLOW. PULLED PACKING LOOSE WITH 15,000# OVER STRING WT. PULLED TOT OF PIPE WHEN HIT TIGHT SPOT, COULD NOT MOVE TOOL UP OR DOWN. WE THEN PUMPED OUT & STARTED TO CIRCULATE FOR TWO HOURS AND WORK PIPE UNTIL IT CAME FREE SO CONDITIONED MUD AND THEN HOISTED. TOOL WAS FULL OF GRAVEL & SHALE. WHEN CIRCULATING, HAD LOTS OF GRAVEL COMING OVER SHAKER. TEST SATISFACTORY.

ALVIN J. KATONA.
Testing Supervisor

BEN HUBER.
Customer's Representative

D.S.T. # 1 WELL NAME GPD HOOK ET AL HILLS WEST N-65





DRILL STEM TESTING & CORING LTD.

EDMONTON: PHONE 433- CALGARY: PHONE 269-2933

P.O. BOX 4188, EDMONTON, ALBERTA

TEST NUMBER 1

Date: APRIL 7, 1970.

Customer: GREAT PLAINS DEVELOPMENT COMPANY OF CANADA, LTD., 736 - 8th AVENUE S.W., CALGARY 2, ALBERTA.

Well Name: GPD HOEL ET AL KILLS WEST M-65A

Location: 61 44'50.00 119 27'40.00

Area: KILLS LAKE WEST, N.W.T.

Formation: TIGHT

Est. Pay Thick.: ---

Ticket No.: B-1193

Purchase Order No.: ---

Interval: 1400' TO 1610'

Test Duration: MIS-RUN

Initial Hydrostatic: 733

Final Hydrostatic: 733

Initial Flowing: --

Final Flowing: -- after -- mins.

Initial Shut-in: -- after 60 mins.

Final Shut-in: -- after -- mins.

Blow: ---

Recovery: 750'

Mud Type	OIL	Size Full Hole	6-1/4"	Size Rubber	5-1/2"
Mud Wt.	9.3	Size Rat Hole	---	O.D. Drill Collar	4-3/4"
Vis.	60	Size & Type Pipe	3-1/2" I.F.	O.D. Sub or T.J.	4-3/4"
W. L.	--	Time Circulated	-- Hrs.	Tool Length	51.32'
pH	--	Where Circulated	--	Rat Hole Length	--
F. C.	2/32	Bit off Bottom	PRIOR TO LOGGING M.	Difference	--
Condition	---	Formation	---	Total Depth	1650'

TEST EXTRAS: SAFETY JT. JARS. PUMP OUT SUB. 1ST PACKER. 3RD RECORDER. FAIL SAFE HEAD.

Type of Test: CONV. STRADDLE Wt. to Set Packer: 20,000 5,000 To Pull Loose

Initial Puff: FAIR Gas Flow: NIL Size Bean: 3/4" Fluid Cushion: NIL

Temp.: 97° Gravity: --- No. Drill Collars: 8(3 IF) Length: 234.10' I.D.'s: 2-1/8"

PRESSURES

	Time				
Started In	1.45 A.M.	Recorder No.	3153	3152	2832
Tool Open	3.05 A.M.	Depth Run	1595'	1600'	1625'
" Closed	3.07 A.M.	Hydrostatics	732-732	733-733	769-753
" Open	4.07 A.M.	Flow			
" Closed	4.10 A.M.	Initial S.I.P.			
" Loose	--- M.	Final S.I.P.			
" Out	8.00 A.M.	Difference			

FLUID RECOVERY

Mud: 750'
Oil: ---
Water: ---
Total: 750'
Sampled at: DRILL PIPE AND COLLARS.

Description of Fluid: 750' DRILLING MUD.

Witnessed By: ---

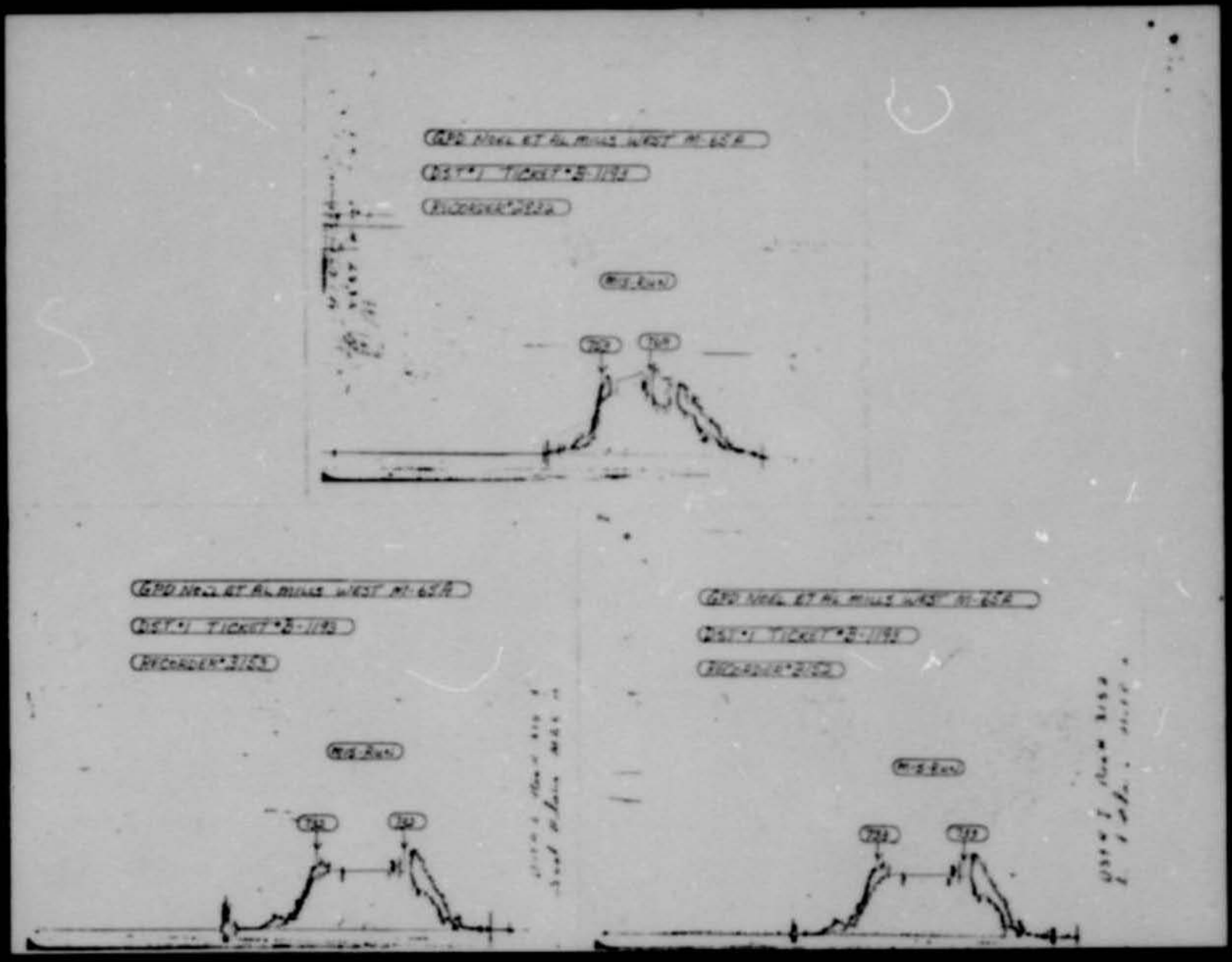
REMARKS: WHEN TOOL OPENED FOR PRE-FLOW, MUD DROPPED SLOWLY. SHUT IN FOR ONE HOUR. WHEN TOOL OPENED FOR FLOW MUD DROPPED RAPIDLY. PULLED OUT OF HOLE. PACKER SEAT FAILURE.

TEST MIS-RUN.

R.H. GUNDERSON. — Testing Supervisor

BEN HUBER. — Customer's Representative

D.S.T. # 1 WELL NAME GPD HOEL ET AL KILLS WEST M-65A



DRILL STEM TESTING & CORING LTD.

EDMONTON PHONE [illegible] CALGARY PHONE [illegible]

P.O. BOX 4188, EDMONTON, ALBERTA

TEST NUMBER 2

Date	APRIL 7, 1970.
Customer	GREAT PLAINS DEVELOPMENT COMPANY OF CANADA LTD., 736 - 8th AVENUE S.W., CALGARY 2, ALBERTA.
Well Name	GPD DOHL ET AL MILLS WEST N-60A
Location	61 44'50.00 119 27'40.00
Area	MILLS LAKE WEST, N.W.T.
Formation	TIGHT
Est. Pay Thick.	---
Ticket No.	B-1194
Purchase Order No.	----

Interval	1470' TO 1610'
Test Duration	183 MINUTES
Initial Hydrostatic	750
Final Hydrostatic	741
Initial Flowing	PRE- 72 / 88
Final Flowing	148 after 60 mins.
Initial Shut-in	636 after 60 mins.
Final Shut-in	627 after 60 mins.
Blow	WEAK
Recovery	230'

Mud Type	GEL	Size Full Hole	6-1/4"	Size Rubber	5-1/2"
Mud Wt.	9.3	Size Rat Hole	---	O.D. Drill Collar	4-3/4"
Vis.	60	Size & Type Pipe	3-1/2" I.F.	O.D. Sub or T.J.	4-3/4"
W. L.	--	Time Circulated	--- Hrs.	Tool Length	102.24'
pH	--	Where Circulated	---	Rat Hole Length	---
F. C.	--	Bit off Bottom	PRIOR TO TEST # 1 M.	Difference	---
Condition	GOOD	Formation	---	Total Depth	1850'

TEST EXTRAS: [illegible] JT. DOUBLE [illegible] JARS. PUMP OUT SUB. FAIL SAFE HEAD. 1RE PACKER. [illegible]

Type of Test	CONV. STRADDLE	Wt. to Set Packer	28,000	5,000	To Pull Loose
Initial Puff	FAIR	Gas Flow	NIL	Size Bean	3/4"
Fluid Cushion	---				
Temp.	98°	Gravity	---	No. Drill Collars	8(3½IF)
Length	236.10'	I.D.'s	2-1/8"		

PRESSURES

Started In	9.00 A.M.	Recorder No.	3152	3153	2832
Tool Open	10.07 A.M.	Depth Run	1463'	1468'	1628'
" Closed	10.10 A.M.	Hydrostatics	750-741	753-743	812-806
" Open	11.10 A.M.	Flow	88-148	89-145	HELD AT
" Closed	12.10 P.M.	Initial S.I.P.	636	637	852
" Loose	1.10 P.M.	Final S.I.P.	627	626	
" Out	4.00 P.M.	Difference	9	11	

FLUID RECOVERY

Mud	230'
Oil	---
Water	---
Total	230'
Sampled at	DRILL COLLAR AND.

Description of Fluid: 230' DRILLING MUD.

Witnessed By: ---

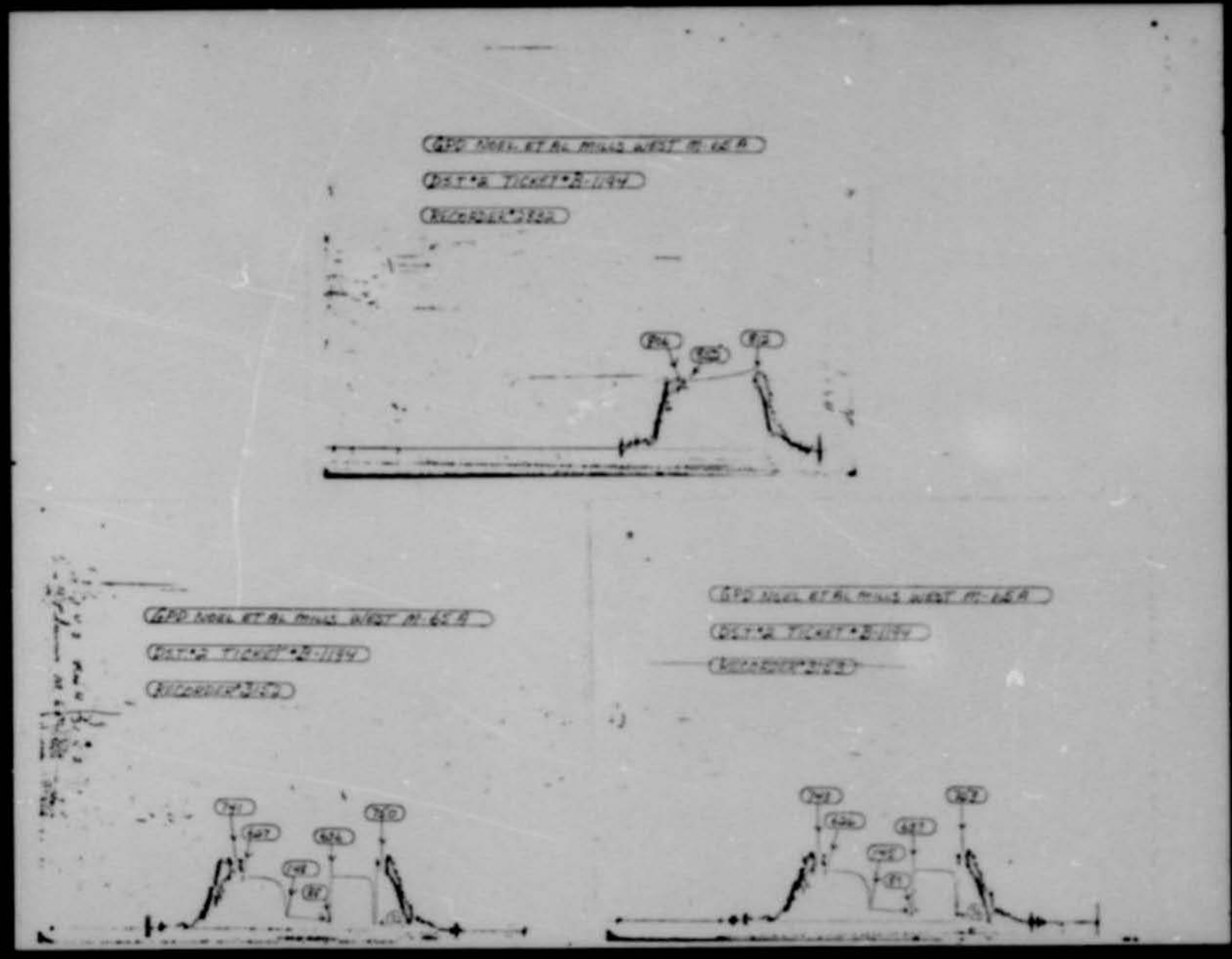
REMARKS: FAIR INITIAL AIR PUFF ON PRE-FLOW. WEAK AIR BLOW ON FLOW, HOLDING STEADY THROUGHOUT FLOW PERIOD.

TEST SATISFACTORY.

R.H. GUNDERSON. — Testing Supervisor

BEN HUBER. — Customer's Representative

DST. # 2 WELL NAME GPD DOHL ET AL MILLS WEST N-60A



TRI-CITY DRILLING LTD.

DAILY DRILLING REPORT

RIG No. [illegible] LOCATION [illegible] MILLS W. M-65 AREA DATE Mar 31 1970

Tour — Midnight - 8 a.m.

Specify actual hours worked	Hrs.
Driller Robert Kuzuik	12
Derrick [illegible]	12
Floor [illegible]	12
Floor Hania Ferris	12
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

General: Plug # 2 300' to 200' w/ 55 sacks + 2% CaCl₂
Displaced w/ 1.5 bbl water @ 930 AM March 31/70

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked	Hrs.
Driller	
Derrick	
Floor	
Floor	
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

* [redacted] 7- 200 [redacted] 50 sacks Cement + 2% CaCl₂ to [illegible] [redacted]
Pulled out & left squeeze plug to [illegible] pressure 4 hrs *
([illegible])
(Plugged up to 150 & squeezed for [illegible] cement — [illegible] — closed Blind Rams) —
Felt top of plug @ 150' @ 6 00 PM March 31/70

General: Rig released from M-65 @ 6 30 P.M. Mar 31/70

Tour — 4 p.m. to Midnight

Specify actual hours worked	Hrs.
Driller [illegible]	
Derrick [illegible]	
Floor [illegible]	
Floor [illegible]	12
Floor T. Eyjandson	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

Footage 30, To 30, Hrs. 3/4

BITS: No. 1, Size 9⅞, Type [illegible], Ft. Drilled 30, Hrs. 1

DAY WORK RECORD

NOTE—Please show FOOTAGE made while "Control Drilling" as well as HOURS.

