

Drilling Authority No.

Date Issued

WELL NAME N.W.T. Deep Bay No. 4

FIELD Wildecot

Area: Great Slave Lake

LOCATION: Unit

Section

Grid

Latitude 61°19' N.

Longitude 116°48' W.

From Established Reference Marker

Rig Release Date: 9-11-52

Status D &amp; A

Information Release Date 9-11-54

## CHANGE OF NAME:

| DATE RECEIVED | INDEX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               | <p>Application for a Drilling Authority.</p> <p>Well Completion Data.</p> <p>Well History Report.</p> <p>Application to Amend a Drilling Authority.</p> <p>Application to change a Well Name.</p> <p>Application to Abandon a Well or Suspend Drilling.</p> <p>Application to Alter Condition of a Well.</p> <p>Well History Supplement.</p> <p>Well Completion Data.</p> <p>Work-over Report No.</p> <p>Application to Commingle Production before Measurement.</p> <p>Approval to Commingle Production before Measurement.</p> <p>Application to Amend Approval No. to Commingle Production before Measurement.</p> <p>Application for M.P.P.—Oil.</p> <p>New Oil Well Report.</p> <p>New Gas Well Report.</p> <p>Well Inspection Report.</p> <p>Rig Inspection Report.</p> <p>Battery Inspection Report.</p> <p>Field Abandonment Programme and Approval.</p> <p>Well Card.</p> <p>Well Visit.</p> <p>Daily Drilling Reports.</p> |

61° 19' 116° 48' #6  
NOTICE OF INTENTION TO BEGIN BORING OPERATIONS

NOTICE be forwarded, in duplicate, to the Director, (Lands Division), Northern Administration and Lands Branch, Department of Resources and Development, Ottawa, at least 15 days before work is begun

October 28 19 52

Sir:

Notice is hereby given as required by Section 34 of the Petroleum and Natural Gas Regulations, dated 9th of May, 1949, that it is our intention to begin boring a well on P. & N. G. Permit No. 234 on or about the 28th day of October 19 52.

Standing in the name of W. L. Brintnell  
and located 1320' North of Deep Bay #2  
330' West of Deep Bay shoreline

(Give below distances from boundaries)

Being

M. W. T.  
Deep Bay #4

The well shall be known as

We intend using the following equipment:-

Type of drilling rig: Pilling 55 New or used. Used

CASING

137 Size 7" Weight 20 lbs. Thread 8 Brand New Used New Depth 65' How set Resting on shoulder

We expect to encounter the following oil, water and gas horizons and propose taking care of them as follows: We will inform you of any changes in this programme. Slave Point Limestone 300'

The well is to be drilled by Company or Contractor. ~~Self-completion given permit~~  
C. Matthews - Petroleum Engineer  
The officers in charge of the operations will be: G. Killick - Geologist

At the well J. Routledge General Petrol-  
Company Limited

Name of Permittee W. L. Brintnell.

Signature W. L. Brintnell  
President, M.W. T. Petroleum  
Title Limited

Approved AB Swin.

Notes in  
well Book  
10/10/52  
J.B.P.

PROGRESS REPORT  
on the  
DRILLING AND ABANDONMENT  
of the  
NORTH WEST TERRITORIES DEEP BAY NO. 4 WELL.  
situated at  
Latitude  $61^{\circ} 19'$  North - Longitude  $116^{\circ} 48'$  West  
in the  
DEEP BAY AREA, N.W.T.

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Compiled by: B. E. Smith

Approved by:

  
B. H. Corey - Production Manager

NOVEMBER 1952

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### SCOPE

This report covers the drilling, coring, testing and abandonment of the North West Territories No. 4 Well located at Latitude  $61^{\circ} 19'$  North, Longitude  $116^{\circ} 48'$  West.

All available information has been included from the time the well was spudded until it had been drilled, cored, drill stem tested and abandoned.

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DATA PERTINENT TO DRILLING AND ABANDONMENT

2

Name of Company:

North West Territories Oils.

Name of Well:

North West Territories Deep Bay No. 4

Location:

Latitude 61° 19' North  
Longitude 116° 48' West

Elevations:

Ground: 525' (est.)  
Kelly bushing: 533' (est.)

(Estimated using 519' as the elevation of  
Great Slave Lake)

Protective Casing String:

Landed at 73'  
Ran 65.80', 7", 20#, 8 Ri. Thd., Rgs. 2, J55,  
Stewart and Lloyds casing. Casing landed on  
shoulder at 73' and held with surface lamps.  
All casing pulled before abandonment.

Formation Tests:

Test #1 - 230' - 239' - 10 min. - 100' drilling mud -  
misrun  
Test #2 - 230' - 239' - 2 min. - 120' drilling mud -  
misrun.  
Test #3 - 232' - 239' - 75 min. Air blow, decreasing  
to nil at end. 50' mud cut fresh water.  
Test #4 - 235' - 242' - 120 min. Weak steady blow  
throughout. 40' oil cut muddy water.  
Test #5 - 233' - 245' - 60 min. Weak blow decreasing  
to nil at end. 40' slightly sulphurous water.  
Test #6 - 258.4' - 295' - 120 min. Air blow died in  
5 min. 15' drilling mud.  
Test #7 - 284.4' - 321' - 60 min. Good air blow  
decreasing to weak at end. 320' sulphur  
water.  
Test #8 - 512.4' - 555' - 30 min. Good air blow  
throughout. 285' sulphur water.  
Test #9 - 849.02' - 900' - 60 min. Good air blow  
decreasing to faint at end. 815' sulphur  
water

Geological Markers:

M. L. Yakimishyn - cores and samples  
Hay River sh. 28'  
Simpson sh. 60'  
Slave Point fm. 210'  
Slave Point ls. 232'  
Presquille fm. 555'  
" dol. 825'  
Pine Point 910'

DATA PERTINENT TO DRILLING AND ABANDONMENT (CONT'D)

3

Abandonment Plugs:

Plug #1 - 825' - 875' - 20 sacks

Plug #2 - 220' - 270' - 20 sacks

Plug #3 - 0' - 60' - 40 sacks

Date Well Stopped:

October 29, 1952

Date Drilling Completed:

November 8, 1952

Date Rig Released:

November 9, 1952

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4

NORTH WEST TERRITORIES DEEP BAY NO. 4 WELL

Daily Progress Report

| <u>Date</u>      | <u>From</u> | <u>To</u> | <u>Footage</u> | <u>Remarks</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------|-------------|-----------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>Oct. 29th</u> | 50          | 50        |                | Rigging up operations were completed, the rat hole was dug and the well was spudded in at 2:30 P.M. with a 9" OSC-3 bit. On bottom drilling for 9-1/2 hours.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <u>Oct. 30th</u> | 50          | 239       | 189            | <p>Drilled ahead for 2-1/4 hours to 73'. After 11-3/4 hours drilling with 9" OSC-3 bit, pipe was pulled and drill collar laid back. Rigged up and ran protective casing as follows.</p> <p>Started rigging to run casing 2:15 A.M.<br/> Casing started in the hole 2:30 A.M.<br/> Casing all in 8:00 A.M.</p> <p>Ran 65.30', 7", 20#, 8 Rd. Tnd., Rgs. 2, J55, Stewart and Lloyds casing. One joint was oxy-acetylene welded. The shoe was landed 73' below kelly bushing, which was 7.10' above ground level.</p> <p>Dug cellar and set casing in surface clamps. Picked up and ran in a 6-1/4" OWS bit. After 6-1/4 hours drilling at 234', pipe was hoisted and bit and drill collar laid back. Picked up core barrel and 6-1/8" diamond core bit. Ran in and cored ahead, pulling and breaking down coring equipment after 1/2 hour coring at 239'. Two cores were pulled and for 5' cut, 4' were recovered, or 80%. Made up packer and ran test as follows:</p> <p><u>TEST #1 - 230' - 239' - Slave Point Limestone</u></p> <p>Hole diameter to 234' 6-1/4"<br/> O.D. of packer rubber 5-3/4"<br/> Length of anchor below packer 9 ft.<br/> Tester started in hole 7:05 P.M.<br/> Tester on bottom 7:25 P.M.<br/> Tester opened 7:35 P.M.<br/> Tester closed 7:45 P.M.<br/> Tester pulled loose 7:45 P.M.<br/> Tester out of hole 8:00 P.M.<br/> Packer set with (All plus winch pull down)<br/> Packer loosened when winch pull down released.</p> |

# DAILY PROGRESS REPORT (CONT'D)

5

| Date | From | To | Footage | Remarks |
|------|------|----|---------|---------|
|------|------|----|---------|---------|

Oct. 30th (Cont'd)

There was a noticeable blow when the tool was opened, and the mud level in the casing did drop. There was no gas flow. When the drill pipe was pulled, 100' (0.74 barrels) of drilling mud were recovered. No pressure charts were run. The test was considered to be mechanically unsatisfactory and was performed by General Petroleum (Dowell rental) with J. E. Routledge operating. Present at the test were Routledge, Yakimishyn, Emalia.

REMARKS: - Test a misrun.

Round trip to repair tester.

TEST #2 - 230' - 239' - Slave Point Limestone

|                                                |           |
|------------------------------------------------|-----------|
| Hole diameter to 234'                          | 6-1/4"    |
| O.D. of packer rubber                          | 5-3/4"    |
| Length of anchor below packer                  | 9 ft.     |
| Tester started in hole                         | 8:20 P.M. |
| Tester on bottom                               | 8:30 P.M. |
| Tester opened                                  | 8:31 P.M. |
| Tester closed                                  | 8:33 P.M. |
| Tester pulled loose                            | 8:33 P.M. |
| Tester out of hole                             | 8:45 P.M. |
| Packer set with (All plus winch pull down)     |           |
| Packer loosened when winch pull down released. |           |

There was a noticeable blow when the tool was opened, and the mud level in the casing dropped. When the drill pipe was pulled, 120' (0.83 barrels) of drilling mud were recovered. No pressure charts run. The test was considered to be mechanically unsatisfactory and was performed by General Petroleum (Dowell rental) with J. E. Routledge operating. Present at the test were Yakimishyn, Routledge, Emalia.

REMARKS: - Test a misrun.

Round trip to repair winch line.

TEST #3 - 232' - 239' - Slave Point Limestone

|                               |            |
|-------------------------------|------------|
| Hole diameter to 234'         | 6-1/4"     |
| O.D. of packer rubber         | 6"         |
| Length of anchor below packer | 7 ft.      |
| Tester started in hole        | 10:45 P.M. |
| Tester on bottom              | 11:15 P.M. |
| Tester opened                 | 11:45 P.M. |

# DAILY PROGRESS REPORT (CONT'D)

6

| Date      | From | To  | Footage | Remarks                                                                                                                                                                                  |
|-----------|------|-----|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Oct. 31st | 239  | 274 | 35      | Tester closed 1:00 A.M.<br>Tester pulled loose 1:00 A.M.<br>Tester out of hole 1:30 A.M.<br>Packer set with (All plus winch pull down)<br>Packer loosened when winch pull down released. |

There was a noticeable blow when the tool was opened, and the mud level in the casing did not drop. When the drill pipe was pulled, 50' (0.37 barrels) of mud cut fresh water were recovered. Samples were sent to Killick by Yakimishyn. No pressure charts run. The test was considered to be mechanically satisfactory and was performed by General Petroleum (Dowell rental) with J. E. Routledge operating. Present at the test were Yakimishyn, Routledge, Emalie, Weber.

Broke down packer, picked up core barrel and 6-1/8" diamond core bit and ran in same. On bottom coring for 1/4 hour to 242'. Pulled cored barrel and for 3' cut 3' were recovered, or 100%. Laid back coring equipment, picked up packer and ran test as follows:

## TEST #4 - 235' - 242' - Slave Point Limestone

|                                                |           |
|------------------------------------------------|-----------|
| Hole diameter from 234'                        | 6-1/8"    |
| O.D. of packer rubber                          | 6"        |
| Length of anchor below packer                  | 7 ft.     |
| Tester started in hole                         | 3:30 A.M. |
| Tester on bottom                               | 5:45 A.M. |
| Tester opened                                  | 5:45 A.M. |
| Tester closed                                  | 7:45 A.M. |
| Tester pulled loose                            | 7:45 A.M. |
| Tester out of hole                             | 8:15 A.M. |
| Packer set with (All plus winch pull down)     |           |
| Packer loosened when winch pull down released. |           |

There was a noticeable blow when the tool was opened, and the mud level in the casing did not drop. There was no gas flow. When the drill pipe was pulled, 40' (.3 barrels) of oil cut, muddy water were recovered. Samples were sent to Killick by Yakimishyn. No pressure charts run. The test was considered to be mechanically satisfactory and was performed by General Petroleum (Dowell rental) with J. E. Routledge operating. Present at the test were Yakimishyn, Routledge, Weber.

REMARKS -

DAILY PROGRESS REPORT (CONT'D)

7

| <u>Date</u>      | <u>From</u> | <u>To</u> | <u>Footage</u> | <u>Remarks</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------|-------------|-----------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>Oct. 31st</u> |             |           |                | (Cont'd)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                  |             |           |                | Broke down packer, picked up core barrel and 6-1/8" diamond bit and resumed coring. After 1/2 hour coring at 245', pipe was pulled, core barrel and bit laid back and packer made up in readiness to run drill stem test. One core was handled and for 3' cut, 3' were recovered, or 100%.                                                                                                                                                                                                  |
|                  |             |           |                | <u>TEST #5 - 233' - 245' - Slave Point Limestone</u>                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|                  |             |           |                | Hole diameter from 234' 6-1/8"                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                  |             |           |                | O.D. of packer rubber 6"                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                  |             |           |                | Length of anchor below packer 12 ft.                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|                  |             |           |                | Tester started in hole 11:00 A.M.                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                  |             |           |                | Tester on bottom 12:00 noon                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                  |             |           |                | Tester opened 12:00 P.M.                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                  |             |           |                | Tester closed 1:00 P.M.                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                  |             |           |                | Tester pulled loose 1:00 P.M.                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                  |             |           |                | Tester out of hole 1:30 P.M.                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                  |             |           |                | Packer set with (All plus winch pull down)                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                  |             |           |                | Packer loosened when winch pull down released)                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                  |             |           |                | There was a noticeable blow when the tool was opened, and the mud level in the casing did not drop. When the drill pipe was pulled, 40' (.3 barrels) of slightly sulphurous water were recovered. Samples were sent to Killick by Yakimishyn. No pressure charts run. The test was considered to be mechanically satisfactory and was performed by General Petroleum (Dowell rental) with J. E. Routledge operating. Present at the test were J. E. Routledge, M. L. Yakimishyn, R. Emalie. |
|                  |             |           |                | Broke down tester, picked up core barrel and bit and ran in same. Cored ahead for 3-1/4 hours to 274' then pulled pipe. Three cores were pulled and for 29' cut, 29' were recovered, or 100%.                                                                                                                                                                                                                                                                                               |
| <u>Nov. 1st</u>  | 274         | 295       | 21             | Stood waiting on orders for 21 hours. Picked up core barrel and 6-1/8" diamond bit, ran in and cored ahead for 1-1/2 hours to 295'. Pulled pipe, handled core and laid back coring equipment. One core was handled and for 21' cut, 21' were recovered, or 100%. Made up packer and prepared to run in.                                                                                                                                                                                     |
| <u>Nov. 2nd</u>  | 295         | 430       | 135            | <u>TEST #6 - 258.4' - 295' - Slave Point Limestone</u>                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                  |             |           |                | Hole diameter from 234' 6-1/8"                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                  |             |           |                | O.D. of packer rubber 6"                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

DAILY PROGRESS REPORT (CONT'D)

| Date     | From     | To | Footage                                        | Remarks        |
|----------|----------|----|------------------------------------------------|----------------|
| Nov. 2nd | (Cont'd) |    |                                                |                |
|          |          |    | Length of anchor below packer                  | 36.6 ft.       |
|          |          |    | Tester started in hole                         | 12:00 midnight |
|          |          |    | Tester on bottom                               | 1:15 A.M.      |
|          |          |    | Tester opened                                  | 1:15 A.M.      |
|          |          |    | Tester closed                                  | 3:15 A.M.      |
|          |          |    | Tester pulled loose                            | 3:15 A.M.      |
|          |          |    | Tester out of hole                             | 4:15 A.M.      |
|          |          |    | Packer set with (All plus winch pull down)     |                |
|          |          |    | Packer loosened when winch pull down released. |                |

There was a noticeable blow when the tool was opened, and the mud level in the casing did not drop. When the drill pipe was pulled, 15' (.11 barrels) of drilling mud were recovered. Samples were sent to G.H. Killick by M. L. Yakimishyn. No pressure charts run. The test was considered to be mechanically satisfactory and was performed by General Petroleum (Dewell rental) with J. E. Routledge operating. Present at the test were M. L. Yakimishyn, J. E. Routledge and J. A. Weber.

Broke down packer and packed up core barrel and bit. Ran in and cored ahead, pulling pipe after 2-1/2 hours at 321'. One core was handled and for 26' cut, 26' were recovered, or 100%. Made up tester and ran test as follows.

