DRILLING REPORT

DECALTA ET AL., ROND LAKE NO. 3

N.W.T.

D. BRUCE BULLOCK & ASSOCIATES LTD.

CONSULTING GEOLOGISTS

MARCH, 1960

TABLE OF CONTENTS

ILLUSTRATIONS

SUMMARY OF WELL DATA

Well Name:	Decalta Et Al., Rond Lake No. 3
Location:	Approximately, 67° 07' 00" N., Latitude 128° 22' 36" W., Longitude
Elevation:	Ground: 883.3' K.B.: 889'
Spudded:	March 7, 1960.
Abandoned:	March 12, 1960.
Total Depth:	595'
Surface Casing:	30' of 6 5/8", J-55, 24 lb. casing cemented with 4 sax.
Logs:	Nil
Classification:	Structure test.
Abandonment:	4 sax cement and wooden plug placed at surface, marked RL No. 3.

Markers:	Depth	Subsea	Thickness
Drift			175'
Cretaceous	175'	+714'	95'
Upper Hare Indian River Shale	270'	+619'	180'
Lower Hare Indian River Shale	450'	+439'	38'
Lower Ramparts	485'	+404'	

Remarks: Twist off at 109 feet, left pipe in hole, no coring or testing.

DAILY PROGRESS REPORTS

March 7, 1960.

Current Operation:	Drill surface hole.
Depth: 18'	2 1/2 hrs. drill 8 5/8"
	21 1/2 hrs. move camp, rig up, fill pits.
Operations:	Drill 8 5/8" to 18'.
Rock Types Penetrated:	0' to 17', ice and marl.
	17' - 18', boulder.

March 8.

Mud:	Water.
Current Operation:	Set one joint surface casing, drill 4 3/4"
Depth: 168'	2 hrs. drill 8 5/8"
	3 hrs. set surface casing & rig up.
	9 1/4 hrs. drill 4 3/4"
	8 1/2 hrs. cement casing and W.O.C.
	1/4 hr. trip
Operations:	Drill 8 5/8" to 30'.
	Set 1 joint 8 5/8", 24 lb., J-55, surface casing.
	Drilled 4 3/4" to 40', mud circulated outside casing.
	Cemented casing with 4 sax cement, 1 sax on top, waited 4 hours.
	Drilled 4 3/4" to 168'
Rock Types Penetrated:	From 17' to 90', sand and gravel in clay.
	From 90' to 120', soft unconsolidated sand.
	From 120' to 150', sand and gravel in clay.
	From 160' to 168', soft unsolidated sand.

March 9.

Mud:	Water.
Current Operation:	Cementing surface casing and W.O.C.
Depth: 168'	1/2 hr. cement casing 9 1/2 hrs. W.O.C. 1/2 hr. start in hole 1 hr. cement casing 11 1/2 hrs. W.O.C. 1 hr. drill out and run in
Operations:	First cement job did not hold, recemented and waited 10 hours, cement held.

March 10.

Mud:	Water
Current Operation:	Drilling
Depth: 420'	14 3/4 hrs. drilling 1/2 hr. service 4 hrs. trips 2 3/4 hrs. repairs 2 hrs. wait on water
Operations:	Drilled 4 3/4", 168' to 380', bit balled up in shale. Drilled 4 1/2", (Insert bit 380' to 420').
Rock Types Penetrated:	From 168' to 175', sand and gravel, From 175' to 270', sand, From 270' to 420', soft shale.

March 11.

Mud:	Wt. 9.7, Vis. 34, W.L. 46, pH 11.
Current Operation:	Drilling.
Depth: 567'	2 1/2 hrs. drill 4 1/2" 1 hr. ream to 4 3/4" 15 1/4 hrs. drill 4 3/4" 1/2 hr. service 3 3/4 hrs. trips and ream

March 11. (cont'd.)

Operations:	Drill 420' to 480' 4 1/2 Ream to 4 3/4" Drill 4 3/4" to 567'
Rock Types Penetrated:	From 420' to 478', soft shale, From 478' to 485', hard brown shale, From 485' to 567', limestone.

