

PACIFIC PHILLIPS N CAMERON HILLS M-08

Drilling Authority No. 185
Date Issued 24 December 1970

WELL NAME Pacific Phillips N. Cameron Hills M-05
FIELD
LOCATION: Unit N Area: 05 Grid 60-29-113-25
Latitude 60-11-57.54 Longitude 118-16-46.99
U.W.L.R. 60-21-31 --- 118-27-73
U.W.I. 60-21-31 --- 118-27-73

Rig Release Date:
Status:
Information Release Date:

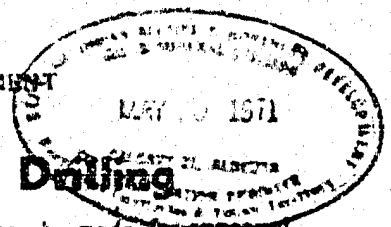
CHANGE OF NAME:

DATE RECEIVED	INDEX
24-12-70	Application for a Drilling Authority. Well Completion Data. Well History Report.
27-1-71	Application to Amend a Drilling Authority. Application to change a Well Name. Application to Abandon a Well or Suspend Drilling.
19-4-71	Application to Alter Condition of a Well. Well History Supplement. Well Completion Data. Work-over Report No.
	Application to Commingle Production before Measurement.
	Data for Back Pressure Test on Natural Gas Wells -- Monograph 7 Method.
	Data for Back Pressure Test on Natural Gas Wells -- Vitter's Method.
	M.P.R. -- Oil -- Calculations.
	New Oil Well Report.
	New Gas Well Report.
	Well Inspection Report.
	Rig Inspection Report.
	Battery Inspection Report.
	Equipment Report.
	Well Card.
	New Service Well Report.
	Monthly Water Flood Operations Report
	Monthly Water Receipts and Disposal of Fluids Report Logs. Large scale..... Small scale.....



File No.
Drilling Authority No. 485

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 Pacific Phillips & Cameron Hills N-05
Location: Unit H Section 05 Grid 60° 20' 118° 15'
Latitude 60° 14' 57.54" Longitude 118° 10' 40.93"
From Established Reference Marker
Universal Well Location Reference 60.24931° 118.27973°
Permit No. 4594 Lease No.

Skelly Oil Company of Canada Ltd.
(Partners, Limited, Limited)

Date of commencement of proposed program March 21, 1971.

OIL, GAS, AND WATER ENCOUNTERED (Depths)

Oil at Nil
Gas at
Water at 4183-4238, 4400-4675
Total Depth 4675
Present condition of well Dry & Abandoned
Date of last operations March 21, 1971.

CASING RECORD

Casing Size O.D. Inches	Weight	Amount	Set At	Sacks of Cement and Additives	Amount Pulled
1. 8 5/8"	24	825.62	320.00	525 Sack + 2% C ₃ Cl ₂	Nil
2.					
3.					
4.					
5.					

PROPOSED ABANDONMENT PROGRAM

No.	Plug Position	Geological Formation	Number of Sacks of Cement	Remarks
1	4675-4275	Pre-Cambrian, Chinleage ^{Log R}	161	Not Felt
2	4275-3875	Slave Pt. Sulphur Pt.	161	Felt @ 3790
3	370-770		61	Felt @ 775
4	Surface		5	-

The following logs have been run YES, LOGS-C, SVP-GR, FDC, Velocity Survey
Other operations proposed

Operations to be carried out by G.P. Drilling Ltd. Contractor Licence No. 0105
Address Calgary, Alberta
Responsible Agent in field G. E. Patey - Fort St. John, B. C.
Dated at Calgary, Alberta this 5 Day of May 19 71
Signed by Original Signed By Company Pacific Petroleum Ltd.
Title Vice-President of Production Operator's Exploratory Licence No. 1445

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 B.H.J. Stone on the 19th March 1971

Dated 1st May 1971 19 71
Oil Conservation Engineer

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

File No.

Drilling Authority No. 485



DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
RESOURCE MANAGEMENT DIVISION

Application to Amend a Drilling Authority

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

In compliance with the "Canada Oil and Gas Land Regulations", application is hereby made to amend
Drilling Authority No. 485, concerning

Pacific Phillips N. Cameron Hills #05
(Name and Number of Well)

The following amendments are required:

I Surface casing to read 8 5/8" - 240 - K-55 - New - 445' - To Surface

Reasons for the amendments:

Above casing sufficient for minimum requirements.

Dated at Calgary, Alta., this 14 day of January, 1971.

Signed by

ORIGINAL SIGNED BY
V. D. ROGAN

Title

Manager of Production

Company

Pacific Petroleum Ltd.

(For Resource Management Division use only)

APPROVED

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

Confirming oral approval given by Mr. G. E. Blue
on the 14th January 1971.

Date 27th January, 1971

Oil Conservation Engineer

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

Drilling Authority No. 485
Date Issued Dec. 24, 1970.

CEMENTING RECORD (Plug, Squeeze, etc.)				PERFORATING RECORD (Bullet, Jet)				SERVICING RECORD (Acidizing, Fracing, etc.)			
Date	From	To	Remarks	Date	From	To	Remarks	Date	From	To	Remarks
3/21/71	4675	4275	(1) 161 sax Not felt.				Nil.				Nil.
3/21/71	4275	3875	(2) 161 sax Felt @ 3790								
3/21/71	870	770	(3) 61 sax Felt @ 773								
3/21/71	Surface		(4) 5 sax								
			plate welded on top and well sign placed 4 ft. above ground.								

DRILL STEM TESTS

No.	Date	Formation	From	To	V.O. Mins.	L.S.I. Mins.	F.S.I. Mins.	I.S.I.B.H.P.	F.S.I.B.H.P.	L.F.B.H.P.	F.F.B.H.P.	I.H.P.	F.H.P.	REMARKS
1	Mar. 13	Sulphur Pt. Dolomite	4133	4189	3	59	59	1624	1365	371	83	1986	1975	GIP, SAB, GTS 3 min @ 540 Mcf/d in 10 min., 488 Mcf/d 20 min., 420 Mcf/d 30 min. Rec'd 30' slightly gas cut mud. BHT 130°F.
2	Mar. 15	Sulphur Pt. Dolomite	4183	4238	5	58	50	1669	1663	190	349	2016	2009	GIP, WAB steady throughout test. Rec'd 541' gassy oil cut mud, 180' salt water BHT 132°F. Mis run
3	Mar. 20	Keg River	4400	4675	5	60	60							GIP, SAB, decreasing in 20 min., dead in 20 min. Rec'd 120' drilling mud, 3430' salt water. BHT 130°F.
4	Mar. 20	Keg River	4400	4675	5	59	62	1768	1768	1499	1766	2113	2094	

ANALYSIS

Lab. No.	Sample	From	To	Source	Remarks
H71-4555	Gas-Water	4133	4189	DST #1	
H71-4556	Water	4183	4238	DST #2	
H71-4557	Water	4400	4675	DST #4	
H71-4348	Gas	4133	4189	DST #1	
H71-4496-4	Water	4400	4675	DST #4	

PRESENT STATUS OF WELL			
Oil		(Interval)	
Gas		(Interval)	
Dry	X		
Susp.			

Company **Pacific Petroleum Ltd.**
Original Signed By **A. M. McNICOSH**
Signed by
Title **Vice-President of Production**
Date **April 19, 1971.**

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

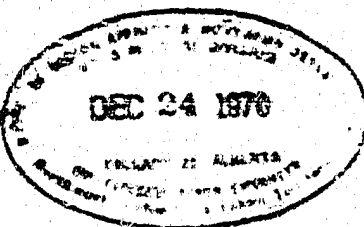
Drilling Authority No. 485

Project No.

File No.



DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
OIL AND MINERAL DIVISION



Application for a Drilling Authority

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

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

Name and number of well Pacific Phillips N. Cameron Hills K-65
Location: Unit 10 Section 05 Twp 40° 20' 118° 15'
Latitude 60° 12' 47.54" Longitude 118° 16' 46.98"
Unique Well Identifier 3000096020118150
Universal Well Location Reference 60.24931°, 118.27973°
Elevation: Ground 1370 M.R. 1363 (EST) feet above sea-level
Well is expected to produce from Sulphur Point formation at a depth of about 3070 feet. Expected total final depth 4425
Area assigned to well (See Oil Conservation Engineer's use only)

Permit No. 1584 Lease No. 63,534
/ Permittee, lessor, or lessee Stelly Oil Company of Canada Ltd.
/ Supplementary License No. 1774
Drilling owned by Crown or Crown
(If allocated select name and address of owner and assignee)

Petroleum and mineral rights owned by Crown
We propose to use the following strings of casing, either cementing or lining them as indicated below:-

Casing Depth (feet)	Weight (lb/ft)	Grade	New or Used	Estimated Depth	State of Cement
1. <u>18 1/2"</u>	<u>54.5</u>	<u>K-55</u>	<u>New</u>	<u>600</u>	<u>To Surface</u>
2.					
3.					
4.					
5.					

Expected water, gas, and oil horizons and type of control equipment:

Oil - Sulphur Point Chinchaga Dolomite

Gas - Sulphur Point Chinchaga Dolomite

Water - Sulphur Point Chinchaga Dolomite

Well will be drilled with Rotary Rig No. 12 by Pending General Petroleum Drilling Ltd.
(Drilling Contractor or company)

Responsible agent of applicant:-

Contractor's business License No.

At well G. E. Patey

At registered office A. D. Rogan

Address P.O. Box 610, Ft. St. John Address P.O. Box 6666, Calgary 2, Alberta

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

Dated at Calgary, Alberta this 22 day of December 19 70

Signed by G. E. Patey Company Pacific Petroleum Ltd.

Title Manager of Production Operator's License No. 1646

(For Oil and Mineral Division use only)

APPROVED

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

1. Copies of this Drilling Authority shall be exhibited at the Drilling Rig in both the Drilling Foreman's Office between road and rig release dates.

Dated 24th December 19 70

Please see over

Oil Conservation Engineer

Prints to be submitted to Oil Conservation Engineer,

Department of Indian Affairs and Northern Development, Calgary, Alberta.



DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
OIL AND MINERAL DIVISION

Application for a Drilling Authority

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

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

Name and number of well **Pacific Phillips N. Cameron Hills M-05**
 Location: Unit **M** Section **05** Grid **60° 20' 118° 15'**
 Latitude **60° 14' 57.54"** Longitude **118° 16' 48.99"**
 Unique Well Identifier **300M0560201180150**
 Universal Well Location Reference **60.249314 118.279734**
 Elevation: Ground **1350** K.B. **1363 (EST)** feet above sea-level.
 Well is expected to produce from **Sulphur Point** formation at a depth
 of about **3970** feet. Expected total final depth **4425**
 Area assigned to well
 (For Oil Conservation Engineer's use only)

Permit No. **4594** Lease No. **1774** Acreage **63,534**
 Permittee, licensee, or lessee **Skelly Oil Company of Canada Ltd.**
 Exploratory Licence No. **1774**
 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	Section of Cement
1. 13 3/8"	54.5	K-55	New	600	To Surface
2.					
3.					
4.					
5.					

Expected water, gas, and oil horizons and type of control equipment:

Oil - Sulphur Point Chinleaga Dolomite

Gas - Sulphur Point Chinleaga Dolomite

Water - Sulphur Point Chinleaga Dolomite

Well will be drilled with Rotary Rig No. by **Pending**
 (Drilling Contractor or company)

Responsible agent of applicant:—

At well **G. E. Patey**

Contractor's Business Licence No.

A. D. Rogan

Address **P.O. Box 610, Ft. St. John**

At registered office

P.O. Box 6666, Calgary 2, Alberta

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

Dated at **Calgary, Alberta**

this

22

day of

December

19 70

Signed by

G. E. Patey

Company

Pacific Petroleum Ltd.

Title

Manager of Production

Operator's Licence No.

1646

(For Oil and Mineral Division use only)

APPROVED

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

1. Copies of this Drilling Authority shall be exhibited at the Drilling Rig in both the Doghouse and the Drilling Foreman's Office between spud and rig release dates.

Dated **24th December** 19 **70**

Please see over

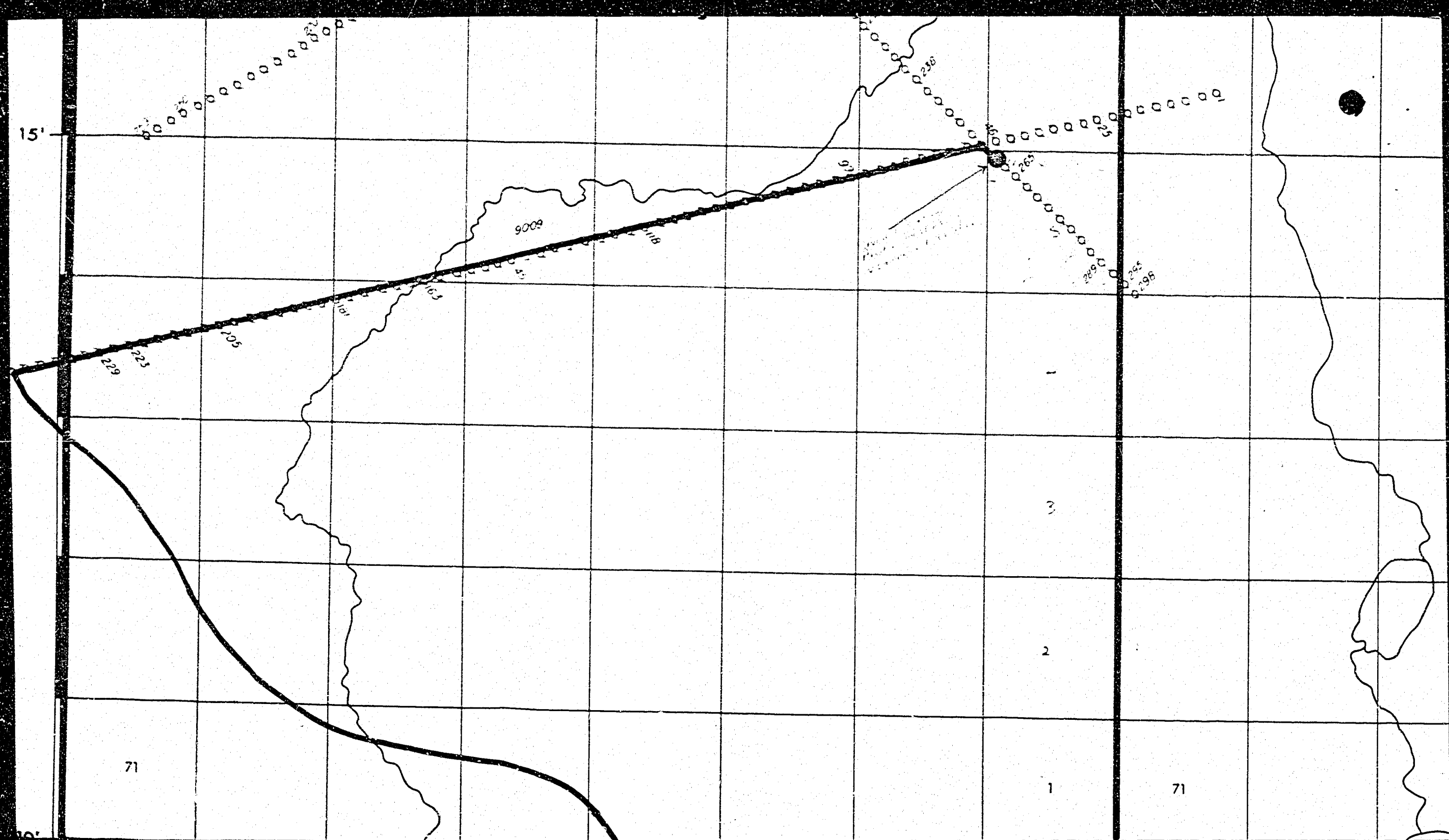
Oil Conservation Engineer

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

2. The Company will submit to this office, on Tuesday on each well, the latest reports received by radio on the progress of the well.
3. During well drilling and testing operations, every effort shall be made to ensure that drilling fluids, chemicals and wastes shall be disposed of or contained in a manner that will prevent the contamination of adjacent vegetation and surface or subsurface waters.
4. We draw your attention to sections 95 and 96 of the Canada Oil and Gas Land Regulations.
5. Production and intermediate casing to be approved by the Oil Conservation Engineer, prior to running.



B.H.J. Thoms
Oil Conservation Engineer



GEOLOGICAL PROGNOSIS

WELL NAME:

Pacific Phillips N. Cameron Hills M-05

LOCATION:

60° 14' 57.54", 118° 16' 46.99"

ELEVATIONS:

Ground: 1350 (est.)

Kelly Bushing: 1363' (est.)

Geological Markers

	<u>Subsea</u>	<u>Depth</u>
Jean Marie	- 450'	1823'
Slave Point	-2400'	3763' (seismic)
Sulphur Point	-2610'	3973'
Porous Dolomite	-2680'	4043'
Chinchaga Dolomite	-2910'	4273'
Precambrian	-3050'	4413'
Total Depth	-3065'	4428'

PROGRAM:

1. Drill 20 to 25 feet into Sulphur Point porosity and run a drill-stem test. If production is obtained, core and test by 60 foot intervals until out of porosity or until formation water is encountered.
2. Repeat above program for Chinchaga porosity.
3. Drill 15 feet into the Precambrian and run logs.
4. Further drill-stem testing will depend on log evaluations.

SAMPLES:

Pacific - 1 set, 10' intervals from surface to total depth.

Phillips - to be determined.

Skelly - to be determined.

Dept. of Indian Affairs & Northern Development - to be determined.

ANALYSES:

Core (porous sections only) - full diameter analysis. Oil, gas and water recovered from all DST's. Water recovered from DST's (three samples - top, middle and bottom of recoveries).

LOGS: (Schlumberger)

IES

2" - 100', Total depth to surface casing.

5" - 100', Total depth to 100' above the Slave Point.

(BHC) GR/Sonic-Caliper (40-60-80 scale over carbonates) 1' spacing

2" - 100', Total depth to surface.

5" - 100', Total depth to 100' above the Slave Point.

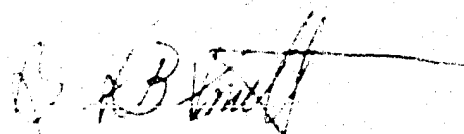
Pacific Phillips N. American Mills M-75

REQUIREMENTS:

	<u>LOGS</u>		<u>Analyses</u>	<u>BST Reports</u>
	<u>Field</u>	<u>Final</u>		
Pacific (N.S.)	2	-	1	1
Pacific (Calgary)	2	2	2	2
Phillips	2	2	2	2
Skelly	2	2	2	2
Dept. of Affairs	-	3	3	3

PARTNERS WITH DERRICK FLOOR PRIVILEGES:

Phillips Petroleum Canada Ltd.
Skelly Oil Company



S. B. Smith
December 15, 1970

JRB/vao

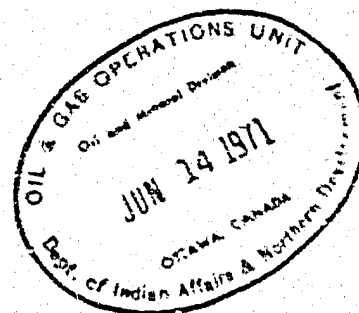
667-11-4-21

WELL HISTORY REPORT

PACIFIC PHILLIPS N CAMERON HILLS M-05

Lat. $60^{\circ}14'57.54''$, Long. $118^{\circ}16'46.99''$

667-11-4-21



WELL HISTORY

Pacific Phillips N Cameron Hills M-05

Pacific Petroleum Ltd.
P. O. Box 6666
Calgary 2, Alberta

Compiled By:

D. Montgomery

D. Montgomery

Submitted By:

G. E. Patey

G. E. Patey
District Manager

Date: May 20, 1971

PACIFIC PETROLEUMS LTD.

WELL HISTORY REPORT

PACIFIC PHILLIPS N CAMERON HILLS M-05

INDEX OF CONTENTS

	<u>Page</u>
1. SUMMARY OF WELL DATA	1
2. GEOLOGICAL SUMMARY	2
a. Formation Tops	2
b. Cored Intervals	2
c. Sample Descriptions	2
d. Core Descriptions	13
3. ENGINEERING SUMMARY	16
a. Drill Stem Tests	16
b. Casing Record	16
c. Bit Record	17
d. Mud Record	17
e. Deviation Record	18
f. Abandonment Plugs	16
g. Lost Circulation Zones	16
h. Report of Blowouts	16
4. LOGGING SUMMARY	19
5. ANALYSIS	19
a. Core Analysis	19
b. Gas Analysis	19
c. Oil Analysis	19
d. Water Analysis	19
6. COMPLETION SUMMARY	19
a. Tubing Record	19
b. Perforation Record	19
c. Cementation Record	20
d. Acidization & Fracturing Record	20
e. Back Pressure & Production Tests	20

PACIFIC PETROLEUMS LTD.

WELL HISTORY REPORT

PACIFIC PHILLIPS N CAMERON HILLS M-05

1. SUMMARY OF WELL DATA:

- (a) Well Name: Pacific Phillips N Cameron Hills M-05
- (b) Permittee: Skelly Oil Company of Canada Ltd.
- (c) Name of Operator: Pacific Petroleum Ltd.
Calgary, Alberta.
- (d) Location: Unit M, Section 05, Grid 60° 20' 118° 15'
Lat. 60° 14' 57.54", Long. 118° 16' 46.99"
UWI 300M056020118150
UWLR 60.24931° 118.27973°
- (e) Permit: Number 4594
- (f) Drilling Contractor: General Petroleum Drilling Ltd.
Rig Number 12, Licence Number 0105
- (g) Drilling Authority: Number 485 Issued December 24, 1970
- (h) Classification: New Field Wildcat
- (i) Elevations: Ground: 1350.0'
K.B.: 1363.2'
- (j) Spudded: February 26, 1971
- (k) Completed Drilling: March 18, 1971
- (l) Depth: Total Depth: 4675 Dr. 4661' Log.
PBTD: Surface
- (m) Well Status: ABANDONED
- (n) Rig Released: March 21, 1971
- (o) Hole Size: 7 7/8" to total depth
- (p) Casing: Surface - 8 5/8" K-55 24#

2. GEOLOGICAL SUMMARY:(a) Formation Tops:

	<u>Sample</u>		<u>Log</u>	
	<u>Depth</u>	<u>Subsea</u>	<u>Depth</u>	<u>Subsea</u>
Devonian	570'	+ 793'	706'	+ 657'
Jean Marie	1975'	- 612'	1742'	- 379'
Ft. Simpson	2030'	- 667'	1766'	- 403'
Slave Point	3925'	-2502'	3880'	-2525'
Sulphur Point	4100'	-2737'	4102'	-2739'
Dolomite	4190'	-2827'	4158'	-2795'
Platform (Keg River)			4448'	-3805'
Dolomite (Chinchaga)			4575'	-3212'
Chinchaga Anhydrite			4586'	-3223'
Pre-Cambrian			4667'	-3304'

(b) Cored Intervals:

Core No. 1: 4185' to 4220', Recovered 31.5'.

Core No. 2: 4220' to 4238', Recovered 18.0'.

(Stored: Institute of Sedimentary & Petroleum Geology, Calgary, Alberta.)

(c) Sample Description:

0- 398 Glacial Till: Conglomerate: medium to coarse to pebble quartz grains: red, yellow, white, black.

FORT ST. JOHN 398' (+965')

398- 530 Shale: medium to dark grey, fissile, micromicaceous.

530- 560 Shale: as above with sideritic in part and occasional siderite and pyrite.

560- 570 As above with slight trace Bentonite.

DEVONIAN (TETCHO) 570' (+793')

570- 600 Limestone: cream, cryptocrystalline to microcrystalline, oolitic in part, fossiliferous in part with slight trace crinoid, dense.

600- 810 Limestone: as above only silty in part, with occasional buff cryptocrystalline Limestone.

810- 840 Limestone: cream, microcrystalline, pelletoidal, bioclastic, trace leached, trace crinoids and forams, dense; occasional tan cryptocrystalline Limestone.

840- 880 Limestone: as above, with minor Limestone: tan, cryptocrystalline to occasional microcrystalline, trace oolitic and bioclastic, trace crinoids, dense.

2. GEOLOGICAL SUMMARY, Cont'd.

(c) Sample Description, cont'd.

880- 900 Limestone: tan to buff, cryptocrystalline, slight trace oolitic and forams, dense; minor major Limestone: as above.

900-1340 Limestone: tan to buff tan, cryptocrystalline to microcrystalline in small part, trace fossiliferous, slight trace leached, occasionally traces of oolitic and pelletoidal and crinoids with slightly silty and sandy and slight trace quartz crystals and pyrite fragments, dense.

1340-1390 As above only slightly more silty and sandy.

TROUT RIVER 1390' (-27')

1390-1500 Limestone: tan to buff tan, cryptocrystalline to microcrystalline, silty to sandy in part, trace fossiliferous, trace to slight trace Siltstone: light buff brown, sandy in part.

1500-1530 As above with occasional to trace Siltstone: brown, limy, common Limestone: brown, cryptocrystalline, dense, slight trace calcite crystals.

1530-1590 As above, with occasional to trace Sandstone: light grey, very fine grained, limy, tight; slight trace quartz crystals.

1590-1600 As above with occasional Limestone: light grey, cryptocrystalline to microcrystalline, pelletoidal and fossiliferous in part, silty in part, dense; slight trace Siltstone: light grey, limy.

1600-1640 As above with occasional Sandstone: light grey to green, very fine to fine to trace fine grained, calcareous, silty, tight; slight trace calcite and quartz crystals.

1640-1690 Limestone: cream to buff tan, cryptocrystalline, slightly silty and sandy in part, trace fossiliferous, dense; trace Siltstone: light grey, calcareous.

1690-1700 Limestone: buff tan to occasional light grey cream, cryptocrystalline to occasional microcrystalline, silty and sandy in part, very slightly leached and fossiliferous, dense; occasional Sandstone: light grey to occasional grey white, very fine grained, subangular to angular, fair sorting, calcareous to limy in part, quartzose in part, silty in part, tight to slight trace poor porosity.

1700-1710 Limestone: as above with Sandstone: as above; trace Siltstone: light grey, limy.

KAKISA 1700' (-337')

1710-1750 Sandstone: as above, grading into Siltstone in part; minor Limestone: as above; slight trace calcite crystals and pyrite fragments.

2. GENERAL SUMMARY, cont'd.(c) Sample Description, cont'd.

1750-1910 Sandstone: as above; trace to occasional Limestone: as above; slight trace calcite crystals, quartz crystals, and pyrite fragments.

REDKNIFE 1910' (547')

1910-1920 As above; with occasional Shale: green to grey green to occasional reddish brown, fissile, micromicaceous.

1920-1960 Sandstone: light green grey to light grey white, very fine grained grading to silt in part, quartzose in part, fair sorting, subangular to angular, calcareous to limy, very slightly micaceous and glauconitic; tight; minor Shale: as above; trace Limestone: as above; slight trace quartz crystals; slight trace pyrite fragments.

1960-1975 Shale: as above, with minor Sandstone: as above; slight trace Limestone: brown white, cryptocrystalline to microcrystalline, silty to sandy in part, dense.

UTAHN 1975' (-612')

1975-1990 Limestone: cream to tan, cryptocrystalline to microcrystalline in small part, slightly leached and fossiliferous, silty to sandy in small part, dense; interbedded Sandstone: as above; minor Shale: as above; slight trace calcite crystals and pyrite fragments.

1990-2010 Sandstone: as above; minor Limestone and Shale: as above; abundant pyrite fragments.

2010-2020 Sandstone: as above, interbedded with Limestone: as above; minor Shale: as above; abundant pyrite fragments; slight trace calcite crystals.

2020-2030 Sandstone: light to medium grey green, very fine grained, subangular to angular, fair sorting, calcareous, slightly silty, slightly glauconitic and carbonaceous; very slightly micropyrritic, tight; minor Shale: grey green to occasional reddish brown to brown, fissile, micromicaceous, very slightly silty, common Limestone: buff tan, cryptocrystalline, slightly silty, dense; trace pyrite fragments and slight trace quartz and calcite crystals; occasional Siltstone: grey, green calcareous.

FORT SIMPSON 2030' (-667')

2030-2040 Sandstone: as above; Shale: as above; occasional Siltstone: as above; trace Limestone: as above; slight trace pyrite fragments.

2040-2050 Sandstone: as above; minor Shale: as above; occasional Siltstone: as above; trace Limestone: as above.