Test #7 - 284.4' - 321' - Slave Point Limestone

|                                                |            |
|------------------------------------------------|------------|
| Hole diameter from 234'                        | 6-1/8"     |
| O.D. of packer rubber                          | 6"         |
| Length of anchor below packer                  | 36.6 ft.   |
| Tester started in hole                         | 12:00 noon |
| Tester on bottom                               | 1:00 P.M.  |
| Tester opened                                  | 1:00 P.M.  |
| Tester closed                                  | 2:00 P.M.  |
| Tester pulled loose                            | 2:00 P.M.  |
| Tester out of hole                             | 2:30 P.M.  |
| Packer set with (all plus winch pull down)     |            |
| Packer loosened when winch pull down released. |            |

There was a noticeable blow when the tool was opened, and the mud level in the casing did not drop. When the drill pipe was pulled, 320' (2.37 barrels) of sulphur water were recovered. Samples were sent to G. H. Killick by M.L. Yakimishyn. No pressure charts run. The test was considered to be mechanically satisfactory

DAILY PROGRESS REPORT (CONT'D)

9

| <u>Date</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <u>From</u>     | <u>To</u> | <u>Footage</u> | <u>Remarks</u>                                                                                                                                                         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>Nov. 2nd</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <u>(Cont'd)</u> |           |                | and was performed by General Petroleum (Dowell rental) with J. E. Routledge operating. Present at the test were Yakimishyn, Routledge, Emalie.                         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                 |           |                | Broke down packer, picked up core barrel and bit and ran in. On bottom coring for 6 hours. Five cores were pulled and for 109' cut, 99', were recovered, or 90.8%.     |
| <u>Nov. 3rd</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 430             | 605       | 175            | On bottom coring for 9 hours to 555'. Five cores were pulled and for 125' cut, 90' were recovered, or 72%. Laid back core barrel and bit and picked up packer to test. |
| <u>TEST NO - 513.4' - 555' - Slave Point Limestone</u>                                                                                                                                                                                                                                                                                                                                                                                                                         |                 |           |                |                                                                                                                                                                        |
| Hole diameter from 234'                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |           |                | 6-1/8"                                                                                                                                                                 |
| O.D. of packer rubber                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |           |                | 6"                                                                                                                                                                     |
| Length of anchor below packer                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                 |           |                | 36.6 ft.                                                                                                                                                               |
| Tester started in hole                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                 |           |                | 5:15 P.M.                                                                                                                                                              |
| Tester on bottom                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |           |                | 6:00 P.M.                                                                                                                                                              |
| Tester opened                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                 |           |                | 6:00 P.M.                                                                                                                                                              |
| Tester closed                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                 |           |                | 6:30 P.M.                                                                                                                                                              |
| Tester pulled loose                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |           |                | 6:30 P.M.                                                                                                                                                              |
| Tester out of hole                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                 |           |                | 7:30 P.M.                                                                                                                                                              |
| Packer set with (All plus winch pull down)                                                                                                                                                                                                                                                                                                                                                                                                                                     |                 |           |                |                                                                                                                                                                        |
| Packer loosened when winch pull down released.                                                                                                                                                                                                                                                                                                                                                                                                                                 |                 |           |                |                                                                                                                                                                        |
| There was a noticeable blow when the tool was opened, and the mud level in the casing did not drop. When the drill pipe was pulled, 285' (2.1 barrels) of sulphur water were recovered. Samples were sent to G. H. Killick by M. L. Yakimishyn. No pressure charts run. The test was considered to be mechanically satisfactory and was performed by General Petroleum (Dowell rental) with J. E. Routledge operating. Present at the test were Yakimishyn, Routledge, Emalie. |                 |           |                |                                                                                                                                                                        |
| Broke down packer, picked up core barrel and 6-1/8" diamond bit and ran in same. Cored ahead for 2-3/4 hours. Two cores were pulled and for 50' cut, 26' were recovered, or 52%. A survey showed:                                                                                                                                                                                                                                                                              |                 |           |                |                                                                                                                                                                        |
| 1/4" @ 500'                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                 |           |                |                                                                                                                                                                        |
| <u>Nov. 4th</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 605             | 740       | 135            | On bottom coring for 4-1/4 hours. Five cores were pulled and for 110' cut, 98' were recovered, or 89.1%.                                                               |

DAILY PROGRESS REPORT (CONT'D)

10

| Date            | From | To  | Footage | Remarks                                                                                                                                                                                                                                             |
|-----------------|------|-----|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>Nov. 5th</u> | 740  | 842 | 102     | Cored ahead for 10-1/2 hours to 840'. Pulled pipe and laid back core barrel and bit. Five cores were pulled and for 125' cut, 125' were recovered, or 100%. Picked up drill collar with 6-1/8" OSC bit, ran in same and drilled ahead for 1/4 hour. |
| <u>Nov. 6th</u> | 842  | 935 | 93      | On bottom drilling with 6-1/8" OSC bit for 5-1/2 hours to 900'. Pulled pipe, laid back drill collar and bit and picked up packer to test.                                                                                                           |

TEST #2 - 849.02' - 900' - Presquille Dolomite

|                                            |           |
|--------------------------------------------|-----------|
| Hole diameter from 234'                    | 6-1/8"    |
| O.D. of packer rubber                      | 6"        |
| Length of anchor below packer              | 50.98 ft. |
| Tester started in hole                     | 2:00 P.M. |
| Tester on bottom                           | 3:30 P.M. |
| Tester opened                              | 3:30 P.M. |
| Tester closed                              | 4:30 P.M. |
| Tester pulled loose                        | 4:30 P.M. |
| Tester out of hole                         | 5:15 P.M. |
| Packer set with (All plus winch pull down) |           |
| Packer released when winch loosened.       |           |

There was a noticeable blow when the tool was opened, and the mud level in the casing did not drop. There was no gas flow. When the drill pipe was pulled, 815' (6.05 barrels) of sulphur water were recovered. Samples were sent to G. H. Killick by M. L. Yakimishyn. No pressure chart run. The test was considered to be mechanically satisfactory and was performed by General Petroleum (Dowell rental) with J. E. Routledge operating. Present at the test were M. L. Yakimishyn, J. E. Routledge and R. J. Nealie.

REMARKS: - Air blow decreasing to faint at end of test.

Nov. 6th

Broke down tester, picked up core barrel and 6-1/8" diamond core bit, ran in same and cored ahead for 4-1/4 hours. One core was pulled and for 25' cut, 25' were recovered, or 100%.

Nov. 7th      935    1027

92    On bottom coring for 12-1/4 hours. Four cores were pulled and for 79' cut, 79' were recovered, or 100%.

DAILY PROGRESS REPORT (CONT'D)

| Date     | From | To   | Footage | Remarks                                                                                                                                                                                                                                                                            |
|----------|------|------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nov. 8th | 1027 | 1054 | 27      | Cored ahead, pulling pipe and breaking down coring equipment after 4-3/4 hours at 1054'. Two cores were pulled and for 50' cut, 50' were recovered, or 100%. Pulled out casing and stood waiting orders for 12 hours.                                                              |
| Nov. 9th | 1054 |      |         | <p>Ran in with open end pipe and ran plugs as follows:</p> <p><u>Plug #1</u> - 825' - 875' with 20 sacks cement</p> <p><u>Plug #2</u> - 220' - 270' with 20 sacks cement</p> <p><u>Plug #3</u> - 0' - 60' with 40 sacks cement</p> <p>Began tearing out and loading equipment.</p> |

- - - 00 0 00 - - -

SURVEY RECORDDateDepthDeviation

November 3, 1952

500

1/4°

MUD RECORD

M.W.T. Deep Bay #4

| <u>Date</u> | <u>Depth</u> | <u>Mud Wt.</u><br><u>#U.S.</u><br><u>Gal.</u> | <u>Visc.</u> | <u>Gel.</u> | <u>H<sub>2</sub>O</u><br><u>Loss</u><br><u>cc.</u> | <u>Filter</u><br><u>Cake</u><br><u>1/32"</u> | <u>pH</u> | <u>Additives</u> |
|-------------|--------------|-----------------------------------------------|--------------|-------------|----------------------------------------------------|----------------------------------------------|-----------|------------------|
| Oct.29      | 50           | 9.8                                           | 48           | 54          | -                                                  | -                                            | -         | 2850/ Aquagel    |
| Oct.30      | 73           | 9.8                                           | 48           | 54          | -                                                  | -                                            | -         |                  |
| Oct.30      | 239          | 9.6                                           | 34           | 38          | -                                                  | -                                            | -         |                  |
| Oct.31      | 274          | 9.6                                           | 34           | 38          | -                                                  | -                                            | -         |                  |
| Nov.1       | 295          | 9.6                                           | 34           | 38          | 12                                                 | 2                                            | 8.5       | Water            |
| Nov.2       | 430          | 9.6                                           | 34           | 38          | 12                                                 | 2                                            | 8.5       |                  |
| Nov.3       | 605          | 9.6                                           | 34           | 38          | 12                                                 | 2                                            | 8.5       |                  |
| Nov.4       | 740          | 9.6                                           | 34           | 38          | 12                                                 | 2                                            | 8.5       |                  |
| Nov.5       | 842          | 9.6                                           | 35           | 39          | 12                                                 | 2                                            | 8.5       |                  |
| Nov.6       | 876          | 9.6                                           | 37           | 41          | 12                                                 | 2                                            | 8.5       |                  |
| Nov.7       | 1027         | 9.6                                           | 35           | 39          | 12                                                 | 2                                            | 8.5       |                  |
| Nov.8       | 1054         | 9.6                                           | 35           | 39          | -                                                  | -                                            | -         |                  |

Note: Figures indicating mud characteristics were estimated due to lack of testing facilities.

CORE RECORD

N.W.T. Deep Bay #4

| <u>Date</u> | <u>From</u> | <u>To</u> | <u>Cut</u> | <u>Rec'd</u> | <u>%</u> |
|-------------|-------------|-----------|------------|--------------|----------|
| Oct. 30/52  | 234         | 236       | 2'         | 1'           | 50       |
|             | 236         | 239       | 3'         | 3'           | 100      |
| Oct. 31/52  | 239         | 242       | 3'         | 3'           | 100      |
|             | 242         | 245       | 3'         | 3'           | 100      |
|             | 245         | 248       | 3'         | 3'           | 100      |
|             | 248         | 253       | 5'         | 5'           | 100      |
|             | 253         | 274       | 21'        | 21'          | 100      |
| Nov. 1/52   | 274         | 295       | 21'        | 21'          | 100      |
| Nov. 2/52   | 295         | 321       | 26'        | 26'          | 100      |
|             | 321         | 330       | 9'         | 9'           | 100      |
|             | 330         | 355       | 25'        | 25'          | 100      |
|             | 355         | 380       | 25'        | 25'          | 100      |
|             | 380         | 405       | 25'        | 25'          | 100      |
|             | 405         | 430       | 25'        | 15'          | 60       |
|             | 430         | 455       | 25'        | 25'          | 100      |
|             | 455         | 480       | 25'        | 23'          | 92       |
|             | 480         | 505       | 25'        | 15'          | 60       |
|             | 505         | 530       | 25'        | 15'          | 60       |
| Nov. 3/52   | 530         | 555       | 25'        | 12'          | 48       |
|             | 555         | 580       | 25'        | 6'           | 24       |
|             | 580         | 605       | 25'        | 20'          | 80       |
|             | 605         | 630       | 25'        | 25'          | 100      |
|             | 630         | 655       | 25'        | 25'          | 100      |
|             | 655         | 680       | 25'        | 25'          | 100      |
|             | 680         | 690       | 10'        | 8'           | 80       |
|             | 690         | 715       | 25'        | 15'          | 60       |
| Nov. 4/52   | 715         | 740       | 25'        | 25'          | 100      |
|             | 740         | 765       | 25'        | 25'          | 100      |
|             | 765         | 790       | 25'        | 25'          | 100      |
|             | 790         | 815       | 25'        | 25'          | 100      |
|             | 815         | 840       | 25'        | 25'          | 100      |
| Nov. 5/52   | 840         | 900       | 25'        | 25'          | 100      |
| Nov. 6/52   | 900         | 925       | 25'        | 25'          | 100      |
| Nov. 7/52   | 925         | 950       | 25'        | 25'          | 100      |
|             | 950         | 975       | 25'        | 25'          | 100      |
|             | 975         | 979       | 4'         | 4'           | 100      |
|             | 979         | 1004      | 25'        | 25'          | 100      |
| Nov. 8/52   | 1004        | 1029      | 25'        | 25'          | 100      |
|             | 1029        | 1054      | 25'        | 25'          | 100      |

Rec. 524  
100 - 32  
50

Total Cored 760'

Total Received 678'

Percentage Recovery 89.3%

CORE DESCRIPTIONS - M. L. YAKIMISHYN

- Core #1 - 234 - 236 - Recovered 1'.  
Limestone - brown interbedded with buff, micro-x-taline to x-taline, argillaceous, dense, corallina giving pin point to intergranular to poor vuggy porosity partly infilled with clear clastic limestone, earthy appearance, some vertical fracturing infilled with clastic limestone, some brecciation, brown oil staining, appears water bearing, petroliferous to sulfurous small, few fossils and brachiopods.
- Core #2 - 236 - 239 - Recovered 3'.  
Limestone - as above with increasing amount of brecciation and clastic limestone, some grey dense, limestone imbedding.
- Core #3 - 239 - 242 - Recovered 3'.  
Limestone - as above.
- Core #4 - 242 - 245 - Recovered 3'.  
Limestone - as above.
- Core #5 - 245 - 248 - Recovered 3'.  
Limestone - light brown to brown, micro-x-taline to x-taline, argillaceous, dense, little pin point to very little small vuggy porosity, vugs partly infilled with clastic limestone, earthy appearance, little brecciation, brown oil staining, appears water bearing, petroliferous to sulfurous small, salty taste, very few fossils and brachiopods.
- Core #6 - 248 - 253 - Recovered 5'.  
Limestone - as above becoming tighter.
- Core #7 - 253 - 274 - Recovered 21'.  
253 - 258 - Limestone - as above, few fractures.  
258 - 274 - Limestone - brown imbedded with grey, micro-x-taline to x-taline, argillaceous, very dense, little vertical fractures very well cemented, salty taste, some clastic limestone, scattered patches of brown live oil bleeding from fractures, sulfurous smell, very few scattered fossils and brachiopods.
- Core #8 - 274 - 295 - Recovered 21'.  
274 - 290 - Limestone - as above.  
290 - 295 - Limestone - brown with little imbedded buff, micro-x-taline to micro-granular, argillaceous, dense to micro-granular to pin point porosity, earthy appearance, salty taste, containing corals, brown oil staining, little clastic limestone, sulfurous small, very few scattered fossils and brachiopods, vertical fracturing.

- Core #9 - 295 - 321 - Recovered 26%.  
Limestone - brown with little buff imbedded, micro-x-taline to x-taline, argillaceous, dense to granular pin point and some poor vuggy porosity, vertical fracturing, some brecciation, clastic limestone and calcite infilling earthy appearance, salty taste, appears water bearing, some brown oil staining, strong H<sub>2</sub>S odor, contains corals, bryozoans and stromatoporoids.
- Core #10 - 321 - 330 - Recovered 9%.  
Limestone - as above becoming much tighter.
- Core #11 - 330 - 355 - Recovered 25%.  
Limestone - as above becoming tighter, more presents of calcite.
- Core #12 - 355 - 380 - Recovered 25%.  
Limestone - as above, some greyish buff limestone.
- Core #13 - 380 - 405 - Recovered 25%.  
Limestone - greyish buff to brown, micro-x-taline to x-taline, argillaceous, dense, vertical fracturing, clastic limestone and calcite infilling, earthy appearance in part, some pin point porosity in parts, salty taste, strong H<sub>2</sub>S odor, little brown oil staining, water bearing, contains some corals and stromatoporoids.
- Core #14 - 405 - 430 - Recovered 15%.  
Limestone - as above, some ling, green, very slightly calcareous, micro-x-taline faced shale stylolitic partings, trace pyrite.
- Core #15 - 430 - 455 - Recovered 25%.  
Limestone - brown with some greyish buff, micro-x-taline to x-taline, dense, argillaceous, vertical fracture infilled with calcite, scattered traces pin point porosity and oil staining, salty taste, H<sub>2</sub>S odor, containing some corals and brachiopods.
- Core #16 - 455 - 480 - Recovered 23%.  
Limestone - as above, increasing amount of calcite.
- Core #17 - 480 - 505 - Recovered 15%.  
Limestone - as above, increasing amount of calcite, corals, brachiopods and stromatoporoids.
- Core #18 - 505 - 530 - Recovered 15%.  
Limestone - as above, earthy appearance in few patches, increasing amount greyish-buff limestone, rhombic calcite x-tals.
- Core #19 - 530 - 555 - Recovered 12%.  
Limestone - as above, chalky like at 554%.  
TOP PRESQUILLE FORMATION
- Core #20 - 555 - 580 - Recovered 6%.  
Limestone - as above, brown to some buff, much corals and brachiopods.

- Core #21 - 580 - 605 - Recovered 20'.  
Limestone - as above, mostly coral and bryozoan limestone.
- Core #22 - 605 - 630 - Recovered 25'.  
Limestone - brown with scattered greyish-buff, micro-x-taline to x-taline, argillaceous, dense, vertical fracture infilled with calcite, scattered traces pin point porosity and oil staining, much calcite crystals, salty taste, petroliferous and H<sub>2</sub>S odor, corals and brachiopods.
- Core #23 - 630 - 655 - Recovered 25'.  
Limestone - as above, calcite getting darker in parts.
- Core #24 - 655 - 680 - Recovered 25'.  
Limestone - as above becoming somewhat dolomitic in scattered parts.
- Core #25 - 680 - 690 - Recovered 8'.  
Limestone - buff to medium brown, as above with some greenish cast, clastic limestone.
- Core #26 - 690 - 715 - Recovered 15'.  
Limestone - little as above, mostly buff to brownish light grey, fine micro-x-taline, argillaceous, dense, vertical fracture with some bubbling oil, petroliferous and H<sub>2</sub>S odor, greenish cast, clastic limestone and calcite crystals, salty taste, some greenish, chalky limestone bands from 713 - 715, traces brown dolomitic limestone.
- Core #27 - 715 - 740 - Recovered 25'.  
715 - 725 - Limestone - buff to brown, micro-x-taline to x-taline, argillaceous, dense, vertical fracture, dolomitic in parts, brownish cast, clastic limestone, calcite, x-tals., few traces pin point porosity and oil staining, salty taste, H<sub>2</sub>S odor, very much corals and brachiopods.  
725 - 735 - calcite - clear, brownish and greenish cast, large crystals, producing granular vugs, streaked irregularly with brown, dolomitic, dense, fine micro-x-taline limestone containing some pin point porosity and little oil staining, vertical fracture, H<sub>2</sub>S odor, corals and brachiopods.  
735 - 740 - Limestone - buff to light dark brown, fine micro-x-taline, dense, argillaceous, some pin point porosity and little oil staining, vertical fracture, few odd stylolitic partings, H<sub>2</sub>S odor, with very much above calcite, corals and brachiopods.
- Core #28 - 740 - 765 - Recovered 25'.  
Limestone - intermixed buff, greenish-grey, greyish-buff, fine micro-x-taline, dense, argillaceous with much brown, dolomitic limestone containing some pin point porosity and little oil staining, vertical fracture, H<sub>2</sub>S odor, some calcite as above, corals and brachiopods, getting predominantly greyish-buff at 755 - 765 and containing more above calcite.

- Core #29 - 765 - 790 - Recovered 25%.  
 765 - 775 - Limestone - grayish-buff, fine micro-x-taline, dense, argillaceous, vertical fractures, some stylolitic partings, some above calcite with some light brown to brown, dolomitic, dense, fine micro-x-taline, argillaceous, containing little pin point porosity and oil staining, H<sub>2</sub>S odor, corals and brachiopods.  
 775 - 780 - Limestone - as above getting grayish-green in part.  
 780 - 785 - Limestone - same as 765 - 775.  
 785 - 790 - Limestone, clear to light grayish-buff, micro-x-taline to x-taline, argillaceous, dense, vertical fracture, slightly dolomitic, trace oil staining, H<sub>2</sub>S odor, with little brown, dolomitic dense limestone.

- Core #30 - 790 - 815 - Recovered 25%.  
 790 - 810 - Limestone - same as 740 - 765.  
 810 - 815 - Limestone - same as 785 - 790.

- Core #31 - 815 - 840 - Recovered 25%.  
 815 - 825 - Limestone - as above.

## TOP PRESQUILLE DOLOMITE 825'

- 825 - 840 - Dolomite - brown to dark brown, micro-x-taline to x-taline, dense, limy, scattered saddle faced clear x-tals. of dolomite, weak H<sub>2</sub>S odor, few corals and brachiopods.  
 840 - 845 - Dolomite and limestone - dolomite - buff to dark brown, sacrose texture, dense with some micro-pin point to tiny coralline porosity, scattered crystal faces, appears oil stained, granular calcite crystals, specked with black material in parts, limestone - grayish-buff to brown, argillaceous, dense, fine micro-x-taline, few corals and brachiopods.  
 845 - 900 - as above.

- Core #32 - 900 - 925 - Recovered 25%.  
 900 - 910 - Limestone - grayish light brown to brown, argillaceous, very dense, micro-x-taline to x-taline, with limestone - brown to dark brown, argillaceous, dense, slightly dolomitic, x-taline, vertical fractures, few stylolitic partings, light brownish castic clastic limestone, some calcite x-tals, few corals and brachiopods.

## TOP PINE POINT (BLACK LINE) 910'

- 910 - 925 - Limestone - brown to chocolate dark brown, argillaceous, dense, micro-x-taline, scattered x-tal faces, few stylolitic partings, H<sub>2</sub>S odor, scattered corals and brachiopods.

CORE DESCRIPTIONS (CONT'D)

19

- Core #33 - 950 - 950 - Recovered 25'.  
Limestone - dark brown to dark chocolate brown to black in part,  
argillaceous, dense, fine micro-crystalline, few x-tal faces, some  
stratitic partings, H<sub>2</sub>S odor, scattered corals and brachiopods.
- Core #34 - 950 - 975 - Recovered 25'.  
Limestone - as above.
- Core #35 - 975 - 979 - Recovered 4'.  
Limestone - as above.
- Core #36 - 979 - 1004 - Recovered 25'.  
Limestone - as above.
- Core #37 - 1004 - 1029 - Recovered 25'.  
Limestone - as above becoming quite fossiliferous.
- Core #38 - 1029 - 1054 - Recovered 25'.  
Limestone - as above.
- TOTAL DEPTH - 1054'.