Remarks	Start	Stop	Interval
W.O.C	12 00	5 30	
Run in to feel plug #1	5 30		5½
Felt @ 1335'		6 00	½
Lay Down pipe	6 00	7 30	1½
Rig to Run plug #2	7 30	8 00	½
			8
Company Time	Contr. Time		
Rig to Run plug # 2	8 00	9 00	1
Run plug # 2 @ 300' to 200'	9 00		
w/ 55 sacs cement + 2% CaCl₂		9 30	½
WOC	9 30	10 00	½
Rig up cementer [redacted]	10 00		
50 sacs cement + 2% CaCl₂			
Displace to 150' w/ water		10 15	¼
W.O.C	10 15	4 00	5¾
Company Time	Contr. Time		
W.O.C	4 00	6 00	2
Felt cement at 150' and	6 00		
lay down pipe		6 30	½
Tear out & move rig [illegible]	6 30	9 45	3¼
Drill rat hole	9 45	11 15	1½
Drill [illegible] hole	11 15	12 00	¾
SPUD 1125 P.M.			

Totco Ring on Bit No. | D.P. Calipered Date | Results | From Pipe Rack

B.O.P. Test-Operated | Time | Results

Total Contractor Time Hrs. | Toolpusher [illegible signature]

Total Company Time Hrs. | Approved by [illegible signature]

TRI-CITY DRILLING LTD.

DAILY DRILLING REPORT

RIG No. 3 **LOCATION** [illegible] Plains No. 65 **AREA** N.W.T. **DATE** March 30 1970

Tour — Midnight - 8 a.m.

Specify actual hours worked	Hrs.
Driller [illegible]	12
Derrick [illegible]	12
Floor [illegible]	12
Floor [illegible]	12
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

From: 1548

MUD — Additives: [illegible] # Gel; 100 [illegible]; 50 [illegible]

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked	Hrs.
Driller	
Derrick	
Floor	
Floor	
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

From: 1548

MUD — Additives: 200 # Gel

Tour — 4 p.m. to Midnight

Specify actual hours worked	Hrs.
Driller [illegible]	
Derrick [illegible]	
Floor [illegible]	
Floor [illegible]	
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

From: 1548

MUD — Additives: [illegible]

Felt top @ 1235' [illegible]

Plug #1 1410-125[illegible] [illegible] sacks Cement + 2% Gel - displaced [illegible] bbls water - [illegible] 9:30 P.M.

DAY WORK RECORD

NOTE—Please show FOOTAGE made while "Control Drilling" as well as HOURS.

Remarks	Start	Stop	Interval
Serv. RG	[illegible]	12	[illegible]
Pump mud in hole	12	1	[illegible]
Mix mud	1	5	4
Wait on [illegible] material	5	8	3
Company Time / Cont'r Time			
Serv. RG	8	8	[illegible]
Wait on [illegible] material	8		
Run in [illegible] singles		11	
Mix mud	11	2:30	[illegible]
[illegible] in hole	2:30	4	[illegible]
Company Time / Cont'r Time			
[illegible] in hole	4	4:30	[illegible]
[illegible] + [illegible]	4:30	5:30	1
[illegible]	5:30		
[illegible] singles open end		6:15	[illegible]
Mix Gel	6:15	[illegible]	[illegible]
[illegible]	[illegible]	7:30	1
Ran in to 1410' - [illegible] #	7:30		
Circ. to [illegible] plug # 1		9:00	1½
Ran plug # 1 1410-1250	9:00	9:30	½
Pull out of hole - W.O.C.	9:30	12:00	2½
Company Time / Cont'r Time			

Total Contractor Time ____ Hrs. Toolpusher

Total Company Time ____ Hrs. Approved by [signature]

Totco Ring on Bit No. ____ D.P. Calipered Date ____ Results ____ From Pipe Rack

B.O.P. Test-Operated ____ Time ____ Results ____

TRI-CITY DRILLING LTD.

DAILY DRILLING REPORT

BOARD **DAY WORK RECORD**

NOTE—Please show FOOTAGE made while "Control Drilling" as well as HOURS.

RIG No. 3 LOCATION Great Plains [illegible] AREA [illegible] DATE [illegible] 29 1970

Tour — Midnight - 8 a.m.

Specify actual hours worked	Hrs.
Driller [illegible] Rizzol.	12
Derrick [illegible]	12
Floor [illegible]	12
Floor [illegible]	12
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

From	Footage	To	Hrs. on Bottom	Wt. Drill String	Drill Collars No.	O.D.	I.D.	Wgt.
1426	54	1480	7 3/4	32 [illegible]	10	4 [illegible]	[illegible]	[illegible]

BITS

No.	Size	Type	Size Jets	Serial No.	Weight	R.P.M.	Ft. Drilled	Hrs.	Feet Reamed	Hrs.	Condition
2	6 3/4	OWV	3 [illegible]	2162	18	120	[illegible]	[illegible]			

MUD	12 Mn.	2 a.m.	4 a.m.	6 a.m.
Weight	70	70	71	71
Viscosity	40	40	37	38

Remarks	Start	Stop	Interval
Service Rig	12[illegible]	12 15	1/4
DRLG 6 3/4 Hole	[illegible]	8 00	7 3/4

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked	Hrs.
Driller	
Derrick	
Floor	
Floor	
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

From	Footage	To	Hrs. on Bottom	Wt. Drill String	Drill Collars No.	O.D.	I.D.	Wgt.
1480	46	1526	4 1/2	[illegible]	10	4 1/2	[illegible]	[illegible]

BITS

No.	Size	Type	Size Jets	Serial No.	Weight	R.P.M.	Ft. Drilled	Hrs.	Feet Reamed	Hrs.	Condition
2	6 3/4	OWV	3 [illegible]	2162	18	120	77	12 [illegible]			
3	6 3/4	[illegible]	[illegible]	[illegible]	18	120	20	[illegible]			

Remarks	Start	Stop	Interval
Serv Rig + check [illegible]	8 00	8 15	1/4
DRLG 6 3/4 Hole	8 15	12 00	3 3/4
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	12 15	[illegible]	1/2
Trip for Bit	[illegible]	[illegible]	2 1/4
Work on Pump	3 00	3 15	1/4
DRLG 6 3/4 Hole	3 15	4 00	3/4

Tour — 4 p.m. to Midnight

Specify actual hours worked	Hrs.
Driller [illegible] Johnson	12
Derrick [illegible]	12
Floor [illegible]	12
Floor [illegible]	12
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

From	Footage	To	Hrs. on Bottom	Wt. Drill String	Drill Collars No.	O.D.	I.D.	Wgt.
1526	22	1548	[illegible]	[illegible]	10	[illegible]	[illegible]	[illegible]

BITS

No.	Size	Type	Size Jets	Serial No.	Weight	R.P.M.	Ft. Drilled	Hrs.	Feet Reamed	Hrs.	Condition
3	6 3/4	[illegible]	[illegible]	[illegible]	[illegible]	120	[illegible]	[illegible]	[illegible]	[illegible]	

MUD				
Weight	73			
Viscosity	42			

Additives: Gel 2000 [illegible] [illegible] 25 sacks.

Remarks	Start	Stop	Interval
DRLG 6 3/4 Hole	4 00	4 20	1/2
Mix mud for lost	4 20		
Circ at 1534' - Pull drill			
pipe into casing & mix mud.		6 30	2
Run back in - mix mud	6 30	8 00	1 1/2
Ream back to Bottom	8 00		
and lost circ (Drill 15 feet)		10 00	2
Pull [illegible] to [illegible]	10 00	11 00	1
out of hole.	11 00	12 00	1

Company Time — Cont'r Time

Totco Ring on Bit No. — D.P. Calipered Date — Results — From Pipe Rack

B.O.P. Test-Operated — Time — Results

Total Contractor Time — Hrs. — Toolpusher

Total Company Time — Hrs. — Approved by George [illegible]

TRI-CITY DRILLING LTD.

DAILY DRILLING REPORT

RIG No. 3 LOCATION GREAT PLAINS M-65 AREA N.W.T. DATE MARCH 28 1970

Tour — Midnight - 8 a.m.

Specify actual hours worked	Hrs.
Driller Roger Rizzoli	12
Derrick Wallace Bourque	12
Floor [illegible]	12
Floor Harold Ferris	12
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

Drill collars: No. 10, O.D. 4 3/4, I.D. 2 3/4, Wt. 15

Mud: Weight 93, Viscosity 60

Remarks: D.S.T. #1 11373-11413; Tool open 1 hr. 25 min; Shut in 60 min; F.F.P. [illegible]; Continued [illegible] Pipe; Rec. 60' Drilling mud. 11,470' [illegible] Hole.

I.H.P. = 637; I.F.P. 55; I.S.I.P. 133
F.H.P. = 637; F.F.P. 55; F.S.I.P. 133
B.H.T. = 98°F.

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked	Hrs.
Driller	
Derrick	
Floor	
Floor	
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

Gell 35 [illegible]
Cake [illegible]

Tour — 4 p.m. to Midnight

Specify actual hours worked	Hrs.
Driller [illegible] Johnson	12
Derrick [illegible]	12
Floor [illegible]	12
Floor Steve Holyoak	12
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

From 11413; To 11426; Hrs. on Bottom 7 1/2; Drill collars 10, 4 3/4, 2 3/4, [illegible]

Bit: 3, 8 3/4, [illegible]; Weight 26

Mud: Weight 93, Viscosity 65

Pumps: 450, 72, 6"

Singles 1.41; Total 11426

DAY WORK RECORD

NOTE—Please show FOOTAGE made while "Control Drilling" as well as HOURS.

Remarks	Start	Stop	Interval
SERV RIG STUCK IN HOLE	12:00	12:15	1/4
STUCK IN HOLE	12:15	3:45	3 1/2
MIX MUD	3:45	4:30	3/4
RUN IN 5 SINGLES	4:30	4:45	1/4
CIRC OUT [illegible]	4:45	5:15	1/2
HOIST TEST #1	5:15	6:00	3/4
BREAK DOWN TEST, SERV TEST	6:00		
TOOLS & LOAD OUT SAME		8:00	2

Company Time — Cont's Time

Remarks	Start	Stop	Interval
SERV RIG CHECK BOP	8:00	8:15	1/4
RUN IN W/FISHING TOOL	8:15	9:15	1
FISHING	9:15	11:30	2 1/4
HOIST FISH [illegible]	11:30	[illegible]	[illegible]
[illegible]	13	3:00	1 1/2
RUN IN COLLARS & PIPE	3:00	4:00	1

Company Time — Cont's Time

Remarks	Start	Stop	Interval
[illegible]			
[illegible]			
RUN IN [illegible]	4:00	5:30	1 1/2
[illegible] BASKET try to			
PICK UP SUSPECTED [illegible]	5:30	8:30	3
TRIP OUT & RUN IN WITH BIT	8:30	10:30	2
DRL 8 3/4 HOLE	10:30	12:00	1 1/2

Company Time — Cont's Time

Total Contractor Time ___ Hrs. Toolpusher [illegible]

Total Company Time ___ Hrs. Approved by [illegible]

Tattoo Ring on Bit No. ___ D.P. Calipered Date ___ Results ___ From Pipe Rack

B.O.P. Test-Operated ___ Time ___ Results

TRI-CITY DRILLING LTD.

DAILY DRILLING REPORT

RIG No. 3 LOCATION GREAT PLAINS AREA N.W.T. DATE MARCH 27 1970

Tour — Midnight - 8 a.m.

Specify actual hours worked	Hrs.
Driller ROBERT RIZZOLI	12
Derrick RICHARD BOURQUE	12
Floor ROBERT NASKIM	12
Floor DAVID FERRIS	12
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

MUD — Weight: 9.4; Viscosity: 37

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked	Hrs.
Driller	
Derrick	
Floor	
Floor	
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

Tour — 4 p.m. to Midnight

Specify actual hours worked	Hrs.
Driller DAVE JOHNSON	12
Derrick [illegible]	12
Floor [illegible] SPRAGUE	12
Floor STEVE [illegible]	12
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

From: No 3

General: STRAP OUT .66 DIFF

BOARD DAY WORK RECORD

NOTE—Please show FOOTAGE made while "Control Drilling" as well as HOURS.

Remarks	Start	Stop	Interval
SERV RIG	12⁰⁰	12¹⁵	¼
[illegible] BOP's	12¹⁵	4¹⁵	4
PICK UP [illegible] SINGLES + [illegible] KEEL	4¹⁵		
TO BOTTOM [illegible]		5¹⁵	1
CIRC + CLEAN TO BOTTOM	5¹⁵	6¹⁵	1
CIRC TO COND HOLE	6¹⁵	6⁴⁵	½
DUMMY TRIP 10 STANDS	6⁴⁵	7⁰⁰	¼
CIRC + WAIT ON TESTER	7⁰⁰	8⁰⁰	1

Company Time / Cont. Time

Remarks	Start	Stop	Interval
WAIT ON TESTER + CIRC [illegible]	8⁰⁰	12⁰⁰	4
SERV RIG CALC [illegible]	12⁰⁰	12¹⁵	¼
CIRC + WORK PIPE [illegible]	12¹⁵	3¹⁵	3
[illegible] FOR TEST # 1	3¹⁵	4⁰⁰	¾
MEASURE [illegible] 9 SINGLES [illegible]			
(.66 DIFF NO CORRECTION)			

Company Time / Cont. Time

Remarks	Start	Stop	Interval
[illegible] MAKE UP PACKER	[illegible]	[illegible]	1
RUN IN WITH PACKER	5⁰⁰	6³⁰	1½
[illegible] TO TEST	6³⁰	[illegible]	?
TESTING	6³⁰	10⁰⁰	3½
MISRUN TEST # 1 STUCK IN HOLE @ 700'	10⁰⁰	12⁰⁰	2
			7

Company Time / Cont. Time

Total Ring on Bit No. ______ D.P. Calipered Date ______ Results ______ From Pipe Rack ______

B.O.P. Test-Operated ______ Time ______ Results ______

Total Contractor Time ______ Hrs. Toolpusher ______

Total Company Time ______ Hrs. Approved by [signature]

TRI-CITY DRILLING LTD.

DAILY DRILLING REPORT

BOARD DAY WORK RECORD

NOTE—Please show FOOTAGE made while "Control Drilling" as well as HOURS.

RIG No. 3 LOCATION Gilby Plains AREA DATE March 26 1970

Tour — Midnight - 8 a.m.

Specify actual hours worked	Hrs.
Driller Robert Rizzoli	12
Derrick Richard Boutin	12
Floor Robert Nash	12
Floor Hamid Ferris	12
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

From	Footage	To	Hrs. on Bottom	Wt. Drill String	Drill Collars No.	O.D.	I.D.	Wgt.
821	581	1402	7½	24,000	10	4¾	2¼	15

Bits No.	Size	Type	Size Jets	Serial No.	Weight	R.P.M.	Ft. Drilled	Hrs.
1	6¾	OSC-3	3 5/8	10595	18	160	1147	8

D. Collars 2390 · Other Ft. 47 — At Survey Degree 1157 · 1°

Remarks	Start	Stop	Interval
Serv. Rig	12:00	12:15	¼
Drlg 6¾ Hole	12:15	3:45	3½
Run survey @ 1157 1°	3:45	4:00	¼
Drlg 6¾ Hole	4:00	8:00	4

Company Time — Cont. Time

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked	Hrs.
Driller	
Derrick	
Floor	
Floor	
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

Remarks	Start	Stop	Interval
Serv. Rig	8:00	8:15	¼
Trip for bit	8:15	9:30	1¼
[redacted]	9:30		
[redacted] Head on BOP		3:00	5½
Run in & Circ. to kill well	3:00	4:00	1
			8

Company Time — Cont. Time

Tour — 4 p.m. to Midnight

Specify actual hours worked	Hrs.
Driller Dave Jenson	12
Derrick [illegible] Chyz	12
Floor [illegible] Spooner	12
Floor Steve [illegible]	12
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

From	Footage	To
1402	—	—

Additives: 300# Gel

Remarks	Start	Stop	Interval
Circ. & mix mud	4:00		
Work on BOP		12:00	8

Company Time — Cont. Time

Teflon Ring on Bit No. ______ D.P. Calipered Date ______ Results ______ From Pipe Rack ______

B.O.P. Test-Operated ______ Time ______ Results ______

Total Contractor Time ______ Hrs. Toolpusher ______

Total Company Time ______ Hrs. Approved by George [illegible]

TRI-CITY DRILLING LTD.

