

Department of Indian Affairs and Northern Development
Resource & Economic Development Group



DEPARTMENT OF NORTHERN AFFAIRS AND NATIONAL RESOURCES
RESOURCE MANAGEMENT DIVISION

Application for a Drilling Authority

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

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

Name and number of well. McD et al Sulphur Point #1 0-7
Location: Unit 0 Section 7 Grid 61°00' - 114°45'
Latitude 60°56'57" North Longitude 114°45'30" West
From Established Reference Marker 2900' South of Shot Point 40.
Line 1 of McDermott shooting.
Elevation: Ground 513' est. K.B. 520' est. feet above sea-level.
Well is expected to produce from drill to Chinchaga formation at a depth of about 700 feet.
Area assigned to well.

(for Oil Conservation Engineer's use only)

Permit No. 4514 Lease No. Acreage 62,244
Permittee, licensee, or lessee J. Ray McDermott & Co., Inc., General Crude Oil Company,
Exploratory Licence No. 1018 Teck Corporation Limited
Surface owned by Crown or Crown
(If alienated submit name and address of owner and occupant.)
Petroleum and natural-gas rights owned by Crown

We propose to use the following strings of casing, either cementing or landing them as indicated below:—

Casing Size O.D. (Inches)	Weight (Lb./Ft.)	Grade	Brand	New or Used	Estimated Depth	Sacks of Cement
1. 5-1/2"	14	H40	-	New	50	-
2. 3-1/2"	7.70	J55	-	New	120	10
3.						
4.						
5.						

Expected water, gas, and oil horizons and type of control equipment conductor casing to avoid contamination of lake. Surface casing set at least 50' into Slave Point carbonate. Blow out preventers to control excessive formation pressures.

Well will be drilled with (Rotary) Rig No. 1 by Roy Murray Drilling Co.
(Gabix) (Drilling Contractor or company)

Responsible agent of applicant:—

Contractor's Business Licence No. APPLIED FOR

At well E.W. Halkow At registered office 217 Royalite Building
Address Hay River, N.W.T. Address Calgary, Alberta

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

Dated at Calgary, Alberta, this 8 day of February 19 67

Signed by J. Ray McDermott & Co., Inc.
Title Division Manager Operator's Licence No. 1018

(For Resource Management Division use only)

APPROVED

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

The Company will submit to this office, on Tuesday of each week, the latest reports received by radio on the progress of the well.

Dated 14th February 19 67

Oil Conservation Engineer

Forms to be submitted to Oil Conservation Engineer, Calgary, Alberta.

NANR 52-90-1 (7-65)

UNIVERSAL WELL LOCATION REFERENCE: 60.94916° N. 114.75833° W.



File No.....
Drilling Authority No.....262.....

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
RESOURCE MANAGEMENT DIVISION

Application to Abandon a Well or Suspend Drilling

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

Name and number of well.....McD...et...al...Sulphur Point...#1...0-7.....
Location: Unit.....0.....Section.....7.....Grid.....61°00'—114°45'
Latitude.....60°56'57" North.....Longitude.....114°45'30" West
From Established Reference Marker.....2900' South of Shot Point 40 Line 1 of McD's shooting.
Universal Well Location Reference.....
Permit No.....4514.....Lease No.....

(Permitter, Licensee, Lessee)

Date of commencement of proposed program.....April 2, 1967.....

OIL, GAS, AND WATER ENCOUNTERED
(Depths)

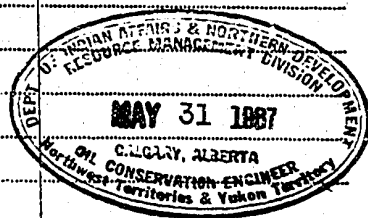
Oil at.....
Gas at.....
Water at.....
Total Depth.....440'.....Date of last operations.....April 12, 1967.....
Present condition of well.....Abandoned.....

CASING RECORD

Casing Size O.D. Inches	Weight	Amount	Set At—	Sacks of Cement and Additives	Amount Pulled
1. 7" Conductor		63'	59'		63'
2. 4-1/2"		169' 1 Jt.	169'	20-sx-Cement	
3. 3-1/2"		(4 Jts.)			
4.					
5.					

PROPOSED ABANDONMENT PROGRAM

No.	Plug	Geological Formation	Number of Sacks of Cement	Remarks
	Position			
		Cement to mud line and shoot off.		



The following logs have been run.....No logs run due to ice shift.....
Other operations proposed.....

Operations to be carried out by.....Roy Murray Drilling Co.....Contractor Licence No.....18138.....
Address.....P.O. Box 34, ST. ALBERT, Alberta.....Address.....

Responsible Agent in field.....F.W. Halkow.....

Dated at.....Calgary....., this.....26.....Day of.....May.....19 67.....

Signed by.....[Signature].....Company.....J. Ray McDermott & Co., Inc.....

Title.....Exploration Manager.....Operator's Exploratory Licence No.....1018.....

Note:—The Oil Conservation Engineer's office must be notified before work is commenced.

(For RESOURCE MANAGEMENT DIVISION use only)

APPROVAL

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

Confirming oral approval to abandon by complete plugging from bottom to mud line

Dated.....31st May....., 19 67.....

[Signature]
Oil Conservation Engineer

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



Drilling Authority No. 262
Date Issued February 14, 1967

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
RESOURCE MANAGEMENT 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 McD et al Sulphur Point #1 0-7
Permit No. 4514 Lease No.
J. Ray McDermott & Co., Inc. Exploratory Licence No. 1018
(Permittee, Licensee, Lessee)
J. Ray McDermott & Co., Inc. Exploratory Licence No. 1018
(Operator)
Location: Unit 0 Section 7 Grid 61°00' - 114°45'
Latitude 60°56'57" North Longitude 114°45'30" West
From Established Reference Marker 2900' South of SP 40, Line 1 of McD. Shooting
Universal Well Location Reference 60.94916° N Lat. 114.75833° W Long.

	DATE	DEPTH	Pool(s)
Spudded	April 2 nd / 67		Interval(s) open to production
Suspended			
Resumed Operations			
Finished Drilling	April 9 / 67	440'	
Deepened			Elevation: Gr. 513' K.B. 517'
Complete (gas/oil)			Rig No. #1 (Failing 1500')
Abandoned	April 12 / 67	440'	Drilling Contractor Roy Murray Drilling Co.
Rig released	April 12 / 67		Contractor's Business Licence No. 18138

CASING RECORD

Casing Size (Inches)	Grade	Weight	Amount	Set at -	Sacks of Cement and Additives
1. 7" Conductor			63	63	Pulled 49' 63'
2. 4-1/2" "			1Jt. 165.2	169'	22 sx. + 3% CaCl ₂
3. 3-1/3" "			4Jts.		Pulled 40'
4.					
5.					
6.					

GEOLOGICAL TOPS	ELEVATION		CORE RECORD					
	Depth	Sub-Sea	From	To	Rec.	From	To	Rec.
Lake Bottom	44	+473	#1- 258	264	6'	#6- 403	414	2'
			#2- 264	270	5'	#7- 414	415	Nil
			#3- 314	320	4.5'	#8- 415	419	3'
Presqu'ile	63	+454	#4- 336	344	7.5'	#9- 419	420	1'
			#5- 344	346	1.5'	#10- 429	440	1'
*Buffalo R. Shale	125	+392				(1-7/15" Core)		

	LOG RECORD			
	Run No.	Type of Log	From	To
Keg. R. Reef	400	+117		
*Buffalo R. Shale Top Based on Drilling Time			No Logs Run Due To Ice Shift.	
Lost Circulation Zones	90-120			
	130-150			

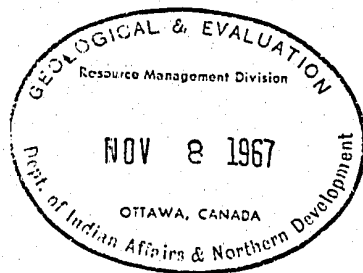
CEMENTING RECORD (Plug, Squeeze, etc.)				PERFORATING RECORD (Bullet, Jet)				SERVICING RECORD (Acidizing, Fracing, etc.)			
Date	From	To	Remarks	Date	From	To	Remarks	Date	From	To	Remarks
April 12/67	220 200		Felt Plug 19 sx + 2% CaCl ₂ @ 60'								

DRILL STEM TESTS

No.	Date	Formation	From	To	V.O. Mins.	LS.L Mins.	F.S.L Mins.	LS.L.B.H.P.	F.S.L.B.H.P.	L.F.B.H.P.	F.F.B.H.P.	L.H.P.	F.H.P.	REMARKS
														No Drill Stem Tests Taken.

ANALYSIS						PRESENT STATUS OF WELL				
Lab. No.	Sample	From	To	Source	Remarks	Oil		(Interval.)	Company	
CBH-2-1495	#1 Water	300'	Surf.	Flowing Well	2 bbls/min.) H ₂ S				J. Ray McDermott & Co., Inc.	
	#2 "	"	"	" "	2 bbls/min.) Absent				Signed by <i>E. J. Ray</i>	
	#3 "	440'	"	" "	3 bbls/min. - H ₂ S Present	Gas		(Interval.)	Title Manager	
						Dry	X	440' T.D.	Date October 3, 1967	
						Susp.				

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



REPORT ON McD et al SULPHUR POINT NO. 1 O-7

located on

Unit O, Section 7, Grid $61^{\circ} 00'$ - $114^{\circ} 45'$

Latitude $60^{\circ} 56' 57''$ North & Longitude $114^{\circ} 45' 30''$ West

in the Northwest Territories

Submitted by:

Fred J. Halkow
Fred J. Halkow

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INTRODUCTION

McD et al Sulphur Point No. 10-7 is located on Latitude 60° 56' 57" North and Longitude 114° 45' 30" West, some 1 1/4 miles off shore off Sulphur Point on Great Slave Lake, Northwest Territories. It was the second of two stratigraphic test holes drilled by J. Ray McDermott & Co. Inc. on the ice in March and April of 1967.

