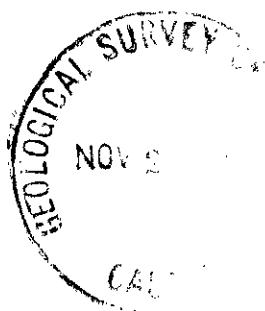


DRILLING REPORT

DECALTA ET AL., ROND LAKE NO. 4

N.W.T.



D. BRUCE BULLOCK & ASSOCIATES LTD.

CONSULTING GEOLOGISTS

MARCH, 1960



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ILLUSTRATIONS

Map showing location of Wells
Relative to Rond Lake

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Cross Section, Wells 1 to 4

After Page 7

E-log

In Pocket

Strip Log

In Pocket



SUMMARY OF WELL DATA

Well Name: Decalta et al., Rond Lake No. 4

Location: Approximately,
lat. $67^{\circ} 06' 30''$ N.
long. $128^{\circ} 24' 00''$ W.

Elevation: Ground 885.4'
K. B. 889.6'

Spudded: March 13, 1960

Abandoned: March 15, 1960

Total Depth: 537'

Surface Casing: Nil

Logs: E-log (point curve)

Classification: Structure Test

Abandonment: 5 sax cement and a 4' post at the surface.

<u>Markers</u>	<u>Depth</u>	<u>Subsea</u>	<u>Thickness</u>
Drift			70'
Upper Hare Indian River Shale	70'	+870'	423'
Lower Hare Indian River Shale	493'	+397'	34'
Lower Ramparts Limestone	527'	+363'	

Summary of Cores

Core #1 527' to 537' Rec. 10 feet.

DAILY PROGRESS REPORT

March 13, 1960

<u>Mud:</u>	Water
<u>Current Operation:</u>	Drilling
<u>Depth:</u> 85'	4 1/2 hrs. drilling
<u>Operations:</u>	Spudded 7 PM
<u>Rock Types Penetrated:</u>	Drilled 4 3/4"
	Clay and sand

March 14, 1960

<u>Mud:</u>	Add 300 lbs. gel. 100 lbs. fiberseal
<u>Current Operation:</u>	Drill, core, log
<u>Depth:</u> 537'	14 1/4 hrs. drill 3 3/4 hrs. trip 1 1/2 hrs. ream 3 hrs. core 1 1/2 hrs. log
<u>Operations:</u>	Drill 4 3/4" to 527' (Insert bit 100' to 522') Core 527' to 537' Log and shoot velocity Fluid lost to formation while drilling below 395' From surface to 115' drift, 115' to 227' shale Core No. 1, 527' to 537' Recovered 10', limestone, some shale, fossiliferous
<u>Rock Types Penetrated:</u>	

March 15, 1960

Depth: 537' 3 1/2 hrs. logging
Operations: Complete velocity log

TIME DRILLING RECORD

10 Foot Intervals

0' - 100'	40, 55, 25, 25, 25, 30
100' - 200'	20, 10, 8, 9, 9, 10, 9, 10, 10, 10
200' - 300'	10, 10, 10, 20, 30, 10, 10, 10, 10, 10
300' - 400'	10, 10, 10, 10, 10, 10, 10, 10, 20, 9
400' - 500'	11, 10, 8, 7, 10, 10, 10, 10, 12, 12

1 Foot Intervals

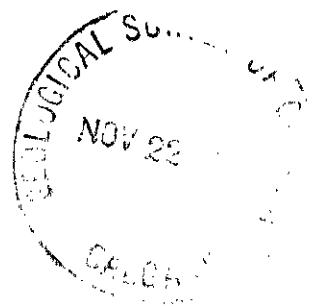
500' - 510'	1 1/2, 1, 2, 1, 1, 1, 2, 2, 2, 2
510' - 520'	2, 2, 3, 4, 3, 2, 2, 2, 2
520' - 527'	5, 2, 15, 14, 24, 20, 14

Coring Time

527' - 537'	9, 15, 18, 16, 18, 19, 21, 27, 19, 20
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- 4 -



MUD RECORD

Used: 300 lbs. gel, 100 lbs. fiber seal to prevent loss
to formation.

