GULF ET AL REDKNIFE

H-28

Drilling Authority No. 401
Date Issued 19 January 1970

WELL NAME Gulf et al Redknife H-28
FIELD
Area:
LOCATION: Unit H Section 28 Grid 61,30 -- 119-30
Latitude 61-27-15.67 Longitude 119-30-51.15
U.W.L.R. 61.45435 -- 119.56421
U.W.I. 300H286130119300

Rig Release Date: 6 - 2-70
Status
Information Release Date

CHANGE OF NAME:

DATE RECEIVED	INDEX
19-1-70	Application for a Drilling Authority.
	Well Completion Data.
	Well History Report.
29-1-70	Application to Amend a Drilling Authority.
	Application to change a Well Name.
30/4/70	Application to Abandon a Well or Suspend Drilling.
	Application to Alter Condition of a Well.
	Well History Supplement.
25/2/70	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.....

IAND 52-90 (3-69)

Drilling Authority No. 401
Date Issued January 19, 1970

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: Gulf et al Redbnife H-28

Permit No. 4396 — Lease No. -

Cities Service Petroleum Corp. (Permittee, Licensee, Lessee) — Exploratory Licence No. 1261

Gulf Oil Canada Limited (Operator) — Exploratory Licence No. 1243

Location: Unit H — Section 28 — Grid 61-30-119-30

Latitude 61° 27' 15.67" — Longitude 119° 23' 51.15

From Established Reference Marker: Top of brass cap NE Cor. Sec. 36-141-10-6

Universal Well Location Reference: 61.45435° N 119.56421° W

	DATE	DEPTH
Spudded	Jan. 21/70	0
Suspended	-	-
Resumed Operations	-	-
Finished Drilling	Feb. 2/70	2,330'
Deepened	-	-
Complete (gas/oil)	-	-
Abandoned	Feb. 6/70	0
Rig released	Feb. 6/70	-

Pool(s): -

Interval(s) open to production: -

Elevation: Gr. 694' K.B. 706'

Rig No. 4

Drilling Contractor: Tri-City Drilling (1968) Ltd.

Contractor's Business Licence No. 675

CASING RECORD

	Casing Size (Inches)	Grade	Weight	Amount	Set at –	Sacks of Cement and Additives
1.	9-5/8"	J-55	36#	593'	605KB	300 + 2% $CaCl_2$
2.						
3.						
4.						
5.						
6.						

GEOLOGICAL TOPS	ELEVATION Depths	ELEVATION Sub-Sea
Fort Simpson Shale	Surface	+ 706
Horn River Shale	1360'	- 654
Horn River Reef	1386'	- 680
Lonely Bay Lms.	1654'	- 948
Bear Rock Dol.	1968'	-1258
Precambrian	2302'	-1596

CORE RECORD

From	To	Rec.	From	To	Rec.
1411'	1451'	40'			

LOG RECORD

Run No.	Type of Log	From	To
1	Dual Induction Latero	2326	608
1	SN Porosity	2329	608
1	BHC Sonic-Caliper	2328	608
1	Formation Density	2329	608
1	Dipmeter	2328	608
1	Velocity Survey	2330	608
1	Porosity Lithology	2329	1350
1	Moved Oil	2329	1350

IAND 52-90(2) (3-67)

CEMENTING RECORD (Plug, Squeeze, etc.)			
Date	From	To	Remarks
2-5-70	2330'	2200'	65 sacks, not felt
2-5-70	2000'	1600'	340 sacks, felt at 1325'
2-5-70	1325'	1250'	100 sacks +2% $CaCl_2$, felt at 1060'
2-6-70	655'	555'	75 sacks + 2% $CaCl_2$, felt at 545'
2-6-70	3'	0'	5 sacks, welded on cap steel plate and name plate on 5 foot riser.

PERFORATING RECORD (Bullet, Jet)			
Date	From	To	Remarks
			Nil

SERVICING RECORD (Acidizing, Fracing, etc.)			
Date	From	To	Remarks
			Nil

DRILL STEM TESTS

No.	Date	Formation	From	To	V.O. Mins.	I.S.I. Mins.	F.S.I. Mins.	I.S.I.B.H.P.	F.S.I.B.H.P.	I.F.B.H.P.	F.F.B.H.P.	I.H.P.	F.H.P.	REMARKS
1	1-27-70	Horn Plateau Reef	1408'	1451'	60	60	60	562	326	77	99	652	645	Recovered 180' Drilling Mud, 60' mud cut salt water. 140,000 PPM Nacl.
2	2-4-70	Lonely Bay Limestone	1610'	1720'	30	60	60	678	678	643	515	809	809	Recovered 1050' muddy salt water 179,000 PPM Nacl.

Field pressures reported.

ANALYSIS

Lab. No.	Sample	From	To	Source	Remarks
W-40-70	Water	1408'	1451'	DST #1	
W-43-70	Water	1610'	1720'	DST #2	
70-79	Core	1411	1451	Core #1	

PRESENT STATUS OF WELL

Oil		(Interval.)
Gas		(Interval.)
Dry	X	D & A
Susp.		

Company: Gulf Oil Canada Ltd.

Signed by: [illegible]

Title: Area Production Manager

Date: February 25, 1970

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

File No.
Drilling Authority No. 401

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
OIL AND MINERAL 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 Gulf et al Redknife H-28

Location: Unit H Section 28 Grid 61-30-119-30

Latitude 61° 27' 15.67" Longitude 119° 3[illegible]' 51.15"

From Established Reference Marker Top of Brass Cap NE corner Section 36-141-10-6

Universal Well Location Reference 61.45435° N, 119.56421° [illegible]

Permit No. 4396 Lease No. -

Cities Service Petroleum Corporation
(Permittee, Licensee, Lessee)

Date of commencement of proposed program February 5, 1970

OIL, GAS, AND WATER ENCOUNTERED
(Depths)

Oil at -

Gas at -

Water at 1408-1451' DST #1, 1610-1720' DST #2

Total Depth 2330' Date of last operations February 6, 1970

Present condition of well Standing

CASING RECORD

	Casing Size O.D. Inches	Weight	Amount	Set At—	Sacks of Cement and Additives	Amount Pulled
1.	9-5/8	36#	593'	605 KB	300 + 2% $CaCl_2$	
2.						
3.						
4.						
5.						