2. GEOLOGICAL SUMMARY, Cont'd.(c) Sample Description, cont'd.

- 2050-2060 Shale: as above; Sandstone: as above; occasional Siltstone: as above; slight trace quartz crystals.
- 2060-2100 Sandstone: as above; interbedded with Siltstone: as above; minor Shale: as above; slight trace quartz crystals.
- 2100-2150 Shale: green to reddish brown, fissile, micromicaceous, interbedded with Sandstone and Siltstone: as above; trace Limestone: buff to tan to light buff brown, cryptocrystalline to microcrystalline, sandy to silty in part, dense; slight trace fossil fragments, very slight trace pyrite fragments.
- 2150-2160 Shale: as above; minor Sandstone and Siltstone: as above; trace Limestone: as above.
- 2160-2190 Interbedded Shale, Sandstone and Siltstone: as above; trace Limestone: as above.
- 2190-2210 Shale: reddish brown to grey green, fissile to subfissile, micromicaceous; minor to common Siltstone: as above and common Sandstone: as above.
- 2210-2220 Shale: reddish brown to green to trace grey, fissile to subfissile in part, micromicaceous, occasional Siltstone and Sandstone: as above.
- 2220-2240 Shale: as above; minor Sandstone and Siltstone: as above; trace Limestone: light to buff grey, microcrystalline, sandy to silty, dense.
- 2240-2270 Shale: as above, interbedded with Siltstone: as above; occasional Limestone: as above; occasional Sandstone: as above.
- 2270-2310 Shale: as above; trace Siltstone: as above.
- 2310-2330 Shale: as above; occasional Limestone: as above; trace Siltstone: as above.
- 2330-2350 Shale: reddish brown to occasional green grey, fissile to subfissile, micromicaceous, slightly calcareous, interbedded with Limestone: light grey cream to light buff grey, microcrystalline to very fine in part, silty to sandy in part, fossiliferous in small part, dense; grading to limy Siltstone.
- 2350-2360 As above; occasional Siltstone: light grey green, limy, sandy in part, grading to Sandstone in small part.
- 2360-2370 Siltstone: light green grey to light grey white, calcareous, sandy in part, slightly carbonaceous in part; minor Shale: as above; trace Limestone: as above; fossiliferous in small part.

2. GEOLOGICAL SUMMARY, CONT'D.(c) Sample Description, cont'd.

- 2370-2380 Shale: as above; minor Siltstone: as above.
- 2380-2430 Shale: as above, interbedded with Siltstone: as above.
- 2430-2460 Shale: as above; minor Siltstone: as above; trace Limestone: as above.

ALEXANDRA 2460' (1097)

- 2460-2470 Shale: green to reddish brown to occasional brown, fissile to subfissile, micromicaceous, silty in part, calcareous in small part; occasional Siltstone: light grey green, calcareous to limy, sandy; occasional Limestone: tan to buff tan, cryptocrystalline, slightly silty, fossiliferous in small part, dense; slight trace quartz crystals.
- 2470-2480 Shale: as above; minor Limestone and Siltstone: as above.
- 2480-2500 Limestone: as above; minor Siltstone and Shale: as above.
- 2500-2520 Limestone: light cream grey, crypto crystalline to microcrystalline in part, silty to slightly sandy, fossiliferous in small part, leached in small part, slightly carbonaceous in part, dense, minor Limestone: as above; occasional Shale and Siltstone: as above, slight trace quartz crystals and fossil fragments.
- 2520-2530 Major Limestone: as above; occasional Limestone: tan to buff tan, crypto-crystalline to occasional microcrystalline, very slightly silty, fossiliferous in part, dense; trace Siltstone and Shale: as above; slight trace quartz and calcite crystals.
- 2530-2540 Limestone: (major) as above; minor Shale: as above; trace quartz crystals.
- 2540-2550 Shale: as above; Limestone: as above.
- 2550-2560 Limestone: as above; minor Shale: as above; occasional minor Limestone: as above; trace calcite crystals.
- 2560-2570 Shale: as above; minor Limestone: as above; occasional minor Limestone: as above; trace Siltstone: light grey, calcareous; slight trace pyrite fragments.

HAY RIVER 2570' (-1207)

- 2570-2630 Shale: reddish brown to green to occasional brown to grey, fissile to subfissile, micromicaceous, slightly calcareous in small part, slightly silty in part; occasional Siltstone: light grey green, carbonaceous in small part, calcareous, sandy; occasional Limestone: buff, cryptocrystalline, slightly silty in part, dense; trace Limestone: as above; slight trace quartz crystals.
- 2630-2640 Shale: as above; minor Siltstone: as above; occasional Sandstone: light to medium grey, very fine grained, subangular to angular, poor sorting, silty in part, calcareous to limy in part, carbonaceous in small part,

2. GEOLOGICAL SUMMARY, Cont'd.(c) Sample Description, cont'd.

tight; occasional Marlstone: light grey green, sandy to sandy in part.

2640-2650 Shale: as above interbedded with Siltstone: as above; minor Sandstone: as above; occasional Limestone and Marlstone: as above; slight trace fossil fragments.

2650-2660 Shale: as above; minor to occasional Siltstone, Sandstone and Marlstone: as above.

2660-2670 As above; occasional Limestone: cream to tan cream to occasional light grey green, cryptocrystalline to microcrystalline in small part, slightly silty in part, occasionally marly, dense.

2670-2680 Shale: as above; Limestone: as above; trace fossil fragments.

2680-2700 Shale: as above; minor Siltstone: as above; occasional Limestone: as above.

2700-2710 Sandstone, Siltstone, Limestone: as above.

2710-2720 Limestone: as above; minor Shale: as above; occasional Siltstone: as above.

2720-2730 Shale: as above; Siltstone: as above; minor Limestone: as above.

2730-2740 Siltstone: as above; minor Shale: as above; occasional Limestone: as above.

2740-2780 Interbedded Shale and Siltstone: as above; occasional Limestone: as above.

2780-2800 Shale: as above; minor Siltstone and Limestone: as above.

2800-2810 Shale and Limestone: as above; minor Siltstone: as above.

2810-2820 Limestone: as above; minor Siltstone and Shale: as above.

2820-2830 Shale: green to light to medium brown to trace reddish brown, fissile to subfissile in part, micromicaceous, slightly silty in part, very slightly calcareous; Limestone: buff to cream tan to cream, cryptocrystalline, slightly silty in part, very slightly leached and fossiliferous; occasional Siltstone: light to medium green grey, calcareous to limy, sandy in part; slight trace pyrite fragments and fossil imprints.

2830-2860 Marlstone: medium to occasional light grey, sandy in small part, slightly carbonaceous; slight trace fossil fragments.

2860-2880 Marlstone: as above; minor Shale: as above; occasional Siltstone: as above.

2. GEOLOGICAL SUMMARY, cont'd.(c) Sample description, cont'd.

- 2850-2900 Marlstone: as above; interbedded with Siltstone: as above; minor Shale: as above; trace pyrite fragments; slight trace fossil fragments and quartz crystals.
- 2900-2960 Marlstone: as above; occasional Siltstone: as above; trace Shale: as above; slight trace fossil fragments.
- 2960-2970 Marlstone, Siltstone, Shale: as above.
- 2970-2990 Shale: as above; minor Siltstone and Marlstone: as above.
- 2990-3010 Shale: as above, interbedded with Marlstone and Siltstone: as above.
- 3010-3030 Marlstone: medium to occasional light grey, sandy in small part, slightly carbonaceous in small part occasionally interbedded with Limestone: light green brown to light grey buff, cryptocrystalline, silty in part, marly in part, dense, minor Shale and Siltstone: as above.
- 3030-3060 Marlstone: as above; occasional Shale and Siltstone: as above.
- 3060-3070 Marlstone: as above; minor Shale and Siltstone: as above.
- 3070-3080 Marlstone: as above; occasional Shale and Siltstone: as above.
- 3080-3100 Marlstone: as above; minor Siltstone: as above; occasional Shale: as above.
- 3100-3150 Marlstone: as above; minor Siltstone: as above.
- 3150-3200 Interbedded Marly Limestone: as above and Marlstone: as above; occasional Siltstone.
- 3200-3220 Limestone: as above; minor Marlstone: as above; occasional Siltstone: as above.
- 3220-3250 Interbedded Marlstone and Limestone: as above; occasional Siltstone: as above.
- 3250-3270 Limestone: as above, interbedded with Limestone: cream to occasional buff tan to trace green grey, cryptocrystalline, slightly silty in part, argillaceous in part, slightly marly in part, dense; occasional Marlstone and Siltstone: as above.
- 3270-3290 Minor Limestone: as above; minor major Limestone: as above; trace Shale: green to brown to grey, fissile, micromicaceous, silty, slightly calcareous.
- 3290-3340 Limestone: cream to occasional buff tan to trace green grey, cryptocrystalline, silty in part, argillaceous in part, dense; trace Siltstone: green grey, limy.

2. GEOLOGICAL SUMMARY, CONT'D.

(c) Sample Description, cont'd.

- 3340-3390 Limestone: buff tan to occasional cream to occasional light grey, cryptocrystalline, silty in part, argillaceous in small part, occasional Shale: green, fissile, micromicaceous, slightly calcareous.
- 3390-3430 Limestone: light grey to medium grey brown to trace buff tan, cryptocrystalline, silty, argillaceous grading to limy Shale: very slightly sandy and micaceous, dense, common Shale: as above; slight trace pyrite and calcite crystals.
- 3430-3460 Limestone: as above; trace Shale: as above; slight trace Limestone: buff, cryptocrystalline, dense, very slight trace pyrite.
- 3460-3490 Shale: light to medium grey, blocky to subfissile, micromicaceous to micaceous, calcareous to occasional limy, slightly silty, trace Shale: green to brown, fissile, micromicaceous, calcareous.
- 3490-3530 Shale: as above.
- 3530-3560 Shale: as above; occasional Limestone: grey brown to light grey, cryptocrystalline, argillaceous to shaly in part, slightly silty, dense; very slight trace pyrite.
- 3460-3490 Shale: light to medium grey, blocky to subfissile, micromicaceous to micaceous, calcareous to occasional limy, slightly silty; trace Shale: green to brown, fissile, micromicaceous, calcareous.
- 3490-3530 Shale: as above.
- 3530-3560 Shale: as above; occasional Limestone: grey brown to light grey, cryptocrystalline, argillaceous to shaly in part, slightly silty, dense, very slight trace calcite crystals.
- 3560-3590 Shale: light to medium grey, blocky to subfissile in part, micaceous to micromicaceous in part, dolomitic to calcareous, slightly silty; trace Limestone: as above.
- 3590-3600 As above with trace Limestone: buff, cryptocrystalline, dense.
- 3600-3630 Shale: as above; trace Limestone: buff, cryptocrystalline, dense, trace Limestone: as above.
- 3630-3640 Shale: light to medium grey to trace green to grey brown, subfissile to blocky, micaceous to micromicaceous in part, dolomitic to calcareous in part, slightly silty; slight trace pyrite fragments.
- 3640-3650 Shale: light to medium grey to trace dark grey, subfissile to blocky, micromicaceous to micaceous in part, slightly silty, calcareous to limy.
- 3650-3660 Shale: medium to dark grey to occasional light grey, fissile to subfissile, micromicaceous to trace micaceous, dolomitic to calcareous in part, slightly silty in part.

2. GEOLOGICAL SUMMARY, Cont'd.(c) Sample Description, cont'd.

- 3660-3670 Shale: medium grey to occasional light grey to occasional grey brown to trace dark grey, subfissile to occasional blocky, micromicaceous to micaceous in small part, dolomitic to calcareous to occasional limy slightly silty in part.
- 3670-3690 Shale: as above; trace Marlstone: light grey, silty.
SPLICE RIVER 3690' (-2327)
- 3690-3730 Shale: as above.
- 3730-3740 Shale: as above; trace Limestone: light brown grey, cryptocrystalline, argillaceous in part, dense.
- 3740-3750 Shale: as above; trace Marlstone: as above; trace Limestone: as above.
- 3750-3760 Shale: medium to occasional light grey to green grey, fissile to subfissile in part, micromicaceous, dolomitic to calcareous in small part.
- 3760-3770 Shale: as above; occasional Shale: green, fissile, micromicaceous; trace Limestone: as above; trace Marlstone: as above; trace Siltstone: green grey to light grey, limy to calcareous.
- 3770-3785 Shale: light grey to light green grey to occasional green to medium grey to trace light brown, fissile to subfissile in part, dolomitic in part; trace Limestone: light grey, cryptocrystalline, slightly silty, slightly argillaceous, dense.
BEAVERHILL LAKE (MUSKWA) 3785' (-2422)
- 3785-3800 Shale: medium to dark brown to occasional light brown to trace light grey, subfissile to fissile in part, slightly bituminous, siliceous in part, abundant pyrite fragments, micropyrritic in small part.
- 3800-3820 Shale: as above; minor Shale: light grey, subfissile, micromicaceous, micropyrritic in part, abundant pyrite fragments.
- 3820-3850 Shale: as above; trace pyrite fragments.
- 3850-3860 Shale: as above; occasional and minor Shale: as above; abundant pyrite fragments.
- 3860-3870 Shale: medium to dark grey to occasional brown, subfissile to occasional blocky to trace fissile, micromicaceous, calcareous in part, trace pyrite fragments.
- 3870-3880 As above; trace Limestone: light grey to light grey buff, cryptocrystalline, argillaceous in part, dense; trace pyrite fragments.
- 3880-3900 Shale: medium to dark brown to occasional light grey, subfissile to blocky in part, micromicaceous, calcareous in part with limy fractures in small part, slightly bituminous in part; Limestone: light grey cream

2. GEOLOGICAL SUMMARY, CONT'D.(c) Sample Description, cont'd.

to cream to light grey buff to occasional light brown, cryptocrystalline, carbonaceous in part, argillaceous in part, dense; abundant pyrite fragments and crystals; slight trace fossil fragments.

3900-3910 Limestone: as above; Limestone: light grey, cryptocrystalline, argillaceous, dense; minor Shale: as above; abundant pyrite fragments and crystals; slight trace fossil fragments.

3910-3925 Limestone: as above (minor); minor Limestone: as above (major); occasional Shale: as above; abundant pyrite as above; slight trace fossil fragments.

SLAVE POINT 3925' (-2562)

3925-2940 Limestone: light to medium cream brown to buff brown to occasional cream, cryptocrystalline to microcrystalline in part, trace very fine crystalline, argillaceous in part, fossiliferous in part, very slightly leached in small part, dense; slight trace calcite crystals, trace pyrite fragments.

3940-3950 Limestone: light cream brown to cream brown to occasional buff, cryptocrystalline to microcrystalline in part, trace very fine crystalline, argillaceous in small part, fossiliferous in small part, very slight leached in small part, bituminous in small part, very slightly pyritic in very small part, dense, slight trace pyrite fragments, calcite crystals.

3950-3970 Limestone: medium to dark brown to occasional dark grey brown to light cream brown, cryptocrystalline to microcrystalline to trace very fine crystalline, bituminous in part, fossiliferous in small part, very slight trace leached, dense; slight trace pyrite fragment crystals.

3970-3990 Limestone: light cream brown to medium to occasional dark brown to occasional to trace buff, cryptocrystalline to microcrystalline in small part to trace very fine to fine crystalline, bituminous in part, fossiliferous in small part, dense.

3990-4010 Limestone: as above with slight trace calcite crystals, trace pyrite fragments.

4010-4050 Limestone: as above with slight trace pyrite fragments.

4050-4070 Limestone: medium to dark buff to brown to light cream brown, cryptocrystalline to microcrystalline in small part to slight trace very fine to fine crystalline, slight fossiliferous in part, pelletoid in part, dense, slight trace calcite crystals and pyrite fragments.

4070-4080 Limestone: as above; slight trace calcite crystals.

WATT MOUNTAIN 4080' (-2717)

4080-4100 As above with occasional Shale: green to grey green, limy, slight trace quartz crystals.

2. GEOLOGICAL SUMMARY, Cont'd.(c) Sample Description, Cont'd.SULPHUR POINT 4100' (-2737')

- 4100-4110 As above, with slight trace Shale: green, subfissile, micromicaceous, waxy in part, calcite; occasional Limestone: light grey white to greenish light grey white, cryptocrystalline to microcrystalline, argillaceous in part, dense.
- 4110-4140 As above, with stringers; Shale: dark grey to occasional black to grey green, subfissile, calcareous; slight trace pyrite crystals.
- 4140-4150 As above, with minor Limestone: buff, cryptocrystalline, dense.
- 4150-4170 Limestone: buff to cream buff, cryptocrystalline, fossiliferous in small part, dense; occasional Shale: stringers, as above.
- 4170-4180 Limestone: as above with occasional buff brown, cryptocrystalline to trace very fine, dolomitic in very small part, fossiliferous in small part, argillaceous in small part; dense to very slight trace intercrystalline porosity; occasional Shale: stringers, as above.
- 4180-4190 Limestone: cream buff to buff brown, cryptocrystalline to microcrystalline in small part to very fine in small part, dolomitic in small part, oolitic in small part, fossiliferous in part, dense to trace to slight trace pinpoint intercrystalline porosity to interoolitic porosity; slight trace calcite crystals; occasional Shale: stringers.

DOLOMITE 4190' (-2727')

- 4190-4200 Dolomite: light to medium to occasional dark brown, microcrystalline to very fine in part to occasional slight trace cryptocrystalline, euhedral to subeuhedral crystals in part, argillaceous in small part, very slight trace in part, imbedded pyritic crystals in very slight trace, simple chips of stylitic, dense to slight trace intercrystalline porosity, bituminous crystal sizes suggest poor vuggy porosity, occasional to trace fine to medium trace very fine decrease subeuhedral to euhedral in part, crystal clusters to single crystals indicating vuggy porosity; slight trace pyrite crystals, very slight trace quartz crystals; occasional Shale: partings, green, fissile to subfissile, micromicaceous.
- 4200-4220 Limestone: anhydrite crystals indicate poor to very poor vuggy porosity.
- 4220-4225 Limestone: with occasional Limestone: cream brown, cryptocrystalline to microcrystalline, fossiliferous in small part, dolomitic in part, dense, Shale: partings, as above.

2. GEOLOGICAL SUMMARY, Cont'd.

(d) Core Description #1

- 4189 -4190.1 1.1 Limestone: medium brown, cryptocrystalline to occasional medium to coarse white dolomite inclusions (subeuhedral to euhedral crystals in part, stylitic stringers of pyrobitumen with pyrite crystals throughout, very slight trace oil bleeding, trace Shale: partings, porosity is dense with trace very poor intercrystalline porosity.
- 4190.1-4191 .9 Dolomite: light to medium to occasional light brown, cryptocrystalline to microcrystalline, slightly pyritic, stylitic in part, dense to slight trace poor intercrystalline porosity, slight trace white medium to coarse euhedral to subhedral dolomite crystals (veins and clusters), interbedded with Shale: dark grey, fissile to partings, dolomitic micropyrritic to pyritic in part, petroliferous odor.
- 4191 -4191.8 .8 Dolomite: medium to occasional light brown, cryptocrystalline to microcrystalline, slightly pyritic, imbedded white medium to coarse dolomite crystals (euhedral to subhedral in part), macrovugs and blebs of very coarse dolomite crystal clusters (euhedral), slight trace quartz crystals, dense to trace very poor intercrystalline porosity due to dolomite crystals and macrovuggy, slight trace shale partings as above.
- 4191.8-4193.8 2.0 Dolomite: brown, very fine crystalline to occasional fine crystalline, slightly pyritic, slightly pyrobituminous, oil stained throughout, petroliferous odor, medium to coarse subeuhedral to euhedral white dolomite blebs and veins, stylitic veins of pyrobitumen, fractured in part, microvugs to vugs throughout, good to excellent intercrystalline porosity.
- 4193.8-4196.6 2.8 Dolomite: medium brown, microcrystalline to occasional very fine crystalline in part, blebs and veins of white euhedral coarse dolomite crystals, trace oil staining, trace oil bleeding, trace macrovugs, fractured in part, very poor to poor intercrystalline porosity to vuggy porosity interbedded with Shale: as above.
- 4196.6-4197.1 .5 Dolomite: light to medium grey brown, very fine to fine to occasional medium to coarse white subhedral to euhedral crystals in part, oil stained in part, petroliferous odor, occasional vugs to macrovugs of euhedral crystals, good intercrystalline porosity, interbedded with Shale: as above.
- 4197.1-4198.8 1.7 Dolomite: dark grey to grey brown, microcrystalline to occasional cryptocrystalline, veins and blebs of medium to coarse subhedral to euhedral crystals, fractured in part, stylitic in part, oil bleeding in part, dense to trace very poor intercrystalline porosity, interbedded with Shale: as above.
- 4198.8-4200.1 1.3 Limestone: light to dark grey, microcrystalline, stylitic and fractured in part, petroliferous odor, dolomitic in part, dense, interbedded with Shale: as above.

2. GEOLOGICAL SUMMARY, Cont'd.(d) Core Description, cont'd.

4200.1-4206.4	6.3	<u>Shale:</u> dark grey, micropyrritic to pyritic in slight part, dolomitic in slight part, petroliferous odor, occasional interbedded in part with <u>Dolomite:</u> medium brown, microcrystalline to trace very fine, stylitic, fractured, occasional dolomitic bleb and veins, dense.
4206.4-4207.4	1.0	<u>Dolomite:</u> white, medium to coarse subhedral to euhedral in part, dolomitic interbedded with <u>Shale:</u> as above, micropyrritic in part, trace dolomitic blebs, dense.
4207.4-4208.6	1.2	<u>Shale:</u> as above, interbedded with <u>Dolomite:</u> medium grey, cryptocrystalline, slight trace dolomitic veins and blebs, stylitic in part, dense.
4208.6-4211.5	2.9	<u>Dolomite:</u> cryptocrystalline to microcrystalline in part to occasional very fine to fine to occasional medium to coarse blebs and veins, argillaceous, oil stained in part, petroliferous odor in part, stylitic and fractured in part, trace vugs, <u>dense to occasional pinpoint intercrystalline porosity to slight trace vuggy porosity.</u>
4211.5-4213.8	2.3	<u>Dolomite:</u> brown, very fine to fine to euhedral in part, argillaceous in part, occasional medium to coarse euhedral crystals, fractured in part, veins and blebs, oil stained in part, petroliferous odor, occasional vugs to macrovugs, fine to occasional partings, <u>intercrystalline to vuggy porosity,</u> trace shale partings.
4213.8-4220.5	6.7	<u>Dolomite:</u> brown, very fine to fine (euhedral) in part, argillaceous in part, occasional to medium to coarse euhedral crystals, oil stained in part, petroliferous odor, oil bleeding in part, veins and blebs, large macrovugs with large euhedral crystals, fractured, trace vugs and microvugs, trace oil bleeding, occasional interbeds of <u>Shale:</u> dark brown to black to buff, fissile to blebs to bituminous, petroliferous odor, dolomitic, fine to occasional partings, <u>intercrystalline to vuggy porosity.</u>
Coring Times:		26,17,11,7,11/9,10,10,13,17/11,9,8,13,12/11,11,11,18,22/18,18,13,14,15/ 12,10,10,26,11.

Core Description #2

4220 -4226.8	6.8	<u>Dolomite:</u> medium grey brown, microcrystalline to very fine to occasional medium to coarse euhedral crystals, fractured, occasional vugs and macrovugs, trace blebs and veins of coarse crystalline, trace oil bleeding, petroliferous odor in part, <u>dense to trace very poor to poor intercrystalline porosity.</u>
--------------	-----	---

2. GEOLOGICAL SUMMARY, Cont'd.(d) Core Description, cont'd.

- 4226.8-4232.1 5.3 Shale: dark grey to green, subfissile to blebs to lenses, dolomitic in part, slightly pyritic, interbedded with Dolomite: medium brown to grey white to occasional white patches, cryptocrystalline to microcrystalline to occasional medium crystalline, argillaceous in part, slightly fractured, trace vugs, trace blebs and veins, slight trace oil bleeding, petroliferous odor in part, dense to very slight poor vuggy porosity.
- 4232.1-4232.2 .1 Shale: dark grey, dolomitic in small part, subfissile, micaceous in part.
- 4232.2-4233.5 1.3 Dolomite: medium brown, cryptocrystalline to very fine to fine crystalline, petroliferous odor, trace large blebs (euhedral to subhedral) trace vugs, dense to very slight trace poor vuggy porosity.
- 4233.5-4237.4 3.9 Dolomite: medium grey brown, cryptocrystalline to microcrystalline to very fine crystalline, trace oil bleeding, fractured in part, trace blebs and veins, trace vugs, petroliferous in part, slight trace poor intercrystalline to vuggy porosity, interbedded in part with Shale: as above.
- 4237.4-4238 .6 Dolomite: light brown, cryptocrystalline, dense, occasional interbedded Shale: as above.

Coring Times: 5,7,7,8,6/10,8,9,7,9/8,10,9,8,15/19,26,54,15.

3. ENGINEERING SUMMARY

(a) Drill Stem Tests

March 13, 1971 D.S.T. #1 4133 to 4139. Sulphur Point Dolomite
GIP, SAB, GTS 3 min., 540 Mcf/d in 10 min.,
488 Mcf/d in 20 min., 420 Mcf/d in 30 min.,
VO 3/62 min., SI 59/59 min., HP 1986/1975 psi.,
SIP 1624/1365 psi., FP 371/83 psi.
Recovered 30 ft. slightly gas cut mud. BHT 130°F.

March 15, 1971 D.S.T. #2 4183 to 4238. Sulphur Point Dolomite.
GIP, WAB steady throughout test. VO 5/99 min.,
SI 58/80 min., HP 2016/2009 psi., SIP 1669/1663
psi., FP 190/349 psi. Recovered 541 ft. gassy oil
cut mud, 180 ft. salt water. BHT 132°F.

March 20, 1971 D.S.T. #3 4400 to 4675. Keg River. Misrun.

March 20, 1971 D.S.T. #4 4400 to 4675. Keg River. GIP, SAB, decreasing to
dead in 20 min. VO 5/59 min., SI 59/62 min.,
HP 2113/2094 psi., SIP 1768/1768 psi., FP 1499/1766
psi.. Recovered 120 ft. drilling mud, 3430 ft. salt
water. BHT 130°F.

(b) Casing Record

Surface: Set 8-5/8", 825.62', 24#, K-55, Mann at
820.0' K.B. Cemented with 525 sacks 2% CaCl₂.

(c) Bit Record

See Page 17.

(d) Mud Record

See Page 17.

(e) Deviation Record

See Page 18.

(f) Abandonment Plugs

See Page 20, Cementation Record.

(g) Lost Circulation Zones

Nil.

(h) Report of Blowouts

Nil.

LOGS OF DRILLING OPERATIONS - M-65, CONT'D.

(c) Bit Record

Bit No.	Make	Type	Size	Serial No.	Hours on Btm	Depth		Footage	
						In	Out		
1A	HW	OSC3	12-1/4	24256	13	0	258	258	
2A	HW	OSC3	8-3/4	16199	6	258	374	116	
3A	HW	XIG	7-7/8	30054	5	374	476	102	
4A	HW	OSC3	12-1/4	2N086	3-1/2	476	510	34	Ream 209
5A	HW	XIG	7-7/8	30054RR	3-1/2	510	767	257	
6A	SM	3J1A	12-1/4	181538RR	2-3/4	767	820	30	Ream 25
1	HW	X3A	7-7/8	30668	23-1/4	820	1658	838	7-8-1
2	HW	XIG	7-7/8	30061	21-1/4	1658	2474	816	7-3-1
3	HW	XIG	7-7/8	30068	16-1/2	2474	2932	458	5-1-1
4	HW	XIG	7-7/8	30062	19-1/2	2932	3432	500	6-2-1
5	HW	ODV	7-7/8	28627	15	3432	3773	341	6-4-1
6	HW	X7	7-7/8	20304	20	3773	4056	283	6-3-1
7	HW	X55R	7-7/8	30201	12-3/4	4056	4226	170	1-1-1
1C	CHRIS	◇	6-5/16	C27102	12	4189	4238	49	Correct pipe 30-37
8	HW	WD7R	7-7/8	9876	9-1/4	4238	4384	146	8-3-1
9	HW	X55R	7-7/8	30201RR	18-1/2	4384	4557	173	3-8-1
1G	HW	WDR	7-7/8	27741	14-3/4	4557	4640	83	6-5-1
11	HW	WR	7-7/8	85973	5	4640	4675	35	4-3-1

(d) Mud Record

Date	Depth	Weight lbs/US Gal.	Viscosity Secs.	Water Loss CC in 30"	PH	Remarks
Feb. 26	210'	8.8	30			Drill 12-1/4" surface.
27	467'	9.3	78			
28	584'	10.1	81			
Mar. 1	767'	9.8	45			
2	820'					Set 8-5/8" casing.
5	1480'	8.3	28			Drill out.
6	2087'	8.5	29			
7	2557'	10.1	45	10.4	8.3	
8	2932'	9.6	55	9.8	8.4	
9	3322'	9.3	220	9.2	8.0	Stuck in hole.
10	3712'	9.2	75	9.3	9.0	Hole tight.
11	3935'	9.3	65	9.8	9.0	
12	4081'	9.2	60	8.2	8.5	
13	4226'	9.2	55	8.5	8.5	
14	4229'	9.0	70	6.0	9.0	Coring.
15	4238'	9.2	65	6.0	9.5	Testing.
16	4384'	9.2	56	4.8	9.0	
17	4557'	9.2	50	9.0	8.5	
18	4656'	9.2	70	9.5	8.0	
19	4675'	9.2	70	10.0	8.5	Logging.
20	4675'	9.4	80	6.0	8.5	Testing.