- - - - -

0 - 10 - Lake beach sands, quartz, limestone - buff to dark grey, slightly argillaceous, dense, brown dolomite, shale - greenish-grey to dark grey calcareous (probably rathole carings); recent pelecypods and gastropods, pyrite.

10 - 20 - As above with shale - dark brown, hard, slightly calcareous.

20 - 25 - As above.

TOP HAY RIVER SHALE 23'.

25 - 30 - Shale - grayish-green to greenish dark grey, calcareous, containing micro-x-tal faces formed by speckled pyrite, with shale - dark brown to brownish-black, hard, slightly calcareous, containing much micro-x-tal faces, trace pyrite.

30 - 40 - As above.

40 - 50 - As above with some shale - calcareous, dark grey.

50 - 60 - As above with some limestone dark grey to brown, micro-x-talino, dense, slightly argillaceous.

TOP SIMPSON SHALE 60'

60 - 70 - Shale - brown to dark brown, calcareous, micro-micaceous appearance with much shale - grayish-green to greenish dark grey, calcareous and shale - black, bituminous.

70 - 80 - As above.

80 - 90 - As above with some shale - brownish grey, calcareous, containing black specks and few crystal faces.

90 - 100 - As above with some shale - greenish-grey, calcareous, containing black specks and brown tenebrilites.

100 - 110 - Shale - greenish-grey to dark grey, calcareous with little of above.

110 - 120 - Shale - greenish-grey to dark grey, calcareous, soft in part, containing micro-x-tal faces and little black specks with some shale - bituminous, black, hard.

120 - 130 - Shale - greenish-grey to dark grey, calcareous, containing little, black specks.

130 - 140 - As above.

140 - 150 - As above.

150 - 160 - As above.

SAMPLE DESCRIPTIONS (CONT'D)

21

- 160 - 170 - Shale - greenish-grey, calcareous, containing black specks with some limestone - greenish-grey, shaly, non-argillaceous to slightly argillaceous, fine micro-crystalline, dense.
- 170 - 180 - Shale - as above with limestone as above changing to a dark grey.
- 180 - 190 - Shale - dark grey, slightly calcareous with some shale and limestone as above.
- 190 - 200 - As above.
- 200 - 210 - As above with little brownish grey, slightly argillaceous, dense limestone, trace pyrite.

TOP SLAVE POINT FORMATION 210'.

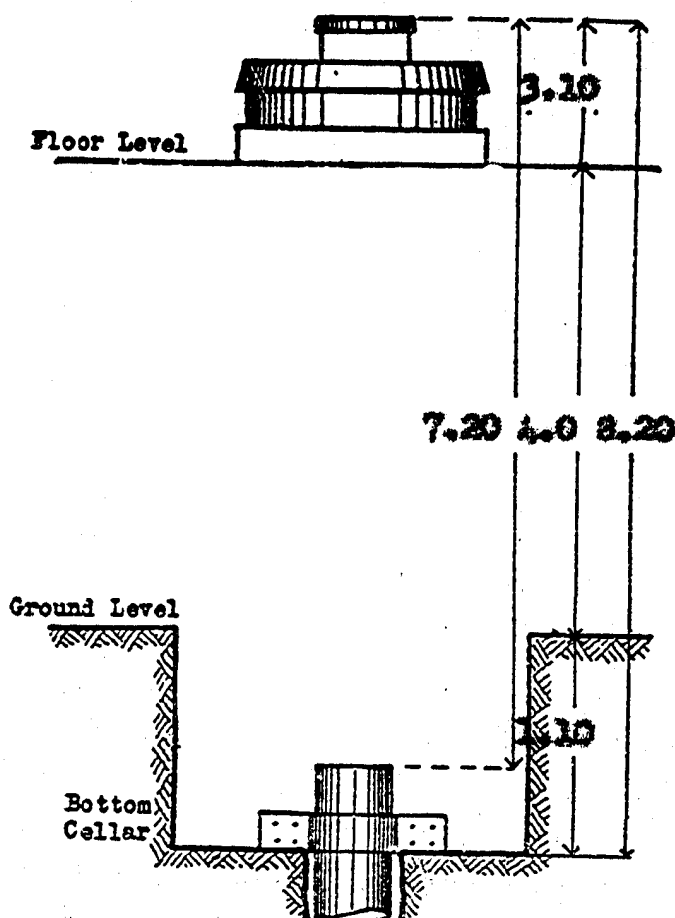
- 210 - 220 - Limestone - light brown to brownish-grey, slightly argillaceous, dense, with shale as above, trace pyrite.
- 220 - 232 - As above.

TOP SLAVE POINT BEDROCK LIMESTONE 232'

- 232 - 234 - Limestone - buff to brown, fine micro-crystalline, to crystalline, dense to poor pin point porosity, light brown oil staining, trace pyrite infiltration.

- - - - o o - - - -

## Casing Report

NAME OF WELL N.W.T. DE. #4 DATE October 30, 1952

Make of Casing Stewart & Lloyds  
 Size 7" Weight 20# No. of Threads 8  
 Short or Long Threads Graded J-55 Range 2  
 Make and Type of Casing Shoe - Welded on? -  
 Make and Type of Collar - Welded on? -  
 Centralizers - at -  
 Welding—Electric - Acetylene X  
 No. of Joints Welded one B.  
 Welding Co. General Peto Operator Weber  
 Scratchers at -

Calcium Chloride Added -  
 Aquagel Added -  
 Cementing Co. -  
 Cementer - Helper -  
 Drive Bushing Elevation 533' est.

Distance Drive Bushing to Ground Level 7.10 Ft.  
 Total Amount of Casing Used (including Landing Joint) 65.80 Ft.  
 Distance Top of Casing Landed Below Kelly Drive Bushing .10 Ft.  
 Total Amount of Casing Left in Hole 65.80 Ft.  
 Depth of Shoe Below Drive Bushing 73.00 Ft.  
 Time Rigging up to Run Casing 1 1/2 Hrs. Time Casing Started in Hole 2:30 M.  
 Time Running Casing 5 1/2 Hrs. Time Started Circulating - M.  
 Time Stopped Circulating - M. Time Started Cementing - M.  
 Time Cement in Pipe - M. Time Plug on Bottom - M.  
 Plug Measured into - ft. by Wire Line or displaced with - Bbls.  
 Bumped on - Collar or - Baffle Plate with - P.S.I.  
 Number of Sacks Cement Used - Sacks: Hours Cement Set - Hrs.  
 Method of Cementing - Cement Returns? - Yes or No.  
 Casing Landed in Clamps - Casinghead Casing Suspender (State Make) -

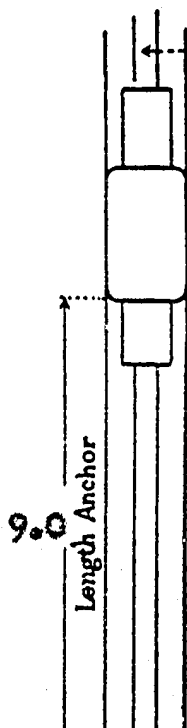
## REMARKS:

Casing run to prevent boulder cave in only. Formation shut off  
made by landing casing on.

Casing tally - Jt. 1 34.62  
 " 2 31.18  
 Total 65.80

Engineer/Toolpusher J. E. Rutledge

## Drill Stem Test Report

Date October 30, 1952.Name of Well N. W. T. Deep Bay #4Test No. 1Testing Company General Petroleum (Dowell Rental)Operator J. E. Routledge


Size Drill Pipe  
3 1/2 inches O.D.  
13.30 #/ foot

O.D. of Packer Rubber 5 3/4Size Choke 3/8Type of Packer: Anchor Type X

Hookwall

Formation Tested Slave PointDepth of Well 239Zone Tested: From 230To 239Time Waiting on Tester nilMud: API Viscosity 40Gel. 43Weight 9.8Time Tester started in hole 7:05 P.M." " On Bottom 7:25 P.M." " Opened 7:35 P.M." " Closed 7:45 P.M." " Pulled Loose 7:45 P.M." " Out of Hole 8:00 P.M.

Bottom of Rubber

at 230 feetDepth 239 feetAll plus winch line pull downWeight: Set on Packer 6 Thousand Lbs.; To Pull Packer Loose nil Thousand Lbs.No. Lines 6 Size Line 3/4When tool was opened: Was blow noticeable, Yes X No       ; Air Displaced, Yes X No       Did mud level drop in casing; Yes X No       Gas Flow: nil run Thousand cf/day. Measured with Pitot tube by       Estimated by       Size riser: 2 inches, I.D.; Was flare lit, Yes        No       ; Length of flame        feetTotal fluid in drill pipe: 4 Stands 100 Feet 0.74 Bbls.Oil in drill pipe { Gassy }        Stands        Feet        Bbls.Mud in drill pipe { Dead } drilling mud Stands 100 Feet 0.74 Bbls.Water in drill pipe { Gassy }        Stands        Feet        Bbls.

Note: Samples of Oil and Water must be taken.

Samples sent to not taken By       Water: not taken (Cross out terms that do not apply.)Remarks: test a nil run when rubber failed to hold

Put additional remarks or other information on back of sheet.

Present at test: Mike Yakimishyn, J. E. Routledge, R. Emalie and crewDo you consider that test was satisfactory? Yes        No XDoes chart show normal operation of tester? Yes not run No       Pressure on chart (Hydrostatic) before tester opened        p.s.i." " " (Flowing) with tester open        p.s.i. (shut in)        p.s.i.Is chart attached: Yes        No        Who has it

# Drill Stem Test Report

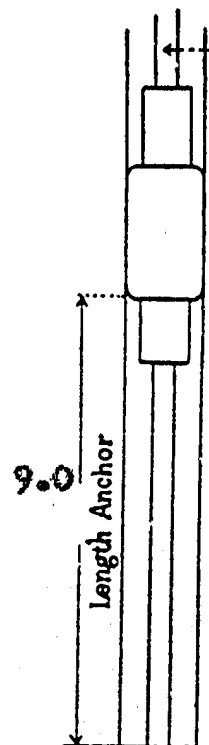
Date **October 30, 1952.**

Name of Well **Deep Bay #4**

Test No. **2**

Testing Company **General Petroleum (Dowell Rental)**

Operator **J. E. Routledge**



Size Drill Pipe

**3 1/2** inches O.D.

**13.3** #/ foot

Bottom of Rubber

at **230** feet

Depth **239** feet

**Winch line pull down**

O.D. of Packer Rubber **5 3/4**

Size Choke **3/8**

Type of Packer: Anchor Type **X**

Hookwall

Formation Tested **Slaw Point**

Depth of Well **239**

Zone Tested: From **230**

To **239**

Time Waiting on Tester **nil**

Mud: API Viscosity **40**

Gel. **13**

Weight **9.8**

Time Tester started in hole **8:20 P.M.**

" " On Bottom **8:30 P.M.**

" " Opened **8:31 P.M.**

" " Closed **8:33 P.M.**

" " Pulled Loose **8:33 P.M.**

" " Out of Hole **8:45 P.M.**

Weight: Set on Packer

Thousand Lbs.; To Pull Packer Loose **nil**

Thousand Lbs.

No. Lines **6**

Size Line **3/4**

When tool was opened: Was blow noticeable, Yes **X** No **X**; Air Displaced, Yes **X** No **X**

Did mud level drop in casing; Yes **X** No **X**

Gas Flow: **-** Thousand cf/day. Measured with Pitot tube by **-**

Estimated by **-**

Size riser: **-** inches, I.D.; Was flare lit, Yes **No**; Length of flame **-** feet

Total fluid in drill pipe: **4** Stands **120** Feet **0.89** Bbls.

Oil in drill pipe { Gassy } Stands **-** Feet **-** Bbls.  
                          { Dead } Stands **-** Feet **-** Bbls.

Mud in drill pipe { Gassy } Stands **-** Feet **-** Bbls.  
                          { Dead } Stands **-** Feet **-** Bbls.

~~Mud~~ Water in drill pipe { Gassy } Stands **120** Feet **0.89** Bbls.  
~~xxx~~                          { Dead } Stands **-** Feet **-** Bbls.

Note: Samples of Oil and Water must be taken.

Samples sent to **-** By **-**

~~Water, Salts, Sulphur, Barium, Fresh~~ (Cross out terms that do not apply.)

Remarks: **Test a riser when rubber failed to hold and winch line pull down broke.**  
Put additional remarks or other information on back of sheet.

Present at test: **Mike Yakimishyn, J. E. Routledge, Ray Emalie and crew**

Do you consider that test was satisfactory? Yes **-** No **X**

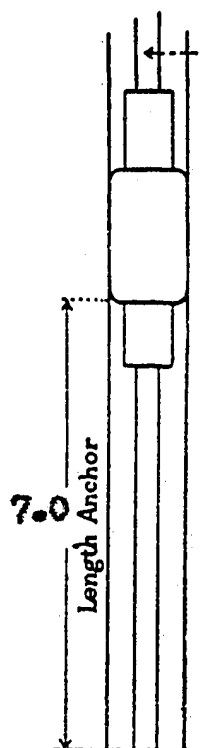
Does chart show normal operation of tester? Yes **none run** No **-**

Pressure on chart (Hydrostatic) before tester opened **-** p.s.i.

" " (Flowing) with tester open **-** p.s.i. (shut in) **-** p.s.i.

Is chart attached: Yes **-** No **-** Who has it **-**

## Drill Stem Test Report

Date October 30-31, 1952.Name of Well Deep Bay #4Test No. 3Testing Company General Petroleum (Dowell Rental)Operator J. E. Routledge

Size Drill Pipe

3 1/2 inches O.D.13.3 #/ foot

Bottom of Rubber

at 232 feetDepth 239 feetO.D. of Packer Rubber 6"Size Choke 3/8Type of Packer: Anchor Type X

Hookwall

Formation Tested Slave PointDepth of Well 239Zone Tested: From 232 To 239Time Waiting on Tester 1 1/2 hrs. changed rubber and check toolMud: API Viscosity 40 Gel. 43 Weight 9.8Time Tester started in hole 10:45 P.M." " On Bottom 11:15 P.M." " Opened 11:45 P.M." " Closed 1:00 A.M." " Pulled Loose 1:00 A.M." " Out of Hole 1:30 A.M.All plus winch pull downWeight: Set on Packer nil Thousand Lbs.; To Pull Packer Loose nil Thousand Lbs.No. Lines 6 Size Line 3/4When tool was opened: Was blow noticeable, Yes X No       ; Air Displaced, Yes X No       Did mud level drop in casing; Yes        No XGas Flow: nil Thousand cf/day. Measured with Pitot tube by       Estimated by       Size riser: 2 inches, I.D.; Was flare lit, Yes        No X; Length of flame        feetTotal fluid in drill pipe:        Stands 50 Feet 0.37 Bbls.Oil in drill pipe        { Gassy }        Stands        Feet        Bbls.Mud in drill pipe        { Dead }        Stands        Feet        Bbls.Water in drill pipe        { Gassy }        Stands 50 Feet 0.37 Bbls.

Note: Samples of Oil and Water must be taken.

Samples sent to Killick By YakinishynWater: Salty, Sulphur, Brackish, Fresh. (Cross out terms that do not apply.)Remarks: Good initial puff followed by fair blow for 2 mins. decreasing to faint heading blow for 1 hr. increasing to weak steady blow dying at end of test.  
Put additional remarks or other information on back of sheet.Present at test: Routledge, Yakinishyn, Ezelle, Weber and crew.Do you consider that test was satisfactory? Yes X No       Does chart show normal operation of tester? Yes none run No       Pressure on chart (Hydrostatic) before tester opened        p.s.i." " " (Flowing) with tester open        p.s.i. (shut in)        p.s.i.Is chart attached: Yes        No        Who has it

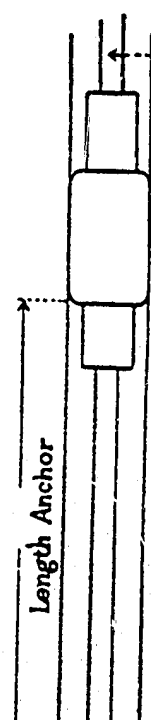
## Drill Stem Test Report

October 31, 1952.

Date

Name of Well **N. W. T. Deep Bay #4**Test No. **4**Testing Company **General Petroleum Dowell Rental**Operator **J. E. Routledge**

Operator



Size Drill Pipe **3 1/2** inches O.D.  
**13.3** #/ foot

Bottom of Rubber  
 at **235** feet

O.D. of Packer Rubber **6"** Size Choke **3/8"**

Type of Packer: Anchor Type **X** Hookwall

Formation Tested **Slave Point**

Depth of Well **242**

Zone Tested: From **235** To **242**

Time Waiting on Tester **nil**

Mud: API Viscosity **40** Gel. **43** Weight **9.8**

Time Tester started in hole **3:30 A.M.**  
**5:45 A.M.**

" " On Bottom **5:45 A.M.**

" " Opened **7:45 A.M.**

" " Closed **7:45 A.M.**

" " Pulled Loose **8:15 A.M.**

" " Out of Hole **nil**

7.0

Length Anchor

Depth **242** feet

**All plus winch pull down**

Weight: Set on Packer **6** Thousand Lbs.; To Pull Packer Loose **nil** Thousand Lbs.

No. Lines **6** Size Line **3/4"**

When tool was opened: Was blow noticeable, Yes **X** No **X**; Air Displaced, Yes **X** No **X**

Did mud level drop in casing; Yes **nil** No **nil**

Gas Flow: **nil** Thousand cf/day. Measured with Pitot tube by

Estimated by

Size riser: **2** inches, I.D.; Was flare lit, Yes **X** No **X**; Length of flame **0.3** feet

Total fluid in drill pipe: **40** Stands **0.3** Feet **3bbls.**

Oil in drill pipe { Gassy } Stands **0.3** Feet **3bbls.**  
 { Dead }

Mud in drill pipe { Gassy } Stands **0.3** Feet **3bbls.**  
 { Dead } **Oil-cut, muddy**

Water in drill pipe { Gassy } Stands **0.3** Feet **3bbls.**  
 { Dead }

Note: Samples of Oil and Water must be taken.

Samples sent to **Killick** By **Yakimishyn**

Water: ~~Sulphur~~ ~~Brine~~ Fresh. (Cross out terms that do not apply.)

Remarks: **Good initial puff followed by weak steady flow throughout test**

Put additional remarks or other information on back of sheet.

Present at test: **Routledge, Yakimishyn, Weber and Crew.**

Do you consider that test was satisfactory? Yes **X** No

Does chart show normal operation of tester? Yes **none run** No

Pressure on chart (Hydrostatic) before tester opened **-** p.s.i.

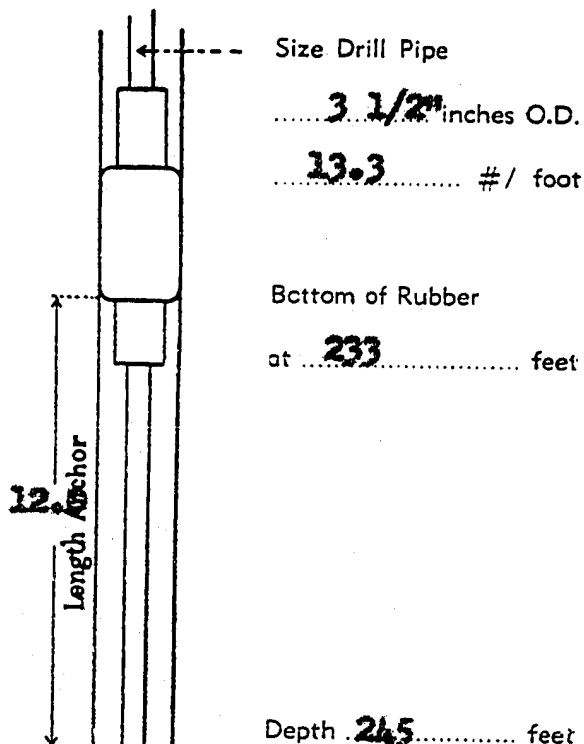
" " (Flowing) with tester open **-** p.s.i. (shut in) p.s.i.