PROPOSED ABANDONMENT PROGRAM

Plug No.	Plug Position	Geological Formation	Number of Sacks of Cement	Remarks
1	2330'-2200'	Precambrian & Bear Rock Dol.	65	
2	2000'-1600'	Lonely Bay Limestone	345	Feel
3	1450'-1250'	Horn River	155	Feel
4	660'-550'	Fort Simpson	75	Feel
5	3'-0	Fort Simpson	5	
		Erect riser with well name		

The following logs have been run DIL, SNP, BHC Sonic, FDC, Dipmeter, Velocity Survey

Other operations proposed None

Operations to be carried out by Tri-City Drilling Contractor Licence No. 675

Address Edmonton, Alberta Address

Responsible Agent in field Hjalmar B. Holmberg, 10235 - 124 Street, Edmonton, Alberta

Dated at Edmonton this 29 Day of April 19 70

Signed by Hjalmar B. Holmberg Company GULF OIL CANADA LIMITED

Title Area Production Manager Operator's Exploratory Licence No. 1243

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

(For OIL AND MINERAL DIVISION use only)

APPROVAL

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

Confirming oral approval given by Mr. G. E. Blue on the 5th February 1970.

Dated 30th April, 1970

Oil Conservation Engineer

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

File No.

Drilling Authority No. 401

CANADA

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT

RESOURCE MANAGEMENT DIVISION

OIL AND MINERAL 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. 401, concerning Gulf et al Redknife H-28

(Name and Number of Well)

The following amendments are required: Longitude 119°33' 51.15" W instead of 119°03' 51.15"W. Universal Well Location Reference 119.56421°W instead of 119.06421°W. Unique Well Identifier 300H286130119300 instead of 300H286130119000

Reasons for the amendments: To correct the longitude for the above location.

Dated at Edmonton, this 27 day of January, 19 70

Signed by Palmer P. Schinkel

Title Area Production Manager

Company Gulf Oil Canada Limited

(For Resource Management Division use only)

APPROVED

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

Date 29th January, 19 70

Oil Conservation Engineer

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

IAND 52-90-3 (3-67)

Drilling Authority No. 401

Project No.

File No.

CANADA

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT

OIL AND MINERAL 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 Gulf et al Redknife H-28

Location: Unit H Section 28 Grid 61°30', 119°30'

Latitude 61°27'36.67" N. Longitude 119°03'51.15" W.

Reference Marker Unique well identifier Elevations referred to top of brass cap NE Cor. Sec. 36-141-10-6

Universal Well Location Reference 61.45435°N 119.06421°W

Elevation: Ground 694 K.B. 710 feet above sea-level.

Well is expected to produce from Horn Plateau Reef Prospects formation at a depth of about 1660 feet. Expected total final depth 3000

Area assigned to well

(for Oil Conservation Engineer's use only)

Permit No. 4396 Lease No. Acreage 61,272

Permittee, licensee, or lessee Cities Service Petroleum Corporation

Exploratory Licence No. 1261

Surface owned by 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	New or Used	Estimated Depth	Sacks of Cement
1. 9 5/8	36#	K-55	NEW	600	400
2. 4 1/2	AS REQUIRED				
3.					
4.					
5.					

Expected water, gas, and oil horizons and type of control equipment To evaluate the Horn Plateau Reef prospects. Drilling mud with sufficient overbalance will be maintained. Hydril 10" - 900 Ser BOP Shaffer 5" - 600 Hydraulic (LWS)

Well will be drilled with Rotary Rig No. 4 by Tri-City Drilling (1968) Ltd.

(Drilling Contractor or company)

Responsible agent of applicant:— Contractor's business Licence No. 575

At well H. B. Holmberg At registered office H. B. Holmberg

Address 10233 - 124 Street Address 10235 - 124 Street, Edmonton 40, Alta.

Edmonton 40, Alta.

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

Dated at Edmonton this 14th day of January 19 70

Signed by Wilmer B. Holmberg Company Gulf Oil Canada Limited

Title Area Production Manager Operator's Licence No. 1243

(For Oil and Mineral Division use only)

APPROVED

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

1. The Company will submit to this office, on Tuesday of each week, the latest reports received by radio on the progress of the well.
2. During well drilling and testing operations, every effort shall be made to ensure

Dated 19th January 19 70 (over)

Oil Conservation Engineer

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

IAND 52-90-1 (3-69)

UNIQUE WELL IDENTIFIER - 300H286130119000

that drilling fluids, chemicals and wastes shall be disposed of or contained in a manner that will prevent the contamination of adjacent vegetation and surface or sub-surface waters.

B.H.J. Thoms, Oil Conservation Engineer

WELL HISTORY REPORT

Gulf et al Redknife H-28

61° 27' 15.67" North

119° 33' 51.15" West

OIL & GAS OPERATIONS UNIT
Oil and Mineral Division
MAY 12 1970
OTTAWA, CANADA
Dept. of Indian Affairs & Northern Development

GULF OIL CANADA LIMITED

Calgary, Alberta

March 1970

CONFIDENTIAL

APPROVED

Hjalmar B. Holmberg,
Area Production Manager
March 25, 1970

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WELL HISTORY REPORT

SECTION 1

(a) Well Name and Number: Gulf et al Redknife H-28 N.W.T.

(b) Permittee, Licencee: Canada - Cities Service Petroleum Corporation.

(c) Name of Operator: Gulf Oil Canada Limited,
P. O. Box 130, Calgary, Alberta
Operator's Licence No. 1243.

(d) Location: H-28-61-30-119-30 Grid.
61° 27' 15.67" Latitude
119° 33' 51.15" Longitude
61.45435° N 119.56421° W Universal W.L.R.
300H286130119300 Unique Well Identifier

(e) Co-ordinates: 79.6' North and 296.3 West of the South-East Corner of Unit H. (Surface)

(f) Permit Number: 4396.

(g) Drilling Contractor: Tri-City Drilling (1968) Ltd. Rig No. 4.
Failing Model 90 Stratmaster Trailer Rig.

(h) Drilling Authority: No. 401 dated 19th of January, 1970.

(i) Classification: New field wildcat.