DAILY DRILLING REPORT

BOARD **DAY WORK RECORD**

NOTE—Please show FOOTAGE made while "Control Drilling" as well as HOURS.

RIG No. 3 LOCATION CREST PRAIRS AREA DATE MAR 25 1970

Tour — Midnight - 8 a.m.

Specify actual hours worked	Hrs.
Driller Robert [illegible]	12
Derrick [illegible]	12
Floor [illegible]	12
Floor [illegible]	12
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

REMARKS	Start	Stop	Interval
[illegible]	12	8	

Company Time — Cont's Time

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked	Hrs.
Driller	
Derrick	
Floor	
Floor	
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

General: [illegible] 3½ [illegible] OK [illegible] OK

REMARKS	Start	Stop	Interval
NIPPLE UP BOP'S	8	1130	3½
[redacted] PRESSURE UP BLIND	1130	145	¼
RUN IN PRESSURE UP PIPE RAM	145	245	1
PRESSURE UP HYDRIL SET 8"	245	300	¼
DRILL OUT CEMENT	300	400	1
			8

Company Time — Cont's Time

Tour — 4 p.m. to Midnight

Specify actual hours worked	Hrs.
Driller [illegible]	12
Derrick [illegible]	12
Floor [illegible]	12
Floor [illegible]	12
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	Drill Collars No.	O.D.	I.D.	Wgt.
255	566	821	7½	4	13	[illegible]	[illegible]	[illegible]

BITS No.	Size	Type	Size Jets	Serial No.	Weight	R.P.M.	Ft. Drilled	Hrs.	Feet Reamed	Hrs.	Condition
1	7⅞	OSC3		16585	16	110	566	7½			RR

Mud / Additives: [illegible] 1[illegible]

At Survey Degree: 636 ½

Pumps: [illegible]

Total: 821

REMARKS	Start	Stop	Interval
DRILL OUT CEMENT	400	445	¾
[redacted] HOLE	[redacted]	[redacted]	
[redacted]			
DRILL 6¾ HOLE	445	600	1¼
DISPLACE HOLE + SERV RIG	600	615	¼
DRILL 6¾ HOLE	615	945	3½
SURVEY + PUMP PIT	945	1000	¼
DRILL 6¾ HOLE	1000	12	2
			8

Company Time — Cont's Time

Total Contractor Time ____ Hrs. Toolpusher ____

Total Company Time ____ Hrs. Approved by George [illegible]

Totco Ring on Bit No. ____ D.P. Calipered Date ____ Results ____ From Pipe Rack ____

B.O.P. Test-Operated ____ Time ____ Results ____

TRI-CITY DRILLING LTD.

DAILY DRILLING REPORT

RIG No. 3 LOCATION [illegible] AREA DATE [illegible] 24 1970

Tour — Midnight - 8 a.m.

Specify actual hours worked	Hrs.
Driller [illegible]	12
Derrick [illegible]	12
Floor [illegible]	12
Floor [illegible]	12
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

From	Footage	To	Hrs. on Bottom	Wt. Drill String	Drill Collars No.	O.D.	I.D.	Wgt.
0	126	126	[illegible]	8	3	4½	[illegible]	5

BITS

No.	Size	Type	Size Jets	Serial No.	Weight	R.P.M.	Ft. Drilled	Hrs.
[illegible]	9⅞	[illegible]	[illegible]	[illegible]		160	126	[illegible]

MUD — Viscosity 55

At Survey Depth: 126 — Degree: ½

DAY WORK RECORD

NOTE—Please show FOOTAGE made while "Control Drilling" as well as HOURS.

REMARKS	Start	Stop	Interval
Drill Rat Hole	12⁰⁰	1⁰⁰	1
Work on pump	1⁰⁰	2⁰⁰	1
Spud in + Drill 9⅞ Hole	2⁰⁰	6⁰⁰	4
Mix mud	6⁰⁰	7⁰⁰	1
Drlg 9⅞ Hole	7⁰⁰	7⁴⁵	¾
Run survey @ 126	7⁴⁵	8⁰⁰	¼

Company Time — Cont'r Time

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked	Hrs.
Driller	
Derrick	
Floor	
Floor	
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

From	Footage	To	Hrs. on Bottom
126	129	255	4

BITS

No.	Size	Type	Size Jets	Serial No.	Weight	R.P.M.	Ft. Drilled	Hrs.
[illegible]	9⅞	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	255	4¾

MUD — Weight 78 — Viscosity 65

At Survey Depth / Degree: ¾

KB to shoe, [illegible] feet.

General: [illegible] 7" OD [illegible] Casing [illegible] feet. Cemented with 90 sx [illegible] plus 2% CaCl. Plug down @ 7:15 P.M. [illegible] 29 [illegible] HBS Returns

REMARKS	Start	Stop	Interval
Service rig + work on pump	8⁰⁰	9⁰⁰	1
Drlg 9⅞ Hole	9⁰⁰	11	[illegible]
Run survey + [illegible]	[illegible]	11³⁰	[illegible]
Drlg 9⅞ Hole	11³⁰	1⁰⁰	1½
Dummy trip + reaming [illegible]	1⁰⁰	3⁰⁰	2
Circ Hole	3⁰⁰	4⁰⁰	1

Company Time — Cont'r Time

Tour — 4 p.m. to Midnight

Specify actual hours worked	Hrs.
Driller [illegible]	12
Derrick [illegible]	12
Floor [illegible]	12
Floor [illegible]	12
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

REMARKS	Start	Stop	Interval
Wait for [illegible] Casing	4⁰⁰	4³⁰	½
Rig [illegible] Casing	4³⁰	5⁰⁰	½
Run Casing	5⁰⁰	[illegible]	1[illegible]
Circ Casing	[illegible]	[illegible]	½
Cement + Plug Down	[illegible]	7[illegible]	¾
W.O.C.	7¹⁵	12⁰⁰	4¾

Company Time — Cont'r Time

Teflon Ring on Bit No. — D.P. Calipered Date — Results — From Pipe Rack

B.O.P. Test-Operated — Time — Results

Total Contractor Time — Hrs. — Toolpusher [illegible]

Total Company Time — Hrs. — Approved by [illegible]

TRI-CITY DRILLING LTD.

DAILY DRILLING REPORT

BOARD **DAY WORK RECORD**

NOTE—Please show FOOTAGE made while "Control Drilling" as well as HOURS.

RIG No. 3 LOCATION Green Plains AREA DATE Mar 23 1970

Tour — Midnight - 8 a.m.

Specify actual hours worked	Hrs.
Driller	
Derrick	
Floor	
Floor	
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

REMARKS	Start	Stop	Interval
Moving Rig from	700	800	1
[illegible] to location			
[illegible] miles			

Company Time Cont. Time

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked	Hrs.
Driller [illegible]	12
Derrick [illegible]	12
Floor [illegible]	12
Floor [illegible]	12
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

REMARKS	Start	Stop	Interval
[illegible]			
Moving Rig	800	[illegible]	
Set up		400	8
[illegible]			
[illegible]			

Company Time Cont. Time

Tour — 4 p.m. to Midnight

Specify actual hours worked	Hrs.
Driller [illegible] JOHNSON	12
Derrick [illegible]	12
Floor [illegible]	12
Floor [illegible]	12
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

REMARKS	Start	Stop	Interval
Waiting on parts.	400	1100	7
Drill Rat hole.	1100	1200	1

Company Time Cont. Time

Tubes Ring on Bit No. D.P. Calipered Date Results From Pipe Rack

B.O.P. Test-Operated Time Results

Total Contractor Time Hrs. Toolpusher

Total Company Time Hrs. Approved by

TRI-CITY DRILLING LTD.

DAILY DRILLING REPORT

BOARD DAY WORK RECORD

NOTE—Please show FOOTAGE made while "Control Drilling" as well as HOURS.

RIG No. 2 LOCATION Great Plains Mills W. H-65 AREA DATE Mar. 31 1970

Tour — Midnight - 8 a.m.

Specify actual hours worked	Hrs.
Driller Robert Kozoh	12
Derrick Richard [illegible]	12
Floor Robert [illegible]	12
Floor Harold Ferris	12
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

General: Plug # 2 300' to 200' w/ 55 sack + 2% CaCl₂
Displace w/ 1.5 bbl water @ 930 AM March 31/70

Remarks	Start	Stop	Interval
W.O.C	11[00]	5[30]	
Run in to feel plug # 1	5[30]		5½
Felt @ 1235'		6[00]	½
Lay Down pipe	6[00]	7[30]	1½
Rig to Run plug # 2	7[30]	8[00]	½
			8

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked	Hrs.
Driller	
Derrick	
Floor	
Floor	
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

* [redacted] 7- 300 @ [redacted] 50 sacks cement + 2% CaCl₂ into casing - [redacted]
Pulled out & left squeeze plug under pressure 4 hrs. *
(Picked up to 150' & squeezed [illegible] 50 sacks cement - [illegible] then [illegible] - closed Blind Rams) -

Felt top of plug @ 150' @ 6:00 PM March 31/70

General: Rig released from H-65 @ 6:30 P.M. Mar. 31/70

Remarks	Start	Stop	Interval
Rig to Run plug # 2	7[00]	7[00]	1
Run plug # 2 @ 300' to 200'	9[00]		
w/ 75 sax cement + 2% CaCl₂		9[30]	½
W.O.C	9[30]	10[00]	[redacted]½
Rig up Cementer & [redacted]	10[00]		
50 sacks cement + 2% CaCl₂ -			
Displace to 150' w/ water		10[15]	¼
W.O.C	10[15]	4[00]	5¾

Tour — 4 p.m. to Midnight

Specify actual hours worked	Hrs.
Driller Dave Johnson	[illegible]
Derrick [illegible]	[illegible]
Floor [illegible]	[illegible]
Floor [illegible]	[illegible]
Floor T. Eymundson	[illegible]
Motor	
Mechanic	
Extra	

Injuries:

Fires:

From	Footage	To	Hrs. on Bottom
0	30	30	¾

BITS No.	Size	Type	Size Jets	Serial No.	Weight	R.P.M.	Ft. Drilled	Hrs.
4	9⅞	OSC3	[illegible]	20251	All	130	30	¾

Remarks	Start	Stop	Interval
W.O.C	4[00]	6[00]	2
Felt cement at 150' and	6[00]		
lay down pipe		6[15]	¼
Tear out & move rig in	6[15]	9[45]	3½
Drill rat hole	9[45]	15	[illegible]
Drill [illegible] hole	15	[illegible]	¾

SPUD 1145 p.m.

Totco Ring on Bit No. D.P. Calipered Date Results From Pipe Rack

B.O.P. Test-Operated Time Results

Total Contractor Time Hrs. Toolpusher [illegible]

Total Company Time Hrs. Approved by [illegible]

TRI-CITY DRILLING LTD.

DAILY DRILLING REPORT

BOARD **DAY WORK RECORD**

NOTE—Please show FOOTAGE made while "Control Drilling" as well as HOURS.

RIG No. 3 LOCATION Great Plains N-65 AREA N.W.T. DATE March 30 1970

Tour — Midnight - 8 a.m.

Specify actual hours worked	Hrs.
Driller Robert Rizzoli	12
Derrick Wallace [illegible]	12
Floor [illegible] [illegible]	12
Floor [illegible] Ferris	12
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

From: 1546

Mud Additives: 5500 # Gel; 100 Caustic; 50 # Lime

Remarks	Start	Stop	Integral
Serv. R.G.	12.00	12.15	¼
Pump mud in Hole	12.15	1.00	¾
Mix mud	1.00	5.00	4
Wait on lost circ. material	5.00	8.00	3

Company Time Cont'r Time

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked	Hrs.
Driller	
Derrick	
Floor	
Floor	
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

From: 1548

Mud Additives: 800 # Gel

Remarks	Start	Stop	Integral
Serv. R.G.	8.00	8.15	¼
Wait on lost circ. material	8.15		
Run in 19 singles		11.00	
Mix mud	1.00	2.30	1½
Stuck in Hole	2.30	4.00	[illegible]

Company Time Cont'r Time

Tour — 4 p.m. to Midnight

Specify actual hours worked	Hrs.
Driller Don Larson	
Derrick [illegible]	
Floor [illegible]	
Floor Steve Hawrylik	
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

From: 1548

Mud Additives: 15 # Caustic; 450 # Gel

Felt top @ 1235' 6 am March 31/70

General: Plug # 1 1410-1250 65/50 sacks Cement + 3% [illegible] - Displaced w/ [illegible] bbls water - Plug down 9:30 P.M.

Remarks	Start	Stop	Integral
Stuck in hole	4.00	4.30	½
Free pipe + circ.	4.30	5.30	1
Pull out singles + run	5.30		
in + singles open end		6.00	½
Mix gel	6.00	[illegible]	
[illegible]	[illegible]	7.30	1
Ream to 1410' - bridged #	7.30		
Circ. to run plug # 1		9.00	1½
Run plug # 1 1410-1250	9.00	9.30	½
Pull out of hole - W.O.C.	9.30	12.00	2½

Company Time Cont'r Time

Totco Ring on Bit No. ______ D.P. Calipered Date ______ Results ______ From Pipe Rack ______

B.O.P. Test-Operated ______ Time ______ Results ______

Total Contractor Time ______ Hrs. Toolpusher ______

Total Company Time ______ Hrs. Approved by [signature]

TRI-CITY DRILLING LTD.

DAILY DRILLING REPORT

BOARD **DAY WORK RECORD**

NOTE—Please show FOOTAGE made while "Control Drilling" as well as HOURS.

RIG No. 3 LOCATION Green Plains M65 AREA Nat. DATE March 29 1970

Tour — Midnight - 8 a.m.

Specify actual hours worked	Hrs.
Driller Roger Rizzol	12
Derrick [illegible]	12
Floor [illegible]	12
Floor [illegible] Ferras	12
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

From	Footage	To	Hrs. on Bottom	Wt. Drill String	Drill Collars No.	O.D.	I.D.	Wgt.	Fuel	Water	Coal
1426	54	1480	7 1/4	32,000	15	4 3/4	2 1/4	15,000			

BITS

No.	Size	Type	Size Jets	Serial No.	Weight	R.P.M.	Ft. Drilled	Hrs.	Feet Reamed	Hrs.	Condition
2	6 3/4	OWV	3/16	2162	18	120	22				

MUD	12 Mn.	2 a.m.	4 a.m.	6 a.m.
WEIGHT	70	70	71	71
VISCOSITY	40	40	37	38
GEL				

PUMPS · W.L. · F.C. · pH

Remarks	Start	Stop	Interval
Serv. Rig	12[00]	12[15]	1/4
DRLG 6 3/4 Hole	12[15]	8[00]	7 3/4

Company Time · Con't Time

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked	Hrs.
Driller	
Derrick	
Floor	
Floor	
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

From	Footage	To	Hrs. on Bottom	Wt. Drill String	Drill Collars No.	O.D.	I.D.	Wgt.	Fuel	Water	Coal
1480	46	1526	4 1/2	31,000	15	4 3/4	2 1/4	15			

BITS

No.	Size	Type	Size Jets	Serial No.	Weight	R.P.M.	Ft. Drilled	Hrs.	Feet Reamed	Hrs.	Condition
2	6 3/4	OWV	3/16	2162	18	120	77	12 1/2			
3	6 3/4	OWV	3/16	[illegible]	18	120	20	3/4			

MUD · PUMPS · W.L. · F.C. · pH

Totals: 1526

Remarks	Start	Stop	Interval
Serv. Rig + check BOP's	8[00]	8[15]	1/4
DRLG 6 3/4 Hole	8[15]	12[00]	3 3/4
Set [illegible] + Serv. Rig + [illegible]	12[00]	12[15]	1/4
Fix Kelly Hose	12[15]	1[00]	3/4
Trip for Bit	1[00]	3[00]	2
Work on Pump	3[00]	3[15]	1/4
DRLG 6 3/4 Hole	3[15]	4[00]	3/4

Company Time · Con't Time

Tour — 4 p.m. to Midnight

Specify actual hours worked	Hrs.
Driller Dave Johnson	12
Derrick Victor Chyz	12
Floor [illegible]	12
Floor Steve [illegible]	12
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

From	Footage	To	Hrs. on Bottom	Wt. Drill String	Drill Collars No.	O.D.	I.D.	Wgt.	Fuel	Water	Coal
1526	22	1548	3 1/4	30,000	15	4 3/4	2 1/4	15			

BITS

No.	Size	Type	Size Jets	Serial No.	Weight	R.P.M.	Ft. Drilled	Hrs.	Feet Reamed	Hrs.	Condition
3	6 3/4	OWV	3/16	[illegible]	18	120	[illegible]	[illegible]			

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT	9.1			
VISCOSITY	42			
GEL				

Additives: Gel 2000, Caustic 100, Sawdust 25 sacks.