A. ENGINEERING SUMMARY, CONT'D.(c) Deviation Record

<u>Depth</u> '	<u>Deviation</u> °	<u>Depth</u> '	<u>Deviation</u> °
60	1/8	1501	1
150	0	1564	7/8
250	1-1/4	1658	7/8
280	1-1/6	1837	1
310	1-1/8	2055	1
344	1-1/8	2243	3/4
405	1	2432	1
436	1-1/8	2636	1
471	7/8	2792	1
501	1	2932	1/2
531	7/8	3307	1/2
560	1-1/4	3432	7/8
584	1/2	3733	2
614	1/4	3925	2-1/2
644	3/4	3989	2-1/2
675	1-1/8	4056	2-1/2
707	1/8	4226	2-1/2
923	3/4	4380	2-7/8
1094	3/4	4675	2-3/4
1315	7/8		

4. LOGGING SUMMARY

<u>LOG</u>	<u>Run No.</u>	<u>Interval</u>	<u>Date Run</u>
ILS	1	4660- 818	March 18/71
BIGCRS-C	1	4659- 0	March 18
SNP-CR	1	4660-3700	March 18
FDC	1	4660-3700	March 18
Velocity Survey			
Lithology Identification	1	4600-3700	March 18

5. ANALYSIS(a) Core Analysis

Nil.

(b) Gas AnalysisLab. No. E71-4348
E71-4555(c) Oil Analysis

Nil.

(d) Water AnalysisLab. No. E71-44964
E71-4557
E71-4556
E71-45556. COMPLETION SUMMARY(a) Tubing Record

Nil.

(b) Perforation Record

Nil.

COMPLETION LOG, CONT'D

(c) Cementation Record

<u>Date</u>	<u>Plug No.</u>	<u>Depths</u>		<u>No. of Sacks</u>	<u>Remarks</u>
		<u>From</u>	<u>To</u>		
Mar. 21/71	1	4675	4275	161	Not Felt
Mar. 21	2	4275	3875	161	Felt at 3790'
Mar. 21	3	870	770	61	Felt at 773'
Mar. 21	4	Surface		5	

Weld steel plate on casing and erected well sign.

(d) Acidization & Fracturing Record

Nil.

(e) Back Pressure & Production Tests

Nil.

GAS ANALYSIS REPORT Lab. No. 71-1
Well: Phil Phillips N. Cameron Hills N-05

Received Mar. 17, 1971 Reported Mar. 19, 1971
Operator: PACIFIC PETROLEUMS LTD.

Field or Area: Location: Elev.: K.B. Grd.

Zone and Formation: Sulphur Point Sample Interval: 4133 - 4189 O.H.

Well production at sampling time: Oil bpd; Gas MCFD; Water bpd

Sampled from: Sampled by: F. Vandervliet Date: Mar. 15, 1971

Pressure: (a) at point of sampling psig (b) Gas Bomb pressure psig

Temperature: (a) at point of sampling °F (b) Separator °F

Pressures: Reservoir Tubing Casing Separator

OTHER PERTINENT DATA D.S.T. #1. Recovered: 35' mud. Container #LA-36.

Signature R.B. Brown

COMPOSITION	% by Volume	G.P.M. in Imp. Gal. @ 60°F. & 14.65 PSIA	G.P.M. (Calculated)	SPECIFIC GRAVITY
Helium	0.10	pentanes +	0.123	Calculated 0.632
Hydrogen sulfide	1.29	at 12 lbs.	0.131	by Weight 0.634
Carbon dioxide	2.44	at 15 lbs.	0.135	CRITICALS (Calculated)
Nitrogen	2.37	at 22 lbs.	0.163	Pc 532.2
Methane	88.44	at 26 lbs.	0.181	Tc 362.5
Ethane	2.70	VAPOR PRESSURE (Calc.) @ 100°F. Pentanes +		10.27
Propane	1.31	0.299 H ₂ S	Grains per 100 cu. ft. @ 60°F. & 14.65 p.s.i.a.	275
Isobutane	0.15	0.043	GROSS B.T.U. (Calc.) @ 60°F. & 14.65 p.s.i.a. (dry)	1011.5
N-butane	0.31	0.081	(sat.)	95.0
Isopentane	0.10	0.030	Acid Gas Free (dry)	1042.5
N-pentane	0.09	0.027	DEW POINT (Calc.) p.s.i.	950 1050 1200
Hexanes	0.03	0.029	FAH.	25 21 15
Heptanes	0.07	0.025	Mol. Wt.: Total Gas	12.491 Heptanes + 102.545
Octanes	0.04	0.017	Received at 46 psig. at 70°F. Prior to analysis, sample was heated to 130°F.	
Nonanes	0.	0.		
Decanes +	0.	0.		
TOTAL	100.00	0.551		

WATER ANALYSIS

Job No. 371-44.

Well: Locallon: Pacific Phillips Cameron Hills M-05

Field or Area:

Zone/Formation:

Sampled from: Top of Tool

Sampled by:

Sample Interval: 4400' - 4675'

20

RECOVERED: 3550'

(Signed)

Total Solids Mg/L:	By Evaporation	120,820	Fe Present	Specific Gravity
Calculated	After Ignition	97,580	H ₂ S Present	Refractive Index
	Pattern	Unit	Mg./L.	

REMARKS: Sample consisted of greenish coloured silt with a thin layer of sediment.

P71-4496-1 Unmarked

RESISTIVITY: 0.584 ohm-meters @ 68°F.

C1 Sample consisted of very muddy water with a thin lay of emulsion.

Case No.	Date	Status
F71-4496-2		Unmarked

HCO₃ RESISTIVITY: 0.126 Ohm-meters @ 68°F.

Sample consisted of colourless water with a thin lay
of mud.

95

F71-4496--3 Middle

PLISISTIVITY: 0.026 ohm-meters @ 68°F.

CO₂ Sample consisted of greenish coloured water with a layer of sediment. H₂S present.

WATER ANALYSIS

Lab No. 8721-455

Well: Location: Pacific Phillips N. Cameron Hills N-01

Field or Area:

Zone/Formation:

Sampled from: Bottom Hole Sampler

Sample Interval: 4400' - 4675'

100

(Signed)

Total Solids Mg/L:	By Evaporation	129,860	Fe	Present	Specific Gravity	@ 60°F	Observed pH	6.5
Calculated	After Ignition	106,480	H ₂ S	Present	Refractive Index	1.3530	Resistivity	0.090 ohm meters

[illegible]

Remarks and Conclusions

A B.J. Service down hole sampler was run
under a pressure of 150 psig. Contained in the
chamber was 800 c.c. gas and 2960 c.c. water.
There was insufficient gas for analysis.

CHEMICAL & GEOLOGICAL LABORATORIES LTD.

WATER ANALYSIS

Lab No. 171-4555

Received: Mar. 31, 1971 Reported: Apr. 13, 1971

Well: location: Pacific Phillips N. Cameron Hills N-05

Operator: PACIFIC PETROLEUMS LTD.

Field or Area:

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

Sample Interval: 4133' - 4194'

Date Recd.: 13, 1971

Method of Production: D.S.T. #1

Sampled from: Bottom Hole Sampler

Sampled by:

OTHER PERTINENT DATA

(Signed)

	Mg./L				Meq./L				Meq. %			
	Na	K	Ca	Mg	SO ₄	Cl	CO ₃	HCO ₃	SO ₄	Cl	CO ₃	HCO ₃
						2210						
						62.32						

Total Solids Mg./L:

By Evaporation 9,820

To Present Specific Gravity

@60°F Observed pH 8.2

Calculated

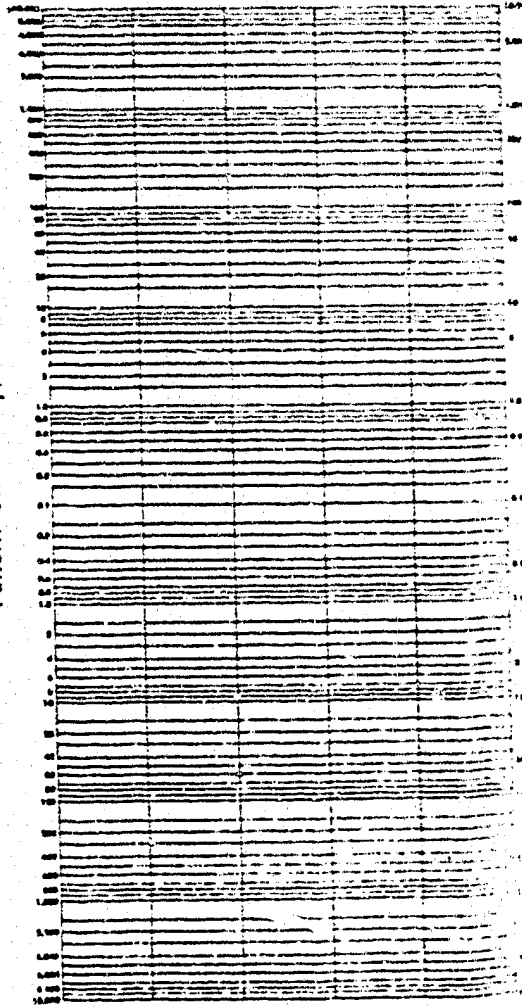
After Ignition 8,600

H₂S N11 Refractive Index

1.3346 @25°C

Resistivity 0.922 ohm cm at 25°C

Pattern Unit Meq./L



Remarks and Conclusions

Sample received in a B.J. Service Sampler under a pressure of 45 psig. Liquid contained in the sampler consisted of 30 mls. of water.

CHEMICAL & GEOLOGICAL LABORATORIES LTD.

WATER ANALYSIS

Lab No. E71-4558

Received: Mar. 31, 1971 Reported: Apr. 13, 1971

Well: Location: Pacific Phillips N. Cameron Hills M-05

Operator: PACIFIC PETROLEUMS LTD.

Field or Area:

Fluv.: K.B. Grd. Zone/Formation:

Sample Interval: 4183' - 4238'

Date Mar. 15, 1971

Method of Production: D.S.T. #2

Sampled from: Bottom Hole Sampler

Sampled by:

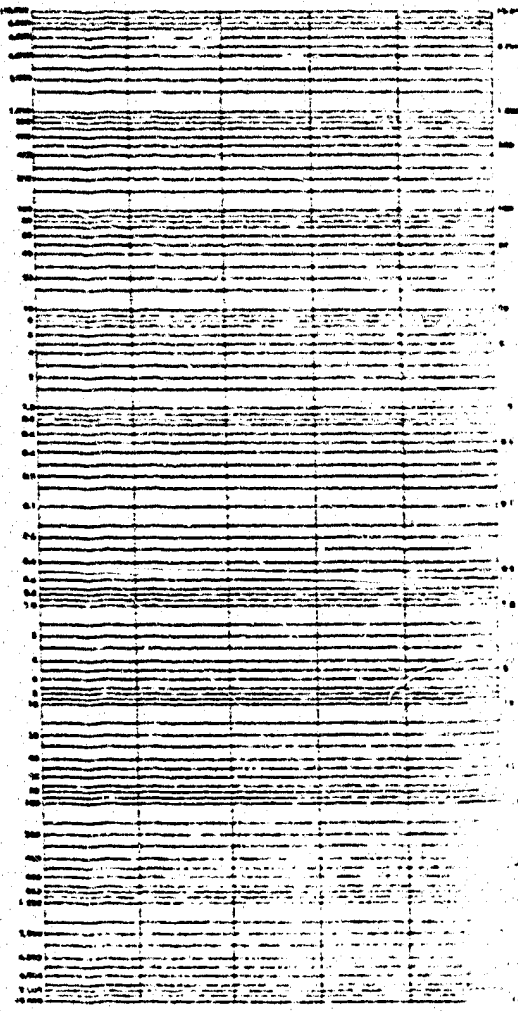
OTHER PERTINENT DATA

(Signed)

	Na	K	Ca	Mg	SO ₄	Cl	CO ₃	HCO ₃
(Mg./L						54100		
Meq./L						1525.62		
Meq. %								

Total Solids Mg/L: By Evaporation 99,340 Fe Present Specific Gravity @60°F Observed pH 6.5 @ 75 °
 Calculated After Ignition 79,220 H₂S Present Refractive Index 1.3484 @25°C Resistivity 0.106 ohm meters @ 68 °

Pattern Unit Meq./L



Remarks and Conclusions

A B.J. Service down hole sampler was recovered under a pressure of 120 psig. Recovered from the chamber was 350 c.c. gas, 25 c.c. oil and 2800 c. water.
 There was insufficient gas for analysis.

WATER ANALYSIS

Lab No. 1171-4555

Well: Location:

Pacific Phillips N. Cameron Hills M-05

Field or Area:

Zone/Formation:

Sample Interval: 4133' - 4189'

Date Mar. 13, 1971

Sampled from: Bottom Hole Sampler

OTHER PERTINENT DATA

(Signed)

Na	K	Ca	Mg					SO ₄	Cl	CO ₃	HCO ₃	
									2210			
Mg./L												
									62.32			
Mg./L												
Mg./L												
Mg./L												

By Evaporation 9,820

Fe. Pregnant Specific Gravity

10090

Observed pH 8.2

75. F

After Ignition 8,600

H ₂ S Nil	Refractive Index
100	1.0000
90	1.0001
80	1.0002
70	1.0003
60	1.0004
50	1.0005
40	1.0006
30	1.0007
20	1.0008
10	1.0009
0	1.0010

@ 25°C

Resistivity 0.922 of

68 F

Pattern Unit Meq./L

Remarks and Conclusions

Sample received in a B.J. Service Sampler under a pressure of 45 psig. Liquid contained in the sampler consisted of 30 mls. of water.

Z

5

3

For

Fig

5

3

8

CHEMICAL & GEOLOGICAL LABORATORIES LTD.

Edmonton

Fort St. John

Calgary

GAS ANALYSIS REPORT: Lab. No E71-4555 Received: Mar. 31, 1971 Reported: Apr. 13, 1971

Well: Pacific Phillips N. Cameron Hills M-05 Operator: PACIFIC PETROLEUMS LTD.

Field or Area: Location: Elev.: K.B. Grd.

Zone and formation: Sample Interval: 4133' - 4189'

Well production at sampling time: Oil bpd; Gas MCFD; Water bpd

Sampled from: Sampled by: Date: Mar. 13, 1971

Pressure: (a) at point of sampling psig (b) Gas Bomb pressure psig

Temperature: (a) at point of sampling °F (b) Separator °F

Pressures: Reservoir Tubing Casing Separator

OTHER PERTINENT DATA Method of Production: D.S.T. #1

					(Signed)
COMPOSITION	% by Volume	G.P.M. in Imp. Gal. @ 60°F. & 14.65 PSIA	G.P.M. (Calculated)	SPECIFIC GRAVITY	
Helium		pentanes +	0.099	Calculated	0.623
Hydrogen sulfide	0	or 12 lbs.	0.099	by Weight	0.627
Carbon dioxide	2.47	or 15 lbs.	0.105	CRITICALS (Calculated)	
Nitrogen	2.45	or 22 lbs.	0.123	Pc	677.7
Methane	93.79	or 26 lbs.	0.136	Tc	357.2
Ethane	2.63	VAPOR PRESSURE (Calc.) @ 100°F. Pentanes +			11.59
Propane	0.93	0.212 H ₂ S	Grains per 100 cu. ft. @ 60°F. & 14.65 p.s.i.a.		0
Isobutane	0.15	0.041	GROSS B.T.U. (Calc.) @ 60°F. & 14.65 p.s.i.a. (dry)		1011.3
N-butane	0.28	0.073		(sat.)	993.6
Isopentane	0.09	0.027		Acid Gas Free (dry)	1037.0
N-pentane	0.08	0.024	DEW POINT (Calc.) p.s.i.	950	1050 1200
Hexanes	0.06	0.021	FAH.	10	6 0
Heptanes	0.04	0.014	Mol. Wt.: Total Gas	18.036	Heptanes + 103.325
Octanes	0.03	0.013	A E.J. Service Down Hole Sampler was recovered under a pressure of 45 psig. Recovered from the chamber was .5 Cu. ft. gas and 30 c.c. water.		
Nonanes	TRCE	0			
Decanes +	0	0			
TOTAL	100.00	0.425			

Lab No. E71-4556

Field or Area:

Sample Interval: 4183' - 4238'

Zone/Formation:

Sampled from: Bottom Hole Sampler

Doc No: 15. 1971

(Signed)

Total Solids Mg/L:	By Evaporation	Fe Present	Specific Gravity	Observed pH	@ 60°F	@ 25°C	Resistivity	0-106 ohm meters	68 °F
	99, 340	Fe Present	Specific Gravity	Observed pH	6.5	60	75		

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

This image shows a single page from a document. The page is mostly blank, with very faint, illegible horizontal lines visible across its surface, which appear to be bleed-through from the reverse side. There are no discernible markings, text, or figures on this side of the page.

A B. J. Service down hole sampler was received under a pressure of 120 psig. Recovered from the chamber was 350 c.c. gas, 25 c.c. oil and 2800 c.c. water.

There was insufficient gas for analysis.

Lab No. E71-4557

Well: Pacific Phillips N. Cameron Hills M-05
Location:

Field or Area:

Zone/Formation:

Sample Interval: 4400' - 4675'

Sampled from:	Bottom Hole Sampler	Sampled by:
---------------	---------------------	-------------

OTHER PERTINENT DATA

(Signed)

Total Solids Mg/L:	By Evaporation	129,860	Fe	Present	Specific Gravity	@ 60°F	Observed pH	6.5	@ 75°F
Calculated	After Ignition	105,480	H ₂ S	Present	Refractive Index	1.3530	Resistivity	0.090 ohm meters	@ 68°F

Pattern Unit Meq./L

Na Ca Mg Fe

Remarks and Conclusions

A R. J. Service down hole sampler was received under a pressure of 150 psig. Contained in the chamber was 800 c.c. gas and 2960 c.c. water. There was insufficient gas for analysis.

Lab No. 7-4677-11A

Well: location: Pacific Phillips Cameron Hills W-05

Field or Area:

Zone/Formation:

Sampled from: Top of Tool

RECOVERED: 3550'

Sampled by:

Sample Interval: 4600' - 4675'

Date:

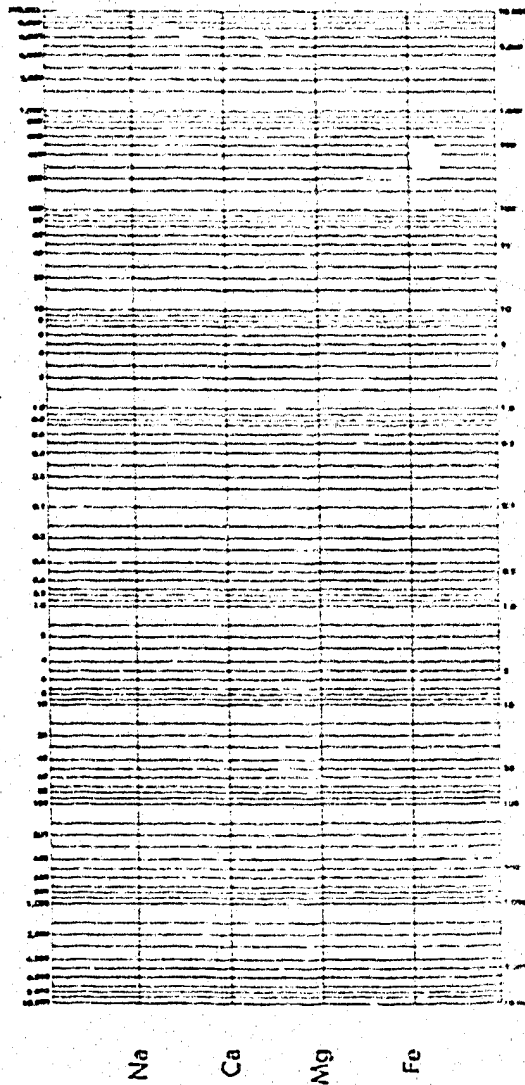
(Signed)

[illegible]

For Present Specific Gravity

H.S Present Refractive Index

Pattern Unit Meq./L



E71-4496-1 Unmarked

RESISTIVITY: 0.584 Ohm-meters @ 68°F.

C1 Sample consisted of very muddy water with a thin layer of emulsion.

F71-4496-2 Unmarked

HCO₃ RESISTIVITY: 0.126 ohm-meters @ 68°F.

Sample consisted of colourless water with a thin layer of mud.

F71-4496-3 Middle

RESISTIVITY: 0.096 Ohm-meters @ 68°F.

CO₂ Sample consisted of greenish coloured water with a thin layer of sediment. H₂S present.

CHEMICAL & GEOLOGICAL LABORATORIES LTD.

Edmonton

Fort St. John

Calgary

GAS ANALYSIS REPORT: Lab. No. 71-A342 Received: Mar. 17, 1971 Reported: Mar. 19, 1971
 Well: Pac. Phillips N. Cameron Hills M-05 Operator: PACIFIC PETROLEUMS LTD.

Field or Area: _____ Location: _____ Elev.: K.R. Grd. _____

Zone and Formation: Sulphur Point Sample Interval: 4170' - 4226' O.H. _____

Well production at sampling time: Oil _____ bpd, Gas _____ MCFD; Water _____ bpd.

Sampled from: _____ Sampled by: F. Vandervliet Date: Mar. 15, 1971

Pressure: (a) at point of sampling _____ psig (b) Gas Bomb pressure _____ psig

Temperature: (a) at point of sampling _____ °F (b) Separator _____ °F

Pressures: Reservoir _____ Tubing _____ Casing _____ Separator _____

OTHER PERTINENT DATA D.S.T. #1. Recovered: 35' mud. Container #1A-36.

(Signed) R.B. Brown

COMPOSITION	% by Volume	G.P.M. in Imp. Gal. @ 60°F. & 14.65 PSIA	G.P.M. (Calculated)	SPECIFIC GRAVITY
Helium	<u>0.10</u>		pentanes + <u>0.125</u>	Calculated <u>0.632</u>
Hydrogen sulfide	<u>1.29</u>		at 12 lbs. <u>0.131</u>	by Weight <u>0.634</u>
Carbon dioxide	<u>2.44</u>		at 15 lbs. <u>0.135</u>	CRITICALS (Calculated)
Nitrogen	<u>2.37</u>		at 22 lbs. <u>0.163</u>	Pc <u>534.0</u>
Methane	<u>98.44</u>		at 26 lbs. <u>0.181</u>	Tc <u>352.5</u>
Ethane	<u>2.70</u>		VAPOR PRESSURE (Calc.) @ 100°F. Pentanes + <u>10.27</u>	
Propane	<u>1.31</u>	<u>0.299</u>	<u>M₂ 5</u> Grains per 100 cu. ft. @ 60°F. & 14.65 p.s.i.a. <u>0.1</u>	
Isobutane	<u>0.16</u>	<u>0.043</u>	GROSS B.T.U. (Calc.) @ 60°F. & 14.65 p.s.i.a. (dry) <u>1011.5</u>	
N-butane	<u>0.31</u>	<u>0.081</u>	(sat.) <u>99.2</u>	
Isopentane	<u>0.10</u>	<u>0.030</u>	Acid Gas Free (dry) <u>1042.5</u>	
N-pentane	<u>0.09</u>	<u>0.027</u>	DEW POINT (Calc.) p.s.i. 950 1050 1200	
Hexanes	<u>0.05</u>	<u>0.023</u>	FAH. <u>25</u> <u>21</u> <u>15</u>	
Heptanes	<u>0.07</u>	<u>0.025</u>	Mol. Wt.: Total Gas <u>13.491</u> Heptanes + <u>102.545</u>	
Octanes	<u>0.04</u>	<u>0.017</u>	Received at 46 psig. at 70°F. Prior to analysis, sample was heated to 130°F.	
Nonanes	<u>0.</u>	<u>0.</u>		
Decanes +	<u>0.</u>	<u>0.</u>		
TOTAL	<u>100.00</u>	<u>0.551</u>		

DRILL-STEM TEST DATA

Well Name	Pacific Petroleum Co. Anderson No. 1		Test No.	1
Wellbore ID	10 - 05		Zone Tested	
Company	Pacific Petroleum Ltd.		Interval	4133 - 4189
Comp Rep	Mr. J. Panton	Tester	C. Miller	Date

Type of Test D. B. H. RFS Tool No. 100

Pressure 3 mins ISI 59 mins Flow 62 mins PSI 59 mins

Specify Inside or Outside	REC No	Range	HR CLOCK	REC No	Range	HR CLOCK
	5717	12	6:00	2845	12	
DEPTH	1235			1255		
Initial Hydro Mud Press	7024			2016		
Initial Shut-in Press	2621			1629		
Initial Flow Press	372			307		
Final Flow Press	29			101		
Final Shut-in Press	7265			1322		
Final Hydro Mud Press	3975			1984		

Mud Drop _____ Fluid Loss _____ Mud Weight _____

Viscosity _____ Temperature °F _____ Net Pay Tested _____

Top Packer Depth _____ Bottom Packer Depth 4133 Total Depth 4189

Drill Pipe Size 4" + 3" I. E. Wt. 24.0 Drill Collar I.D. 3" + 2" Fr. Run 509

Surface Choke Size _____ Bottom Choke Size 1" Main Hole Size 7 7/8"

Anchor Size 4" O. D. Rot Hole Size _____ Feet of Rot Hole _____

Cushion Amount _____ Type _____ Rubber Size 7"

Fluid Recovery Total Feet _____

Recovered _____ Feet of _____

Recovered _____ Feet of _____

Recovered _____ Feet of _____

Recovered _____ Feet of _____

Recovered _____ Feet of _____

Gas Recovery _____ How Measured _____ Riser size: _____

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

Bleed Off Time for Drill Pipe _____

REMARKS: DJ Service did not receive field data sheet to complete final report.



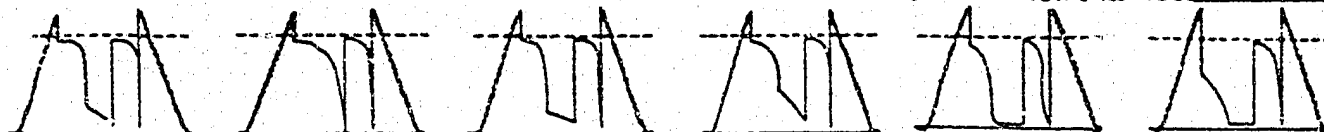
DST #1

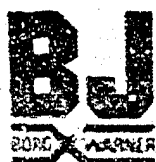
TESTING REPORT

	45 LANDING SUB	_____	
	45 CHAMBER	_____	
	45 TOOL OR P.O. SUB	_____	1.00
	CO SUB	_____	1.00
	SHUT IN TOOL	_____	5.20
	R.F.S. No. 100	_____	2.50
	R.F.S. No.	_____	
	HYDRAULIC TOOL	_____	7.15
	JAPS	_____	6.00
	RECORDER No.	_____	DEPTH _____
	RECORDER No.	_____	DEPTH _____
	SAFETY JOINT	_____	1.75
	BY PASS SUB	_____	
	PACKER	_____	6.00
	1. PACKER DEPTH	4127	
2. PACKER DEPTH	4133		
	PACKER	_____	
	PACKER	_____	
	ANCHOR—SPECIFY _____	_____	
	ANCHOR—SPECIFY _____	_____	
	ANCHOR—SPECIFY _____	_____	
	BLANK OFF OR BY PASS SUB	_____	
	RECORDER No. 3689	4.75 DEPTH 4135	
	PACKER	_____	
3. PACKER DEPTH	_____		
	PACKER	_____	
	PACKER	_____	
4. PACKER DEPTH	_____		
	ANCHOR—SPECIFY PERFS	16.00	
	ANCHOR—SPECIFY _____	_____	
	ANCHOR—SPECIFY _____	_____	
	RECORDER No. 2845	1.00 DEPTH 4156	
	in collar	_____	
	DRLG Collar	29.70	
DEPTH	4189		
	BULLGEE	3.00	
	TOTAL TAIL PIPE	55.00	

DST CHARTS FOR COMPARATIVE VISUAL ANALYSIS

TOTAL TEST TOOL





WELL NAME PACIFIC PHILLIPS N CAMERON HILLS

DST. NO. 1

LOCATION M-05

REC. NO. 3689

DEPTH 0.