(j) Elevations: Ground - 694 feet: K.B. - 706 feet.

(k) Spud Date: January 21, 1970.

(l) Drilling Completion Date: February 2, 1970.

(m) Total Depth: 2,330 feet.

(n) Well Status: Abandoned.

(o) Rig Released: February 6, 1970.

(p) Hole Sizes: 12¼" from 0 to 605 feet, K.B.
7 7/8" from 605 to 2,330 feet, K.B.

(q) Casing: 20 joints of 9 5/8" OD, 36#, 8RT, J-55, Class A, set at 605 feet K.B. Net tally 602 feet.

SECTION II

(a) Formation Tops:

FORMATION	LOG TOPS	SAMPLE TOPS
Fort Simpson Shale	Surface	Surface
Horn River Shale	1360	1360
Horn River Reef	1386	1385
Lonely Bay Limestone	1654	1654
Bear Rock Dolomite	1968	1968
Precambrian	2302	2317
Total Depth Logger	2330	
Total Depth Driller		2330

(b) Cored Interval: 1411' - 1451', Horn River, Recovered 40'.

(c) Core Description:

1411' - 1411.3'	Limestone, grey-brown, stromatoporoidal, poor vug porosity with black bituminous lining, white calcite replacing primary porosity.
1411.3' - 1414.7'	Limestone, light brown, dense. Vertical fractures infilled with black shale. One open fracture infilled with black shale. One open fracture with slicken siding. Pyrite in shale.
1414.7' - 1429.7'	Limestone, light grey brown, with large stromatoporoids, numerous small horn corals, few brachiopods. A few vertical and oblique fractures mostly infilled with brown and black shale, generally non-effective. A few brecciated zones with coral debris and shale or white calcite infill. Estimated 1' 5" poor vug porosity.
1429.7' - 1432.7'	Limestone, light brown, dense, vertical and oblique fractures with black shale infill.
1432.7' - 1451'	Limestone, light to medium grey, numerous large stromatopoids and beds of horn corals, a few large colonial corals. Brecciated zones with corals and strom debris, shale and white calcite infill. Large vertical fractures generally open and effective: some lined with black shale. H_2S odor.

(d) Sample Description: See appendix.

(e) Paleontological Determinations:

Stromatopoids, Brachiopods and Horn Corals in Horn River reef.

SECTION III

(a) Report of Drill Stem Tests:

Field Pressures reported for DSTs

DST #1 January 27, 1970. Interval 1408' - 1451'. Horn Plateau Reef. HOWCO. 6½" bottom hole packer, 5/8" ss choke. No water cushion. 5 minute preflow, 60 minute initial shut-in. Tool open 60 minutes, 60 minute final shut-in. Good initial air puff, weak air blow for 2½ minutes and died on preflow. On second flow, moderate air blow steady throughout test. No gas to surface.
Recovery: Top 180' drilling mud, next 60' mud cut salt water. 140,000 PPM NaCl.
IHSP 652, FHSP 645, IFP 77, FFP 99, ISIP 562, FSIP 326.

DST #2 February 4, 1970. Interval 1610-1720. Lonely Bay Limestone. Lynes United. 7" straddle inflatable packer, ½" ss choke. No water cushion. 5 minute preflow, 60 minute initial shut in. Tool open 30 minutes, 60 minute final shut-in. Fair initial air puff increasing to strong at end of preflow. Died when shut-in. Opened with strong air blow, remaining steady throughout test. No gas to surface. Recovered 1050' muddy salt water 179,000 NaCl. IHSP 807, FHSP 804, IFP 146, FFP 519, ISIP 687, FSIP 686.

(b) Casing Record: January 23, 1970. Ran 20 joints of 9 5/8", OD 36# 8RT J-55 Class A casing set at 605' KB. Ran 3 centralizers on bottom 150'. Cemented by Howco with 300 sacks Oilwell cement plus 2% $CaCl_2$. Pumped plug to 574'. Plug down at 8:20 PM 2-23-70. Average slurry weight 15.4 #/gal. Average displacement rate 4 bbls/min. Witnessed by Carrol for contractorand Hannegan for Gulf. Casing bowl size 10" Ser. 900.

(c) Bit Record:

No.	Size	Type	Depth In	Depth In	Footage	Hrs.	Cum. Hrs.
1A	12¼	S4J	0	570	570	20½	20½
2A	12¼	S4J	570	605	35	1-3/4	22
1	7-7/8	S4J	605	1401	796	20½	42½
1RR	7-7/8	S4J	1401	1411	10	3/4	43
1B	6-1/8	Diamond	1411	1451	40	7½	50½
2	7-7/8	M4N	1451	1672	221	18-3/4	69
3	7-7/8	X1G	1672	1943	271	28½	97½
4	7-7/8	M4NGJ	1943	2065	122	19	116½
5	7-7/8	M4NGJ	2065	2150	85	12	128½
6	7-7/8	W7	2150	2302	152	23	151½
7	7-7/8	ODV	2302	2330	28	3-3/4	155

(d) Mud Report: Surface hole - Gel slurry system
Mud Weight 8.3 - 9.1#/gal.
Viscosity 42-100 sec./Qt.

605 feet to 2,330 feet - water-gel-benex system
Mud weight 8.3 - 9.4#/gal.
Viscosity 30-59 Sec./Qt.
Pretreated for anhydrite at 2,150 feet.

Materials:

Lime	125 pounds
Caustic	650 pounds
Gel	18,800 pounds
Sawdust	560 pounds
Bicarb	300 pounds
Sapp	50 pounds
Benex	55 pounds
CMC	500 pounds
Soda Ash	1,900 pounds
Peltex	500 pounds

(e) Deviation Record:

Depth	Degrees Deviation	Depth	Degrees Deviation	Depth	Degrees Deviation
95	¼	1103	2-3/4	1608	2
208	¼	1135	2-3/4	1640	1-3/4
320	½	1166	2½	1672	2
414	¼	1198	2¼	1703	7/8
538	7/8	1229	2	1798	1-3/4
600	3/4	1261	1-3/4	1861	2
973	3	1387	2	1892	1
1000	3½	1482	2½	1955	2¼
1040	3	1544	2¼	2050	1½
1070	3	1576	1-3/4	2242	1¼

(f) Abandonment Plugs:

Date	Plug No.	Position	Geological Formation	Sacks Cement	Additives	WOC	Depth Plug Felt
2-5-70	1	2330'-2200'	Base Bear Rock	65	-	-	-
2-5-70	2	2000'-1600'	Bear, Lonely Bay, Horn	340	-	8	1325
2-5-70	3	1325'-1250'	Base Simpson	100	2% $CaCl_2$	8	1060
2-6-70	4	655'-555'	Simpson, Bottom Csg.	75	2% $CaCl_2$	8	545
2-6-70	-	3'-0	Top Casing	5	-	-	-

Five foot riser with name plate was welded on top of casing.