Is chart attached: Yes No Who has it

**J. E. Routledge**

Engineer/Toolpusher

## Drill Stem Test Report

Date **October 31, 1952.**Name of Well **N.W.T. Deep Bay #1**Test No. **5**Testing Company **General Petroleum Dowell Rental**Operator **J. E. Routledge**O.D. of Packer Rubber **6"** Size Choke **3/8"**Type of Packer: Anchor Type **X** HookwallFormation Tested **Slave Point**Depth of Well **245**Zone Tested: From **233** To **245**Time Waiting on Tester **nil**Mud: API Viscosity **40** Gel. **43** Weight **9.8**Time Tester started in hole **11:00 A.M.**" " On Bottom **12:00 P.M.**" " Opened **12:00 P.M.**" " Closed **1:00 P.M.**" " Pulled Loose **1:00 P.M.**" " Out of Hole **1:30 P.M.**Depth **245** feet**All plus winch pull down**Weight: Set on Packer **6** Thousand Lbs.; To Pull Packer Loose **nil** Thousand Lbs.No. Lines **6** Size Line **3/4**When tool was opened: Was blow noticeable, Yes **X** No **;** Air Displaced, Yes **X** NoDid mud level drop in casing; Yes **X** No **X**Gas Flow: **nil** Thousand cf/day. Measured with Pitot tube by

Estimated by

Size riser: **2** inches, I.D.; Was flare lit, Yes **No** **X**; Length of flame **0.3** feetTotal fluid in drill pipe: Stands **40** Feet **0.3** Bbls.Oil in drill pipe { Gassy } Stands Feet Bbls.  
                                  { Dead }Mud in drill pipe { Gassy } Stands Feet Bbls.  
                                  { Dead }Water in drill pipe { Gassy } **slightly sulphurous** Stands **40** Feet **0.3** Bbls.  
                                  { Dead }

Note: Samples of Oil and Water must be taken.

Samples sent to **C. E. Killick** By **M. L. Yakimishyn**  
Water: **slightly brackish** (Cross out terms that do not apply.)Remarks: **Good initial puff followed by weak air blow decreasing to nil after 1/2 hour**  
Put additional remarks or other information on back of sheet.Present at test: **J. E. Routledge, M. L. Yakimishyn, R. Enslie and Crew**Do you consider that test was satisfactory? Yes **X** NoDoes chart show normal operation of tester? Yes **none run** NoPressure on chart (Hydrostatic) before tester opened **---** p.s.i." " " (Flowing) with tester open **---** p.s.i. (shut in) **---** p.s.i.Is chart attached: Yes **No** Who has it

# Drill Stem Test Report

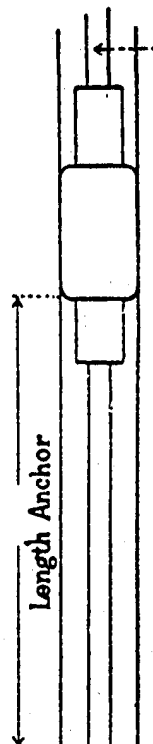
Date **November 2, 1952**

Name of Well **N.W.T. Deep Bay #4**

Test No. **6**

Testing Company **General Petroleum Dowell Rental**

Operator **J. E. Routledge**



Size Drill Pipe  
**3 1/2** inches O.D.  
**13.3** #/ foot

Bottom of Rubber  
at **258.4** feet

Depth **295** feet

O.D. of Packer Rubber **6"** Size Choke **3/8"**

Type of Packer: Anchor Type **X** Hookwall

Formation Tested **Slave Point**

Depth of Well **295**

Zone Tested: From **258.4** To **295**

Time Waiting on Tester **nil**

Mud: API Viscosity **40** Gel. **43** Weight **9.2**

Time Tester started in hole **12:00 A.M.**

" " On Bottom **1:15 A.M.**

" " Opened **1:15 A.M.**

" " Closed **3:15 A.M.**

" " Pulled Loose **3:15 A.M.**

" " Out of Hole **4:15 A.M.**

36.6

**All plus winch pull down**

Weight: Set on Packer **nil** Thousand Lbs.; To Pull Packer Loose **nil** Thousand Lbs.

No. Lines **6** Size Line **3/4**

When tool was opened: Was blow noticeable, Yes **X** No ; Air Displaced, Yes **X** No

Did mud level drop in casing; Yes No **X**

Gas Flow: **nil** Thousand cf/day. Measured with Pitot tube by

Estimated by

Size riser: **2** inches, I.D.; Was flare lit, Yes No **X**; Length of flame feet

Total fluid in drill pipe: Stands **15** Feet **0.11** Bbls.

Oil in drill pipe { Gassy Dead } Stands Feet Bbls.

Mud in drill pipe { Gassy Dead } **Drilling** Stands **15** Feet **0.11** Bbls.

Water in drill pipe { Gassy Dead } Stands Feet Bbls.

Note: Samples of Oil and Water must be taken.

Samples sent to **G. H. Killick** By **M. L. Yakimishyn**

Water: Salty Sulphur Brackish Fresh (Cross out terms that do not apply.)

Remarks: **Fair initial puff followed by weak air blow died after 5 mins.**  
Put additional remarks or other information on back of sheet.

Present at test: **Routledge, Yakimishyn, Weber and Crew**

Do you consider that test was satisfactory? Yes **X** No

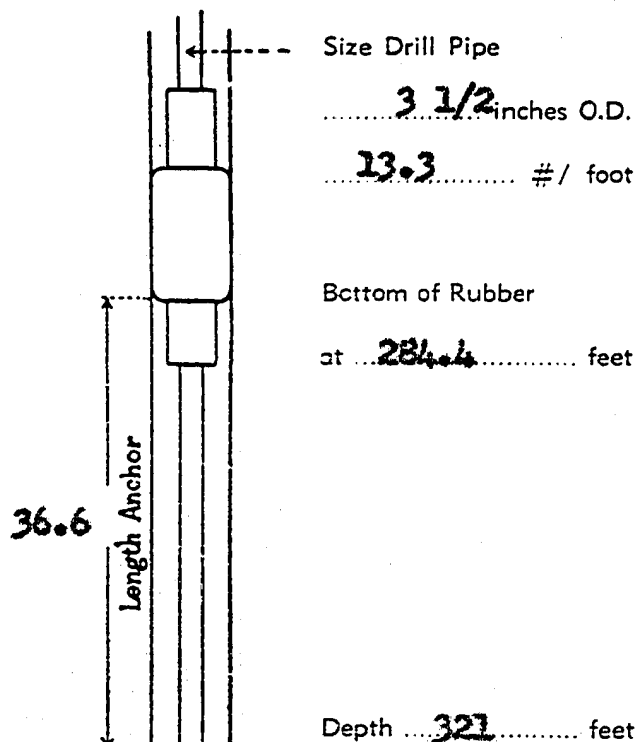
Does chart show normal operation of tester? Yes **None run** No

Pressure on chart (Hydrostatic) before tester opened p.s.i.

" " (Flowing) with tester open p.s.i. (shut in) p.s.i.

Is chart attached: Yes No Who has it

## Drill Stem Test Report

Date November 2, 1952.Name of Well N.W.T. Deep Bay #4Test No. 7Testing Company General Petroleum (Dowell Rental)Operator J. E. Routledge

Size Drill Pipe

3 1/2 inches O.D.13.3 #/ foot

Bottom of Rubber

at 284.4 feetDepth 321 feetAll plus winch pull downWeight: Set on Packer ..... Thousand Lbs.; To Pull Packer Loose nil ..... Thousand Lbs.No. Lines 6Size Line 3/4"When tool was opened: Was blow noticeable, Yes X No .....; Air Displaced, Yes X No .....Did mud level drop in casing; Yes ..... No XGas Flow: nil ..... Thousand cf/day. Measured with Pitot tube by .....

Estimated by .....

Size riser: 2 inches, I.D.; Was flare lit, Yes ..... No X; Length of flame ..... feetTotal fluid in drill pipe: ..... Stands 320 Feet 2.37 Bbls.

Oil in drill pipe { Gassy } ..... Stands ..... Feet ..... Bbls.

Mud in drill pipe { Dead } ..... Stands ..... Feet ..... Bbls.

Water in drill pipe { Gassy } ..... Stands ..... Feet ..... Bbls.

Note: Samples of Oil and Water must be taken.

Samples sent to G. H. Killick By M. L. TakimishynWater: Salty, Sulphur, Brackish, Fresh (Cross out terms that do not apply.)Remarks: Good initial puff followed by good air blow decreasing to weak at end of test.  
Put additional remarks or other information on back of sheet.Present at test: Takimishyn, Routledge, Enalis and CrewDo you consider that test was satisfactory? Yes X No .....Does chart show normal operation of tester? Yes None run No .....

Pressure on chart (Hydrostatic) before tester opened ..... p.s.i.

" " " (Flowing) with tester open ..... p.s.i. (shut in) ..... p.s.i.

Is chart attached: Yes ..... No ..... Who has it .....

# Drill Stem Test Report

Date **November 3, 1952**

Name of Well **M.N.T. Deep Bay #4**

Test No. **3**

Testing Company **General Petroleum Dowell Rental**

Operator J. E. Routledge

Size Drill Pipe  
3 1/2 inches O.D.  
13.3 #/ foot

O.D. of Packer Rubber ..... 6" Size Choke 3/8

Type of Packer: Anchor Type X Hookwall

Formation Tested **Slave Point Limestone**

Depth of Well ..... **555**

Zone Tested: From **518.4** To **555**

Time Waiting on Tester ..... **nil**

Mud: API Viscosity 40 Gel. 43 Weight 9.8

Time Tester started in hole ..... **5:25 P.M.**

" " On Bottom 6:00 P.M.

" " Opened 6:00 P.M.

" " Closed 6:30 P.M.

" " Pulled Loose 6:30 P.M.

" " Out of Hole 7:30 P.M.

36.6

Length Anchor

Bttom of Rubber

at 518.4 feet

Depth 555 feet

All pipes winch pull down

Weight: Set on Packer ..... Thousand Lbs.; To Pull Packer Loose nil ..... Thousand Lbs.

No. Lines 6 Size Line 3/4

When tool was opened: Was blow noticeable, Yes ☒ No ☐; Air Displaced, Yes ☒ No ☐

Did mud level drop in casing; Yes ..... No ☒

Gas Flow: ..... Thousand cf/day. Measured with Pitot tube by

Estimated by

Size riser: 2 inches, I.D.; Was flare lit, Yes        No X; Length of flame        feet

Total fluid in drill pipe: \_\_\_\_\_ Stands **285** Feet **2.1** Bbls.

|                         |                   |                    |            |            |
|-------------------------|-------------------|--------------------|------------|------------|
| Oil in drill pipe ..... | { Gassy<br>Dead } | ..... Stands ..... | Feet ..... | Bbls. .... |
|                         |                   |                    | Feet ..... | Bbls. .... |

|                         |                   |                    |            |       |
|-------------------------|-------------------|--------------------|------------|-------|
| Mud in drill pipe ..... | { Gassy<br>Dead } | ..... Stands ..... | Feet ..... | Bbls. |
|-------------------------|-------------------|--------------------|------------|-------|

|                     |                                     |                |        |            |      |            |      |
|---------------------|-------------------------------------|----------------|--------|------------|------|------------|------|
| Water in drill pipe | <del>Gassy</del><br><del>Dead</del> | <b>Sulphur</b> | Stands | <b>285</b> | Feet | <b>2.1</b> | Bbls |
|---------------------|-------------------------------------|----------------|--------|------------|------|------------|------|

Note: Samples of Oil and Water must be taken.

Samples sent to G. H. Killip By M. L. Yakimishyn

Water: ~~Iron~~, Sulphur, ~~Calcium~~, ~~Copper~~. (Cross out terms that do not apply.)

Remarks: Fair initial puff followed by good air blow throughout test.

Put additional remarks or other information on back of sheet.

Present at test: Yakimchyn, Routledge, Easlie and Crow

Do you consider that test was satisfactory? Yes.....~~2~~..... No.....

Does chart show normal operation of tester? Yes. None

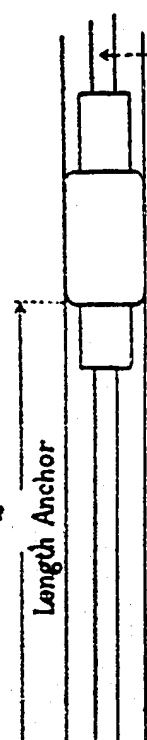
Pressure on chart (Hydrostatic) before tester opened \_\_\_\_\_ p.s.i.

" " " (Flowing) with tester open ..... p.s.i. (shut in) .....

Is chart attached: Yes ..... No. .... Who has it

Engineer/Toolpusher.....J. E. Routledge

# Drill Stem Test Report

Date **November 6, 1952.**Name of Well **N. W. T. Deep Bay #4**Test No. **9**Testing Company **General Petroleum Dowell Rental**Operator **J. E. Routledge**

Size Drill Pipe  
**3 1/2** inches O.D.  
**13.3** #/ foot

Bottom of Rubber  
 at **849.02** feet

Depth **900** feet

**All plus winch pull down**

Weight: Set on Packer ..... Thousand Lbs.; To Pull Packer Loose **nil** ..... Thousand Lbs.

No. Lines **6** Size Line **3/4**

When tool was opened: Was blow noticeable, Yes **x** No .....; Air Displaced, Yes **x** No .....

Did mud level drop in casing; Yes ..... No **x**

Gas Flow: **nil** ..... Thousand cf/day. Measured with Pitot tube by .....

Estimated by .....

Size riser: **2** inches, I.D.; Was flare lit, Yes ..... No **x** ; Length of flame ..... feet

Total fluid in drill pipe: ..... Stands **815** Feet ..... Bbls.

Oil in drill pipe ..... { Gassy } ..... Stands ..... Feet ..... Bbls.  
 { Dead }

Mud in drill pipe ..... { Gassy } ..... Stands ..... Feet ..... Bbls.  
 { Dead }

Water in drill pipe ~~1.00~~ **Sulphur** ..... Stands **815** Feet **6.05** Bbls.  
~~1.00~~

Note: Samples of Oil and Water must be taken.

Samples sent to **Killick** By **Yakimishyn**

Water: ~~Salty~~ ~~Sulphur~~ ~~Brackish~~ ~~Fresh~~ (Cross out terms that do not apply.)

Remarks: **Good initial puff followed by good air blow decreasing to faint at end of test.**  
 Put additional remarks or other information on back of sheet.

Present at test: **Yakimishyn, Routledge, Emalie and Crew**

Do you consider that test was satisfactory? Yes **x** No .....

Does chart show normal operation of tester? Yes **none run** No .....

Pressure on chart (Hydrostatic) before tester opened ..... p.s.i.

" " " (Flowing) with tester open ..... p.s.i. (shut in) ..... p.s.i.

Is chart attached: Yes ..... No ..... Who has it .....

## TIME CORE RECORD

32

| Depth |     | Time O'Clock |       | Time<br>Elapsed<br>Minutes | Remarks                      |
|-------|-----|--------------|-------|----------------------------|------------------------------|
| From  | To  | From         | To    |                            |                              |
| 0     | 5   |              |       |                            |                              |
| 5     | 10  |              |       |                            |                              |
| 10    | 15  |              |       |                            |                              |
| 15    | 20  | 3:30         | 6:50  | 220                        |                              |
| 20    | 25  | 6:50         | 7:55  | 65                         |                              |
| 25    | 30  | 7:55         | 10:00 | 125                        | Picking up DC                |
| 30    | 35  | 10:10        | 10:40 | 30                         |                              |
| 35    | 40  | 10:40        | 11:00 | 20                         |                              |
| 40    | 45  | 11:00        | 11:20 | 20                         |                              |
| 45    | 50  | 11:20        | 11:45 | 25                         |                              |
| 50    | 55  | 11:45        | 12:15 | 30                         |                              |
| 55    | 60  | 12:15        | 12:30 | 15                         | Sample                       |
| 60    | 65  | 12:30        | 1:00  | 30                         |                              |
| 65    | 70  | 1:00         | 1:50  | 50                         | Sample<br>Connection         |
| 70    | 73  | 1:50         | 2:10  | 20                         |                              |
| 73    | 75  | 8:10         | 8:14  | 4                          |                              |
| 75    | 80  | 8:14         | 8:24  | 10                         | Sample                       |
| 80    | 85  | 8:24         | 8:38  | 14                         |                              |
| 85    | 90  | 8:38         | 8:47  | 9                          | Sample                       |
| 90    | 95  | 8:47         | 9:09  | 12                         | Sample<br>Connection 10 min. |
| 100   | 05  | 9:15         | 9:23  | 8                          |                              |
| 5     | 10  | 9:23         | 9:32  | 9                          | Sample                       |
| 110   | 115 | 9:32         | 9:40  | 8                          |                              |
| 15    | 20  | 9:40         | 9:50  | 10                         |                              |

# TIME CORE RECORD (CONT'D)

33

| Depth |     | Time O'Clock |       | Time            | Remarks                 |
|-------|-----|--------------|-------|-----------------|-------------------------|
| From  | To  | From         | To    | Elapsed Minutes |                         |
| 120   | 25  | 9:50         | 10:12 | 10              | Connection - 12 minutes |
| 25    | 30  | 10:12        | 10:20 | 8               |                         |
| 130   | 35  | 10:20        | 10:30 | 10              |                         |
| 35    | 40  | 10:30        | 10:40 | 10              |                         |
| 140   | 45  | 10:40        | 10:50 | 10              |                         |
| 45    | 50  | 10:50        | 11:00 | 10              |                         |
| 150   | 55  | 11:00        | 11:19 | 10              | Connection - 9 minutes  |
| 55    | 60  | 11:19        | 11:26 | 7               |                         |
| 160   | 65  | 11:26        | 11:35 | 9               |                         |
| 65    | 70  | 11:35        | 11:47 | 12              |                         |
| 170   | 75  | 11:47        | 11:55 | 8               |                         |
| 75    | 80  | 11:55        | 12:05 | 10              |                         |
| 180   | 85  | 12:20        | 12:28 | 8               |                         |
| 85    | 90  | 12:28        | 12:33 | 5               |                         |
| 190   | 95  | 12:33        | 12:39 | 6               |                         |
| 95    | 200 | 12:39        | 12:52 | 13              |                         |
| 200   | 1   | 12:52        | 12:57 | 5               |                         |
| 1     | 2   | 12:57        | 12:59 | 2               |                         |
| 2     | 3   | 12:59        | 1:01  | 2               |                         |
| 3     | 4   | 1:01         | 1:02  | 1               |                         |
| 4     | 5   | 1:02         | 1:03  | 1               |                         |
| 5     | 6   | 1:03         | 1:04  | 1               |                         |
| 6     | 7   | 1:04         | 1:06  | 2               |                         |
| 7     | 8   | 1:06         | 1:08  | 2               |                         |
| 8     | 9   | 1:08         | 1:10  | 2               |                         |
| 9     | 10  | 1:10         | 1:12  | 2               |                         |