Storms, ice movement and high water flows hampered operations considerably and eventually forced the well to be abandoned prior to reaching the ultimate objective, the Chinchaga formation, and difficulty in controlling the water flow with mud alone had also prevented any logs from being run. The well however did evaluate the prime objectives, the Presqu'ile and Keg River Reef formations and found them both to be water bearing.

The ice shifting had also kept the pressure ridges active and as a result the access road had to be rebuilt or relocated from time to time in addition to being plowed open after every storm.

To keep the persistent ice movement from shearing off the surface casing the well was abandoned at a depth of 440 ft., some 40 ft. in the Keg River Reef and 200 ft. short of the prognosticated top of the Chinchaga formation.

SUMMARY OF WELL DATA

Well Name: McD et al Sulphur Point #1 O-7

Permittee: J. Ray McDermott & Co., Inc.

Name of Operator: J. Ray McDermott & Co., Inc.

Location: O-7-61-00-114-45
Latitude 60°56'57", Longitude 114°45'30"

Permit No.: 4514

Drilling Contractor: Roy Murray Drilling Co. Rig No. 1, Failing 1500.

Drilling Authority: No. 262, February 14, 1967.

Classification: Wildcat.

Elevation: Ground - 513' (est.) K.B. - 517'.

Technical Supervision: Fred J. Halkow, Calgary, Alberta.

Date Spudded: April 2, 1967.

Date Completed Drilling: April 9, 1967.

Total Depth: 440'.

Well Status: Plugged and abandoned.

Date Rig Released: April 12, 1967.

Hole Size: 6-1/4" - Surface to 145'
4-3/4" - 145' to 169'
2-15/16" - 169' to 336'
2- 7/16" - 336' to 440'

Casing: 7" Conductor @ 63' (Pulled same.)
3-1/2" and 4-1/2" Surface @ 169' with 22 sx cement + 3% CaCl₂
(Shot casing @ 50', 6' below mud line, casing parted
immediately below BOP's. Fired second shot @ 40'.
Casing dropped to lake bottom.)

Universal Well Location Reference - Lat. 60.94916° N., Long. 114.75833° W.

TABLE OF GEOLOGICAL FORMATIONS

K. B. Elevation - 517'

<u>FORMATION</u>	<u>Sample Depth</u>	<u>Sample Elevation</u>
Lake Bottom	44	+ 473
Presqu'ile	63	+ 454
Buffalo River Shale *	125	+ 392
Keg River Reef	400	+ 117
Total Depth	440	+ 77

* Note: - No Samples; formation top based on drilling rate.

SUMMARY OF CORED INTERVALS

<u>Number</u>	<u>Interval</u>	<u>Ft. Cut</u>	<u>Ft. Recovered</u>	<u>% Recovered</u>	<u>Type & Size</u>
1 to 2	258-270	12.0	11.0	92%	Diamond 2 7/16 x 1 7/16
3	314-320	6.0	4.5	75%	"
4 to 5	336-346	10.0	9.0	90%	"
6 to 10	403-440	37.0	7.0	19%	"

McDermott et al Sulphur Point #1Sample Descriptions

0-40	Lake water.	
40-60	Clay -	pale grey, soft, crumbly, few scattered coarse sand grains.
60-70	Limestone -	dark brown, shaly, bituminous, dense, in part coarse fossil fragmental; subordinate amounts brown grey, fine crystalline slightly limy dolomite.
70-80	Dolomite -	medium brown, very fine to fine crystalline, sucrose textured, abundant coarse crystalline white dolomite crystals - vug lining, indicating good vuggy porosity (lost circulation at 77'), minor amounts pyrobitumen.
80-90	Dolomite -	brown-grey and grey, medium crystalline and dolomite as above, good vuggy porosity, reefoid, prominent blebs dark brown heavy tarry oil.
90-120	No Samples -	lost circulation.
120-130	Shale -	light greenish-grey, soft, fissile, crumbly.
130-150	No Samples -	lost circulation
150-160	Shale -	light greenish-grey as at 130'

Presqu'ile - 63Buffalo River Shale - 125 (based on drilling rate)

160-250	Shale -	greenish-grey, fissile, micromicaceous, slightly limy, flakey.
258-270	Interval Cored -	see Core Descriptions
270-290	Shale -	dark grey, slightly brownish, more limy than above, compact, fissile to blocky, trace Tentaculites, in part slightly bituminous.
290-300	Limestone -	dark brown to brown-grey, bituminous, highly argillaceous, in part a limy shale, dense, minor pyrites.

300-310	Limestone -	as above, pyrites common.
314-320	Interval Cored -	see Core Descriptions.
320-330	Shale -	brown-black, bituminous, limy, brown streak, Tentaculites abundant, white calcareous specks common, scattered pyrites.
336-346	Interval Cored -	see Core Descriptions.
346-350	Shale -	as above, bituminous and with abundant Tentaculites.
350-360	Shale -	as above, minor dark brown, microcrystalline bituminous limestone.
360-380	Shale -	brown-black to black, highly bituminous, limy, subordinate amounts dark brown bituminous limestone, fossiliferous (Tentaculites), trace pyrites.
380-390	Shale and Limestone -	as above, limestone is in part cryptocrystalline
390-400	Dolomite -	brown to dark brown, fine crystalline, in part sucrose textured, mottled (relict fossils?), no visible porosity.

Top of Keg River - 400

Note: Well flowed water from 300 ft. downward.
Section is fractured.

403-440	Interval Cored -	see Core Descriptions.
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McDermott et al Sulphur Point #1 O-7Core Descriptions

Core No. 1, 258-264 Recovered: 6.0 ft.

(Times: 25, 22, 25, 33, 33, 27, 30)

6.0' Shale - greenish-grey, compact to fissile, slightly limy, tends to fracture at oblique angle.

Core No. 2, 264-270, Recovered: 5.0 ft.

(Times: 21, 22, 22, 21, 22, 33)

5.0' Shale - as in core above, in part faintly brownish-tinged; badly fractured and broken.

Core No. 3, 314-320 Recovered: 4.5 ft.

(Times: 21, 20, 17, 22, 36, 20)

4.5' Shale - dark brown, very limy, highly bituminous, brown streak, scattered small Brachiopods, trace pyrites, few white calcareous specks. Badly fractured and broken.

Core No. 4, 336-344 Recovered: 7.5 ft.

(Times: 16, 14, 13, 16, 15, 21, 12, 11)

7.6' Shale - black to brown-black, highly bituminous, brown-streak, very calcareous, compact, abundant Tentaculites, prominent white calcareous specks, some oblique fractures.

Core No. 5, 344-346 Recovered: 1.5 ft. (jammed)

(Times: 13, 15)

1.5' Shale - as in Core No. 4, badly fractured and broken.

Core No. 6, 403-414 Recovered: 2.0 ft.

(Times: 11, , 8, 9, 25, 8, 19, 10, 8, 10, 10)

2.0' Dolomite - brown-grey, fine crystalline, sucrose textured, euhedral, some intra-algal pin-point porosity, scattered solution vugs with rhombic medium crystalline lining, no staining, core badly fractured and broken.

Core No. 7, 414-415 (jammed) No Recovery.

Core No. 8, 415-419 Recovered: 3.0 ft.

(Times: 20, 10, 24, 31)

3.0' Dolomite - as in Core No. 6, brown-grey to grey with skeletal pin-point and solution vuggy porosity, rare trace fine blebs heavy oil along fracture planes, some pyrobitumen vug infilling, badly fractured and broken.

Core No. 9, 419-429 Recovered: 1.0 ft.

(Times: 21, 21, 27, 18, 9, 19, 8, 8, 7, 10)

1.0' Dolomite - essentially as above, in part mottled skeletal, badly fractured and broken.

Core No. 10, 429-440 Recovered: 1.0 ft.

(Times: 12, 16, 12, 12, 35, 20, 11, 10, 11, 10, 16)

1.0' Dolomite - essentially as above, very badly fractured and broken.

DAILY PROGRESS REPORT

5.

DATE	DEPTH		Footage	Hours on Bottom	BIT NOS.	REMARKS
	From	To				
Apr. 1/67	0					Moved in rig and camp from McD et al Hay River No. 1 to McD et al Sulphur Pt. #1. Waited on cat. to clear location. Set up camp and rigged up. Wait for pipe. Very high wind, est. @ 60 m.p.h. @ 3:00 a.m. - laid down mast and wait out storm. Waiting out storm at 8:00 a.m.
Apr. 2/67	0	63				Waiting out storm till 2:00 p.m. April 1. Raised mast and prepared to drill. Commenced drilling ice @ 7:00 p.m. April 1 - ice 52" thick and lake bottom @ 44 ft. K.B. Set 7" conductor pipe to 53' K.B. Spudded in at 1:15 a.m. April 2/67. Drilled 6 1/4" hole 53-63 Conductor pipe dropped after drilling 10'. Lifted conductor and welded on extension. Ran conductor pipe to 63' and prepared to drill ahead at 8:00 a.m.
Apr. 3/67	63	169	106			Drilled 6 1/4" hole 63-77 Slow drilling - tripped to rathole Rat-holed 4 3/4" 77-145 Tripped at 169 to ream rathole Reamed rathole to 6 1/4" 77-145 Had lost circulation at 88' - continued drilling blind - pumping in water with no returns. No samples from 90' on except at 130 and 160. Ratholed 4 3/4" hole 145-169 At 8:00 a.m. preparing to run casing.
Apr. 4/67	169					Ran 4 jts. of 3 1/2" and 1 jt. of 4 1/2" casing (165.2') with Texas shoe set at 169' K.B. and cemented with 22 sks. cement + 3% CaCl ₂ . Casing cemented at 1:45 p.m. April 3. W. O. C. - slacked off and released pressure at 11:00 p.m. Heading up at 8:00 a.m.