(g) Lost Circulation Zones: None

(h) Report of Blowouts: None

SECTION IV

(a) Logs:

Date	Run No.	Interval	Type
Feb. 3, 1970	1	608-2326	Dual Induction Laterolog
Feb. 3, 1970	1	608-2329	Sidewall neutron porosity log
Feb. 3, 1970	1	608-2328	BHC - Sonic caliper log
Feb. 3, 1970	1	608-2329	Formation Density log
Feb. 3, 1970	1	608-2328	Dipmeter
Feb. 4, 1970	1	608-2330	Velocity survey
Feb. 4, 1970	1	1350-2329	Lithology Porosity
Feb. 4. 1970	1	1350-2329	Moved Oil

SECTION V

(a) Core Analysis: Yes

(b) Water Analysis: Yes No. W-40-70 and W-43-70

(c) Gas Analysis: No

(d) Oil Analysis: No

SECTION VI

(a) Tubing Record: No tubing run.

(b) Perforation Record: No perforating performed.

(c) Cementation Record: No squeeze or plug back jobs performed. Abandonment plugs were run as follows.

Plug No.	Date	Position	Geological Formation	Sack Cement	Additives	WOC	Depth Plug Felt
1	2-5-70	2330'-2200'	Base Bear Rock	65	-	-	-
2	2-5-70	2000'-1600'	Bear, Lonely Bay Horn	340	-	8	1325
3	2-5-70	1325'-1250'	Base Simpson	100	2% $CaCl_2$	8	1060
4	2-6-70	655 - 555	Simpson Bottom Csg.	75	2% $CaCl_2$	8	545
-	2-6-70	3'-0	Top Casing	5	-	-	-

Five foot riser with name plate was welded on top of casing.

(d) Acidization and Fracturing Record: None performed.

(e) Back Pressure and Production Tests: None performed.

A P P E N D I X

GULF et al RED KNIFE H-28

SAMPLE DESCRIPTION

30	Shale, grey-green, micaceous, calcareous, slightly silty.
60	as above
90	as above
120	as above
150	as above
180	as above
210	as above
240	as above
270	as above
290	as above
320	as above
350	as above
380	as above
410	as above
440	as above
470	as above
500	as above
530	as above
560	as above
600	as above
610	Shale, medium grey-green, m. micaceous, slightly calcareous, slightly silty.
620	as above
630	as above
640	as above
650	as above
660	as above
670	as above
680	as above
690	as above
700	Shale, as above, becoming more calcareous and silty
710	Shale, as above
720	Shale, as above
730	Shale, as above
740	Shale, as above
750	Shale, as above,
760	Shale, as above
770	Shale, as above
780	Shale, as above
790	Shale, as above
800	Shale, medium grey-green, micromicaceous, silty, calcareous.
810	Shale, as above
820	Shale, as above
830	Shale, as above

840 Shale, medium grey-green, micromicaceous, silty, calcareous.
850 Shale, as above
860 Shale, as above
870 Shale, as above
880 Shale, as above
890 Shale, as above
900 Shale, as above
910 Shale, as above
920 Shale, as above
930 Shale, as above
940 Shale, as above
950 Shale, as above
960 Shale, as above
970 Shale, as above
980 Shale, as above
990 Shale, as above
1000 Shale, medium grey-green, micromicaceous, slightly calcareous, silty, p.
1010 Shale, as above
1020 Shale, as above
1030 Shale, as above
1040 Shale, as above
1050 Shale, as above
1060 Shale, as above
1070 Shale, as above
1080 Shale, as above
1090 Shale, as above
1100 Shale, as above, shale dark grey-black, micromicaceous, slightly calcareous, silty 40%.
1110 as above
1120 Shale, grey-green as above 70%, Shale dark grey-black as above 30%.
1130 Shale, green, as above, 80%; Shale dark grey-black as above 20%.
1140 Shale, green-grey, micromicaceous, slightly calcareous, silty 80%; Shale as above 20%.
1150 Shale, as above 50% Shale, as above 50%
1160 Shale, as above 70% Shale, as above 30%
1170 Shale, as above Shale, as above
1180 Shale, as above
1190 Shale, medium grey/grey-green, micromicaceous, slightly calcareous, very silty, p.
1200 Shale, as above
1210 Shale, as above
1220 Shale, as above
1230 Shale, as above
1240 Shale, as above
1250 Shale, as above with very fine white calcite veins.
1260 Shale, as above
1270 Shale, as above
1280 Shale, as above
1290 Shale, medium grey/grey-green, micromicaceous, slightly calcareous, very silty, p, with very fine white calcite veins.
1300 Shale, as above
1310 Shale, as above

