

CS RED KNIFE

J-21

Drilling Authority No. 335
Date Issued 17 December 1968

WELL NAME: CS Redknife J-31

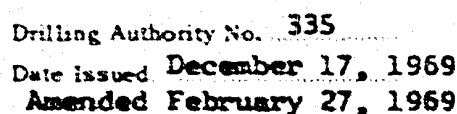
FIELD LOCATION: Unit J Area: 21 Grid 61-10-119-15
Latitude 61-00-38 40.99 Longitude 119-19-11 14.16
From Established Reference Marker

U.W.L.R. 01139 32060
U.W.I. 61-01533 -- 119-31992
J 300/216110119150

Rig Release Date: 2-2-69
Status: A
Information Release Date

CHANGE OF NAME:

DATE RECEIVED	INDEX
17-12-68	Application for a Drilling Authority. Well Completion Data. Well History Report.
27-2-69	Application to Amend a Drilling Authority. Application to change a Well Name.
10-2-69	Application to Abandon a Well or Suspend Drilling. Application to Alter Condition of a Well. Well History Supplement.
22-5-69	Well Completion Data. Work-over Report No.
	Application to Commingle Production before Measurement.
	Data for Back Pressure Test on Natural Gas Wells — Monograph 7 Method.
	Data for Back Pressure Test on Natural Gas Wells — Vitter's Method.
	M.P.R. — Oil — Calculations.
	New Oil Well Report.
	New Gas Well Report.
	Well Inspection Report.
	Rig Inspection Report.
	Battery Inspection Report.
	Equipment Report.
	Well Card.
	New Service Well Report.
	Monthly Water Flood Operations Report
	Monthly Water Receipts and Disposal of Fluids Report Logs. Large scale Small scale



WELL COMPLETION DATA

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

Consent, recompletion
MAY 26 1955

Permit No. 4387
Canada-Cities Service
Petroleum Corporation
Canada-Cities Service
Petroleum Corporation

Lease No. _____
 Licence No. 1099
 Licence No. 1099

Location: Unit **J** Section **21** Grid **61° 10', 119° - 15'**
 Latitude **61° 00' 40.99"** Longitude **119° 19' 14.16"**
 From Established Reference Marker **Mer. 117° 00'**
 Universal Well Location Reference **Lat. 61.01139°N, Long 119.32060°W**

	DATE	DEPTH
Spudded	1/10/69	
Suspended		
Resumed Operations		
Finished Drilling	1/29/69	2831'
Deepened		
Complete (gas/oil)		
Abandoned	2/3/69	2831'
Rig released	2/3/69	2831'

Pool(s)

Interval(s) open to production

Nil

Elevation: Gr. 918' K.B. 931'

Rig No. 1 Vandergrift Gas and Oil
Drilling Contractor Enterprises Ltd.

Contractor's Business Licence No. A-11238

	Coupling Size (inches)	Grade	Weight	Amount	Set at -	Sacks of Cement and Additives
1.	8 5/8	J.55	24	323'	335'	120 + 4% Gel
2.						100 + 2% CaCl ₂
3.						
4.						
5.						
6.						

[illegible]

CEMENTING RECORD (Plug Squeeze, etc.)				PERFORATING RECORD (Bullet, Jet)				SERVICING RECORD (Acidizing, Fishing, etc.)			
Date	From	To	Remarks	Date	From	To	Remarks	Date	From	To	Remarks
2/2/69	2831' KB	2500' KB	135 sacks cement	2/2/69							
2/2/69	384' KB	284' KB	50 sacks cement, felt @ 275'								NIL
2/3/69	3' GL	18' GL	5 sacks cement								
2/3/69			Welded plate on 8 5/8" casing and installed monument name plate								

DRILL STEM TESTS

No.	Date	Formation	From	To	V.O. Mins.	I.S.L. Mins.	F.S.L. Mins.	I.S.L.R.H.P.	F.S.L.R.H.P.	L.P.R.H.P.	F.F.R.H.P.	I.H.P.	F.H.P.	REMARKS
1	1/30/69	Slave Point & Elk Point	2548	2831	60	30	30	1173	1195	436	436	1369	1347	Good initial puff. Gas to surface in 25 mins, steady throughout test. (4' flare on 2" pipe) Recovered 120' drilling fluid.

ANALYSIS				PRESENT STATUS OF WELL			
Lab. No.	Sample	From	To	Oil	Gas	Dry	Sulp.
E69-9078	Gas	2548	2831				
E69-9485-3	Water	2548	2831				
						X	

Company **Canada-Cities Service Petroleum Corporation**

Signed by *Robert J. Brady*

Title **Manager of Operations**

Date **May 22, 1969**

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



DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
RESOURCE MANAGEMENT DIVISION

Application to Amend a Drilling Authority

This application, in triplicate, must be submitted and approved before commencing operations. If the well location is changed, this application must be accompanied where required, with a plan of survey approved by the Surveyor General.

In compliance with the "Canada Oil and Gas Land Regulations", application is hereby made to amend
Drilling Authority No. 335, concerning CS Redknife I-21

(Name and Number of Well)

The following amendments are required:

Change the well number to CS Redknife J-21, 61-10, 119-15

Location should be recorded as Unit J; Section 21; Grid 61°10' N Lat,
119°15' W Long; Latitude 61°00'40.99"; Longitude 119°19'14.16"

Instead of Unit I, Section 21, Grid 61°10' N. Lat. 119°15' W. Long.;

Latitude 61°00' 39"., Longitude 119°19'11".

Reasons for the amendments:

The well location was surveyed by a certified land surveyor and the estimated location based on the seismic survey was slightly out. We are forwarding with this application three (3) copies of the final plan for this well location.

Dated at Calgary, this 25th day of February, 1969

Signed by *Robert G. Gaddy*
Title Vice President, Manager of Operations
Company Canada-Cities Service Petroleum Corporation

(For Resource Management Division use only)

APPROVED

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

UNIVERSAL WELL LOCATION REFERENCE: Lat. 61.01139° N.
Long. 119.32060° W.

UNIQUE WELL IDENTIFIER- 300J216110119150

Date 27th February 69

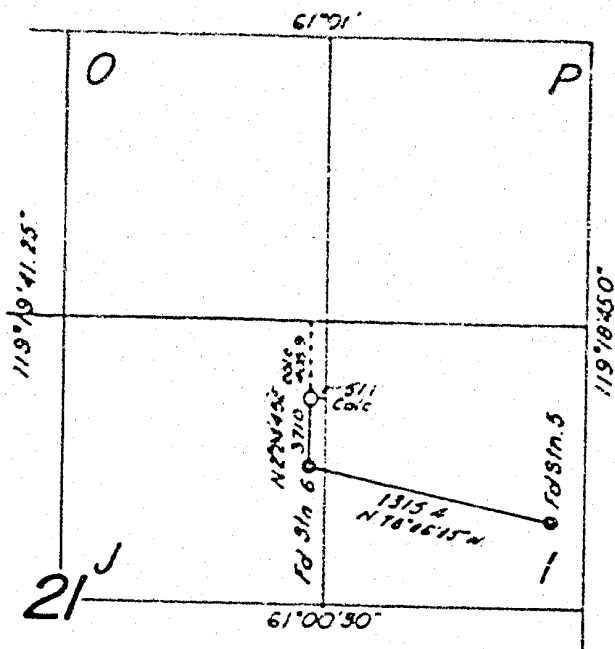
Bob S. Thomas
Oil Conservation Engineer

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

CS REDKNIFE

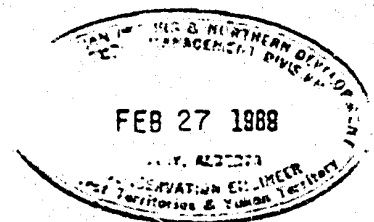
J21, 61-10, 119-15

Latitude $61^{\circ}00'40.99''$ Longitude $119^{\circ}19'14.16''$
NORTHWEST TERRITORIES



Scale: 1000' to 1"

CO-ORDINATE TABLE				
U.T.M. Values: Scale Factor 09999: Ref Mer. 117°00'				
Station	Bearing	Distance	North	West
5				
6	N 78°06'35" W	1,315.4	22,204,426.7	410,444.7
Well Loc.	N 2°24'45" E	371.0	22,204,697.7	411,731.8
			22,205,068.3	411,716.2



Survey completed
Certified correct.

NOTE:
1. Distances are in feet and decimals.

[Signature]
Alberta Land Surveyor

CANADA-CITIES SERVICE
PETROLEUM CORPORATION

ELEVATION: 918 Ground
DATUM: N. 1/4 Sec. 35-140-8 WG
Elev. 486

[Signature]
[Signature] P. Eng.

MIDWEST SURVEYS CO. LTD.





DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
OIL AND GAS 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 **CS Redwile 1 - 21**

Location: Unit **I** Section **21** Grid **61° 10' N Lat., 119° 15' W Long**

Latitude **61° 00' 39"** Longitude **119° 19' 11"**

From Established Reference Marker **Shot Point 40, Line 11**

Universal Well Location Reference **61.00033 N. Lat 119.31972° W. Long**

Permit No. **4387** Lease No.

Canada Cities Service Petroleum Corporation
(Permitter, Licensee, Lessee)

Date of commencement of proposed program.....

OIL, GAS, AND WATER ENCOUNTERED
(Depths)

Oil at **None**
Gas at **D.S.T. #1 2545-2831, Gas to surface 15 minutes, too small to measure**
Water at **None**
Total Depth **2831** Date of last operations **February 3, 1969**
Present condition of well **Plugged and Abandoned**

CASING RECORD

Casing Size O.D. Inches	Weight	Amount	Set At—	Sacks of Cement and Additives	Amount Pulled
1. 8 5/8"	240	323.87	334.67	320 sacks 42 Gal;	None
2.				200 sacks 22 Gal. Gas	
3.					
4.					
5.					

PROPOSED ABANDONMENT PROGRAM

Plug		Geological Formation	Number of Sacks of Cement	Remarks
No.	Position			
1	2500' - 2831'	Slave Point; Elk Point	135	Plug down 3:15 A.M. 2-2-69
2	234' - 304'	Base of surface pipe	50	Plug down 9:30 A.M. 2-2-69
		Pack plug after 8 hrs		Plug 275', 3:30 P.M. 2-2-69
3	3' - 15'	Top of surface pipe	5	Plug down 3:30 A.M. 2-3-69
		Cut off 8 5/8" casing 3' below ground level weld on steel cap and well necker 4' above ground level.		

The following logs have been run **Ind.-L.S., L.S.C. Sonic-CG, F.D.C., Microlog-Caliper, L.S.P.,**
Other operations proposed **Clean up and level location. Velocity Survey.**

Operations to be carried out by **Interprovincial Gas & Oil** Contractor Licence No. **A11238**
Address **P.O. Box 4136, 3414-100A Street, Edmonton, Alberta** Address
Responsible Agent in field **L.S. Armstrong**
Dated at **Edmonton, Alberta** this **3rd** Day of **February** 1969
Signed by **William J. Thomas** Company **Canada Cities Service Petroleum Corporation**
Title **Operator's Exploratory License No. 3077**

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 given by Mr. E.E.J. Thomas on the 31st January 1969.

Dated **10th February** 19 **69**

William J. Thomas
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. 335

Project No.

File No.



DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
~~RESOURCE MANAGEMENT~~ DIVISION
~~OIL & NATURAL~~

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 **CS Redknife I-21**
 Location: Unit **I** Section **21** Grid **61°10'N Lat. 119°15'W. Long.**
 Latitude **61°00'39"** Longitude **119°19'11"**
 From Established Reference Marker **Spot Point 40, Line 2**
 Universal Well Location Reference **61.01033° N. Lat. 119.31972° W. Long.**
 Elevation: Ground (est.) **924'** K.B. **937** feet above sea-level.
 Well is expected to produce from **Devonian Carbonates** formation at a depth
 of about **3200** feet. Expected total final depth **3300'**
 Area assigned to well

(See Oil Conservation Engineer's form only)

Permit No. **4387** Lease No. **61,920**
 Permittee, licensee, or lessee **Canada-Cities Service Petroleum Corporation**
 Exploratory Licence No. **1099**
 Surface owned by Crown **Crown**
 (If other than owner 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./Yd.)	Grade	New or Used	Estimated Depth	Scale of Cement
1. 8 5/8	24	J-55	New	320	165
2. 5 1/2	14	J-55	New	3300	155
3.					
4.					
5.					

Expected water, gas, and oil horizons and type of control equipment. All fluid bearing horizons encountered will be controlled by bentonitic base drilling fluid weighted with barite if required to control formation pressure. BOP's Double Gate 10" series 900 Shaffer & GK 10" series 900 Hydril.