DAILY PROGRESS REPORT

6.

DATE	DEPTH		Footage	Hours on Bottom	BIT NOS.	REMARKS
	From	To				
Apr. 5/67	169	267	98			Set up prefabs and completed rigging and heading up. Ran in with 2 15/16" bit, found cement at 140' and drilled out cement at 140' and drilled out cement and shoe at 1:00 p.m. April 4. Pressured up b. o. p. to 100# - pressure held O.K. Drilled 2 15/16" hole 169-258 Cored 2 7/16" hole 258-267 Core No. 1, 258-264, Rec. 6.0' Coring ahead at 8:00 a.m. at 267.
Apr. 6/67	267	336	69			Cored 2 7/16" hole 267-270 Core No. 2, 264-270, Rec. 5.0' Reamed and drilled 2 15/16" hole 270-314 Cored 2 7/16" hole 314-320 Core No. 3, 314-320, Rec. 4.5' (jammed) Reamed and drilled 2 15/16" hole 320-336 Ice shifting - binding excessively on drill rods. Tripped out of hole.
Apr. 7/67	336					Ice shifting at approximately 1/2' per hour Storm - high wind and blowing snow. Worked on ice bridge to get fuel truck across ice ridge. Worked on ice, cutting slot to realign casing. Started to rig down.
Apr. 8/67	336	345	9			Completed rigging down and moved off rig Cut slot in ice w/needle bar and power auger and moved wellhead 9' to the northwest - casing realigned. Moved rig on and rigged up. Cored 2 7/16" hole 336-345 Core No. 4, 336-344, Recovered 7.5 ft. Coring ahead at 8:00 a.m. at 345'.

DAILY PROGRESS REPORT

7.

DATE	DEPTH		Footage	Hours on Bottom	BIT NOS.	REMARKS
	From	To				
Apr.9/67	345	403	58			Cored 2 7/16" hole 345-346 Core No. 5, 344-346, Recovered 1.5 ft. (jammed) Reamed rathole and drilled 2 15/16" hole 346-403 Water flow that had been continuous since 300 ft. increased to approximately 2 bbl/min. Mixed mud to kill flow before tripping out.
Apr.10/67	403	440	37			Tripped out and ran in w/core bbl. Cored 2 7/16" hole 403-440 Core No. 6, 403-414 Recovered 2.0 ft. (jamming) Core No. 7, 414-415, Recovered nil Core No. 8, 415-419, Recovered 3.0 ft. Core No. 9, 419-429, Recovered 1.0 ft. Core No. 10, 429-440, Recovered 1.0 ft. Strong water flow, measured at 3 bbl./min. - slightly gassified and with H₂S odour. Had to mix and pump mud ahead of inner barrel after every core recovery to retard water flow and facilitate pumping barrel to bottom. At 8:00 a.m. recovering core No. 10.
Apr.11/67	440					Pulled pipe to 380'. Mixed and pumped 12 sks. gel + 3 sks. barytes - well still flowing. Mixed and squeezed in 4 bbl. diesel gel plug (10 sks. gel + 2 bbl. diesel oil) at up to 300#, - well not dead. Mixed and squeezed in 3 bbl. diesel gel plug (8 sks. gel + diesel oil) into formation at 300' at up to 400#. Plug in at 8:00 p.m. April 10 - well dead. Unable to trip out - ice had moved, binding drill rods tight against casing. Rigged down and moved off rig, cut slot in ice with chisel and needle bars and moved casing 9 ft. to the N.W. At 8:00 a.m. preparing to move rig back over well head.

DAILY PROGRESS REPORT

8.

DATE	DEPTH		Footage	Hours on Bottom	BIT NOS.	REMARKS
	From	To				
Apr.12/67	440					Moved rig over wellhead and rigged up. Pulled pipe out of hole - ice still moving and pipe binding excessively. Found casing kinked at collar just below b. o. p. Ice movement necessitated rig to be moved off again and casing to be shifted a further 3 ft. to the N.W. for a total of 21 ft. since spudding. Unable to log well with diesel plug in hole and unable to run in hole with bit. Obtained permission to abandon well. Pulled off b. o. p. and was able to run in open end to 220 ft. Continued ice movement had moved casing off vertical again by approximately 7-8 ft. Ran Abandonment Plug with 19 sks. cement + 2% CaCl_2, cemented 220 ft. to surface at 1:30 a.m. April 12. Pulled pipe to 60 ft. and circulated clean with water. Tripped out of hole and W. O. C. W. O. C. Felt for plug with wire-line and found at 9:30 a.m. at 60 ft. Shot casing at 50 ft. - casing parted at kink near surface. Unable to get hold of casing but was able to place 2nd charge inside casing down to 40 ft. Shot casing off at 40 ft. and casing dropped to bottom of lake. Rigged down and released rig at 12:30 p.m. April 12, 1967 Bulldozer made new road, towed incoming trucks across ice bridge, loaded out rig, camp and all materials, towed same back across ice bridge and moved all trucks off ice to Hay River town by 9:00 p.m. April 12, 1967.
April 13/67						

DAILY MUD RECORD

Date 1967	Depth	Weight	Viscosity	Water Loss	Filter Cake	Ph.	Remarks and Additives
		#/ Gal.	Seconds	15 min. C.C.	32nds		
Apr. 1	63						200# gel.
Apr. 2	102						400# gel. (lost circulation)
Apr. 8	403						300# gel. 1100# barytes (kill well)
Apr. 9	440						1200# gel. 700# barytes (kill well)
Apr. 10	440						2800# gel. 9 bbls. diesel fuel (kill well)



CORE LABORATORIES-CANADA LTD.
PETROLEUM RESERVOIR ENGINEERING
EDMONTON CALGARY REGINA
WATER ANALYSIS



File CBH-2-1495

Company J. Ray McDermott & Co., Inc.

Page 1 of 3

Well Name McDermott et al Sulphur Point 0-7

Sample No. 1

Formation _____

Depth _____

Location 61° 00' N-114° 45' W Field Great Slave Lake Area Province Northwest Territories

Date Sampled Apr. 9/67 Date Analyzed May 19/67 Analyst L.A.V.

Sampled From Flowing Well

By _____

Recovery _____

Elevation _____

Constituents:

1. Total Solids 3,769 mg/liter 2. pH 6.49 3. Sp.Gr. 1.0028 @60°F.
4. Resistivity 2.928 Ohm-meters @ 72 °F 5. H₂S Absent

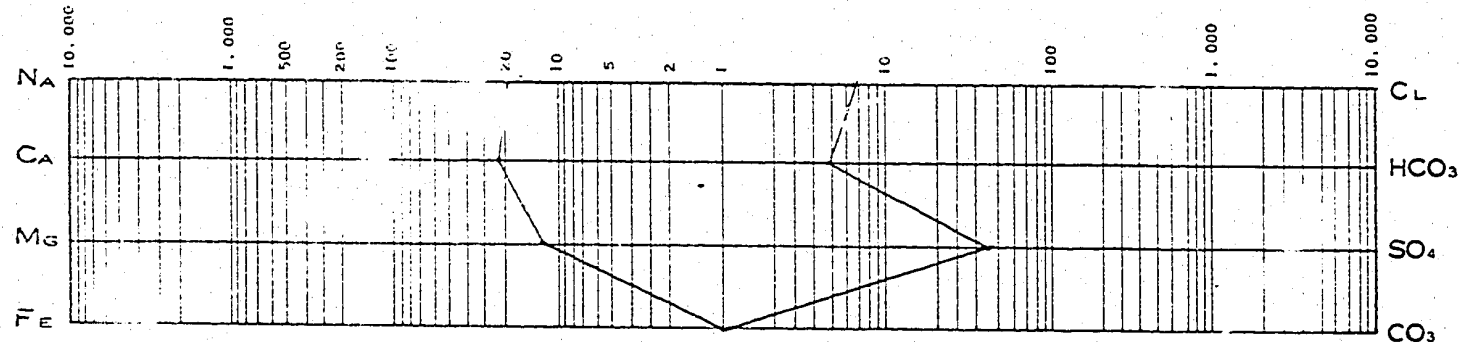
MILLIGRAMS PER LITER

NA & K	CA	Mg	FE	BA	CL	HCO ₃	SO ₄	CO ₃	OH
460	470	154	Abs.	Abs.	231	294	2,160	-	-

MEQ PER LITER

20.0	23.5	12.7	-	-	6.5	4.8	44.9	-	-
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LOGARITHMIC PATTERN MEQ PER LITER





CORE LABORATORIES-CANADA LTD.
PETROLEUM RESERVOIR ENGINEERING
EDMONTON CALGARY REGINA
WATER ANALYSIS



File CBH-2-1495

Company J. Ray McDermott & Co., Inc. Page 2 of 3

Well Name McDermott et al Sulphur Point 0-7 Sample No. 2

Formation _____ Depth _____

Location 61° 00' NL -114° 45' WL Field Great Slave Lake Area Province Northwest Territories

Date Sampled Apr. 10/67 Date Analyzed May 19/67 Analyst L.A.V.