March 12.

Mud:	Wt. 10.8, Vis. 35, W.L. 24, pH 8, add 300 lbs. gel, 5 lbs. High Vis.
Current Operation:	Fishing and abandon.
Depth: 596'	7 1/4 hrs. drilling 1/4 hr. circulated 16 1/2 hrs. fishing
Operation:	Drill from 567' to 596' Twisted off at 596' Hole caved, had to condition before running overshot. Fished using overshot, bent single, and hook. Top of fish out of reach of hook.
Rock Types Penetrated:	From 567' - 596', limestone, some shale.

TIME DRILLING RECORD

10' Intervals

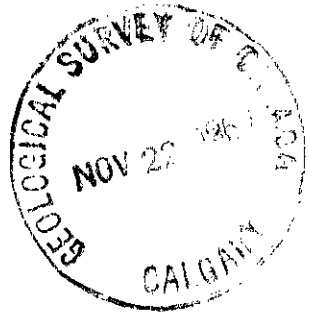
0' - 100'	-,	-,	-,	-,	-,	15,	15,	15,	20,	15.
100' - 200'	30,	25,	20,	20,	20,	25,	30,	40,	35,	40.
300' - 400'	40,	45,	35,	35,	20,	20,	20,	65,	15,	15.
400' - 500'	15,	15,	15,	15,	15,	15,	20,	45,	50,	75.

1' Intervals

500' - 510'	12,	14,	14,	12,	12,	13,	12,	12,	12,	14.
510' - 520'	10,	12,	12,	14,	14,	20,	15,	15,	15,	14.
520' - 530'	10,	15,	12,	15,	16,	12,	15,	12,	11,	10.
530' - 540'	10,	9,	10,	18,	11,	13,	12,	17,	13,	12.
540' - 550'	12,	10,	14,	16,	16,	10,	10,	9,	10.	12.
550' - 560'	12,	10,	13,	12,	11,	10,	10,	21,	19,	21.
560' - 570'	15,	14,	14,	11,	11,	14,	15,	14,	15,	14.
570' - 580'	15,	19,	15,	15,	19,	19,	19,	16,	13,	17.
580' - 590'	17,	19,	11,	11,	10,	12,	14,	13,	14,	11.
590' - 600'	12,	17,	13,	12,	12,	12,	-,	-,	-,	-.

MUD RECORD

Date	Wt.	Vis.	W.L.	pH	Additives
Mar. 7					Water
8					Water
9					Water
10					Water
11	9.7	34	46	11	Water
12	10.8	35	24	8.0	300 lbs. gel, 5 lbs. High Vis.



BIT RECORD

NO.	SERIAL	SIZE	MAKE	TYPE	FROM	TO	FEET	HOURS	REMARKS
1		8 5/8				30	30	2	Used
2	608	4 3/4	Williams	K2	30	168	138	8 3/4	
3	699	4 3/4	Williams	K2	168	310	142	8	
4	611	4 3/4	Williams	K2	310	380	70	6 1/2	
5		4 1/2	Hawthorn	Insert	380	480	100	3 3/4	
4	611	4 3/4	Williams	K2	480	561	151	29	Reamed, 4 1/2" hole.
6	28040	4 3/4	Walker-Macdonald	WM2	561	596	35	9 1/4	

BREAKDOWN OF TIME SPENT ON THE HOLE

Drilling 4 3/4"	50 hrs.
Reaming 4 3/4"	1 hr.
Drilling 8 5/8"	4 1/2 hrs.
Surface casing	36 3/4 hrs.
Wait on water, circulate	2 1/4 hrs.
Trips	7 3/4 hrs.
Repairs	2 3/4 hrs.
Service	1 hr.
Fishing	16 1/2 hrs.
TOTAL	122 1/2 hrs.

