

IMPERIAL REDSTONE

NO. 1.

Drilling Authority No.

Date Issued

WELL NAME Imperial Redstone No. 1

FIELD Wildcat

Area: Norman Wells

LOCATION: Unit

Section

Grid 64 30 - 124 30

Latitude 67°11'42" N.

Longitude 124°38'19" W.

From Established Reference Marker

Rig Release Date: 25-3-46

Status D & A

Information Release Date 25-3-48

CHANGE OF NAME:

DATE RECEIVED	INDEX
MAR 22 1942	Application for a Drilling Authority. Well Completion Data. Well History Report. Application to Amend a Drilling Authority. Application to change a Well Name. Application to Abandon a Well or Suspend Drilling. Application to Alter Condition of a Well. Well History Supplement. Well Completion Data. Work-over Report No. Application to Commingle Production before Measurement. Approval to Commingle Production before Measurement. Application to Amend Approval No. to Commingle Production before Measurement. Application for M.P.R.—Oil. New Oil Well Report. New Gas Well Report. Well Inspection Report. Rig Inspection Report. Battery Inspection Report. Field Abandonment Programme and Approval. Well Card. Well Visit. Daily Drilling Reports.



File No.
Drilling Authority No.

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT

OIL AND MINERAL DIVISION

WELL-SITE INSPECTION REPORT

FROM: Field Office or Area: NOBISIAN WELLS Date: May 26, 1971

TO: The Oil Conservation Engineer:

RE: Imperial Redstone #1

Location: 64°11'42" N., 124°39'19" W. Status: Abandoned.

This location was inspected by the undersigned on May 19, 1971

The location is in ~~poor~~ unsatisfactory condition.

The following items require attention:

1. Cuttings not levelled out.
2. Pit not filled in.
3. Debris — bits, drums, pipe, wire rope, stainless screen — not buried.
4. Lease not levelled off — obviously cut not in here.
5. Surface casing above ground level. See picture.
6.

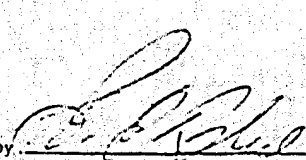
Other comments and recommendations: (Include Map, if necessary for clarity)

Recommend burial of all debris and level lease.

Spudded: 26th December 1945

D&A: 25th March 1946

Regulation in force in 1946 may not require the casing to be cut off 3' below ground level.

Inspected by: 



Drilling Authority No.
Date Issued

DEPARTMENT OF NORTHERN AFFAIRS AND NATIONAL RESOURCES
RESOURCES DIVISION

WELL COMPLETION DATA

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

Well name and number IMPERIAL REDSTONE #1
Permit No. P & EG # 208 Lease No.
Imperial Oil Limited Exploratory Licence No. Not available
(Operator, Lessee, Lessor)
Imperial Oil Limited Exploratory Licence No. Not available
(Operator)
Location: Unit J Section 42 Grid 20° 124° 30'
Latitude 64° 11' 42" N Longitude 124° 36' 19" W
From Established Reference Marker 27,029' S. 12,318' E. from PMS 105

	DATE	DEPTH	Pool (S)
Spudded	<u>Dec. 26/49</u>		Interval(s) open to production
Suspended			
Resumed			
Finished Drilling			
Deepened			Elevation: Gr. <u>225 est.</u>
Complete (gas/oil)			K.B. <u>235</u>
Abandoned	<u>Mar. 25/46</u>	<u>4874</u>	Drilling Contractor & Rig No. <u>I.O.L.</u>
Rig released	<u>Mar. 25/46</u>	<u>4874</u>	Contractor's Licence No.

CASING RECORD

Casing Size (Inches)	Weight	Amount	Set at—	Sacks of Cement	Method
1. <u>10 1/2</u>			<u>285</u>	<u>75</u>	
2.					
3.					
4.					
5.					
6.					

GEOLOGICAL TOPS	ELEVATION		CORE RECORD					
	Depth	Sub-Sea	From	To	Rec.	From	To	Rec.
<u>Surface S. & Gravel</u>	<u>0</u>	<u>+ 235</u>	<u>1657</u>	<u>1676</u>				
<u>Coarse Sand S. & Gr.</u>	<u>35</u>	<u>+ 200</u>	<u>2061</u>	<u>2075</u>				
<u>Imperial Sand S.</u>	<u>565</u>	<u>- 330</u>	<u>2680</u>	<u>2720</u>				
<u>Fort Creek Shales</u>	<u>1705</u>	<u>- 1470</u>	<u>3536</u>	<u>3576</u>				
<u>Reynolds Series</u>	<u>2675</u>	<u>- 2140</u>	<u>3802</u>	<u>3813</u>				
<u>Lone Mountain Dol.</u>	<u>3508</u>	<u>- 3273</u>	<u>4117</u>	<u>4129</u>				
<u>Mt. Kindle-Silurian</u>	<u>4160</u>	<u>- 3925</u>	<u>4447</u>	<u>4459</u>				
			<u>4806</u>	<u>4817</u>				

LOG RECORD

Run No.	Type of Log	From	To
<u>1</u>	<u>Electric</u>	<u>285</u>	<u>4230</u>

CEMENTING RECORD (Plug, Squeeze, etc.)