Sampled From Flowing Well By _____

Recovery _____ Elevation _____

Constituents:

1. Total Solids 3,556 mg/liter 2. pH 7.52 3. Sp.Gr. 1.0032 @60°F.
4. Resistivity 2.959 Ohm-meters @ 72 °F 5. H₂S Absent

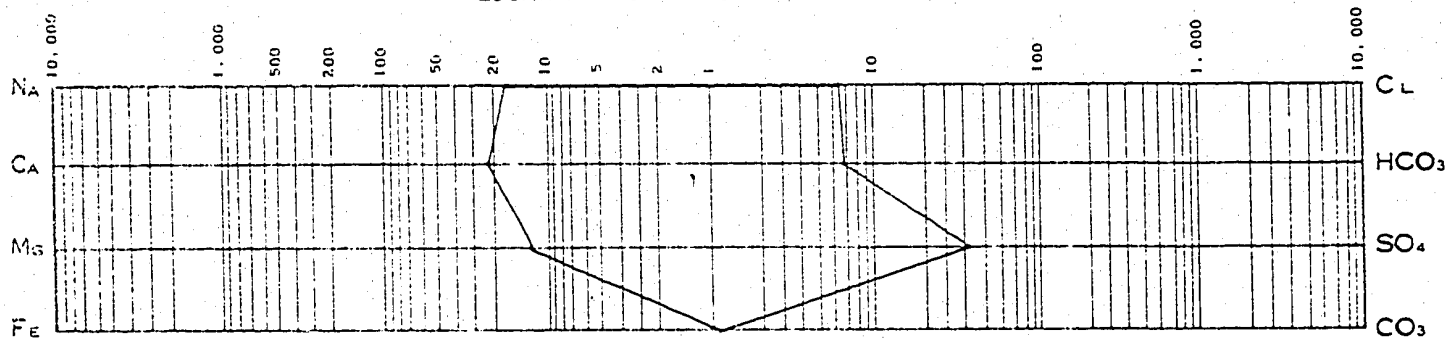
MILLIGRAMS PER LITER

Na & K	Ca	Mg	Fe	BA		CL	HCO ₃	SO ₄	CO ₃	OH	
409	426	170	Abs.	Abs.		223	400	1,928	-	-	

MEQ PER LITER

17.8	21.2	14.0	Abs.	Abs.		6.3	6.6	40.1	-	-	
------	------	------	------	------	--	-----	-----	------	---	---	--

LOGARITHMIC PATTERN MEQ PER LITER





CORE LABORATORIES-CANADA LTD.
PETROLEUM RESERVOIR ENGINEERING
EDMONTON CALGARY REGINA
WATER ANALYSIS



File CEH-2-1495
Company J. Ray McDermott & Co., Inc. Page 3 of 3
Well Name McDermott et al Sulphur Point 0-7 Sample No. 3
Formation _____ Depth _____
Location 61° 00' N - 114° 45' W Field Great Slave Lake Area Province Northwest Territories
Date Sampled Apr. 6/67 Date Analyzed May 19/67 Analyst L.A.V.
Sampled From Flowing Well By _____
Recovery _____ Elevation _____

Constituents:

1. Total Solids 4,483 mg/liter 2. pH 8.59 3. Sp.Gr. 1.0042 @60°F.
4. Resistivity 1.143 Ohm-meters @ 72 °F 5. H₂S Present

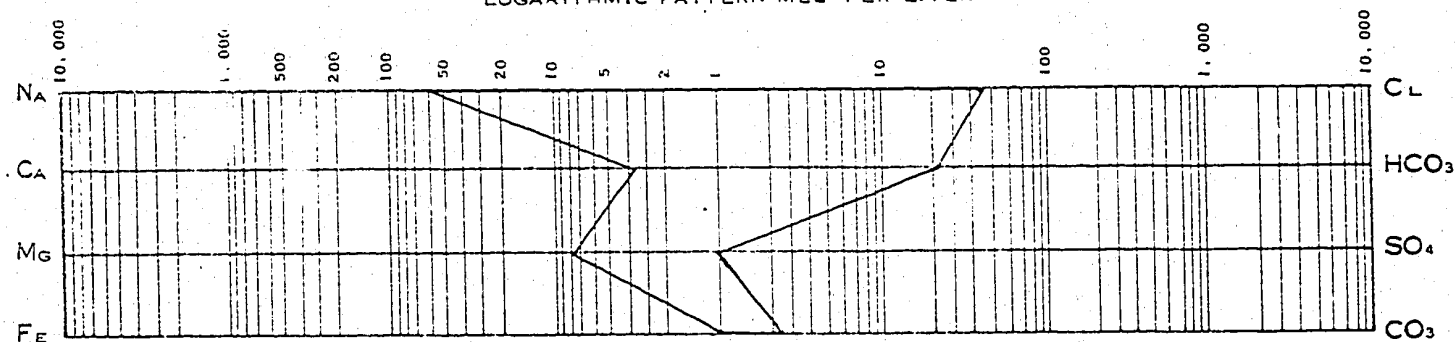
MILLIGRAMS PER LITER

Na & K	Ca	Mg	Fe	BA		CL	HCO ₃	SO ₄	CO ₃	OH	
1,327	72	93	Abs.	Abs.		1,565	1,315	38	73	-	

MEQ PER LITER

57.7	3.6	7.6	Abs.	Abs.		44.1	21.6	0.8	2.4	-	
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LOGARITHMIC PATTERN MEQ PER LITER

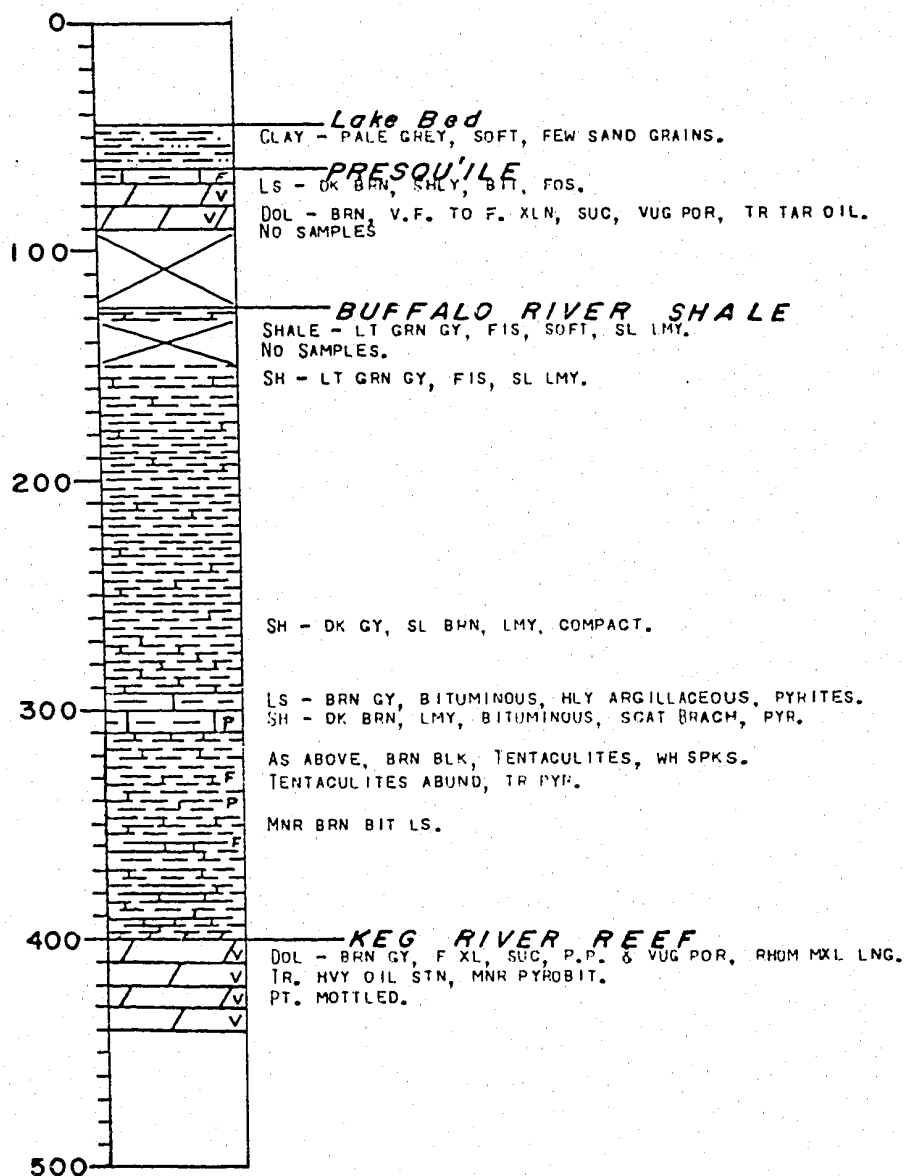


McD et al Sulphur Point No.1 O-7

LAT. 60° 56' 57" N. & LONG. 114° 45' 30" W.

STRATIGRAPHIC LOG

ELEV. — 517' K.B.



TOTAL DEPTH - 440'

Reg No.