SAMPLE DESCRIPTION

0' - 17'	Ice and marl - a mixture of ice and a calcareous hash which appears to consist of crushed fossil debris, a few whole tests of small gastropod and what looks like large ostracods.
17' - 85'	Sand and gravel - clay matrix, gravel consists mostly of sedimentary particles - limestone, sandstone, dolomite, green calcareous shale, soft green shale, white chert fragments, black chert pebbles, some igneous pebbles, granite boulder at top.
85' - 155'	Sand - unconsolidated quartz sand, fine to coarse, poorly sorted, well rounded, some polish, some frosting, rare carbonaceous material, looks like sand with a few fragments of shale, also a few igneous grains. This may be Cretaceous but is more likely a post Cretaceous lake sand.
155' - 175'	Gravel - as described above 85'.
175'	Cretaceous.
175' - 270'	Sand - a lot of pebbles as above but probably are cavings. Sand is loosely consolidated, fine to coarse, quartzose, rounded, poorly sorted, a lot of carbonaceous material. Only a trace of igneous grains. Probably Cretaceous sand, but may be another post Cretaceous lake sand.

270'	Upper Hare Indian River Shale.
270' - 310'	Sand - as above, many cuttings of shale - light green, soft, slightly calcareous. (This may be all Devonian with bad cavings)
310' - 340'	Many obvious cavings of above sand and gravel. Shale - light green and green and grey mottled, slightly calcareous, spores abundant.
340' - 400'	Shale - mottled green and grey, many spores, shale - brown, calcareous, silty, abundant spores, occurs as thin stringers. Abundant pyrite at 370'.
400' - 450'	Shale - mottled as above but getting darker, very few spores.
450'	Lower Hare Indian River Shale.
450' - 478'	Shale - as above, some grey shale.
478' - 485'	Shale - dark brown, slightly calcareous, hard, brown streak, pyrite.
485'	Lower Ramparts.
485' - 515'	Limestone - grey to brown, very fine crystalline, in part argillaceous (dissolves leaving a brown sponge like residue) in part clean fossil fragments; brachiopods and ostracods.
515' - 520'	Limestone - as above but mostly brown, fairly dark, remainder is brownish grey or grey, chalky. Ostracods abundant, very few brachiopods.

520' - 530' Limestone - grey and brown, as above, minor green slightly calcareous shale; fewer fossils than in other wells, no trace of colonial corals, a few cup-corals.

530' - 595' Limestone - as above, some greenish limestone, which dissolves leaving a light silty residue (very fine silt). Quantity of shale and greenish limestone increases with depth; greenish limestone predominant from 550 feet down. Abundant pyrite at 565 feet. Rare clean limestone (corals?) and more brachiopods below 565 feet.

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'$\pm$ 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'±, very fine algal rich limestone, equivalent to the dolomite breccia of the Norman Wells area.

Silurian

Thickness unknown, dolomite with reefs.

PLEISTOCENE AND RECENT

This well spudded within 50 yards of a small lake, the upper 17 feet consist of a mixture of ice (permafrost) and a hash of broken shells. The total thickness of the overburden is 175 feet, the upper and lower portions consist of till, sand and gravel in a clay matrix; the sand is mostly of quartz grains, the gravel is formed mostly from sedimentary rocks of local origin with a few of igneous origin. Between two till sheets are 70 feet of unconsolidated sand, similar to the Cretaceous sands but containing grains of igneous rocks; this

sand is probably a glacial lake deposit.

CRETACEOUS

Samples indicate 95 feet of Cretaceous sand. The sand is composed of poorly consolidated quartz grains, with a lot of carbonaceous material.

UPPER HARE INDIAN RIVER SHALE

Only 180 feet of Upper Hare Indian River Shale is present in this well; the remainder of the section has been removed by pre-Cretaceous erosion. The section consists of green, very slightly calcareous shale which grades downward into mottled, interlaminated green and grey shale. Small, flat, circular, resinous spores are abundant.

LOWER HARE INDIAN RIVER SHALE

The Lower Hare Indian River Shale is 35 feet thick; it consists of grey shale with interbedded dark brown shale with a brown streak.