Well will be drilled with Rotary Rig No. **1** by **Vandergrift Gas & Oil Enterprises Ltd.**
 (Drilling Contractor or company)

P.O. Box 4338, 5634 - 103A Street, Edmonton, Alberta

Responsible agent of applicant:— Contractor's Business Licence No. **A11238**

At well **E. S. Armstrong** At registered office **R. A. Grady**
 Address **P.O. Box 89, Drayton** Address **P.O. Box 2727, Calgary, Alberta**
Valley, Alberta

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

Dated at **Calgary**, this **12th** day of **December** 19 **68**

Signed by **Robert Grady** Company **Canada-Cities Service Pet. Corp.**

Title **Vice President & Manager of** Operator's Licence No. **1099**

Operations

(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 **17th December** 19 **68**

Oil Conservation Engineer

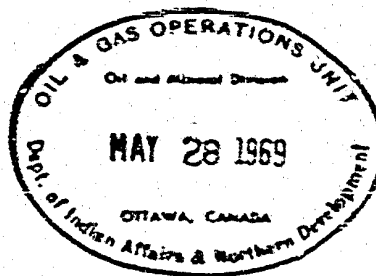
Forms to be submitted to Oil Conservation Engineer,
 Department of Indian Affairs and Northern Development, Calgary, Alberta.

LAND 52-90-1 (3-67)

UNIQUE WELL IDENTIFIER: 300I216110119150

WELL HISTORY REPORT

C. S. Redknife J - 21



WELL HISTORY REPORT

CS REDKNIFE J - 21

UNIQUE WELL IDENTIFIER 300 J-21 6110119150

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SECTION II:	Geological Summary
SECTION III:	Engineering Summary
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SECTION V:	Analysis

CS REDKNIFE J-21.

. 300 J-21 6110119150

Section I - Summary of Well Data

Well Name & Number: CS Redknife J-21 Unique Well Identifier 300 J-21 6110119150

Permittee: Canada-Cities Service Petroleum Corporation

Operator: Canada-Cities Service Petroleum Corporation
1100 Calgary House
550 - 6th Avenue, S.W.
P. O. Box 2727
Calgary, Alberta

Location: Lat 61°00'40.99", Long 119°19'14.16" Northwest Territories
Unit J, Section 21, Grid 61°10'; 119°15'.

Universal Well Location Reference: Lat 61.01139°N, Long 119.32060°W

Permit Number: 4387

Drilling Contractor: Vandergrift Gas and Oil Enterprises Ltd. *Reg'd*

Drilling Authority: No. 335 Issued December 17, 1968, Amended February 27, 1969

Well Classification: Wildcat

Elevation: Ground 918' KB 931'

Spudged: 10:30 p.m. January 10, 1969

Completed Drilling: January 29, 1969

Total Depth: 2831'

Well Status: Plugged and Abandoned

Rig Released: 4:00 a.m. February 3, 1969

Hole Size: Surface to 336' - 12 1/4"; 336' to 2831' - 7 7/8"

Casing: 11 jts @ 5/8", 24# J-55 Grade A Mann. Csg. (323.07'). Set at 334.67'.
with 120 sacks cement + 4% gel, and 100 sacks cement + 2% CaCl₂.

WELL HISTORY REPORT

SECTION II GEOLOGICAL SUMMARY

CS REDKNIFE J-21

ELEVATION 918 GL 931 KB

<u>FORMATION TOP</u>	<u>SAMPLE TOP</u>	<u>LOG TOP</u>
Trout River	16	--
Kakisa	--	430
Redknife	--	620
Island River	790	790
Hay River	820	814
Horn River	2530	2533
Slave Point	2550	2545
Watt Mountain	--	2697
Elk Point	--	2700
Granite Wash	--	2794
Pre-Cambrian	2810	2810
T.D. - 2831		

No Cores

SECTION II - Geological Summary

Sample Description

CS Redknife J-21

Elev. 918 GL 931 KB

SAMPLE DESCRIPTION

- 0-15 muskeg and glacial till
- 15-16 dolomite, cream, coarse crystalline, vuggy
- 16-50 no samples
- 50-100 limestone, cream-buff, microcrystalline (silt size)
fossiliferous, some copper, some glauconite
- 100-190 limestone, cream, argillaceous, chalky, pyritic
- 190-200 limestone, as above, pyrite veining
- 200-300 limestone, light gray-cream, microcrystalline (silt size),
fossiliferous, pyritic, slightly micaceous, some siltstone
intervals, red-dark brown, limy
- 300-340 limestone, light gray-cream, microcrystalline, (silt size),
fossiliferous, pyritic
- 340-440 shale, gray-dark gray with 10-15% interbedded siltstone,
gray-green
- 440-450 shale, as above, and limestone, light-gray, microcrystalline
(silt size), fossiliferous
- 450-490 shale, gray-green, limy
- 490-550 limestone, light gray-dark gray, microcrystalline (silt size),
pyritic, fossiliferous (brachiopods)
- 550-560 shale, dark gray, pyritic
- 560-610 limestone, light gray-dark gray, argillaceous with 10%
interbedded shale, dark gray
- 610-620 limestone, light gray, microcrystalline (silt size), calcite
crystals
- 620-630 siltstone, gray-green, glauconitic
- 630-640 limestone, gray, microcrystalline (silt size), fossiliferous,
(brachiopods, crinoids)

CS Redknife J-21

SAMPLE DESCRIPTION

640-660	<u>siltstone</u> , gray-green, limy
660-680	<u>limestone</u> , gray, argillaceous
680-720	<u>shale</u> , gray-green, limy and <u>siltstone</u> , gray-green, limy
720-730	<u>limestone</u> , light-gray, microcrystalline (very fine), fossiliferous (brachiopods)
730-740	<u>shale</u> , brown and <u>limestone</u> , cream-buff, microcrystalline (silt size)
740-750	<u>shale</u> , gray
750-760	<u>limestone</u> , gray-brown, microcrystalline (silt size), fossiliferous (brachiopods)
760-790	<u>shale</u> , gray-green, splintery
790-820	<u>limestone</u> , gray-brown, microcrystalline (silt size), fossiliferous (brachiopods, crinoids), pyritic
820-880	<u>shale</u> , purple, green, gray, splintery
880-890	<u>siltstone</u> , gray-green
890-900	<u>shale</u> , purple-green, micaceous
900-910	<u>sandstone</u> , white, friable
910-920	<u>siltstone</u> , light gray-green, limy
920-930	<u>sandstone</u> , light gray, limy
930-940	<u>shale</u> , purple, green, gray
940-950	<u>sandstone</u> , yellow-brown, limy
950-960	<u>shale</u> , gray-green
960-970	<u>sandstone</u> , red, limy
970-990	<u>siltstone</u> , gray-green, limy, micaceous
990-1000	<u>shale</u> , gray-green
1000-1070	<u>shale</u> , green, gray, purple, and <u>siltstone</u> , green, 30%
1070-1080	<u>limestone</u> , gray, microcrystalline
1080-1160	<u>shale</u> , purple, green and <u>siltstone</u> , gray-green 25%

SAMPLE DESCRIPTION

1160-1170	<u>limestone</u> , cream, cryptocrystalline
1170-1180	<u>shale</u> , purple green
1180-1190	<u>limestone</u> , cream, microcrystalline (silt size)
1190-1220	<u>shale</u> , purple, green and <u>siltstone</u> , green, limy
1220-1230	<u>limestone</u> , brown, cryptocrystalline, some calcite crystals
1230-1410	<u>shale</u> , purple, green and <u>siltstone</u> , green
1410-1420	<u>limestone</u> , gray, cryptocrystalline, pyritic
1420-2020	<u>shale</u> , gray-green and <u>siltstone</u> , gray-green, 40% some pyrite, splintery, micaceous
2020-2030	<u>limestone</u> , cream, cryptocrystalline, crinoidal
2030-2140	<u>shale</u> , brown-green, splintery, pyritic
2140-2150	<u>limestone</u> , cream, cryptocrystalline
2150-2160	<u>shale</u> , brown, green
2160-2170	<u>limestone</u> , cream, cryptocrystalline
2170-2530	<u>shale</u> , gray, brown, green and <u>siltstone</u> , gray, green
2530-2545	<u>shale</u> , dark brown, carbonaceous
2545-2550	<u>limestone</u> , light gray, medium-grained, porous
2550-2610	<u>limestone</u> , brown, cryptocrystalline, chalky
2610-2660	<u>limestone</u> , as above, poor samples in this section
2660-2700	<u>limestone</u> , gray-brown, cryptocrystalline, chalky
2700-2710	<u>limestone</u> , white-cream, fine grained, chalky
2710-2720	<u>limestone</u> , white, microcrystalline (silt-size), chalky
2720-2770	<u>limestone</u> , white-gray, cryptocrystalline, chalky, fossiliferous (brachiopods, amphipora, stromatoporoids)
2770-2790	<u>limestone</u> , dark brown-dark gray, microcrystalline (silt size), pyrobitumen coating, fossiliferous (brachiopods, crinoids)
2790-2810	<u>quartzite</u> , white, green, fine grained, trace pink feldspar, trace dolomite, white
2810-2831	<u>granite</u>

Section III Engineering Summary

Report of Drill Stem Tests: DST #1 2548'-2831' (283') Slave Point and Elk Point.
ISI 30 mins, VO 60 mins, FSI 30 mins. Good initial
puff. Gas to surface in 25 mins, steady throughout
test. (4' flare on 2" pipe).
IHP 1369 ISIP 1173 IFP 436
FHP 1347 FSIP 1195 FFP 436

NB Pressures reported are field readings.

Casing Record: Surface casing - 11 jts. 8 5/8", 24# J-55 Grade A Mann. Csg.
(323.07). Cemented at 334.67' with 120 sacks cement plus 4%
Gel and 100 sacks cement plus 2% CaCl₂.

<u>Bit Record:</u>	<u>Bit No.</u>	<u>Size (in.)</u>	<u>Manufacturer</u>	<u>Type</u>	<u>Serial No.</u>	<u>Footage Drilled</u>	<u>Time</u>	<u>Comments</u>
	1	8 5/8	Security	H-7.	829418	65	3 hrs.	
	1A	8 5/8	Security	H-7	829618	108	12 hrs.	
	2	12 1/4	Reed	SYR	D41342	163	15 hrs.	Reamed 163' 28 1/2 hours
	3	7 7/8	Security	S3P	905032	222	15 1/4 hrs.	
	4	7 7/8	Reed	YTS	46119	623	22 hrs.	
	5	7 7/8	Security	S3T	907453	594	21 1/2 hrs.	
	6	7 7/8	Reed	YTIA	E66030	720	28 1/2 hrs.	
	7	7 7/8	Security	M4NG	908964	155	19 1/4 hrs.	
	8	7 7/8	Security	S4T	909742	82	13 1/4 hrs.	
	9	7 7/8	Reed	YTIA	66034	85	7-3/4 hrs.	
	10	7 7/8	Security	M4NG	907147	9	4 hrs.	
	11	7 7/8	Security	H7G	906960	7	2 hrs.	

Mud Report: Normal bentonite and water slurry drilling fluid was used:

<u>Material</u>	<u>Amount (lbs)</u>
Gel	17,700
Rapidrill	1 Sack
Bicarb of Soda	200
Caustic Soda	500
CMC	100
Spersene	150

<u>Deviation Record:</u>	<u>Depth</u>	<u>Dev.</u>	<u>Depth</u>	<u>Dev.</u>	<u>Depth</u>	<u>Dev.</u>	<u>Depth</u>	<u>Dev.</u>
	60'	- 1°	262'	- 3/4°	1180'	- 0°	2556'	- 2°
	117'	- 7/8°	290'	- 7/8°	1589'	- 1/8°	2616'	- 2°
	147'	- 7/8°	330'	- 7/8°	1770'	- 0°	2645'	- 1 3/4°
	170'	- 7/8°	550'	- 0°	2270'	- 1/2°	2708'	- 2°
	200'	- 7/8°	1040'	- 1/2°	2493'	- 2 1/4°	2815'	- 1 1/2°

Abandonment Plugs: Plug #1 2831' KB-2500' KB (331') 135 sacks cement.
Plug #2 384' KB-284' KB (100') 50 sacks cement.+ 2% CaCl₂.
Felt Plug #2 at 275'.
Plug #3 3' GL-18' GL (15') 5 sacks cement.
Welded steel plate to casing stub and 2" pipe with well
monument plate.