R. D. MURRAY
DRILLING CONTRACTOR

DATE April 12/67
Location

DAILY DRILLING REPORT

McD et al SULPHUR POINT
61° 00' - 114° 45'

MIDNIGHT TOUR

LEFT TOWN				LEFT BIG		TOTAL TIME		Hrs.	Min.	
Hole No.	FEET DRILLED			Pipeset	DESCRIBE FORMATION DRILLED	Explain Logging Time and Stand by Time				
	From	To	Total							
LIST EVERY BIT USED					Remarks	Hole Finished at Circulating Hole to Made Final Trip to Waited on Logger to Logged Hole to Rigged Down to Left Hole No. at Arrived Hole No. at Rigged Up to Spudded Hole at				
Drag	Name	New Used	From	To						Total
ROCK					Driller	USE CORRECT TIMES.				
BIT										
MUD					Helper					
Aguegel					Water Jack					
Bran					Accidents					
Other Materials										

DAYLIGHT TOUR

LEFT TOWN				LEFT BIG		TOTAL TIME		Hrs.	Min.	
Hole No.	FEET DRILLED			Pipeset	DESCRIBE FORMATION DRILLED	Explain Logging Time and Stand by Time				
	From	To	Total							
LIST EVERY BIT USED					Remarks	Hole Finished at Circulating Hole to Made Final Trip to Waited on Logger to Logged Hole to Rigged Down to Left Hole No. at Arrived Hole No. at Rigged Up to Spudded Hole at				
Drag	Name	New Used	From	To						Total
ROCK					Driller	USE CORRECT TIMES.				
BIT										
MUD					Helper					
Aguegel					Water Jack					
Bran					Accidents					
Other Materials										

EVENING TOUR

LEFT TOWN				LEFT BIG		TOTAL TIME		Hrs.	Min.	
Hole No.	FEET DRILLED			Pipeset	DESCRIBE FORMATION DRILLED	Explain Logging Time and Stand by Time				
	From	To	Total							
LIST EVERY BIT USED					Remarks	Hole Finished at Circulating Hole to Made Final Trip to Waited on Logger to Logged Hole to Rigged Down to Left Hole No. at Arrived Hole No. at Rigged Up to Spudded Hole at				
Drag	Name	New Used	From	To						Total
ROCK					Driller	USE CORRECT TIMES.				
BIT										
MUD					Helper					
Aguegel					Water Jack					
Bran					Accidents					
Other Materials										

TOOL PUSHER

R.D. Murray

Rig No.

R. D. MURRAY
DRILLING CONTRACTOR

DATE

Location

APRIL 11/67

HAY RIVER

DAILY DRILLING REPORT

WAD M. SULPHUR POINT 107
01° 00' - 114° 40'

MIDNIGHT TOUR

LEFT TOWN				LEFT RIG		TOTAL TIME		Hrs.	Min.	
Hole No.	FEET DRILLED			Pipeset	DESCRIBE FORMATION DRILLED	Explain Logging Time and Stand by Time				
	From	To	Total							
LIST EVERY BIT USED					Remarks	Hole Finished at Circulating Hole to Made Final Trip to Waited on Logger to Logged Hole to Rigged Down to Left Hole No. at Arrived Hole No. at Rigged Up to Spudded Hole at				
Drag	Name	New Used	From	To						Total
ROCK	Number									
BIT	Number									
Aquagel					Sacks	Cement				
Brm					Sacks		Sacks			
Other Materials										
					Driller					
					Helper					
					Water Jack					
					Accidents					
USE CORRECT TIMES.										

DAYLIGHT TOUR

LEFT TOWN				LEFT RIG		TOTAL TIME		Hrs.	Min.	
Hole No.	FEET DRILLED			Pipeset	DESCRIBE FORMATION DRILLED	Explain Logging Time and Stand by Time				
	From	To	Total							
#2	440									
LIST EVERY BIT USED					Remarks	Hole Finished at Circulating Hole to Made Final Trip to Waited on Logger to Logged Hole to Rigged Down to Left Hole No. at Arrived Hole No. at Rigged Up to Spudded Hole at				
Drag	Name	New Used	From	To						Total
ROCK	Number									
BIT	Number									
Aquagel					Sacks	Cement				
Brm					Sacks		Sacks			
Other Materials										
					Driller	F. KOWALCHUK				
					Helper	R. KENT				
					Water Jack	B. FOSSHEIM				
					Accidents					
USE CORRECT TIMES. 12 HRS										

EVENING TOUR

LEFT TOWN				LEFT RIG		TOTAL TIME		Hrs.	Min.	
Hole No.	FEET DRILLED			Pipeset	DESCRIBE FORMATION DRILLED	Explain Logging Time and Stand by Time				
	From	To	Total							
#2	440									
LIST EVERY BIT USED					Remarks	Hole Finished at Circulating Hole to Made Final Trip to Waited on Logger to Logged Hole to Rigged Down to Left Hole No. at Arrived Hole No. at Rigged Up to Spudded Hole at				
Drag	Name	New Used	From	To						Total
ROCK	Number									
BIT	Number									
Aquagel					Sacks	Cement				
Brm					Sacks	19	Sacks			
Other Materials										
					Driller	C. SCHULTZ				
					Helper	S. KOWDEN				
					Water Jack	R. McDONALD				
					Accidents					
USE CORRECT TIMES. 12 HRS										

TOOL PUSHER

R. D. MURRAY
DRILLING CONTRACTOR
DAILY DRILLING REPORT

DATE **APRIL 10/67**
Location **HAY RIVER**
McD CANNULPHUR POINT #107
114° 00' - 114° 40'

MIDNIGHT TOUR

LEFT TOWN				LEFT RIG				TOTAL TIME				Hrs.		Min.	
Hole No.	FEET DRILLED			Pipeset	DESCRIBE FORMATION DRILLED	Explain Logging Time and Stand by Time									
	From	To	Total												
LIST EVERY BIT USED					Remarks										
Drag	Name	New Used	From	To										Total	
ROCK BIT	Number														
	Number														
MUD	Aquagel		Sacks		Cement										
	Brum		Sacks		Sacks										
	Other Materials														
					Driller										
					Helper										
					Water Jack										
					Accidents										
														USE CORRECT TIMES.	

DAYLIGHT TOUR

LEFT TOWN				LEFT RIG				TOTAL TIME				Hrs.		Min.	
Hole No.	FEET DRILLED			Pipeset	DESCRIBE FORMATION DRILLED	Explain Logging Time and Stand by Time									
	From	To	Total												
#2	440														
LIST EVERY BIT USED					Remarks PULLED UP TO 370' TRIED TO KILL WELL TO LOG, MIXED 12 #3 BARDID. STILL FLOWING MIXED 4 BBL'S DIESEL WITH 10 BBS GEL. SECOND PLUG, PULLED UP TO 370' TO RUN SECOND PLUG.										
Drag	Name	New Used	From	To										Total	
ROCK BIT	Number														
	Number														
MUD	Aquagel	20	Sacks		Cement										
	Brum		Sacks		Sacks										
	Other Materials	3-BARDID 6 BBL'S DIESEL													
					Driller	F KOWAL CHUK									
					Helper	R KENT									
					Water Jack	B FOSSHLM									
					Accidents										
														USE CORRECT TIMES. 12 HRS	

EVENING TOUR

LEFT TOWN				LEFT RIG				TOTAL TIME				Hrs.		Min.	
Hole No.	FEET DRILLED			Pipeset	DESCRIBE FORMATION DRILLED	Explain Logging Time and Stand by Time									
	From	To	Total												
#2															
LIST EVERY BIT USED					Remarks MIXED GEL FLOC, 3 BBL'S W.T.H. & GEL. WELL KILLED. TRIED TO TRIP OUT, UNABLE TO. ICE MOVED, MOVED RIG OFF TO STRAIGHTEN BOP. MOVE CASING 5 FT.										
Drag	Name	New Used	From	To										Total	
ROCK BIT	Number														
	Number														
MUD	Aquagel	8	Sacks		Cement										
	Brum		Sacks		Sacks										
	Other Materials	3 BBL'S DIESEL													
					Driller	C SCHULTZ									
					Helper	S ROWDEN									
					Water Jack	R McDONALD									
					Accidents										
														USE CORRECT TIMES. 12 HRS	

TOOL PUSHER

DATE APRIL 9, 1967
Location HAY RIVER
MODELS 1967
612 50-1149 511

DAILY DRILLING REPORT

MIDNIGHT TOUR

LEFT TOWN		LEFT BIG		TOTAL TIME		Hrs.		M.	
Hole No.	FEET DRILLED			Pipeset	DESCRIBE FORMATION DRILLED	Explain Logging Time and Stand by Time			
	From	To	Total						
LIST EVERY BIT USED					Remarks	Hole Finished at			
Drag	Name	New Used	From	To		Total	Circulating Hole to		
						Made Final Trip to			
						Waited on Logger to			
						Logged Hole to			
						Rigged Down to			
						Left Hole No. at			
						Arrived Hole No. at			
						Rigged Up to			
						Spudded Hole at			
ROCK					Driller				
Number									
BIT					Helper				
Number									
Aquagel Sacks Cement					Water Jack				
Bron Sacks Sacks									
Other Materials					Accidents				
					USE CORRECT TIMES.				
DAYLIGHT TOUR									

DAYLIGHT TOWN

LEFT TOWN				LEFT RIC				TOTAL TIME		Hrs. Min.	
Hole No.	FEET DRILLED			Pipeset	DESCRIBE FORMATION DRILLED	Explain Logging Time and Stand by Time					
	From	To	Total								
#2	403	440	37		CORING						
LIST EVERY BIT USED					Remarks						
Drag	Name	New Used	From	To	Total						
						TRIPPED WITH CORE BBL					
						TRouble CORING BBL JAMMING					
						HAVE TO KILL WELL TO GET					
						INNER BBL BACK ON					
						BOTTOM					
ROCK	Number										
BIT	Number										
Aguegal	7	Sacks		Cement							
Shan		Sacks									
Other Materials	4	SACKS									
Driller: C. SCHULTZ						Hole Finished at					
Helper: S. ROWDEN						Circulating Hole to					
Water Jack: R. McDONALD						Made Final Trip to					
Accidents:						Waited on Logger to					
						Logged Hole to					
						Rigged Down to					
						Left Hole No. at					
						Arrived Hole No. at					
						Rigged Up to					
						Spudded Hole at					
						8 AM					
						5 PM					
						USE CORRECT TIMES. 12 HRS					

EVERING TOUR

HOLE TOWN		LEFT NO		TOTAL TIME		Hrs.		Min.			
Hole No.	FEET DRILLED			Pipecast	DESCRIBE FORMATION DRILLED	Explain Logging Time and Stand by Time					
	From	To	Total								
#2											
BITS	LIST EVERY BIT USED						Remarks	Hole Finished at			
	Drop	Name	New Used	From	To	Total		Circulating Hole to			
								Made Final Trip to			
								Waited on Logger to			
								Logged Hole to			
							Rigged Down to				
							Left Hole No. at				
							Arrived Hole No. at				
							Rigged Up to				
							Spudded Hole at				
MUD	Aquagel	Sacks	Cement				Driller	5:00 P.M.			
	Brn	Sacks					Helper	5:00 A.M.			
	Other Materials						Water Jack	R HRS			
							Accidents	USE CORRECT TIMES.			