PUMPS · W.L. · F.C. · pH

Remarks	Start	Stop	Interval
DRLG 6 3/4 Hole	4[00]	4[30]	1/2
Mix mud for test	4[30]		
Circ at 1534' - full drill			
pipe into casing & mix mud.		6[30]	2
Run back in & mix mud	6[30]	8[00]	1 1/2
Ream back to bottom	8[00]		
and lost [illegible] (Drill - 15 feet)		10[00]	2
Pull [illegible] to [illegible]	10[00]	11[00]	1
out of hole.	11[00]	12[00]	1

Company Time · Con't Time

Totco Ring on Bit No. ______ D.P. Calipered Date ______ Results ______ From Pipe Rack ______

B.O.P. Test-Operated ______ Time ______ Results ______

Total Contractor Time ______ Hrs. Toolpusher ______

Total Company Time ______ Hrs. Approved by George [illegible]

TRI-CITY DRILLING LTD.

DAILY DRILLING REPORT

BOARD DAY WORK RECORD

NOTE—Please show FOOTAGE made while "Control Drilling" as well as HOURS.

RIG No. 3 LOCATION GREAT PLAINS M-65 AREA N.W.T. DATE MARCH 31 1970

Tour — Midnight - 8 a.m.

Specify actual hours worked	Hrs.
Driller Roger Rizzoli	12
Derrick Richard Bourque	12
Floor Robert Nassim	12
Floor Harold Ferris	12
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

Drill Collars: 10, $4\frac{3}{4}$, $2\frac{1}{4}$

Mud: Weight 93; Viscosity 60

Additives / Remarks: DST #1 13775-14063 [illegible] 7 [illegible] [illegible] [illegible] 60' Drilling [illegible] 13,470 [illegible] [illegible] [illegible] [illegible] F 160 [illegible] [illegible] test. [illegible] [illegible]

General: I.H.P. = 637, I.F.P. 66, I.S.I.P. 133; F.H.P. = 637, F.F.P. 55, F.S.I.P. 133

B.H.T. = 92°F.

Remarks	Start	Stop	Interval
SERV RIG STRAP in Hole	12:00	12:15	1/4
Strap in Hole	12:15	3:45	3 1/2
Mix Mud	3:45	4:30	3/4
Run in 5 singles	4:30	4:45	1/4
Circ out [illegible]	4:45	5:15	1/2
Hoist Test #1	5:15	6:00	3/4
Break down test, serv test	6:00		
Tools & load out same		8:00	2

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked	Hrs.
Driller	
Derrick	
Floor	
Floor	
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

Additives: Gell 35; [illegible] 50; Caustic 2

Remarks	Start	Stop	Interval
SERV RIG [illegible]	8:00	8:15	1/4
Run in w/Fishing Tool	8:15	9:15	1
Fishing	9:15	11:30	2 1/4
Hoist Fish	11:30	[illegible]	[illegible]
[illegible]	13	3:00	1/2
Run in [illegible]	3:00	4:00	1

Tour — 4 p.m. to Midnight

Specify actual hours worked	Hrs.
Driller [illegible] Johnson	12
Derrick [illegible]	12
Floor [illegible]	12
Floor [illegible]	12
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

From 14063, Footage 23, To 14086, Hrs. on bottom 7 1/2

Bits: 3, $7\frac{7}{8}$

Mud: Weight 93; Viscosity 65

Remarks	Start	Stop	Interval
[illegible]			
[illegible]			
Run in w/ [illegible]	[illegible]	[illegible]	[illegible]
with Basket [illegible]			
Pick up suspected iron [illegible]	5:30	8:30	3
TRIP out & Run in with Bit	8:30	10:30	2
Drl [illegible] Hole	10:30	12:00	1 1/2

Tetco Ring on Bit No. ______ D.P. Calipered Date ______ Results ______ From Pipe Rack ______

B.O.P. Test-Operated ______ Time ______ Results ______

Total Contractor Time ______ Hrs. Toolpusher [illegible]

Total Company Time ______ Hrs. Approved by George [illegible]

TRI-CITY DRILLING LTD.

DAILY DRILLING REPORT

RIG No. 3 LOCATION GREAT PLAINS AREA N.W.T. DATE MAR 27 1970

Tour — Midnight - 8 a.m.

Specify actual hours worked	Hrs.
Driller Robert Rizzoli	12
Derrick Rolland Bourque	12
Floor Robert Nashim	12
Floor Hamid Ferris	12
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

MUD — Weight: 9.6; Viscosity: 37

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked	Hrs.
Driller	
Derrick	
Floor	
Floor	
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

Tour — 4 p.m. to Midnight

Specify actual hours worked	Hrs.
Driller Dave Johnson	
Derrick [illegible]	12
Floor Dan S[illegible]	12
Floor Steve M[illegible]	12
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

General: STRAP OUT .66 DIFF

DAY WORK RECORD

NOTE—Please show FOOTAGE made while "Control Drilling" as well as HOURS.

REMARKS	Time Start	Time Stop	Interval
SERV RIG	12^00	12^15	1/4
[redacted] BOP's	12^15	4^15	4
pick up singles + [redacted] Kelly	4^15		
To Bottom [illegible]		5^15	1
Circ + clean to Bottom	5^15	6^15	1
CIRC To COND Hole	6^15	6^45	1/2
DUMMY TRIP 10 STANDS	6^45	7^00	1/4
Circ + WAIT ON TESTER	7^00	8^00	1

Company Time — Cont'r Time

REMARKS	Time Start	Time Stop	Interval
WAIT ON TESTER'S [illegible]	8^00	12^00	4
Serv Rig [illegible]	12^00	12^15	1/4
Circ + [illegible]	12^15	3^15	3
Adjust For Test # 1	3^15	[redacted]	3/4
[illegible] Down 9 Singles			
[redacted] [illegible]			
(.66 DIFF no correction)			

Company Time — Cont'r Time

REMARKS	Time Start	Time Stop	Interval
[redacted] MAKE UP PACKER	[redacted]	[redacted]	1
RUN IN WITH PACKER	5^00	6^30	1 1/2
[illegible] to TEST	6^30	[illegible]	[illegible]
TEST [illegible]	6^30	10^00	3 1/2
Hole Test # 1 Stuck in Hole	10^00	12^00	2
@ 7^00			
			7

Company Time — Cont'r Time

Total Contractor Time Hrs. — Toolpusher

Total Company Time Hrs. — Approved by George [illegible]

Totco Ring on Bit No. — D.P. Calipered Date — Results — From Pipe Rack

B.O.P. Test-Operated — Time — Results

TRI-CITY DRILLING LTD.

DAILY DRILLING REPORT

RIG No. 3 **LOCATION** Gleas Plains **AREA** **DATE** March 26 1970

Tour — Midnight - 8 a.m.

Specify actual hours worked	Hrs.
Driller Robert Riazol	12
Derrick Richard Bourke	12
Floor Robert Nashum	12
Floor Hamid Ferris	12
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	Drill Collars No.	O.D.	I.D.	Wgt.
821	581	1402	7½	24,000	10	2⅞	2¼	15

BITS

No.	Size	Type	Size Jets	Serial No.	Weight	R.P.M.	Ft. Drilled	Hrs.	Feet Reamed	Hrs.	Condition
1	6¾	[illegible]-3	3 ⅛	10585	18	160	1147	8			

MUD Weight / Viscosity / Gel — Additive:

At Survey Degree: [illegible]

D. Collars: [illegible]; Other Ft.: [illegible]

DAY WORK RECORD

NOTE—Please show FOOTAGE made while "Control Drilling" as well as HOURS.

Remarks	Start	Stop	Interval
Serv Rig	12:00	12:15	¼
Drlg 6¾ Hole	12:15	3:00	3¾ (?)
Run survey @ 1158 1°	3:00	4:00	¼ (?)
Drlg 6¾ Hole	4:00	8:00	4

Company Time — Cont. Time

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked	Hrs.
Driller	
Derrick	
Floor	
Floor	
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

Remarks	Start	Stop	Interval
Serv Rig	8:00	8:15	¼
Trip for Bit	8:15	9:30	1¼
[redacted]	9:30		
[redacted] [illegible] on BOP		3:00	5½
Run in & Circ to kill well	3:00	4:00	1
			8

Company Time — Cont. Time

Tour — 4 p.m. to Midnight

Specify actual hours worked	Hrs.
Driller Dick Hanson	12
Derrick [illegible] Chyz	12
Floor [illegible] Sebcker	12
Floor Steve Makrycki	12
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

From	Footage	To
1402	—	—

Stands: [illegible]

MUD Additive: 200# Gel

Remarks	Start	Stop	Interval
Circ & mix mud	4:00		
Work on BOP		12:00	8

Company Time — Cont. Time

Totco Ring on Bit No. ______ D.P. Calipered Date ______ Results ______ From Pipe Rack ______

B.O.P. Test-Operated ______ Time ______ Results ______

Total Contractor Time ______ Hrs. Toolpusher ______

Total Company Time ______ Hrs. Approved by George [illegible]

TRI-CITY DRILLING LTD.

DAILY DRILLING REPORT

RIG No. 3 LOCATION CREST PRAIRIE AREA DATE MAR 25 1970

Tour — Midnight - 8 a.m.

Specify actual hours worked	Hrs.
Driller Robert Rizzuli	12
Derrick Richard Dwight	12
Floor Robert McNeil	12
Floor David Ferris	12
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked	Hrs.
Driller	
Derrick	
Floor	
Floor	
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

General: [illegible] ... 3½ ... 600 OK ... [illegible] OK

Tour — 4 p.m. to Midnight

Specify actual hours worked	Hrs.
Driller Dale Johnson	12
Derrick [illegible]	12
Floor [illegible]	12
Floor Steve [illegible]	12
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	Drill Collars No.	O.D.	I.D.	Wt.
255	566	821	7½	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Bits No.	Size	Type	Size Jets	Serial No.	Weight	R.P.M.	Ft. Drilled	Hrs.	Condition
1	7⅞	OSC3		165[illegible]	16	[illegible]	566	7½	RR

Additives: [illegible]

At Survey Degree: 636 ½

Total: 821

DAY WORK RECORD

NOTE—Please show FOOTAGE made while "Control Drilling" as well as HOURS.

Remarks	Start	Stop	Interval
[illegible]	12	8	

Company Time / Cont'r Time

Remarks	Start	Stop	Interval
Nipple up BOPs	8	130	5½
[redacted] pressure up BOPs [illegible]	130	145	¼
Run in pressure up pipe [illegible]	145	245	1
Pressure up Hydril [illegible]	245	3[illegible]	[illegible]
Drill out cement	3[illegible]	4[illegible]	1
			8

Company Time / Cont'r Time

Remarks	Start	Stop	Interval
Drill out cement	4[illegible]	4[illegible]	[illegible]
[redacted] hole	[redacted]	[redacted]	
[redacted]			
Drill 7⅞ hole	445	600	1¼
Displace hole + serv rig	600	615	¼
Drill 7⅞ hole	615	945	3½
Survey + pump pit	945	100[illegible]	¼
Drill 7⅞ hole	1000	12	2
			8

Total Ring on Bit No. D.P. Calipered Date Results From Pipe Rack

B.O.P. Test-Operated Time Results

Total Contractor Time Hrs. Toolpusher

Total Company Time Hrs. Approved by George [illegible]

TRI-CITY DRILLING LTD.

DAILY DRILLING REPORT

DAY WORK RECORD

NOTE—Please show FOOTAGE made while "Control Drilling" as well as HOURS.

RIG No. 3 LOCATION Green Plns AREA DATE March 24 1970

Tour — Midnight - 8 a.m.

Specify actual hours worked	Hrs.
Driller Roger Kozak	12
Derrick Robert Burnham	12
Floor Ryan Nashwan	12
Floor Claud Ferris	12
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

From	Footage	To	Hrs. on Bottom	Wt. Drill String	Drill Collars No.	O.D.	I.D.	Wgt.
0	126	126	4¾	9	3	4½	1¾	5

BITS: No. 1 — Size 9⅞ — Type RR [illegible] — Serial No. 2441 — R.P.M. 160 — Ft. Drilled 126 — Condition [illegible]

MUD: 15 — gel 8 — Caustic 400 — [illegible] 50

At Survey Degree: 126 — ½

Remarks	Start	Stop	Interval
Drill Rat Hole	12⁰⁰	1⁰⁰	1
Work on pump	1⁰⁰	2⁰⁰	1
Spud in + Drill 9⅞ Hole	2⁰⁰	6⁰⁰	4
Mix mud	6⁰⁰	7⁰⁰	1
Drlg 9⅞ Hole	7⁰⁰	7⁴⁵	¾
Run Survey @ 126	7⁴⁵	8⁰⁰	¼
			8

Company Time — Con't Time

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked	Hrs.
Driller	
Derrick	
Floor	
Floor	
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

From	Footage	To	Hrs. on Bottom
126	129	255	4

BITS: 1 — 9⅞ — [illegible] — 2441 — 180 — 255 — [illegible]

MUD: Weight 9.8 — Viscosity 65

At Survey Degree: 255 — ½

KB to shoe, 2[illegible] feet.

General: Ran 6 jts 7" 23# J55 8rd Casing 250 feet. Cemented with 90 sx plus 2% CaCl. Plug down @ 7.15 P.M. March 24 1970. Had Returns.

Remarks	Start	Stop	Interval
Serv Rig + work on pump	8⁰⁰	9⁰⁰	1
Drlg 9⅞ Hole	9⁰⁰	11	[illegible]
Run survey @ 255	11	11³⁰	½
Drlg 9⅞ Hole	11³⁰	[illegible]	1½
Dummy Trip + Ream Hole	1⁰⁰	3⁰⁰	2
Circ Hole	3⁰⁰	4⁰⁰	1

Company Time — Con't Time

Tour — 4 p.m. to Midnight

Specify actual hours worked	Hrs.
Driller [illegible]	12
Derrick [illegible]	12
Floor [illegible]	12
Floor [illegible]	12
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

Remarks	Start	Stop	Interval
Pull out + Drain Casing	4⁰⁰	4³⁰	½
Rig + Run Casing	4³⁰	5⁰⁰	½
Run Casing	5⁰⁰	6⁰⁰	1
Circ Casing	6⁰⁰	6³⁰	½
Cement + Plug Down	6³⁰	7¹⁵	¾
WOC	7¹⁵	12⁰⁰	4¾

Company Time — Con't Time

Tetco Ring on Bit No. — D.P. Calipered Date — Results — From Pipe Rack

B.O.P. Test-Operated — Time — Results

Total Contractor Time — Hrs. — Toolpusher [signature]

Total Company Time — Hrs. — Approved by [signature]

TRI-CITY DRILLING LTD.

DAILY DRILLING REPORT

DAY WORK RECORD

BOARD

NOTE—Please show FOOTAGE made while "Control Drilling" as well as HOURS.