PERFORATING RECORD (Bullet, Jet)

SERVICING RECORD (Acidizing, Fracing, etc.)

Date	From	To	Remarks	Date	From	To	Remarks	Date	From	To	Remarks
											No acid

DRILL STEM TESTS

No.	Date	Formation	From	To	V.O. Mins.	I.S.I. Mins.	F.S.I. Mins.	I.S.I.B.H.P.	F.S.I.B.H.P.	I.F.B.H.P.	P.F.B.H.P.	I.H.P.	F.H.P.	REMARKS
1		Ramparts	2690	2720										Recovered 25' Drilling mud

Lab. No.	Sample	From	To	Source	Remarks	PRESENT STATUS OF WELL			
						Oil			(Interval)
						Gas			(Interval)
						Dry	Abandoned		
						Surp			

Company Imperial Oil Limited
Signed by COPY (ORIGINAL) R. F. FINCH
SIGNED

Total Well File Clerk

Date November 16/61

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

POOR COPY

37400

NOTICE OF INTENTION TO ABANDON A WELL

Notice is hereby given, in duplicate, to the Director, Lands, Parks, and Forests Branch, Department of Mines and Resources, Ottawa.

Notice is hereby given, as required by Section 85 of the P. & S. O. Regulations, dated June 30th, 1941, that it is the intention on or about the day of **March 25 1946** to abandon well **Redstone No. 1** (Est.) **365'** deep, located on P and NG Permit No. 208 **37,029'** south and **12,318'** west from P.M.S.-105

Registered in the name of **Imperial Oil Limited**

The reasons for abandonment are:

No productive horizons encountered.

Oil, gas and water were encountered as follows and will be shut off as mentioned below:

Oil:

Gas:

Water:

Water rose to (How near the surface)

The depth drilled to was **4874'** feet and the following casing was installed:

Material	Depth Feet	Weight	How, set or cemented	The intention is to
10 3/4"	285	405#/ft.	cemented - 75 sacks	none

Remarks: The abandonment procedure will be carried out by spotting two cement plugs, capping the surface casing and marking the location with a metal marking plate bearing the inscription: Imperial Oil Limited - Redstone No. 1.

The plugs will be placed as follows:

- (1) From 3458' to 3520' - 30 sacks of cement.
- (2) From 229' to 310' - 40 sacks of cement.

Approved:

At the Wells

Signature

H. S. Wilson
H. S. Wilson
Field Superintendent
Imperial Oil Limited -
Norman Exploration

Address Norman Wells, N.W.T.

DMCR/wk
cc: Dept. of
Mines & Re-
sources (2)
W.L. Taylor (2)
Toronto
Petr. Eng'rs. 91.0
Geol. Dept.
Date: **Dr. J. S. Stewart**
Supervisory Engineer
Bureau of Lands, Parks and Title
Forests Branch
Department of Mines and Resources

NOTE: All depths to be reported from top of rotary table if rotary used; derrick floor if standard tools used.

DEPARTMENT OF MINES & RESOURCES

NORTHWEST TERRITORIES BRANCH

WELL COMPLETION REPORT

As required by Section 81, sub-clause 3 of Petroleum & Natural Gas Regulations.

Field or Region: NORMAN WELLS, N.W.T. Designation of Well: Redstone No. 1
Lease or Permit No.: P and N.G. Permit No. 208 Registered Owner: Imperial Oil Ltd.
Location (survey description) S37,029' W12,318' of PMS-105 Elevation: 365' (Est.)
Date Operations Commenced: December 26, 1945 Date Completed: March 25, 1946
Type of Rig: Emsco Rotary Completed depth: 4874'
Deviations from Vertical: 30°-0°, 60°-0°, 65°-½°, 97°-¼°, 132°-¼°, 380°-¼°, 800°-0°, 1690°-1°.

CASING AND TUBING RECORD

Size	Weight	Thread	Depth	Cemented With
10½"	40.5#/ft.	SR	285'	75 sacks - Jan. 7/46

No other strings of casing run.

Distance between Rotary table (or derrick floor) and well head: 10'

Gun Perforations: none

Nitro-glycerine: none

Initial Acid Treatments: none

Initial Production data: none

Water encountered and how shut off: none

Remarks: Well abandoned as a dry hole on March 25th, as per abandonment notice.