TOOL PUSHERS

FD Murphy

R. D. MURRAY
DRELLING CO. "CTON

DATE APRIL 7/67
Location HAY RIVER

DAILY DRILLING REPORT

MIDNIGHT TOURS

LEFT TOWN		LEFT RIG		TOTAL TIME		Hrs.		Min.	
Hole No.	FEET DRILLED			Pipeset	DESCRIBE FORMATION DRILLED	Explain Logging Time and Stand by Time			
	From	To	Total						
						Hole Finished at Circulating Hole to Made Final Trip to Waited on Logger to Logged Hole to Rigged Down to Left Hole No. at Arrived Hole No. at Rigged Up to Spudded Hole at			
LIST EVERY BIT USED							Remarks		
Drag	Name	New Used	From	To	Total				
ROCK BIT	Number								
	Number								
MUD	Aquegel	Sacks	Cement				Driller Helper Water Jack Accidents USE CORRECT TIMES.		
	Brine	Sacks		Sacks					
Other Materials									

SECRET

LEFT TOWN				LEFT BIG				TOTAL TIME		Hrs.	Min.
Hole No.	FEET DRILLED			Pipeset	DESCRIBE FORMATION DRILLED	Explain Logging Time and Stand by Time					
	From	To	Total								
#2	346	360	14'								
LIST EVERY BIT USED						Remarks TRIPPED OUT WITH CORE BARREL & RAN 3 CONE 336-346 REAMING 346-360 DRILLING TRIPPED OUT 7 ³⁰ -8 ⁰⁰ P.M. Driller C. SCHULTZ Helper S. ROWDEN Water Jack R. McDONALD Accidents					
Dring	Name	New Used	From	To	Total						
2 1/2	2 1/2	NEW	336	360	24'						
BIT	Number				(5 HRS)						
MUD						Hole Finished at Circulating Hole Made Final Trip Waited on Logger Logged Hole Rigged Down Left Hole No. Arrived Hole No. Rigged Up Spudded Hole 8 ⁰⁰ A.M. 5 ⁰⁰ P.M. USE CORRECT TIMES.					
Aguegel		Sacks		Cement		12 HRS					
Barau		Sacks		Sacks							
Other Materials											

1997年12月15日

LEFT TOWN				LEFT REG				TOTAL TIME				Hrs.		Min.	
Hole No.	FEET DRILLED			Pipeset	DESCRIBE FORMATION DRILLED	Explain Logging Time and Stand by Time									
	From	To	Total												
#2	360	403	43'												
LIST EVERY BIT USED				Remarks											
DRG	Name	New Used	From	To	Total	DRILLED FROM 8:30 A.M. TO 4:00, STARTED TO TRIP OUT. WATER FLOWING @ 180 GPM. MIXED MUD TWICE TO KILL FLOW.									
BITS	MOCK	Number				Driller <u>E. KWALCHUK</u> Helper <u>R. KENT</u> Water Jack <u>B. FOSSHEIM</u> Accidents									
	BIT	Number													
MUD	Aquagel	3	Sacks	Cement		8:00 P.M. 7:00 A.M.									
	Bran		Sacks		Sacks										
Other Materials 11 BAROID						USE CORRECT TIMES. 12 HRS									
10 GALS DIESEL															

TOP SECRET

R. O. Murray.

Rig No.

R. D. MURRAY
DRILLING CONTRACTORDATE APRIL 7/67
Location HAY RIVERDAILY DRILLING REPORT
McDonald SULPHUR POINT #107
61° 00' - 114° 45'
MIDNIGHT TOUR

LEFT TOWN				LEFT RIG		TOTAL TIME		Hrs.	Min.		
Hole No.	FEET DRILLED			Pipeset	DESCRIBE FORMATION DRILLED	Explain Logging Time and Stand by Time					
	From	To	Total								
						Hole Finished at Circulating Hole to Made Final Trip to Waited on Logger to Logged Hole to Rigged Down to Left Hole No. at Arrived Hole No. at Rigged Up to Spudded Hole at					
BITS	LIST EVERY BIT USED						Remarks				
	Drag	Name	New Used	From	To	Total					
ROCK	Number						Driller				
	BIT	Number									
MUD	Acquagel	Sacks	Cement				Helper	USE CORRECT TIMES.			
	Brum	Sacks					Water Jack				
	Other Materials						Accidents				

DAYLIGHT TOUR

LEFT TOWN				LEFT RIG		TOTAL TIME		Hrs.	Min.		
Hole No.	FEET DRILLED			Pipeset	DESCRIBE FORMATION DRILLED	Explain Logging Time and Stand by Time					
	From	To	Total								
# 2						Hole Finished at Circulating Hole to Made Final Trip to Waited on Logger to Logged Hole to Rigged Down to Left Hole No. at Arrived Hole No. at Rigged Up to Spudded Hole at					
BITS	LIST EVERY BIT USED						Remarks				
	Drag	Name	New Used	From	To	Total					
ROCK	Number						Driller	8:00 A.M. 8:00 P.M. USE CORRECT TIMES. 12 HRS			
	BIT	Number									
MUD	Acquagel	Sacks	Cement				Helper				
	Brum	Sacks					Water Jack				
	Other Materials						Accidents				

EVENING TOUR

LEFT TOWN				LEFT RIG		TOTAL TIME		Hrs.	Min.		
Hole No.	FEET DRILLED			Pipeset	DESCRIBE FORMATION DRILLED	Explain Logging Time and Stand by Time					
	From	To	Total								
# 2	336	346	10'			Hole Finished at Circulating Hole to Made Final Trip to Waited on Logger to Logged Hole to Rigged Down to Left Hole No. at Arrived Hole No. at Rigged Up to Spudded Hole at					
BITS	LIST EVERY BIT USED						Remarks				
	Drag	Name	New Used	From	To	Total					
ROCK	Number						Driller	8:00 P.M. 8:00 A.M. USE CORRECT TIMES. 12 HRS			
	BIT	Number									
MUD	Acquagel	Sacks	Cement				Helper				
	Brum	Sacks					Water Jack				
	Other Materials						Accidents				

TOOL PUSHER

R.D. Murray

Rig No.

R. D. MURRAY
DRILLING CONTRACTORDATE APRIL 6/67
Location HAY RIVER
McD et al SULPHUR POINT 10-7
61° 00' -- 114° 45'

DAILY DRILLING REPORT

MIDNIGHT TOUR

LEFT TOWN				LEFT RIG		TOTAL TIME		Hrs.	Min.					
Hole No.	FEET DRILLED			Pipeset	DESCRIBE FORMATION DRILLED	Explain Logging Time and Stand by Time								
	From	To	Total			Hole Finished at	Circulating Hole	Made Final Trip	Waited on Logger	Logged Hole	Rigged Down	Left Hole No.	Arrived Hole No.	Rigged Up
LIST EVERY BIT USED					Remarks									
Drag	Name	New Used	From	To	Total									
ROCK	Number													
BIT	Number													
Aquagel	Sacks	Cement												
Brm	Sacks													
Other Materials														
					Driller									
					Helper									
					Water Jack									
					Accidents									
					USE CORRECT TIMES.									

DAYLIGHT TOUR

LEFT TOWN				LEFT RIG		TOTAL TIME		Hrs.	Min.					
Hole No.	FEET DRILLED			Pipeset	DESCRIBE FORMATION DRILLED	Explain Logging Time and Stand by Time								
	From	To	Total			Hole Finished at	Circulating Hole	Made Final Trip	Waited on Logger	Logged Hole	Rigged Down	Left Hole No.	Arrived Hole No.	Rigged Up
#2	336													
LIST EVERY BIT USED					Remarks									
Drag	Name	New Used	From	To	Total									
ROCK	Number													
BIT	Number													
Aquagel	Sacks	Cement												
Brm	Sacks													
Other Materials														
					Driller									
					Helper									
					Water Jack									
					Accidents									
					USE CORRECT TIMES									

EVENING TOUR

LEFT TOWN				LEFT RIG		TOTAL TIME		Hrs.	Min.					
Hole No.	FEET DRILLED			Pipeset	DESCRIBE FORMATION DRILLED	Explain Logging Time and Stand by Time								
	From	To	Total			Hole Finished at	Circulating Hole	Made Final Trip	Waited on Logger	Logged Hole	Rigged Down	Left Hole No.	Arrived Hole No.	Rigged Up
#2	336													
LIST EVERY BIT USED					Remarks									
Drag	Name	New Used	From	To	Total									
ROCK	Number													
BIT	Number													
Aquagel	Sacks	Cement												
Brm	Sacks													
Other Materials														
					Driller									
					Helper									
					Water Jack									
					Accidents									
					USE CORRECT TIMES									

TOOL PUSHER R.D. Murray

DATE APR 15 / 67
Location MAY RIVER

DAILY DRILLING REPORT

MEC et al SULPHUR POINT #1 3-7
01° 00' - 114° 55'

MIDNIGHT TOLR

LEFT TOWN		LEFT BIG		TOTAL TIME		Hrs.		Min.	
Hole No.	FEET DRILLED			Pipeset	DESCRIBE FORMATION DRILLED	Explain Logging Time and Stand by Time			
	From	To	Total						
LIST EVERY BIT USED					Remarks		Hole Finished at Circulating Hole to Made Final Trip to Waited on Logger to Logged Hole to Bigged Down to Left Hole No. at Arrived Hole No. at Bigged Up to Spudded Hole at		
	Drag	Name	New Used	From					
BITS									
ROCK BIT	Number								
	Number								
MUD	Aquagel	Sacks	Cement						
	Brum	Sacks		Sacks					
	Other Materials					Driller Helper Water Jack Accidents		USE CORRECT TIMES.	