RIG No. 3 LOCATION Grim Plains AREA DATE [illegible] 23 19 70

Tour — Midnight - 8 a.m.

Specify actual hours worked	Hrs.
Driller	
Derrick	
Floor	
Floor	
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

Remarks	Start	Stop	Interval
Moving R. J. Fisher	700	800	1
Campsite to location			
2 miles			

Company Time Cont's Time

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked	Hrs.
Driller Rupert Sizzal	12
Derrick [illegible]	12
Floor [illegible]	12
Floor [illegible] Evans	12
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

Remarks	Start	Stop	Interval
[redacted]			
Moving Rig.	800	[redacted]	
Set up		400	8
[redacted]			

Company Time Cont's Time

Tour — 4 p.m. to Midnight

Specify actual hours worked	Hrs.
Driller Doug Johnson	12
Derrick Jack [illegible]	12
Floor Dan Speckia	12
Floor Steve Markyluk	2
Floor	
Motor	
Mechanic	
Extra	

Injuries:

Fires:

Remarks	Start	Stop	Interval
Waite on Parts.	400	1100	7
Drill rat hole.	1100	1200	1

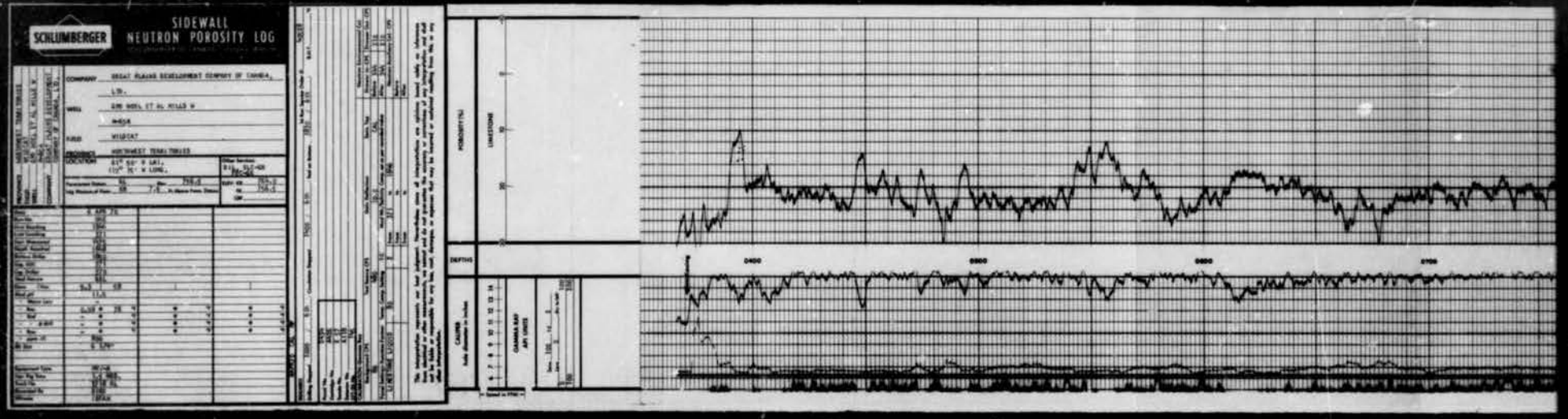
Company Time Cont's Time

Tubes Ring on Bit No. D.P. Calipered Date Results From Pipe Rack

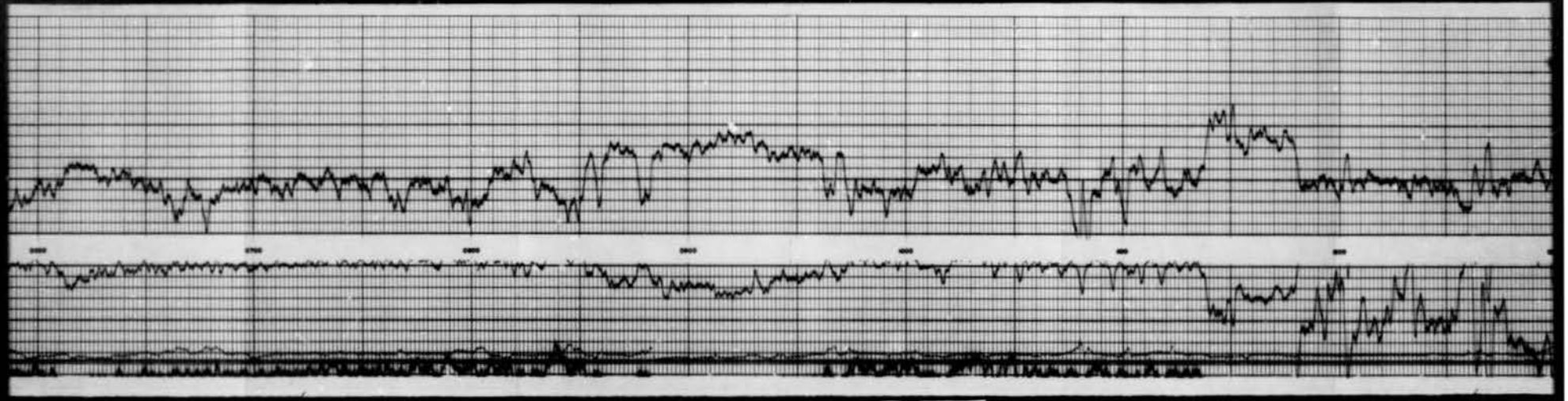
B.O.P. Test-Operated Time Results

Total Contractor Time Hrs. Toolpusher

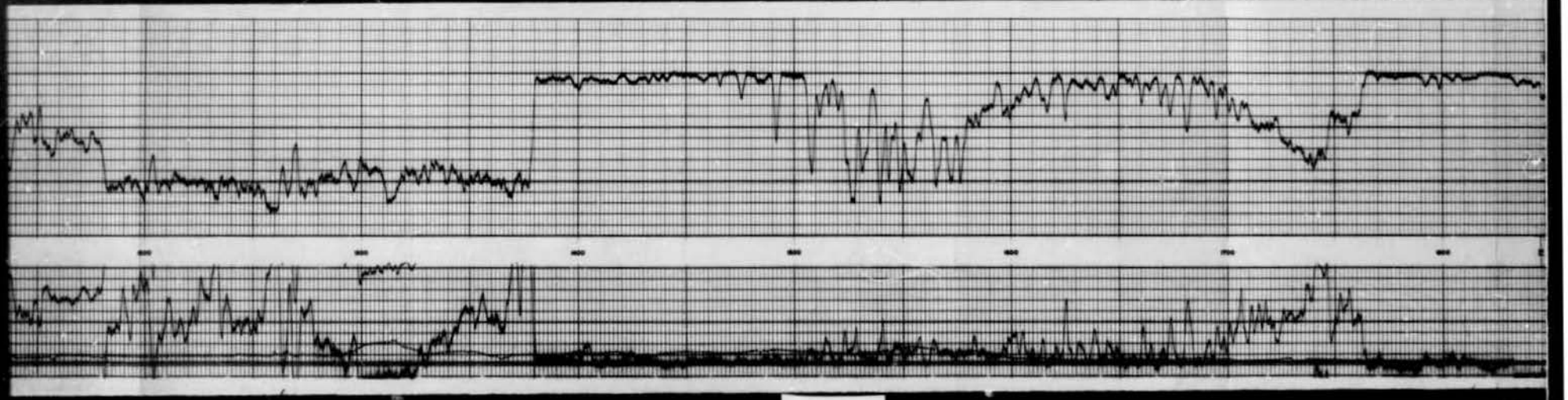
Total Company Time Hrs. Approved by

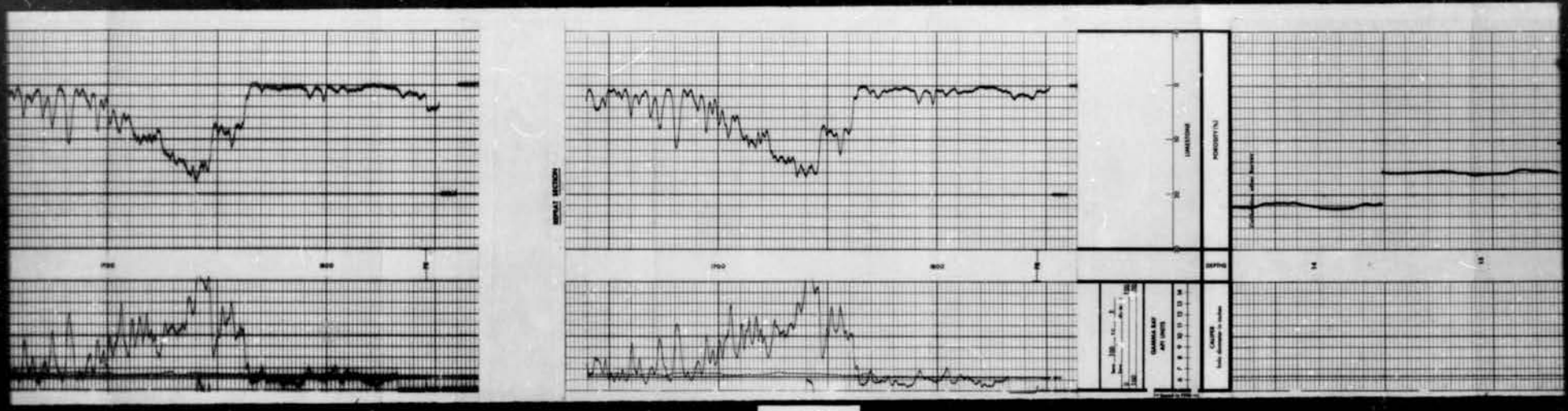

SCHLUMBERGER
SIDEWALL
NEUTRON POROSITY LOG
COMPANY
WELL
FIELD
COUNTY
LOCATION
LIMESTONE
POROSITY (%)
DEPTHS
CALIPER
GAMMA RAY
API UNITS