1320	Shale, medium grey/grey-green, micromicaceous, slightly calcareous, very silty, with some pyrite.
1330	Shale, as above
1340	Shale, as above, with abundant pyrite.
1350	Shale, as above
1360	Shale, as above
1370	Shale, dark grey-black, micromicaceous, abundant pyrite.
1380	Shale, medium grey-black, micromicaceous, abundant pyrite.
1390	Shale, as above, with a few pieces secondary white crystalline calcite (veins?).
1400	Limestone, white/light grey-brown, calcirudite - brown, micro-grained limestone and white crystalline calcite. A few fossil fragments - crinoid stems, amphipora; no porosity or oil stain.
1410	Limestone, light grey-white, amphiporal, interfossil porosity destroyed by calcite infill. Trace vug porosity.
1460	Limestone, light grey, amphiporal with fragments of solitary corals, white calcite infills original interfossil porosity. Some white limestone, fine crystalline replacement. Traces of vugs with white drussy crystals of calcite. Traces of fractures. No porosity, possible fracture porosity.
1470	Limestone, as above
1480	Limestone, as above, with some vug porosity and fossiliferous leached porosity.
1490	Limestone, as above, no visible fos. leached porosity.
1500	Limestone, as above
1510	Limestone, as above
1520	Limestone, as above
1530	Limestone, white/light grey, probably stromatoporoidal, much white calcite infill and replacement. Tight.
1540	Limestone, as above, with some amphipora fragments.
1550	Limestone, as above
1560	Limestone, white, calcilutite, with much white secondary calcite, dolomitic.
1570	Limestone, as above
1580	Limestone, as above
1590	Limestone, as above
1600	Limestone, as above; limestone, medium grey, calcisiltite, slightly argillaceous; tight 30%.
1610	Limestone, light grey, calcisiltite with white secondary calcite, no visible fossils, tight.
1620	Limestone, as above
1630	Limestone, light grey, calcisiltite with some white secondary calcite, slightly argillaceous, traces amphipora and brachiopod fragments, trace of vug porosity.
1640	Limestone, as above.
1650	Limestone, as above
1660	Limestone, light-medium grey/white, with some white sucrosic calcite, trace vug porosity, crinoids?
1670	Limestone, dark grey, very fine to fine crystalline, probably re-crystallized fossiliferous limestone, scattered poor small vug porosity, some white secondary calcite crystals, slightly argillaceous.

1680	Limestone, as above
1690	Limestone, as above
1700	Limestone, as above
1710	Limestone, medium grey, very fine to fine crystalline with secondary calcite crystals, some poor vug porosity, probably non-effective.
1720	Limestone, as above
1730	Limestone, as above
1740	Limestone, as above
1750	Limestone, as above
1760	Limestone, as above
1770	Limestone, as above
1780	Limestone, as above, crinoidal?
1790	Limestone, as above
1800	Limestone, medium grey, very fine to fine crystalline with secondary calcite crystals, completely recrystallized, some crinoidal fragments, trace of vug porosity, slightly argillaceous.
1810	Limestone, as above,
1820	Limestone, as above
1830	Limestone, as above
1840	Limestone, as above
1850	Limestone, as above, becoming light-dark grey, slightly dolomitic, tight.
1860	Limestone, as above
1870	Limestone, as above
1880	Limestone, as above
1890	Limestone, as above
1900	Limestone, as above
1910	Limestone, light-medium grey-brown, very fine to fine crystalline, sucrosic, slightly argillaceous with much white crystalline calcite.
1920	Limestone, as above
1930	Limestone, as above with less white crystalline calcite.
1940	Limestone, as above
1950	Limestone, as above
1960	Limestone, as above
1970	Limestone, as above
1980	Limestone, as above
1990	Dolomite, medium-dark grey/brown, very fine to fine crystalline, secondary slightly argillaceous with some fractures with white crystalline calcite infill.
2000	Dolomite, as above
2010	Dolomite, as above
2020	Dolomite, as above
2030	Dolomite, medium brown, microcrystalline, slightly silty?, very hard and brittle, argillaceous pyrite.
2040	Dolomite, as above
2050	Dolomite, as above, medium-dark brown fractures with crystalline calcite infill.

2060 Dolomite, as above
2070 Dolomite, as above; anhydrite, white-light grey-brown, very fine crystalline, dolomitic 10%.
2080 As above.
2090 Dolomite, as above - 90%, Anhydrite, as above - 10%
2100 Dolomite, as above - 10%, Anhydrite, as above - 90%
2110 Dolomite, as above - 70%, Anhydrite, as above 30%
2120 Dolomite, as above; Anhydrite, as above, and Shale - green.
2130 Shale, green, slightly grey
2140 Siltstone, red-brown, slightly dolomitic.
2150 Siltstone, as above
2160 Anhydrite, light grey, microcrystalline, trace shale, green, as above.
2170 Anhydrite, light grey, microcrystalline, slightly dolomitic, trace shale, apple green, silty.
2180 Anhydrite, as above
2190 Anhydrite, as above
2200 Anhydrite, as above
2210 Anhydrite, light grey, microcrystalline, slightly dolomitic 50% and Anhydrite, red-brown/light grey, microcrystalline, slightly dolomitic 50%.
2220 Anhydrite, light grey, microcrystalline, slightly dolomitic.
2230 Anhydrite, red-brown, microcrystalline, slightly dolomitic, shaly.
2240 Anhydrite, red-brown, as above.
2250 Anhydrite, as above.
2260 Anhydrite, as above.
2270 Anhydrite, as above, silty, hard.
2280 Anhydrite, as above.
2290 Anhydrite, as above, slightly more argillaceous.
2300 Anhydrite, as above.
2310 Siltstone, dark grey-black, pyroxene? grains in siliceous cement, in part feldspatic, weathered to kaolin.
2320 Granite, quartz with some feldspar and pyroxene.
2330 Granite, as above.

P 13 (1/69)

70-36.

GULF OIL CANADA LIMITED
WATER ANALYSIS REPORT

LEASE Gulf et al Red Knife LOCATION H-28 FIELD Wildcat SAMPLE Sample #2 D.S.T.#1

SAMPLE DATE January 27, 1970 FORMATION Lonely Bay Limestone INTERVAL DEPTH 1408 FT. TO 1451 FT. KBE 706 FT.

SAMPLE HEIGHT ABOVE TOOL Top of Tool FT. RECOVERY DATA 240' of water.

OTHER DATA

ION	MILLIGRAMS/LITRE CONCENTRATION	PER CENT MILLIGRAM EQUIVALENTS
SODIUM – NA	51,925	39.91
POTASSIUM – K		
CALCIUM – CA	10,009	8.82
MAGNESIUM – MG	871	1.27
SULPHATE – SO_4	290	0.11
CHLORIDE – CL	107,207	49.87
BROMIDE – BR		
IODIDE – I		
BICARBONATE – HCO_3	75	0.02
CARBONATE – CO_3		
HYDROXIDE – OH		
TOTAL	170,377	100.00

S. G. @ 60°F.	1.122
pH	6.64
H_2S	Negative
RESISTIVITY 0.049 OHM METERS AT	77 °F.
TOTAL DISSOLVED SOLIDS IN MILLIGRAMS/LITRE	
AS NACL FROM RES.	170,000
BY EVAPORATION	181,700
AFTER IGNITION	
ANALYSED BY	Ralph L. Eng.
LAB. NO.	W-040-70
DATE RECEIVED	February 6, 1970
DATE ANALYSED	February 11, 1970
DATE DISTRIBUTED	February 11, 1970

REMARKS AND CONCLUSIONS Sample #1 Resistivity – 0.420 OM @ 77°F.