MEASURED PRESSURES

	<u>POINT NUMBER</u>	<u>TIME MIN</u>	<u>PRESSURE PSIG</u>
RUN IN HOLE	1	0.0	0.0
	2	65.0	360.0
	3	85.0	342.9
	4	185.0	1985.9
INITIAL HYDROSTATIC PRESSURE	5	209.0	1985.9
INITIAL PREFLOW PRESSURE	6	209.0	404.3
FINAL PREFLOW PRESSURE	7	212.0	287.1
START INITIAL SHUT IN	8	212.0	287.1
	9	213.0	1157.7
	10	214.0	1338.0
	11	215.0	1422.5
	12	216.0	1462.0
	13	217.0	1476.1
	14	219.0	1504.2
	15	222.0	1536.6
	16	227.0	1570.4
	17	232.0	1388.7
	18	237.0	1598.6
	19	242.0	1605.6
	20	247.0	1611.3
	21	252.0	1614.1
	22	257.0	1618.3
	23	262.0	1621.1
24	267.0	1622.5	
INITIAL SHUT IN PRESSURE	25	271.0	1623.9
START FLOW PERIOD	26	271.0	1623.9
INITIAL FLOW PRESSURE	27	273.0	371.4
	28	274.0	284.3
	29	276.0	238.6
	30	281.0	194.3
	31	286.0	175.7
	32	291.0	160.0
	33	296.0	148.6
	34	301.0	135.7
	35	306.0	125.7



WELL NAME PACIFIC PHILLIPS N CAMERON HILLS

DST. NO. 1

LOCATION M-05

REC. NO. 3689

DEPTH 0.

MEASURED PRESSURES

	POINT NUMBER	TIME MIN	PRESSURE PSIG
	36	311.0	117.1
	37	316.0	107.1
	38	321.0	98.6
	39	326.0	90.0
	40	331.0	84.3
FINAL FLOW PRESSURE	41	333.0	82.9
START FINAL SHUT IN	42	333.0	82.9
	43	334.0	388.6
	44	335.0	577.1
	45	336.0	711.4
	46	337.0	807.1
	47	338.0	895.7
	48	340.0	1018.3
	49	343.0	1122.5
	50	345.0	1164.8
	51	347.0	1197.2
	52	348.0	1208.5
	53	353.0	1249.3
	54	358.0	1276.1
	55	363.0	1297.2
	56	368.0	1312.7
	57	373.0	1326.8
	58	378.0	1339.4
	59	383.0	1350.7
	60	388.0	1359.2
FINAL SHUT IN PRESSURE	61	392.0	1364.8
RUN OUT OF HOLE	62	392.0	1974.6
FINAL HYDROSTATIC PRESSURE	63	409.0	1974.6
	64	504.0	608.6
	65	517.0	607.1
OUT OF HOLE	66	555.0	0.0



WELL NAME PACIFIC PHILLIPS N CAMERON HILLS

DST. NO. 1

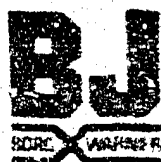
LOCATION M-05

REC. NO. 3689

DEPTH 0.

CALCULATIONS FOR LIQUID RECOVERY (FIRST SHUT-IN)

(A) EXTRAPOLATED RESERVOIR PRESSURE	1644.0
NO. OF POINTS CONSIDERED IN BUILD-UP	17
NO. OF POINTS USED IN EXTRAPOLATION	8
ROOT MEAN SQUARE DEVIATION OF BEST-FIT LINE (PSI)	0.11
EFFECTIVE PRODUCING TIME (MIN)	3.0



WELL NAME PACIFIC PHILLIPS N CAMERON HILLS

OST. NO. 1

LOCATION M-05

REC. NO. 3689

DEPTH 2.

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

POINT NUMBER	TIME MIN	PRESSURE PSIG	PRESSURE CALC FROM BEST FIT LINE	PRESSURE DIFFERENCE CALC - OBSERVED	T-DELTA(T)/ DELTA(T)
-----------------	-------------	------------------	---	--	-------------------------

PORTION OF BUILD-UP CURVE NOT USED IN EXTRAPOLATION

9	1.0	1157.7			4.00
10	2.0	1338.0			2.50
11	3.0	1422.5			2.00
12	4.0	1462.0			1.75
13	5.0	1476.1			1.60
14	7.0	1504.2			1.43
15	10.0	1536.6			1.30
16	15.0	1570.4			1.20
17	20.0	1583.7			1.15

POINTS USED IN EXTRAPOLATION

18	25.0	1598.6	1597.6	-1.0	1.12
19	30.0	1605.6	1605.1	-0.5	1.10
20	35.0	1611.3	1610.5	-0.8	1.09
21	40.0	1614.1	1614.6	0.5	1.07
22	45.0	1618.3	1617.8	-0.5	1.07
23	50.0	1621.1	1620.4	-0.7	1.06
24	55.0	1622.5	1622.6	0.0	1.05
25	59.0	1623.9	1624.0	0.1	1.05



WELL NAME PACIFIC PHILLIPS N CAMERON HILLS

DST. NO. 1

LOCATION M-05

REC. NO. 3689

DEPTH 0.

CALCULATIONS FOR LIQUID RECOVERY (SECOND SHUT-IN)

(A) EXTRAPOLATED RESERVOIR PRESSURE	1491.1
NO. OF POINTS CONSIDERED IN BUILD-UP	19
NO. OF POINTS USED IN EXTRAPOLATION	9
ROOT MEAN SQUARE DEVIATION OF BEST-FIT LINE (PSI).....	0.48
EFFECTIVE PRODUCING TIME (MIN)	65.0
(B) IN SITU CAPACITY (KH - MD FT)	1.69
SLOPE OF BUILD-UP CURVE (PSI/CYCLE)	391.65
PRODUCING RATE (BBL/DAY)	6.76
FLUID VISCOSITY (CP)	0.600
FORMATION VOLUME FACTOR (RES BBL/ST BBL).....	1.000
(C) EFFECTIVE PERMEABILITY (MD)	0.14
FORMATION THICKNESS	5.00
(D) PRODUCTIVITY INDEX (BBL/DAY/PSI)	0.00
FLOWING PRESSURE (PSIG)	82.9
(E) APPROXIMATE DRAINAGE RADIUS (FT)	32.4
TOTAL FLOWING TIME (MIN)	65.0
(F) ESTIMATED DAMAGE RATIO	0.90
RESERVOIR POROSITY (PERCENT)	7.00
TOTAL COMPRESSIBILITY (VOL/VOL/PSI X 10-6)	8.70
WELL-BORE RADIUS (IN)	3.94
CALCULATED SKIN FACTOR	-0.17



WELL NAME PACIFIC PHILLIPS N CAMERON HILLS

DST. NO. 1

LOCATION M-05

REC. NO. 3689

DEPTH 0.

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

POINT NUMBER	TIME MIN	PRESSURE PSIG	PRESSURE CALC FROM BEST FIT LINE	PRESSURE DIFFERENCE CALC - OBSERVED	T+DELTA(T)/ DELTA(T)
-----------------	-------------	------------------	---	--	-------------------------

PORTION OF BUILD-UP CURVE NOT USED IN EXTRAPOLATION

43	1.0	388.6			66.00
44	2.0	577.1			33.50
45	3.0	711.4			22.67
46	4.0	807.1			17.25
47	5.0	895.7			14.00
48	7.0	1018.3			10.29
49	10.0	1122.5			7.50
50	12.0	1164.8			6.42
51	14.0	1197.2			5.64
52	15.0	1208.5			5.33

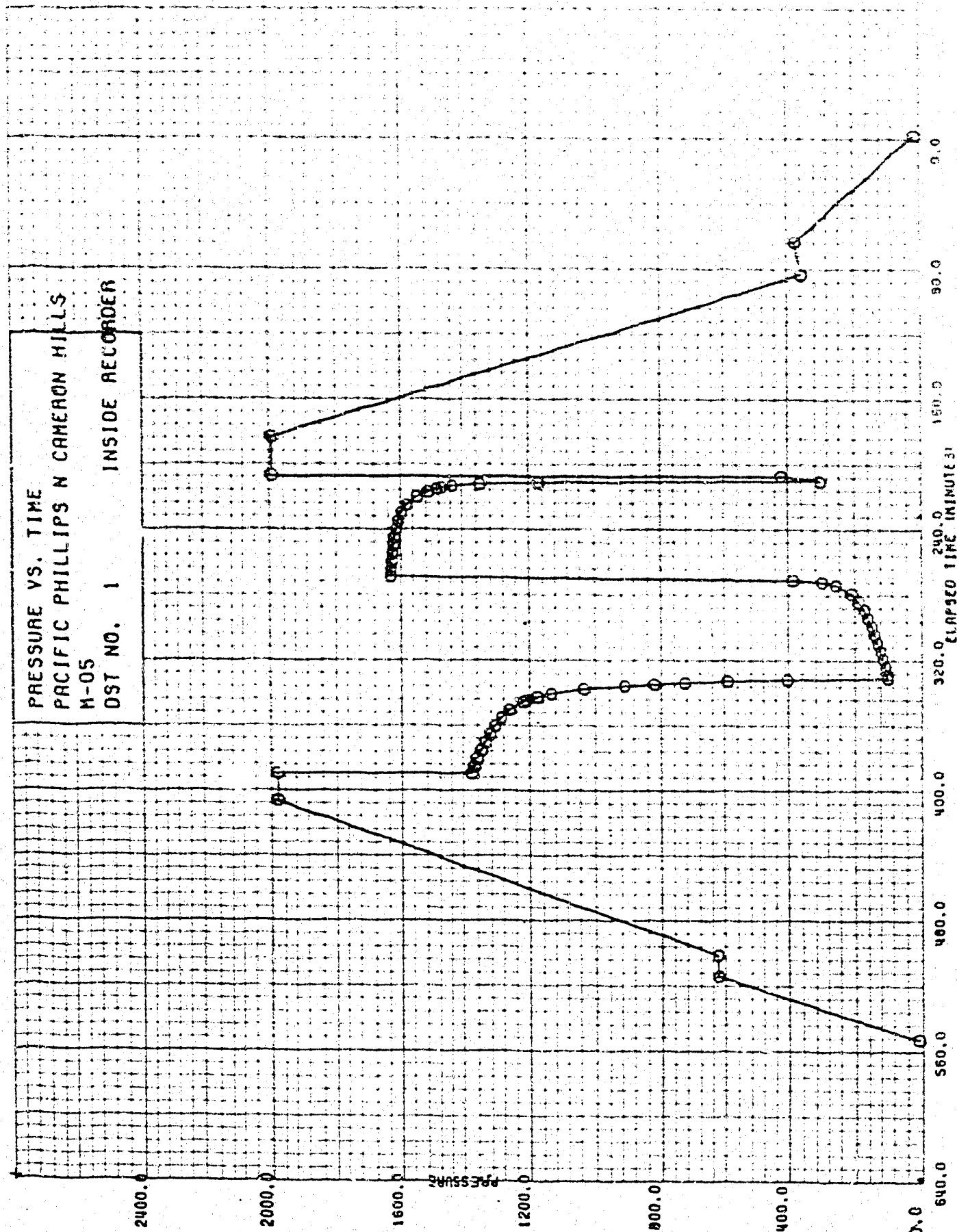
POINTS USED IN EXTRAPOLATION

53	20.0	1249.3	1245.0	-4.3	4.25
	25.0	1276.1	1273.3	-2.8	3.60
55	30.0	1297.2	1295.1	-2.1	3.17
56	35.0	1312.7	1312.6	-0.1	2.86
57	40.0	1326.8	1327.0	0.2	2.62
58	45.0	1339.4	1339.1	-0.3	2.44
59	50.0	1350.7	1349.5	-1.2	2.30
60	55.0	1359.2	1358.4	-0.7	2.18
61	59.0	1364.8	1364.8	0.0	2.10

ASSUMPTIONS AND LIMITATIONS

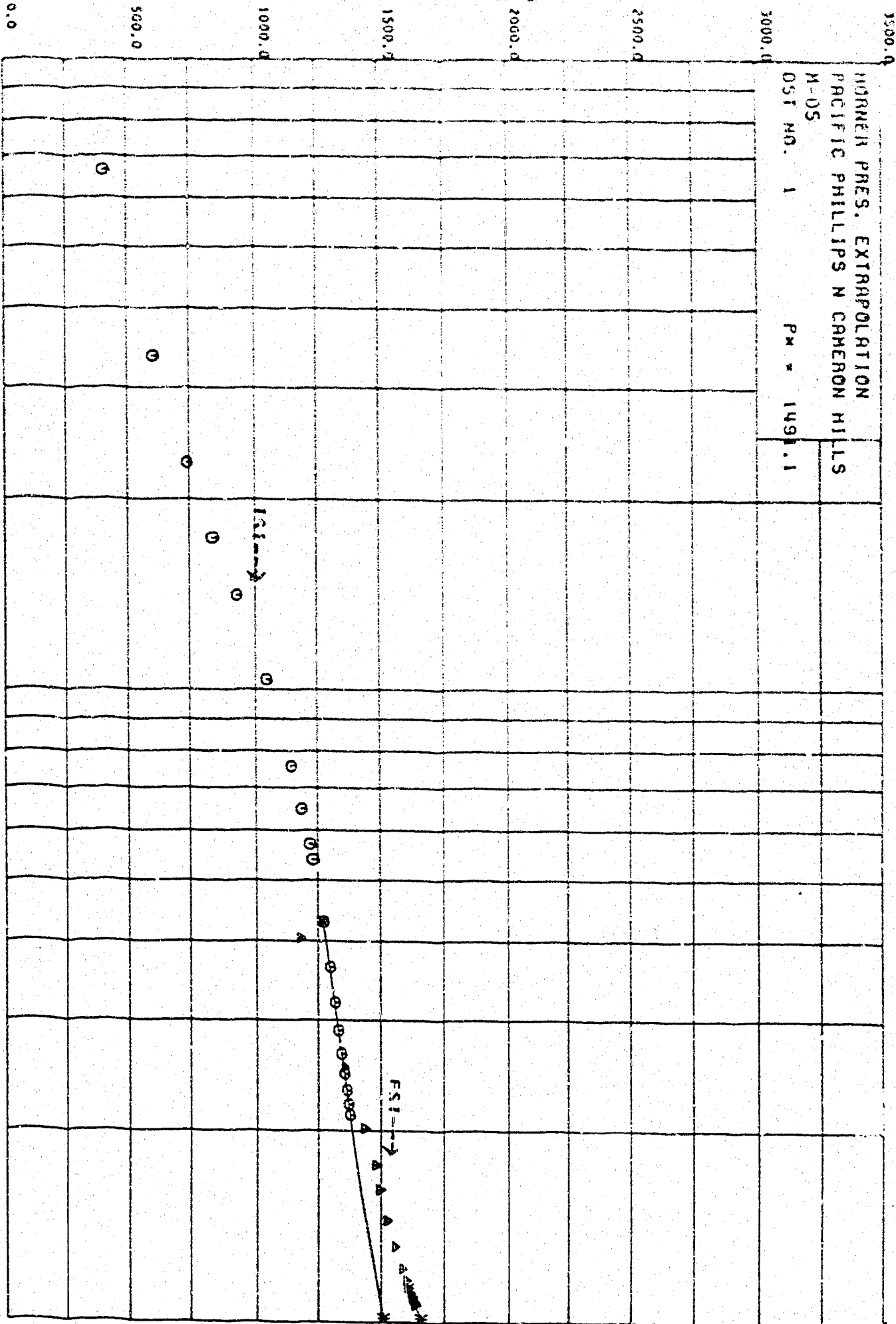
THE ENCLOSED DST INTERPRETATION CALCULATIONS REQUIRE SEVERAL NECESSARY ASSUMPTIONS TO PROVIDE A QUICK ESTIMATE OF MANY OF THE FACTORS INVOLVED. AS A RESULT THE INFORMATION GAINED SHOULD BE USED TO FORM AN OPINION OR ESTIMATE ONLY, UNTIL THE ASSUMPTIONS OF RESERVOIR AND FLUID PROPERTIES CAN BE WHOLLY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

PRESSURE VS. TIME
 PACIFIC PHILLIPS N CAMERON HILLS
 M-05
 DST NO. 1 INSIDE RECORDER



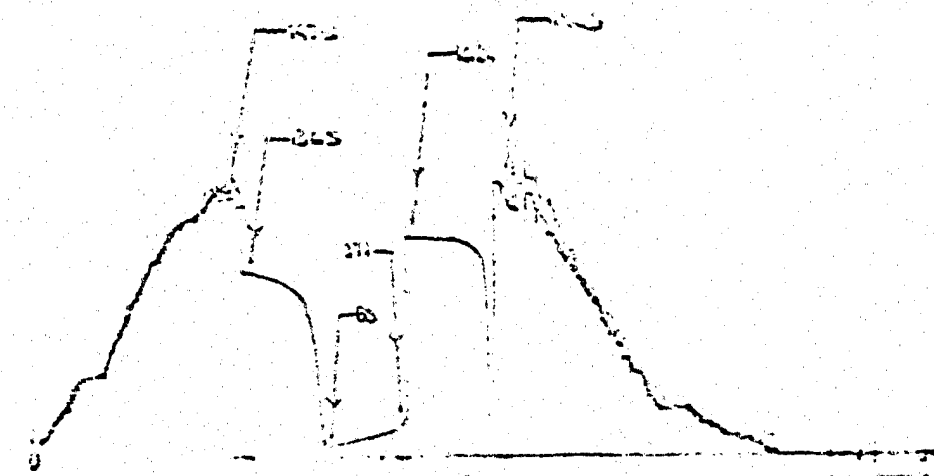
BOTTOM - HOLE PRESSURE (p.s.g.)

WORMEY PRES. EXTRAPOLATION
 PACIFIC PHILLIPS N CAMERON HILLS
 M-05
 OST NO. 1
 PM = 1491.1



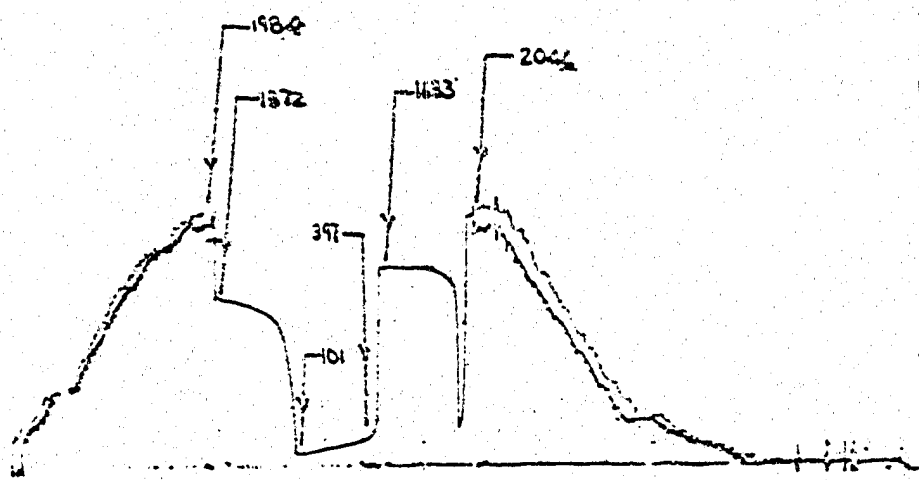
(T + Δt) / Δt

CUTS. REC. # 2847
 TEST # 1



DST RECORDER CHARTS

CUTS. REC. # 2845
 TEST # 1



DRILL-STEM TEST DATA

Well Name	Pacific Phillips N. Cameron Hills	Test No.	2
Well Number	M - 05	Zone Tested	
Company	Pacific Petroleum Ltd.	Interval	4283 - 4296
Comp. Rep.	Mr. J. Fenton	Tester	C. Miller
Date			

Type of Test D. B. H. RFS Tool No. 115

Pretlow 5 mins. ISI 52 mins. Flow 99 mins. FSI 80 mins.

Specify Inside or Outside	Int. REC. No.	Out. REC. No.	REC. No.
	5777	6100	
	RANGE 12 HR. CLOCK	RANGE 12 HR. CLOCK	RANGE HR. CLOCK
DEPTH	1285.	1205.	
Initial Hydro Mud Press	2074	2026	
Initial Shut-In Press	1649	1677	
Initial Flow Press	190	227	
Final Flow Press	179	161	
Final Shut-In Press	1663	1671	
Final Hydro Mud Press	2009	2026	

Mud Drop _____ Fluid Loss _____ Mud Weight _____
 Viscosity _____ Temperature °F _____ Net Pay Tested _____
 Top Packer Depth _____ Bottom Packer Depth 4283 Total Depth 4296
 Drill Pipe Size 4" + 3 1/2" I.P. Wt. 24.0 Drill Collar I.D. 3" + 2 1/2" Ft. Run 509
 Surface Choke Size _____ Bottom Choke Size 4" Main Hole Size 7 7/8"
 Anchor Size 4 1/2" O. D. Rat Hole Size _____ Feet of Rat Hole _____
 Cushion Amount _____ Type _____ Rubber Size 7"

Fluid Recovery Total Feet _____
 Recovered _____ Feet of _____
 Recovered _____ Feet of _____
 Recovered _____ Feet of _____
 Recovered _____ Feet of _____
 Recovered _____ Feet of _____

Gas Recovery _____ How Measured _____ Riser size _____
 _____ mins. Temp. °F Press Rdg. _____ psi Orifice Size _____ MCF/Day
 _____ mins. Temp. °F Press Rdg. _____ psi Orifice Size _____ MCF/Day
 _____ mins. Temp. °F Press Rdg. _____ psi Orifice Size _____ MCF/Day
 _____ mins. Temp. °F Press Rdg. _____ psi Orifice Size _____ MCF/Day
 _____ mins. Temp. °F Press Rdg. _____ psi Orifice Size _____ MCF/Day
 _____ mins. Temp. °F Press Rdg. _____ psi Orifice Size _____ MCF/Day

Bleed Off Time for Drill Pipe _____

REMARKS: BJ Service did not receive field data sheet to complete final report.

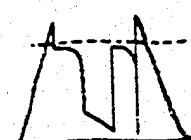
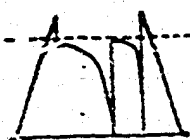
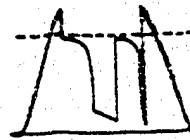
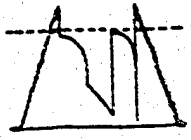
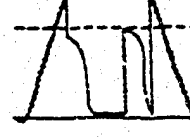
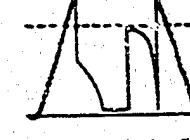


DST #2

TESTING REPORT

	45 LANDING SUB		
	45 CHAMBER		
	45 TOOL OR P.O. SUB	1.00	
	CO SUB	1.00	
	SHUT IN TOOL	5.20	
	R.F.S. No. 115	2.50	
	R.F.S. No.		
	HYDRAULIC TOOL	7.15	
	JARS	6.00	
	RECORDER No.		DEPTH
	RECORDER No.		DEPTH
	SAFETY JOINT	1.75	
	BY PASS SUB		
1. PACKER DEPTH	4177	PACKER	6.00
2. PACKER DEPTH	4183	PACKER	5.00
			1.00
	ANCHOR—SPECIFY		
	MARK OFF OR BY PASS SUB		
	RECORDER No. 3689	4.75	DEPTH 4185
3. PACKER DEPTH		PACKER	TOTAL INTERVAL 55.00
4. PACKER DEPTH		PACKER	
		ANCHOR—SPECIFY	
		PERFS	15.00
	RECORDER No. 2845	1.00	DEPTH 4205
	in collar		
	DRLG Collar	29.70	
	BULLNOSE	3.00	
TOTAL DEPTH	4238		TOTAL TAIL PIPE 55.00
			TOTAL TEST TOOL

DST CHARTS FOR COMPARATIVE VISUAL ANALYSIS

HIGH PERMEABILITY
STRONG DAMAGE EFFECTHIGH PERMEABILITY
NO DAMAGE EFFECTMEDIUM PERMEABILITY
STRONG DAMAGE EFFECTMEDIUM PERMEABILITY
NO DAMAGE EFFECTLOW PERMEABILITY
STRONG DAMAGE EFFECTLOW PERMEABILITY
NO DAMAGE EFFECT



WELL NAME PACIFIC PHILLIPS N CAMERON HILLS

DST. NO. 2

LOCATION M-05

REC. NO.

3689

DEPTH

C.

MEASURED PRESSURES

	<u>POINT NUMBER</u>	<u>TIME MIN</u>	<u>PRESSURE PSIG</u>
RUN IN HOLE	1	0.0	0.0
	2	174.0	2015.7
INITIAL HYDRO PRESSURE	3	215.0	2015.7
INITIAL PREFLOW PRESSURE	4	215.0	114.3
	5	216.0	55.7
	6	218.0	154.3
	7	219.0	325.7
FINAL PREFLOW PRESSURE	8	220.0	182.9
START INITIAL SHUT IN	9	220.0	182.9
	10	225.0	1625.4
	11	230.0	1626.8
	12	235.0	1654.9
	13	240.0	1663.4
	14	245.0	1666.2
	15	250.0	1667.6
	16	255.0	1667.6
	17	260.0	1669.0
	18	265.0	1669.0
	19	270.0	1669.0
INITIAL SHUT IN PRESSURE	20	278.0	1669.0
START FLOW PERIOD	21	278.0	1669.0
INITIAL FLOW PRESSURE	22	279.0	190.0
	23	281.0	950.0
	24	284.0	114.3
	25	288.0	122.9
	26	293.0	135.7
	27	298.0	150.0
	28	303.0	162.9
	29	308.0	175.7
	30	313.0	185.7
	31	318.0	198.6
	32	323.0	210.0
	33	328.0	227.1
	34	333.0	240.0
	35	338.0	255.3



WELL NAME PACIFIC PHILLIPS N CAMERON HILLS

DST. NO. 2

LOCATION M-05

REC. NO.

3689

DEPTH

0.

MEASURED PRESSURES

	POINT NUMBER	TIME MIN	PRESSURE PSIG
	36	343.0	268.6
	37	348.0	280.0
	38	353.0	292.9
	39	358.0	305.7
	40	363.0	317.1
	41	368.0	331.4
FINAL FLOW PRESSURE	42	377.0	348.6
START FINAL SHUT IN	43	377.0	348.6
	44	382.0	604.3
	45	387.0	932.9
	46	392.0	1207.0
	47	397.0	1415.5
	48	402.0	1547.9
	49	407.0	1611.3
	50	412.0	1638.0
	51	417.0	1649.3
	52	422.0	1656.3
	53	427.0	1659.2
	54	432.0	1660.6
	55	437.0	1662.0
	56	442.0	1663.4
	57	447.0	1663.4
	58	452.0	1663.4
FINAL SHUT IN PRESSURE	59	457.0	1663.4
RUN OUT OF HOLE	60	457.0	1663.4
FINAL HYDRO PRESSURE	61	458.0	2008.6
	62	462.0	2008.6
OUT OF HOLE	63	622.0	0.0



WELL NAME PACIFIC PHILLIPS N CAMERON HILLS

DST. NO. 2

LOCATION M-05

REC. NO.

3689

DEPTH

0.

CALCULATIONS FOR LIQUID RECOVERY (FIRST SHUT-IN)

(A) EXTRAPOLATED RESERVOIR PRESSURE	1672.3
NO. OF POINTS CONSIDERED IN BUILD-UP	11
NO. OF POINTS USED IN EXTRAPOLATION	7
ROOT MEAN SQUARE DEVIATION OF BEST-FIT LINE (PSI).....	0.30
EFFECTIVE PRODUCING TIME (MIN)	5.0



WELL NAME PACIFIC PHILLIPS N CARSDON HILLS

DSY. NO. 2

LOCATION M-05

REC. NO.

3689

DEPTH

0.

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

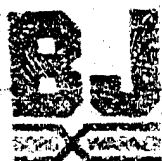
<u>POINT NUMBER</u>	<u>TIME MIN</u>	<u>PRESSURE PSIG</u>	<u>PRESSURE CALC FROM BEST FIT LINE</u>	<u>PRESSURE DIFFERENCE CALC - OBSERVED</u>	<u>T+DELTA(T)/ DELTA(T)</u>
-------------------------	---------------------	--------------------------	---	--	---------------------------------

PORTION OF BUILD-UP CURVE NOT USED IN EXTRAPOLATION

10	5.0	1425.4			2.00
11	10.0	1626.8			1.50
12	15.0	1654.9			1.33
13	20.0	1663.4			1.25

POINTS USED IN EXTRAPOLATION

14	25.0	1666.2	1666.1	-0.1	1.20
15	30.0	1667.6	1667.1	-0.6	1.17
16	35.0	1667.6	1667.8	0.2	1.14
17	40.0	1669.0	1668.3	-0.7	1.12
18	45.0	1669.0	1668.7	-0.3	1.11
19	50.0	1669.0	1669.1	0.1	1.10
20	58.0	1669.0	1669.5	0.5	1.09



WELL NAME PACIFIC PHILLIPS N CAMERON HILLS

DST. NO. 2

LOCATION N-05

REC. NO.