BIT RECORD

NO.	SERIAL	SIZE	MAKE	TYPE	FROM	TO	FEET	HRS.
1	Insert	4 3/4	Walker-M		0	20	20	1
2	28037	4 3/4	"	WM-2	20	100	80	5
3	Insert	4 3/4	"		100	522	422	7 1/2
4	28041	4 3/4	"	WM-2	522	527	5	1 1/4

BREAKDOWN OF TIME SPENT ON THE HOLE

Drilling 4 3/4"	18 3/4 hours
Trips	3 3/4 hours
Reaming	1 1/2 hours
Coring	3 hours
Logging	5 hours
<hr/>	
TOTAL TIME ON HOLE	32 hours
<hr/>	

SAMPLE AND CORE DESCRIPTION

0' - 55'	<u>Sand and Clay</u> - Glacial till, brown clay with sand and small pebbles. Sand is mainly composed of quartz, fine grains to granules, angular to rounded, poorly sorted, grains and pebbles of shale, limestone, dolomite, sandstone, chert and igneous rocks.
55' - 115'	As above but clay matrix is greenish brown, from 65° to 100°, samples are mostly sand (cavings).
70'	<u>Upper Hare Indian River Shale</u> (E. log pick)
115' - 190'	<u>Shale</u> - green, rusty to olive tint, soft, calcareous. (Rusty color may be weathering).
190' - 280'	<u>Shale</u> - as above, trace of bluish green shale.
280' - 340'	<u>Shale</u> - green, slight bluish tint, slightly calcareous, a few spores, a few tiny triangular fossils, somewhat mottled, becoming more so with depth.
340' - 440'	<u>Shale</u> - green, laminated, mottled, only very slightly calcareous, spores very abundant from 390' to 410'. Limy layer at 490', some hard, brown, silty shale with pyrite at 400'.
440' - 520'	<u>Shale</u> - mottled, as above, some dark grey shale, pyrite at 520'.
493'	<u>Lower Hare Indian River Shale</u> (E. log pick)
520' - 527'	<u>Shale</u> - dark brown, brown streak. Trace of limestone, pyrite. Cavings very bad.
526'	<u>Lower Ramparts</u>

CORE #1

Rec. 10'

527' - 537'

Limestone, interbedded shale.

Limestone - brownish grey, very fine
crystalline, argillaceous, (brown residue)
abundant fossil fragments.

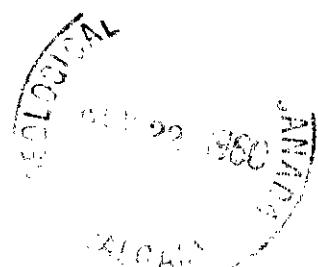
Shale - greenish grey to brownish grey,
calcareous, fossil fragments, soft.

Shale has been deposited between layers
of lime which then flowed during compac-
tion resulting in irregular bedding.

Fossils, mainly brachiopods are abundant,
also a few large colonial corals. Several
fractures, most near vertical, irregular,
tension types, sealed by white coarse
calcite.

Trace of dark-brown oil bleeding from both
limestone and shale.





STRATIGRAPHY

GENERAL

In the Rond Lake area, the upper part of the Stratigraphic Section is as follows.

Glacial Deposits

Till and lake sands, up to 200', nearly everywhere present.

Cretaceous

Poorly consolidated quartz sand, thin, random, patchy distribution.

Middle Devonian - Ramparts Formation

Upper Ramparts Limestone - 200' ^f not present in any of the wells drilled, forms the scarp west of Rond Lake.

Middle Ramparts Shale; also called Hare Indian River Shale - 600' to 700' of green shale, 30' at base contains interbedded dark brown shale.

Lower Ramparts Limestone - 300 feet minus, fossiliferous limestone.

Bear Rock Formation

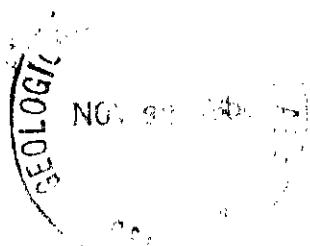
800' $\frac{1}{2}$, very fine algal rich limestone, equivalent to the dolomite breccia of the Norman Wells area.

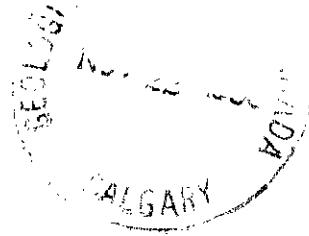
Silurian

Thickness unknown, dolomite with reefs.

PLEISTOCENE AND RECENT

The surface deposits are 70 feet thick, they consist of sand and fine gravel in a brown clay matrix. The sand is predominantly quartz, fine grains to granules, poorly sorted, angular to well rounded. Pebbles are composed of a variety of sedimentary rocks of local origin, as well as a few of igneous composition.