GEOLOGIC LOGS

Electric Logs Taken: (1) 2° 5' to 4230'

Cores taken: (1) 1657' to 1676' (2) 2061' to 2075' (3) 2680' to 2720'
(4) 3536' to 3576' (5) 3802' to 3813' (6) 4117' to 4128'
(7) 4417' to 4459' (8) 4806' to 4817'

SUMMARY LOG

Depth	Nature of Rock
0' to 35'	Surface sand and gravel
35' to 565'	Cretaceous shales and sandstones
565' to 1705'	Imperial shales and sandstones
1705' to 2675'	Fort Creek Shales
2675' to 3508'	Ramparts Series
3508' to 4160'	Lone Mountain dolomite
4160' to 4874'	Kount Kindle, Silurian

cc: Dept. Mines and Resources (2)
Toronto
Mr. W. L. Taylor
Petr. Engr. 91.0

Brown Wells, N.W.T.,
March 26, 1946

To: Mr. Charles Vincer
FROM: James P. Stacey

Re: Bedstone No. 1 Well

A tentative summary for the Bedstone Well is here presented.

The geologic section of this well is believed to be as follows:

0'	-	35'	Surface sands and gravels.
35'	-	565'	Cretaceous Shales and Sandstones
565'	-	1705'	Imperial Shales and Sandstones
1705'	-	2575'	Fort Creek Shales
2575'	-	3308'	Ramparts Series
3308'	-	4260'	Long Mountain Dolomite Limestone and Anhydrites series
4260'	-	4874'	plus Mt. Kindle - Silurian
	-	4874'	Bottom of well.

The Cretaceous formation is mainly of soft sandy shales, appearing silty actually, with little change from a monotonously gray color. Several minor Sandstone beds are present, and are mostly of a "salt-and-pepper" type, fairly coarse-grained but little glauconite present. Basal Cretaceous Sandstones are from 475' to 565', and the samples from the very base appear to imply erosional-zone characteristics.

The Imperial Series samples (565'-1705') appear similar to those from other wells. Particular characteristics, however, are seen in a dark carbonaceous shale zone from about 1405' to 1605' underlain by a section of sandstone, probably representing the basal Imperial beds. The sandstone however is quite dense, fine-grained, shaley in general, well-bedded and shows marked cross-bedding.

The Fort Creek Shales are believed to range from 1705' to 2575'. The upper part, - 1705' to 2025' is of a very dark, carbonaceous shales series, quite hard and dense generally. The remainder of the shales is typical Fort Creek, with minor, irregularly-spaced sandstone beds. From 2545'-2575', is present the usual dark shale and interbedded limestone series generally found above the Beaverhill-Ramparts formation.

The Ramparts formation is mostly of massive to thin-bedded limestones and lesser shales zones. A good amount of fossils traces is present throughout, but no porosity organs was observed. A drill stem test was carried out in the zone from 2685' to 2720', where only 25' of fluid was recovered during the 2-hour set.

This test was recommended primarily because the upper parts of limestone series are generally considered most favorable for oil possibilities, - and also because of the poor core recoveries, which may have

Page 2.

implied the presence of fracturing or porosity. Elementary tests on the recovered mud showed no positive results.

The tight hole at 2475' and 3300' might be explained by reason of poorly-bedded shales zones, possibly due to local "crumpling".

The Lens Mountain formation ranges from 3308' to 4140'. The samples are very characteristic of the Bear Rock, massive-bedding, greatly brecciated and fractured. Considerable metamorphism has caused much recrystallizing of Dolomitic and Anhydritic zones, and possibly has imparted a great deal to the feature which resembles brecciated "flow-structure". No gases, porosity or formation waters were detected in this horizon.

The Mount Kindle formation was penetrated for about 715' and is composed mainly of well-bedded limestones and more massive Anhydritic Dolomite beds. Although there is a notable amount of porosity here, it is limited to thin zones, and very irregularly scattered. Very little pyrobitumin, no salt or gas or formation waters were ever detected in the samples with porosity, believed to be caused mostly by consolidation and recrystallization, possibly metamorphic features.

The drilling tools are believed to have become stuck off bottom because the formation had gradually absorbed water from the wall-cake which must have built up to excessive thickness as a result. The well was abandoned without complete recovery of tools, and plugged at about 3900' and 275'.

Total depth reached in Redstone No. 1, is 4874'. No favorable indications were encountered, and none were further anticipated.

An electric-log was obtained to a depth of 4230', thereby permitting assurance for this information in case of later difficulties.

T.P.S.

Taras P. Storey

P.D. Shannon
Toronto
Geol.
Pet. Eng.
Dept. Mines & Resources.

POOR COPY

New file

October 3rd

1945

Notice is hereby given as required by Section 47, subsection 1 of the Petroleum and Natural Gas Regulations, dated June 26, 1944, that it is our intention to begin drilling a well on P. & M. Co. Permit No.

on about the 15th day of December 1945

situated in the name of IMPERIAL OIL CO. LTD.

and located 37,029 feet South & 12,318 feet West from P.M.S. 105

(Give below distances from boundaries)

Being Approx. 4.8 miles from Northerly Bdy. & 6.9 Miles from Easterly Bdy.

The well shall be known as REDSTONE No. 1

We intend to use the following equipment

Type of drilling rig: Emsco Rotary

Size	Weight	Turns	Spang	New	Depth	Has Set
10 1/2"	40.5#	8R.	"	"	250'	Cemented
7"	24#	8R.	"	"	To be	

cemented at top of producing horizon, if commercial production is encountered.