Lost Circulation Zones: Nil

Report of Blowouts: Nil

[illegible]

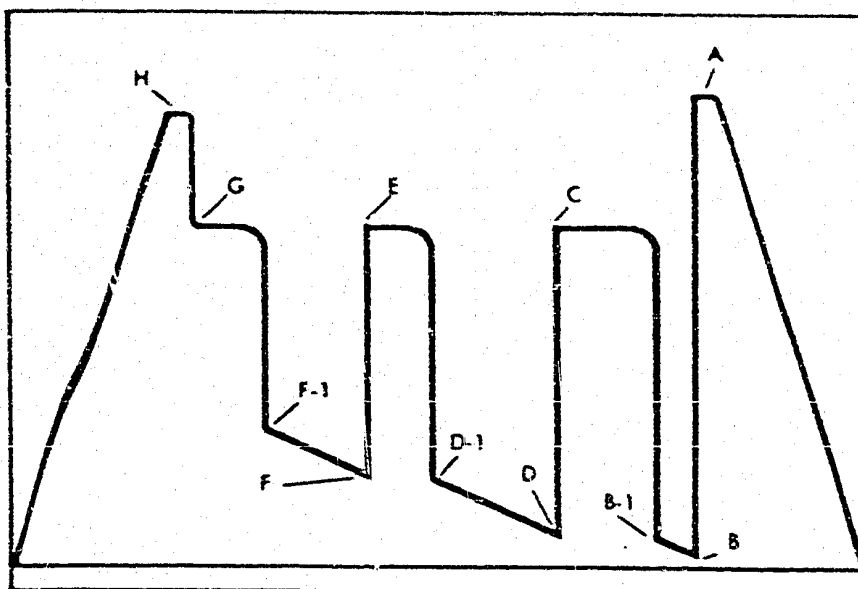
PRESSURE DATA

INSTRUMENT No.			FIELD REPORT No.	
CAPACITY (gals.)	AK1-2084	AK1-2085	D 07516	
INSTRUMENT DEPTH	4300	4400		
INSTRUMENT OPENING	2574	2578		
PRESSURE GRADIENT psi/ft.	Outside	Outside		
WELL TEMP °F	124°	124°	TIME DATA	
INITIAL HYDROSTATIC	A 1361#	1362#	TIME GIVEN	TIME COMPUTED
FIRST FLOW	B 80#	83#	MINS	MINS
B-1	58#	60#		
INITIAL SHUT-IN	C 1165#	1167#	MINS	MINS
SECOND FLOW	D 45#	45#	MINS	MINS
D-1	55#	58#		
SECOND SHUT-IN	E		MINS	MINS
THIRD FLOW	F		MINS	MINS
FINAL SHUT-IN	G 1194#	1195#		
FINAL HYDROSTATIC	H 1348#	1348#	MINS	MINS
REMARKS			CLOCK TRAVEL	IN/MIN

PRESSURE INCREMENTS

[illegible]

GUIDE TO IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS



- A. Initial Hyd. Mud
- B. First Flow
- C. Initial Shut-In
- D. Second Flow
- E. Second Shut-In
- F. Third Flow
- G. Final Shut-In
- H. Final Hyd. Mud

The following points are either fluctuating pressures or points indicating other packer settings (testing different zones).

- A-1, A-2, A-3, etc. Initial Hyd. Pressures
- B, B-1, Initial Flow Pressures
- C, Initial Shut-In
- D-1, D-2, D-3, etc. Second Flow Pressures
- E, Second Shut-In
- F, F-1, F-2. Third Flow Pressures
- G, Final Shut-In
- H, Final Hyd. Pressures
- Z — Special pressure points such as pumping pressures recorded for formation breakdown.

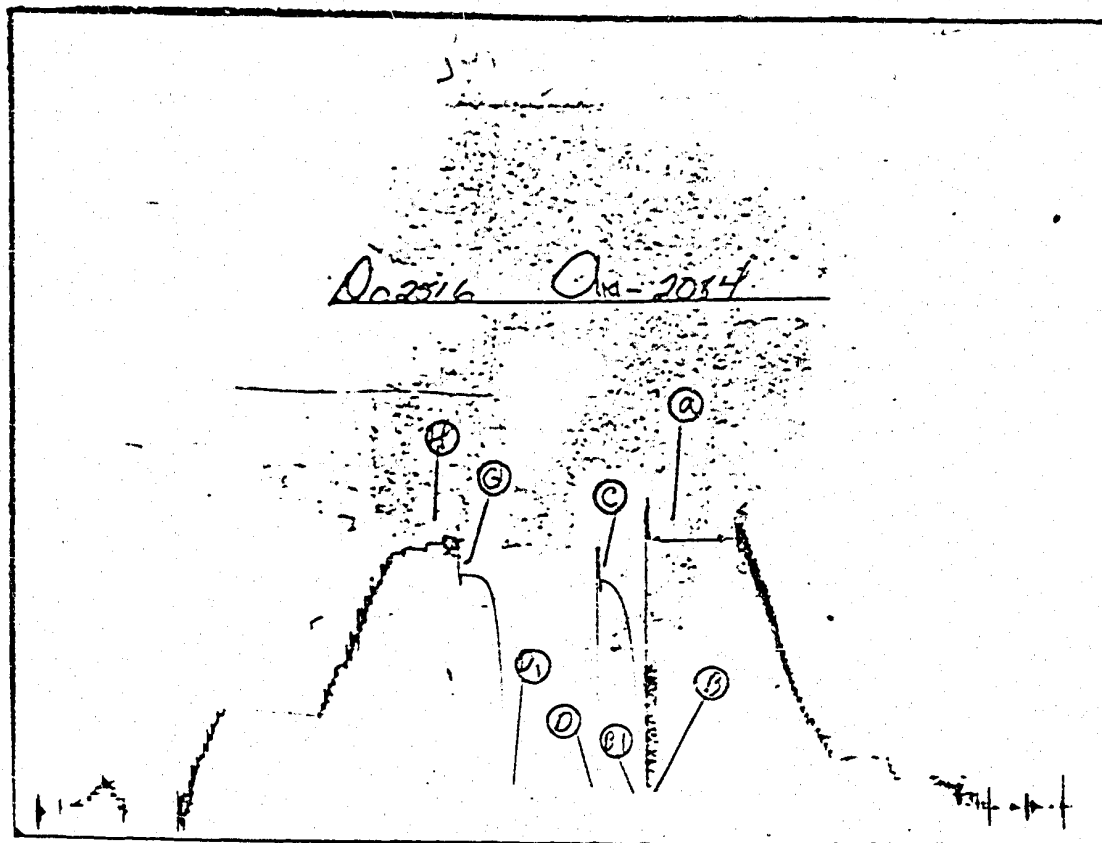
JOHNSTON TESTERS LTD.

FIELD
REPORT NO.
D 02516

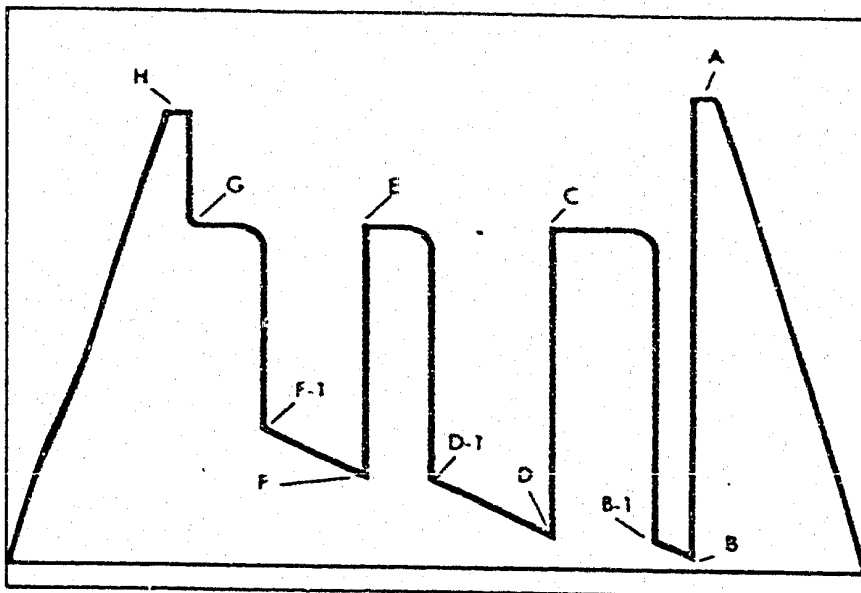
RECORDED NO.
AK1-2084

CAPACITY
4300

REPORTS
REQUESTED
5



GUIDE TO IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS



- A. Initial Hyd. Mud
- B. First Flow
- C. Initial Shut-In
- D. Second Flow
- E. Second Shut-In
- F. Third Flow
- G. Final Shut-In
- H. Final Hyd. Mud

The following points are either fluctuating pressures or points indicating other packer settings (testing different zones).

- A-1, A-2, A-3, etc. Initial Hyd. Pressures
- B, B-1, Initial Flow Pressures
- C, Initial Shut-In
- D-1, D-2, D-3, etc. Second Flow Pressures
- E, Second Shut-In
- F, F-1, F-2, Third Flow Pressures
- G, Final Shut-In
- H, Final Hyd. Pressures
- Z — Special pressure points such as pumping pressures recorded for formation breakdown.

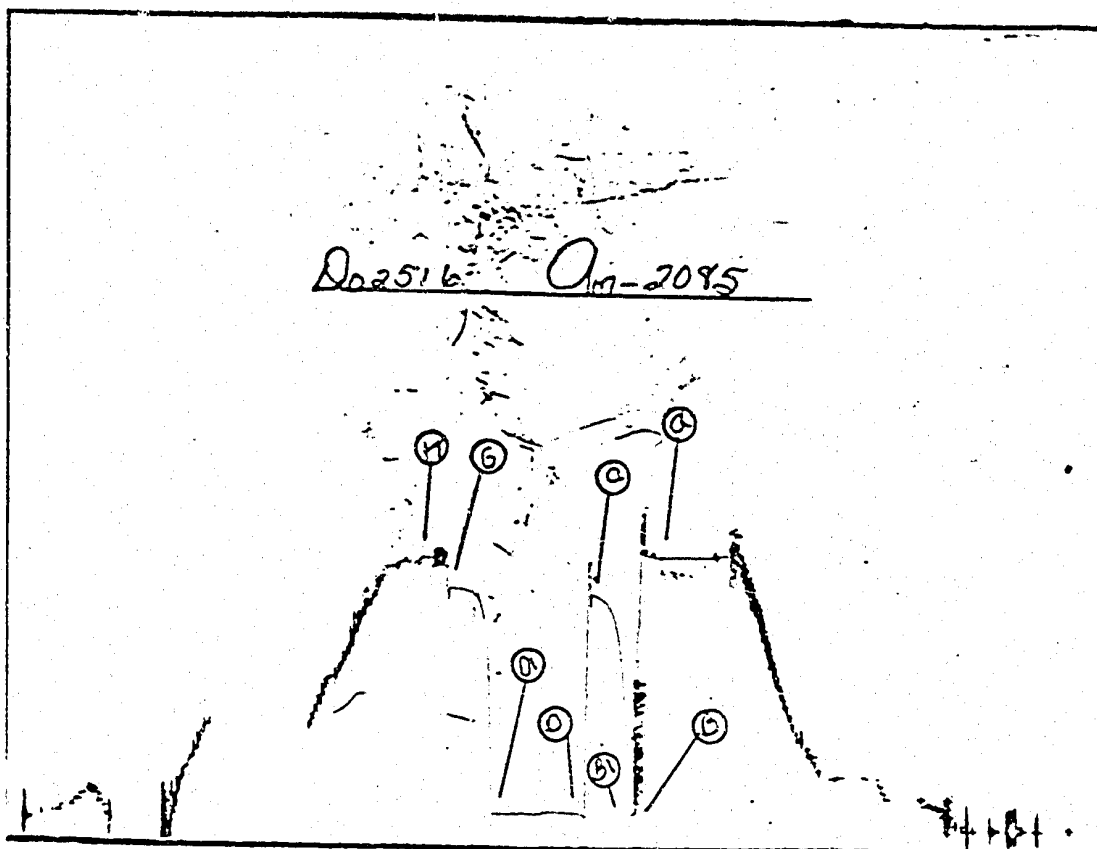
 **JOHNSTON TESTERS LTD.**

FIELD
REPORT NO.
D 02516

RECORDED NO.
AK1-2085

CAPACITY
4400

REPORTS
REQUESTED
5



WELL HISTORY REPORT

SECTION IV

LOGS

Schlumberger

<u>Type</u>	<u>Interval</u>	<u>Date</u>
Induction Electrical	334-2726	1-27-69
Borehole Compensated Sonic	334-2726	1-27-69
Induction Electrical	2500-2824	1-31-69
Borehole Compensated Sonic	2500-2826	1-31-69
Microlog Caliper	2400-2824	1-31-69
Formation Density	2500-2824	1-31-69
Sidewall Neutron Porosity	2500-2824	1-31-69
Continuous Dipmeter	2250-2819	1-31-69
Continuous Dipmeter (Computed)	2250-2819	1-31-69
Porosity Lithology	2500-2824	1-31-69

WELL HISTORY REPORT

SECTION V

ANALYSIS

Core Analysis:

No Cores

Gas Analysis:

See Following Pages - Lab Report
E69-9078

Water Analysis:

See Following Pages - Lab Report
E69-9485-3

CHEMIC. & GEOLOGICAL LABORATC ES LTD.

Edmonton

Fort St. John

Calgary

GAS ANALYSIS REPORT: Lab. No. 669-2073 Received: Feb. 4, 1969 Reported: Feb. 18, 1969

C.S. Redknife I-21 Operator: Canada Cities Service Petroleum Corporation

Field or Area: _____ Location: _____ Elev.: K.B. _____ Grd. _____

Zone and Formation: _____ Sample Interval: _____

Well production at sampling time: Oil _____ bpd; Gas _____ MCFD; Water _____ bpd.

Sampled from: _____ Sampled by: _____ Date: _____

Pressure: _____ (a) at point of sampling _____ psig (b) Gas Bomb pressure _____ psig

Temperature: (a) at point of sampling _____ °F (b) Separator _____ °F

Pressures: Reservoir _____ Tubing _____ Casing _____ Separator _____

OTHER PERTINENT DATA No Information Sheet Supplied.