Sample appears to be a formation water similar to Slave Point formation water.

P 13 (1/69)

70-37.

GULF OIL CANADA LIMITED
WATER ANALYSIS REPORT

LEASE Gulf et al Red Knife LOCATION H-28 FIELD Wildcat SAMPLE Sample #4.D.S.T.#2.

SAMPLE DATE February 4, 1970 FORMATION Lonely Bay Limestone INTERVAL DEPTH 1610 FT. TO 1720 FT. KBE 706 FT.

SAMPLE HEIGHT ABOVE TOOL Top of Tool FT. ____ RECOVERY DATA 1050' of water

OTHER DATA

ION	MILLIGRAMS/LITRE CONCENTRATION	PER CENT MILLIGRAM EQUIVALENTS
SODIUM – NA	58,100	40.75
POTASSIUM – K		
CALCIUM – CA	10,707	8.61
MAGNESIUM – MG	480	0.64
SULPHATE – SO_4	3,880	1.30
CHLORIDE – CL	107,808	48.68
BROMIDE – BR		
IODIDE – I		
BICARBONATE – HCO_3	61	0.02
CARBONATE – CO_3		
HYDROXIDE – OH		
TOTAL	181,036	100.00

S. G. @ 60°F. 1.126
pH 7.79
H_2S Negative
RESISTIVITY 0.049 OHM METERS AT 77 °F.

TOTAL DISSOLVED SOLIDS IN MILLIGRAMS/LITRE

AS NACL FROM RES. 170,000
BY EVAPORATION
AFTER IGNITION

ANALYSED BY Ralph L. Eng. RLE
LAB. NO. W-043-70

DATE RECEIVED February 6, 1970
DATE ANALYSED February 10, 1970
DATE DISTRIBUTED February 10, 1970

REMARKS AND CONCLUSIONS Sample #3 Resistivity - 0.058 OM @ 77°F.
Appears to be a formation water similar to Slave Point formation water

CORE ANALYSIS SUMMARY

LEASE	Gulf et al Red Knife H-28	LOCATION	61°30'N Lat. 119°30'W Long.
POOL	New Field	CORED	January 29, 1970.
RECEIVED	February 5, 1970.		

SUMMARY:

Footage Cored	40.0
Footage Recovered	39.3
Footage Analyzed	39.3
No. of Whole Core Samples	10.0
Total Samples	10.0
Samples per foot analyzed	.26

A.G.A. Piercey

March 9, 1970

CORE DATA SHEET

P-70 (10/64)

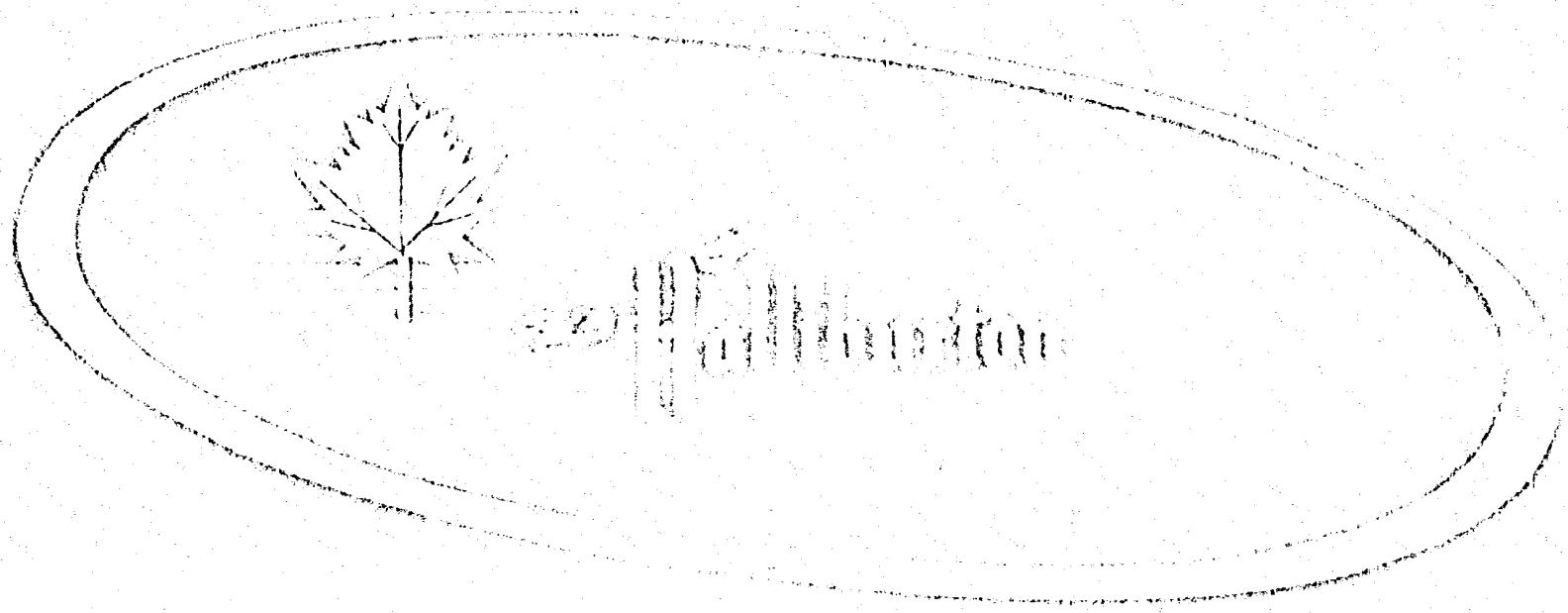
LEASE AND WELL NO. Gulf et al Red Knife H-28