We expect to encounter the following oil, water, and gas horizons and propose taking core of them as follows: (We will inform you of any changes in this programme.)

Water - none

Possible Oil and Gas Horizons 1600'
3100'
3800'

Maximum Depth 6000'

The well is to be drilled by Company/Contractor. If Contractor, give name.

The officers in charge of the operations will be

At the Well

Field Superintendent

Of the Company

Signature

P. R. SHANNON

Name of Permittee IMPERIAL OIL LIMITED

Approved

J. S. Stewart
Acting Supervisory Engineer
Dept. Mines and Resources

Title

Manager

Coal Dept.

100A
100B
100C

STO: 701-22 Mrs. M. G. G. G.

SECRET

NOTE: All depths to be reported from top of rotary table if rotary used; derrick floor if standard tools used.

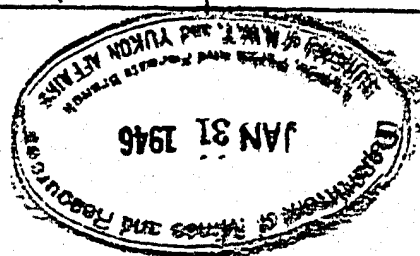
DEPARTMENT OF MINES & RESOURCES
NORTHWEST TERRITORIES BRANCH

WEEKLY SUMMARY OF DRILLING (Rotary Tools)
As required by Section 61 of the Petroleum &
Natural Gas Regulations.

Field MacKenzie River Basin, Norman Wells, N.W.T.
Company or Contractor Imperial Oil Limited
Well designation Redstone No. 1

Day ending 8:00 a.m.	Footage drilled				Depth at end of day	Drilling Mud		Slope tests		Remarks
	1st tour	2nd tour	3rd tour	Total		Average viscosity seconds	Average Weight # / gal.	Depth	Inclination	
December 26	-	18	-	18	18	62				Spudded in at 9:45 p.m.
" 27	18	2	-	20	38	104				Drilling sandstone and boulders
" 28	-	-	-	-	38	74				Reaming
" 29	-	-	-	-	38					Shut down 9:30 a.m.

General Remarks:



Drilling Superintendent Henry J. Wilson
Date December 26-29, 1945

NOTE: All depths to be reported from top of rotary table if rotary used; derrick floor if standard tools used.

DEPARTMENT OF MINES & RESOURCES
NORTHWEST TERRITORIES BRANCH

WEEKLY SUMMARY OF DRILLING (Rotary Tools)
As required by Section 61 of the Petroleum &
Natural Gas Regulations.

Field MacSade River Basin, Norman Wells, N.W.T.
Company or Contractor Imperial Oil Limited
Well designation Redstone No. 1

Day ending 8:00 a.m.	Footage drilled			Total	Depth at end of day	Drilling Mud		Slope tests		Remarks
	1st tour	2nd tour	3rd tour			Average viscosity seconds	Average Weight # / gal.	Depth	Inclination	
December 30	-	-	-	-	38	-	-			Shut down
31	-	-	-	-	38	-	-			Shut down
January 1	-	-	-	-	38	-	-			Shut down
2	-	-	-	-	38	-	-			Shut down
3	-	4	14	18	56	65	-	30'	0°	Drilling sandstone and boulders
4	16	25	30	71	127	63	-	97'	$\frac{1}{4}$	Drilling shale
5	26	25	25	76	203	51	-	132'	$\frac{1}{4}$	Drilling shale

General Remarks: Dec. 30th to Jan. 2nd. Shut down while awaiting the arrival of additional 13 $\frac{3}{4}$ " bits

Drilling Superintendent Henry J. Wilson
Date December 30/45 to January 5/46

NOTE: All depths to be reported from top of rotary table if rotary used; derrick floor if standard tools used.

DEPARTMENT OF MINES & RESOURCES
NORTHWEST TERRITORIES BRANCH

WEEKLY SUMMARY OF DRILLING (Rotary Tools)
As required by Section 61 of the Petroleum &
Natural Gas Regulations.

Field Mackenzie River Basin, Norman Wells, N.W.T.

Company or Contractor Imperial Oil Limited

Well designation Redstone No. 1

Day ending 8:00 a.m.	Footage drilled			Total	Depth at end of day	Drilling Mud		Slope tests		Remarks
	1st tour	2nd tour	3rd tour			Average viscosity seconds	Average Weight #/gal.	Depth	Inclination	
January 6	29	28	25	82	285	57	10.6			Drilling shale
" 7	-	-	-	-	285	-	-			Running casing
" 8	-	-	-	-	285	-	-			Standing cemented
" 9	-	-	-	-	285	-	-			Standing cemented
" 10	-	-	27	27	312	60	9.5			Drilled plug at 284'
" 11	28	38	34	100	412	43	9.6	380	10°	Drilling sandy shale
" 12	28	66	60	154	566	47	10.0			Drilling sandy shale

General Remarks: January 7th cemented 275' of 10 $\frac{3}{4}$ " casing at 285' with 75 sacks of cement

Drilling Superintendent Henry H. Wilson
Date January 6-12, 1946

NOTE: All depths to be reported from top of rotary table if rotary used; derrick floor if standard tools used.