(Signed)

COMPOSITION	% by Volume	G.P.M. in Imp. Gal. @ 60°F. & 14.65 PSIA	G.P.M. (Calculated)	SPECIFIC GRAVITY
Helium	.19		pentanes + .097	Calculated. .621
Hydrogen sulfide	.00		at 12 lbs. _____	by Weight. .621
Carbon dioxide	1.15		at 15 lbs. _____	CRITICALS (Calculated)
Nitrogen	3.33		at 22 lbs. .110	Pc 668.2
Methane	89.83		at 26 lbs. .121	Tc 355.3
Ethane	2.75		VAPOR PRESSURE (Calc.) @ 100°F. Pentanes + 15.64	
Propane	1.26	.287	H ₂ S Grains per 100 cu. ft. @ 60°F. & 14.65 p.s.i.a. 0	
Isobutane	.28	.076	GROSS B.T.U. (Calc.) @ 60°F. & 14.65 p.s.i.a. (dry) 1019.5	
N-butane	.40	.105	Acid Gas Free 1031.4 (sat.) 1001.6	
Isopentane	.14	.042	DEW POINT (Calc.) p.s.i. 950 1050 1200	
N-pentane	.11	.033	FAH -7 -9 -14	
Hexanes	.05	.018	Mol. Wt. Total Gas 18.003 Heptanes + 96.023	
Heptanes	.01	.004		
Octanes	.00	.000		
Nonanes	.00	.000		
Decanes +	.00	.000		
TOTAL	100.00	.565		

Sample was received at 4 psig. pressure and 70°F.

CHEMICAL & GEOLOGICAL LABORATORIES LTD.

WATER ANALYSIS

Lab No. E69-9485-3

Received: Mar. 14, 1969 Reported: Mar. 19, 1969

Operator: CANADA CITIES SERVICE PETROLEUM

Elev.: K.B. Grd.

Zone/Formation:

Method of Production:

D.S.T. #1

Sampled from:

Top of tool

Sampled by: L.P.S.

Sample Interval: 2548' - 2831'

Date: Jan. 30, 1969

OTHER PERTINENT DATA

Recovered: 120'

(Signed)

	Na	K	Ca	Mg		SO ₄	Cl	CO ₂	HCO ₃	
Mg./L	1605		38	8		642	1700		675	
Meq./L	69.80		1.90	0.66		13.35	47.94		11.07	
Meq. %	48.23		1.31	0.46		9.22	33.13		7.65	

Total Solids Mg/L:

By Evaporation 5,320

Fe Present

Specific Gravity 1.005

@ 60°F

Observed pH 0.2

@ 72 °F

Calculated 4,668

After Ignition 4,528

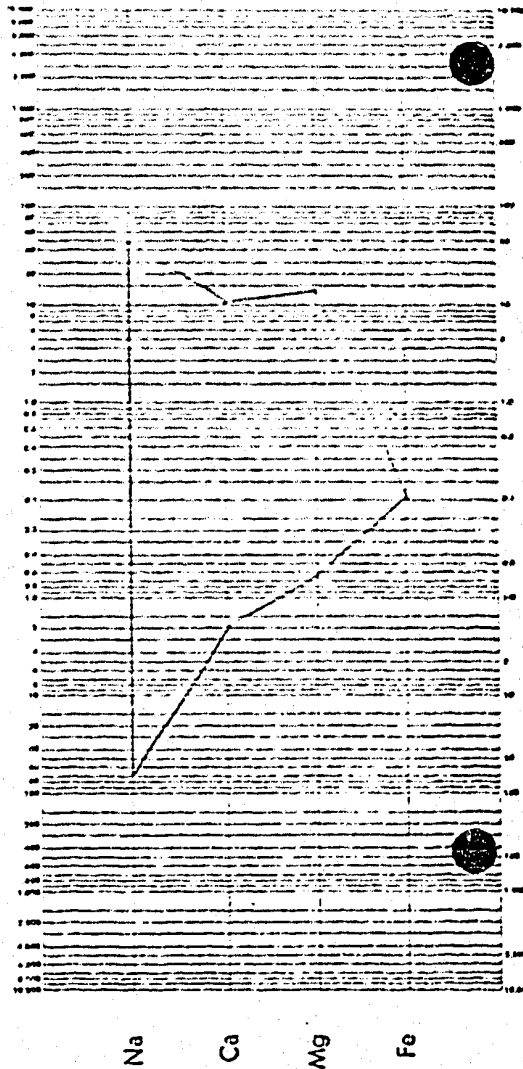
H₂S Nil

Refractive Index 1.3345

@ 25°C

Resistivity 1.76 ohm meters @ 60 °F

Pattern Unit Meq./L



Remarks and Conclusions Analysis determined on brownish yellow coloured water filtered from water cut mud. Much organic matter present in total solids.

E69-9485-1 (Top) Water filtered from mud.
Resistivity: 3.36 Ohm meters @ 60°F

E69-9485-2 (Middle) Water filtered from mud.
Resistivity: 2.36 Ohm meters @ 60°F

CANADA CITIES SERVICE PETROLEUM CORPORATION
DAILY DRILLING REPORT

Lease & Well No. CS. RACKKNIFE I-21 Location I-21 NUT Province NUT
Contractor VANDERGRIFT S&S OIL ENTERPRISES INC #1 Date 2-3-69
Depth at 8 AM 4 PM Midnight
Driller's 12-8A W. ORBACK 8A-4P L. ADAPANIE 4P-12 P MOSIER

FORMATION RECORD

[illegible]

SLOPE TESTS

MUD RECORD

SLOPE TESTS			TIME		CHARACTERISTICS		CONDITIONERS		
DEPTH	DEGREES	INSTRUMENT	TOUR	TIME	WEIGHT	VIB.-SEC.	CC WL	AMOUNT	KIND
			1	RAN PLUG #3-3-18'					5 SKS CEMENT
			1	PLUG DOWN AT 3:30 AM					2-3-69 AM
			1	WELD ON CAP RELEASED RIS AT 4:00 AM					2-3-69
DRILL PIPE TRIPS			2						
DEPTH	REASON		2						
			2						
			3						
			3						
			3						

SIZE HOLE

PUMP PRESSURE MIDNIGHT

DRILL PIPE WT. MIDNIGHT

CORE AND D.S.T. RECORD

[illegible][illegible]

CASING RECORD

[illegible]

NOTE: (Attach Casing and Drill Stem Test Reports When Applicable)

8.70⁶ TRAPPING OUT

NOTE: (Attach Casing and Drill Stem Tool Joints)
 2°-3° PREPARE TO RUN PLUS #3 8°-7° TEARING OUT
 REMARKS: RUN PLUS #3
 3°-4° WELD ON CAP
 4°-8° TEARING OUT

SIGNATURE

CANADA CITIES SERVICE PETROLEUM CORPORATION

DAILY DRILLING REPORT

Lease & Well No. CS. REDKNIFE I-21 Location I-21 NWT Province NWT.
 Contractor VANDERBRIEF EASTCOAST ENTERPRISES LTD #1 Date 2-2-69
 Depth at 8 AM 4 PM Midnight
 Driller's 12-8A W. ORBEN 8A-4P L. L. APPLANT 4 P-12 P. MOSER

FORMATION RECORD

FROM	TO	FORMATION
		<u>PLUGGED & ABANDON</u>

SLOPE TESTS

MUD RECORD

DEPTH	DEGREES	INSTRUMENT	TOUR	TIME	CHARACTERISTICS			CONDITIONERS	
					WEIGHT	VIS. SEC.	CC WL	AMOUNT	KIND
			1	<u>RAN PLUS #1 - 2500-2831</u>				<u>331'</u>	<u>135 SKS</u>
			1	<u>CEMENT PLUS DOWN</u>				<u>3:30 PM 2-2-69</u>	
			1						
			2	<u>RAN PLUS #2 - 2841-3841</u>				<u>100'</u>	<u>50 SKS</u>
			2	<u>CEMENT IN 2% EACH PLUS DOWN AT 930 AM</u>					
			2	<u>2-2-69</u>					
			3	<u>FEET PLUS #2 AT 275' AT 3:30 PM 2-2-69</u>					
			3						
			3						

SIZE HOLE

PUMP PRESSURE MIDNIGHT

DRILL PIPE WT. MIDNIGHT

CORE AND D.S.T. RECORD

CORE NO.	FROM	TO	RECOVERY	DRILLING TIME-MIN.	SIZE BIT		FORMATION	SHOWING

D.S.T. NO.	FROM	TO	TIME MIN.	FORMATION	RECOVERY AND REMARKS

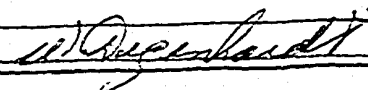
CASING RECORD

SIZE	WEIGHT	MAKE	MAKE		TALLY	CEMENTED AT	SACKS	KIND CEMENT
			F. COLLAR	SHOE				

NOTE: (Attach Casing and Drill Stem Test Reports When Applicable)

12" 245 RIG UP HOWE 8" 9" PREPARE TO RUN PLUS #2 4" 530 W.O.C
24" 245 RIG UP HOWE 9" 9" PREPARE TO RUN PLUS #2 53" 600 FEET PLUS #2
5" 530 LAY DOWN PIPE 93" 100 W.O.C. 6" 1200 PREPARE TO RUN
PLUS #3
PREPARE TO
RUN PLUS #2

SIGNATURE



CANADA CITIES SERVICE PETROLEUM CORPORATION

DAILY DRILLING REPORT

Lease & Well No. C.S. RADNIEZ T-21 Location I-21 NW Province NWT
 Contractor LANDSCAPE BASIN RIVER PRIDE RLS Date 2-1-69
 Depth at 8 AM 2831 4 PM 2831 Midnight 2831
 Driller's 12-8A P. MESSAR 8A-4 P W. ORBUCK 4 P-12 L. LAPLANTE

FORMATION RECORD

FROM	TO	FORMATION
2831	TD	

SLOPE TESTS

MUD RECORD

DEPTH	DEGREES	INSTRUMENT	TOUR	TIME	CHARACTERISTICS			CONDITIONERS	
					WEIGHT	VIS. SEC.	CC WL	AMOUNT	KIND
			1		7.9	58			
			1						
			1						
			2						
			2						
			2						
			3						
			3						
			3						

DRILL PIPE TRIPS

DEPTH	REASON

SIZE HOLE 128 PUMP PRESSURE MIDNIGHT DRILL PIPE WT. MIDNIGHT

CORE AND D.S.T. RECORD

CORE NO.	FROM	TO	RECOVERY	DRILLING TIME-MIN.	SIZE BIT		FORMATION	SHOWING

D.S.T. No.	FROM	TO	TIME MIN.	FORMATION	RECOVERY AND REMARKS

CASING RECORD

SIZE	WEIGHT	MAKE	MAKE		TALLY	CEMENTED AT	SACKS	KIND CEMENT
			F. COLLAR	SHOE				

NOTE: (Attach Casing and Drill Stem Test Reports When Applicable)

Remarks:

4" 10" W.O.O. RUN OPEN END
8" 10" W.O.O. RIG UP HOWE TO
PULL PIPE PLUS 7 ABANDON
LAY DOWN D.C.
12" 20" SRR RK, W.O.O.
RUN IN BY BIT
TO CONDITION MUD
Y HOUR

SIGNATURE

W. Orsbuck

CANADA CITIES SERVICE PETROLEUM CORPORATION

DAILY DRILLING REPORT

Lease & Well No. C.S. BROOKNIFE I-21 Location I-21 NWT Province NWT
 Contractor LANDERCRIFT ASSY OIL ENTERPRISES R.S. # 1 Date 1-31-69
 Depth at 8 AM 2831 4 PM 2831 Midnight 2831
 Driller's 12-8A P. MOSER 8A-4P W. ARBECK 4P-12 F. LAPLANTE

FORMATION RECORD

FROM	TO	FORMATION
<u>2831</u>	<u>TD</u>	

SLOPE TESTS

MUD RECORD

DEPTH	DEGREES	INSTRUMENT	TOUR	TIME	CHARACTERISTICS			CONDITIONERS	
					WEIGHT	VIS. SEC.	CC WL	AMOUNT	KIND
			1		<u>9.9</u>	<u>65</u>			
			1						
			1						
			2						
			2						
			2						
			3						
			3						
			3						

DRILL PIPE TRIPS

DEPTH	REASON	TOUR	TIME	WEIGHT	VIS. SEC.	CC WL	AMOUNT	KIND

SIZE HOLE 7 7/8

PUMP PRESSURE MIDNIGHT

DRILL PIPE WT. MIDNIGHT

CORE AND D.S.T. RECORD

CORE NO.	FROM	TO	RECOVERY	DRILLING TIME-MIN.	SIZE BIT		FORMATION	SHOWING

D.S.T. NO.	FROM	TO	TIME MIN.	FORMATION	RECOVERY AND REMARKS

CASING RECORD

SIZE	WEIGHT	MAKE	MAKE		TALLY	CEMENTED AT	SACKS	KIND CEMENT
			F. COLLAR	SHOE				

NOTE: (Attach Casing and Drill Stem Test Reports When Applicable)