UPPER HARE INDIAN RIVER SHALE

This well encountered 457 feet of the Hare Indian Shale. The strata consist mainly of green, very slightly calcareous shale. In the upper part there is a lot of rusty staining, probably a result of pre-Cretaceous weathering. The shale becomes gradually darker green with increasing depth, near the base there are layers of entirely grey shale. In the lower half of the section the shale has a mottled appearance which is a result of interlaminated green and grey shale. Small, flat, circular resinous spores are common in the lower half of the shale, these spores are very abundant near the base of the shale.

LOWER HARE INDIAN RIVER SHALE

Above the Lower Ramparts limestone are 37 feet of brown and grey shale. The brown shale is quite dark, hard and has a brown streak. It contains impressions of tiny fossils which resemble Tentaculites of Styliolina.

LOWER RAMPARTS LIMESTONE

Only the upper 11 feet of this unit was penetrated, mostly by Core No. 1. The core contained fossiliferous, argillaceous limestone with interbedded shale. Fossils, comprising many brachiopods and a few colonial corals are abundant.

Along fresh breaks, in both limestone and shale tiny pin points of dark brown oil popped out in a few parts of the core.



DISCUSSION

Rond Lake No. 4 was drilled very rapidly, using no surface casing and using a finger bit for the Hare Indian shale section. Mud was lost slowly to the formation while drilling the top hole, indicating a shallow permafrost layer.

G. K. Williams, P. Eng.



FORM "B"

DEPARTMENT OF NORTHERN AFFAIRS AND NATIONAL RESOURCES

NORTHERN ADMINISTRATION BRANCH

RESOURCES DIVISION

For the period from

to

COMPLETION

REWORK

REPORT of RECOMPLETION of a Well STRUCTURE TEST WELD
SUSPENSION
ABANDONMENT

Permit No. 1484. .

Name of well . Decalta Et. Al., Rond. Lake No. 4 Lease No.

Registered owner .Western Decalta Petroleum Drilling Company . . Big Indian . .

Location $67^{\circ} 06'$, $30^{\prime \prime}$ N. Lat $128^{\circ} 24' 00''$. W. Long.

Survey description, if available

Kelly bushing. . . 890 . . . Present depth . . . 537

Spudded March 13, 1980 Finished drilling Mar. 15. Rig Released

• March 15

CASING RECORD

<u>Date</u>	<u>Size O.D.</u>	<u>Weight lbs/ft</u>	<u>Grade</u>	<u>Set at feet</u>	<u>Sacks Cement</u>	<u>Top of Cement</u>
1 NIL	+	+	+	+	+	+
2...	+	+	+	+	+	+
3...	+	+	+	+	+	+
4...	+	+	+	+	+	+

TUBING RECORD

Size	Wt.Lbs/foot	Grade	Amount	<u>Landed Depth</u>	Remarks
• • • •	• • • • • •	• • • •	• • • •	• • • •	• • • •

Wellhead assembly (Manufacturer) (Size) (Series)

Producing Injection Zone and formation *AL-SUNA* . .

Cord intervals . . . 527° - 537°

100 MAY 1999

Velocity log

The above logs (are) (will be) submitted in accordance with Section 65 of the Regulations.

DRILL STEM TESTS

(If space insufficient, attach further sheet)

(Strike out the non-applicable) (Completion) (Rework) (Recompletion)

Perforations Bullet

Shooting:

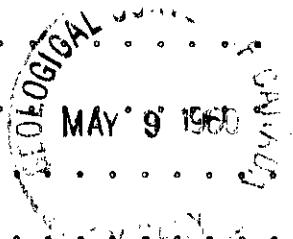
Hydraulic Fracturing and the Environment

Chemical treatment

Date initial production tests

Initial production data

Pumping or flowing
Plug back
Other
.



CEMENT PLUGS SET

Washed well samples have been sent to Geological Survey of Canada, Calgary
~~will be sent~~

Core analysis (was made) of the Intervals (to be made)

The above analyses (are) (will be) submitted in accordance with Section 70(2) of the Regulations.

ADDITIONAL DETAILS AND CONCLUSIONS

A horizontal line of 100 small black dots, arranged in 10 columns of 10 dots each, spaced evenly apart.

Signed. Address .627. -- 8th. Ave. S.W., CALGARY.

(To be submitted in triplicate in accordance with Sections 68, 69, 70 and 71, of the Territorial Oil and Gas Regulations to the Oil Conservation Engineer at Calgary, Alberta.)