DEPARTMENT OF MINES & RESOURCES
NORTHWEST TERRITORIES BRANCH

WEEKLY SUMMARY OF DRILLING (Rotary Tools)
As required by Section 61 of the Petroleum &
Natural Gas Regulations.

Field Mackenzie River Basin, Norman Wells, N.W.T.
Company or Contractor Imperial Oil Limited
Well designation Redstone No. 1

Day ending	Footage drilled			Total	Depth at end of day	Drilling Mud		Slope tests		Remarks
	1st tour	2nd tour	3rd tour			Average viscosity seconds	Average Weight #/gal.	Depth	Inclination	
January 13	40	61	41	142	708	40	10.5			Drilling sandy shale
" 14	37	46	46	129	837	43	11.3	800	0°	Drilling shale
" 15	50	49	51	151	988	42	11.5			Drilling shale
" 16	49	45	35	129	1117	41	12.2			Drilling sandy shale
" 17	40	38	35	113	1230	37	11.6			Drilling shale
" 18	52	45	31	128	1358	37	11.6			Drilling shale
" 19	0	30	43	73	1431	38	12.0			Drilling shale

General Remarks:

Drilling Superintendent N. S. Wilson
Date.... January 19th, 1946

NOTE: All depths to be reported from top of rotary table if rotary used; derrick floor if standard tools used.

DEPARTMENT OF MINES & RESOURCES
NORTHWEST TERRITORIES BRANCH

WEEKLY SUMMARY OF DRILLING (Rotary Tools)
As required by Section 61 of the Petroleum &
Natural Gas Regulations.

Field Mackenzie River Basin, Norman Wells, N.W.T.

Company or Contractor Imperial Oil Limited

Well designation Redstone No. 1

Day ending	Footage drilled				Depth at end of day	Drilling Mud		Slope tests		Remarks
	1st tour	2nd tour	3rd tour	Total		Average viscosity seconds	Average Weight #/gal.	Depth	Inclination	
January 20	42	32	30	104	1535	39	12.0			Drilling shale
" 21	24	34	41	99	1634	39	11.8			Drilling shale
" 22	23	14	5	42	1676	41	12.0			Drilling sand
" 23	26	31	40	97	1773	39	11.7			Drilling shale
" 24	35	33	31	99	1872	38	11.4			Drilling shale
" 25	21	20	32	73	1945	38	11.4			Drilling shale
" 26	38	52	26	116	2061	38	11.4			Drilling shale

General Remarks: Hole cored from 1657' - 1676'

Drilling Superintendent N. J. Wilson
Date January 20th-26th, 1946

NOTE: All depths to be reported from top of rotary table if rotary used; derrick floor if standard tools used.

DEPARTMENT OF MINES & RESOURCES
NORTHWEST TERRITORIES BRANCH

WEEKLY SUMMARY OF DRILLING (Rotary Tools)
As required by Section 61 of the Petroleum &
Natural Gas Regulations.

Field Mackenzie River Basin, Norman Wells, N.W.T.
Company or Contractor Imperial Oil Limited
Well designation Redstone No. 1.

Day ending	Footage drilled				Depth at end of day	Drilling Mud		Slope Tests		Remarks
	1st tour	2nd tour	3rd tour	Total		Average viscosity	Average Weight	Depth	Inclination	
						Seconds	#/Gal.			
January 27	14	9	32	55	2116	42	11.4			Shale
" 28	40	36	34	110	2226	47	11.8			Shale
" 29	15	36	49	100	2326	45	11.7			Shale
" 30	59	31	70	160	2486	47	11.8			Shale
" 31	55	52	35	142	2628	46	12.0			Shale
February 1	9	32	15	56	2684	48	12.1			Shale and Lime
" 2	16	12	8	36	2720	50	12.0			Limestone

General Remarks: Hole cored from 2061' to 2075'
Hole cored from 2680' to 2720'

Drilling Superintendent A. S. Wilson

Date January 27 to February 2, 1946

NOTE: All depths to be reported from
top of rotary table if rotary
used; derrick floor if standard tools
used.

DEPARTMENT OF MINES & RESOURCES
NORTHWEST TERRITORIES BRANCH

WEEKLY SUMMARY OF DRILLING (Rotary Tools)
As required by Section 61 of the Petroleum &
Natural Gas Regulations.