1" 113" LOGGING
8" 4" LOGGING 11" 12" LOG OUT LOGGING
TOOLS

Remarks:

12 12" SRR. RIS
12 12" CIRC
12 4 1/2" FRID OUT TO LOG
4 1/2" 4 3/4" RIG UP TO LOG
13 8" LOGGING

SIGNATURE

W. Arbeck

DRILL STEM TEST REPORT

Line 1. Well L-21 NWT D.S.T. No. 1 Date 1-30-69

2. Formation SLAVE PT, BLK PT Testing Company JOHNSTON

3. Packer @ 2548 T.D. 2831 Feet tested 283

4. Tool Open _____ A.M. Tool closed _____ A.M. Time of test 1

5. Choke size, top _____, bottom 1/2 Water cushion ft. _____

6. Time fluid to surface Air _____ Mins.; Gas _____ Mins.;

7. Mud _____ Mins. Oil _____ Mins.; Distillate _____ Mins.;

8. Production - Total oil _____ BBLS. Time _____ HRS. _____ Mins.;

9. Gauges - 1st _____ bbls., 2nd _____ bbls., 3rd _____ bbls., 4th _____ bbls.

10. Average cut _____ %

11. Gas production _____ MCF/24 hrs. Ratio _____ Sour or sweet _____

12. Recovery in drill pipe 120 Feet Size of drill pipe 4 1/2" E.H.

13. Give detailed description of fluid recovered in feet _____
120' DRILLING MUD

14.	Surface flowing pressure _____ psi	Bbls. per 100'
	<u>IHP 1369</u>	
	<u>151P 1173</u>	
	Bottom Hole _____	
15.	I.F.P. _____ 436 psi	4 1/2" drill pipe 1.42
16.	F.F.P. _____ 436 psi	3 1/2" drill pipe 0.74
17.	FS.I.P. _____ 1195 psi	2" tubing 0.39
	Minutes S.I. _____	2 1/2" tubing 0.58
	<u>FHP 1347</u>	

18. Mud column pressure 124 psi

19. Oil gravity _____ ° A.P.I. Corr. to 60° F.

20. Company employees present S. HAGER. F. DEYER. W. DEGENHARDT.

21. Remarks: GAIP. GOOD AIR BLOW GAS TO SURFACE IN 25 MIN
TO SMALL TO MEASURE STEADY THROUGH OUT TEST.
FILL ONE GAS SAMPLE BOTTLE

Note: Original to District Office Conservation Board
 Copies (2) To Cities Service.
 Calgary, Alberta.
 Copy (1) - Retain at Well.

Signed by _____

CANADA CITIES SERVICE PETROLEUM CORPORATION

DAILY DRILLING REPORT

Lease & Well No. CS RED KNIFE I-21 Location I-21 Province ALBERTA
 Contractor VANDERGRIFT GAS TOOL ENTERPRISE R/S #1 Date 1-30-69
 Depth at 8 AM 2831 4 PM 2831 Midnight 2831
 Driller's 12-8A P. MOSIER 8A-4 P W. ORBREEK 4 P-12 F. LAPHANTA

FORMATION RECORD

FROM	TO	FORMATION
2831	TD	

SLOPE TESTS

MUD RECORD

DEPTH	DEGREES	INSTRUMENT	TOUR	TIME	CHARACTERISTICS			CONDITIONERS	
					WEIGHT	VIS. SEC.	CC WL	AMOUNT	KIND
			1						
			1						
			1						
			2						
			2						
			2						
			3		9.9	50			
			3		9.9	65			
			3						

DRILL PIPE TRIPS

DEPTH	REASON

SIZE HOLE

PUMP PRESSURE MIDNIGHT

DRILL PIPE WT. MIDNIGHT

CORE AND D.S.T. RECORD

CORE NO.	FROM	TO	RECOVERY	DRILLING TIME-MIN.	SIZE BIT		KIND	FORMATION	SHOWING
D.S.T.	1172	2831-2831	2831	SLAUGHTER	ELKPT	JOHNSTON			
	15130	15660	FS134	CLP	GOOD AIR	BLOW	CAS TO SURFACE IN 25 MIN	TO WORK	
	TO MEASURE	FILE	CAS SAMPLE	BOTTLE	RR	120' DRILLING			
D.S.T. No.	FROM	TO	TIME MIN.	FORMATION	RECOVERY AND REMARKS				
1	2548	2831	60	SLAUGHTER	ELKPT	120'	DRILLING	MUD	

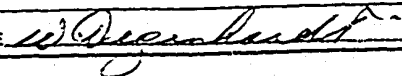
CASING RECORD

SIZE	WEIGHT	MAKE	MAKE		TALLY	CEMENTED AT	SACKS	KIND CEMENT
			P. COLLAR	SHOE				

NOTE: (Attach Casing and Drill Stem Test Reports When Applicable)

Remarks: 4" 41" SRR - RIS
8" 11" 30" FINISH TRIP OUT - 4" 6" TRIP IN W/ BIT TO CONDITION
BRAKE TIGHT MUD 7 HOLE TO 60 S
OUT TOO L 11" 8" WORK ON BOLLER THAW KELLY
12" 12" SRR RIS 11" 30" RUN IN D.C. 4 RAT HOLE
12" 30" TRIP IN WITH STIR 12" 3" THAW CUT 8" 5" 12" CLEAN 15' TO BTM
3" 5" 12" TASTING STAND PIPER 9" 5" 12" BLUID UP 10' L. CONDITION
8" 8" TRIP OUT WITH STIR 3" KELLY HOLE MUD 7 HOLE TO 60 S

SIGNATURE



CANADA CITIES SERVICE PETROLEUM CORPORATION
DAILY DRILLING REPORT

Lease & Well No.	CS. REDKNIFE E-21	Location	E-21 NWT	Province	NWT
Contractor	VANDERCRIFT	BAZTOIL ENTERPRISES	RIS#1	Date	1-29-69
Depth at	8 AM 2821	4 PM 2829	Midnight	2832	
Driller's	12-8A P MOSER	8A-4 P W. ORBECK	4 P-12	F LAPLANTE	

FORMATION RECORD

FROM	TO	FORMATION
2815	1832	GRANITE
		BIT "10-7/8" M46C SEC "907147 9' 4 HRS
		BIT "11 7/8" H1-C SEC "906960 7' 2 HRS

SLOPE TESTS

DEPTH	DEGREES	INSTRUMENT	TOUR	TIME	CHARACTERISTICS			CONDITIONERS	
					WEIGHT	VIB. SEC.	CC WL.	AMOUNT	KIND
2815	1 1/2	Totco	1						
			1		10.2	80	5.2		
			1						

DRILL PIPE TRIPS

DEPTH	REASON	2			5.8		
		2	10.1	52			
		3					
		3	10.2	63	5.6		
		3					

MUD RECORD

SLOPE TESTS			CHARACTERISTICS				CONDITIONERS		
DEPTH	DEGREES	INSTRUMENT	TOUR	TIME	WEIGHT	VIS.-SEC.	CC WL.	AMOUNT	KIND
2815	1 1/2	Totco	1						
			1		10.2	80	5.2		
			1						
DRILL PIPE TRIPS			2		10.2	52			
DEPTH	REASON		2				5.8		
			2		10.1	52			
			3						
			3		10.2	63	5.6		
			3						

SIZE HOLE 2 1/2"

PUMP PRESSURE MIDNIGHT 75.0

DRILL PIPE WT. MIDNIGHT

CORE AND D.S.T. RECORD

[illegible]

D.S.T. No.	FROM	TO	TIME MIN.	FORMATION	RECOVERY AND REMARKS

CASING RECORD

[illegible]

NOTE: (Attach Casing and Drill Stem Test Reports When Applicable)

NOTE: (Attach Casing and Drill Stem Test Reports When Applicable)		40° 41° SER RIS
12° 12° SER RIS	8° 8° SER RIS YBOPS	41° 44° DRILL
12° 12° TRIP IN W/ BIT	8° 10° DRILL	42° 6° CIRC TO TEST
14° 5° REPAIR MUD LINE	10° 12° TRIP OUT TIGHT	6° 9° PULL TO TEST
5° 5° REAR UNDER GUARD	HOLE	9° 11° MAKE UP TOG
HOLE	12° 23° TRIP IN W/ BIT	11° 12° TRIP IN W/ PACKER
5° 5° 8° DRILL	2° 4° DRILL	

SIGNATURE

CANADA CITIES SERVICE PETROLEUM CORPORATION
DAILY DRILLING REPORT

Lease & Well No.	COS. REDKNIFE I-21		Location	I-21	Province	Alberta
Contractor	VANDER GRIFT		BARSTALL ENTERPRISES #1	Date	1-28-69	
Depth at	8 AM	2730	4 PM	2805	Midnight	2815
Driller's	12-8A	J. MOSEIER	8A-4P	W. ORBEEK	4 P-12	F. LAPLANTE

FORMATION RECORD

FROM	TO	FORMATION
2730	2815	LIMASTONIZ
		BIT #9-7 3/8" VTIA ROAD #R0603N 85' 7 1/2 HRS
		BIT #10-7 3/8" MANH C SEC #902142 IN HOLE
		BIT #9 1" UNDER CAUGH

SLOPE TESTS

MUD RECORD

SLOPE TESTS			CHARACTERISTICS				CONDITIONERS		
DEPTH	DEGREES	INSTRUMENT	TOUR	TIME	WEIGHT	VIS. SEC.	CC WL	AMOUNT	KIND
2815	1 1/2	TOTCO	1						
			1			2098 in			
			1						
DRILL PIPE TRIPS			2		10.2	70		50"	CAUSTIC
DEPTH	REASON		2		10.1	65	5.8	50"	SPARSENA
			2		10.1	60			
			3						
			3		10.1	50	6.		
			3						

SIZE HOLE 7.28

PUMP PRESSURE MIDNIGHT 800

DRILL PIPE WT. MIDNIGHT

CORE AND D.S.T. RECORD

[illegible][illegible]

CASING RECORD

[illegible]

NOTE: (Attach Casing and Drill Stem Test Reports When Applicable)

Remarks:

12 ⁰⁰ 4 ⁰⁰ LOGGING	SUB & SERVICE	5 ⁴⁵ 6 ⁰⁰ SURVEY
4 ⁰⁰ 4 ³⁰ TRIP IN W/ BIT	9 ³⁰ 4 ⁰⁰ DRILLING	6 ⁰⁰ 6 ⁴⁵ PULL OUT TIGHT HOLE
4 ³⁰ 5 ⁰⁰ WORK ON BOILER		6 ⁴⁵ 7 ⁴⁵ FIRE TIGHT HOLE & WORK PIPE
5 ⁰⁰ 5 ⁰⁰ FINISH TRIP IN		7 ⁴⁵ 10 ⁴⁵ FINISH TRIP OUT
		10 ⁴⁵ 12 ⁰⁰ TRIP IN W/ BIT

SIGNATURE

CANADA CITIES SERVICE PETROLEUM CORPORATION
DAILY DRILLING REPORT

Lease & Well No	CSA RDKNIE E-21	Location	E-21 NWT	Province	NWT
Contractor	VANDERGRIET SASTON	INTERPRISER	RES#1	Date	1-27-69
Depth at	8 AM 2706	4 PM 2730	Midnight	2730	
Driller's	12-8A P MOSER	8A-4 P	MR. ORBEEK	4 P-12 F	LAPLANTE

FORMATION RECORD

FROM	TO	FORMATION
2663	2730	LIMESTONE
		13.7° S 78° W SAT SEC "908712 82' 13" HRS

SLOPE TESTS

MUD RECORD

SLOPE TESTS			CHARACTERISTICS				CONDITIONERS		
DEPTH	DEGREES	INSTRUMENT	TOUR	TIME	WEIGHT	VIS-SEC.	CC WL	AMOUNT	KIND
2645-	1 ³ / ₄	TOTCO	1		9.9	40		30 SKS	GR L
			1		9.9	45	8.2	50 "	CAUSTIC
			1		9.9	53		50 "	SPRASHANA
DRILL PIPE TRIPS			2		10.1	80		10 SKS	GR L
DEPTH	REASON		2		10.0	75	6.4	50 "	SPRASHANA
			2		10.1	68			
			3						
			3						
			3						
						</			

SIZE HOLE 1 3/8

PUMP PRESSURE MIDNIGHT 850

DRILL PIPE WT. MIDNIGHT

CORE AND D.S.T. RECORD

[illegible][illegible]

CASING RECORD

[illegible]

NOTE: (Attach Casing and Drill Stem Test Reports When Applicable)

4006¹⁵ TRIP SET TO 609
6¹⁵ 12⁰⁰ 609 IN 9

Remarks:

Remarks:	8 ⁰⁰ 8 ³⁰	DRILL
12 ⁰⁰ 12 ¹⁵	8 ³⁰ 9 ⁰⁰	SBR RIS Y SURVEY
12 ¹⁵ 8 ⁰⁰	9 ⁰⁰ 9 ¹⁵	CHECK BOPS
	9 ¹⁵ 1 ⁴⁵	DRILL
	1 ⁴⁵ 3 ⁰⁰	CIRC MUD SAMPLES
	3 ⁰⁰ 4 ⁰⁰	TRIP OUT TO LOG