TIME CORING RECORD (CONT'D)

| From | Depth<br>To | Time O'Clock |      | Time<br>Elapsed<br>Minutes | Remarks    |
|------|-------------|--------------|------|----------------------------|------------|
|      |             | From         | To   |                            |            |
| 210  | 11          | 1:12         | 1:14 | 2                          |            |
| 11   | 12          | 1:14         | 1:16 | 2                          | Connection |
| 12   | 13          | 1:24         | 1:26 | 2                          |            |
| 13   | 14          | 1:26         | 1:27 | 1                          |            |
| 14   | 15          | 1:27         | 1:28 | 1                          |            |
| 15   | 16          | 1:28         | 1:29 | 1                          |            |
| 16   | 17          | 1:29         | 1:30 | 1                          |            |
| 17   | 18          | 1:30         | 1:31 | 1                          |            |
| 18   | 19          | 1:31         | 1:32 | 1                          |            |
| 19   | 20          | 1:32         | 1:34 | 2                          |            |
| 220  | 21          | 1:34         | 1:35 | 1                          |            |
| 21   | 22          | 1:35         | 1:36 | 1                          |            |
| 22   | 23          | 1:36         | 1:37 | 1                          |            |
| 23   | 24          | 1:37         | 1:39 | 2                          |            |
| 24   | 25          | 1:39         | 1:41 | 2                          |            |
| 25   | 26          | 1:41         | 1:43 | 2                          |            |
| 26   | 27          | 1:43         | 1:44 | 1                          |            |
| 27   | 28          | 1:44         | 1:46 | 2                          |            |
| 28   | 29          | 1:46         | 1:48 | 2                          |            |
| 29   | 30          | 1:48         | 1:50 | 2                          |            |
| 230  | 31          | 1:50         | 1:52 | 2                          |            |
| 31   | 32          | 1:52         | 1:54 | 2                          |            |
| 32   | 33          | 1:54         | 2:03 | 9                          |            |
| 33   | 34          | 2:03         | 2:11 | 8                          |            |
| 34   | 35          | 4:30         | 4:32 | 2                          | Core. #1   |

TIME CORING RECORD (CONT'D)

| From | Depth<br>% | Time O'Clock<br>From | To   | Time<br>Elapsed<br>Minutes | Remarks |
|------|------------|----------------------|------|----------------------------|---------|
| 35   | 36         | 4:32                 | 4:36 | 4                          |         |
| 36   | 37         | 5:21                 | 5:24 | 3                          | Core #2 |
| 37   | 38         | 5:24                 | 5:25 | 1                          |         |
| 38   | 39         | 5:25                 | 5:26 | 1                          |         |
| 39   | 40         |                      |      |                            |         |
| 239  | 240        | 2:21                 | 2:25 | 4                          | Core #3 |
| 40   | 41         | 2:25                 | 2:30 | 5                          |         |
| 41   | 42         | 2:30                 | 2:35 | 5                          |         |
| 42   | 43         | 9:27                 | 9:32 | 5                          |         |
| 43   | 44         | 9:44                 | 9:48 | 4                          | Core #4 |
| 44   | 245        | 9:48                 | 9:52 | 5                          |         |
| 245  | 46         | 2:05                 | 2:09 | 4                          | Core #5 |
| 46   | 47         | 2:09                 | 2:14 | 5                          |         |
| 47   | 48         | 2:14                 | 2:19 | 5                          |         |
| 48   | 49         | 3:05                 | 3:09 | 4                          | Core #6 |
| 49   | 250        | 3:09                 | 3:13 | 4                          |         |
| 250  | 51         | 3:13                 | 3:16 | 3                          |         |
| 51   | 52         | 3:16                 | 3:20 | 8                          |         |
| 52   | 53         | 3:20                 | 3:22 | 2                          |         |
| 53   | 54         | 4:10                 | 4:14 | 4                          | Core #7 |
| 54   | 255        | 4:14                 | 4:17 | 3                          |         |
| 255  | 56         | 4:17                 | 4:20 | 3                          |         |
| 56   | 57         | 4:20                 | 4:23 | 3                          |         |
| 57   | 58         | 4:23                 | 4:27 | 4                          |         |
| 58   | 59         | 4:27                 | 4:31 | 4                          |         |
| 59   | 260        | 4:31                 | 4:36 | 5                          |         |

# TIMS CORING RECORD (CONT'D)

36

| From | Depth | To | Time O'Clock |       | Time Elapsed<br>Minutes | Remarks |
|------|-------|----|--------------|-------|-------------------------|---------|
|      |       |    | From         | To    |                         |         |
| 260  | 61    | 62 | 4:36         | 4:40  | 4                       | Core #7 |
| 61   | 62    | 63 | 4:40         | 4:43  | 3                       |         |
| 62   | 63    | 64 | 4:43         | 4:47  | 4                       |         |
| 63   | 64    | 65 | 4:47         | 4:51  | 4                       |         |
| 64   | 65    | 66 | 4:51         | 4:55  | 4                       |         |
| 65   | 66    | 67 | 4:55         | 5:00  | 5                       |         |
| 66   | 67    | 68 | 5:00         | 5:06  | 6                       |         |
| 67   | 68    | 69 | 5:06         | 5:10  | 4                       |         |
| 68   | 69    | 70 | 5:10         | 5:15  | 5                       |         |
| 69   | 70    | 71 | 5:15         | 5:20  | 5                       |         |
| 70   | 71    | 72 | 5:20         | 5:25  | 5                       |         |
| 71   | 72    | 73 | 5:25         | 5:30  | 5                       |         |
| 72   | 73    | 74 | 5:30         | 5:36  | 6                       |         |
| 73   | 74    | 75 | 5:36         | 5:42  | 6                       |         |
| 74   | 75    | 76 | 9:33         | 9:39  | 6                       | Core #8 |
| 75   | 76    | 77 | 9:39         | 9:43  | 4                       |         |
| 76   | 77    | 78 | 9:43         | 9:47  | 4                       |         |
| 77   | 78    | 79 | 9:47         | 9:53  | 6                       |         |
| 78   | 79    | 80 | 9:53         | 9:57  | 4                       |         |
| 79   | 80    | 81 | 9:57         | 10:01 | 4                       |         |
| 260  | 81    | 82 | 10:01        | 10:05 | 4                       | Core #8 |
| 81   | 82    | 83 | 10:05        | 10:09 | 4                       |         |
| 82   | 83    | 84 | 10:09        | 10:13 | 4                       |         |
| 83   | 84    | 85 | 10:13        | 10:18 | 4                       |         |
| 84   | 85    |    | 10:18        | 10:22 | 4                       |         |

# TIME CORE RECORD (CONT'D)

37

| From | Depth | To  | Time of Clock |       | Time Elapsed<br>Minutes | Remarks  |
|------|-------|-----|---------------|-------|-------------------------|----------|
|      |       |     | From          | To    |                         |          |
| 85   |       | 86  | 10:22         | 10:26 | 4                       |          |
| 86   |       | 87  | 10:26         | 10:30 | 4                       |          |
| 87   |       | 88  | 10:30         | 10:35 | 5                       |          |
| 88   |       | 89  | 10:35         | 10:39 | 4                       |          |
| 89   |       | 90  | 10:39         | 10:43 | 4                       |          |
| 290  |       | 91  | 10:43         | 10:46 | 3                       |          |
| 91   |       | 92  | 10:46         | 10:49 | 3                       |          |
| 92   |       | 93  | 10:49         | 10:51 | 2                       |          |
| 93   |       | 94  | 10:51         | 10:53 | 2                       |          |
| 94   |       | 95  | 10:53         | 10:56 | 3                       |          |
| 295  |       | 296 | 5:40          | 5:45  | 5                       | Core #9  |
| 96   |       | 97  | 5:45          | 5:51  | 6                       |          |
| 97   |       | 98  | 5:51          | 5:57  | 6                       |          |
| 98   |       | 99  | 5:57          | 6:02  | 5                       |          |
| 99   |       | 300 | 6:02          | 6:08  | 6                       |          |
| 300  |       | 01  | 6:08          | 6:12  | 4                       |          |
| 01   |       | 02  | 6:12          | 6:16  | 4                       |          |
| 2    |       | 3   | 6:16          | 6:21  | 5                       |          |
| 3    |       | 4   | 6:21          | 6:25  | 4                       |          |
| 4    |       | 5   | 6:25          | 6:28  | 3                       | 8"<br>4" |
| 4    |       | 5   | 6:34          | 6:36  | 2                       |          |
| 5    |       | 6   | 6:36          | 6:41  | 5                       |          |
| 6    |       | 7   | 6:41          | 6:47  | 6                       |          |
| 7    |       | 8   | 6:47          | 6:53  | 6                       |          |
| 8    |       | 9   | 6:53          | 6:59  | 6                       |          |
| 309  |       | 310 | 6:59          | 7:04  | 5                       |          |

# TIME CORE RECORD (CONT'D)

30

| Depth |     | Time O'Clock |      | Time Elapsed | Remarks  |
|-------|-----|--------------|------|--------------|----------|
| From  | To  | From         | To   | Minutes      |          |
| 10    | 11  | 7:04         | 7:07 | 3            |          |
| 11    | 12  | 7:07         | 7:10 | 3            |          |
| 12    | 13  | 7:10         | 7:15 | 5            |          |
| 13    | 14  | 7:15         | 7:20 | 5            |          |
| 14    | 15  | 7:20         | 7:25 | 5            |          |
| 15    | 16  | 7:25         | 7:31 | 6            |          |
| 316   | 317 | 7:31         | 7:37 | 6            |          |
| 317   | 18  | 7:37         | 7:41 | 4            | Core #9  |
| 18    | 19  | 7:41         | 7:46 | 5            |          |
| 19    | 20  | 7:46         | 7:52 | 6            |          |
| 320   | 21  | 7:52         | 7:58 | 6            |          |
| 21    | 22  | 3:05         | 3:11 | 6            | Core #10 |
| 22    | 23  | 3:11         | 3:14 | 3            |          |
| 23    | 24  | 3:14         | 3:16 | 2            |          |
| 24    | 25  | 3:16         | 3:18 | 2            |          |
| 25    | 26  | 3:18         | 3:20 | 2            |          |
| 26    | 27  | 3:20         | 3:21 | 1            |          |
| 27    | 28  | 3:21         | 3:22 | 1            |          |
| 28    | 29  | 3:29         | 3:30 | 1            |          |
| 29    | 30  | 3:30         | 3:31 | 1            |          |
| 330   | 31  | 4:15         | 4:17 | 2            | Core #11 |
| 331   | 32  | 4:17         | 4:19 | 2            |          |
| 32    | 33  | 4:19         | 4:20 | 1            |          |
| 33    | 34  | 4:20         | 4:22 | 2            |          |
| 34    | 35  | 4:22         | 4:24 | 2            |          |

## TIME CORE RECORD (CONT'D)

39

| Depth |    | Time O'Clock |      | Time<br>Elapsed<br>Minutes | Remarks     |
|-------|----|--------------|------|----------------------------|-------------|
| From  | To | From         | To   |                            |             |
| 35    | 36 | 4:29         | 4:32 | 3                          |             |
| 36    | 37 | 4:32         | 4:35 | 3                          |             |
| 37    | 38 | 4:35         | 4:39 | 4                          |             |
| 38    | 39 | 4:39         | 4:42 | 3                          |             |
| 339   | 40 | 4:42         | 4:45 | 3                          | Core #11    |
| 40    | 41 | 4:45         | 4:49 | 4                          |             |
| 41    | 42 | 4:49         | 4:55 | 5                          | 2' Interval |
| 42    | 44 | 4:55         | 4:52 | 2                          |             |
| 44    | 45 | 4:52         | 4:59 | 2                          |             |
| 45    | 46 | 4:59         | 5:00 | 1                          |             |
| 46    | 47 | 5:00         | 5:01 | 1                          |             |
| 47    | 48 | 5:01         | 5:04 | 3                          |             |
| 48    | 49 | 5:04         | 5:07 | 3                          |             |
| 49    | 50 | 5:07         | 5:09 | 2                          |             |
| 50    | 51 | 5:09         | 5:12 | 3                          |             |
| 51    | 52 | 5:12         | 5:14 | 2                          |             |
| 52    | 53 | 5:14         | 5:17 | 3                          |             |
| 53    | 54 | 5:17         | 5:20 | 3                          |             |
| 54    | 55 | 5:20         | 5:24 | 4                          |             |
| 55    | 56 | 6:03         | 6:08 | 5                          | Core #12    |
| 56    | 57 | 6:08         | 6:13 | 5                          |             |
| 57    | 58 | 6:13         | 6:16 | 3                          |             |
| 58    | 59 | 6:16         | 6:19 | 3                          |             |
| 59    | 60 | 6:19         | 6:22 | 3                          |             |
| 360   | 61 | 6:22         | 6:24 | 2                          | Core #12    |

TIME CORE REPORT (CONT'D)

| Depth |    | Time O'Clock |      | Time Elapsed | Remarks  |
|-------|----|--------------|------|--------------|----------|
| From  | To | From         | To   | Minutes      |          |
| 62    | 63 | 6:26         | 6:28 | 2            |          |
| 63    | 64 | 6:28         | 6:30 | 2            |          |
| 64    | 65 | 6:30         | 6:32 | 2            |          |
| 65    | 66 | 6:39         | 6:41 | 2            |          |
| 66    | 67 | 6:41         | 6:43 | 2            |          |
| 67    | 68 | 6:43         | 6:45 | 2            |          |
| 68    | 69 | 6:45         | 6:47 | 2            |          |
| 69    | 70 | 6:47         | 6:49 | 2            |          |
| 370   | 71 | 6:49         | 6:51 | 2            |          |
| 71    | 72 | 6:51         | 6:53 | 2            |          |
| 72    | 73 | 6:53         | 6:55 | 2            |          |
| 73    | 74 | 6:55         | 6:57 | 2            |          |
| 74    | 75 | 6:57         | 6:59 | 2            |          |
| 75    | 76 | 6:59         | 7:01 | 2            |          |
| 76    | 77 | 7:01         | 7:03 | 2            |          |
| 77    | 78 | 7:03         | 7:05 | 2            |          |
| 78    | 79 | 7:05         | 7:07 | 2            |          |
| 79    | 80 | 7:07         | 7:13 | 6            |          |
| 380   | 81 | 7:49         | 7:53 | 4            | Core #13 |
| 81    | 82 | 7:53         | 7:57 | 4            |          |
| 82    | 83 | 7:57         | 8:00 | 3            |          |
| 83    | 84 | 8:00         | 8:04 | 4            |          |
| 84    | 85 | 8:04         | 8:09 | 5            |          |
| 85    | 86 | 8:09         | 8:12 | 3            |          |
| 86    | 87 | 8:12         | 8:13 | 1            |          |
| 87    | 88 | 8:13         | 8:14 | 1            |          |

TIME CORE REPORT (CONT'D)

| From | Depth | Time O'Clock |       | Time<br>Elapsed<br>Minutes | Remarks  |
|------|-------|--------------|-------|----------------------------|----------|
|      |       | From         | To    |                            |          |
| 88   | 89    | 8:14         | 8:15  | 1                          |          |
| 89   | 90    | 8:15         | 8:17  | 2                          |          |
| 390  | 91    | 8:17         | 8:19  | 2                          |          |
| 91   | 92    | 8:19         | 8:20  | 1                          |          |
| 92   | 93    | 8:20         | 8:22  | 2                          |          |
| 93   | 94    | 8:22         | 8:24  | 2                          |          |
| 94   | 95    | 8:24         | 8:27  | 3                          |          |
| 95   | 96    | 8:27         | 8:30  | 3                          |          |
| 96   | 97    | 8:34         | 8:37  | 3                          |          |
| 97   | 98    | 8:37         | 8:39  | 2                          |          |
| 98   | 99    | 8:39         | 8:41  | 2                          |          |
| 99   | 400   | 8:41         | 8:44  | 3                          |          |
| 400  | 1     | 8:44         | 8:46  | 2                          | Core #13 |
| 1    | 2     | 8:46         | 8:49  | 3                          |          |
| 2    | 3     | 8:49         | 8:52  | 3                          |          |
| 3    | 4     | 8:52         | 8:57  | 5                          |          |
| 4    | 5     | 8:57         | 9:02  | 5                          |          |
| 5    | 6     | 9:45         | 9:49  | 4                          |          |
| 6    | 7     | 9:49         | 9:53  | 4                          | Core #14 |
| 7    | 8     | 9:53         | 9:56  | 3                          |          |
| 8    | 9     | 9:56         | 10:00 | 4                          |          |
| 9    | 10    | 10:00        | 10:03 | 3                          |          |
| 410  | 11    | 10:03        | 10:06 | 3                          |          |
| 11   | 12    | 10:06        | 10:09 | 3                          |          |
| 12   | 13    | 10:09        | 10:13 | 4                          |          |

TIME CORE REPORT (CONT'D)

42

| Depth |    | Time O'Clock |       | Time               | Remarks                |
|-------|----|--------------|-------|--------------------|------------------------|
| From  | To | From         | To    | Elapsed<br>Minutes |                        |
| 13    | 14 | 10:13        | 10:16 | 4                  |                        |
| 14    | 15 | 10:16        | 10:19 | 3                  |                        |
| 15    | 16 | 10:19        | 10:22 | 3                  |                        |
| 16    | 17 | 10:23        | 10:26 | 3                  |                        |
| 17    | 18 | 10:26        | 10:29 | 3                  |                        |
| 18    | 19 | 10:29        | 10:32 | 3                  |                        |
| 19    | 20 | 10:32        | 10:37 | 5                  |                        |
| 420   | 21 | 10:37        | 10:42 | 5                  | Core #14               |
| 21    | 22 | 10:42        | 10:46 | 4                  |                        |
| 22    | 23 | 10:46        | 10:50 | 4                  |                        |
| 23    | 24 | 10:50        | 10:54 | 4                  |                        |
| 24    | 25 | 10:54        | 10:58 | 4                  |                        |
| 25    | 26 | 10:58        | 11:02 | 4                  | Connection - 6 minutes |
| 26    | 27 | 11:08        | 11:14 | 6                  |                        |
| 27    | 28 | 11:14        | 11:19 | 5                  |                        |
| 28    | 29 | 11:19        | 11:24 | 4                  |                        |
| 29    | 30 | 11:24        | 11:28 | 4                  |                        |
| 430   | 31 | 1:20         | 1:24  | 4                  | Core #15               |
| 31    | 32 | 1:24         | 1:26  | 2                  |                        |
| 32    | 33 | 1:26         | 1:31  | 5                  |                        |
| 33    | 34 | 1:31         | 1:35  | 4                  |                        |
| 34    | 35 | 1:35         | 1:40  | 5                  |                        |
| 35    | 36 | 1:40         | 1:45  | 5                  |                        |
| 36    | 37 | 1:45         | 1:49  | 4                  |                        |
| 37    | 38 | 1:49         | 1:54  | 5                  |                        |

TIME CORE RECORD (CONT'D)

| Depth |     | Time O'Clock |      | Time               | Remarks  |
|-------|-----|--------------|------|--------------------|----------|
| From  | To  | From         | To   | Elapsed<br>Minutes |          |
| 38    | 39  | 1:54         | 1:57 | 3                  |          |
| 39    | 40  | 1:57         | 2:00 | 3                  |          |
| 40    | 41  | 2:00         | 2:04 | 4                  |          |
| 41    | 42  | 2:04         | 2:09 | 5                  |          |
| 442   | 443 | 2:09         | 2:15 | 6                  | Core #15 |
| 43    | 44  | 2:15         | 2:21 | 6                  |          |
| 44    | 445 | 2:21         | 2:26 | 5                  |          |
| 445   | 46  | 2:26         | 2:31 | 5                  |          |
| 46    | 47  | 2:31         | 2:36 | 5                  |          |
| 47    | 48  | 2:36         | 2:42 | 6                  |          |
| 48    | 49  | 2:42         | 2:48 | 6                  |          |
| 49    | 450 | 2:48         | 2:53 | 5                  |          |
| 450   | 51  | 2:53         | 2:59 | 6                  |          |
| 51    | 52  | 2:59         | 3:04 | 5                  |          |
| 52    | 53  | 3:04         | 3:09 | 5                  |          |
| 53    | 54  | 3:09         | 3:15 | 6                  |          |
| 54    | 455 | 3:15         | 3:20 | 5                  |          |
| 455   | 56  | 4:22         | 4:27 | 5                  | Core #16 |
| 56    | 57  | 4:27         | 4:33 | 6                  |          |
|       |     | 4:33         | 4:35 | 2                  |          |
| 57    | 58  | 4:40         | 4:44 | 4                  |          |
| 58    | 59  | 4:44         | 4:50 | 6                  |          |
| 59    | 460 | 4:50         | 4:54 | 4                  |          |
| 460   | 61  | 4:54         | 4:58 | 4                  |          |
| 61    | 62  | 4:58         | 5:01 | 3                  |          |
| 62    | 63  | 5:01         | 5:05 | 4                  |          |