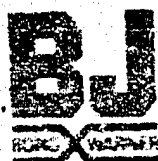
3689

DEPTH

0.

CALCULATIONS FOR LIQUID RECOVERY (SECOND SHUT-IN)

(A) EXTRAPOLATED RESERVOIR PRESSURE	1689.7
NO. OF POINTS CONSIDERED IN BUILD-UP	7
NO. OF POINTS USED IN EXTRAPOLATION	4
ROOT MEAN SQUARE DEVIATION OF BEST-FIT LINE (PSI)	0.06
EFFECTIVE PRODUCING TIME (MIN)	104.0
(B) IN SITU CAPACITY (KH - MD FT)	80.81
SLOPE OF BUILD-UP CURVE (PSI/CYCLE)	63.48
PRODUCING RATE (BBL/DAY)	52.62
FLUID VISCOSITY (CP)	0.600
FORMATION VOLUME FACTOR (RES BBL/ST BBL)	1.000
(C) EFFECTIVE PERMEABILITY (MD)	0.83
FORMATION THICKNESS	97.00
(D) PRODUCTIVITY INDEX (BBL/DAY/PSI)	0.04
FLOWING PRESSURE (PSIG)	348.6
(E) APPROXIMATE DRAINAGE RADIUS (FT)	72.9
TOTAL FLOWING TIME (MIN)	104.0
(F) ESTIMATED DAMAGE RATIO	4.50
RESERVOIR POROSITY (PERCENT)	5.00
TOTAL COMPRESSIBILITY (VOL/VOL/PSI X 10-6)	9.90
WELL-BORE RADIUS (IN)	3.64
CALCULATED SKIN FACTOR	19.20
(G) PRODUCTION WITH DAMAGE REMOVED (BBL/DAY)	236.9



WELL NAME PACIFIC PHILLIPS N CAMERON HILLS

DST. NO. 2

LOCATION M-05

REC. NO.

3689

DEPTH

0.

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

POINT NUMBER	TIME MIN	PRESSURE PSIG	PRESSURE CALC FROM BEST FIT LINE	PRESSURE DIFFERENCE CALC - OBSERVED	T+DELTA(T)/ DELTA(T)
-----------------	-------------	------------------	---	--	-------------------------

EARLY POINTS NOT CONSIDERED

44	5.0	604.3			21.80
45	10.0	932.9			11.40
46	15.0	1207.0			7.93
47	20.0	1415.5			6.20
48	25.0	1547.9			5.16
49	30.0	1611.3			4.47

PORTION OF BUILD-UP CURVE NOT USED IN EXTRAPOLATION

50	35.0	1638.0			3.97
51	40.0	1649.3			3.60
52	45.0	1656.3			3.31

POINTS USED IN EXTRAPOLATION

53	50.0	1659.2	1658.7	-0.4	3.06
54	55.0	1660.6	1660.5	-0.1	2.89
55	60.0	1662.0	1662.0	0.0	2.73
56	65.0	1663.4	1663.4	0.0	2.60

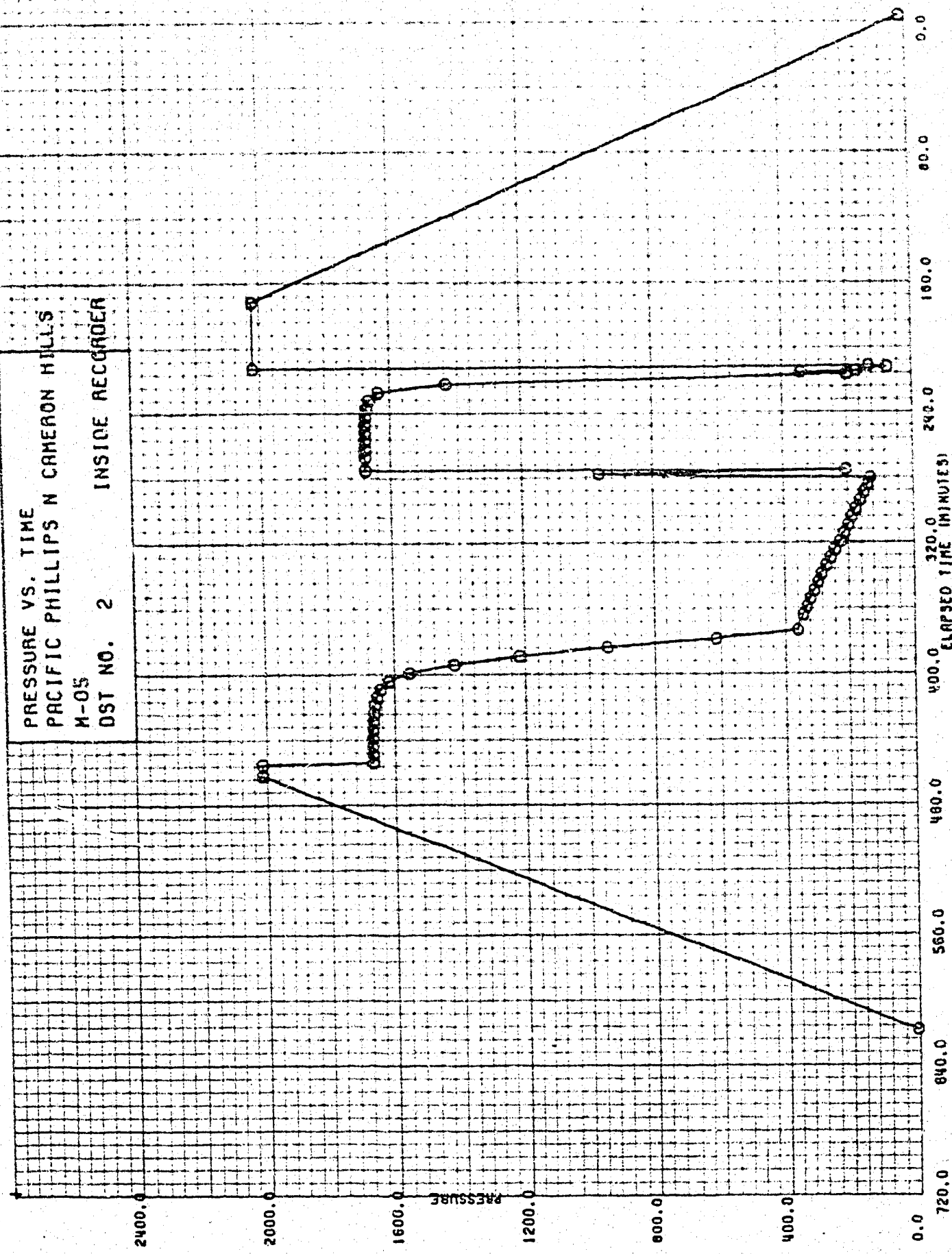
LATER POINTS NOT CONSIDERED

57	70.0	1663.4			2.49
58	75.0	1663.4			2.39
59	80.0	1663.4			2.30

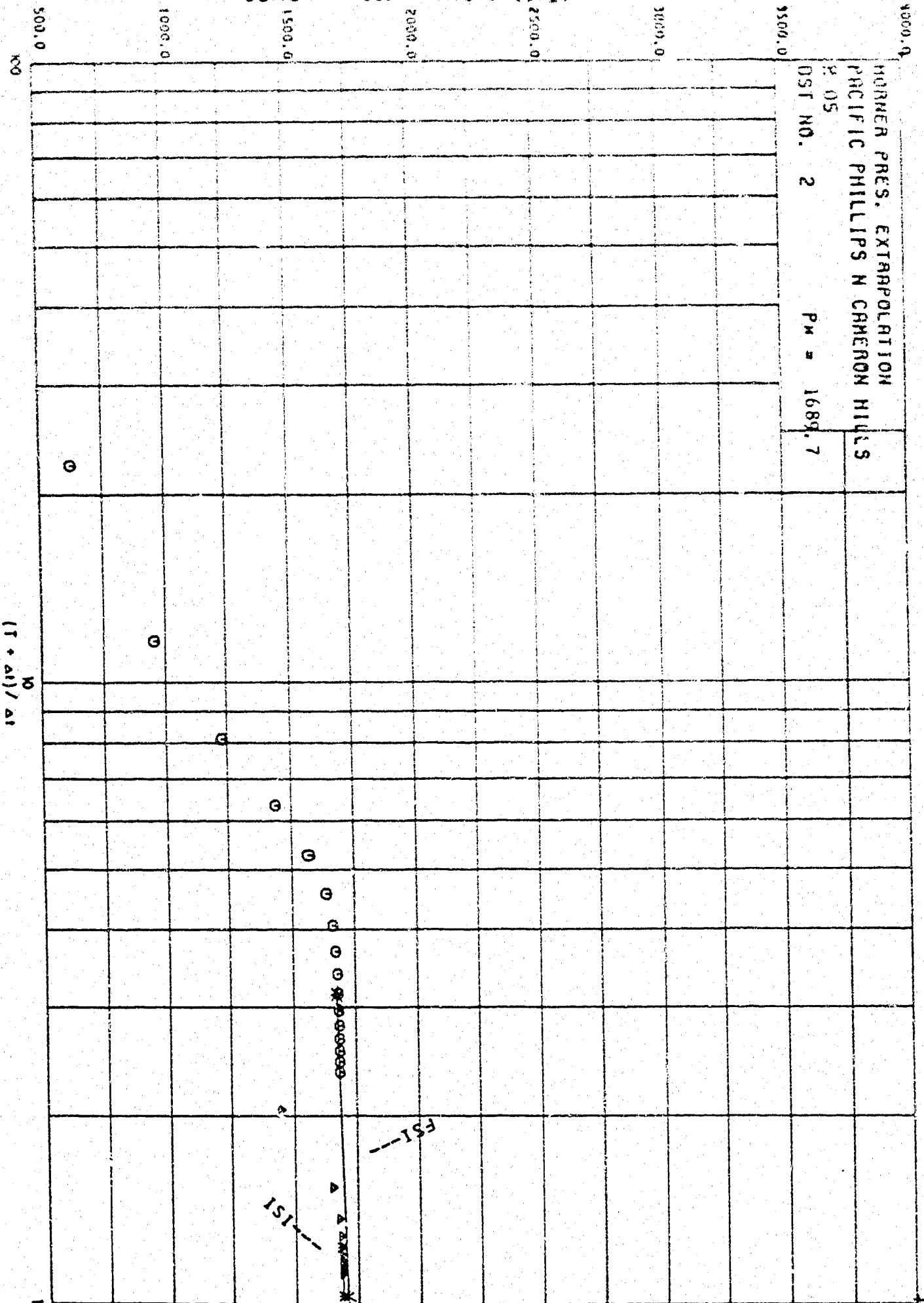
ASSUMPTIONS AND LIMITATIONS

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

PRESSURE VS. TIME
 PACIFIC PHILLIPS N CAMERON HILLS
 M-05
 DST NO. 2 INSIDE RECORDER

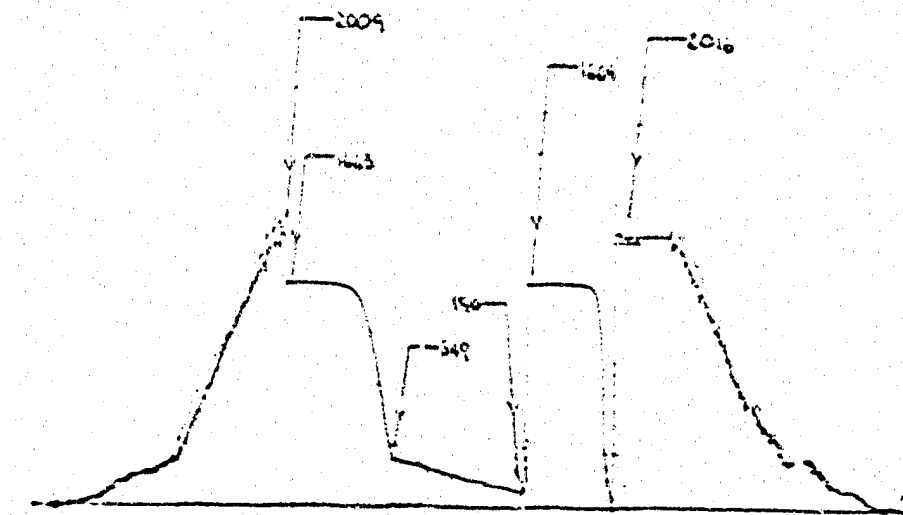


BOTTOM - HOLE PRESSURE (psig)



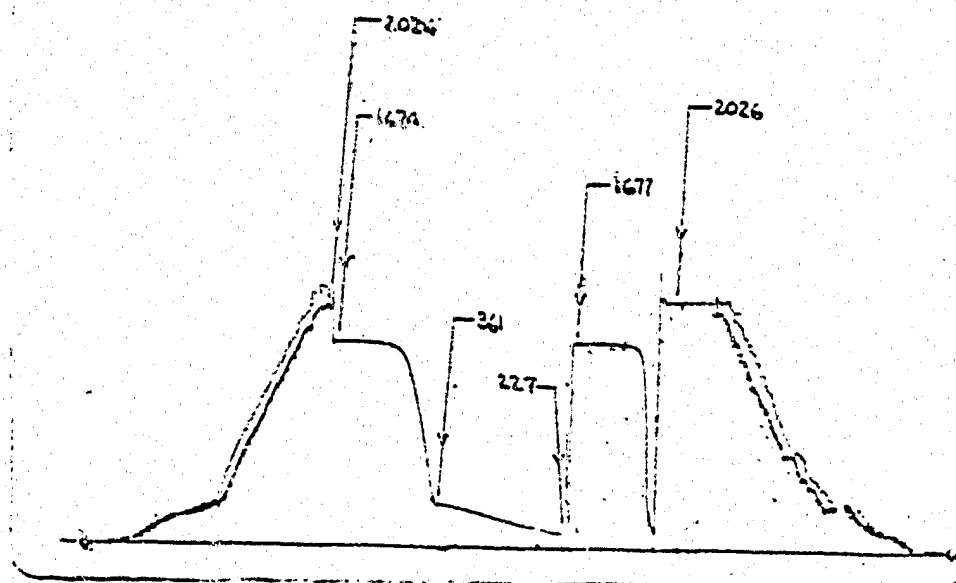
$(T + \Delta t) / \Delta t$

OUTS. REC. # 2007
TEST # 2



DST RECORDER CHARTS

OUTS. REC. # 2895
TEST # 2



DRILL-STEM TEST DATA

Well No. 1000 Zone Tested 1000
 Test Interval 1000 to 1000
 Date March 20, 1971

Type of Test 1000 RFS Tool No. 1000

Flow 1000 min. Flow 1000 min. Flow 1000 min. Flow 1000 min.

Specify Inside or Outside 1000 REC No. 1000 REC No. 1000 REC No. 1000
1000 RANGE 1000 RANGE 1000 RANGE 1000

Drill Pipe Size 1000
 Drill Pipe Weight 1000
 Drill Pipe Length 1000
 Drill Pipe ID 1000
 Drill Pipe OD 1000
 Drill Pipe Wall Thickness 1000
 Drill Pipe Material 1000

Mud Drop 1000 Fluid Loss 1000 Mud Weight 1000
 Viscosity 1000 Temperature 1000 Net Pay Tested 1000
 Top Packer Depth 1000 Bottom Packer Depth 1000 Total Depth 1000
 Drill Pipe Size 1000 Wt. 1000 Drill Collar I.D. 1000 Ft. Run 1000
 Surface Choke Size 1000 Bottom Choke Size 1000 Main Hole Size 1000
 Annular Size 1000 Rat Hole Size 1000 Feet of Rat Hole 1000
 Cushion Amount 1000 Type 1000 Rubber Size 1000

Flow Recovery Total Feet 1000
 Recovered 1000 Feet of 1000
 Recovered 1000 Feet of 1000
 Recovered 1000 Feet of 1000
 Recovered 1000 Feet of 1000
 Recovered 1000 Feet of 1000

Gas Recovery How Measured 1000 Riser size: 1000

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

Shut Off Time for Drill Pipe 1000

REMARKS: 1000 Due to float in bottom drill collar.

W. J. G. & S. J. G.

1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 26

2025-01-01

CC-0.

July 25, 1966

243 50

243 Page

HYDRAULIC TOOL

145

REF ID: A66584

RECORDS NO.

SALTY JOINT

BY PASS SUB

РАСЧЕТ

PACKER

ANCHOR-SPECIFY

ELANA OFF CR BY PASS SUB

RECORDS No.

PACKEB

PACKER

ANCHOR-SPECIFY

RECORDED No.

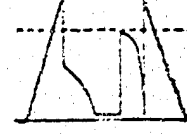
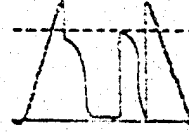
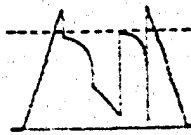
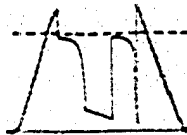
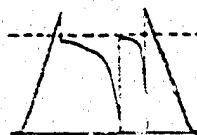
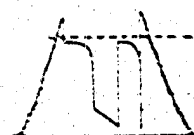
John Collins

ALLIANCE

DST CHARTS FOR COMPARATIVE VISUAL ANALYSIS

TOTAL TAIL PIPE

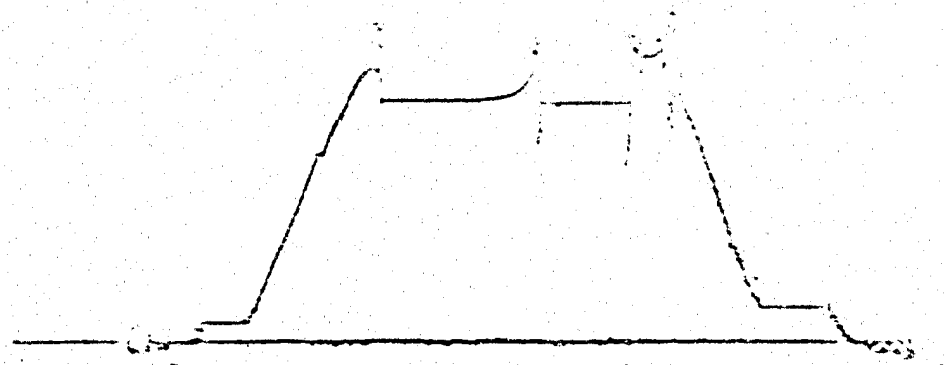
TOTAL TEST TOC:



	HIGH PERMEABILITY	HIGH PERMEABILITY	MEDIUM PERMEABILITY	MEDIUM PERMEABILITY	LOW PERMEABILITY	LOW PERMEABILITY
B	STRONG DAMAGE EFFECT	NO DAMAGE EFFECT	STRONG DAMAGE EFFECT	NO DAMAGE EFFECT	STRONG DAMAGE EFFECT	NO DAMAGE EFFECT

INS REC # 2687

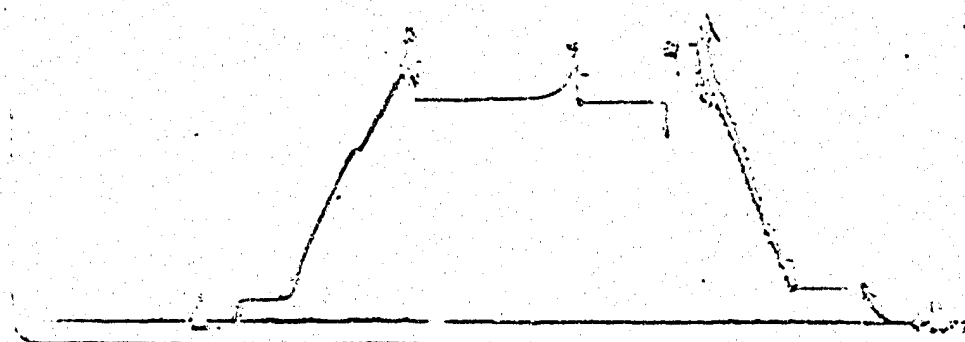
TEST # 3

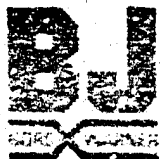


DST RECORDER CHARTS

CUTS REC # 2845

TEST # 3





DRILL-STEM TEST DATA

Well Name **PACIFIC PHILLIPS N CAMERON HILLS**Test No. **4**Well Number **M-05**

Zone Tested

Company **PACIFIC PETROLEUMS LTD**Interval **4400 - 4675**Tester **J FENTON**Tester **C MILLER**Date **MARCH 20, 1971**Type of Test **DUAL BOTTOM HOLE**P.T.S. Test No. **212**

	5 min	59 min	59 min	62 min
	1	0	12	12
DEPTH	3689	2845	6400	6400
5700	12	12	12	12
4402	12	12	12	12
4429	12	12	12	12
2113	12	12	12	12
2140	12	12	12	12
1768	12	12	12	12
1786	12	12	12	12
1499	12	12	12	12
1532	12	12	12	12
1766	12	12	12	12
1786	12	12	12	12
2094	12	12	12	12

Mud Depth **NIL**Viscosity **80**Total Depth **4394**Total Time **4:00 3.5 IF**Total Time **4:00**Total Time **4:00**Total Time **4:00**

Total Time

Temperature **130**Bottom Pressure **4400**WT **14.0**Mud Weight **0.5**

Mud Weight

Type

Mud Weight **2.4**

Total Time

Total Depth **4675**Total Time **5:09**Total Time **7.875**

Total Time

Total Time **7.0**Total Recovery Total Feet **3550**Recovery **120**Recovery **3430**

Recovery

Recovery

Recovery

Foot of

Foot of

Foot of

Foot of

Foot of

Foot of

DRUG MUD**SALT WATER 85,700 PPM SALT 11.4**

Gas Recovery

How Measured

Riser Size

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

Speed Off Time for Drill Pipe

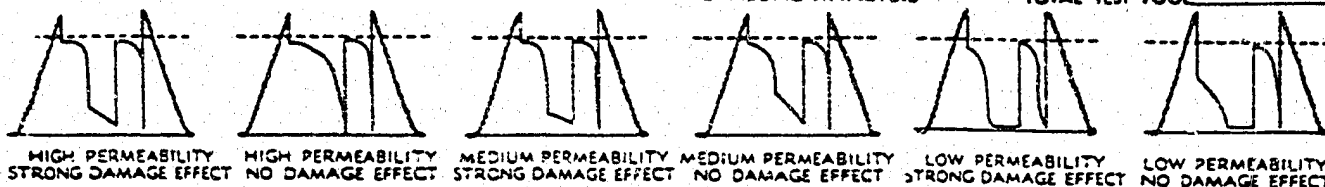
REMARKS

**G.I.P. STRONG AIR BLOW DECREASING IN 20 MINS.
AND DEAD IN 20 MINS.**

Chem - Geo Lab Gas Cont. No.

Chem - Geo Lab Gas Cont. No.

	43 LANDING SUB	_____	
	43 CHAMBER	_____	
	43 TOOL OR P.O. SUB	1.00	
	CO SUB	1.00	
	SHUT IN TOOL	5.20	
	R.P.S. No. 112	2.50	
	R.P.S. No.	_____	
	HYDRAULIC TOOL	7.15	
	JARS	6.00	
	RECORDER No. _____	DEPTH _____	
	RECORDER No. _____	DEPTH _____	
	SAFETY JOINT	.75	
	BY PASS SUB	_____	
	PACKER	6.00	
	1. PACKER DEPTH 4394		
PACKER	5.00	TOTAL TOOL ABOVE INTERVAL 35.60	
2. PACKER DEPTH 4400	1.00		
ANCHOR—SPECIFY _____	_____		
_____	_____		
BLANK OFF OR BY PASS SUB	_____		
RECORDER No. 3689	4.75	DEPTH 4402	
PERFS	21.00		
3. PACKER DEPTH _____	PACKER _____	TOTAL INTERVAL 275.00	
4. PACKER DEPTH _____	PACKER _____		
ANCHOR—SPECIFY _____	_____		
_____	_____		
RECORDER No. 2845	4.75	DEPTH 4429	
DRLG Collar	241.10		
TOTAL DEPTH 4675	BULLNOSE 3.00	TOTAL TAIL PIPE 275.60	
	DST CHARTS FOR COMPARATIVE VISUAL ANALYSIS		
	TOTAL TEST TOOL _____		



HIGH PERMEABILITY STRONG DAMAGE EFFECT
 HIGH PERMEABILITY NO DAMAGE EFFECT
 MEDIUM PERMEABILITY STRONG DAMAGE EFFECT
 MEDIUM PERMEABILITY NO DAMAGE EFFECT
 LOW PERMEABILITY STRONG DAMAGE EFFECT
 LOW PERMEABILITY NO DAMAGE EFFECT



WELL NAME PACIFIC PHILLIPS N CAMERON HILLS

DST. NO. 4

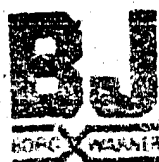
LOCATION M-05

REC. NO. 3689

DEPTH 4402.

MEASURED PRESSURES

	POINT NUMBER	TIME MIN	PRESSURE PSIG
RUN IN HOLE	1	0.0	0.0
	2	119.0	2112.9
INITIAL HYDRO PRESSURE	3	143.0	2112.9
INITIAL PREFLOW PRESSURE	4	143.0	1432.4
	5	145.0	1498.6
	6	147.0	1553.5
FINAL PREFLOW PRESSURE	7	148.0	1476.1
START INITIAL SHUT IN	8	148.0	1476.1
	9	149.0	1766.2
	10	153.0	1766.2
	11	158.0	1766.2
	12	163.0	1766.2
	13	168.0	1766.2
	14	173.0	1766.2
	15	178.0	1767.6
	16	183.0	1767.6
	17	188.0	1767.6
	18	193.0	1767.6
	19	198.0	1767.6
INITIAL SHUT IN PRESSURE	20	207.0	1767.6
START FLOW PERIOD	21	207.0	1767.6
INITIAL FLOW PRESSURE	22	208.0	1498.6
	23	212.0	1590.1
	24	217.0	1471.0
	25	222.0	1728.2
	26	227.0	1757.7
	27	232.0	1766.2
	28	237.0	1766.2
	29	242.0	1766.2
	30	247.0	1766.2
	31	252.0	1766.2
	32	257.0	1766.2
	33	262.0	1766.2
FINAL FLOW PRESSURE	34	266.0	1766.2



WELL NAME PACIFIC PHILLIPS N CAMERON HILLS

DST. NO. 4

LOCATION M-05

REC. NO.

3689

DEPTH 4402.

MEASURED PRESSURES

	<u>POINT NUMBER</u>	<u>TIME MIN</u>	<u>PRESSURE PSIG</u>
START FINAL SHUT IN	35	266.0	1766.2
	36	271.0	1767.6
	37	276.0	1767.6
	38	286.0	1767.6
	39	296.0	1767.6
	40	306.0	1767.6
	41	316.0	1767.6
FINAL SHUT IN PRESSURE	42	328.0	1767.6
RUN OUT OF HOLE	43	328.0	1767.6
FINAL HYDRO PRESSURE	44	329.0	2094.3
	45	335.0	2094.3
OUT OF HOLE	46	553.0	0.0



WELL NAME PACIFIC PHILLIPS N CAMERON HILLS

OST. NO. 4

LOCATION M-05

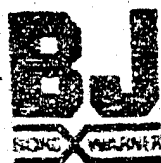
REC. NO.

3699

DEPTH 4402.

CALCULATIONS FOR LIQUID RECOVERY (FIRST SHUT-IN)

(A) EXTRAPOLATED RESERVOIR PRESSURE	1788.7
NO. OF POINTS CONSIDERED IN BUILD-UP	12
NO. OF POINTS USED IN EXTRAPOLATION	8
ROOT MEAN SQUARE DEVIATION OF BEST-FIT LINE (PSI)	0.17
EFFECTIVE PRODUCING TIME (MIN)	5.0



WELL NAME PACIFIC PHILLIPS N CAMERON HILLS

DST. NO. 4

LOCATION M-05

REC. NO.

3689

DEPTH 4402.