SIGNATURE

W. Degenhardt

CANADA CITIES SERVICE PETROLEUM CORPORATION
DAILY DRILLING REPORT

Lease & Well No.	C.S. REDKNIFE I-21	Location	I-21 NWT	Province	NWT
Contractor	VANDERGRIFT SASTOIL ENTERPRISE RLS# 1			Date	1-26-69
Depth at	8 AM	4 PM	2618	Midnight	2663
Driller's	12-8A	8A-4 P		4 P-12	

FORMATION RECORD

FROM	TO	FORMATION
2578	2663	LIMESTONE
		BIT # 1-18" MANG SEC " 908964 155' 19 1/4 HRS
		BIT # 8-18" M41 SEC " 909742 1N HOLD

SLOPE TESTS

MUD RECORD

SLOPE TESTS				CHARACTERISTICS			CONDITIONERS		
DEPTH	DEGREES	INSTRUMENT	TOUR	TIME	WEIGHT	VIB.-SEC.	CC WL	AMOUNT	KIND
2645	1 3/4	Totoo	1		9.9	40			
			1		9.9	38	6.8		
			1		10.	38			
DRILL PIPE TRIPS			2		10.1	38			
DEPTH	REASON		2		10.1	37	8-7	5 SPS	GR L
			2		10.1	38			
			3						
			3						
			3						
TRIPPING									

SIZE HOLE	1 3/8"	PUMP PRESSURE MIDNIGHT	850	DRILL PIPE WT. MIDNIGHT
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CORE AND D.S.T. RECORD

[illegible][illegible]

CASING RECORD

[illegible]

NOTE: (Attach Casing and Drill Stem Test Reports When Applicable)

Remarks:

NOTE: (Attach Casing and Drill Stem Test Reports When Applicable)		4 ⁰⁰ 4 ¹⁵ SER RIS
Remarks:	8 ⁰⁰ 8 ¹⁵ SER RIS + BOP ^s	4 ¹⁵ 5 ¹⁵ SET SHAKER TABLE
	8 ¹⁵ 1 ³⁰ DRILL	5 ¹⁵ 7 ³⁰ TRIP IN
12 ⁰⁰ 12 ¹⁵	SER RIS	1 ³⁰ 4 ⁰⁰ DROP SURVEY
1 ¹⁵ 6 ¹⁵	DRILL	7 ³⁰ 9 ¹⁵ THAW KELLY
6 ⁴⁵ 7 ³⁰	SURVEY	9 ¹⁵ 10 ⁰⁰ REAM 40' TO B.T.M
7 ³⁰ 8 ⁰⁰	DRILL	10 ⁰⁰ 12 ⁰⁰ DRILL

SIGNATURE

CANADA CLTIES SERVICE PETROLEUM CORPORATION
DAILY DRILLING REPORT

Lease & Well No.	ES. REDKNIFE T-21	Location	I-21 NWT	Province	NWT.
Contractor	VANDERCRIFT SAST OIL ENTERPRISE RIS #1			Date	1-25-69
Depth at	8 AM 2493	4 PM	2502	Midnight	2575
Driller's	12-8A F LAPLANTE	8A-4 P	P. M OSER	4 P-12	W. ORBACH

FORMATION RECORD

FROM	TO	FORMATION
1335	2578	WINDSTONE
		BIT # 6 - 7 1/8" Y TIA READ # E066030 720' 28 1/2 HRS
		BIT # 7 - 7 1/8" MHHG SEC # 988964 IN HOLD

SLOPE TESTS

DEPTH	DEGREES	INSTRUMENT	TOUR	TIME	CHARACTERISTICS			CONDITIONERS	
					WEIGHT	VIS. SEC.	CC WL	AMOUNT	KIND
2493	2 1/2	TOTLO	1		9.9	31			
2556	2	"	1		9.8	36	8		
2616	2	"	1		9.9	36			
DRILL PIPE TRIPS			2						
DEPTH	REASON		2		10.1	33	9.6	14 SKS	CHL
			2						
			3		10.2	37		11 SKS	CHL
			3		10.2	38	6.8	56"	SPARSEN
			3					100"	CAUSTIC

SIZE HOLE 7 3/8 PUMP PRESSURE MIDNIGHT 800 DRILL PIPE WT. MIDNIGHT 10,000

CORE AND D.S.T. RECORD

[illegible]

D.S.T. No.	FROM	TO	TIME MIN.	FORMATION	RECOVERY AND REMARKS

CASING RECORD

[illegible]

NOTE: (Attach Casing and Drill Stem Test Reports When Applicable)

Remarks:

NOTE: (Attach Casing and Drill Stem Test Reports When Applicable)			
	8 ⁰⁰ 8 ¹⁵ SAR RIS	4 ⁰⁰ 5 ¹⁵	DRILL
Remarks:	8 ¹⁵ 11 ⁰⁰ FINISH TRIP OUT	5 ¹⁵ 8 ¹⁵	SURVEY
		8 ⁴⁵ 9 ⁰⁰	DRILL
12 ⁰⁰ 12 ¹⁵	11 ⁰⁰ 12 ⁰⁰ SET SHAKER TANK	9 ⁰⁰ 9 ¹⁵	REPAIR GEOLOGRAPH. LINE
12 ¹⁵ 12 ³⁰	12 ⁰⁰ 2 ³⁰ TRIP IN	9 ¹⁵ 12 ⁰⁰	DRILL
12 ³⁰ 7 ³⁰	2 ³⁰ 3 ¹⁵ CLEAN 20' TO 137M		
7 ⁵⁰ 8 ⁰⁰	3 ¹⁵ 4 ⁰⁰ DRILL		
	TRIP OUT		

SIGNATURE

CANADA CITIES SERVICE PETROLEUM CORPORATION
DAILY DRILLING REPORT

Lease & Well No	CS-REDKNIFE I-21	Location	I-21 NWT	Province	NWT
Contractor	VANDERCRIFT GAS TOOL ENTERPRISE INC.			Date	1-24-69
Depth at	8 AM 2012	4 PM	2160	Midnight	2335
Driller's	12-8A	8A-4 P		4 P-12	

FORMATION RECORD

FROM	TO	FORMATION
1840	2335	SHALA
		BIT #6 - 7 ^{3/4} YLIA RHRD *E066030 14 HOLA

SLOPE TESTS

DEPTH	DEGREES	INSTRUMENT	TOUR	TIME	CHARACTERISTICS			CONDITIONERS	
					WEIGHT	VISC.	CC WL	AMOUNT	KIND
2270'	1/2	Toteo	1		10.	40			
			1		10.	41		100*	CAUSTIC
			1		10.1	42		100*	CNC

DRILL PIPE TRIPS

DEPTH	REASON	2							
		2							
		3							
		3							
		3							

SIZE HOLE 7/8

PUMP PRESSURE MIDNIGHT 850

DRILL PIPE WT. MIDNIGHT 25,000

CORE AND D.S.T. RECORD

[illegible][illegible]

CASING RECORD

[illegible]

NOTE: (Attach Casing and Drill Stem Test Reports When Applicable)

Remarks:

17 ⁰⁰ 12 ¹⁵	SER RIG	10 ³⁰ 11 ⁰⁰	WORK ON DRAWDOWNS 8 ⁰⁰ 9 ⁴⁵	DRILL
17 ¹⁵ 2 ³⁰	DRILL	MOTOR	9 ⁴⁵ 10 ⁴⁵	REPACK SWIVEL
2 ¹⁵ 3 ³⁰	WORK ON PUMP	11 ⁰⁰ 1 ⁰⁰	DRILL	10 ⁴⁵ 11 ¹⁵ DRILL
3 ³⁰ 5 ⁰⁰	DRILL	1 ⁰⁰ 2 ⁰⁰	NET SHAKER TANK	11 ¹⁵ 11 ⁴⁵ WORK ON AHEAD PUMP
		2 ⁰⁰ 5 ⁰⁰	DRILL	11 ⁴⁵ 12 ⁰⁰ DRILL

SIGNATURE

CANADA CITIES SERVICE PETROLEUM CORPORATION

DAILY DRILLING REPORT

Lease & Well No. S. RADKNEF I-21 Location I-21 NW1 Province N.W.T.
 Contractor VANDERBILT GAS 7016 ENTERPRISE RIS #1 Date 1-23-69
 Depth at 8 AM 1775 4 PM 1775 Midnight 1840
 Driller's 12-8A F. LAPHAMTH 8A-4 P P. MOSER 4 P-12 W. ORBERK

FORMATION RECORD

FROM	TO	FORMATION
1748	1840	SHALE
		BIT #5 7 7/8 ST3 SBC "907453 594' 21 1/2 HR.
		BIT #6 7 7/8 Y1A RRD "8066030

SLOPE TESTS

DEPTH	DEGREES	INSTRUMENT	TOUR	TIME	CHARACTERISTICS			CONDITIONERS	
					WEIGHT	VIS. SEC.	CC WL.	AMOUNT	KIND
1770	0	TOTCO	1		10.3	42			
			1						
			2						

DRILL PIPE TRIPS

DEPTH	REASON	TOUR	TIME	CHARACTERISTICS	CONDITIONERS
		2			
		2			
		2			
		3			
		3			
		3			

3 SXS GRL

SIZE HOLE 7 7/8 PUMP PRESSURE MIDNIGHT 600 DRILL PIPE WT. MIDNIGHT 25,000

CORE AND D.S.T. RECORD

CORE NO.	FROM	TO	RECOVERY	DRILLING TIME-MIN.	SIZE BIT	KIND	FORMATION	SHOWING

D.S.T. No.	FROM	TO	TIME MIN.	FORMATION	RECOVERY AND REMARKS

CASING RECORD

SIZE	WEIGHT	MAKE	MAKE	TALLY	CEMENTED AT	SACKS	KIND CEMENT
			F. COLLAR SHOE				

NOTE: (Attach Casing and Drill Stem Test Reports When Applicable)

4:00 5:00 START DRAWWORKS
 5:00 5:30 MOTORS
 5:30 5:50 TRAP OUT AIR LINES
 5:50 6:00 SET SHAKE TANKS
 6:00 6:30 TRAP IN TIGHT HOLD
 6:30 7:00 4 FILTERS IN DRAWWORKS
 7:00 7:30 PUMP MOTORS
 7:30 8:00 345 1200 DRILL MIX MUD
 8:00 8:30 SET ALL MUD TANKS
 8:30 9:00 TRY TO START
 9:00 9:30 DRAWWORKS STARTING
 9:30 10:00 MOTOR

SIGNATURE W. Orberk

17

Dr. Miller's 12-8A F. L. APLANT

8A-4P P MOSER

FORMATION

MUD RECORD

CHARACTERISTICS

CONDITIONERS	
UNIT	KIND

DEPTH

REASON

SIZE HOLE

PUMP PRESSURE MIDNIGHT 800

FORMATION

RECOVERY AND REMARKS

MAKE

4004¹⁵ SRR RIS
4¹⁵ 1200 DRILL

8th 8th SRR RLS

8¹⁵ 11¹⁵ DRILL

11th 30 ALARKON PUMP

1130300 DR144

300 400 CLEAN MUD TANK

SIGNATURE

Wiederherstellung

CANADA CITIES SERVICE PETROLEUM CORPORATION

DAILY DRILLING REPORT

Lease & Well No. CS-REDKNIFE I-21 Location I-21 NWT Province NWT
 Contractor VANDERGRIET RES OIL ENTERPRISE RLS # 1 Date 1-21-68
 Depth at 8 AM 9:30 4 PM 11:18 Midnight 11:51
 Driller's 12-8AF L. PLANT 8A-4P P. MOSER 4P-12 W. ORIBACK

FORMATION RECORD

FORMATION

FROM	TO	FORMATION
7:30	11:51	SHALE
		B.T.H 1 1/2" YTB RHD #46119 623' 22 HRS

SLOPE TESTS

DEPTH	DEGREES	INSTRUMENT	TOUR	TIME	CHARACTERISTICS			CONDITIONERS	
					WEIGHT	VIS. SEC.	CC WL	AMOUNT	KIND
			1		9.6	46			
			1		9.6	42			
			1		9.6	40			
			2		10.	40			
			2		10.	40			
			2		10.3	43			
			3		10.4	46			
			3		9.0	40			
			3		9.5	42			

DRILL PIPE TRIPS

DEPTH REASON

PUMP PRESSURE MIDNIGHT 750

DRILL PIPE WT. MIDNIGHT 36,000

SIZE HOLE 1 1/2

CORE AND D.S.T. RECORD

CORE NO.	FROM	TO	RECOVERY	DRILLING TIME-MIN.	SIZE WIT	KIND	FORMATION	SHOWING

RECOVERY AND REMARKS

D.S.T. NO.	FROM	TO	TIME MIN.	FORMATION
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CASING RECORD

SIZE	WEIGHT	MAKE	MAKE		TALLY	CEMENTED AT	SACKS	KIND CEMENT
			F. COLLAR	SHOE				

NOTE: (Attach Casing and Drill Stem Test Reports When Applicable)