LOWER RAMPARTS

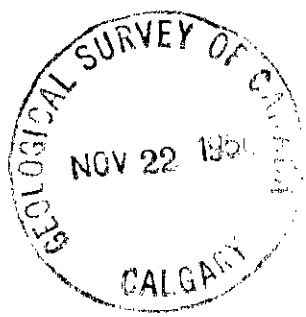
The Lower Ramparts was encountered at 485 feet, and 110 feet of the section was drilled before the well had to be abandoned. The section consists mainly of argillaceous limestone, with some interbedded green shale in the lower 65 feet. Unlike wells No. 1 and No. 2, in this well the Lower Ramparts contain no well developed coralline layers in the upper part; fossil fragments generally are less abundant in the cuttings than is the case for the other wells, ostracods however are abundant.

DISCUSSION

Rond Lake No. 3 was spudded near a small lake where the uppermost surface deposits consisted of a high percentage of ice; as a result the one joint of surface casing washed out several times.

In this well the permafrost extends only about 100 feet or less. Circulation was lost briefly between 225 and 231 feet. The loose sands in the upper part of the hole caved very badly. When the pipe twisted off opposite the zone of caving, the pipe leaned over so far in the cavity that it could not be grabbed by a hook small enought to enter the surface casing. The pipe had to be left in the hole.

G. K. Williams, P. Eng.



FORM "B"

DEPARTMENT OF NORTHERN AFFAIRS AND NATIONAL RESOURCES

NORTHERN ADMINISTRATION BRANCH

RESOURCES DIVISION

For the period from . . . . . .

to . . . . . .

REPORT of ~~COMPLETION~~ ~~REWORK~~ ~~RECOMPLETION~~ ~~SUSPENSION~~ ~~ABANDONMENT~~ of a ~~Well~~ STRUCTURE TEST HOLE.

Permit No. 1484 . .

Name of well . . Decalta Et Al,,. Rond Lake No. 3. . . . . Lease No. . . . .

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

Location . 67° 07' 00" . . . . . N. Lat 128°22'36". W. Long.

Survey description, if available . . . . . .

Elevation: Ground . . 883 . . . Last previous depth . . . . . .

Kelly bushing. . . 889 . . . Present depth . . . . 596 . . . . . .

Spudded . March 7, 1960 . . . . . Finished drilling Mar. 12. Rig Released

. . . Mar. 12. . .

Deviations from vertical . . . . . .

. . . . . .

CASING RECORD

	Date	Size O.D.	Weight lbs/ft	Grade	Set at feet	Sacks Cement	Top of Cement
1	Mar. 8	6 5/8	24	J-55	35	4	Surface
2							
3							
4							

TUBING RECORD

Size	Wt. Lbs/foot	Grade	Amount	Landed Depth	Remarks

Wellhead . . . . . .(Manufacturer). . . . (Size). . . .(Series)

Status of well on completion of drilling . . Dry Hole . . . . . .

Producing / Injection Zone . . . . . .and formation . . . . . .

Cord intervals . . NIL . . . . . .

. . . . . .

. . . . . .

. . . . . .

Interval logged: E-log . NIL . . . . . Other logs . . . . . .

R-log . . . . . .

M-log . . . . . .

Velocity log . . . . . .

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

DRILL STEM TESTS

Test No.	Date	Interval Tested	Duration	Results
NIL				

(If space insufficient, attach further sheet)

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

Perforations Bullet. . . . . .

. . . . . .

Shootings . . . . . .

Hydraulic fracturing . . . . . .

Chemical treatment . . . . . .

Date initial production tests . . . . . .

Initial production data . . . . . .

Pumping or flowing . . . . . .

Plug back . . . . . .

Other . . . . . .

. . . . . .

. . . . . .

. . . . . .

. . . . . .

CEMENT PLUGS SET

Date	Plug set at	Sacks cement	Method	Top found at
Mar. 12	Surface	4	Wooden Plug	

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

Cores will be stored at . . . . . .

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

Oil analysis (was made) of the Intervals. . . . . .
(to be made)

Gas analysis (was made) of the Intervals. . . . . .
(to be made)

Water 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 COMMENTS

Twist off at 1091', pipe left in hole . . . . . .

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Signed. J. W. Adams . . . Address 627 8th Ave. S.W., CALGARY

Date . May . . . . 1960 . .

(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.)