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

POINT NUMBER	TIME MIN	PRESSURE PSIG	PRESSURE CALC FROM BEST FIT LINE	PRESSURE DIFFERENCE CALC - OBSERVED	T*DELTA(T)/ DELTA(T)
-----------------	-------------	------------------	---	--	-------------------------

PORTION OF BUILD-UP CURVE NOT USED IN EXTRAPOLATION

9	1.0	1766.2			6.00
10	5.0	1766.2			2.00
11	10.0	1766.2			1.50
12	15.0	1766.2			1.33

POINTS USED IN EXTRAPOLATION

13	20.0	1766.2	1766.3	0.1	1.25
14	25.0	1766.2	1766.8	0.6	1.20
15	30.0	1767.6	1767.1	-0.5	1.17
16	35.0	1767.6	1767.3	-0.3	1.14
17	40.0	1767.6	1767.5	-0.1	1.12
18	45.0	1767.6	1767.6	-0.0	1.11
19	50.0	1767.6	1767.7	0.1	1.10
20	59.0	1767.6	1767.9	0.2	1.08



WELL NAME PACIFIC PHILLIPS N CAMERON HILLS

OST. NO. 4

LOCATION M-05

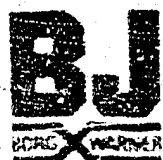
REC. NO.

3689

DEPTH 4402.

CALCULATIONS FOR LIQUID RECOVERY (SECOND SHUT-IN)

(A) EXTRAPOLATED RESERVOIR PRESSURE	1767.6
NO. OF POINTS CONSIDERED IN BUILD-UP	7
NO. OF POINTS USED IN EXTRAPOLATION	7
ROOT MEAN SQUARE DEVIATION OF BEST-FIT LINE (PSI).....	0.00
EFFECTIVE PRODUCING TIME (MIN)	64.0



WELL NAME PACIFIC PHILLIPS N CAMERON HILLS

DST. NO. 4

LOCATION M-05

REC. NO.

3689

DEPTH 4402.

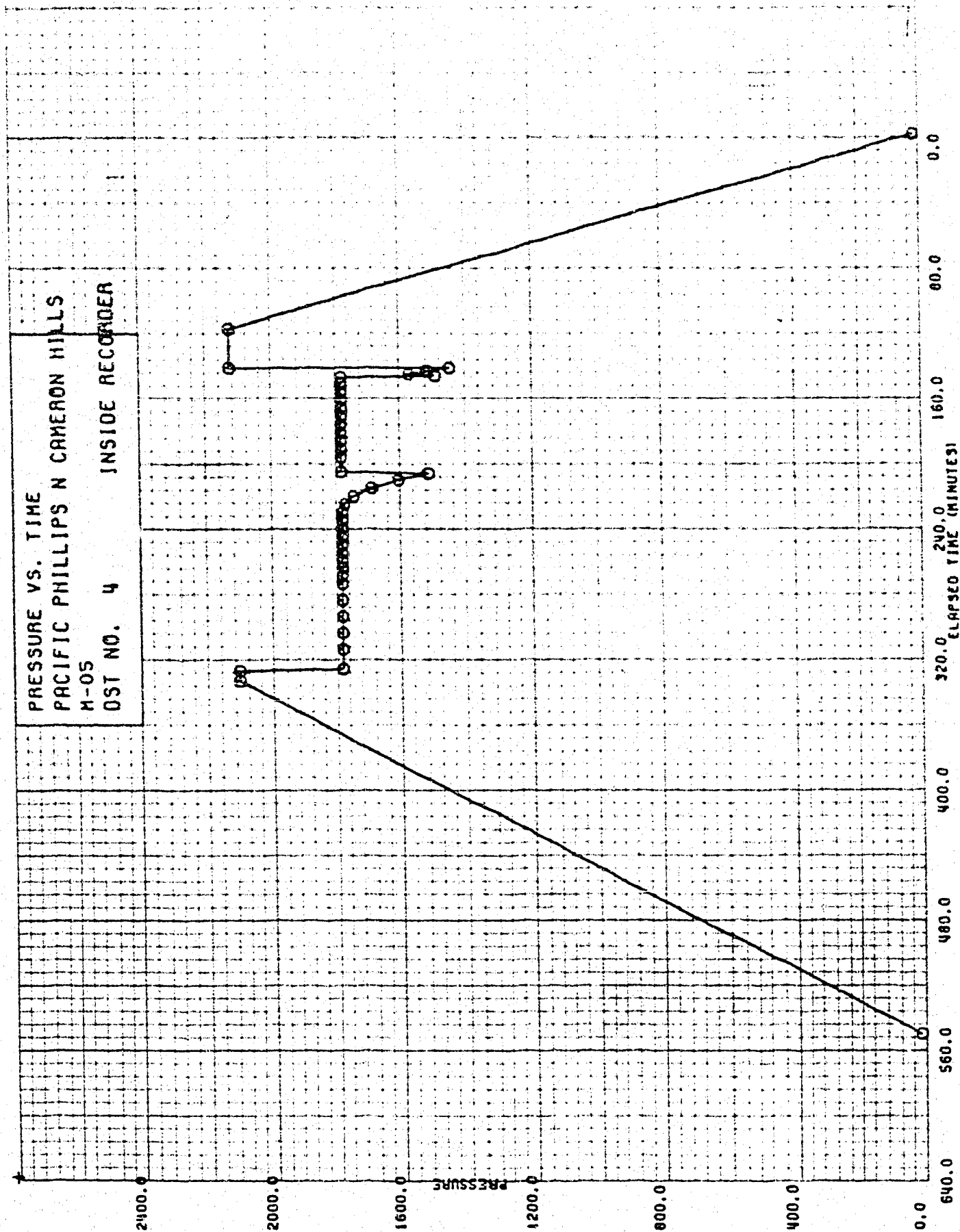
DATA FOR BUILD-UP PLOT (SECOND SHUT-IN)

POINT NUMBER	TIME MIN	PRESSURE PSIG	PRESSURE CALC FROM BEST FIT LINE	PRESSURE DIFFERENCE CALC - OBSERVED	T+DELTA(T)/ DELTA(T)
-----------------	-------------	------------------	---	--	-------------------------

POINTS USED IN EXTRAPOLATION

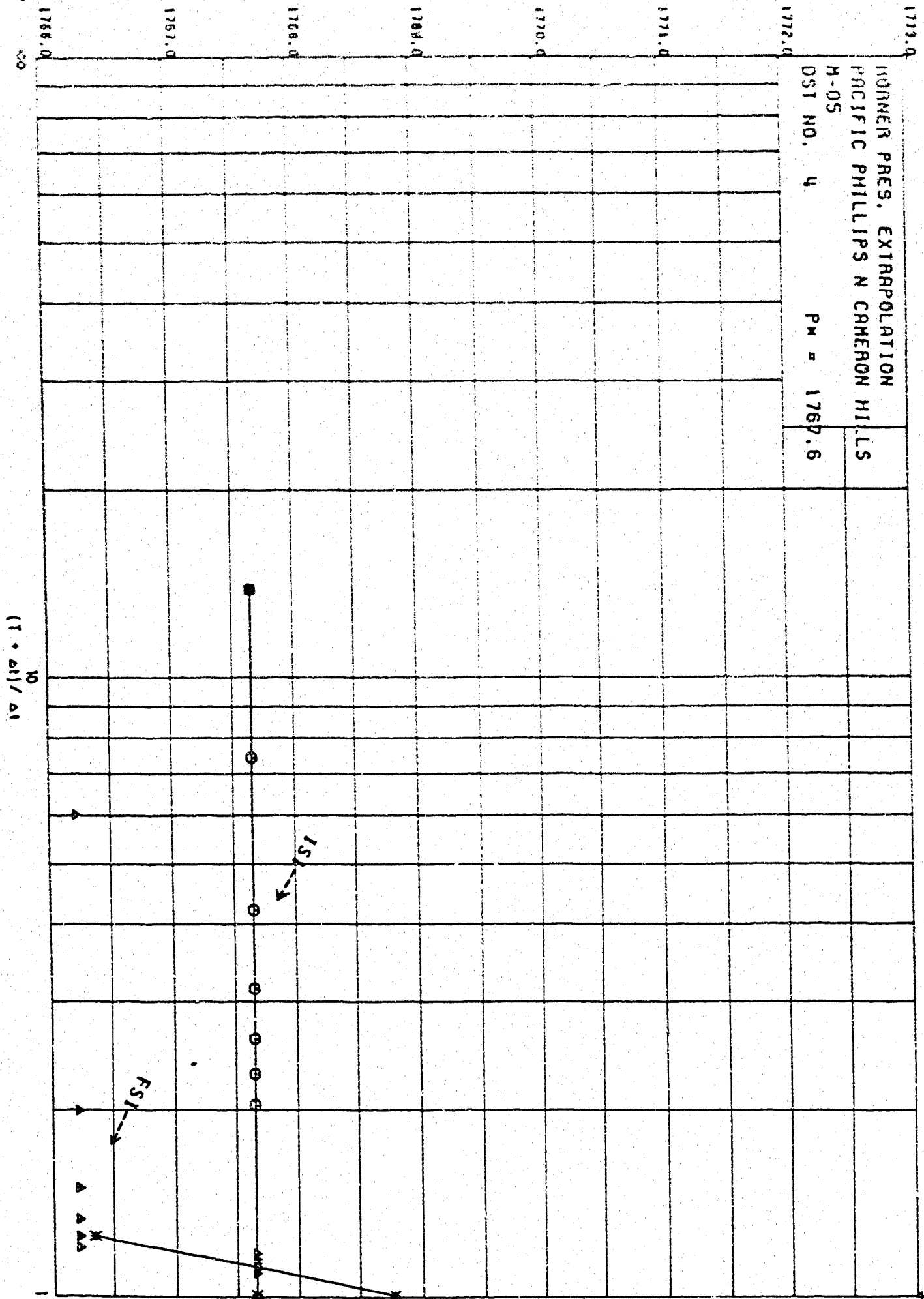
36	5.0	1767.6	1767.6	-0.0	13.80
37	10.0	1767.6	1767.6	-0.0	7.40
38	20.0	1767.6	1767.6	0.0	4.20
39	30.0	1767.6	1767.6	0.0	3.13
40	40.0	1767.6	1767.6	0.0	2.60
41	50.0	1767.6	1767.6	0.0	2.28
42	62.0	1767.6	1767.6	0.0	2.03

PRESSURE VS. TIME
PACIFIC PHILLIPS N CAMERON HILLS
M-05
OST NO. 4 INSIDE RECORDER

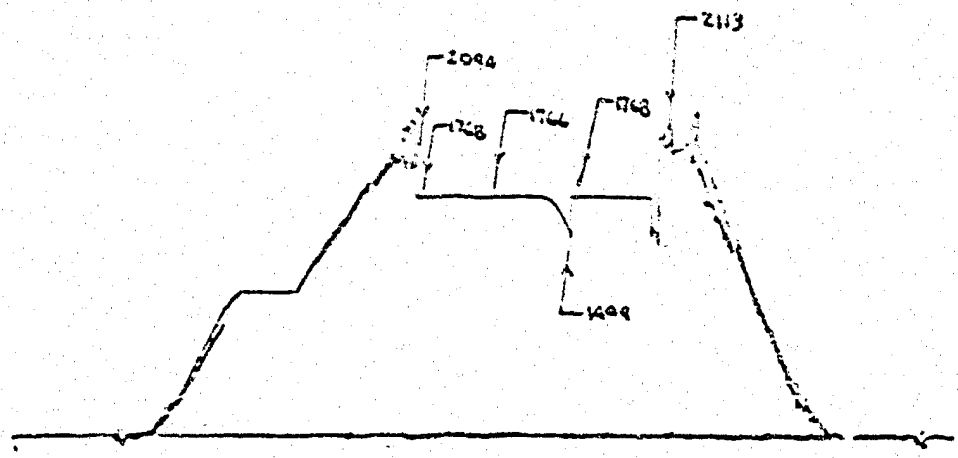


BOTTOM - HOLE PRESSURE (psig)

WORMER PRES. EXTRAPOLATION
PACIFIC PHILLIPS N CAMERON HILLS
M-05
DST NO. 4 P_w = 1767.6

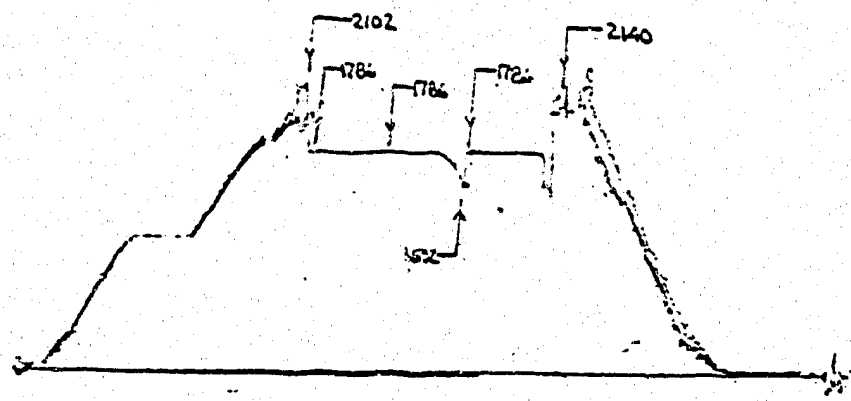


INS REC # 3687
TEST # 4



DST RECORDER CHARTS

OURS REC # 2845
TEST # 4



AL PETROLEUMS DRILLING

BELLING LOG

TO 7.1 miles n. w Indian Cabins

Pacific Phillips Inc. N.
Indian Cabins

Indian Cabins

60° SEC 14 N T27 R64 W N

DATE MARCH 23

29 MARCH 1971

MILES MOVED 265'

ROADS CONDITIONS

ROUGH

DAYS FROM SPUD

From	Feet	Wt. on Bottom	Wt. Drill Pipe (1000 ft.)	Stands	Singles	DRILL COLLARS				No.	OD	ID	Length	Air Wt.	Sub. Wt.	C.B. Ft.	H. up on Kelly
No.	Size	Type	Jets, W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.

M.U.D.	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
WEIGHT																	
VISCOSITY																	
GEL																	
W.L.																	
ADDITIVES																	

Drilling Line	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	Air Miles	Date Slip or Cut	Next Slip	Fl. Left on Spool
---------------	------	------	------------	-----------	-------	-----------	-------------	------	-------------	-----------	------------------	-----------	-------------------

Record																		
From	Footage		To	Wt. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS		No.	OD	ID	Length	Air Wt.	Sub. Wt.	C.B. Fr.	Fr. up on Kelly	
B	No.	Size	Type	Jets/W.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.
	17																	

M.U.D.	8 a.m.	10 a.m.	12 noon	2 p.m.	4 p.m.	6 p.m.	8 p.m.	10 p.m.	12 noon	2 p.m.	4 p.m.	6 p.m.	8 p.m.	10 p.m.	12 noon	2 p.m.	4 p.m.
WEIGHT																	
VISCOSITY																	
GEL																	
W.L.																	
ADDITIVES																	

Drilling Line	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	Air Miles	Date Slip or Cut	Next Slip	Fl. Left on Spool
---------------	------	------	------------	-----------	-------	-----------	-------------	------	-------------	-----------	------------------	-----------	-------------------

Line Record	1		WRIGHT		5613		8		5638		5638		60		60		5638		3/23/11		6/15/11		147				
From	Feetage			To	Hrs. on Bottom		Wt. Drill Pipe (1000 lbs.)		Stands		Singles		DRILL COLLARS		No.	C.D.	I.D.	Length		Air Wt.		Sub. Wt.		C.B. Ft.		Fl. up Kell	
B H	No.	Size	Type	Jets/W.C.		Serial No.		Wgt.	R.P.M.	Drilled or Cored		Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure		S.P.M.	Table Torque		T.	B.	C.				

M.U.D.	4 p.m.	6 p.m.	8 p.m.	10 p.m.	12 p.m.	2 p.m.	4 p.m.	6 p.m.	8 p.m.	10 p.m.	12 p.m.	2 p.m.	4 p.m.	6 p.m.	8 p.m.	10 p.m.	12 p.m.
WEIGHT																	
VISCOSITY																	
GEL																	
W.L.																	
ADDITIVES																	

Drilling Line	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	Air Miles	Date Slip or Cut	Next Slip	Fl. Left on Spool
---------------	------	------	------------	-----------	-------	-----------	-------------	------	-------------	-----------	------------------	-----------	-------------------

Drilling No. Record	Size	Wt.	Serial No.	Wt.	Top	Bottom	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.
	Feetage	Feet	Feet	Parking & Shot	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel
CASING REPORT																	

M.U.D.	4 p.m.	6 p.m.	8 p.m.	10 p.m.	12 p.m.	2 p.m.	4 p.m.	6 p.m.	8 p.m.	10 p.m.	12 p.m.	2 p.m.	4 p.m.	6 p.m.	8 p.m.	10 p.m.	12 p.m.
WEIGHT																	
VISCOSITY																	
GEL																	
W.L.																	
ADDITIVES																	

Drilling Line	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	Air Miles	Date Slip or Cut	Next Slip	Fl. Left on Spool
---------------	------	------	------------	-----------	-------	-----------	-------------	------	-------------	-----------	------------------	-----------	-------------------

CIPING UNIT #		Sampled	From	Feetage	To	Wt. on Bottom	Wt. Drill Pipe (1000 lb.)	Stands	Singles	DRILL COLLARS	No.	OD	ID	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Fl. up on Kelly
No.		Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.

M.U.D.	4 p.m.	6 p.m.	8 p.m.	10 p.m.	12 p.m.	2 p.m.	4 p.m.	6 p.m.	8 p.m.	10 p.m.	12 p.m.	2 p.m.	4 p.m.	6 p.m.	8 p.m.	10 p.m.	12 p.m.
WEIGHT																	
VISCOSITY																	
GEL																	
W.L.																	
ADDITIVES																	

Drilling Line	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	Air Miles	Date Slip or Cut	Next Slip	Fl. Left on Spool
---------------	------	------	------------	-----------	-------	-----------	-------------	------	-------------	-----------	------------------	-----------	-------------------

From	Feetage	To	Wt. on Bottom	Wt. Drill Pipe (1000 lb.)	Stands	Singles	DRILL COLLARS	No.	OD	ID	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Fl. up on Kelly		
No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.

REMARKS
Tear Out Rig and
Load Out Barrel

300
500

John Maloney
DRILLER'S SIGNATURE

FIRES

Tear Out Rig
Load out Tool House
dog house + Pump house
Drill drill pipe
drive to Stearn River
And undred + Stack Rig

1200
800
16

DRILLER'S SIGNATURE

DRILLER'S SIGNATURE

DRILLER'S SIGNATURE

DRILLER'S SIGNATURE

DRILLER'S SIGNATURE

DRILLER'S SIGNATURE

DRILLER'S SIGNATURE

4 IF 146

146

GP 1555

[illegible][illegible]

No.	Size.	Type	Jets W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Mrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.
-----	-------	------	-----------	------------	------	--------	------------------	------	--------	------	----------	---------------	--------	--------------	----	----	----

[illegible]

W.L.	F.C.	S.H.	DESILTER: Hours Op:	U. Flow:	O. Flow:	SURVEYS		3	5174	5206
ADDITIVES:			GENERAL:			A' Feet	Degrees:	4	5079	5106

Uplifting Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	New Miles		Slip or Cur	Feet or Cur	2 1/2 Miles	Date Slip or Cur	Next Slip	Fr. Left on Spec
							Old Miles	Slip						
1	1	Wright	5-13	8			52	52	6-0	6-0	51.38	7-12-13		

[illegible][illegible]

W. L.	A. C.	ST.	DESINTER. HOLD. OR.	Flow	Control	Pressure	Temperature
ADDITIVES-			GENERAL				

Line	Code	Desc	QTY	UNIT	PRICE	AMOUNT	TAX	TOTAL
1	100	100	1	EA	1.00	1.00		1.00
2	200	200	1	EA	2.00	2.00		2.00
3	300	300	1	EA	3.00	3.00		3.00
4	400	400	1	EA	4.00	4.00		4.00
5	500	500	1	EA	5.00	5.00		5.00
6	600	600	1	EA	6.00	6.00		6.00
7	700	700	1	EA	7.00	7.00		7.00
8	800	800	1	EA	8.00	8.00		8.00
9	900	900	1	EA	9.00	9.00		9.00
10	1000	1000	1	EA	10.00	10.00		10.00
11	1100	1100	1	EA	11.00	11.00		11.00
12	1200	1200	1	EA	12.00	12.00		12.00
13	1300	1300	1	EA	13.00	13.00		13.00
14	1400	1400	1	EA	14.00	14.00		14.00
15	1500	1500	1	EA	15.00	15.00		15.00
16	1600	1600	1	EA	16.00	16.00		16.00
17	1700	1700	1	EA	17.00	17.00		17.00
18	1800	1800	1	EA	18.00	18.00		18.00
19	1900	1900	1	EA	19.00	19.00		19.00
20	2000	2000	1	EA	20.00	20.00		20.00
21	2100	2100	1	EA	21.00	21.00		21.00
22	2200	2200	1	EA	22.00	22.00		22.00
23	2300	2300	1	EA	23.00	23.00		23.00
24	2400	2400	1	EA	24.00	24.00		24.00
25	2500	2500	1	EA	25.00	25.00		25.00
26	2600	2600	1	EA	26.00	26.00		26.00
27	2700	2700	1	EA	27.00	27.00		27.00
28	2800	2800	1	EA	28.00	28.00		28.00
29	2900	2900	1	EA	29.00	29.00		29.00
30	3000	3000	1	EA	30.00	30.00		30.00
31	3100	3100	1	EA	31.00	31.00		31.00
32	3200	3200	1	EA	32.00	32.00		32.00
33	3300	3300	1	EA	33.00	33.00		33.00
34	3400	3400	1	EA	34.00	34.00		34.00
35	3500	3500	1	EA	35.00	35.00		35.00
36	3600	3600	1	EA	36.00	36.00		36.00
37	3700	3700	1	EA	37.00	37.00		37.00
38	3800	3800	1	EA	38.00	38.00		38.00
39	3900	3900	1	EA	39.00	39.00		39.00
40	4000	4000	1	EA	40.00	40.00		40.00
41	4100	4100	1	EA	41.00	41.00		41.00
42	4200	4200	1	EA	42.00	42.00		42.00
43	4300	4300	1	EA	43.00	43.00		43.00
44	4400	4400	1	EA	44.00	44.00		44.00
45	4500	4500	1	EA	45.00	45.00		45.00
46	4600	4600	1	EA	46.00	46.00		46.00
47	4700	4700	1	EA	47.00	47		

CR TOTAL 700

[Faint, illegible handwritten notes]

100-443887-100

06/10/18

Leaf Out Flag?	3 -
wash + clean Ric	

~~change bread + liner in~~
~~tums to 6"~~

draw compounds using table.

On passing make sign for	500
--------------------------	-----

FIRES

CEM

Approved by	
Operator's	

ING as well as hours

GENERAL PETH
DAILY DRILLING
DIRECTIONS TO
WELL

KILLING

NO. 12

LOCATION

PACIFIC PHILLIPS & CAMERON HILLS

SEC. 14

TWP. 57

RGE. 54 W. N.

DATE

MARCH 21

29 MAR 1971

INDIAN CABINS

MAILING POINT

INDIAN CABINS

SHIPPING POINT

INDIAN CABINS

MILES MOVED

265

ROAD CONDITIONS

Rough

DAYS FROM SPUD

From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Fl. up on Kelly
4675														
No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque
1	WRIGHT	5613	8	1/2	18	5620	60	60	5135	16/3/71	5639	1557		
WEIGHT	12 mn.	2 a.m.	4 a.m.	6 a.m.	8 a.m.	10 a.m.	12 noon	2 p.m.	4 p.m.	6 p.m.	8 p.m.	10 p.m.	12 noon	2 p.m.
VISCOSITY														
GEL														
W.L.	F.C.	pH.	DESILTER: Hours Op.	U. Flow:	O. Flow:	SURVEYS	At Feet	Degrees	Weather	Temp.	Next Oil Change	Fl. Left on Spool		
ADDITIVES:	GENERAL:													
Phog #1 4675-4275-161 SACKS CONST DOWN AT 1230 AM.														
Phog #2 4275-3075-161 SACKS CONST DOWN AT 300 AM.														
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip or Cut	At Miles	Date Slip or Cut	Next Slip	Fl. Left on Spool		
1	WRIGHT	5613	8	1/2	18	5620	60	60	5135	16/3/71	5639	1557		
From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.
No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque
1	WRIGHT	5613	8	1/2	18	5620	60	60	5135	16/3/71	5639	1557		
WEIGHT	8 a.m.	10 a.m.	12 noon	2 p.m.	4 p.m.	6 p.m.	8 p.m.	10 a.m.	12 noon	2 p.m.	4 p.m.	6 p.m.	8 p.m.	10 p.m.
VISCOSITY														
GEL														
W.L.	F.C.	pH.	DESILTER: Hours Op.	U. Flow:	O. Flow:	SURVEYS	At Feet	Degrees	Weather	Temp.	Next Oil Change	Fl. Left on Spool		
ADDITIVES:	GENERAL:													
Phog #3 870-773 61 SACKS CONST DOWN AT 130 AM.														
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip or Cut	At Miles	Date Slip or Cut	Next Slip	Fl. Left on Spool		
1	WRIGHT	5613	8	1/2	18	5638	60	60	5135	16/3/71	5639	1557		
From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.
No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque
1	WRIGHT	5613	8	1/2	18	5638	60	60	5135	16/3/71	5639	1557		
WEIGHT	4 p.m.	6 p.m.	8 p.m.	10 p.m.	12 noon	2 p.m.	4 p.m.	6 p.m.	8 p.m.	10 p.m.	12 noon	2 p.m.	4 p.m.	6 p.m.
VISCOSITY														
GEL														
W.L.	F.C.	pH.	DESILTER: Hours Op.	U. Flow:	O. Flow:	SURVEYS	At Feet	Degrees	Weather	Temp.	Next Oil Change	Fl. Left on Spool		
ADDITIVES:	GENERAL:													
Phog #4 870-773 61 SACKS CONST DOWN AT 130 AM.														
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip or Cut	At Miles	Date Slip or Cut	Next Slip	Fl. Left on Spool		
1	WRIGHT	5613	8	1/2	18	5660	60	60	5135	16/3/71	5639	1557		
From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.
No.	Size	Type	Jets/W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque
1	WRIGHT	5613	8	1/2	18	5660	60	60	5135	16/3/71	5639	1557		
WEIGHT	4 p.m.	6 p.m.	8 p.m.	10 p.m.	12 noon	2 p.m.	4 p.m.	6 p.m.	8 p.m.	10 p.m.	12 noon	2 p.m.	4 p.m.	6 p.m.
VISCOSITY														
GEL														
W.L.	F.C.	pH.	DESILTER: Hours Op.	U. Flow:	O. Flow:	SURVEYS	At Feet	Degrees	Weather	Temp.	Next Oil Change	Fl. Left on Spool		
ADDITIVES:	GENERAL:													
Phog #5 870-773 61 SACKS CONST DOWN AT 130 AM.														

REMARKS	START	STOP	INTVL
Run Plug #1	1200	1230	1/2
Cure @ 4275	1230	230	2
Run Plug #2	230	300	1/2
Log Down Drill Pipe	300	800	5
FIRES			
Rig SER.	800	815	1/4
W.O.C.	815	1100	2 3/4
FLAT Plug #3 AT 3190	1100	1200	1
HOIST OUT TO RUN PLUG #3	1200	130	1
RUN Plug #3	130	130	1/2
W.O.C.	130	400	2 1/2
FIRES			
W.O.C.	400	830	4 1/2
FLAT Plug #3 AT 773	830	830	1/2
Log Down Drill Pipe	830	1200	3 1/2
B.O. P. Clean			
OUT Callen.			
By release 1200 Hrs			
11:45 P.M. 3-21-71 J.M.T.			
FIRES			
John M. Toney			
DRILLER'S SIGNATURE			
TRANSFER =			
TOTAL COMPANY TIME			
TOTAL CONTRACTOR'S TIME			
Approved by Operator's Representative			
Approved by Toolpusher			

HEAD OFFICE COPY

NOTE: PLEASE SHOW FOOTAGE MADE DURING CONTROLLED DRILLING AS WELL AS HOURS

GP 1683

DIRECTIONS TO
WELL

RIG NO. 12

MAILING

MAILING POINT INDIAN CABINS

BUFBING

INDIAN CARBON

TWP. 52 RGE. 54 W. N

DATE *March* 29 MAR 1971

147

Form containing multiple sections for drilling logs, including columns for Date, Time, Location, Drilling Details, and Remarks. The form is divided into several horizontal sections, each with its own set of columns and headings. The top section includes a header with 'DATE', 'TIME', 'LOCATION', and 'DAYS FROM SPUD'. Below this are sections for 'DRILLING LOG', 'MOTOR LOG', 'FUEL LOG', and 'REMARKS'. The 'DRILLING LOG' section includes columns for 'Date', 'Time', 'Location', 'Drilling Details', and 'Remarks'. The 'MOTOR LOG' section includes columns for 'Date', 'Time', 'Location', 'Motor Details', and 'Remarks'. The 'FUEL LOG' section includes columns for 'Date', 'Time', 'Location', 'Fuel Details', and 'Remarks'. The 'REMARKS' section is a large area for handwritten notes. The form is filled with handwritten data, including dates, times, locations, and various measurements. The bottom section includes a 'TOTAL' row and a 'REMARKS' section.