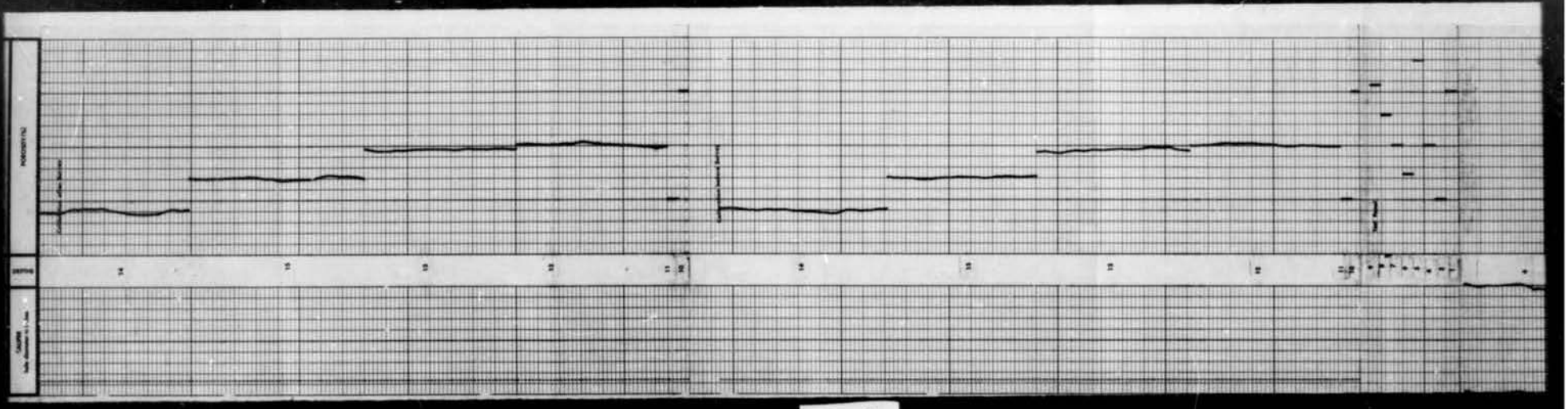
19

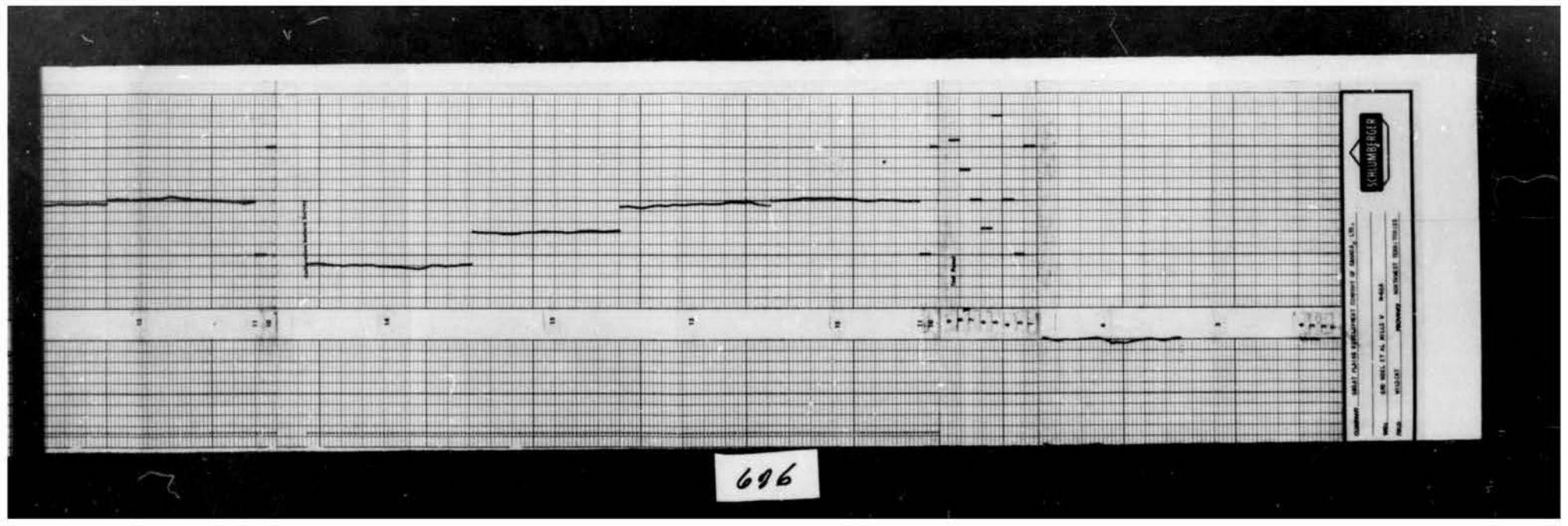


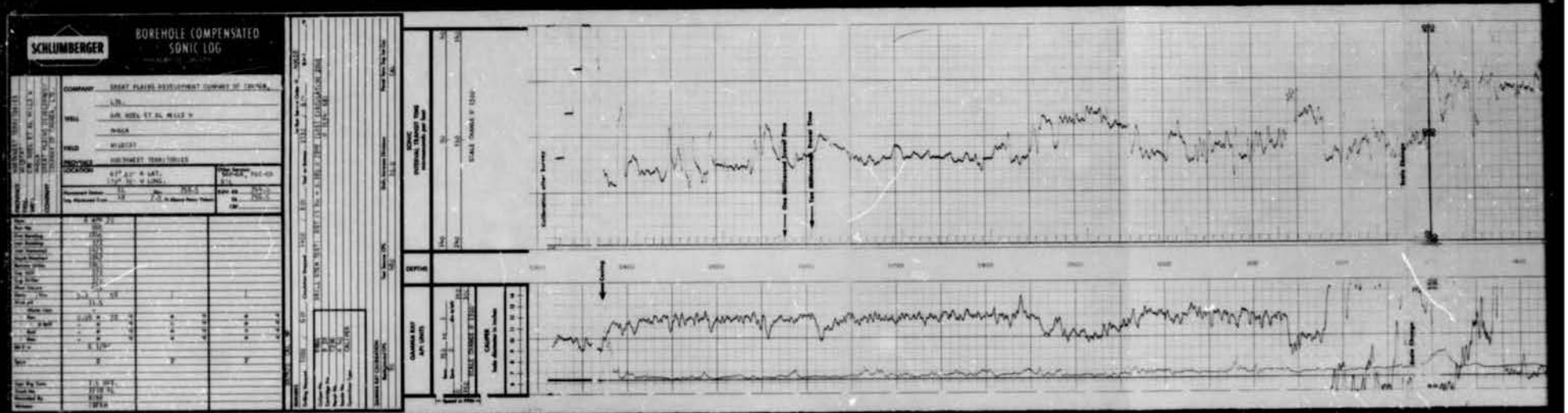
28



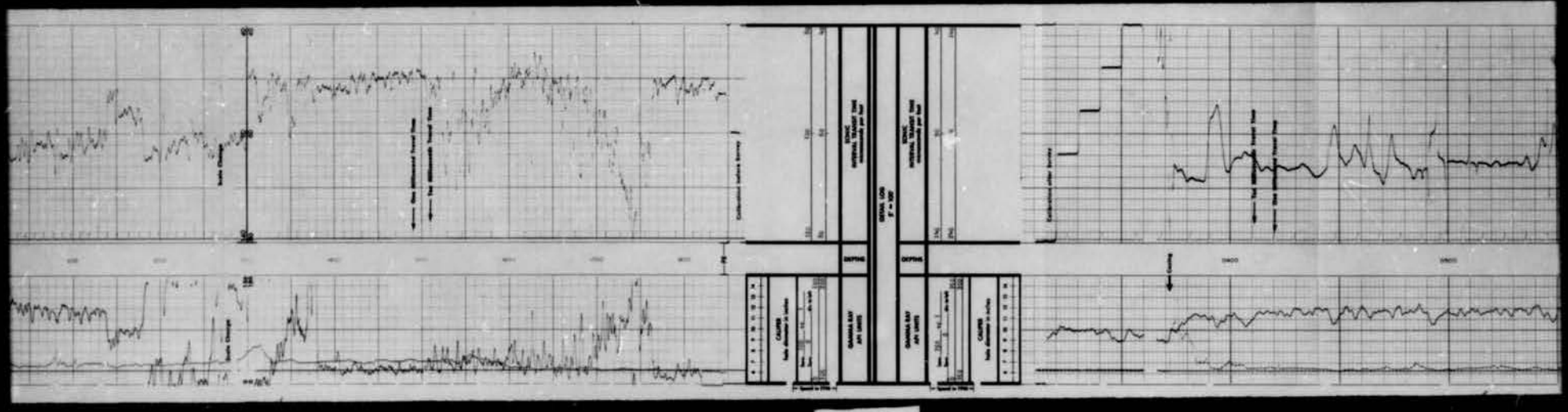

REPEAT SECTION
LIMESTONE
POROSITY (%)
DEPTH
GAMMA RAY API UNITS
CALIPER




SCHLUMBERGER
696


SCHLUMBERGER
BOREHOLE COMPENSATED
SONIC LOG
COMPANY
WELL
FIELD
PROVINCE
NORTHWEST TERRITORIES
DEPTH

19



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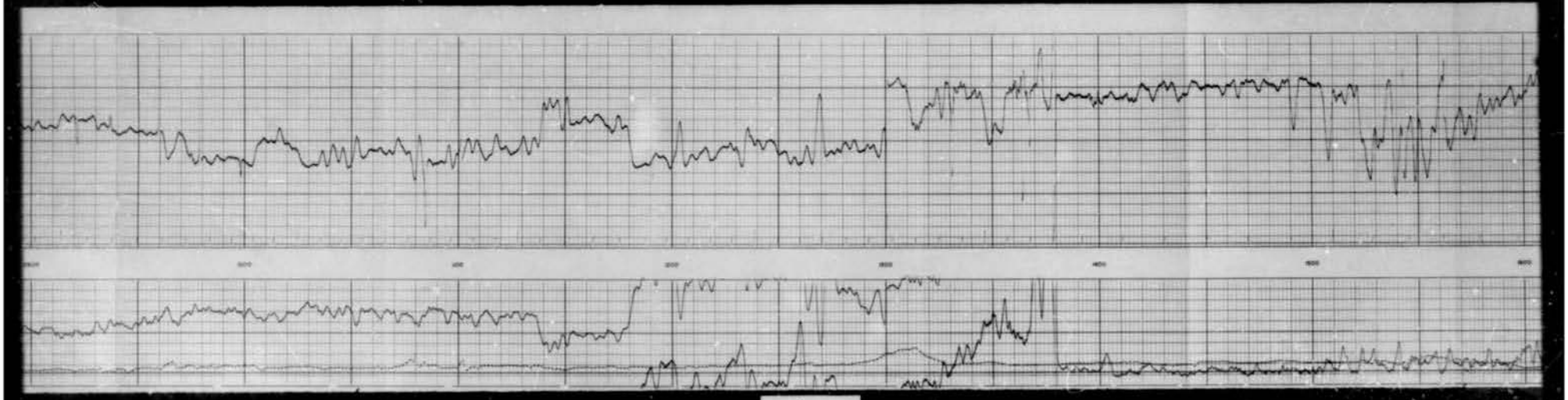

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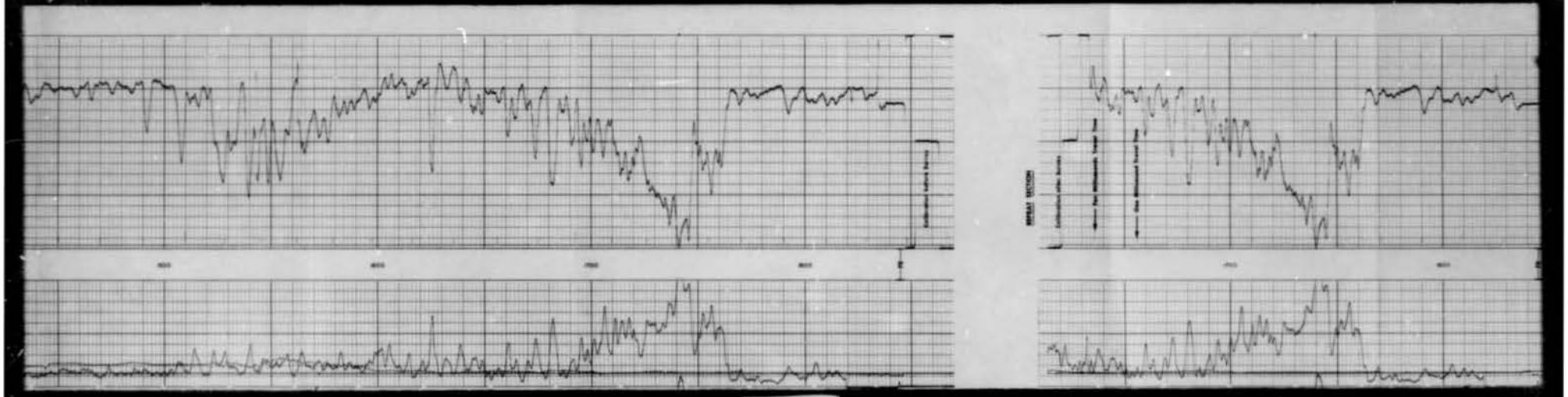

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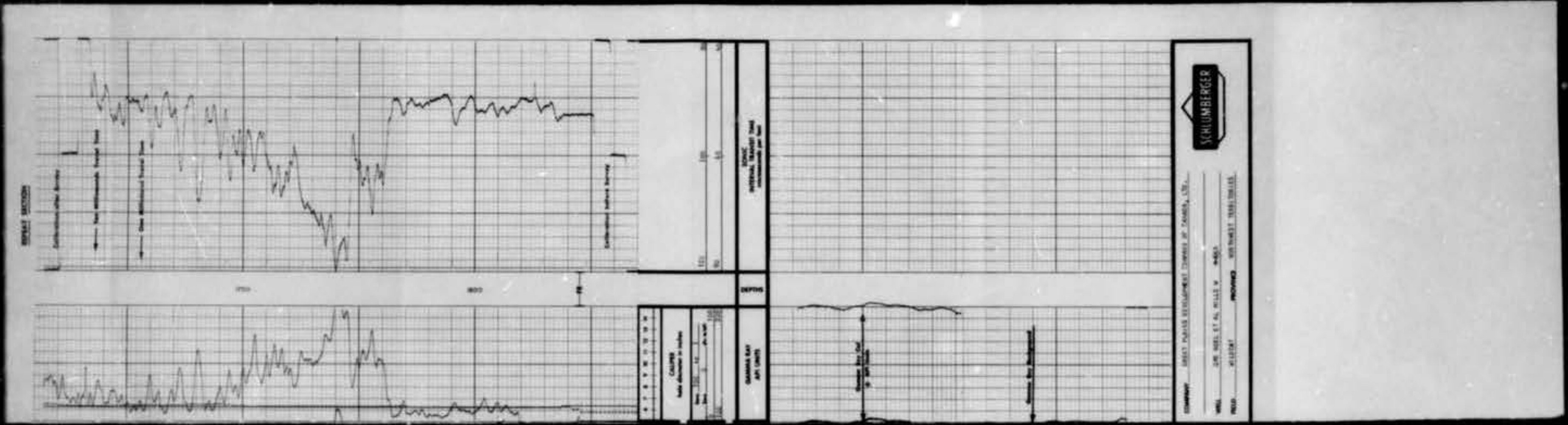


696

SCHLUMBERGER

LITHOLOGY IDENTIFICATION

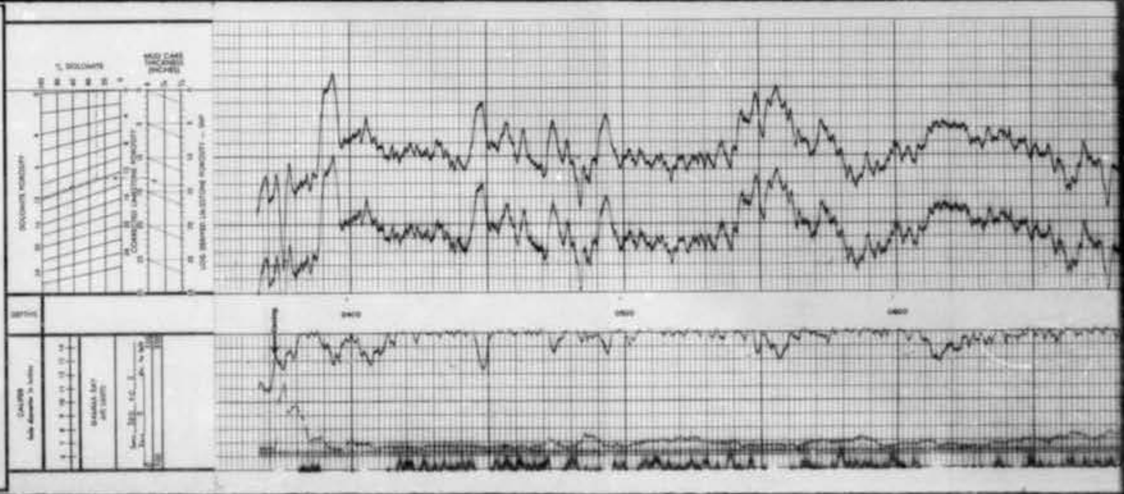
COMPANY GREAT PLAINS DEVELOPMENT COMPANY OF CANADA, LTD.

WELL

FIELD

PROVINCE

LOCATION



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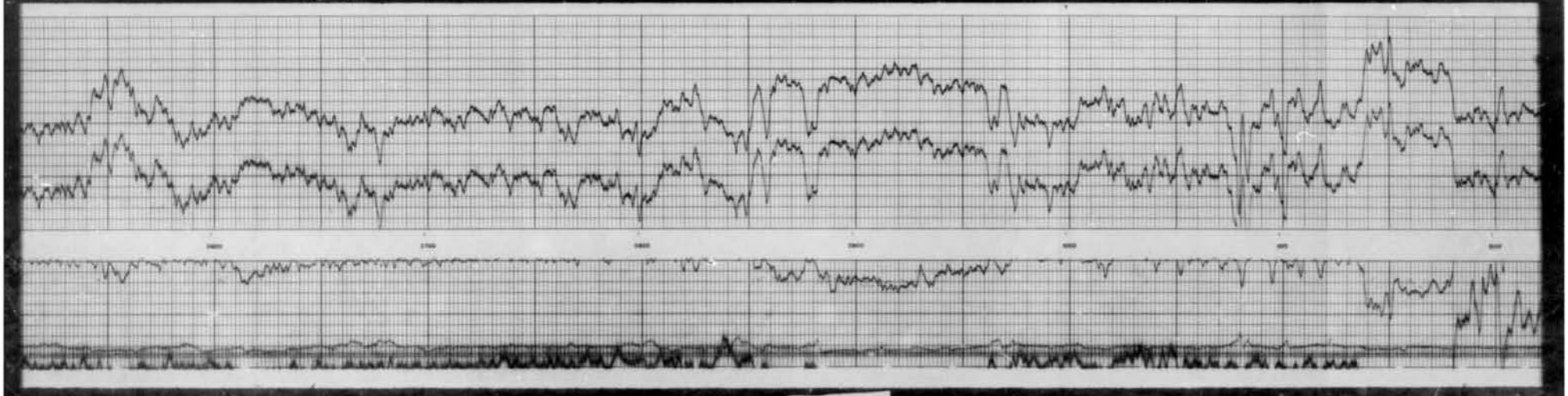

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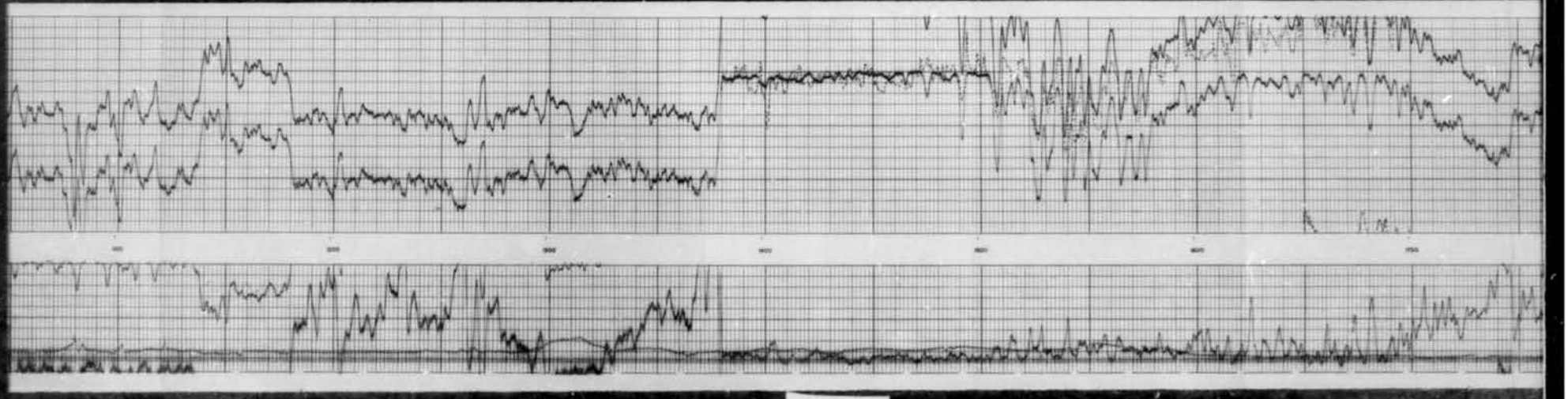