Field Mackenzie River Basin, Norman Wells, N.W.T.
Company or Contractor Imperial Oil Limited
Well designation Whirlpool No. 1

Day ending	Footage drilled			Total	Depth at end of day	Drilling Mud		Slope Tests		Remarks
	1st tour	2nd tour	3rd tour			Average viscosity Seconds	Average Weight #/gal.	Depth	Inclination	
January 27	-	-	40	40	40	30	-			muskeg
" 28	-	-	-	-	40	36	-			Repairs
" 29	-	-	-	-	40	34	-			Rat Hole
" 30	-	3	4	7	47	53	-			Sandstone
" 31	23	29	5	57	104	47	9.6			Sand & Shale
February 1	10	11	10	31	135	53	10.8			Sandy Shale
" 2	21	9	35	65	200	54	10.0			Sandy shale

General Remarks: Well spudded in 3:30 A.M. January 28, 1946

Drilling Superintendent... *N. J. Wilson*

Date January 27th to February 2nd, 1946

NOTE: All depths to be reported from
top of rotary table if rotary
used; derrick floor if standard tools
used.

DEPARTMENT OF MINES & RESOURCES
NORTHWEST TERRITORIES BRANCH

WEEKLY SUMMARY OF DRILLING (Rotary Tools)
As required by Section 61 of the Petroleum &
Natural Gas Regulations.

Field Mackenzie River Basin - Norman Wells, N.W.T.
Company or Contractor Imperial Oil Limited
Well designation Redstone No. 1.

Day ending	Footage drilled			Total	Depth at end of day	Drilling Mud		Slope Tests		Remarks
	1st tour	2nd tour	3rd tour			Average viscosity Seconds	Average Weight #/Gal.	Depth	Inclination	
February 3	-	-	-	-	2720	44	12.0			Limestone
" 4	-	6	25	31	2751	50	11.7			Limestone
" 5	12	24	26	66	2817	55	11.7			Lime & Shale
" 6	25	13	41	79	2896	53	11.7			Lime & Shale
" 7	32	23	24	79	2975	53	11.7			Lime & Shale
" 8	-	-	-	-	2975	-	-			Repairs
" 9	-	15	38	53	3028	58	11.7			Limestone

General Remarks: Ran formation test on section from
2690' to 2720'. Recovered 25' of drilling fluid in 2 hours
but no evidence of oil, gas or water.

Drilling Superintendent. N. S. Wilson

Date February 3rd to 9th, 1946.

NOTE: All depths to be reported from top of rotary table if rotary used; derrick floor if standard tools used.

DEPARTMENT OF MINES & RESOURCES
NORTHWEST TERRITORIES BRANCH

WEEKLY SUMMARY OF DRILLING (Rotary Tools)
As required by Section 61 of the Petroleum &
Natural Gas Regulations.

Field Mackenzie River Basin, Norman Wells, N.W.T.
Company or Contractor Imperial Oil Limited
Well designation Whirlpool No. 1

Day ending	Footage drilled		3rd tour	Total	Depth at end of day	Drilling Mud		Slope Tests		Remarks
	1st tour	2nd tour				Average viscosity Seconds	Average Weight #/Gal.	Depth	Inclination	
February 3	38	20	-	58	258	54	10.2			Shale
" 4	-	-	-	-	258	-	-			Casing
" 5	-	-	-	-	258	-	-			Cemented
" 6	-	-	22	22	280	48	9.0			Shale
" 7	57	50	30	137	417	54	10.0			Sandstone
" 8	29	25	31	85	502	51	10.2			Sand and Shale
" 9	26	15	35	76	578	49	10.0			Sand and Shale

General Remarks: 247' of 10 $\frac{3}{4}$ " casing run and cemented at 258' with 75 sacks of cement on February 3rd.

Drilling Superintendent. W. S. Wilson
Date February 3rd to 9th, 1946

NOTE: All depths to be reported from
top of rotary table if rotary
used; derrick floor if standard tools
used.

DEPARTMENT OF MINES & RESOURCES
NORTHWEST TERRITORIES BRANCH

WEEKLY SUMMARY OF DRILLING (Rotary Tools)
As required by Section 61 of the Petroleum &
Natural Gas Regulations.

Field Mackenzie River Basin, Norman Wells, N.W.T.
Company or Contractor Imperial Oil Limited
Well designation Redstone No. 10

Day ending	Footage drilled			Total	Depth at end of day	Drilling Mud		Slope Tests		Remarks
	1st tour	2nd tour	3rd tour			Average viscosity Seconds	Average Weight #/Gal.	Depth	Inclination	
February 10	23	28	22	73	3106	58	11.7			Lime & Shale
" 11	25	32	18	75	3181	60	11.7			Lime & Shale
" 12	9	43	32	84	3265	57	11.6			Shale
" 13	24	24	18	66	3331	54	11.7			Shale
" 14	-	-	11	11	3342	53	11.8			Shale
" 15	27	23	20	70	3412	55	11.7			Lime & Shale
" 16	24	26	9	59	3471	59	11.9			Lime & Shale

General Remarks: Feb. 13th - Washed out and twisted off tool joint
6 1/2 stands and 2 drill collars from bottom.

Feb. 14th - Recovered fish

Drilling Superintendent. N. S. Pileas

Date February 10th - 16th, 1946

NOTE: All depths to be reported from top of rotary table if rotary used; derrick floor if standard tools used.