HEAD OFFICE COPY

NOTE: PLEASE SHOW FOOTAGE MADE DURING CONTROLLED DRILLING AS WELL AS HOURS

GP 120

DAILY DRILLING LOG
DIRECTIONS TO
WELL 107

RIG NO. 12 LOCATION PACIFIC PHILLIPS N. CAMERON HILLS LSD. 60 SEC. 14 TWP. 57 RGE 54 W. N DATE MARCH 18 1971
 MAILING POINT INDIAN CABINS SHIPPING POINT INDIAN CABINS MILES MOVED 265. ROAD CONDITIONS Rough DAYS FROM SPUD _____

[illegible]

CONSERVATION BOARD COPY

GP 1679

GENERAL PETROLEUMS DRILLING

DAILY DRILLING LOG

DIRECTIONS 107 MILES N.W. INDIAN CABINS

RIG NO. 12

LOCATION PACIFIC PHILLIPS N. CAMERON HILLS

LSD. 60 SEC. 14

TWP. 57

RGE. 54 W. N

DATE MARCH 17

1971

MAILING POINT INDIAN CABINS

SHIPPING POINT INDIAN CABINS

MILES MOVED 265

ROAD CONDITIONS Rough

DAYS FROM SPUD

TOUR	MIDNIGHT	8 AM	4 PM	MIDNIGHT	TOUR	GENERAL DATA															REMARKS			TIME		
						From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly	START	STOP	INTVL		
						4510	47	4557	4 3/4	75	60	5	105	5	2 1/4	150.56	375		24	DRILLING 7 7/8 HOLE.	1200	100	1			
						7 7/8	1 1/2	55	OPEN	30201	70/45	80	343	1 1/4						RIG SERVICE.	100	1 1/2	1/4			
																			DRILLING 7 7/8 HOLE.	1 1/2	500	33 1/2				
																			TRIP OUT	500	7 1/2	2 1/4				
																			CHANGE BITS + RUN IN. 6 1/4	7 1/2	800	3 1/4				
																			OC							
						4557	38	4595	6 1/4	76	61	0	15	5	2 1/4	150.56	371		20	FINISH RUN IN 6 1/4 + 5" DC +	800	900	1			
																			RUN IN BIT & BRAKE CIRC	900	9 1/2	1 1/4				
																			RAM 15 FT TO BOTTOM	9 1/2	9 3/4	1/4				
																			DRILL 7 7/8 HOLE	9 3/4	1 1/2	1 1/4				
																			Rig SER.	1 1/2	200	1/4				
																			DRILL 7 7/8 HOLE	200	400	2				
						4595	41	4636	7 3/4	76	61	5	15	5	2 1/4	150.56	375		24	DRILL 7 7/8 HOLE	400	800	4			
																			RIG SERVICE.	800	8 1/2	1/4				
																			DRILLING	8 1/2	1200	3 1/4				
						4636	41	4677	7 3/4	76	61	5	15	5	2 1/4	150.56	375		24							

CONSERVATION BOARD COPY

GP 1678

GENERAL PETROLEUMS DRILLING

DAILY DRILLING LOG
DIRECTIONS TO
WELLRIG NO. 12 LOCATION PACIFIC PHILLIPS N. CAMERON HILLS LSD. 60 SEC. 14 TWP. 57 RGE. 54 W. N. DATE MARCH 16 1971
MAILING POINT INDIAN CABINS SHIPPING POINT INDIAN CABINS MILES MOVED 265 ROAD CONDITIONS Rough DAYS FROM SPUD

From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly	REMARKS	TIME	START	STOP	INTVL			
4350	34	4384	3 1/2	75	57	1		15	6 1/4	3	750.56		371		12.0	DRILLING 7 7/8" HOLE.	1200	100	1				
8	7 7/8	WDR	11-1-12	9876	40	460-70	146	9 1/4	40	2 1/4	1100	53		8	3	RIG SERVICE	100	15	1/4				
1	7 7/8	SSR	OPEN	30201												DRILLING 7 7/8" HOLE.	15	345	2 1/4				
																BLOW KELLY - TRIP OUT.	345	600	2 1/4				
																CHANGE BITS, DRESSING	600						
																DRILL COLLARS 6 1/4" ~~7 7/8"~~	800	2					
MUD	12 mn.	2 a.m.	4 a.m.	6 a.m.	PUMP	12 mn.	2 a.m.	4 a.m.	6 a.m.	PUMP	12 mn.	2 a.m.	4 a.m.	6 a.m.	MOTOR HOURS	Next Oil Change							
WEIGHT	9.2	9.2			No. 1	PRES-SURE	1100	1100		No. 2	PRES-SURE				6.54	6288							
VISCOSITY	54	50			MODEL	S.P.M.	53	52		MODEL	S.P.M.				7926	7968							
GEL					LINER	SIZE	5 1/2			LINER	SIZE				5070	5206							
W.L.	F.C.	pH.			DESILTER: Hours Op:					U. Flow:					4380	2 1/4							
ADDITIVES:					GENERAL:										Weather: SNOW	Water: 150 Bbls.							
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool										
1	WRIGHT	5613	8	1/2	31	5135	60	60	4639	10/3/71	5139	1617											
From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly	REMARKS	TIME	START	STOP	INTVL			
4384	56	4440	6	73	58	1		15	6 1/4	3	750.56		371		19	FINISH RUN IN 5" D.C. + DRESS	800	815	1/4				
								10	5	2 1/4	750.56		371		19	RIG SER BOP CUT + SHIP DRAIN	815	845	1/2				
																RUN IN DRILL PIPE	845	1000	1 1/4				
																DRILL 7 7/8 HOLE	1000	400	6				
MUD	8 a.m.	10 a.m.	12 noon	2 p.m.	PUMP	8 a.m.	10 a.m.	12 noon	2 p.m.	PUMP	8 a.m.	10 a.m.	12 noon	2 p.m.	MOTOR HOURS	Next Oil Change							
WEIGHT	9.2	9.2	9.4		No. 1	PRES-SURE	600	600	600	600	No. 2	PRES-SURE			6288	6288							
VISCOSITY	55	57	55		MODEL	S.P.M.	52	52	52	MODEL	S.P.M.				7934	7968							
GEL					LINER	SIZE	5 1/2	15		LINER	SIZE				5078	5206							
W.L.	F.C.	pH.			DESILTER: Hours Op:					U. Flow:					4380	2 1/4							
ADDITIVES:					GENERAL:										Weather: CLEAR	Water: 180 Bbls.							
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool										
1	WRIGHT	5613	8	1/2	31	5166	60	60	5135	16/3/71	5639	1557											
From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly	REMARKS	TIME	START	STOP	INTVL			
4440	70	4510	7 3/4	75	59	5		15	6 1/4	3	750.56		371		11.0	DRILL 7 7/8 HOLE	400	700	3				
								10	5	2 1/4			371		11.0	RIG SERVICE.	700	715	1/4				
																DRILL 7 7/8 HOLE.	715	1200					
MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.	PUMP	4 p.m.	6 p.m.	8 p.m.	10 p.m.	PUMP	4 p.m.	6 p.m.	8 p.m.	10 p.m.	MOTOR HOURS	Next Oil Change							
WEIGHT	9.4	9.3	9.2	9.2	No. 1	PRES-SURE	600	600	600	600	No. 2	PRES-SURE			6270	6288							
VISCOSITY	53	60	50	50	MODEL	S.P.M.	52	52	52	52	MODEL	S.P.M.			7952	7968							
GEL					LINER	SIZE	5 1/2	15		LINER	SIZE				5086	5206							
W.L.	9.8	F.C.	7.2	pH.	8.5	DESILTER: Hours Op:				U. Flow:					4986	5206							
ADDITIVES:					GENERAL:										Weather: CLEAR	Water: 200 Bbls.							
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	At Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool										
1	WRIGHT	5613	8			5166	60	60	5135	16/3/71	5639	1557											
B.O.P.	Tested	Elapsed Time	Pressure	Packing & Seal Inspected Date	Crown-a-matic Chk'd.	Fuel on Hand 12.01 a.m.	3542	gals.	CASING REPORT	RAH	20	ITS	8 1/8	CSG	RENTAL EQUIPMENT ON HAND	TRANSFER #							
Hydri					Rig Savers Chk'd.	Fuel Rec'd Today (add)		gals.	TO	625	KB. USED	525	SAX	CONV. CEM									
Pipe Rams					Kelly Cock Chk'd.	Fuel on Hand 11.59 p.m. (deduct)	3070	gals.	PLUS	2	% C. O.	PLUG DOWN	4 1/2	A.M.									
Blind Rams					Fire Equip. Chk'd.	FUEL USED	472	gals.	CEMENT RETURNS - (YES/NO)	YES													
TOTCO RING ON BIT	20	Boiler Operated:	24	Hrs.																			
APPROVED BY OPERATOR'S REPRESENTATIVE																APPROVED BY TAILPUSHER				GP 1677			

CONSERVATION BOARD COPY

GP 1677

DAILY DRILLING LOG
DIRECTIONS TO
WELL 107 M

RIG NO. 12 LOCATION PACIFIC PHILLIPS N. CAMERON HILL TSP. 60 SEC. 14 TWP. 57 RGE. 54 W. N DATE MARCH 15/71 19 71
 NW CABINS MAILING POINT INDIAN CABINS SHIPPING POINT INDIAN CABINS MILES MOVED 265 ROAD CONDITIONS Rough DAYS FROM SPUD

[illegible]

CONSERVATION BOARD COPY

GP 1676

DAILY DRILLING LOG
DIRECTIONS TO WELL 167 m

GENERAL PETROLEUMS DRILLING LTD. RIG NO. 12 LOCATION PACIFIC PHILLIPS N. CAMERON HILLS SD. 60 SEC. 14 TWP. 57 RGE. 54 W. N DATE MARCH 13 1971
DAILY DRILLING LOG DIRECTIONS TO WELL 167 MILES N.W. INDIAN CABINS MAILING POINT INDIAN CABINS SHIPPING POINT INDIAN CABINS MILES MOVED 265 ROAD CONDITIONS ROUGH.

LOG															REMARKS															TIME					
GENERAL															START															STOP			INTVL		
M.U.D.															1200															1245			3/4		
RUN IN D.C.s															1245															130			3/4		
BIG SERVICE + BLOW FLARE															130																				
LINE THROUGH WITH STEAM																														200			1/2		
RUN IN / SLOW AND MEASURE															200															330			1/2		
MAKE UP HEAD AND CHIC															330																				
SANS AND TESTING																														800			3/4		
BREAK DOWN HEAD + CHIC SANS.															715																				
+ TRIP OUT																														800			3/4		
FIRES															John Maloney																				
HOIST OUT TEST NO. 1															800															930			1 1/2		
LAY DOWN TESTING TOOLS															930															1030			1		
W.O.O.															1030															100			2 1/2		
RUN IN WITH BIT NO 7 + D.C.															100															200			1 1/2		
RUN IN DRILL PIPE															230															400			1 1/2		
CONNECTION IN PIPE TALLEY																														8					
Pipe Tally 4239.13																																			
Tape Tally 4208.66																																			
D. Forence 30.47																																			
FIRES / NIL															Ruf. Jaxon																				
BRAKE CIRC															400															415			1/4		
CIRC W.O.B. + CONN MUD															415															600			1 3/4		
HOIST OUT															600															830			2 1/4		
BIG SERV															830															845			1 1/4		
PICK UP CORE BBL. AND															845																				
MAKE UP SAME.																														945			1		
RUN IN															945															1145			2		
BREAK CIRCULATION + CIRC															1145															1200			1/4		
FIRES															John Maloney																				
EQUIPMENT CHANGES															TRANSFER #																				
TOTAL COMPANY TIME															HRS.															TOTAL CONTRACTOR'S TIME			HRS.		
Approved by Operator's Representative																																			
Approved by Toolpusher															John P. Donald																				

GENERAL PETROLEUMS DRILLING LTD.

DAILY DRILLING LOG
DIRECTIONS TO
WELLRIG NO. 12 LOCATION PACIFIC PHILLIPS N. CAMERON HILLS 60 SEC. 14 TWP. 57 RGE. 54 W. N. DATE MARCH 12 1981
MAILING POINT INDIAN CABINS SHIPPING POINT INDIAN CABINS MILES MOVED 265 ROAD CONDITIONS Rough

From		Footage		To		Hrs. on Bottom		Wt. Drill Pipe (1000 lbs.)		Stands		Singles		DRILL COLLARS		No.		O.D.		I.D.		Length		Air Wt.		Sub. Wt.		C.B. Ft.		Ft. up on Kelly		REMARKS		TIME							
4056		25		4081		3		72		52		0		15		10		6 1/4		5		2 1/4		263.30		275		DOWN				1200 130 1 1/2									
No.		Size		Type		Jets/W.C.		Serial No.		Wgt.		R.P.M.		Drilled or Cored		Hrs.		Reamed		Hrs.		Pump No.		Pump Pressure		S.P.M.		Table Torque		T		B		G							
6		7 1/8		X 7		2 1/2		20304		40475		285		2 1/2		1		1150		52		1		1150		50		6		3		1		CHANGE BITS AND RIG SERV			130 145 1 1/2				
7		7 1/8		X 5 1/2		2 1/2		30208		40440		23		3		1		1150		50		1		1150		50		6		3		1		RUN IN D.C.S AND DRESS			145				
M.U.D.		12 m.		2 a.m.		6 a.m.		6 a.m.		PUMP		12 m.		2 a.m.		6 a.m.		6 a.m.		PUMP		12 m.		2 a.m.		4 a.m.		6 a.m.		MOTOR HOURS		Next Oil Change									
WEIGHT		T		R		9.2		9.2		No. 1		PRES-SURE		T		R		1150		1150		No. 2		PRES-SURE		1		6150		6780				SHOULDERS AND INSPECT.			345 500 1 1/2				
VISCOSITY		1150		140		MODEL		S.P.M.		12		50		50		MODEL		S.P.M.		12		50		50		MODEL		S.P.M.		12		50		50		RUN IN DRILL PIPE.			500 800 3		
GEL		P		P		L		5 1/2		5 1/2		L		5 1/2		L		5 1/2		5 1/2		L		5 1/2		5 1/2		L		5 1/2		5 1/2		DRILLING 7 1/8" HOLE.							
W.L.		F.C.		pH.		DESILTER: Hours Op:		U. Flow:		O. Flow:		SURVEYS		At Feet		Degrees		4056		2 1/2		6196		6840		Weather		CLEAR		Water		200									
ADDITIVES		WATER		GENERAL																																					
Drilling Line Record		Size		Make		Serial No.		No. Lines		Trips		Ton Miles		Total Miles		Slip		Feet or Cut		At Miles		Date Slip or Cut		Next Slip		Ft. Left on Spool		Fires		DRILLER'S SIGNATURE											
4081		109		4190		734		73M		54		0		15		10		6 1/4		5		2 1/4		263.30		4639		10/3/71		5139		1617		RIGSER BOP CROWN O MATC. OK			800 815 1 1/4				
No.		Size		Type		Jets/W.C.		Serial No.		Wgt.		R.P.M.		Drilled or Cored		Hrs.		Reamed		Hrs.		Pump No.		Pump Pressure		S.P.M.		Table Torque		T		B		G		DRILL			815 245 1 1/2		
1		7 1/8		X 5 1/2		2 1/2		30201		40440		134		10 1/4		1		1150		52		1		1150		52		6		3		1		CIRC SAMPLE AT 4175			345 400 1 1/4				
M.U.D.		8 a.m.		10 a.m.		12 noon		2 p.m.		PUMP		8 a.m.		10 a.m.		12 noon		2 p.m.		PUMP		8 a.m.		10 a.m.		12 noon		2 p.m.		MOTOR HOURS		Next Oil Change									
WEIGHT		9.8		9.3		9.2		9.2		No. 1		PRES-SURE		1150		1150		1150		1150		No. 2		PRES-SURE		1		6166		6780				FIRE			400 600 2				
VISCOSITY		60		75		65		65		MODEL		S.P.M.		52		52		52		52		MODEL		S.P.M.		1		7838		7968				CIRC SAMPLE AT 4225			600 700 1				
GEL		250		5 1/2		X 15				MODEL		S.P.M.		1		1150		52		1		1150		52		1		7838		7968				FINISH CONN MUD CIRC+HOLE CLEAN			700 800 1				
W.L.		F.C.		pH.		DESILTER: Hours Op:		U. Flow:		O. Flow:		SURVEYS		At Feet		Degrees		4056		2 1/2		6204		6840		Weather		CLEAR		Water		180		BROW KELLY AND DROP			800 815 1 1/4				
ADDITIVES		WATER		GENERAL																														SURVEY			815 1045 2 1/2				
Drilling Line Record		Size		Make		Serial No.		No. Lines		Trips		Ton Miles		Total Miles		Slip		Feet or Cut		At Miles		Date Slip or Cut		Next Slip		Ft. Left on Spool		Fires		DRILLER'S SIGNATURE											
4190		36		4226		2		73M		54		5		15		10		6 1/4		5		2 1/4		263.30		4639		10/3/71		5139		1617		TRIP OUT			1045 1200 1 1/4				
No.		Size		Type		Jets/W.C.		Serial No.		Wgt.		R.P.M.		Drilled or Cored		Hrs.		Reamed		Hrs.		Pump No.		Pump Pressure		S.P.M.		Table Torque		T		B		G		PICK UP TESTING TOOLS					
1		7 1/8		X 5 1/2		2 1/2		30201		40440		134		10 1/4		1		1150		52		1		1150		52		1		7838		7968				AND MAKE UP SAME					
M.U.D.		4 p.m.		6 p.m.		8 p.m.		10 p.m.		PUMP		4 p.m.		6 p.m.		8 p.m.		10 p.m.		PUMP		4 p.m.		6 p.m.		8 p.m.		10 p.m.		MOTOR HOURS		Next Oil Change									
WEIGHT		9.2		9.2		9.2		9.2		No. 1		PRES-SURE		1150		1150		1150		1150		No. 2		PRES-SURE		1		6174		6780				EQUIPMENT CHANGES			TRANSFER #				
VISCOSITY		50		5		55		R		MODEL		S.P.M.		52		52		52		52		MODEL		S.P.M.		1		7838		7968				Hole OK TO TEST							
GEL		P		P		L		5 1/2		X 15				MODEL		S.P.M.		1		1150		52		1		1150		52		1		7838		7968		DAYS FROM SPUD					
W.L.		F.C.		pH.		DESILTER: Hours Op:		U. Flow:		O. Flow:		SURVEYS		At Feet		Degrees		4056		2 1/2		6312		6840		Weather		CLEAR		Water		180		TOTAL COMPANY TIME			TOTAL CONTRACTOR'S TIME				
ADDITIVES		G.L. - 500 LBS		GENERAL																														Approved by			Approved by				
Drilling Line Record		Size		Make		Serial No.		No. Lines		Trips		Ton Miles		Total Miles		Slip		Feet or Cut		At Miles		Date Slip or Cut		Next Slip		Ft. Left on Spool		Fires		DRILLER'S SIGNATURE											
1		7 1/8		X 5 1/2		2 1/2		30201		40440		134		10 1/4		1		1150		52		1		1150		52		1		7838		7968		GP- 86048							

CONSERVATION BOARD COPY

GENERAL PETROLEUMS DRILLING LTD.

DAILY DRILLING LOG
DIRECTIONS TO
WELLRIG NO. 12 LOCATION PACIFIC PHILLIPS N. CAMERON HILLS LSD. 60 SEC. 14 TWP. 57 RGE. 54 W. N. DATE MARCH 11 1971
MAILING POINT INDIAN CABINS SHIPPING POINT INDIAN CABINS MILES MOVED 265 ROAD CONDITIONS Rough

From		Footage		To		Hrs. on Bottom		Wt. Drill Pipe (1000 lbs.)		Stands		Singles		DRILL COLLARS		No. 1		O.D.		I.D.		Length		Air Wt.		Sub. Wt.		C.B. Ft.		Ft. up on Kelly		REMARKS		TIME																																				
3820		115		3935		6 3/4		683		50		0		10		5		2 1/4		265.30												START STOP INTVL.																																						
																																No.		Size		Type		Jct. W.C.		Serial No.		Wgt.		R.P.M.		Drilled or Cored		Hrs.		Reamed		Hrs.		Pump No.		Pump Pressure		S.P.M.		Table Torque		T.		B.		G.				
																																6		1 1/2		X 1		2 1/2		20304		35/40		80/100		16 1/2		9 1/4						1		1260		54		2 1/2		Running		1200 130 1 1/2						
																																																														130 145 1/4								
																																																														145 215 1/2								
																																																														215 530 3/4								
																																																														530 600 1/2								
																																																														600 800 2								

1967

GP. 86046

GP. 88245

DAILY DRILLING LOG
DIRECTIONS TO 107 MILE
WELL

RIG NO. 12 LOCATION PACIFIC PHILLIPS N. CAMERON HILLS LSD. 60 SEC. 14 TWP. 57 RGE. 34 W. DATE MARCH 7 1971
CABINS. MAILING POINT INDIAN CABINS. SHIPPING POINT INDIAN CABINS MILES MOVED 265 ROAD CONDITIONS ROUGH

[illegible]

DAILY DRILLING LOG
DIRECTIONS TO WELL 907 mi

RIG NO. 12 LOCATION PACIFIC PHILLIPS N CAMERON HILLS LSD. 60 SEC. 14 TWP. 57 RGE. 54 W. N DATE MARCH. 6 1971
CABINS MAILING POINT INDIAN CABINS SHIPPING POINT INDIAN CABINS MILES MOVED 265 ROAD CONDITIONS ROUGH.

[illegible]

CONSERVATION BOARD COPY

GP- 86042

GENERAL PETROLEUMS DRILLING LTD.

DAILY DRILLING LOG
DIRECTIONS TO
WELL

RIG NO.

LOCATION

MAILING POINT

SHIPPING POINT

MILES MOVED

LOAD CONDITIONS

Pacific Phillips North Cameron Mills LSD 60° SEC 14' TWP 57 RGE 54 W. 21 DATE MARCH 4 1961
Indian Cabins Indian Cabins 265' Rough

From		Footage		To		Hrs. on Bottom		Wt. Drill Pipe (1000 lbs.)		Standards		Singles		DRILL COLLARS		No.		O.D.		I.D.		Length		Air Wt.		Sub. Wt.		C.B. Ft.		Ft. up on Kelly		REMARKS		TIME		
820		39		859		1		46		②		①		22		6 1/8		665.87										DOWN				START STOP INTVL.				
																																CHANGE DRIVE CHAIN ON PUMP		1200	1230	1/2
																																RIG SERV		1230	1245	1/4
																																DRILL PLUG		1245	100	1/4
																																WORK ON PUMP		100	130	1/2
																																DRILL PLUG + CEMENT		130	230	1
																																WORK ON PUMP		230	55	1/4
																																CK VALVES + CLEAN SECTION				
																																DRILL PLUG + CEMENT		315	430	1 1/2
																																DRILL 7 1/8" HOLE		430	500	1/2
																																CHANGE HEAD (BROKEN PLATE)		500	700	2
																																DRILL 7 1/8" HOLE		700	850	1
																																FIRES				
																																Rig SER Rig Savers B.P.s.		800	815	1/4
																																DRILL		815	900	3/4
																																WORK ON PUMP		900	915	1/4
																																DRILL		915	945	1/2
																																SURVEY + WORK ON PUMP		945	1100	1 1/4
																																DRILL		1100	1115	1/4
																																WORK TORQUE		1115	1145	1/2
																																DRILL		1145	1215	1/2
																																HOIST OUT SLOW		1215	200	2 3/4
																																DRILL PLUG 200 to 300 - 1st Pick up Drill Chain		300	400	1
																																FIRES				8
																																Rig SER		400	415	1/4
																																RUN IN DRILL PIPE		415	545	1 1/2
																																DRILL		545	800	2 1/4
																																SURVEY @ 1094 - 3/4"		800	815	1/4
																																DRILL 7 1/8" HOLE		815	930	1 3/4
																																WORK ON DRAWWORKS CHAIN		930	1045	1 1/4
																																DRILL 7 1/8" HOLE		1045	1200	1 1/4
																																MOTOR SHUT OFF: Checked				
																																AND WORKING				
																																FIRES				
																																EQUIPMENT CHANGES				
																																TRANSFER				
																																CASING REPORT				
																																TO 820 KB. USED 525 S.A. CONST. CEM				
																																PLUS 2 C.C. PLUG DOWN 430 A.M.				
																																CEMENT RETURNS (YES/NO) YES				
																																GENERAL				
																																APPROVED BY OPERATOR'S REPRESENTATIVE				
																																APPROVED BY TOOLPUSHER				
																																GP-86040				

CONSERVATION BOARD COPY

DIRECTIONS TO WELL 107 MILES NW. INDIAN CREEKS MAILING POINT

MAILING POINT	INDIAN CAMP	SHIPPING POINT	INDIAN CAMP	MILES MOVED	265	ROAD CONDITIONS	ROUGH
---------------	-------------	----------------	-------------	-------------	-----	-----------------	-------

ROAD CONDITIONS Roller

GP: 86039

GP: 86039

WIRE
WELL

RIG NO. 1

LOCATION

Pacific Marine & Commerce, Ltd. LSD 100 SEC 141 TWP 167 RGE 248 W 1

DATE *10-20-71* -9 MAR 1971

1951

DAILY DRILLING LOG
DIRECTIONS TO
WELL 103 FULES N.W. TOWNSHIP 20S

MAILING POINT *Indian Casino*

SHIPPING *Edward C. Bink*

MILES 365

DATE 1-15-68
ROAD 2

[illegible]

	12 mn.	2 a.m.	4 a.m.	6 a.m.		12 mn.	2 a.m.	4 a.m.	6 a.m.		12 mn.	2 a.m.	4 a.m.	6 a.m.	MO. OIL	Next Oil Change
WEIGHT	4.8				No. 1 PRES-SURE					No. 2 PRES-SURE					1 597.0	5836
VISCOSITY	60				MODEL S.P.M.					MODEL S.P.M.					2 755.2	7714
GEL					LINE SIZE					LINE SIZE					3 476.4	4386

[illegible][illegible][illegible]

		8 a.m.	10 a.m.	12 noon	2 p.m.			8 a.m.	10 a.m.	12 noon	2 p.m.			8 a.m.	10 a.m.	12 noon	2 p.m.	MOTOR	BOAT	Change	
WEIGHT						No. 1	PRES-SURE					No. 2	PRES-SURE					1			
VISCOSITY						MODEL	S.P.M.					MODEL	S.P.M.					2			
GEL							LINER SIZE						LINER SIZE					3			
W.L.	F.C.	pH	DESILTER: Hours Op:				H. Flow:				O. Flow:				SURVEYS						

ADDITIVES				GENERAL				At Feet		Degrees				
										5				
										Weather		Water		
										Temp.		Bbl.		
Drilling	Size	Make	Serial No.	No Lines	Trips	Ten Miles	Total Miles	Sling	Feet or Cut	At Miles	Date Sling	Cut	New Size	Fr. Left

Time Record															C.M.P. Co.		C.M.P.		Sh. Spool	
From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up of Kelly					
No.	Size	Type	Jets W.C.	Serial No.	Wat.	R.P.A.		Drilled	Hrs.	Reamed	Hrs.	Pump	Pump	C.P.U.	Table					

[illegible]

WEIGHT		No. 1	PRES-SURE		No. 2	PRES-SURE		1	2	3	4
VISCOSITY		MODEL	S.P.M.		MODEL	S.P.M.		7614	7714	4764	4588
GEL		LINER SIZE			LINER SIZE			4692	4814		
W.L.	F.C.	pH.	DESILTER- Hours On:		U. Flow:		O. Flow:	SURVEYS At Feet Degrees			

ADDITIVES:										GENERAL:										5 6000		6340	
																				Weather		Water	
																				Temp.		Bb's	
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Feet Slip or Cut		A. Miles	Date Slip or Cut	Next Slip	Fr. Left on Spool										
	1	1 1/2 in.	FC13	4		0	21984			1000	7/12/50	160											

O.P.	Tested	Bleeding Time	Pressure	Packing & Seal Inspected Date	Crown-o-matic Chk'd.	Fuel on Hand 12.01 a.m.	GALING REC'D	RAN
Oil Rms.				2-3-71	Rig Savers Chk'd.	Fuel Rec'd Today (add)		20
nd Rms.					Kelly Cock Chk'd.	TOTAL	TO	820' CE. USED 525 S

PTCO RING ON BIT =			Boiler Operated: <u>24</u> Hrs.		Fire Equip. Chk d. <u>D.H.</u>		Fuel on Hand 11:59 a.m. (deduct)		gals.	PLUS <u>2</u>	ACK <u>7</u>	PLUG DOWN
							FUEL USED		gals.	CEMENT RETURNS	YES NO <u>YES</u>	
DRILL PIPE	Size	Joint	CLASSIFICATION			TOTAL	Date Sonosc	Ft. Drilled since Sonosc	Total Ft. Drilled	CALIPER DATE	RESULTS	FROM PIPE RACK
			2	3	2							

4	IF	116		116					
---	----	-----	--	-----	--	--	--	--	--

CP 116 HEAD OFFICE COPY NOTE: PLEASE SHOW FOOTAGE MADE DURING CONTROLL

REMARKS	TIME		
	START	STOP	INTVL

Run Casino	1200	130	1%
Chico's Casino	130	230	1%
W.C. Community Disposal	230	500	1%

Stegering Cement W/C 3 1/2	4' 60"	4' 30"	1/2
MAN 20 STD 8" 24" K55 STEEL P-3			ARMED
Perfor 325 23' 1/2" 23' 1/2" 23' 1/2"	2' 30"	2' 30"	2' 30"

20% COLL 2 @ 15.5 DPG. DISPLAYED WITH 50 332S	
---	--

WILLIE W. 3541 200 DOWN 4:30AM 5-2-11		PATIENTS	
FHEB 3. 1033LS REWARDS		DRILLER'S SIGNATURE	
W. O. C.		87	12 4
2. 2. 2.			