TIME CORE RECORD (CONT'D)

44

| Depth |     | Time of Clock |      | Time Elapsed | Remarks  |
|-------|-----|---------------|------|--------------|----------|
| From  | To  | From          | To   | Minutes      |          |
| 63    | 64  | 5:05          | 5:08 | 3            |          |
| 464   | 465 | 5:08          | 5:12 | 4            | Core #16 |
| 65    | 66  | 5:12          | 5:17 | 5            |          |
| 66    | 67  | 5:17          | 5:22 | 5            |          |
| 67    | 68  | 5:22          | 5:27 | 5            |          |
| 68    | 69  | 5:27          | 5:32 | 5            |          |
| 69    | 70  | 5:32          | 5:37 | 5            |          |
| 470   | 71  | 5:37          | 5:42 | 5            |          |
| 71    | 72  | 5:42          | 5:46 | 4            |          |
| 72    | 73  | 5:46          | 5:50 | 4            |          |
| 73    | 74  | 5:50          | 5:55 | 5            |          |
| 74    | 75  | 5:55          | 5:59 | 4            |          |
| 75    | 76  | 5:59          | 6:03 | 4            |          |
| 76    | 77  | 6:03          | 6:08 | 5            |          |
| 77    | 78  | 6:08          | 6:12 | 4            |          |
| 78    | 79  | 6:12          | 6:16 | 4            |          |
| 79    | 80  | 6:16          | 6:21 | 5            |          |
| 480   | 481 | 7:45          | 7:50 | 5            | Core #17 |
| 81    | 82  | 7:50          | 7:53 | 3            |          |
| 82    | 83  | 7:53          | 7:57 | 4            |          |
| 83    | 84  | 7:57          | 8:01 | 4            |          |
| 84    | 85  | 8:01          | 8:05 | 4            |          |
| 85    | 86  | 8:05          | 8:10 | 5            |          |
| 486   | 487 | 8:10          | 8:15 | 5            |          |

# WIRE CORE RECORD (CONT'D)

45

| Depth |     | Time O'Clock |       | Time Elapsed | Remarks  |
|-------|-----|--------------|-------|--------------|----------|
| From  | To  | From         | To    | Minutes      |          |
| 87    | 88  | 8:15         | 8:26  | 2            | Core #17 |
| 88    | 89  | 8:26         | 8:30  | 4            |          |
| 89    | 90  | 8:30         | 8:33  | 3            |          |
| 90    | 91  | 8:33         | 8:37  | 4            |          |
| 91    | 92  | 8:37         | 8:40  | 3            |          |
| 92    | 93  | 8:40         | 8:44  | 4            |          |
| 93    | 94  | 8:44         | 8:48  | 4            |          |
| 94    | 95  | 8:48         | 8:52  | 4            |          |
| 95    | 96  | 8:52         | 8:56  | 4            |          |
| 96    | 97  | 8:56         | 9:00  | 4            |          |
| 97    | 98  | 9:00         | 9:05  | 5            |          |
| 98    | 99  | 9:05         | 9:09  | 4            |          |
| 499   | 500 | 9:09         | 9:13  | 4            |          |
| 500   | 1   | 9:13         | 9:17  | 4            |          |
| 1     | 2   | 9:17         | 9:22  | 5            |          |
| 2     | 3   | 9:22         | 9:26  | 4            |          |
| 3     | 4   | 9:26         | 9:29  | 3            |          |
| 504   | 505 | 9:29         | 9:33  | 4            | Core #18 |
| 505   | 506 | 10:59        | 11:05 | 6            |          |
| 6     | 7   | 11:05        | 11:09 | 4            |          |
| 7     | 8   | 11:09        | 11:12 | 3            |          |
| 8     | 9   | 11:12        | 11:14 | 2            |          |
| 9     | 10  | 11:14        | 11:18 | 4            |          |
| 10    | 11  | 11:18        | 11:21 | 3            |          |
| 11    | 12  | 11:21        | 11:25 | 4            |          |
| 12    | 13  | 11:25        | 11:30 | 5            |          |

TIME CORE RECORD (CONT'D)

| Depth |    | Time O'Clock |       | Time               | Remarks                 |
|-------|----|--------------|-------|--------------------|-------------------------|
| From  | To | From         | To    | Elapsed<br>Minutes |                         |
| 13    | 14 | 11:30        | 11:35 | 5                  |                         |
| 14    | 15 | 11:35        | 11:37 | 6                  |                         |
| 15    | 16 | 11:37        | 11:52 | 5                  | Connection - 10 minutes |
| 16    | 17 | 11:52        | 11:56 | 4                  |                         |
| 17    | 18 | 11:56        | 12:01 | 5                  |                         |
| 18    | 19 | 12:01        | 12:05 | 4                  |                         |
| 519   | 20 | 12:05        | 12:10 | 5                  |                         |
| 520   | 21 | 12:10        | 12:14 | 4                  |                         |
| 21    | 22 | 12:14        | 12:18 | 4                  |                         |
| 22    | 23 | 12:18        | 12:23 | 5                  |                         |
| 23    | 24 | 12:23        | 12:27 | 4                  |                         |
| 24    | 25 | 12:27        | 12:32 | 5                  | Connection - 6 minutes  |
| 525   | 26 | 12:38        | 12:44 | 6                  | Core #13                |
| 26    | 27 | 12:44        | 12:47 | 3                  |                         |
| 27    | 28 | 12:47        | 12:49 | 2                  |                         |
| 28    | 29 | 12:49        | 12:51 | 2                  |                         |
| 29    | 30 | 12:51        | 12:53 | 2                  |                         |
| 530   | 31 | 1:59         | 1:61  | 2                  |                         |
| 31    | 32 | 2:01         | 2:04  | 3                  | Core #19                |
| 32    | 33 | 2:04         | 2:08  | 4                  |                         |
| 33    | 34 | 2:08         | 2:10  | 2                  |                         |
| 34    | 35 | 2:10         | 2:12  | 2                  |                         |
| 35    | 36 | 2:12         | 2:13  | 1                  |                         |
| 36    | 37 | 2:13         | 2:14  | 1                  |                         |
| 37    | 38 | 2:14         | 2:16  | 2                  |                         |

TIME CORRECTION RECORD (CONT'D)

| From | To | Depth | Time of Clock | Time of Clock | Remarks  |
|------|----|-------|---------------|---------------|----------|
| 83   | 84 | 64    | 7:23          | 7:26          |          |
| 84   | 85 | 65    | 7:26          | 7:29          |          |
| 85   | 86 | 66    | 7:29          | 8:01          | Core 420 |
| 86   | 87 | 67    | 8:01          | 8:04          |          |
| 87   | 88 | 68    | 8:04          | 8:07          |          |
| 88   | 89 | 69    | 8:07          | 8:10          |          |
| 89   | 90 | 70    | 8:10          | 8:13          |          |
| 90   | 91 | 71    | 8:13          | 8:16          |          |
| 91   | 92 | 72    | 8:16          | 8:19          |          |
| 92   | 93 | 73    | 8:19          | 8:22          |          |
| 93   | 94 | 74    | 8:22          | 8:25          |          |
| 94   | 95 | 75    | 8:25          | 8:28          |          |
| 95   | 96 | 76    | 8:28          | 8:31          |          |
| 96   | 97 | 77    | 8:31          | 8:34          |          |
| 97   | 98 | 78    | 8:34          | 8:37          |          |
| 98   | 99 | 79    | 8:37          | 8:40          |          |
| 99   | 00 | 80    | 8:40          | 8:43          |          |
| 00   | 01 | 81    | 8:43          | 8:46          |          |
| 01   | 02 | 82    | 8:46          | 8:49          |          |
| 02   | 03 | 83    | 8:49          | 8:52          | Core 421 |
| 03   | 04 | 84    | 8:52          | 8:55          |          |
| 04   | 05 | 85    | 8:55          | 8:58          |          |
| 05   | 06 | 86    | 8:58          | 9:01          |          |
| 06   | 07 | 87    | 9:01          | 9:04          |          |
| 07   | 08 | 88    | 9:04          | 9:07          |          |
| 08   | 09 | 89    | 9:07          | 9:10          |          |
| 09   | 10 | 90    | 9:10          | 9:13          |          |
| 10   | 11 | 91    | 9:13          | 9:16          |          |

LINE CORE RECORD (CONT'D)

| Remarks  | Time Elapsed Minutes | Time O'Clock To | From | Depth To | From |
|----------|----------------------|-----------------|------|----------|------|
|          | 2                    | 2:12            | 2:12 | 39       | 38   |
|          | 2                    | 2:20            | 2:18 | 40       | 39   |
|          | 2                    | 2:22            | 2:20 | 41       | 40   |
|          | 2                    | 2:24            | 2:22 | 42       | 41   |
|          | 2                    | 2:26            | 2:24 | 43       | 42   |
|          | 2                    | 2:28            | 2:26 | 44       | 43   |
|          | 2                    | 2:30            | 2:28 | 45       | 44   |
| CORE #19 | 2                    | 2:32            | 2:30 | 46       | 45   |
|          | 2                    | 2:34            | 2:32 | 47       | 46   |
|          | 2                    | 2:36            | 2:34 | 48       | 47   |
|          | 2                    | 2:38            | 2:36 | 49       | 48   |
|          | 2                    | 2:40            | 2:38 | 50       | 49   |
|          | 2                    | 2:42            | 2:40 | 51       | 50   |
|          | 2                    | 2:44            | 2:42 | 52       | 51   |
|          | 2                    | 2:46            | 2:44 | 53       | 52   |
|          | 3                    | 2:52            | 2:52 | 54       | 53   |
|          | 4                    | 2:59            | 2:52 | 55       | 54   |
| CORE #20 | 4                    | 7:38            | 7:34 | 56       | 55   |
|          | 3                    | 7:41            | 7:38 | 57       | 56   |
|          | 2                    | 7:43            | 7:41 | 58       | 57   |
|          | 2                    | 7:45            | 7:43 | 59       | 58   |
|          | 2                    | 7:47            | 7:45 | 60       | 59   |
|          | 1                    | 7:48            | 7:47 | 61       | 60   |
|          | 2                    | 7:51            | 7:49 | 62       | 61   |
|          | 2                    | 7:53            | 7:51 | 63       | 62   |

TIME CORE RECORD (CONT'D)

49

| Depth |     | Time O'Clock |       | Time Elapsed<br>Minutes | Remarks      |
|-------|-----|--------------|-------|-------------------------|--------------|
| From  | To  | From         | To    |                         |              |
| 88    | 89  | 10:14        | 10:16 | 2                       |              |
| 89    | 90  | 10:16        | 10:19 | 3                       |              |
| 590   | 91  | 10:19        | 10:21 | 2                       |              |
| 91    | 92  | 10:21        | 10:23 | 2                       |              |
| 92    | 93  | 10:23        | 10:26 | 3                       |              |
| 93    | 94  | 10:26        | 10:28 | 2                       |              |
| 94    | 95  | 10:28        | 10:30 | 2                       |              |
| 95    | 96  | 10:30        | 10:32 | 2                       |              |
| 96    | 97  | 10:32        | 10:35 | 3                       |              |
| 97    | 98  | 10:35        | 10:39 | 4                       |              |
| 98    | 99  | 10:39        | 10:44 | 5                       |              |
| 99    | 600 | 10:44        | 10:49 | 5                       |              |
| 600   | 1   | 10:49        | 10:55 | 6                       |              |
| 1     | 2   | 10:55        | 10:58 | 3                       |              |
| 2     | 3   | 10:58        | 11:01 | 3                       |              |
| 3     | 4   | 11:01        | 11:06 | 5                       |              |
| 4     | 5   | 11:06        | 11:12 | 6                       |              |
| 605   | 606 | 1:54         | 1:58  | 4                       | Top Core #22 |
| 6     | 7   | 1:58         | 2:02  | 4                       |              |
| 7     | 8   | 2:02         | 2:06  | 4                       |              |
| 8     | 9   | 2:06         | 2:10  | 4                       |              |
| 9     | 610 | 2:10         | 2:14  | 4                       |              |
| 610   | 11  | 2:14         | 2:19  | 5                       |              |
| 11    | 12  | 2:29         | 2:33  | 4                       |              |
| 12    | 13  | 2:33         | 2:36  | 3                       |              |
| 13    | 14  | 2:36         | 2:40  | 4                       |              |

TIME CORE RECORD (CONT'D)

50

| Depth |     | Time O'Clock |      | Time<br>Elapsed<br>Minutes | Remarks  |
|-------|-----|--------------|------|----------------------------|----------|
| From  | To  | From         | To   |                            |          |
| 14    | 615 | 2:40         | 2:44 | 4                          |          |
| 615   | 16  | 2:44         | 2:48 | 4                          |          |
| 16    | 17  | 2:48         | 2:52 | 4                          |          |
| 17    | 18  | 2:52         | 2:56 | 4                          |          |
| 18    | 19  | 2:56         | 3:01 | 5                          |          |
| 19    | 620 | 3:01         | 3:05 | 4                          |          |
| 620   | 21  | 3:05         | 3:10 | 5                          |          |
| 21    | 22  | 3:10         | 3:15 | 5                          |          |
| 22    | 23  | 3:15         | 3:19 | 4                          |          |
| 23    | 24  | 3:19         | 3:24 | 5                          |          |
| 24    | 625 | 3:24         | 3:29 | 5                          |          |
| 625   | 626 | 3:29         | 3:35 | 6                          |          |
| 626   | 627 | 3:35         | 3:42 | 7                          | Core #22 |
| 627   | 628 | 3:42         | 3:49 | 7                          |          |
| 628   | 629 | 3:49         | 3:55 | 6                          |          |
| 629   | 630 | 3:55         | 4:02 | 7                          |          |
| 30    | 31  | 5:40         | 5:46 | 6                          | Core #23 |
| 31    | 32  | 5:46         | 5:51 | 5                          |          |
| 32    | 33  | 5:51         | 5:56 | 5                          |          |
| 33    | 34  | 5:56         | 6:01 | 5                          |          |
| 34    | 35  | 6:01         | 6:07 | 6                          |          |
| 35    | 36  | 6:07         | 6:13 | 6                          |          |
| 36    | 37  | 6:13         | 6:20 | 7                          |          |
| 37    | 38  | 6:20         | 6:25 | 5                          |          |
| 38    | 39  | 6:25         | 6:30 | 5                          |          |

TIME CORE RECORD (CONT'D)

51

| Depth |     | Time O'Clock |       | Time               | Remarks  |
|-------|-----|--------------|-------|--------------------|----------|
| From  | To  | From         | To    | Elapsed<br>Minutes |          |
| 39    | 40  | 6:30         | 6:37  | 7                  |          |
| 40    | 41  | 6:37         | 6:44  | 7                  |          |
| 41    | 42  | 6:44         | 6:47  | 3                  |          |
|       |     | 6:58         | 7:01  | 3                  |          |
| 42    | 43  | 7:01         | 7:06  | 5                  |          |
| 43    | 44  | 7:06         | 7:12  | 6                  |          |
| 44    | 45  | 7:12         | 7:18  | 6                  |          |
| 45    | 46  | 7:18         | 7:25  | 7                  |          |
| 46    | 47  | 7:25         | 7:31  | 6                  |          |
| 647   | 648 | 7:31         | 7:39  | 7                  |          |
| 648   | 649 | 7:39         | 7:45  | 6                  | Core #23 |
| 49    | 50  | 7:45         | 7:50  | 5                  |          |
| 50    | 51  | 7:50         | 7:57  | 7                  |          |
| 51    | 52  | 7:57         | 8:03  | 6                  |          |
| 52    | 53  | 8:03         | 8:09  | 6                  |          |
| 53    | 54  | 8:09         | 8:17  | 8                  |          |
| 54    | 55  | 8:17         | 8:24  | 7                  |          |
| 55    | 56  | 10:15        | 10:20 | 5                  |          |
| 56    | 57  | 10:20        | 10:25 | 5                  | Core #24 |
| 57    | 58  | 10:25        | 10:30 | 5                  |          |
| 58    | 59  | 10:30        | 10:35 | 5                  |          |
| 659   | 660 | 10:35        | 10:40 | 5                  |          |
| 60    | 61  | 10:40        | 10:44 | 4                  |          |
| 62    | 62  | 10:44        | 10:49 | 5                  |          |
| 62    | 63  | 10:49        | 10:53 | 4                  |          |
| 63    | 64  | 10:53        | 10:59 | 6                  |          |

TIME CONE RECORD (CONT'D)

52

| Depth |     | Time O'Clock |       | Time               | Remarks  |
|-------|-----|--------------|-------|--------------------|----------|
| From  | To  | From         | To    | Elapsed<br>Minutes |          |
| 64    | 65  | 10:59        | 11:03 | 4                  |          |
| 65    | 66  | 11:03        | 11:08 | 5                  |          |
| 66    | 67  | 11:08        | 11:13 | 5                  |          |
| 67    | 68  | 11:13        | 11:19 | 6                  |          |
| 68    | 69  | 11:19        | 11:23 | 4                  |          |
| 669   | 670 | 11:23        | 11:27 | 4                  |          |
| 670   | 671 | 11:27        | 11:32 | 5                  |          |
| 71    | 72  | 11:32        | 11:35 | 3                  |          |
|       |     | 11:35        | 11:37 | 2                  | Core #24 |
| 72    | 73  | 11:37        | 11:41 | 4                  |          |
| 73    | 74  | 11:41        | 11:47 | 6                  |          |
| 74    | 75  | 11:47        | 11:54 | 7                  |          |
| 75    | 76  | 11:54        | 11:59 | 5                  |          |
| 76    | 77  | 11:59        | 12:04 | 5                  |          |
| 77    | 78  | 12:04        | 12:11 | 7                  |          |
| 78    | 79  | 12:11        | 12:18 | 7                  |          |
| 679   | 680 | 12:18        | 12:25 | 7                  |          |
| 680   | 681 | 1:48         | 1:54  | 6                  |          |
| 81    | 82  | 1:54         | 1:59  | 5                  | Core #25 |
| 82    | 83  | 1:59         | 2:03  | 4                  |          |
| 83    | 84  | 2:03         | 2:06  | 3                  |          |
| 84    | 85  | 2:06         | 2:10  | 4                  |          |
| 85    | 86  | 2:10         | 2:13  | 3                  |          |
| 86    | 87  | 2:13         | 2:19  | 6                  |          |
| 87    | 88  | 2:19         | 2:25  | 6                  |          |
| 88    | 89  | 2:25         | 2:29  | 4                  |          |

TIME CORE REPORT (CONT'D)