DEPARTMENT OF MINES & RESOURCES
NORTHWEST TERRITORIES BRANCH

WEEKLY SUMMARY OF DRILLING (Rotary Tools)
As required by Section 61 of the Petroleum &
Natural Gas Regulations.

Field Mackenzie River Basin, Norman Wells, N.W.T.
Company or Contractor Imperial Oil Ltd.
Well designation Whirlpool No. 1

Day ending	Footage drilled			Tctal	Depth at end of day	Drilling Mud		Slope Tests		Remarks
	1st tour	2nd tour	3rd tour			Average viscosity	Average Weight	Depth	Inclination	
						Seconds	#/Gal.			
February 10	26	-	-	26	604	53	10.1			Sand & Shale
" 11	-	4	23	27	631	51	10.3			Sand and shale
" 12	28	36	29	93	724	50	10.2	650	11°	Shale
" 13	8	30	32	70	794	48	10.4			Shale
" 14	18	7	31	56	850	47	10.4			Sandy shale
" 15	27	39	40	106	956	46	10.4			Shale & lime
" 16	7	11	-	18	974	45	10.4			Limestone

General Remarks: Feb. 10th: Twisted off tool joint one single and three drill collars from bottom. Feb. 11th: Recovered fish - Twisted off again and recovered second fish. Cored from 803' to 815' and from 956' to 974'.

Drilling Superintendent H. J. Wilson
Feb. 10th to 16th, 1946
Date

NOTE: All depths to be reported from top of rotary table if rotary used; derrick floor if standard tools used.

DEPARTMENT OF MINES & RESOURCES
NORTHWEST TERRITORIES BRANCH

WEEKLY SUMMARY OF DRILLING (Rotary Tools)
As required by Section 61 of the Petroleum &
Natural Gas Regulations.

Field Mackenzie River Basin, Norman Wells, N.W.T.
Company or Contractor Imperial Oil Limited
Well designation Redstone No. 1

Day ending	Footage drilled		3rd tour	Total	Depth at end of day	Drilling Mud		Slope Tests		Remarks
	1st tour	2nd tour				Average viscosity Seconds	Average Weight #/gal.	Depth	Inclination	
February 17	32	30	10	72	3543	62	11.3			Limestone
" 18	13	13	7	33	3576	57	11.5			Limestone
" 19	--	--	17	17	3593	58	11.3			Lime and shale
" 20	38	31	20	89	3682	56	11.2			Limestone
" 21	37	29	33	99	3781	54	11.2			Limestone
" 22	21	11	19	51	3832	58	11.2			Limestone
" 23	45	35	23	60	3935	57	11.3			Limestone

General Remarks: Cored from 3536' to 3576' - Recovery 8'/40'
Cored from 3802' to 3815' - Recovery 11'/11'

Drilling Superintendent... *N. J. Wilson*...

Date February 17-23, 1946,

NOTE: All depths to be reported from
top of rotary table if rotary
used; derrick floor if standard tools
used.

DEPARTMENT OF MINES & RESOURCES
NORTHWEST TERRITORIES BRANCH

WEEKLY SUMMARY OF DRILLING (Rotary Tools)
As required by Section 61 of the Petroleum &
Natural Gas Regulations.

Field Mackenzie River Basin, Norman Wells, N.W.T.
Company or Contractor Imperial Oil Limited.
Well designation Redstone No. 1

Day ending	Footage drilled			Total	Depth at end of day	Drilling Mud		Slope Tests		Remarks
	1st tour	2nd tour	3rd tour			Average viscosity Seconds	Average Weight #/gal.	Depth	Inclination	
February 24	26	14	23	63	3998	56	11.4			Limestone
25	26	27	36	89	4087	54	11.4			Limestone
26	30	12	25	67	4154	55	11.4			Limestone
27	34	26	16	76	4230	54	11.4			Limestone
28	-	-	39	39	4269	52	11.3			Limestone
March 1	25	-	41	66	4335	53	11.4			Limestone
2	29	16	34	79	4414	53	11.4			Limestone

General Remarks:

Feb. 28th - Ran Electrolog to 4230'
Mar. 1st - Successful fishing job.

Drilling Superintendent.....*N. S. Gillan*

Date Feb. 24-Mar. 2, 1946

NOTE: All depths to be reported from top of rotary table if rotary used; derrick floor if standard tools used.

DEPARTMENT OF MINES & RESOURCES
NORTHWEST TERRITORIES BRANCH

WEEKLY SUMMARY OF DRILLING (Rotary Tools)
As required by Section 61 of the Petroleum &
Natural Gas Regulations.