LOCATION

LSD	SEC	TWP.	RGE.	M

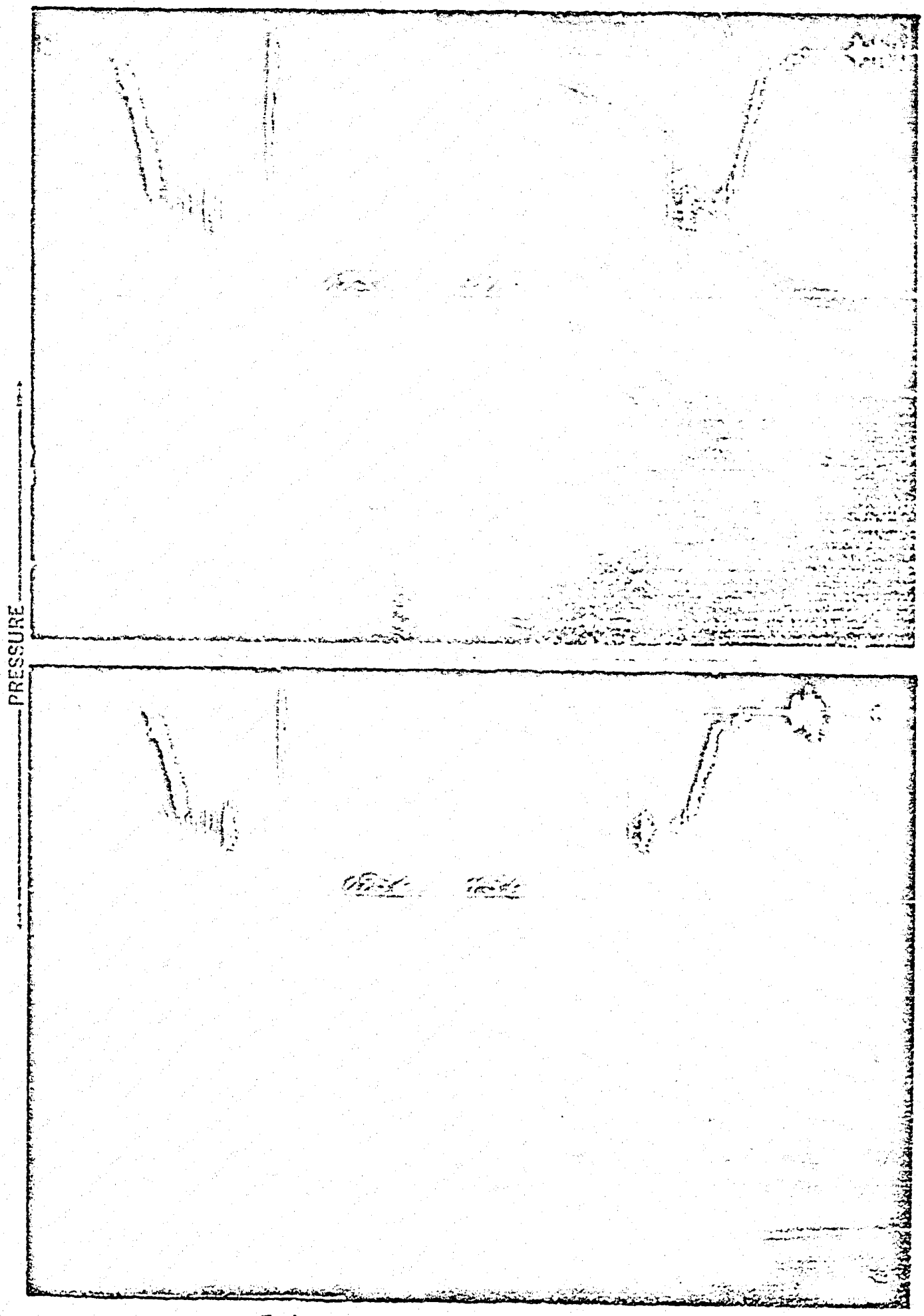
61°30'N lat. 119°30'W long.

SAMPLE NO.	TOP DEPTH FEET	INTERV. REP FEET	WHOLE CORE POR. %	WHOLE CORE PERMEABILITY VERT. md.	90° md.	MAX. md.	RAD. md.	So %	Sw %	POROSITY FEET	SMALL PLUG POR. %	SMALL PLUG PERMEABILITY VERT. md.	HORIZ. md.	Grain Density
Core #1 1411.0 to 1451.0 Recovered 39.3'														
1	1411.0	11.0	1.3	<.01	.36	.53				14.33				2.70
2	1422.0	7.6	2.4	.08	.97	4.2 F				18.24				2.71
3	1429.6	3.0	0.4	<.01	.10	.10				.12				2.69
4	1432.6	2.4	1.7	<.01	3.03 F	3.10 F				4.08				2.69
5	1435.0	1.8	2.4	.20 F	.96	61.0 F				4.32				2.68
6	1436.8	3.2	2.1	43.0 F	150.0 F	370.0 F				6.72				2.70
7	1440.0	2.0	1.1	<.01	.06	.10				2.20				2.70
8	1442.0	1.6	2.2	.43	.59	6.0 F				3.52				2.69
9	1443.6	1.6	.23	.21	1.3	1.7				3.68				2.70
10	1445.2	5.1	2.2	<.01	.31	.35				11.22				2.69
LOSS	1450.3	0.7												



Москва

Российская Федерация Российская Федерация



Each Horizontal Line Equal to 1000 p.s.i.