Remarks:

12⁰⁰ 12¹⁵ SRR RLS
 12¹⁵ 3⁰⁰ DRILL
 3⁰⁰ 5⁴⁵ WORK TIGHT HOLE
 5⁴⁵ 9⁰⁰ DRILL
 8⁰⁰ 8¹⁵ SRR RLS
 8¹⁵ 9⁰⁰ DRILL
 9⁰⁰ 10⁰⁰ SURVEY
 10⁰⁰ 10³⁰ DRILL
 10³⁰ 12⁰⁰ FINISH TRIP OUT FROM IN DC

SIGNATURE

[Signature]

CANADA CITIES SERVICE PETROLEUM CORPORATION
DAILY DRILLING REPORT

Lease & Well No.	CS-REDKNIFE I-21	Location	I-21 NWT	Province	NWT
Contractor	VANDERGRIFF EASTON ENTERPRISE RIS #1			Date	1-20-69
Depth at	8 AM 477	4 PM	538	Midnight	730
Driller's	12-8A F. LAPANTE	8A-4P	P. MOSER	4 P-12	W. ARBACLY

FORMATION RECORD

FROM		TO		FORMATION
370	130	LIMESTONE & SHALE		
		BIT #3 - 7/8 837 SAC # 905032 222' 15 1/2 HRS		
		BIT #4 7/8 YTS RRD # 46119 1N NO. 6R		

SLOPE TESTS

MUD RECORD

SLOPE TESTS			CHARACTERISTICS				CONDITIONERS		
DEPTH	DEGREES	INSTRUMENT	TOUR	TIME	WEIGHT	VIB-SEC.	CC WL	AMOUNT	KIND
550	0	TETCO	1		8.6	29		10 SKS	CAL
			1		8.5	29			
			1		8.6	29			
DRILL PIPE TRIPS			2						
DEPTH	REASON		2						
			2						
			3					16 SKS	CAL
			3		9.0	20		100*	CAUSTIC
			3		9.5	18			

SIZE HOLE	2 7/8	PUMP PRESSURE MIDN. AT 360	DRILL PIPE WT. MIDNIGHT	36.000
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CORE AND D.S.T. RECORD

[illegible][illegible]

CASING RECORD

[illegible]

NOTE: (Attach Casing and Drill Stem Test Reports When Applicable)

NOTE: (Attach Casing and Drill Stem Test Reports When Applicable)

120° 121° SER RIG	8° 11° DRILL	40° 41° SER RIG
121° 122° DRILL	11° 12° WORK ON PUMP	41° 42° FINISH TRIP
122° 123° WORK ON PUMP	12° 13° SURVEY	60° 12° DRILL
2° 8° DRILL	123° 23° DRILL	
	23° 40° TRIP FOR NIBIT	

SIGNATURE

CANADA CITIES SERVICE PETROLEUM CORPORATION
DAILY DRILLING REPORT

Lease & Well No	ESARD KNIFE I-21	Location	I-21 NWT	Province	NWT
Contractor	VANDERKRIET BAS & GIL ENTERPRISE RIS #1			Date	1-19-69
Depth at	8 AM 336	4 PM 336	Midnight 370		
Driller's	12-8A F LABLANTE	8A-4P P MOSER	4 P-12 W ORBACH		

FORMATION RECORD

FROM	TO	FORMATION
336	370	LIMESTONE
		BIT "1.78" SHE SST "905032 34" 3 HRS.

SLOPE TESTS

			CHARACTERISTICS				CONDITIONERS		
DEPTH	DEGREES	INSTRUMENT	TOUR	TIME	WEIGHT	VIS. SEC.	CC WL	AMOUNT	KIND
			1						
			1						
			1						
DRILL PIPE TRIPS			2						
DEPTH	REASON		2						
			2						
			3						
			3						
			3		8-6	28		100.0	BICARB

SIZE HOLE 732

PUMP PRESSURE MIDNIGHT

DRILL PIPE WT. MIDNIGHT 25.000

CORE AND D.S.T. RECORD

CORE NO.	FROM	TO	RECOVERY	DRILLING TIME-MIN.			FORMATION	SHOWING
					SIZE BIT	KIND		
PRESSURE	UP	BLIND	FLAME	4 1/2"	PIPE	IRMS	HYBRIL	
TO 100"	BACK	HOLD	OK					
PRESSURE	UP	FORMATION		TO 200"	HOLD	OK		

[illegible]

CASING RECORD

[illegible]

NOTE: (Attach Casing and Drill Stem Test Reports When Applicable)

Remarks:

12⁰⁰ 8²⁰ NIPPLE UP

80° 13' 10" NIPPLE UP Y

PRESSURE UP BLIND 8" 8³/₄" DRILL

RAMS

120° Pressure up

4 1/2" PIPER PINE

40° 6' PRESSURE OF HYDRIC

6:08⁰⁰ DRIFT OUT PHOTO FLARE

75/2078

8th 8th DRILL

8³⁰ 9³⁰ WORK ON SOLID EL

SET CEMENT OUT OF MUD TANK

PRESSURE FORMATION

930 1200 DFL 64

SIGNATURE

CANADA CITIES SERVICE PETROLEUM CORPORATION

DAILY DRILLING REPORT

Lease & Well No. PS. REDKNIFE I-21 Location I-21 NWT Province NWT
 Contractor VANDERGRIFT OIL ENTERPRISE R15#1 Date 1-18-69
 Depth at 8 AM 336 4 PM 336 Midnight 336
 Driller's 12-8A F. LAPHANT 8A-4 P P. MOSER 4 P-12 W. ORBHEK

FORMATION RECORD

FROM	TO	FORMATION
	<u>336</u>	

SLOPE TESTS

MUD RECORD

DEPTH	DEGREES	INSTRUMENT	TOUR	TIME	CHARACTERISTICS			CONDITIONERS	
					WEIGHT	VIS. SEC.	CC WL	AMOUNT	KIND
			1	<u>FROM 545-1200</u>	<u>W.D.C. R15#1</u>				
			1						
			1						
DRILL PIPE TRIPS			2						
			2						
DEPTH	REASON		2						
			2						
			3						
			3						
			3						

SIZE HOLE

PUMP PRESSURE MIDNIGHT

DRILL PIPE WT. MIDNIGHT

CORE AND D.S.T. RECORD

CORE NO.	FROM	TO	RECOVERY	DRILLING TIME-MIN.	SIZE BIT	KIND	FORMATION	SHOWING

D.S.T. No.	FROM	TO	TIME MIN.	FORMATION	RECOVERY AND REMARKS

CASING RECORD

SIZE	WEIGHT	MAKE	MAKE		TALLY	CEMENTED AT	SACKS	KIND CEMENT
			F. COLLAR	SHOE				

NOTE: (Attach Casing and Drill Stem Test Reports When Applicable)

1200 8" W.D.C.800 11" W.D.C. NIPPLE UP400-545 W.D.C. NIPPLE UP545 1200 NIPPLE UPRemarks: NIPPLE UP

SIGNATURE

W. Orbenek

CANADA CITIES SERVICE PETROLEUM CORPORATION
DAILY DRILLING REPORT

Lease & Well No.	CS. REDKNIFE I-21	Location	I-21 NAIT	Province	NWI
Contractor	VANDERGRIFT SAS YOLL ENTERPRISE RIS*1			Date	1-17-69
Depth at	8 AM	336	4 PM	336	Midnight
Driller's	12-8A	W. GREEN	3A-4 P	F LAPLANTE	4 P-12
					P MOSAR

FORMATION RECORD

FROM	TO	FORMATION
180	336	LIMESTONE
		B.T. 2 12 1/4" REED YSL R # D41342 336' 32 3/4" HRS

SLOPE TESTS

MUD RECORD

SLOPE TESTS			CHARACTERISTICS				CONDITIONERS		
DEPTH	DEGREES	INSTRUMENT	TOUR	TIME	WEIGHT	VIS-SEC.	CC WL	AMOUNT	KIND
290	35	Toteco	1			40			
330	35	"	1			52		1500 SL	QEL
			1			58			
DRILL PIPE TRIPS			2						
DEPTH	REASON		2						
			2						
			3						
			3						
			3						

SIZE HOLE 12 1/4

PUMP PRESSURE MIDNIGHT 26

DRILL PIPE WT. MIDNIGHT 22,000

CORE AND D.S.T. RECORD

CORE NO.	FROM	TO	RECOVERY	DRILLING TIME-MIN.	CORRECTION		FORMATION	SHOWING
					SIZE BIT	KIND		
RUN 11 ITS 88" 24" 155 GRADE "A" MANN CASING 323.67 SAT AT 334.67 GARKIN FLOAT Y SHAB ST 30.67. -4 WEATHERFAP HINSE TYPA CENTRALIZERS AT 330' - 275' - 215' - 185'								

D.S.T. NO.	FROM	TO	TIME MIN.	FORMATION	RECOVERY AND REMARKS
	CEMENT BY	HOWO	120	SAX	CEMENT W/4% GRG
100	SAX	CEMENT	W/ 2% CAC62	CEMENT CIRC	PUMP
	PLUS W/1000 P.S.I.G.	PLUS	DOWN AT 5:45 PM		1-17-69

GA 924 KB 937 CASING RECORD

SIZE	WEIGHT	MAKE	MAKE		TALLY	CEMENTED AT	SACKS	KIND CEMENT
			F. COLLAR	SHOE				
855	24	MAHN	LARKIN	LARKIN	323.07	334.67	120	

NOTE: (Attach Casing and Drill Stem Test Reports When Applicable)

Remarks:

12 ⁰⁰ 1 ³⁰ DRILL 12 1/4" HOLE	10 ³⁰ 11 ⁴⁵ CIRC' HOLE
1 ³⁰ 2 ⁰⁰ SURVEY	11 ⁴⁵ 12 ⁴⁵ PULL TORN CASING
2 ⁰⁰ 7 ⁰⁰ DRILL	12 ⁴⁵ 1 ³⁰ RIG UP TORN CASING
7 ⁰⁰ 7 ¹⁵ CIRC HOLE	1 ³⁰ 4 ⁰⁰ RUN CASING
7 ¹⁵ 8 ⁰⁰ DUMMY TRIP	

SIGNATURE

Sehgenland

CANADA CITIES SERVICE PETROLEUM CORPORATION

DAILY DRILLING REPORT

Lease & Well No. C.S. REDKNIFE I-21 Location I-21 NWT Province NWT
 Contractor VARADACRIFT EAST OIL ENTERPRISE RIS#1 Date 1-16-69
 Depth at 8 AM 280 4 PM 280 Midnight 280
 Driller's 12-8A W. ORBERK 8A-4 P F. LAPLANTA 4 P-12 P MOSBR

FORMATION RECORD

FROM	TO	FORMATION
172	280	LIMESTONE
		BIT #2 12 1/4" HARD YSR. #041342 280

SLOPE TESTS

MUD RECORD

DEPTH	DEGREES	INSTRUMENT	TOUR	TIME	CHARACTERISTICS			CONDITIONERS	
					WEIGHT	VIS. SEC.	CC WL	AMOUNT	KIND
			1						
			1						
			1						
DRILL PIPE TRIPS			2						
DEPTH	REASON		2						
			2						
			3						
			3						
			3						

SIZE HOLE 12 1/4 PUMP PRESSURE MIDNIGHT 200 DRILL PIPE WT. MIDNIGHT 12,000

CORE AND D.S.T. RECORD

CORE NO.	FROM	TO	RECOVERY	DRILLING TIME-MIN.	SIZE BIT	KIND	FORMATION	SHOWING
	OIL RIG ARRIVED AT LOCATION W/ FISHING TOOL AT 2:30 PM 1-16-69 RUN IN PICKUP FISH AT 6:00 PM PULL FISH BARREL DOWN & LOAD OUT TOOL 8:00 PM 1-16-69							
D.S.T. No.	FROM	TO	TIME MIN.	FORMATION	RECOVERY AND REMARKS			
					TOP FISH AT 255'			

CASING RECORD

SIZE	WEIGHT	MAKE	MAKE		TALLY	CEMENTED AT	SACKS	KIND CEMENT
			F. COLLAR	SHOE				

NOTE: (Attach Casing and Drill Stem Test Reports When Applicable)

Remarks:

12" 22 3/4" DRILL 12 1/4" HOLE
 12" 100 PULL OUT TWIST
 OFF GRET 2 D.C. IN
 HOLE
 11" 80' W.C. OVERSHOT
 4" 6" TRIP IN W/OVERSHOT
 8" 23" W/O OVERSHOT
 23" 1" MAKEUP FISHING 6" 8" TRIP OUT W/ FISH
 BREAK DOWN & LOAD
 OUT FISHING TOOL
 8" 12" TRIP IN W/ 12 1/4" BIT
 CHECK ALL D.C.