53

| Depth |     | Time O'Clock |      | Time Elapsed | Remarks                |
|-------|-----|--------------|------|--------------|------------------------|
| From  | To  | From         | To   | Minutes      |                        |
| 89    | 90  | 2:29         | 2:33 | 4            |                        |
| 690   | 91  | 4:00         | 4:05 | 5            |                        |
| 91    | 92  | 4:05         | 4:09 | 4            | Core #26               |
| 92    | 93  | 4:09         | 4:13 | 4            |                        |
| 93    | 94  | 4:13         | 4:19 | 6            |                        |
| 94    | 95  | 4:19         | 4:24 | 5            |                        |
| 95    | 96  | 4:24         | 4:29 | 5            |                        |
| 96    | 97  | 4:29         | 4:35 | 6            |                        |
| 97    | 98  | 4:35         | 4:43 | 8            |                        |
| 98    | 99  | 4:43         | 4:51 | 8            |                        |
| 99    | 700 | 4:51         | 4:56 | 5            |                        |
| 700   | 1   | 4:56         | 5:03 | 7            |                        |
| 1     | 2   | 5:03         | 5:10 | 7            | Connection - 5 minutes |
| 2     | 3   | 5:15         | 5:22 | 7            |                        |
| 3     | 4   | 5:22         | 5:29 | 7            |                        |
| 4     | 5   | 5:29         | 5:35 | 6            |                        |
| 5     | 6   | 5:35         | 5:43 | 8            |                        |
| 6     | 7   | 5:43         | 5:50 | 7            |                        |
| 7     | 8   | 5:50         | 5:58 | 8            |                        |
| 8     | 9   | 5:58         | 6:05 | 7            |                        |
| 9     | 10  | 6:05         | 6:14 | 9            |                        |
| 710   | 11  | 6:14         | 6:24 | 10           | Core #26               |
| 11    | 12  | 6:24         | 6:36 | 12           |                        |
| 12    | 13  | 6:36         | 6:47 | 11           |                        |
| 13    | 14  | 6:47         | 6:58 | 11           |                        |
| 14    | 15  | 6:58         | 7:08 | 10           |                        |

## TIME CORE RECORD (CONT'D)

54

| Depth |    | Time O'Clock |       | Time Elapsed | Remarks              |
|-------|----|--------------|-------|--------------|----------------------|
| From  | To | From         | To    | Minutes      |                      |
| 15    | 16 | 8:43         | 8:49  | 6            | Core #27             |
| 16    | 17 | 8:49         | 8:54  | 5            |                      |
| 17    | 18 | 8:54         | 9:01  | 7            |                      |
| 18    | 19 | 9:01         | 9:09  | 8            |                      |
| 19    | 20 | 9:09         | 9:16  | 7            |                      |
| 20    | 21 | 9:16         | 9:23  | 7            |                      |
| 21    | 22 | 9:23         | 9:29  | 6            |                      |
| 22    | 23 | 9:29         | 9:35  | 6            |                      |
| 23    | 24 | 9:35         | 9:42  | 7            |                      |
| 24    | 25 | 9:42         | 9:49  | 7            |                      |
| 25    | 26 | 9:49         | 9:55  | 6            |                      |
| 26    | 27 | 9:55         | 10:00 | 5            |                      |
| 27    | 28 | 10:00        | 10:05 | 5            |                      |
| 28    | 29 | 10:05        | 10:12 | 7            |                      |
| 29    | 30 | 10:12        | 10:21 | 9            |                      |
| 730   | 31 | 10:21        | 10:30 | 9            | Core #27             |
| 31    | 32 | 10:30        | 10:39 | 9            | Connection - 21 min. |
| 32    | 33 | 11:05        | 11:15 | 10           |                      |
| 33    | 34 | 11:15        | 11:22 | 7            |                      |
| 34    | 35 | 11:22        | 11:29 | 7            |                      |
| 35    | 36 | 11:29        | 11:36 | 7            |                      |
| 36    | 37 | 11:36        | 11:43 | 7            |                      |
| 37    | 38 | 11:43        | 11:51 | 8            |                      |
| 38    | 39 | 11:51        | 11:58 | 7            |                      |
| 39    | 40 | 11:58        | 12:05 | 7            |                      |

TIME CORE RECORD (CONT'D)

55

| Depth |     | Time O'Clock |      | Time Elapsed | Remarks    |
|-------|-----|--------------|------|--------------|------------|
| From  | To  | From         | To   | Minutes      |            |
| 740   | 741 | 4:55         | 5:01 | 6            | Core #28   |
| 41    | 42  | 5:01         | 5:06 | 5            |            |
| 42    | 43  | 5:06         | 5:11 | 5            |            |
| 43    | 44  | 5:11         | 5:15 | 4            |            |
| 44    | 745 | 5:15         | 5:20 | 5            |            |
| 745   | 46  | 5:20         | 5:26 | 6            |            |
| 46    | 47  | 5:26         | 5:32 | 5            |            |
| 47    | 48  | 5:32         | 5:37 | 6            |            |
| 48    | 49  | 5:37         | 5:43 | 6            |            |
| 49    | 750 | 5:43         | 5:49 | 6            |            |
| 750   | 751 | 5:49         | 5:56 | 7            | Core #28   |
| 751   | 752 | 5:56         | 6:03 | 7            |            |
| 52    | 53  | 6:03         | 6:10 | 7            |            |
| 53    | 54  | 6:10         | 6:17 | 7            |            |
| 54    | 755 | 6:17         | 6:24 | 7            |            |
| 755   | 56  | 6:24         | 6:30 | 6            |            |
| 56    | 57  | 6:30         | 6:38 | 8            |            |
| 57    | 58  | 6:38         | 6:45 | 7            |            |
| 58    | 59  | 6:45         | 6:52 | 7            |            |
| 59    | 760 | 6:52         | 6:59 | 7            |            |
| 760   | 61  | 6:59         | 7:06 | 7            | Connection |
| 61    | 62  | 7:06         | 7:12 | 6            |            |
| 62    | 63  | 7:12         | 7:27 | 7            |            |
| 63    | 64  | 7:27         | 7:32 | 5            |            |
| 64    | 765 | 7:32         | 7:38 | 6            |            |
| 765   | 66  | 9:40         | 9:46 | 6            | Core #29   |

TIME CORE RECORD (CONT'D)

56

| Depth |     | Time O'Clock |       | Time Elapsed | Remarks  |
|-------|-----|--------------|-------|--------------|----------|
| From  | To  | From         | To    | Minutes      |          |
| 66    | 67  | 9:46         | 9:51  | 5            |          |
| 67    | 68  | 9:51         | 9:56  | 5            |          |
| 68    | 69  | 9:56         | 10:02 | 6            |          |
| 69    | 770 | 10:02        | 10:07 | 5            |          |
| 770   | 71  | 10:07        | 10:13 | 6            |          |
| 71    | 772 | 10:13        | 10:19 | 6            |          |
| 772   | 773 | 10:19        | 10:25 | 6            | Core #29 |
| 73    | 74  | 10:25        | 10:31 | 6            |          |
| 74    | 75  | 10:31        | 10:37 | 6            |          |
| 75    | 76  | 10:37        | 10:43 | 6            |          |
| 76    | 77  | 10:43        | 10:49 | 6            |          |
| 77    | 78  | 10:49        | 10:55 | 6            |          |
| 78    | 79  | 10:55        | 11:01 | 6            |          |
| 779   | 780 | 11:01        | 11:08 | 7            |          |
| 80    | 81  | 11:08        | 11:15 | 7            |          |
| 81    | 82  | 11:15        | 11:21 | 6            |          |
| 82    | 83  | 11:21        | 11:28 | 7            |          |
| 83    | 84  | 11:28        | 11:36 | 8            |          |
| 84    | 85  | 11:36        | 11:43 | 7            |          |
| 85    | 86  | 11:43        | 11:48 | 5            |          |
| 86    | 87  | 11:48        | 11:53 | 5            |          |
| 87    | 88  | 11:53        | 11:58 | 5            |          |
| 88    | 89  | 11:58        | 12:03 | 5            |          |
| 789   | 790 | 12:03        | 12:08 | 5            |          |
| 790   | 91  | 2:15         | 2:20  | 5            | Core #30 |
| 91    | 92  | 2:20         | 2:25  | 5            |          |

TIME CORE REPORT (CONT'D)

57

| Depth |     | Time O'Clock |      | Time Elapsed | Remarks  |
|-------|-----|--------------|------|--------------|----------|
| From  | To  | From         | To   | Minutes      |          |
| 92    | 93  | 2:30         | 2:35 | 5            |          |
| 93    | 94  | 2:35         | 2:40 | 5            |          |
| 94    | 95  | 2:40         | 2:46 | 6            |          |
| 95    | 96  | 2:46         | 2:53 | 7            |          |
| 96    | 97  | 2:53         | 2:59 | 6            |          |
| 97    | 98  | 2:59         | 3:05 | 6            |          |
| 98    | 99  | 3:05         | 3:11 | 6            |          |
| 99    | 800 | 3:11         | 3:17 | 6            |          |
| 800   | 1   | 3:17         | 3:24 | 7            |          |
| 1     | 2   | 3:24         | 3:30 | 6            |          |
| 2     | 3   | 3:30         | 3:35 | 5            |          |
| 3     | 4   | 3:35         | 3:40 | 5            |          |
| 4     | 5   | 3:40         | 3:46 | 6            |          |
| 5     | 6   | 3:46         | 3:52 | 6            |          |
| 6     | 7   | 3:52         | 3:59 | 7            |          |
| 7     | 8   | 3:59         | 4:06 | 7            |          |
| 8     | 9   | 4:06         | 4:15 | 8            |          |
| 9     | 810 | 4:15         | 4:22 | 7            |          |
| 810   | 11  | 4:22         | 4:29 | 7            | Core #30 |
| 11    | 12  | 4:29         | 4:35 | 6            |          |
| 12    | 13  | 4:35         | 4:42 | 7            |          |
| 13    | 14  | 4:42         | 4:49 | 7            |          |
| 14    | 15  | 4:49         | 4:56 | 7            |          |
| 15    | 16  | 6:50         | 6:57 | 7            | Core #31 |
| 16    | 17  | 6:57         | 7:04 | 7            |          |

TIME CORE RECORD (CONT'D)

58

| Depth |     | Time O'Clock |       | Time<br>Elapsed<br>Minutes | Remarks                    |
|-------|-----|--------------|-------|----------------------------|----------------------------|
| From  | To  | From         | To    |                            |                            |
| 17    | 18  | 7:04         | 7:11  | 7                          |                            |
| 18    | 19  | 7:11         | 7:18  | 7                          |                            |
| 19    | 20  | 7:18         | 7:25  | 7                          |                            |
| 820   | 21  | 7:25         | 7:32  | 7                          |                            |
| 21    | 22  | 7:32         | 7:39  | 7                          |                            |
| 22    | 23  | 7:46         | 7:53  | 7                          | Connection working on pump |
| 23    | 24  | 7:53         | 8:00  | 7                          |                            |
| 24    | 25  | 8:00         | 8:07  | 7                          |                            |
| 25    | 26  | 8:07         | 8:14  | 7                          |                            |
| 26    | 27  | 8:14         | 8:20  | 6                          |                            |
| 27    | 28  | 8:20         | 8:27  | 7                          |                            |
| 28    | 29  | 8:27         | 8:34  | 7                          |                            |
| 29    | 830 | 8:34         | 8:41  | 7                          |                            |
| 830   | 31  | 8:41         | 8:48  | 7                          | Core #31                   |
| 31    | 32  | 8:48         | 8:55  | 7                          |                            |
| 32    | 33  | 8:55         | 9:02  | 7                          |                            |
| 33    | 34  | 9:02         | 9:09  | 7                          |                            |
| 34    | 35  | 9:09         | 9:16  | 7                          |                            |
| 35    | 36  | 9:16         | 9:23  | 7                          |                            |
| 36    | 37  | 9:23         | 9:30  | 7                          |                            |
| 37    | 38  | 9:30         | 9:35  | 5                          |                            |
| 38    | 39  | 9:35         | 9:42  | 7                          |                            |
| 39    | 40  | 9:42         | 9:49  | 7                          |                            |
| 840   | 41  | 11:50        | 11:55 | 5                          | Drilling                   |
| 41    | 42  | 11:55        | 12:00 | 5                          |                            |

TIME CORE RECORD (CONT'D)

59

| Depth |     | Time O'Clock |       | Time Elapsed<br>Minutes | Remarks            |
|-------|-----|--------------|-------|-------------------------|--------------------|
| From  | To  | From         | To    |                         |                    |
| 42    | 43  | 12:00        | 12:04 | 4                       |                    |
| 43    | 44  | 12:04        | 12:07 | 3                       |                    |
| 44    | 45  | 12:07        | 12:12 | 5                       | Sample             |
| 45    | 46  | 12:12        | 12:17 | 5                       |                    |
| 46    | 47  | 12:17        | 12:22 | 5                       |                    |
| 47    | 48  | 12:22        | 12:27 | 5                       |                    |
| 48    | 49  | 12:27        | 12:34 | 7                       |                    |
| 49    | 850 | 12:34        | 12:39 | 5                       | Sample             |
| 850   | 851 | 12:39        | 12:44 | 5                       | Drilling           |
| 51    | 52  | 12:44        | 12:50 | 6                       |                    |
| 52    | 53  | 12:50        | 12:55 | 5                       | Connection         |
| 53    | 54  | 1:08         | 1:13  | 5                       |                    |
| 54    | 55  | 1:13         | 1:19  | 6                       | Sample             |
| 55    | 56  | 1:19         | 1:25  | 6                       |                    |
| 56    | 57  | 5:58         | 6:03  | 5                       |                    |
| 57    | 58  | 6:03         | 6:08  | 5                       | Circulating sample |
| 58    | 59  | 6:27         | 6:32  | 5                       |                    |
| 59    | 860 | 6:32         | 6:37  | 5                       | Sample             |
| 860   | 61  | 6:37         | 6:42  | 5                       |                    |
| 61    | 62  | 6:42         | 6:47  | 5                       |                    |
| 62    | 63  | 6:47         | 6:52  | 5                       |                    |
| 63    | 64  | 6:52         | 6:57  | 5                       |                    |
| 64    | 865 | 6:57         | 7:02  | 5                       | Sample             |
| 65    | 66  | 7:02         | 7:07  | 5                       |                    |
| 66    | 67  | 7:07         | 7:12  | 5                       |                    |

# TIME CORE RECORD (CONT'D)

68

| Depth |     | Time O'Clock |      | Time<br>Elapsed<br>Minutes | Remarks  |
|-------|-----|--------------|------|----------------------------|----------|
| From  | To  | From         | To   |                            |          |
| 67    | 68  | 7:12         | 7:17 | 5                          |          |
| 68    | 69  | 7:17         | 7:23 | 6                          |          |
| 69    | 870 | 7:23         | 7:29 | 6                          | Sample   |
| 870   | 871 | 7:29         | 7:34 | 5                          | Drilling |
| 71    | 72  | 7:34         | 7:39 | 5                          |          |
| 72    | 73  | 7:39         | 7:44 | 5                          |          |
| 73    | 74  | 7:44         | 7:49 | 5                          |          |
| 74    | 75  | 7:49         | 7:54 | 5                          | Sample   |
| 75    | 76  | 7:54         | 7:59 | 5                          |          |
| 76    | 77  | 7:59         | 8:03 | 4                          |          |
| 77    | 78  | 8:03         | 8:08 | 5                          |          |
| 78    | 79  | 8:08         | 8:13 | 5                          |          |
| 879   | 880 | 8:13         | 8:19 | 6                          | Sample   |
| 80    | 81  | 8:19         | 8:25 | 6                          |          |
| 81    | 82  | 8:25         | 8:29 | 4                          |          |
| 82    | 83  | 8:29         | 8:34 | 5                          |          |
| 83    | 84  | 8:34         | 8:39 | 5                          |          |
| 84    | 85  | 8:39         | 8:41 | 2                          |          |
|       |     | 8:52         | 8:55 | 3                          | Sample   |
| 85    | 86  | 8:55         | 9:00 | 5                          |          |
| 86    | 87  | 9:00         | 9:05 | 5                          |          |
| 87    | 88  | 9:05         | 9:09 | 4                          |          |
| 88    | 89  | 9:09         | 9:13 | 4                          |          |
| 889   | 890 | 9:13         | 9:17 | 4                          | Sample   |
| 890   | 891 | 9:17         | 9:23 | 6                          | Drilling |

TIME CORE RECORD (CONT'D)

61

| From | Depth | To  | Time of Clock |       | Time Elapsed<br>Minutes | Remarks    |
|------|-------|-----|---------------|-------|-------------------------|------------|
|      |       |     | From          | To    |                         |            |
| 91   |       | 92  | 9:23          | 9:27  | 4                       |            |
| 92   |       | 93  | 9:27          | 9:31  | 4                       |            |
| 93   |       | 94  | 9:31          | 9:35  | 4                       |            |
| 94   |       | 95  | 9:35          | 9:40  | 5                       | Sample     |
| 95   |       | 96  | 11:01         | 11:06 | 5                       |            |
| 96   |       | 97  | 11:06         | 11:11 | 5                       |            |
| 97   |       | 98  | 11:11         | 11:16 | 5                       |            |
| 98   |       | 99  | 11:16         | 11:22 | 6                       |            |
| 899  |       | 900 | 11:22         | 11:27 | 5                       |            |
| 900  |       | 1   | 6:17          | 6:22  | 5                       | Core #32   |
| 1    |       | 2   | 6:22          | 6:28  | 6                       |            |
| 2    |       | 3   | 6:28          | 6:34  | 6                       |            |
| 3    |       | 4   | 6:34          | 6:39  | 5                       |            |
| 4    |       | 5   | 6:39          | 6:44  | 5                       |            |
| 5    |       | 6   | 6:44          | 6:50  | 6                       |            |
| 6    |       | 7   | 6:50          | 6:55  | 5                       |            |
| 7    |       | 8   | 6:55          | 7:01  | 6                       |            |
| 8    |       | 9   | 7:01          | 7:07  | 6                       |            |
| 9    |       | 10  | 7:07          | 7:15  | 8                       |            |
| 910  |       | 11  | 7:15          | 7:24  | 9                       | Core #32   |
| 11   |       | 12  | 7:24          | 7:30  | 6                       |            |
| 12   |       | 13  | 7:30          | 7:37  | 7                       |            |
| 13   |       | 14  | 7:42          | 7:48  | 6                       | Connection |
| 14   |       | 15  | 7:48          | 7:54  | 6                       |            |
| 15   |       | 16  | 7:54          | 8:00  | 6                       |            |
| 16   |       | 17  | 8:00          | 8:05  | 5                       |            |

TIME CORE RECORD (CONT'D)

62

| Depth |    | Time O'Clock |       | Time            | Remarks  |
|-------|----|--------------|-------|-----------------|----------|
| From  | To | From         | To    | Elapsed Minutes |          |
| 17    | 18 | 8:05         | 8:10  | 5               |          |
| 18    | 19 | 8:10         | 8:16  | 6               |          |
| 19    | 20 | 8:16         | 8:24  | 8               |          |
| 920   | 21 | 8:24         | 8:30  | 6               |          |
| 21    | 22 | 8:30         | 8:36  | 6               |          |
| 22    | 23 | 8:36         | 8:43  | 7               |          |
| 23    | 24 | 8:43         | 8:50  | 7               |          |
| 24    | 25 | 8:50         | 8:57  | 7               |          |
| 25    | 26 | 10:30        | 10:35 | 5               | Core #33 |
| 26    | 27 | 10:35        | 10:40 | 5               |          |
| 27    | 28 | 10:40        | 10:46 | 6               |          |
| 28    | 29 | 10:46        | 10:52 | 6               |          |
| 29    | 30 | 10:52        | 10:58 | 6               |          |
| 930   | 31 | 11:25        | 11:30 | 5               | Core #33 |
| 31    | 32 | 11:30        | 11:36 | 6               |          |
| 32    | 33 | 11:36        | 11:43 | 7               |          |
| 33    | 34 | 11:43        | 11:49 | 6               |          |
| 34    | 35 | 11:49        | 11:55 | 6               |          |
| 35    | 36 | 11:55        | 12:00 | 5               |          |
| 36    | 37 | 12:00        | 12:06 | 6               |          |
| 37    | 38 | 12:06        | 12:11 | 5               |          |
| 38    | 39 | 12:11        | 12:18 | 7               |          |
| 39    | 40 | 12:18        | 12:24 | 6               |          |
| 940   | 41 | 12:24        | 12:30 | 6               |          |
| 41    | 42 | 12:30        | 12:37 | 7               |          |
| 42    | 43 | 12:37        | 12:45 | 8               |          |