1990年12月1日

LEFT TOWN						LEFT RIG						TOTAL TIME						Hrs.	Min.
Hole No.		FEET DRILLED			Pipeset	DESCRIBE FORMATION DRILLED						Explain Logging Time and Stand by Times							
		From	To	Total															
#2		266	314	48'		DRILLING & CORING CORED - 266-270						Hole Finished at.....							
						DRILLING - 270-314'						Circulating Hole							
						Remarks 9 ⁰⁰ -10 ⁰⁰ A.M. CORING NOT VERY FAST, TRAPPED OUT TO RUN 3 CANS REAMED 266-270. DRILLED TO 314' TRAPPED OUT TO CORE AGAIN						Made Fluid Trip							
						LIST EVERY BIT USED						Worked on Logger							
Drop	Name	New Used	From	To	Total							Logged Hole							
												Stopped Down							
												Lost Hole No.							
												Arrived Hole No.							
												Spooled Up							
												Spooled Hole							
D	2245											E.C.A.M							
T/R	Number	NEW	270	314								P.E.G P.M							
ROCK																			
B.T.	Number																		
Aquagel	Sacks	Cement																	
Brn	Sacks																		
Water Jack	R M DONALD																		
Accidents																			
Time	12 HR																		

[illegible]

LEFT TOWN			LEFT REG			TOTAL TIME			Hrs.			Min.		
Hole No.	FEET DRILLED			Pipeset	DESCRIBE FORMATION DRILLED	Explain Logging Time and Stated by Time								
	From	To	Total											
#2	314	336	22'											
LIST EVERY BIT USED														
Drag	Name	New Used	From	To	Total	Remarks								
						RAN IN WITH CORE								
						66L. + CORED 6 FT. BIT JAMMED								
						PULLED OUT + RAN ROCK BIT.								
						7:50 A.M. ICE STARTED TO MOVE								
						1/2" PER H.R. PULLED RODS								
						OUT OF HOLE.								
21427	Number	NEW	320	336										
BIT	Number													
Driller F. KOWALCHUK														
Helper R. KENT														
Water Jack B. FOLDSHEIM														
Accidents														
Hole Finished at														
Circulating Hole														
Made Final Trip														
Waited on Logger														
Logged Hole														
Rigged Down														
Left Hole No.														
Arrived Hole No.														
Rigged Up														
Spudded Hole														
7:00 P.M.														
7:00 A.M.														
12 HRS														

[illegible]

DATE April 4 1967
Location HAY RIVER

DAILY DRILLING REPORT

FROM 0101 SULPHUR POINT
61° 00' - 114° 4'

MIDNIGHT TOUR

LEFT TOWN		LEFT RIG		TOTAL TIME		Hrs.		Min.	
Hole No.	FEET DRILLED			Pipeset	DESCRIBE FORMATION DRILLED	Explain Logging Time and Strand by Time			
	From	To	Total						
BYS	LIST EVERY BIT USED						Remarks		
	Drag	Name	New Used	From	To	Total			
ROCK BIT	Number								
	Number								
MUD	Aguegel		Sacks	Cement					
	Brum		Sacks			Sacks			
	Other Materials								
						Driller			
						Helper			
						Water Jack			
						Accidents			
						USE CORRECT TIMES.			

DANLIGHT TOUR

LEFT TOWN				LEFT RIG		TOTAL TIME		Hrs.		Min.	
Hole No.	FEET DRILLED			Pipeset	DESCRIBE FORMATION DRILLED	Explain Logging Time and Started by Time					
	From	To	Total								
# 2	169	202	33'								
LIST EVERY BIT USED					Remarks						
BITS	Drag	Name	New Used	From	To	Total					
	2 1/2" ROCK BIT	1055 Number	NEW	169	202	33'	8:20 - 8:15 SERVICED RIG 8:15 - 1:00 P.M. W.D.C. & RIGGING UP 1:00 P.M. DRILLED OUT CEMENTED @ 140' PRESSURED UP BELOW SHOE - O.K.				
		Number									
FLUID	Aquagel	Sacks	Cement								
	Brax	Sacks		Sacks							
	Other Materials										
							Driller G. SCHULTZ Helper S. BOWDEN Water Jack R. McDONALD Accidents				
							8:00 A.M. 7:00 P.M.				
							USE CORRECT TIMES. 12 HRS				

EVERETT TOWNE

LEFT TOWN				LEFT RIG		TOTAL TIME		Hrs.		Min.	
Hole No.	FEET DRILLED			Pipeest	DESCRIBE FORMATION DRILLED	Explicin Logging Time and Stand by Time					
	From	To	Total								
#2	202	266	64'		DRILLING & CORING						
						Hole Finished at					
						Circulating Hole to					
						Made Final Trip to					
						Waited on Logger to					
						Logged Hole to					
						Rigged Down to					
						Left Hole No. at					
						Arrived Hole No. at					
						Rigged Up to					
						Spudded Hole at					
						Driller F. KOWALCHUK					
						Helper R. KENT					
						Water Jack B. FOSSHEIM					
						Accidents					
						USE CORRECT TIMES. 12 HR					

USE CORRECT TIME

TOOL POSITION

R. D. Murray

R. D. MURRAY
BUILDING CONTRACTOR

DATE APRIL 3/67
Location HAY RIVER

DAILY DRILLING REPORT

MIDNIGHT TOUR

LEFT TOWN		LEFT RIG		TOTAL TIME		Hrs.		Min.		
Hole No.	FEET DRILLED			Pipecut	DESCRIBE FORMATION DRILLED	Explain Logging Time and Stand by Time				
	From	To	Total							
						Hole Finished at Circulating Hole to Made Final Trip to Waited on Logger to Logged Hole to Rigged Down to Left Hole No. at Arrived Hole No. at Rigged Up to Spudded Hole at				
MIS	LIST EVERY BIT USED						Remarks Driller Helper Water Jack Accidents			
	Drag	Name	New Used	From	To	Total				
ROCK BIT	Number						USE CORRECT TIMES.			
	Number									
MUD	Aquagel		Sacks	Cement						
	Brin		Sacks			Sacks				
	Other Materials									

DAYLIGHT TOUR

LEFT TOWN		LEFT RIG		TOTAL TIME		Hrs.		Min.	
Hole No.	FEET DRILLED			Pipe set	DESCRIBE FORMATION DRILLED	Explo's Logging Time and Stand by Time			
	From	To	Total						
# 2	169'								
LIST EVERY BIT USED						Remarks			
Drag	Name	New Used	From	To	Total				
						RAM CASING TO 165' WITH SHOE & SWEDGE, WELDED SHOE + FIRST JOINT - 1/25-2 3/4" CEMENTED WITH 2RSKS + 40 LB CEMENT 2 P.M. - 8 P.M. W.D.C. RIGGING UP CORE BAR ETC			
ROCK BIT	Number					Driller C. SCHULTZ Helper S. ROWDEN Water Jack R. McDONALD Accidents			
	Number								
Mud	Asphalt	Sacks	Cement			Arrived Hole No. at 8:00 A.M. 7:00 P.M. USE CORRECT TIMES. 12 HRS			
	Water	Sacks	22	Sacks					
Other Materials		40 LB	CEMENT						

EVENING 1046

LEFT TOWN		LEFT RIG		TOTAL TIME		Hrs.		Min.		
Hole No.	FEET DRILLED			Pipeset	DESCRIBE FORMATION DRILLED	Explain Logging Time and Stand by Time				
	From	To	Total							
# 2										
BITS	LIST EVERY BIT USED						Remarks			
	Drag	Name	New Used	From	To	Total				
							SLACKED OFF - OPENED VALVE @ 11 ⁰⁰ PM 11 ⁰⁰ - 8 ⁰⁰ HEADING UP, PUTTING UP PREFABS.			
	ROCK BIT	Number					Driller: F. KOWALCHUK Helper: R. KENT Water Jack: B. FOSSHEIM Accidents:			
		Number								
FLUID	Aquagel	Sacks	Cement				500 P.M. 800 A.M. USE CORRECT TIMES. 12 HRS			
	Brine	Sacks		Sacks						
	Other Materials									

TOOL PUSHER

K. D. Spencer

H. D. MURRAY
DRILLING CONTRACTOR

DATE April 21
Location MAY RIVER

DAILY DRILLING REPORT

McD et al SULPHUR POINT #1 07
61° 00' - 114° 25'

MIDNIGHT TOWN

LEFT TOWN		LEFT RIG		TOTAL TIME		Hrs.		Min.	
Hole No.	FEET DRILLED			Pipeact	DESCRIBE FORMATION DRILLED	Explain Logging Time and Stand by Time			
	From	To	Total						
LIST EVERY BIT USED						Remarks			
Drag	Name	New Used	From	To	Total				
RO-ACK BIT	Number								
	Number								
AQUA-GEL Sacks Cement BRACE Sacks Sacks OTHER Materials						Driller Helpers Water Jack Accidents			
						Hole Finished at Circulating Hole to Made Final Trip to Waited on Logger to Logged Hole to Rigged Down to Left Hole No. at Arrived Hole No. at Rigged Up to Snudged Hole at			
						USE CORRECT TIMES.			