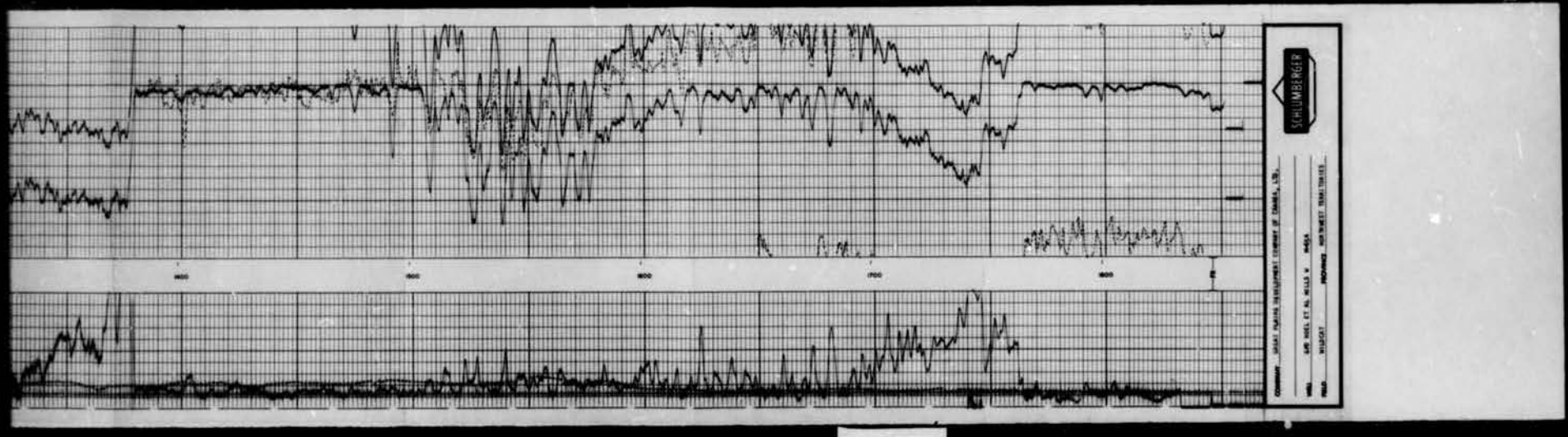

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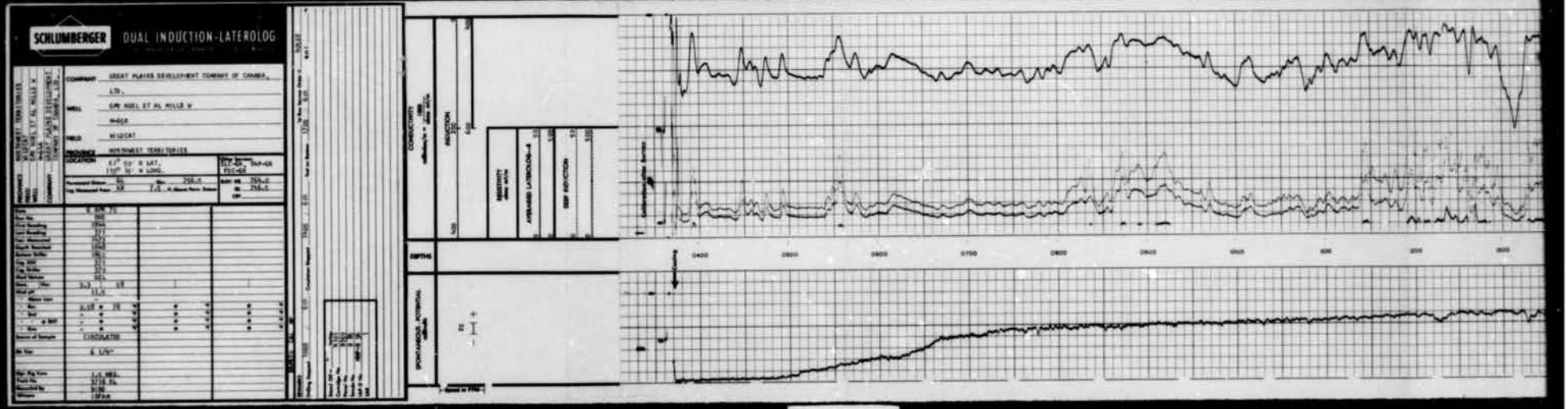
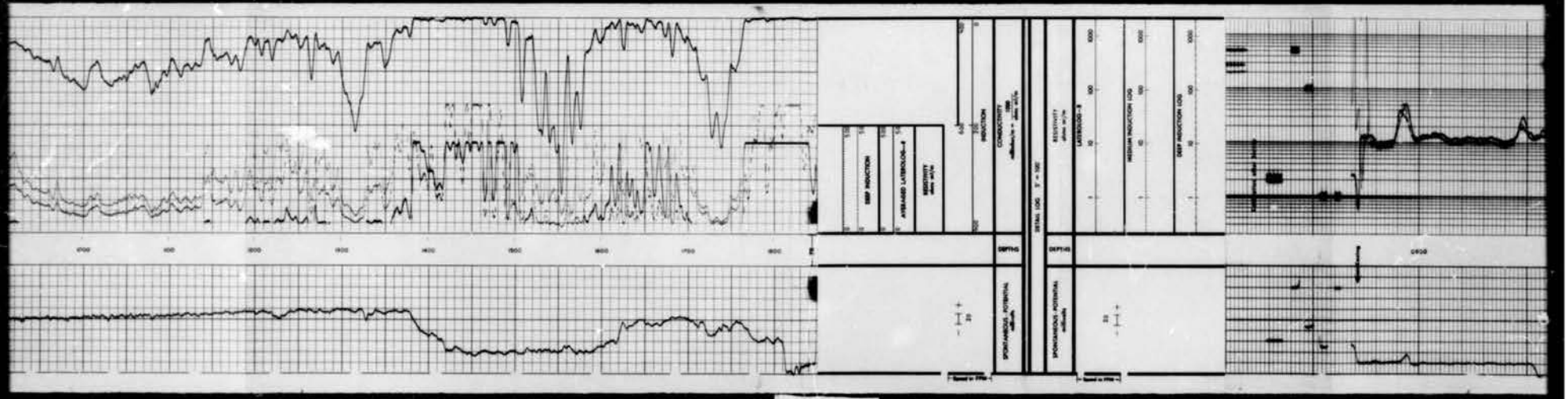
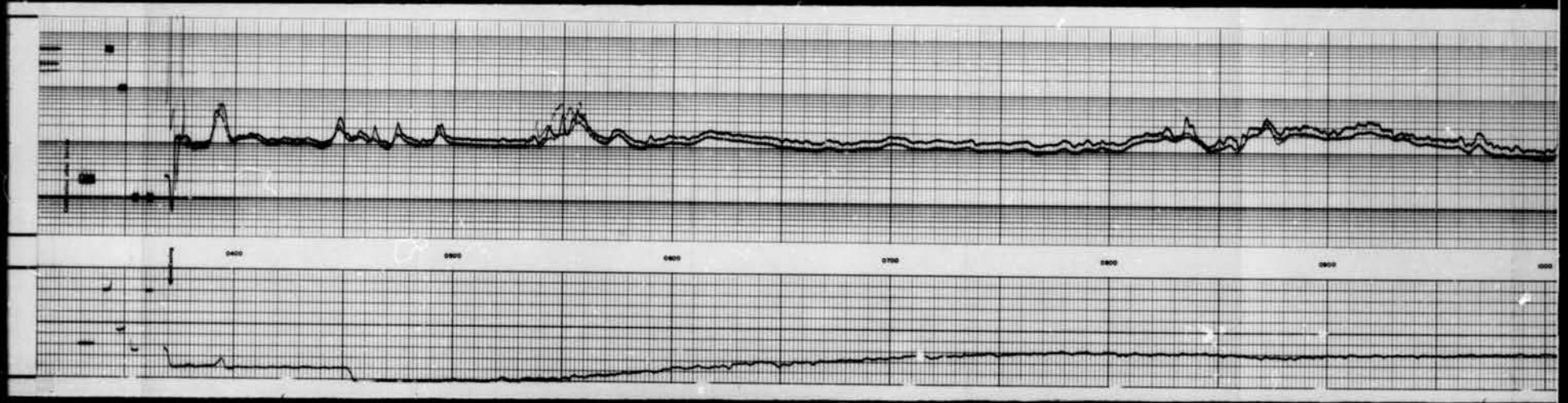

SCHLUMBERGER
DUAL INDUCTION-LATEROLOG
COMPANY GREAT PLAINS DEVELOPMENT COMPANY OF CANADA, LTD.
WELL GRI HOEL ET AL HILLS W
FIELD WILDCAT
PROVINCE NORTHWEST TERRITORIES
LOCATION 61° 50' N LAT. 119° 51' W LONG.
CONDUCTIVITY
INDUCTION
RESISTIVITY
AVERAGED LATEROLOG-8
DEEP INDUCTION
DEPTHS
SPONTANEOUS POTENTIAL
0400
0500
0600
0700
0800
0900
1000
1100
1200
1300

19


DEEP INDUCTION
AVERAGED LATEROLOG-8
RESISTIVITY
SHALLOW INDUCTION
CONDUCTIVITY
DETAIL LOG 5" = 100'
RESISTIVITY
LATEROLOG-8
MEDIUM INDUCTION LOG
DEEP INDUCTION LOG
DEPTH
DEPTH
SPONTANEOUS POTENTIAL
SPONTANEOUS POTENTIAL

28



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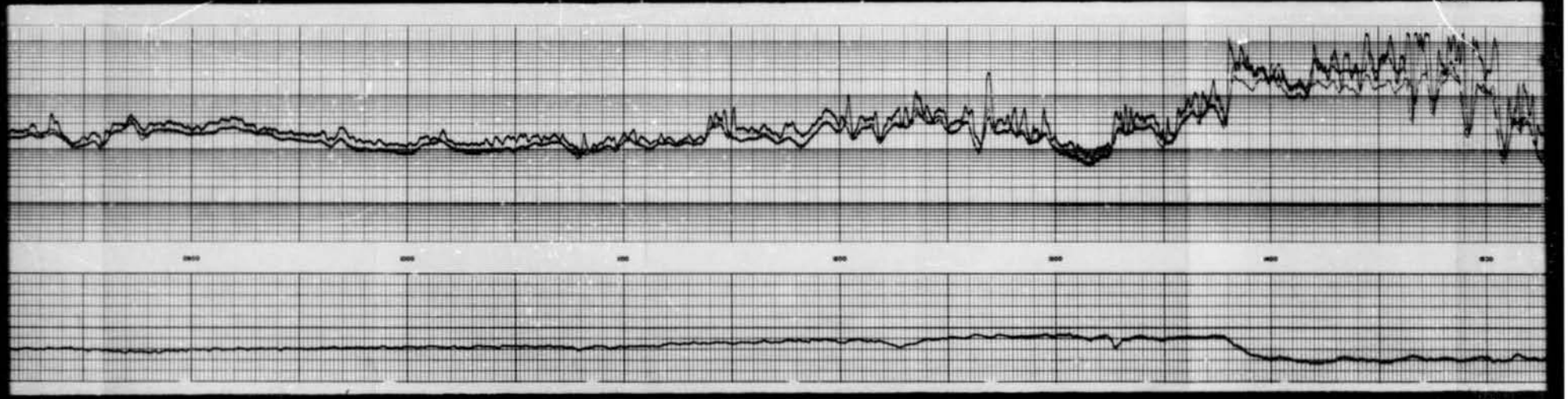

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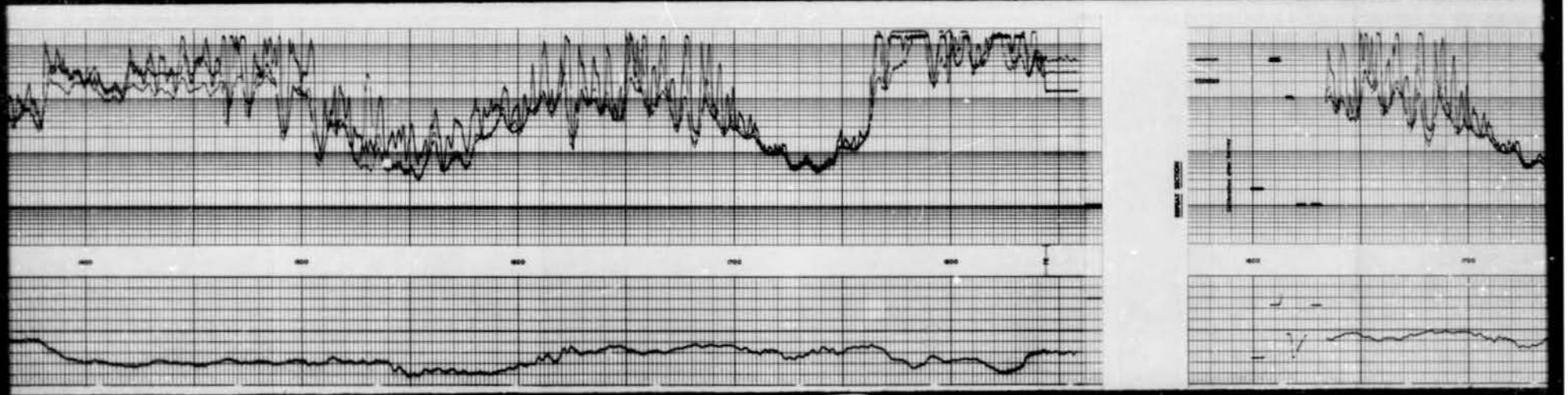

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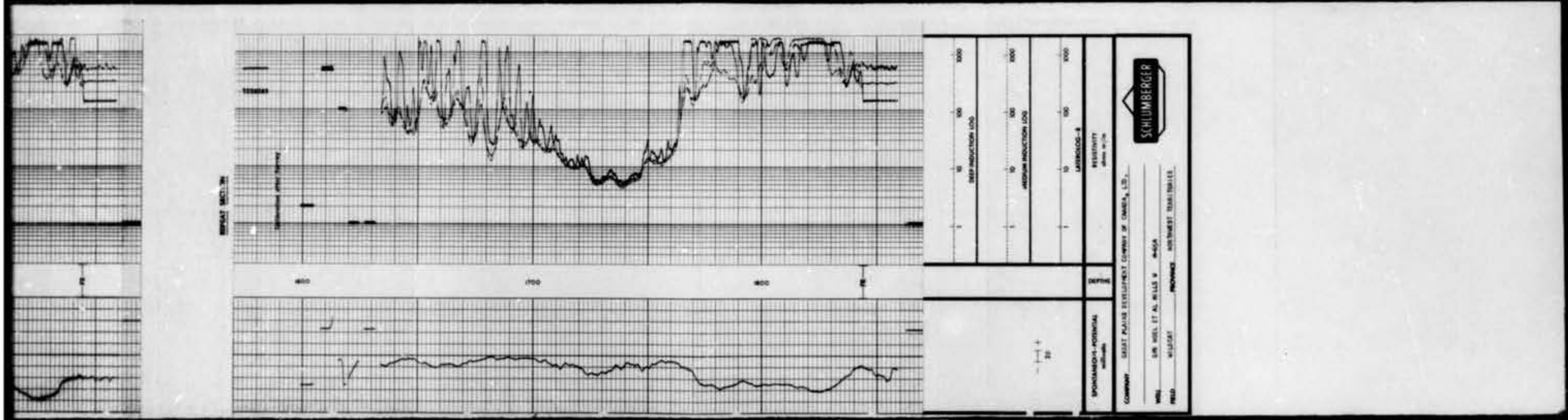
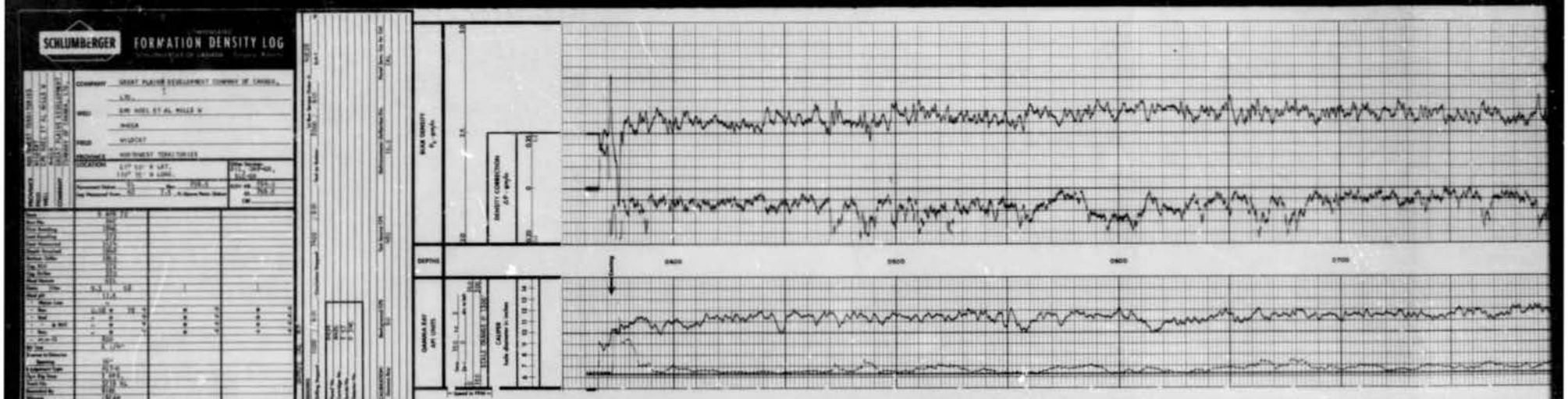
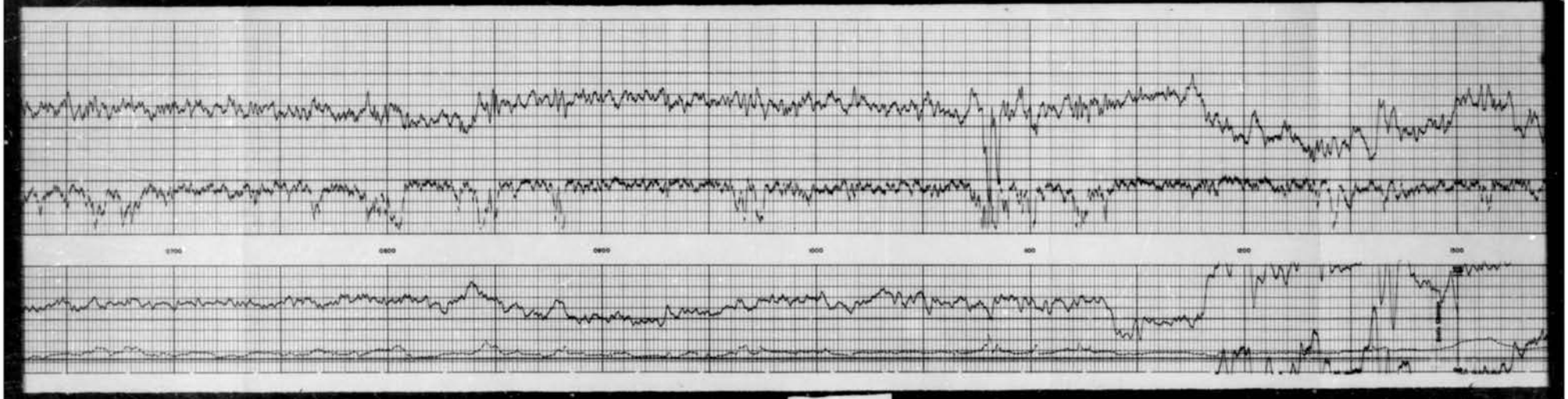