Field Mackenzie River Basin, Norman Wells, N.W.T.
Company or Contractor Imperial Oil Limited
Well designation Redstone No. 1

Day ending	Footage drilled		3rd tour	Total	Depth at end of day	Drilling Mud		Slope Tests		Remarks
	1st tour	2nd tour				Average viscosity Seconds	Average Weight #1 gal.	Depth	Inclination	
March 3	32	12	--	45	4459	52	11.4			Limestone
" 4	29	23	25	77	4536	51	11.4			Limestone
" 5	28	28	37	93	4629	52	11.5			Limestone
" 6	38	37	--	75	4704	52	11.4			Limestone
" 7	--	--	--	--	4704	--	--			Repairing
" 8	--	--	--	--	4704	--	--			Repairing
" 9	11	33	30	74	4778	54	11.4			Limestone

General Remarks: Cored from 4447' to 4459' - Recovery 8'12'
March 7th-8th - Waiting for repairs and repairing pump clutch assembly.

Drilling Superintendent... *A. J. Wilson* per D.

Date March 3/9, 1946

NOTE: All depths to be reported from top of rotary table if rotary used; derrick floor if standard tools used.

DEPARTMENT OF MINES & RESOURCES
NORTHWEST TERRITORIES BRANCH

WEEKLY SUMMARY OF DRILLING (Rotary Tools)
As required by Section 61 of the Petroleum &
Natural Gas Regulations.

Field Mackenzie River Basin, Norman Wells, N.W.T.
Company or Contractor Imperial Oil Limited
Well designation Radstone No. 1

Day ending	Footage drilled			Total	Depth at end of day	Drilling Mud		Slope Tests		Remarks
	1st tour	2nd tour	3rd tour			Average viscosity seconds	Average Weight #/gallon	Depth	Inclination	
March 10	28	11	-	29	4817	50	11.3			Limestone
11	16	23	18	57	4874	51	11.7			Limestone
12	-	-	-	-	4874	43	11.3			Drill pipe
13	-	-	-	-	4874	43	11.3			Stuck in hole
14	-	-	-	-	4874	-	-			200' off bottom
15	-	-	-	-	4874	-	-			
16	-	-	-	-	4874					

General Remarks: Cored from 2806' to 4817'

Drilling Superintendent... *H. A. Wilson*

Date March 10 to 16, 1946...

March 14th - Backed off 2091' of 3½" drill pipe.

March 16th - Made one cut at 2496' and recovered 405' of 3½" drill pipe.

NOTE: All depths to be reported from top of rotary table if rotary used; derrick floor if standard tools used.

DEPARTMENT OF MINES & RESOURCES
NORTHWEST TERRITORIES BRANCH

WEEKLY SUMMARY OF DRILLING (Rotary Tools)
As required by Section 61 of the Petroleum &
Natural Gas Regulations.

Field Mackenzie River Basin, Norman Wells, N.W.T.
Company or Contractor Imperial Oil Limited
Well designation Redstone No. 1

Day ending	Footage drilled				Depth at end of day	Drilling Mud		Slope Tests		Remarks
	1st tour	2nd tour	3rd tour	Total		Average viscosity Seconds	Average Weight #/gallon	Depth	Inclination	
March 17	-	-	-	-	4874	45	11.0			Fishing
18	-	-	-	-	4874	45	10.9			Fishing
19	-	-	-	-	4874	45	10.9			Fishing
20	-	-	-	-	4874	43	10.9			Fishing
21	-	-	-	-	4874	42	10.9			Fishing
22	-	-	-	-	4874	42	10.9			Fishing
23	-	-	-	-	4874	42	10.8			Fishing

General Remarks: A total of 1817' of drill pipe was cut and removed from the hole during fishing operations which continued throughout the week.

Drilling Superintendent A. S. Wilson

Date March 17-23/46

NOTE: All depths to be reported from top of rotary table if rotary used; derrick floor if standard tooling used.

DEPARTMENT OF MINES & RESOURCES
NORTHWEST TERRITORIES BRANCH

WEEKLY SUMMARY OF DRILLING (Rotary Tools)
As required by Section 61 of the Petroleum &
Natural Gas Regulations.

Field Mackenzie River Basin, Norman Wells, N.W.T.
Company or Contractor Imperial Oil Limited
Well designation Redstone No. 1

Day ending	Footage drilled				Depth at end of day	Drilling Mud		Slope Tests		Remarks
	1st tour	2nd tour	3rd tour	Total		Average viscosity Seconds	Average Weight #/gallon	Depth	Inclination	
March 24	-	-	-	-	4874					Shut Down
25	-	-	-	-	4874					Abandoned
On March 23rd, approval for the abandonment of this hole was received. Fish left in the hole at completion of operations consisted of: 1-9 $\frac{7}{8}$ " bit; 3-7" drill collars; 2 double pin subs; 1 bit sub; 1 top sub; 11 joints of 4 $\frac{1}{2}$ " drill pipe and 1 joint of 4 $\frac{1}{2}$ " drill pipe with 5' cut off. The top of the fish was at 4313' when the abandonment procedure was carried out by spotting two cement plugs as follows:										

General Remarks: (1) 3458' to 3520' - 30 sacks
(2) 229' to 310' - 40 sacks

The operation was completed by capping the surface casing.

Drilling Superintendent A. L. Williams

Date March 24 and 25, 1946