Weld on Casing Bowl		3	3
nippleing UP	3	4	1

				400

[illegible]

FIRES	Life Tyson				
	KILLER'S SIGNATURE				
Charged Name in Hudril			4	6	3

Whipping UP	6	17	6
-------------	---	----	---

FIBER					

FIRES		DRILLER'S SIGNATURE	
STS 8-5/16 CS	EQUIPMENT CHANGES		TRANSFER =
MAX CORIST CEM			

	DAYS FROM SPUD:	TOTAL COMPANY TIME	TOTAL CONTRACTOR'S TIME
GENERAL		HRS.	HRS.
Approved by Operator's Representative			

ED DRILLING AS WELL AS HOURS	Approved by Toolpusher <i>John E. D. Smith</i>
	GP- 86038

HEAD OFFICE COPY

NOTE: PLEASE SHOW FOOTAGE MADE DURING CONTROLLED DRILLING AS WELL AS HOURS

GP. 86038

AMERICAN PETROLEUMS DRILLING LTD.

DAILY DRILLING LOG

DIRECTIONS TO WELL

RIG NO.

12

LOCATION

PINEAPPLE N. CAMERON HILLS

LSG

SEC

14

TWP

67

RGE

5

W. N.

DATE

MARCH

19 MAR 1971

1971

107 MILES NW INDIAN CABINS

MAILING POINT

INDIAN CABINS

SHIPPING POINT

INDIAN CABINS

MILES MOVED

265

ROAD CONDITIONS

ROUGH

From

569

Footage

84

To

REMAIN

Hrs. on Bottom

2 1/4

Wt. Drill Pipe (1000 lbs.)

530

Stand

Singles

DRILL COLLARS

No.

20

O.D.

6 1/8

I.D.

6 5/8

Length

605.1

Air Wt.

Sub. Wt.

C.B. Ft.

Fl. up on Kelly

DOWN

REMARKS

WELD COLLAR SET + RIG UP SAME

RUN B.T. TO COLLAR SET

REMAINING TO 12 1/4"

WORK ON B.T. PUMP

REMAINING TO 12 1/4" HOLE

REAR STD DOWN + SURVEY

REMAINING TO 12 1/4" HOLE

SURVEY + CONNECTION

REMAINING TO 12 1/4" HOLE

FIRE

Rig SER

SURVEY + RIG UP FUEL PUMP

REAM 12 1/4 HOLE

WORK TIGHT HOLE SURVEY

REAM

WORK TIGHT HOLE + SURVEY

REAM

SURVEY

SURVEY + WORK TIGHT HOLE

REAM

Big SER

RUN IN MEASURE IN

DRILL

CLEAR TO RUN CASING

SUR BLOW KELLY

PULL OUT LAY DOWN 9" D.C.

RIG UP TO RUN CASING

RUN CASING

FIRE

John D. Dwyer

DRILLER'S SIGNATURE

4 1/2

DRILLING LINE RECORD

Size

Make

Serial No.

No. Lines

Trips

Ton Miles

Total Miles

Slip

Feet or Cut

At Miles

Date Slip or Cut

Next Slip

Feet Left on Spool

From

Footage

To

Hrs. on Bottom

Wt. Drill Pipe (1000 lbs.)

Stand

Singles

DRILL COLLARS

No.

O.D.

I.D.

Length

Air Wt.

Sub. Wt.

C.B. Ft.

Fl. up on Kelly

REMARKS

WELD COLLAR SET + RIG UP SAME

RUN B.T. TO COLLAR SET

REMAINING TO 12 1/4"

WORK ON B.T. PUMP

REMAINING TO 12 1/4" HOLE

REAR STD DOWN + SURVEY

REMAINING TO 12 1/4" HOLE

SURVEY + CONNECTION

REMAINING TO 12 1/4" HOLE

FIRE

Rig SER

SURVEY + RIG UP FUEL PUMP

REAM 12 1/4 HOLE

WORK TIGHT HOLE SURVEY

REAM

WORK TIGHT HOLE + SURVEY

REAM

SURVEY

SURVEY + WORK TIGHT HOLE

REAM

Big SER

RUN IN MEASURE IN

DRILL

CLEAR TO RUN CASING

SUR BLOW KELLY

PULL OUT LAY DOWN 9" D.C.

RIG UP TO RUN CASING

RUN CASING

FIRE

John D. Dwyer

DRILLER'S SIGNATURE

4 1/2

DRILLING LINE RECORD

Size

Make

Serial No.

No. Lines

Trips

Ton Miles

Total Miles

Slip

Feet or Cut

At Miles

Date Slip or Cut

Next Slip

Feet Left on Spool

From

Footage

To

Hrs. on Bottom

Wt. Drill Pipe (1000 lbs.)

Stand

Singles

DRILL COLLARS

No.

O.D.

I.D.

Length

Air Wt.

Sub. Wt.

C.B. Ft.

Fl. up on Kelly

REMARKS

WELD COLLAR SET + RIG UP SAME

RUN B.T. TO COLLAR SET

REMAINING TO 12 1/4"

WORK ON B.T. PUMP

REMAINING TO 12 1/4" HOLE

REAR STD DOWN + SURVEY

REMAINING TO 12 1/4" HOLE

SURVEY + CONNECTION

REMAINING TO 12 1/4" HOLE

FIRE

Rig SER

SURVEY + RIG UP FUEL PUMP

REAM 12 1/4 HOLE

WORK TIGHT HOLE SURVEY

REAM

WORK TIGHT HOLE + SURVEY

REAM

SURVEY

SURVEY + WORK TIGHT HOLE

REAM

Big SER

RUN IN MEASURE IN

DRILL

CLEAR TO RUN CASING

SUR BLOW KELLY

PULL OUT LAY DOWN 9" D.C.

RIG UP TO RUN CASING

RUN CASING

FIRE

John D. Dwyer

DRILLER'S SIGNATURE

4 1/2

DRILLING LINE RECORD

Size

Make

Serial No.

No. Lines

Trips

Ton Miles

Total Miles

Slip

Feet or Cut

At Miles

Date Slip or Cut

Next Slip

Feet Left on Spool

From

Footage

To

Hrs. on Bottom

Wt. Drill Pipe (1000 lbs.)

Stand

Singles

DRILL COLLARS

No.

O.D.

I.D.

Length

Air Wt.

Sub. Wt.

C.B. Ft.

Fl. up on Kelly

REMARKS

WELD COLLAR SET + RIG UP SAME

RUN B.T. TO COLLAR SET

REMAINING TO 12 1/4"

WORK ON B.T. PUMP

REMAINING TO 12 1/4" HOLE

REAR STD DOWN + SURVEY

REMAINING TO 12 1/4" HOLE

SURVEY + CONNECTION

REMAINING TO 12 1/4" HOLE

FIRE

Rig SER

SURVEY + RIG UP FUEL PUMP

REAM 12 1/4 HOLE

WORK TIGHT HOLE SURVEY

REAM

WORK TIGHT HOLE + SURVEY

REAM

SURVEY

SURVEY + WORK TIGHT HOLE

REAM

Big SER

RUN IN MEASURE IN

DRILL

CLEAR TO RUN CASING

SUR BLOW KELLY

PULL OUT LAY DOWN 9" D.C.

RIG UP TO RUN CASING

RUN CASING

FIRE

John D. Dwyer

DRILLER'S SIGNATURE

4 1/2

DRILLING LINE RECORD

Size

Make

Serial No.

No. Lines

Trips

Ton Miles

Total Miles

Slip

Feet or Cut

At Miles

Date Slip or Cut

Next Slip

Feet Left on Spool

From

Footage

To

Hrs. on Bottom

Wt. Drill Pipe (1000 lbs.)

Stand

Singles

DRILL COLLARS

DAILY DRILLING LOG DIRECTIONS TO WELL 10.2 miles NW INDIAN CABINS MAILING POINT INDIAN CABINS SHIPPING POINT INDIAN CABINS MILES MOVED 265 ROAD CONDITIONS ROAD

From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up Kelly	REMARKS	TIME	
510	74	581	4 1/4	462				19			5' 7 3/8		2.70		301	DRILLING 12 1/4" HOLE.	12:00 1:30 1 1/2	
No.	Size	Type	Let. W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.	12:00 1:30 1 1/2	
4	12 1/4	DC	3/12	30006	516	400	218	13									1:30 2:00 1/2	
5	581	716	3/15	30052	5-5	200	15	1									2:00 3:45 1 3/4	
12 mm.	2 c.m.	4 c.m.	6 c.m.	12 mm.	2 c.m.	4 c.m.	6 c.m.	12 mm.	2 c.m.	4 c.m.	6 c.m.	12 mm.	2 c.m.	4 c.m.	6 c.m.	Next Oil Change	3:05 4:00 1/4	
WEIGHT	1010.1	184	184	No. 1	PRES-SURE	550	400	No. 2	PRES-SURE			1	577	5236			PULL DAT. @ 569	4:00 5:15 1 1/4
VISCOSITY	13	81		MODEL	S.P.W.	not e	250	MODEL	S.P.W.			2	756	7714			LAY DOWN STABILIZER, PICK UP 5 1/2	
GEL				LINER SIZE		644		LINER SIZE				3	4716	4556			L.H. COLLOR & MAKE UP BIT.	5:45 1/2
W.L.	F.C.	pH.	DESILTER: Hours Op:	U. Flow:	O. Flow:	SURVEYS	At Feet	Degrees	4	4644	4214	5	5936	6340			RUN IN DRILLING SURVEY	5:45 6:45 1
ADDITIVES:	GENERAL:	DUMPED	500	1/4	Weather	500	1/4	Temp.	500	1/4	Water	500	1/4	8bbls.			DRILLER'S SIGNATURE	6:45 7:45 1 1/4
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	4 Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool				John McInerney	
1	1010.1	5613	8	4315			4093	7/3/70	4690	1737								
From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up Kelly	REMARKS	TIME	
584	185	769	3 1/2					22	6 1/8	2 3/4					38.38	Rig SER STRINGS NEW TO COBINS	8:00 8:45 3/4	
No.	Size	Type	Let. W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.	8:45 9:30 3/4	
6	7 1/8	DC	3/15	30054	576	210/200	210							3	1	1	Drill 7 7/8 HOLE	9:30 9:45 1/4
6	7 7/8	DC	3/15	30054	576	210/200	210										Drill 7 7/8 HOLE	9:45 10:00 1/4
6	7 7/8	DC	3/15	30054	576	210/200	210										Drill 7 7/8 HOLE	10:00 10:45 3/4
6	7 7/8	DC	3/15	30054	576	210/200	210										Drill SURVEY	10:45 11:30 3/4
6	7 7/8	DC	3/15	30054	576	210/200	210										Drill SURVEY	11:30 12:15 3/4
6 c.m.	10 c.m.	12 noon	2 p.m.	6 c.m.	10 c.m.	12 noon	2 p.m.	6 c.m.	10 c.m.	12 noon	2 p.m.	6 c.m.	10 c.m.	12 noon	2 p.m.	Next Oil Change	12:15 1:00 1	
WEIGHT	87	87	87	No. 1	PRES-SURE	400	400	No. 2	PRES-SURE			1	5880	5836			SURVEY	1:15 1:50 1/4
VISCOSITY	60	50	45	MODEL	S.P.W.	62	62	MODEL	S.P.W.			2	7558	7714			Drill 7 7/8 HOLE	1:50 2:15 3/4
GEL				LINER SIZE				LINER SIZE				3	4724	4586			SURVEY BLOW KELLY 1/2	2:15 3:00 3/4
W.L.	F.C.	pH.	DESILTER: Hours Op:	U. Flow:	O. Flow:	SURVEYS	At Feet	Degrees	4	4652	4614	5	5944	6340			LAY DOWN B.H.C. PICKUP 12 1/4 BIT	
ADDITIVES:	GENERAL:	500	1/4	Weather	500	1/4	Temp.	500	1/4	Water	500	1/4	8bbls.				PICKUP 9" DRILL COLLOR FLOT LEFT IN COLLOR	4:00 1
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	4 Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool				DRILLER'S SIGNATURE	
1	1010.1	5613	8	423			4093	7/3/70	4690	1737								
From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.) <th>Stands</th> <th>Singles</th> <th>DRILL COLLARS</th> <th>No.</th> <th>O.D.</th> <th>I.D.</th> <th>Length</th> <th>Air Wt.</th> <th>Sub. Wt.</th> <th>C.B. Ft.</th> <th>Ft. up Kelly</th> <th>REMARKS</th> <th>TIME</th>	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up Kelly	REMARKS	TIME	
6	12 1/4	5714	3-18	151538				18			5490		9.74			Rig SERBU	4:50 4:55 1/2	
No.	Size	Type	Let. W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Cored	Hrs.	Reamed	Hrs.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.	4:55 4:55 1/2	
6	12 1/4	5714	3-18	151538													RUN IN WITH 12 1/4 BIT	
4 p.m.	6 p.m.	8 p.m.	10 p.m.	4 p.m.	6 p.m.	8 p.m.	10 p.m.	4 p.m.	6 p.m.	8 p.m.	10 p.m.	4 p.m.	6 p.m.	8 p.m.	10 p.m.	Next Oil Change	WASHED OUT AROUND COND BRL	
WEIGHT				No. 1	PRES-SURE			No. 2	PRES-SURE			1	5888	5836			BULL OUT	4:55 5:30 3/4
VISCOSITY				MODEL	S.P.W.			MODEL	S.P.W.			2	7566	7714			CEMENT COND. BRL AND MIXE PUD	5:30 10:30 5
GEL				LINER SIZE				LINER SIZE				3	4732	4586			RUN IN STILL LOSING MUD	10:30 11:15 3/4
W.L.	F.C.	pH.	DESILTER: Hours Op:	U. Flow:	O. Flow:	SURVEYS	At Feet	Degrees	4	4660	4814	5	5952	6340			MIXE MORE SAND DUST & PAPER SACK	11:15 12:00 3/4
ADDITIVES:	GENERAL:	GEL 11670		SAWDUST-2.5 SXS				FiRE SEAL-2.7 SXS										
Drilling Line Record	Size	Make	Serial No.	No. Lines	Trips	Ton Miles	Total Miles	Slip	Feet or Cut	4 Miles	Date Slip or Cut	Next Slip	Ft. Left on Spool				DRILLER'S SIGNATURE	
1	1010.1	5613	8	493			4093	7/3/70	4690	1737								
B.O.P.	Tested	Elapsed Time	Pres-sure	Packing & Seal Inspected Date	Crown-o-matic Chk'd.	Fuel on Hand 12.01 a.m.	32.32	gals.	CASING REPORT	2AN	IS	CSG					EQUIPMENT CHANGES	TRANSFER =
Hydril					Rig Savers Chk'd.	Fuel Rec'd Today (add)		gals.	TO	KE. USED	SAR	CEM						
Pipe Rams					Kelly Cock Chk'd.	TOTAL		gals.										
Blind Rams					Fuel on Hand 11.59 p.m. (deduct)	2552	gals.	PLUS									DAYS FROM SPUD:	TOTAL COMPANY TIME
TOTCO RING ON BIT =	Boiler Operated:	24	Hrs.	Fire Equip. Chk'd.	OK	FUEL USED	680	gals.	CEMENT RETURNS (YES/NO)									TOTAL CONTRACTOR'S TIME
DRILL PIPE	Size	Joint	CLASSIFICATION	TOTAL	Date Sonarc	Ft. Drilled since Sonarc	Total Ft. Drilled	CALIPER DATE	RESULTS	FROST RACK							Approved by Operator's Representative	
4	1F	116		116													Approved by Toolpusher	

GENERAL PETROLEUMS DRILLING LTD.

DAILY DRILLING LOG

DIRECTIONS TO WELL 107 miles NW Indian CAGINS

RIG NO. 12

LOCATION

PACIFIC PACIFIC N. CAGINS N. CAGINS LDD. 20 DEC 14 TWP. 67 RCE. 54 W. N

DATE FEB 27

- 1971

MAILING POINT

INDIAN CAGINS

SHIPPING POINT

INDIAN CAGINS

MILES MOVED

265

ROAD CONDITIONS

ROUGH

From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly	REMARKS	TIME	START	STOP	INTVL
374	93	467	5	38				14	6 1/2							DOWN				
No.	Size	Type	Let's W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Coiled	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.			
3	7 7/8	8 1/2	8-10	3008	2 3/4	100	73	5			1	700	62		2	1	1			
Run in hole																	1200	1245	3/4	
TIGHTEN PUMP DRIVE.																	1245	15	1/2	
DRILLING 7 7/8" PILOT HOLE.																	115	230	1 1/4	
SURVEY @ 405 1°																	230	245	1/4	
DRILLING 7 7/8" HOLE.																	245	430	1 1/4	
SURVEY @ 436 1 1/2°																	430	445	1 1/4	
DRILLING 7 7/8" HOLE.																	445	645	2 1/4	
BLOW KELLY + TRIP OUT																	645	800	1 1/4	
FIRE																				
DRILLER'S SIGNATURE: John McInerney																				
CROW ALL WATER LINES + STEAM																	800	900	1	
BIG SER. LAYDOWN BHC Pickup 9" DC																	900	1000	1	
Run in Bit 20.2 12 1/4																	1000	1100	1	
REAM FROM 258 To																	1100	1150	1/2	
SURVEY AT 289 1°																	1150	1200	1/4	
REAM 12 1/4																	1200	1300	1	
SURVEY AT 351 1 1/4°																	1300	145	1/4	
REAM 12 1/4																	145	145	1/2	
SURVEY AT 382																	145	200	1/4	
Moist out																	200	200	1	
Run in																	300	400	1	
FIRE																				
DRILLER'S SIGNATURE: John McInerney																				
BATH REAM																	400	430	1/2	
SURU																	430	445	1/4	
BATH REAM																	445	500	1/4	
CIRC WAIT ON ORDERS																	500	800	3/4	
DRILL																	845	930	3/4	
SURU																	930	945	1/4	
DRILL																	945	1115	1 1/2	
SURU																	1115	1130	1/4	
DRILL																	1130	1200	1/2	
FIRE																				
DRILLER'S SIGNATURE: John McInerney																				
EQUIPMENT CHANGES																				
TRANSFER																				
TOTAL COMPANY TIME																				
TOTAL CONTRACTOR'S TIME																				
Approved by Operator's Representative																				
Approved by Toolpusher																				

From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly	REMARKS	TIME	START	STOP	INTVL
258	153	411	2	38				12	6 1/8	2 7/8	36 7/8		974		38-38					
No.	Size	Type	Let's W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Coiled	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.			
3	12 1/4	8 1/2	3-18	PN086	10-20	100/100	7	153			400	62								
FIRE																				
DRILLER'S SIGNATURE: John McInerney																				
CROW ALL WATER LINES + STEAM																	800	900	1	
BIG SER. LAYDOWN BHC Pickup 9" DC																	900	1000	1	
Run in Bit 20.2 12 1/4																	1000	1100	1	
REAM FROM 258 To																	1100	1150	1/2	
SURVEY AT 289 1°																	1150	1200	1/4	
REAM 12 1/4																	1200	1300	1	
SURVEY AT 351 1 1/4°																	1300	145	1/4	
REAM 12 1/4																	145	145	1/2	
SURVEY AT 382																	145	200	1/4	
Moist out																	200	200	1	
Run in																	300	400	1	
FIRE																				
DRILLER'S SIGNATURE: John McInerney																				
BATH REAM																	400	430	1/2	
SURU																	430	445	1/4	
BATH REAM																	445	500	1/4	
CIRC WAIT ON ORDERS																	500	800	3/4	
DRILL																	845	930	3/4	
SURU																	930	945	1/4	
DRILL																	945	1115	1 1/2	
SURU																	1115	1130	1/4	
DRILL																	1130	1200	1/2	
FIRE																				
DRILLER'S SIGNATURE: John McInerney																				
EQUIPMENT CHANGES																				
TRANSFER																				
TOTAL COMPANY TIME																				
TOTAL CONTRACTOR'S TIME																				
Approved by Operator's Representative																				
Approved by Toolpusher																				

From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly	REMARKS	TIME	START	STOP	INTVL
411	99	510	3 1/2	45				15	6 5/8		38 27/8		974		21					
No.	Size	Type	Let's W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Coiled	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.			
3	12 1/4	8 1/2	3-18	PN086	10	190	43	15	209	9 3/4										
FIRE																				
DRILLER'S SIGNATURE: John McInerney																				
CROW ALL WATER LINES + STEAM																	800	900	1	
BIG SER. LAYDOWN BHC Pickup 9" DC																	900	1000	1	
Run in Bit 20.2 12 1/4																	1000	1100	1	
REAM FROM 258 To																	1100	1150	1/2	
SURVEY AT 289 1°																	1150	1200	1/4	
REAM 12 1/4																	1200	1300	1	
SURVEY AT 351 1 1/4°																	1300	145	1/4	
REAM 12 1/4																	145	145	1/2	
SURVEY AT 382																	145	200	1/4	
Moist out																	200	200	1	
Run in																	300	400	1	
FIRE																				
DRILLER'S SIGNATURE: John McInerney																				
BATH REAM																	400	430	1/2	
SURU																	430	445	1/4	
BATH REAM																	445	500	1/4	
CIRC WAIT ON ORDERS																	500	800	3/4	
DRILL																	845	930	3/4	
SURU																	930	945	1/4	
DRILL																	945	1115	1 1/2	
SURU																	1115	1130	1/4	
DRILL																	1130	1200	1/2	
FIRE																				
DRILLER'S SIGNATURE: John McInerney																				
EQUIPMENT CHANGES																				
TRANSFER																				
TOTAL COMPANY TIME																				
TOTAL CONTRACTOR'S TIME																				
Approved by Operator's Representative																				
Approved by Toolpusher																				

From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly	REMARKS	TIME	START	STOP	INTVL
411	99	510	3 1/2	45				15	6 5/8		38 27/8		974		21					
No.	Size	Type	Let's W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Coiled	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.			
3	12 1/4	8 1/2	3-18	PN086	10	190	43	15	209	9 3/4										
FIRE																				
DRILLER'S SIGNATURE: John McInerney																				
CROW ALL WATER LINES + STEAM																	800	900	1	
BIG SER. LAYDOWN BHC Pickup 9" DC																	900	1000	1	
Run in Bit 20.2 12 1/4																	1000	1100	1	
REAM FROM 258 To																	1100	1150	1/2	
SURVEY AT 289 1°																	1150	1200	1/4	
REAM 12 1/4																	1200	1300	1	
SURVEY AT 351 1 1/4°																	1300	145	1/4	
REAM 12 1/4																	145	145	1/2	
SURVEY AT 382																	145	200	1/4	
Moist out																	200	200	1	
Run in																	300	400	1	
FIRE																				
DRILLER'S SIGNATURE: John McInerney																				
BATH REAM																	400	430	1/2	
SURU																	430	445	1/4	
BATH REAM																	445	500	1/4	
CIRC WAIT ON ORDERS																	500	800	3/4	
DRILL																	845	930	3/4	
SURU																	930	945	1/4	
DRILL																	945	1115	1 1/2	
SURU																	1115	1130	1/4	
DRILL																	1130	1200	1/2	
FIRE																				
DRILLER'S SIGNATURE: John McInerney																				
EQUIPMENT CHANGES																				
TRANSFER																				
TOTAL COMPANY TIME																				
TOTAL CONTRACTOR'S TIME																				
Approved by Operator's Representative																				
Approved by Toolpusher																				

From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly	REMARKS	TIME	START	STOP	INTVL
411	99	510	3 1/2	45				15	6 5/8		38 27/8		974		21					
No.	Size	Type	Let's W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Coiled	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.			
3	12 1/4	8 1/2	3-18	PN086	10	190	43	15	209	9 3/4										
FIRE																				
DRILLER'S SIGNATURE: John McInerney																				
CROW ALL WATER LINES + STEAM																	800	900	1	
BIG SER. LAYDOWN BHC Pickup 9" DC																	900	1000	1	
Run in Bit 20.2 12 1/4																	1000	1100	1	
REAM FROM 258 To																	1100	1150	1/2	
SURVEY AT 289 1°																	1150	1200	1/4	
REAM 12 1/4																	1200	1300	1	
SURVEY AT 351 1 1/4°																	1300	145	1/4	
REAM 12 1/4																	145	145	1/2	
SURVEY AT 382																	145	200	1/4	
Moist out																	200	200	1	
Run in																	300	400	1	
FIRE																				
DRILLER'S SIGNATURE: John McInerney																				
BATH REAM																	400	430	1/2	
SURU																	430	445	1/4	
BATH REAM																	445	500	1/4	
CIRC WAIT ON ORDERS																	500	800	3/4	
DRILL																	845	930	3/4	
SURU																	930	945	1/4	
DRILL																	945	1115	1 1/2	
SURU																	1115	1130	1/4	
DRILL																	1130	1200	1/2	
FIRE																				
DRILLER'S SIGNATURE: John McInerney																				
EQUIPMENT CHANGES																				
TRANSFER																				
TOTAL COMPANY TIME																				
TOTAL CONTRACTOR'S TIME																				
Approved by Operator's Representative																				
Approved by Toolpusher																				

From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly	REMARKS	TIME	START	STOP	INTVL
411	99	510	3 1/2	45				15	6 5/8		38 27/8		974		21					
No.	Size	Type	Let's W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Coiled	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.			
3	12 1/4	8 1/2	3-18	PN086	10	190	43	15	209	9 3/4										
FIRE																				
DRILLER'S SIGNATURE: John McInerney																				
CROW ALL WATER LINES + STEAM																	800	900	1	
BIG SER. LAYDOWN BHC Pickup 9" DC																	900	1000	1	
Run in Bit 20.2 12 1/4																	1000	1100	1	
REAM FROM 258 To																	1100	1150	1/2	
SURVEY AT 289 1°																	1150	1200	1/4	
REAM 12 1/4																	1200	1300	1	
SURVEY AT 351 1 1/4°																	1300	145	1/4	
REAM 12 1/4																	145	145	1/2	
SURVEY AT 382																	145	200	1/4	
Moist out																	200	200	1	
Run in																	300	400	1	
FIRE																				
DRILLER'S SIGNATURE: John McInerney																				
BATH REAM																	400	430	1/2	
SURU																	430	445	1/4	
BATH REAM																	445	500	1/4	
CIRC WAIT ON ORDERS																	500	800	3/4	
DRILL																	845	930	3/4	
SURU																	930	945	1/4	
DRILL																	945	1115	1 1/2	
SURU																	1115	1130	1/4	
DRILL																	1130	1200	1/2	
FIRE																				
DRILLER'S SIGNATURE: John McInerney																				
EQUIPMENT CHANGES																				
TRANSFER																				
TOTAL COMPANY TIME																				
TOTAL CONTRACTOR'S TIME																				
Approved by Operator's Representative																				
Approved by Toolpusher																				

From	Footage	To	Hrs. on Bottom	Wt. Drill Pipe (1000 lbs.)	Stands	Singles	DRILL COLLARS	No.	O.D.	I.D.	Length	Air Wt.	Sub. Wt.	C.B. Ft.	Ft. up on Kelly	REMARKS	TIME	START	STOP	INTVL
411	99	510	3 1/2	45				15	6 5/8		38 27/8		974		21					
No.	Size	Type	Let's W.C.	Serial No.	Wgt.	R.P.M.	Drilled or Coiled	Hrs.	Reamed	Hrs.	Pump No.	Pump Pressure	S.P.M.	Table Torque	T.	B.	G.			
3	12 1/4	8 1/2	3-18	PN086	10	190	43	15	209	9 3/4										

GP. 86034