REPEAT SECTION
1600
1700
1800
DEEP INDUCTION LOG
MEDIUM INDUCTION LOG
LATEROLOG-8
RESISTIVITY
DEPTHS
SPONTANEOUS-POTENTIAL
SCHLUMBERGER
COMPANY SASKAT PLAINS DEVELOPMENT COMPANY OF CANADA, LTD.
WELL SIR NOEL ET AL NILLS #
FIELD WILDCAT
PROVINCE NORTHWEST TERRITORIES

696


SCHLUMBERGER
FORMATION DENSITY LOG
COMPANY
WELL
FIELD
LOCATION
BULK DENSITY
DENSITY CORRECTION
DEPTH
GAMMA RAY
CALIPER
0400
0500
0600
0700



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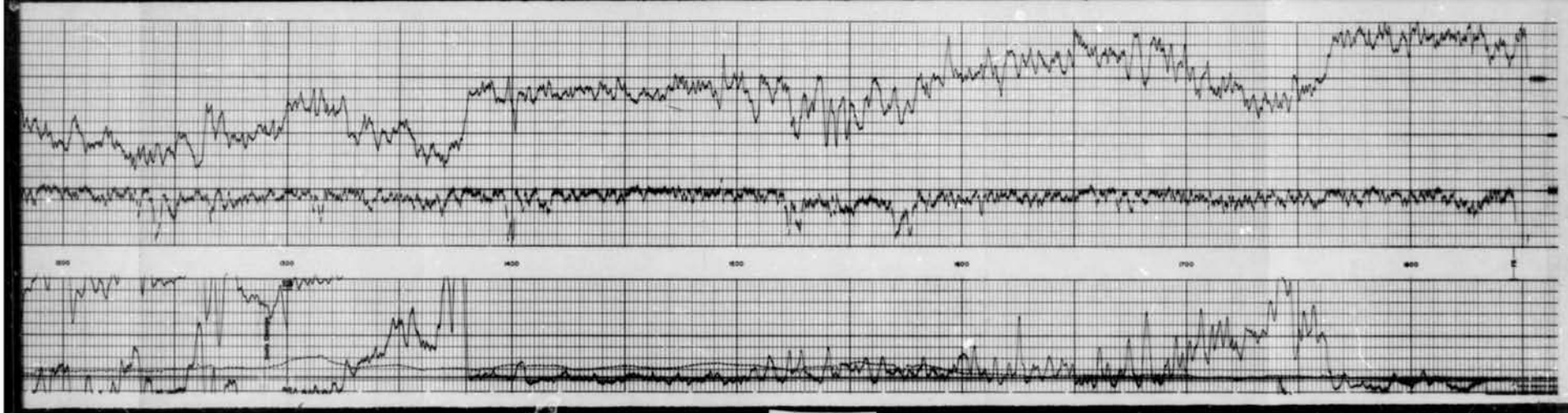

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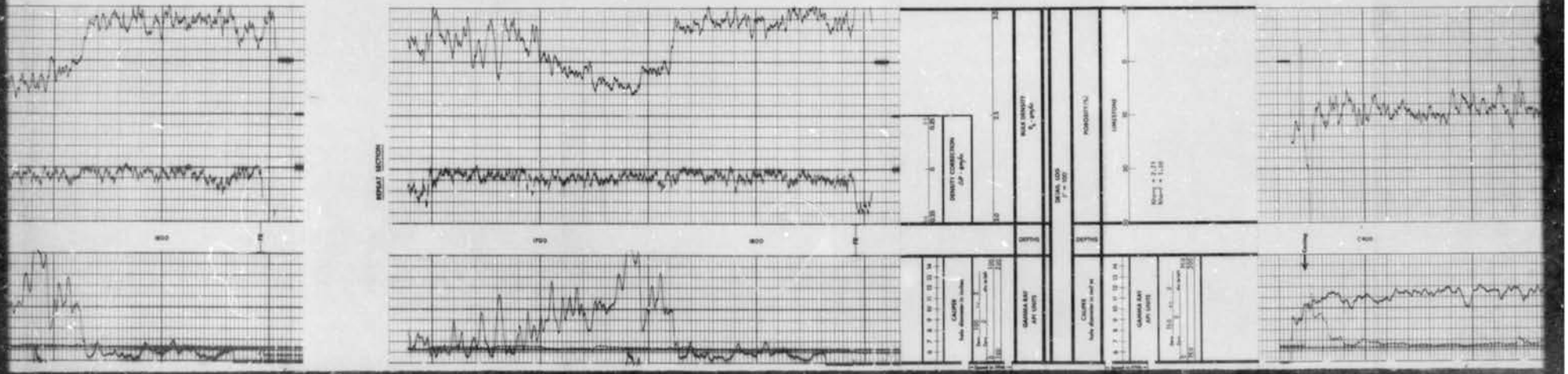

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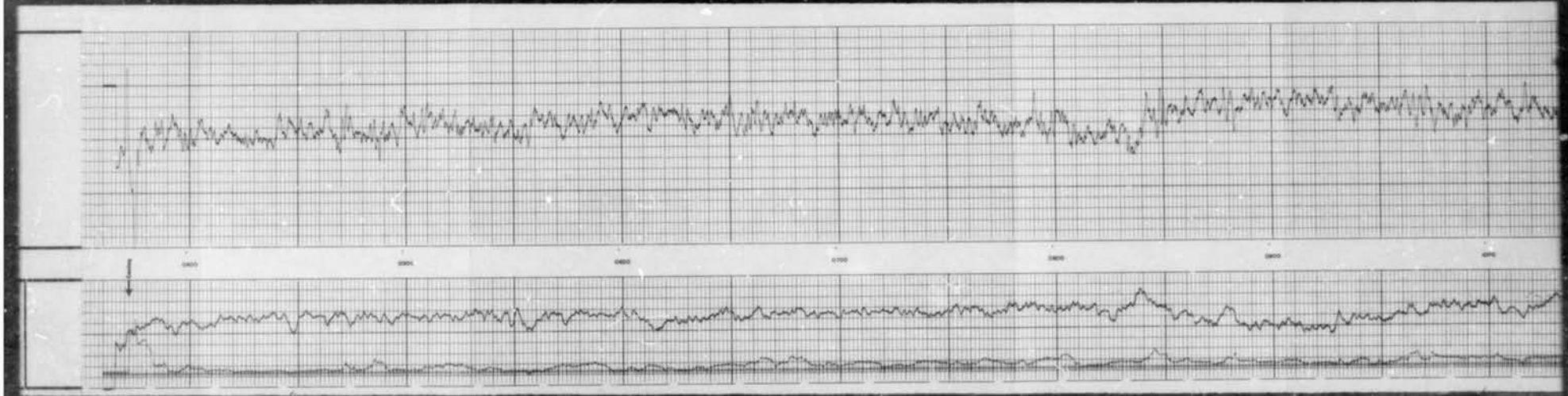

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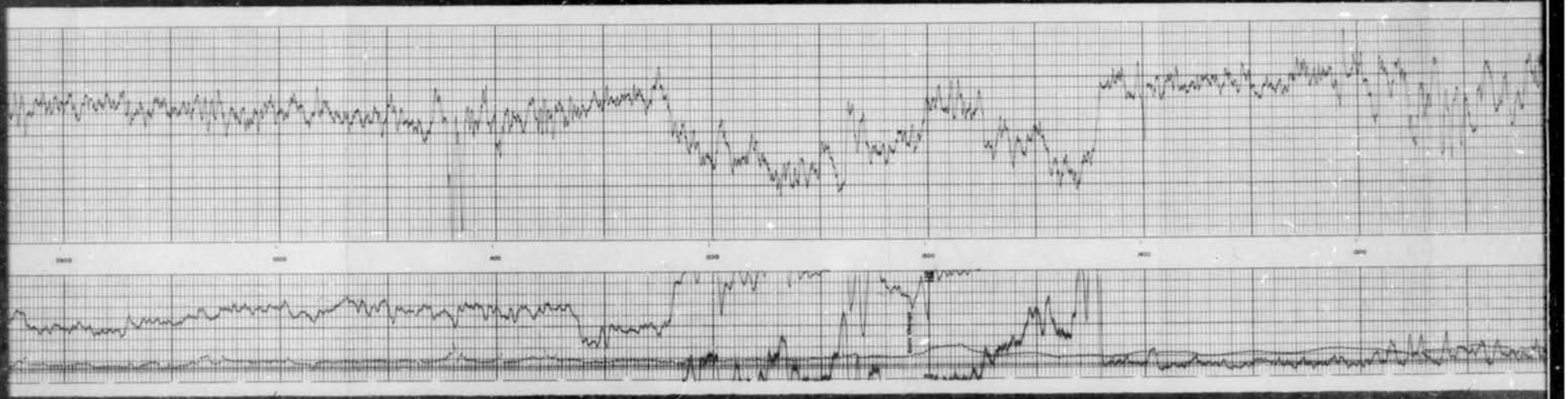

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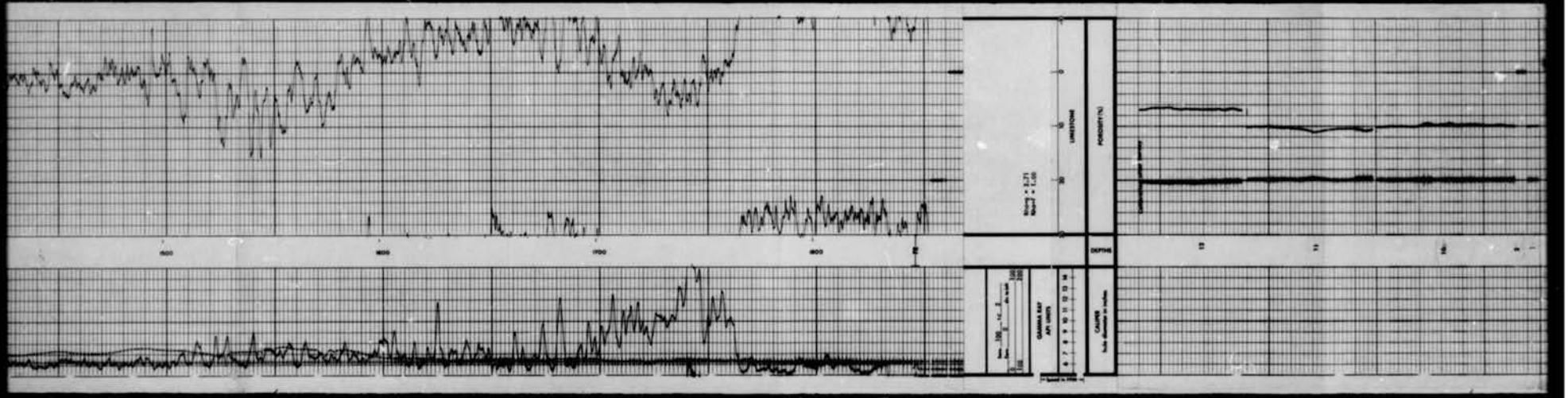

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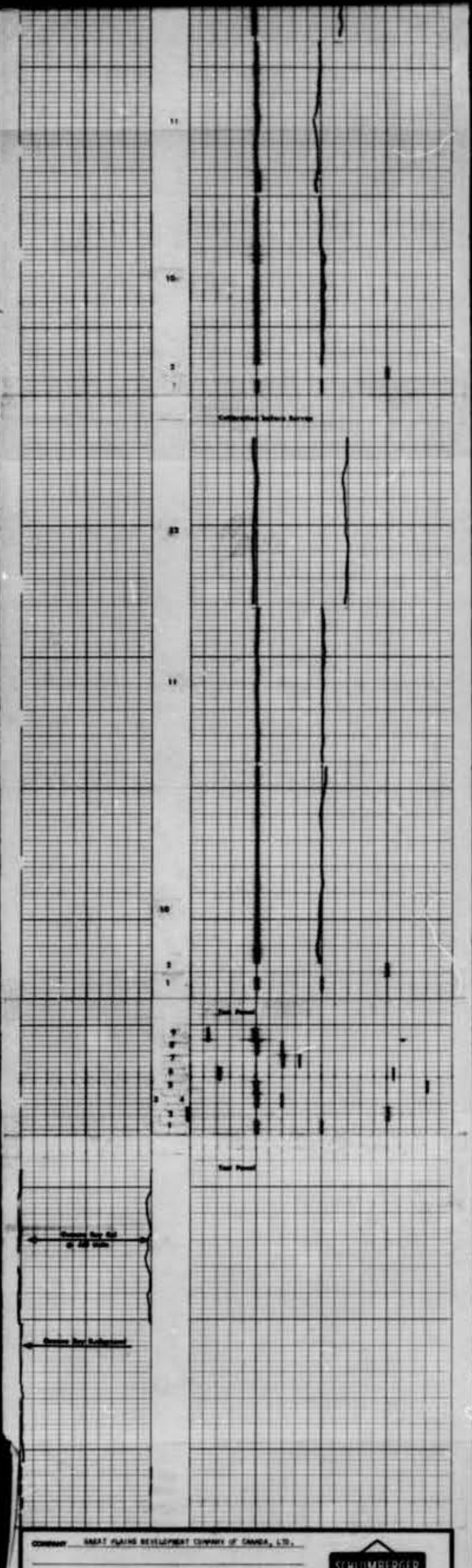

COMPANY GREAT PLAINS DEVELOPMENT COMPANY OF CANADA, LTD.

WELL GPD NOEL ET AL HILLS H H-60A

FIELD WILDCAT PROVINCE NORTHWEST TERRITORIES

SCHLUMBERGER

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