SIGNATURE

W. Orberk

CANADA CITIES SERVICE PETROLEUM CORPORATION

DAILY DRILLING REPORT

Lease & Well No. CS PADENUE I-21 Location I-21 NWT Province NWT
 Contractor VANDERBILT RUSTAL ENHAPRISA R.S.#1 Date 1-15-69
 Depth at 8 AM 216 4 PM 228 Midnight 277
 Driller's 12-8A W ORBACK 8A-4 P F. LAPLANTE 4 P-12 P MOSER

FORMATION RECORD

FROM	TO	FORMATION
152	177	LIMA STONE
		BIT #2 12 1/4 RRD YSI #D413+2 RRD 175'
		DRILL 4

SLOPE TESTS

MUD RECORD

DEPTH	DEGREES	INSTRUMENT	TOUR	TIME	CHARACTERISTICS			CONDITIONERS	
					WEIGHT	VIS.-SEC.	CC WL	AMOUNT	KIND
200	32	TOTCO	1						
262	34	"	1						
			1						
DRILL PIPE TRIPS			2		9.9	38			
DEPTH	REASON		2						
			2						
			3		9.5	34			
			3		9.6	34			
			3		9.5	34			

SIZE HOLE 12 1/4 PUMP PRESSURE MIDNIGHT 260 DRILL PIPE WT. MIDNIGHT 22,00

CORE AND D.S.T. RECORD

CORE NO.	FROM	TO	RECOVERY	DRILLING TIME-MIN.	SIZE BIT	KIND	FORMATION	SHOWING
16"	LINER BROKE LOOSE						RAPID AROUND DRILL PIPE	
	DROP TO TOP OF BIT						STUCK IN HOLE BACK TO DRILLING IN PHAS	
D.S.T. NO.	FROM	TO	TIME MIN.	FORMATION	RECOVERY AND REMARKS			

CASING RECORD

SIZE	WEIGHT	MAKE	MAKE		TALLY	CEMENTED AT	SACKS	KIND CEMENT
			F. COLLAR	SHOE				

NOTE: (Attach Casing and Drill Stem Test Reports When Applicable)

Remarks:

8:00 8:15 DRILL 12 1/4" HOLE 4:50 4:55 TRIP IN 2 1/2" BIT
 9:23 WORK STUCK PIPE 4:56 6:00 RRD TO BTM
 12:40 DRILL 12 1/4" HOLE 2:30 4:00 PULL OUT 6:30 10:00 DRILL 12 1/4" HOLE
 4:55 5:00 WORK ON MUD PUMP 5:08 LINER CAME 10:10 10:15 CONN T SURVEY
 5:00 6:00 CONN T SURVEY OUT WITH BIT 10:15 10:20 DRILL 12 1/4" HOLE
 10:50 DRILL 12 1/4" HOLE

SIGNATURE

W. Greenblatt

CANADA CITIES SERVICE PETROLEUM CORPORATION
DAILY DRILLING REPORT

Lease & Well No	C.S. REDHNER I-21	Location	I-21 NW-1	Province	NWT
Contractor	VANDERCAET BAS 4016 ENTERPRISE RSM			Date	1-14-69
Depth at	8 AM	173	4 PM	REMAINING	MIDNIGHT
Driller's	12-8A	W. ORRBAEK	8A-4 P	F. LAZARANTH	4 P-12
					P. MOSAR

FORMATION RECORD

FROM	TO	FORMATION
0	173	LIMESTONE
12 AREA	155	BIT # 1 8 ³ / ₈ SEC. HT. REGRUN # 829418 15 HRS
		BIT # 2 12 ⁵ / ₈ HARD YSL # D41342 12 ³ / ₄ REGRUN

SLOPE TESTS

DEPTH	DEGREES	INSTRUMENT	TOUR	TIME	CHARACTERISTICS			CONDITIONERS	
					WEIGHT	VIS. SEC.	CC WL	AMOUNT	KIND
127	78	TOTEC	1			3.4			
170	78	"	1			32			
			1			32			
DRILL PIPE TRIPS			2						
DEPTH	REASON		2					6 SX	CEL
			2						
			3			44			
			3			39			
			3			36			

MUD RECORD

DRILL PIPE TRIPS

DEPTH	REASON
2	
2	
3	44
3	39
3	36

SIZE HOLE 12 1/4 PUMP PRESSURE MIDNIGHT 200 DRILL PIPE WT. MIDNIGHT 20,000

CORE AND D.S.T. RECORD

[illegible]

D.S.T. NO.	FROM	TO	TIME MIN.	FORMATION	RECOVERY AND REMARKS

CASING RECORD

[illegible]

NOTE: (Attach Casing and Drill Stem Test Reports When Applicable)

Remarks:

NOTE: (Attach Casing and Drill Stem Test Reports When Applicable)			
Remarks:	8" 8" SIER R.I.S	4" 4" SIER R.I.S	
	8" 8" SURVEY	4" 6" RRAM 12 1/4 HOLES	
12" 12" SURVEY	8" 9" TRIP FOR 12 1/4 BIT	6" 6" LAY DOWN COLLAR WORK	
12" 3" DRILL 8 3/8	9" 12" RRAM 12 1/4 HOLES	ON SHAKER	
5" 3" SURVEY	12" 12" TIGHTEN KEGS	4" 7" RRAM 12 1/4 HOLES	
3" 8" DRILL 5 3/8	12" 4" RRAM 12 1/4 HOLES	7" 8" WELD FLOW LINE NIPPLE	
		8" 12" RRAM 12 1/4 HOLES	

SIGNATURE

CANADA CITIES SERVICE PETROLEUM CORPORATION
DAILY DRILLING REPORT

Lease & Well No	C-S RADKNIFF E-21	Location	T-21 NW 1	Province	NWT
Contractor	ANDERGRIFT RES 1016 ENTERPRISE RIS #1			Date	1-13-69
Depth at	8 AM		4 PM	Midnight	
Driller's	12-8A W. ARBERG	8A-4 P	E. LAPLANTA	4 P-12	P. MOSER

FORMATION RECORD

FROM	TO	FORMATION
0	42	12 1/2" HOLE
		BIT #2 - 12 1/2" RABD Y51 "D41342
		BIT #1A 88 SEC H7 "829418"

SLOPE TESTS

MUD RECORD

SLOPE TESTS			CHARACTERISTICS				CONDITIONERS		
DEPTH	DEGREES	INSTRUMENT	TOUR	TIME	WEIGHT	VIS.-SEC.	CC WL	AMOUNT	KIND
60	1	TOTSO	1						
117	28	"	1						
			1						
DRILL PIPE TRIPS			2						
DEPTH	REASON		2						
			2						
			3					6 SA	QAL
			3					100 #	BICARB
			3						

SIZE HOLE

PUMP PRESSURE MIDNIGHT

DRILL PIPE WT. MIDNIGHT

CORE AND D.S.T. RECORD

[illegible][illegible]

CASING RECORD

[illegible]

NOTE: (Attach Casing and Drill Stem Test Reports When Applicable)

NOTE: (Attach Casing and Drill Stem Test Reports When Applicable)			
12° 13°	412.00	8° 5°	SEA RISE
Remarks:	DRILL 8 3/8" HOLE	5° 11°	DRILL 12 1/4 HOLE
5° 8°	DRILL 12 1/4 HOLE	11° 11°	SURVEY
	11° 11°	CHANCE TO 8 5/8 BIT	
	11° 20°	DRILL	
	2° 31°	WORK ON DRAWWORKS	11° 12° CON & SURVEY
	31° 40°	DRILL 8 5/8"	SURVEY WOULD NOT
			13° 15° SEA RISE
			415 63° DRILL
			13° 50° CON TIGHT HOLE
			8° 8° SURVEY WOULD GO TO
			13° 11° DRILL 8 5/8"

SIGNATURE

CANADA CITIES SERVICE PETROLEUM CORPORATION
DAILY DRILLING REPORT

Lease & Well No.	C-SRAPHNIFE-21		Location	I-21	NUT	Province	NUT
Contractor	VANDERCAET		SASTOIL ENTERPRISE	RIS #1	Date	1-12-69	
Depth at	8 AM		4 PM		Midnight		
Driller's	12-8A	W. ARBEEK	8A-4 P	F. LAPLANTE	4 P-12	P. MOSER	

FORMATION RECORD

[illegible]

SLOPE TESTS

MUD RECORD

SLOPE TESTS			CHARACTERISTICS				CONDITIONERS		
DEPTH	DEGREES	INSTRUMENT	TOUR	TIME	WEIGHT	VIS. G.C.	CC	AMOUNT	KIND
			1						
			1						
			1						
DRILL PIPE TRIPS			2						
DEPTH	REASON		2						
			2						
			3						
			3						
			3						

SIZE HOLE

PUMP PRESSURE MIDNIGHT

DRILL PIPE WT. MIDNIGHT

CORE AND D.S.T. RECORD

[illegible][illegible]

CASING RECORD

[illegible]

NOTE: (Attach Casing and Drill Stem Test Reports When Applicable)

Remarks:

12^{cc}-8⁰⁰ W.O. L. CNHR

$8^{00} 4^{00}$ W. LINER

40° 70° W. D. LINER
70° 10° CEMENT LINER w/ 235A CEMENT
10° 12 W. D. C. WELD CONDUCTOR
PIPE

SIGNATURE

CANADA CITIES SERVICE PETROLEUM CORPORATION

DAILY DRILLING REPORT

Lease & Well No. C.S. REVKNIEZ L2L Location L-21 NWT Province NWT
 Contractor VANDERCAFT SASTON ENGINEERS Date 1-11-69
 Depth at 8 AM 42 4 PM Midnight
 Driller's 12-8A PIMOSAR 8A-4P FLAPLANTE 4P-12 W. ORBIEK

FORMATION RECORD

FROM	TO	FORMATION
0	42	LIMESTONE
	42' 8 3/8"	HOLE SEC H7 #829418
	4' 12 1/4"	HOLE

SLOPE TESTS

MUD RECORD

DEPTH	DEGREES	INSTRUMENT	TOUR	TIME	CHARACTERISTICS			CONDITIONERS	
					WEIGHT	VIS. SEC.	CC WL	AMOUNT	KIND
			1	DRILLER ON MIDNIGHT TOWER					
			1	PICK UP 12 1/4" BIT RETAIN SAME					
			1	IN CONDUCTOR PIPE PUNCHED HOLES					
			2	IN CONDUCTOR PIPE FROM SHOWN LEVEL					
			2	TO 16'					
			2						
			3	W.O. LINER					
			3						
			3						

SIZE HOLE

PUMP PRESSURE MIDNIGHT

DRILL PIPE WT. MIDNIGHT

CORE AND D.S.T. RECORD

CORE NO.	FROM	TO	RECOVERY	DRILLING TIME-MIN.	SIZE BIT		FORMATION	SHOWING
					SIZE BIT	KIND		

D.S.T. No.

FROM

TO

TIME MIN.

FORMATION

RECOVERY AND REMARKS

CASING RECORD

SIZE	WEIGHT	MAKE	MAKE		TALLY	CEMENTED AT	SACKS	KIND CEMENT
			F. COLLAR	SHOE				

NOTE: (Attach Casing and Drill Stem Test Reports When Applicable)

1200 12 3/8" SER RIG 8 1/2" 15" TRY TO WARP HOLES 8-12" W.O. LINER
 1200 12 3/8" DRILL 15 1/4" HOLE IN CONDUCTOR PIPE
 300 8 1/2" BREAK IN CON PIPE MAKE BY ROTATING
 W.O. WELDER 12 1/4" BIT

SIGNATURE

W. Orbiek

CANADA CITIES SERVICE PETROLEUM CORPORATION
DAILY DRILLING REPORT

Lease & Well No.	C.S. REDKNIFE I-21	Location	I-21 - NWT	Province	NWT.
Contractor	VAN DARGHET RASTOIL ENTERPRISE 1915 #7			Date	1-10-69
Depth at	8 AM	4 PM	W. OR BACK	Midnight	F. LPPLENTZ
Driller's	12-8A	8A-4 P		4 P-12	

FORMATION RECORD

[illegible]

SLOPE TESTS

MUD RECORD

SLOPE TESTS			CHARACTERISTICS				CONDITIONERS		
DEPTH	DEGREES	INSTRUMENT	TOUR	TIME	WEIGHT	VIS-SEC.	CC WL	AMOUNT	KIND
			1						
			1						
			1						
DRILL PIPE TRIPS			2						
DEPTH	REASON		2						
			2						
			3					10 SFI	QFL
			3					1 SFT	RAPID DRILL
			3						

SIZE HOLE

PUMP PRESSURE MIDNIGHT

DRILL PIPE WT. MIDNIGHT

CORE AND D.S.T. RECORD

CORE NO.	FROM	TO	RECOVERY	DRILLING TIME-MIN.	FORMATION		SHOWING
					SIZE BIT	KIND	
D.S.T. No.	FROM	TO	TIME MIN.	FORMATION	RECOVERY AND REMARKS		
					SPUD AT 10.30 PM 1-10-69		

CASING RECORD

[illegible]

NOTE: (Attach Casing and Drill Stem Test Reports When Applicable)

Remarks:

8-12⁰⁰ R1 C UP

4-12³⁰ Rie To SPUD
12³⁰ TR00 DRILL 8 5/8" NOBUT

SIGNATURE

at Greenbald