TIME CORE RECORD (CONT'D)

| Depth |     | Time O'Clock |       | Time Elapsed | Remarks                    |
|-------|-----|--------------|-------|--------------|----------------------------|
| From  | To  | From         | To    | Minutes      |                            |
| 43    | 44  | 12:45        | 12:52 | 7            |                            |
| 44    | 45  | 12:52        | 1:00  | 8            |                            |
| 45    | 46  | 1:00         | 1:03  | 3            | 5 <sup>th</sup> connection |
|       |     | 1:12         | 1:16  | 4            |                            |
| 46    | 47  | 1:16         | 1:22  | 6            |                            |
| 47    | 48  | 1:22         | 1:29  | 7            |                            |
| 48    | 49  | 1:29         | 1:35  | 6            |                            |
| 49    | 50  | 1:35         | 1:42  | 7            |                            |
| 950   | 951 | 4:00         | 4:05  | 5            | Core #34                   |
| 51    | 52  | 4:05         | 4:10  | 5            |                            |
| 52    | 53  | 4:10         | 4:16  | 6            |                            |
| 53    | 54  | 4:16         | 4:22  | 6            |                            |
| 54    | 55  | 4:22         | 4:28  | 6            |                            |
| 55    | 56  | 4:28         | 4:34  | 6            |                            |
| 56    | 57  | 4:34         | 4:40  | 6            |                            |
| 57    | 58  | 4:40         | 4:46  | 6            |                            |
| 58    | 59  | 4:46         | 4:53  | 7            |                            |
| 959   | 960 | 4:53         | 4:59  | 6            |                            |
| 60    | 61  | 4:59         | 5:06  | 7            |                            |
| 61    | 62  | 5:06         | 5:12  | 6            |                            |
| 62    | 63  | 5:12         | 5:19  | 7            |                            |
| 63    | 64  | 5:19         | 5:25  | 6            |                            |
| 64    | 65  | 5:25         | 5:31  | 6            |                            |
| 65    | 66  | 5:31         | 5:38  | 7            |                            |

TIME CORE RECORD (CONT'D)

84

| Depth |     | Time O'Clock |      | Time               | Remarks |
|-------|-----|--------------|------|--------------------|---------|
| From  | To  | From         | To   | Elapsed<br>Minutes |         |
| 67    | 68  | 5:46         | 5:54 | 8                  |         |
| 68    | 69  | 5:54         | 6:02 | 8                  |         |
| 969   | 970 | 6:02         | 6:10 | 8                  |         |
| 70    | 71  | 6:10         | 6:17 | 7                  |         |
| 71    | 72  | 6:17         | 6:25 | 8                  |         |

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D I S T R I B U T I O N

Ten copies of the foregoing report were completed in November, 1952.

Space is provided below for convenience in recording the distribution of this report.

Original: North West Territories Oils Ltd.

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Copy No. 2: L. W. Brintnell

Copy No. 3: Dr. J. B. Bateman

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## CHEMICAL &amp; GEOLOGICAL LABORATORIES LTD.

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Edmonton, Alberta.

66  
MAR 26 1953

## WATER ANALYSIS REPORT

Field Deep Bay, North West Territories Well No. H.E.T. Deep Bay No. 4  
 Operator H.E.T. Oils Ltd. c/o New Superior Oils of Location .....  
Canada Ltd.  
 Sampled by ..... Date rec'd Mar. 18th 1953  
 Formation Slave point Depths 232-239 How Sampled D.S.T.  
 Other pertinent data D.S.T. # 3 Recovered 50' mud cut fresh water  
 Analyzed by Chemical & Geological Labs. Ltd. Date Mar. 25th 1953 Lab. No. 4482-1

## PARTS PER MILLION (MILLIGRAMS PER LITER)

| Na & K | Ca | Mg | Fe | SO <sub>4</sub> | Cl  | CO <sub>3</sub> | HCO <sub>3</sub> | OH | H <sub>2</sub> S |
|--------|----|----|----|-----------------|-----|-----------------|------------------|----|------------------|
| 492    | 30 | 40 |    | 92              | 462 |                 | 625              |    |                  |

## MILLIGRAM EQUIVALENTS

|       |      |      |  |      |       |  |       |  |  |
|-------|------|------|--|------|-------|--|-------|--|--|
| 21.40 | 0.50 | 3.29 |  | 1.92 | 13.03 |  | 10.24 |  |  |
|-------|------|------|--|------|-------|--|-------|--|--|

## MILLIGRAM EQUIVALENTS IN PERCENT

|       |      |      |  |      |       |  |       |  |  |
|-------|------|------|--|------|-------|--|-------|--|--|
| 42.43 | 0.99 | 6.53 |  | 3.81 | 25.36 |  | 20.53 |  |  |
|-------|------|------|--|------|-------|--|-------|--|--|

Total Solids in Parts  
per Million

By evaporation ..... 1,378  
 After ignition ..... 1,290  
 Calculated ..... 1,483

Specific Gravity ..... 1.003

Observed pH ..... 7.5

Resistivity ..... Insufficient sample

Properties of Reaction in  
Percent

Primary salinity ..... 57.34  
 Secondary salinity ..... 0  
 Primary alkalinity ..... 25.62  
 Secondary alkalinity ..... 35.04  
 Chloride salinity ..... 87.16  
 Sulfate salinity ..... 12.84

Remarks and conclusions .....

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MAR 26 1953

## WATER ANALYSIS REPORT

Field Deep Bay, North West Territories Well No. N.W.T. Deep Bay # 4  
 Operator N.W.T. Oils Ltd., c/o New Superior Oils Location rec'd Mar. 18th 1953  
of Canada Ltd.  
 Sampled by Slave point Date D.S.T.  
 Formation 235-242 Depths How Sampled  
 Other pertinent data D.S.T. # 4 Recovered 40' oil cut muddy water

Analyzed by Chemical & Geological Lab. Ltd. Date March 25th 1953 Lab. No. 4452-2

## PARTS PER MILLION (MILLIGRAMS PER LITER)

| Na & K | Ca  | Mg  | Fe | SO <sub>4</sub> | CL    | CO <sub>3</sub> | HCO <sub>3</sub> | OH | H <sub>2</sub> S |
|--------|-----|-----|----|-----------------|-------|-----------------|------------------|----|------------------|
| 2,773  | 230 | 131 |    | 95              | 1,622 |                 | 640              |    |                  |

## MILLIGRAM EQUIVALENTS

|        |       |       |  |      |        |  |       |  |  |
|--------|-------|-------|--|------|--------|--|-------|--|--|
| 120.58 | 21.48 | 10.77 |  | 2.98 | 130.36 |  | 10.49 |  |  |
|--------|-------|-------|--|------|--------|--|-------|--|--|

## MILLIGRAM EQUIVALENTS IN PERCENT

|       |      |      |  |      |       |  |      |  |  |
|-------|------|------|--|------|-------|--|------|--|--|
| 12.21 | 4.02 | 3.77 |  | 0.69 | 15.64 |  | 3.67 |  |  |
|-------|------|------|--|------|-------|--|------|--|--|

Total Solids in Parts  
per Million

By evaporation ..... 8,562  
 After ignition ..... 7,500  
 Calculated ..... 8,166

Specific Gravity ..... 1.028  
 Observed pH ..... 7.5

Resistivity ..... 0.93 ohm-meters @ 70°F

Properties of Reaction in  
Percent

Primary salinity ..... 84.42  
 Secondary salinity ..... 8.24  
 Primary alkalinity ..... 0  
 Secondary alkalinity ..... 7.34  
 Chloride salinity ..... 98.51  
 Sulfate salinity ..... 1.49

Remarks and conclusions .....

## CHEMICAL &amp; GEOLOGICAL LABORATORIES LTD.

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MAR 26 1953

## WATER ANALYSIS REPORT

Field Deep Bay, North West Territories Well No. E.W.T. Deep Bay No. 1  
 Operator E.W.T. Oils Ltd. c/o New Superior Oils of Location CEBACH H.A.  
 Sampled by Slave point Date rec'd Mar. 18th 1953  
 Formation Slave point Depths 232-245 How Sampled D.S.F.  
 Other pertinent data D.S.F. 5 Recovered 40' slightly sulphur water

Analyzed by Chemical & Geological Labs. Ltd. Date Mar. 25th 1953 Lab. No. 4452-3

## PARTS PER MILLION (MILLIGRAMS PER LITER)

| Na & K | Ca  | Mg  | Fe | SO <sub>4</sub> | Cl    | CO <sub>3</sub> | HCO <sub>3</sub> | OH | H <sub>2</sub> S |
|--------|-----|-----|----|-----------------|-------|-----------------|------------------|----|------------------|
| 3,610  | 174 | 157 |    | 196             | 6,057 |                 | 255              |    |                  |

## MILLIGRAM EQUIVALENTS

|        |      |       |  |      |        |  |      |  |  |
|--------|------|-------|--|------|--------|--|------|--|--|
| 156.77 | 8.68 | 12.91 |  | 4.32 | 170.26 |  | 4.38 |  |  |
|--------|------|-------|--|------|--------|--|------|--|--|

## MILLIGRAM EQUIVALENTS IN PERCENT

|       |      |      |  |      |       |  |      |  |  |
|-------|------|------|--|------|-------|--|------|--|--|
| 45.95 | 2.43 | 3.62 |  | 1.35 | 47.68 |  | 1.17 |  |  |
|-------|------|------|--|------|-------|--|------|--|--|

Total Solids in Parts  
per Million

By evaporation ..... 10,860  
 After ignition ..... 9,914  
 Calculated ..... 10,301

Specific Gravity ..... 1.009  
 Observed pH ..... 7

Resistivity ..... 0.72 ohm-meter @ 70°F

Properties of Reaction in  
Percent

Primary salinity ..... 87.90  
 Secondary salinity ..... 9.76  
 Primary alkalinity ..... 0  
 Secondary alkalinity ..... 2.34  
 Chloride salinity ..... 97.64  
 Sulfate salinity ..... 2.36

Remarks and conclusions .....

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MAR. 26 1953

## WATER ANALYSIS REPORT

Field Deep Bay, North West Territories Well No. N.W.T. Deep Bay # 4  
 Operator N.W.T. Oils Ltd. c/o New Superior Oils of Location Canada Ltd.  
 Sampled by ..... Date rec'd Mar. 18th 1953  
 Formation Slave point Depths 258.4'-295' How Sampled D.S.T.  
 Other pertinent data D.S.T. # 6 Recovered 15' Drilling mud

Analyzed by Chemical & Geological Labs. Ltd. Date Mar. 25th 1953 Lab. No. 4432-4

## PARTS PER MILLION (MILLIGRAMS PER LITER)

| Na & K | Ca | Mg | Fe | SO <sub>4</sub> | Cl    | CO <sub>3</sub> | HCO <sub>3</sub> | OH | H <sub>2</sub> S |
|--------|----|----|----|-----------------|-------|-----------------|------------------|----|------------------|
| 1,210  | 67 | 36 |    | 11              | 1,755 |                 | 560              |    |                  |

## MILLIGRAM EQUIVALENTS

|       |      |      |  |      |       |  |      |  |  |
|-------|------|------|--|------|-------|--|------|--|--|
| 52.61 | 3.34 | 2.96 |  | 0.23 | 49.50 |  | 9.18 |  |  |
|-------|------|------|--|------|-------|--|------|--|--|

## MILLIGRAM EQUIVALENTS IN PERCENT

|       |      |      |  |      |       |  |      |  |  |
|-------|------|------|--|------|-------|--|------|--|--|
| 44.65 | 2.84 | 2.51 |  | 0.20 | 42.01 |  | 7.79 |  |  |
|-------|------|------|--|------|-------|--|------|--|--|

Total Solids in Parts  
per Million

By evaporation ..... 3,314  
 After ignition ..... 3,264  
 Calculated ..... 3,354

Specific Gravity ..... 1.004

Observed pH ..... 7.

Resistivity ..... 1.75 ohm-meter @ 70°F

Properties of Reaction in  
Percent

Primary salinity ..... 84.42

Secondary salinity ..... 0

Primary alkalinity ..... 4.88

Secondary alkalinity ..... 10.70

Chloride salinity ..... 99.53

Sulfate salinity ..... 0.47

Remarks and conclusions .....

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MAR 26 1953

## WATER ANALYSIS REPORT

Field Deep Bay, North West Territories Well No. N.W.T. Deep Bay # 4  
 Operator N.W.T. Oils Ltd. c/o New Superior Oils of Location .....  
Canada Ltd.  
 Sampled by ..... Date rec'd Mar. 18th 1953  
 Formation Slave point Depths 214.4-321 How Sampled D.S.T.  
 Other pertinent data D.S.T. # 7 Recovered 320' sulphur water

Analyzed by Chemical & Geological Labs. Ltd. Date Mar. 25th 1953 Lab. No. 4452-5

## PARTS PER MILLION (MILLIGRAMS PER LITER)

| Na & K | Ca  | Mg  | Fe | SO <sub>4</sub> | Cl     | CO <sub>3</sub> | HCO <sub>3</sub> | OH | H <sub>2</sub> S |
|--------|-----|-----|----|-----------------|--------|-----------------|------------------|----|------------------|
| 13,878 | 443 | 630 |    | 145             | 23,771 |                 | 240              |    |                  |

## MILLIGRAM EQUIVALENTS

|        |       |       |  |      |        |  |      |  |  |
|--------|-------|-------|--|------|--------|--|------|--|--|
| 603.15 | 22.11 | 51.31 |  | 3.02 | 670.42 |  | 3.93 |  |  |
|--------|-------|-------|--|------|--------|--|------|--|--|

## MILLIGRAM EQUIVALENTS IN PERCENT

|       |      |      |  |      |       |  |      |  |  |
|-------|------|------|--|------|-------|--|------|--|--|
| 44.54 | 1.63 | 3.83 |  | 0.22 | 15.19 |  | 0.29 |  |  |
|-------|------|------|--|------|-------|--|------|--|--|

Total Solids in Parts  
per Million

By evaporation ..... 13,876  
 After ignition ..... 38,456  
 Calculated ..... 28,985

Specific Gravity ..... 1.025  
 Observed pH ..... 7.

Resistivity ..... 0.110 ohm-meters @ 70°F

Properties of Reaction in  
Percent

Primary salinity ..... 89.05  
 Secondary salinity ..... 10.34  
 Primary alkalinity ..... 0  
 Secondary alkalinity ..... 0.58  
 Chloride salinity ..... 99.56  
 Sulfate salinity ..... 0.44

Remarks and conclusions .....

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MAR. 26 1953

## WATER ANALYSIS REPORT

Field Deep Bay, North West Territories Well No. N.W.T. Deep Bay # 4  
 Operator N.W.T. Oils Ltd. c/o Rex Superior Oils of Location .....  
Canada Ltd.  
 Sampled by ..... Date rec'd Mar. 18th 1953  
 Formation Slave point Depths 518.4-555 How Sampled D.S.T.  
 Other pertinent data D.S.T. # 8 Recovered 285° sulphur water

Analyzed by Chemical & Geological Labs. Ltd. Date Mar. 25th 1953 Lab. No. 1182-6

## PARTS PER MILLION (MILLIGRAMS PER LITER)

| Na & K | Ca    | Mg  | Fe | SO <sub>4</sub> | Cl     | CO <sub>3</sub> | HCO <sub>3</sub> | OH | H <sub>2</sub> S |
|--------|-------|-----|----|-----------------|--------|-----------------|------------------|----|------------------|
| 15,119 | 1,269 | 667 |    | 119             | 26,978 |                 | 760              |    |                  |

## MILLIGRAM EQUIVALENTS

|        |       |       |  |      |        |  |       |  |  |
|--------|-------|-------|--|------|--------|--|-------|--|--|
| 657.43 | 63.34 | 54.85 |  | 2.29 | 760.87 |  | 12.46 |  |  |
|--------|-------|-------|--|------|--------|--|-------|--|--|

## MILLIGRAM EQUIVALENTS IN PERCENT

|       |      |      |  |      |       |  |      |  |  |
|-------|------|------|--|------|-------|--|------|--|--|
| 42.38 | 4.08 | 3.54 |  | 0.19 | 49.05 |  | 0.80 |  |  |
|-------|------|------|--|------|-------|--|------|--|--|

Total Solids in Parts  
per Million

By evaporation ..... 48,360  
 After ignition ..... 13,192  
 Calculated ..... 44,517

Specific Gravity ..... 1.032  
 Observed pH ..... 6.5  
 Resistivity ..... 0.106 cm-meters @ 70°F

Properties of Reaction in  
Percent

Primary salinity ..... 84.76  
 Secondary salinity ..... 13.64  
 Primary alkalinity ..... 0  
 Secondary alkalinity ..... 1.60  
 Chloride salinity ..... 99.70  
 Sulfate salinity ..... 0.30

Remarks and conclusions .....

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MAR 26 1953

## WATER ANALYSIS REPORT

Field Deep Bay, North West Territories Well No. N.W.T. Deep Bay # 4  
 Operator N.W.T. Oils Ltd. c/o New Superior Oils of Location .....  
Canada Ltd.  
 Sampled by ..... Date rec'd Mar. 18th 1953  
 Formation Fres Quille Dolomite Depths 849.02'-900' How Sampled D.S.T.  
 Other pertinent data D.S.T. # 9 Recovered 515' sulphur water

Analyzed by Chemical & Geological Labs. Ltd. Date Mar. 25th 1953 Lab. No. 4482-7

## PARTS PER MILLION (MILLIGRAMS PER LITER)

| Na & K | Ca  | Mg  | Fe | SO <sub>4</sub> | Cl     | CO <sub>3</sub> | HCO <sub>3</sub> | OH | H <sub>2</sub> S |
|--------|-----|-----|----|-----------------|--------|-----------------|------------------|----|------------------|
| 10,622 | 643 | 541 |    | 81              | 18,429 |                 | 935              |    | present          |

## MILLIGRAM EQUIVALENTS

|        |       |       |  |      |        |  |       |  |  |
|--------|-------|-------|--|------|--------|--|-------|--|--|
| 461.89 | 32.09 | 44.49 |  | 1.69 | 521.45 |  | 15.33 |  |  |
|--------|-------|-------|--|------|--------|--|-------|--|--|

## MILLIGRAM EQUIVALENTS IN PERCENT

|       |      |      |  |      |       |  |      |  |  |
|-------|------|------|--|------|-------|--|------|--|--|
| 42.89 | 2.96 | 4.13 |  | 0.16 | 45.42 |  | 1.42 |  |  |
|-------|------|------|--|------|-------|--|------|--|--|

Total Solids in Parts  
per Million

By evaporation ..... 33,080  
 After ignition ..... 29,332  
 Calculated ..... 30,836

Specific Gravity ..... 1.021  
 Observed pH ..... 7.

Resistivity ..... 0.134 ohm-meters @ 70°F

Properties of Reaction in  
Percent

Primary salinity ..... 65.78  
 Secondary salinity ..... 11.36  
 Primary alkalinity ..... 0  
 Secondary alkalinity ..... 2.84  
 Chloride salinity ..... 99.67  
 Sulfate salinity ..... 9.33

Remarks and conclusions .....