DAYLIGHT TOUR

LEFT DOWN		LEFT RIG		TOTAL TIME		Hrs.		Min.	
Hole No.	FEET DRILLED			Pipeset	DESCRIBE FORMATION DRILLED	Explain Logging Time and Stand by Time			
	From	To	Total						
# 2	63	102	39'						
LIST EVERY BIT USED						Remarks			
Drag	Name	New Used	From	To	Total				
6 3/4	3C		63	78	15'	DRILLED WITH 6 3/4 TO 78', CHANGED TO 4 3/4 3C @ 78', LOST CIRCULATION @ 90' DRILLING WITH SUCTION IN THE LAKE.			
4 3/4	3C	10192 NEW	78	102	24'				
ROCK BIT	Number								
	Number								
MUD	Acetangel	4	Sacks	Cement		Driller G. SCHULTZ			
	Brick		Sacks			Helper S. ROWDEN			
						Water Jack R. McDONALD			
						Accidents			
	Other Materials					USE CORRECT TIMES. 12 HRS			

EVENING TOUR

LIST TOWN		LIST ZIG		TOTAL TIME		Hrs.	Min.	
Hole No.		FEET DRILLED			Pipeast	DESCRIBE FORMATION DRILLED		Explain Logging Time and Stand by Time
		From	To	Total				
# 2		102	169'	67'				
LIST EVERY BIT USED					Remarks			
Drill	Name	New Used	From	To	Total			
6 1/4	RECON	102	144	42'		DRILLED 4 3/4" HOLE FROM 102 TO 144' REAMED OUT WITH 6 1/4 TO 144' TRIPPED - RAN 4 3/4" TO 169, CIRCULATED FOR CASING.		
4 3/4	RECON	144	169	25'				
ROCK	Number							
BIT	Number							
Ague		Sacks		Cement				
Sacks		Sacks		Sacks				
Other Materials								
Driller F. KOWALCHUK Helper R. KENT Water Jack B. FOSSHEIM Accidents						8:00 P.M. 8:00 A.M. 12 HRS USE CORRECT TIMES.		

TOOL PUSHER

R. H. Shurtz

R. D. MURRAY
DRILLING CONTRACTOR

DATE APRIL 1, 1967
Location HAY RIVER
McDermid GULF POINT #107
61° 00' - 114° 45'

DAILY DRILLING REPORT

McD clat SULF TUR POINT 41 0-7
61° 00' — 114° 45'

MIDNIGHT TOUR

LEFT TOWN		LEFT RIG		TOTAL TIME		Hrs.		Min.																																						
Hole No.	FEET DRILLED			Pipeset	DESCRIBE FORMATION DRILLED	Explain Logging Time and Stand by Time																																								
	From	To	Total																																											
LIST EVERY BIT USED					Remarks																																									
<table border="1"> <thead> <tr> <th>DRAG</th> <th>Name</th> <th>New Used</th> <th>From</th> <th>To</th> <th>Total</th> </tr> </thead> <tbody> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td>ROCK</td> <td>Number</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>BIT</td> <td>Number</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>										DRAG	Name	New Used	From	To	Total																									ROCK	Number					BIT
DRAG	Name	New Used	From	To	Total																																									
ROCK	Number																																													
BIT	Number																																													
<table border="0"> <tr> <td>Aquagel</td> <td>Sacks</td> <td>Cement</td> <td></td> </tr> <tr> <td>Brum</td> <td>Sacks</td> <td></td> <td>Sacks</td> </tr> <tr> <td colspan="4">Other Materials</td> </tr> </table>					Aquagel	Sacks	Cement		Brum	Sacks		Sacks	Other Materials				Driller Helper Water Jack Accidents																													
Aquagel	Sacks	Cement																																												
Brum	Sacks		Sacks																																											
Other Materials																																														
					Hole Finished at Circulating Hole to Made Final Trip to Waited on Logger to Logged Hole to Rigged Down to Left Hole No. at Arrived Hole No. at Rigged Up to Spudded Hole at																																									
					USE CORRECT TIMES.																																									

DAYLIGHT TONE

LEFT TOWN						LEFT BIG						TOTAL TIME						Hrs.	Min.
Hole No.	FEET DRILLED			Pipeset	DESCRIBE FORMATION DRILLED	Explain Logging Time and Stand by Times													
	From	To	Total																
#2																			
LIST EVERY BIT USED					Remarks WAITED FOR WEATHER FROM 8 ⁰⁰ AM - 2 ⁰⁰ PM RAISED DERRICK WORKED ON CAWASS, STARTED TO DRILL THROUGH ICE.														
BITS	Drag	Name	New Used	From	To	Total													
				52"	44' K.B.														
		Ice		to bottom		4'													
	ROCK BIT	Number		- ice =															
		Number	K.B.																
MUD	Aquagel	Supplies	Content																
	Barr.	Wicks																	
	Other Materials																		
							Derrick	C. SCHULTZ											
							Helper	S ROWDEN											
							Water Jack	R McDONALD											
							Accidents												
Hole Finished at Circulating Hole to Made Final Trip to Waited on Logger to Logged Hole to Rigged Down to Left Hole No. at Arrived Hole No. at Rigged Up to Spudded Hole at 800 A.M. 800 P.M. USE CORRECT TIMES. 12 HRS																			

EVENING FOUR

LEFT TOWN		LEFT RIG		TOTAL TIME		Rm.		Mls.	
Hole No.	FEET DRILLED			Pipeset	DESCRIBE FORMATION DRILLED	Explain Logging Time and Started by Time			
	From	To	Total						
#2	0	63	63		0-41' WATER	Hole Finished at Circulating Hole to Made Final Trip to Waited on Logger to Logged Hole to Rigged Down to Left Hole No. at Arrived Hole No. at Rigged Up to Spudded Hole at Driller F KOWALCHUK Helper R KENT Water Jack B FOSSHEIM Accidents 5:00 P.M. 8:00 A.M. USE CORRECT TIMES.			
					41-63' HARD FORMATION				
LIST EVERY BIT USED							Remarks		
Tray	Name	New Used	From	To	Total				
						SET CONDUCTOR PIPE TO 59' SET MUD TANK + STARTED DRILLING WITH 6 1/2" 3 C F.W.C. DAKOTA			
BITS	6 1/2	2869	DAKOTA				Driller F KOWALCHUK Helper R KENT Water Jack B FOSSHEIM Accidents		
	ROCK	Number	NEW	59	63				
		Number					5:00 P.M. 8:00 A.M. USE CORRECT TIMES.		
MUD	Acquagel	2	Sacks	Cement		2 HRS			
			Sacks	Sacks					
	Other Materials								

USE CORRECT TIMES.

TOOL PUEHEA

R. D. MURRAY
DRILLING CONTRACTOR

DATE *MARCH 31/67*
Location

DAILY DRILLING REPORT

MIDNIGHT TOUR

Sec 1, Phoen Q. #1

LEFT TOWER		LEFT RIG		TOTAL TIME		Hrs.		Min.	
Hole No.	FEET DRILLED			Pipecast	DESCRIBE FORMATION DRILLED	Explain Logging Time and Stand by Time			
	From	To	Total						
LIST EVERY BIT USED					Remarks	Hole Finished at			
Drag	Name	New Used	From	To		Total	Circulating Mole to		
						Made Final Trip to			
						Waited on Logger to			
						Logged Hole to			
						Rigged Down to			
						Left Hole No. at			
						Arrived Hole No. at			
						Rigged Up to			
						Spudded Hole at			
ROCK BIT	Number					Driller			
	Number					Helper			
Aquagel Sacks Cement					Water Jack				
Bron Sacks Sacks					Accidents				
Other Materials					USE CORRECT TIMES.				

REVEAL TOE

LEFT TO OWN		LEFT RIG		TOTAL TIME		Hrs.		Min.	
Hole No.	FEET DRILLED			Pipeset	DESCRIBE FORMATION DRILLED	Explain Logging Time and Stand by Time			
	From	To	Total						
#2									
LIST EVERY BIT USED						Remarks			
Drag	Name	New Used	From	To	Total	LEFT LOCATION @ 9 ⁰⁰ AM WITH RIG & CAMP ARRIVED @ 2 PM. WAITED FOR CAT TO CLEAR LOCATION. SET UP CAMP & RIG.			
ROCK BIT	Number					Driller F. KOWALCHUK Helper R. KENT Water Jack B. FOSSHEIM Accidents			
	Number								
Agassagel	Sacks	Cement		8 ⁰⁰ AM 8 ⁰⁰ PM USE CORRECT TIMES. 12 HRS					
Bricks	Sacks	Sacks							
Other Materials									

LEFT TOWN		LEFT RIG		TOTAL TIME		Hrs.		Min.	
Hole No.	FEET DRILLED			Pipeset	DESCRIBE FORMATION DRILLED	Explain Logging Time and Stand by Time			
	From	To	Total						
# 2									
LIST EVERY BIT USED					Remarks				
Drill	Name	New Used	From	To	Total	RIGGED UP WAITING FOR HIGH BOY WITH 7" CASING VERY HIGH WIND @ 3 ⁰⁰ A.M. HAD TO LAY DERRICK DOWN			
ROCK	Number					Driller G. SCHULTZ Helper S. RENDEN Water Jack P. McDONALD Accidents			
BIT	Number								
MATERIALS		Sacks	Cement	Sacks		8 ⁰⁰ P.M. 8 ⁰⁰ A.M. USE CORRECT TIMES. 12 HRS			
Cement Materials		Sacks							

USE CORRECT TIMES. 12 HRS

TOOL FUSDER