Depth Top Gauge 1386 Ft.		Blanked Off No	
BT P.R.D. No. 3113		8695 12 Hr. Clock	
Pressure Readings	Field	Office Corrected	
Initial Hydro Mud Pressure	649	652	
Initial Closed in Pressure	39	562	
Initial Flow Pressure	390	77	
Final Flow Pressure	519	99	
Final Closed in Pressure	325	326	
Final Hydro Mud Pressure	649	645	
Depth Centre Gauge 1392 Ft.		Blanked Off No	
BT P.R.D. No. 436		2993 12 Hr. Clock	
Pressure Readings	Field	Office Corrected	
Initial Hydro Mud Pressure		648	
Initial Closed in Pressure		563	
Initial Flow Pressure		81	
Final Flow Pressure		103	
Final Closed in Pressure		328	
Final Hydro Mud Pressure		645	
Depth Bottom Gauge 1447 Ft.		Blanked Off Yes	
BT P.R.D. No. 2613		8742 12 Hr. Clock	
Pressure Readings	Field	Office Corrected	
Initial Hydro Mud Pressure		673	
Initial Closed in Pressure		589	
Initial Flow Pressure		105	
Final Flow Pressure		129	
Final Closed in Pressure		352	
Final Hydro Mud Pressure		672	

Date January 27, 1970 — Ticket No. 32-19361

Kind of Job Single Btm. Hol — HOWCO District High Level

Tester B. L. Bauer — Witness G. Hannegan

Contractor Tri City Drilling Co. Ltd.

K B Elevation — Top Packer Depth 1408 — Bottom Packer Depth –

Total Depth 1451 — Casing Perforations: Top — Bottom

Interval Tested 1408-1451 — Formation Tested Horn River

Hole Size 7 7/8 — Liner or Rathole Size

Size Surface Choke 1" — Size Bottom Choke 5/8" — Size and Type Wall Packer 6 1/2 E.S.

Size Drill Pipe 4 1/2 XH — ID and Length Drill Collars 2 7/8"x254'

Anchor Size O.D. 5" — I.D. — Amount-Type of Cushion 6 1/2" E.S.

Gauge Depth 77 °F meas. °F est. Temp. — Mud Weight 8.9 — Mud Viscosity 50

All Depths Measured From K.B. — No. Folders Reproduced 18

Time Periods (Minutes): 1st Flow 5 — Initial CIP 60 — 2nd Flow 60 — Final CIP 60

Recovered — Feet of

Recovered 180 — Feet of Mud

Recovered 60 — Feet of Mud Cut Salt Water

Recovered — Feet of

Oil Recovery Degrees API — Water Recovery Specific Gravity 1.0486

REMARKS: Tool opened at 10:10 with weak blow for 2 1/2 mins. then died. Shut in at 10:15. Tool open at 11:15. Fair blow throughout flow period. Tool closed at 12:15. Pulled loose at 1:15.

LEGAL DESCRIPTION 61 27 15. 67 119 03' 51.1 O

FIELD OR AREA FT. SIMPSON

PROVINCE N.W.T.

GULF ET AL BEAUFIFE — Lease Name

H-28 — Well No.

1 — Test No.

CALGARY — Owner's District

GULF OIL CANADA LTD. — Lease Owner

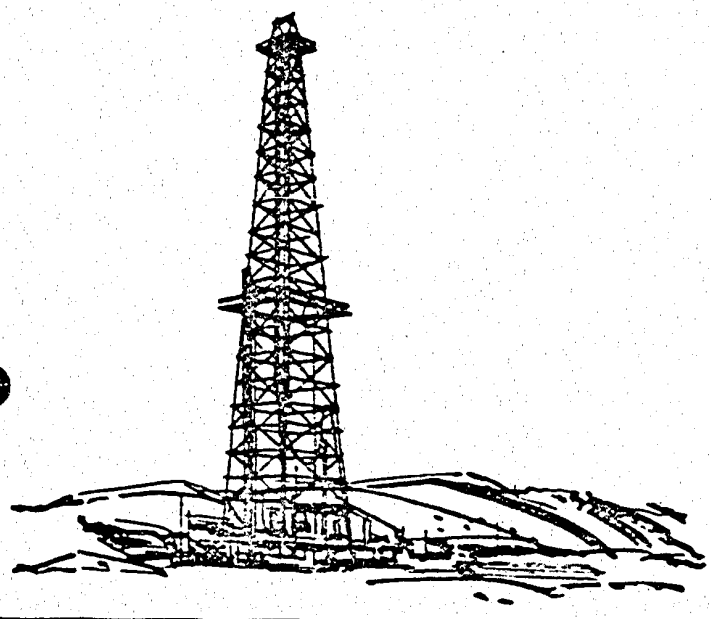
FORM 222

DRILL STEM TEST DATA

LYNES

BRIGHT NAME IN THE OIL PATCH

Inflatable and Conventional Packer Tools



DRILL STEM TEST
TECHNICAL SERVICE REPORT

NOMENCLATURE (Definition of Symbols)

Q	=	average production rate during test, bbls./day
Q_g	=	measured gas production rate during test, MCF/day
k	=	permeability, md
h	=	net pay thickness, ft. (when unknown, test interval is chosen)
μ	=	fluid viscosity, centipoise
Z	=	compressibility factor
T_r	=	reservoir temperature, ° Rankine
m	=	slope of final SIF buildup plot, psig/cycle (psig²/cycle for gas)
b	=	approximate radius of investigation, feet
r_w	=	wellbore radius, feet
t_p	=	total flowing time, minutes
P_e	=	Extrapolated maximum reservoir pressure, psig
P_f	=	final flowing pressure, psig
P.I.	=	productivity index, bbls./day/psi
$P.I._t$	=	theoretical productivity index with damage removed, bbl./day/psi
D.R.	=	damage ratio
E.D.R.	=	estimated damage ratio
AOF	=	absolute open flow potential, MCF/D
AOF_t	=	theoretical absolute open flow if damage were removed
$\bar{Z}$	=	subsea depth
W	=	water gradient based on salinity
H_w	=	potentiometric surface

In making any interpretation, our employees will give Customer the benefit of their best judgment as to the correct interpretation. Nevertheless, since all interpretations are opinions based on inferences from electrical, mechanical or other measurements we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not be liable or responsible, except in the case of gross or wilful negligence on our part, for any loss, costs, damages or expenses incurred or sustained by Customer resulting from any interpretation made by any of our agents or employees.

DEFINITION OF SYMBOLS

Recorder Depth 1618 ft. Subsea depth ft. Ticket No. 2056 Hour Recorder No. 7949

t_o = 5 Mins. Initial Shut-In Pressure				Second Flow Pressure		t_o = 55 Mins. Final Shut-In Pressure			
Time, Min. Ø	$\frac{t_o + Ø}{Ø}$	PSIG	PSIG² ÷10⁶ (Gas)	Time Defl. .000"	PSIG	Time, Min. Ø	$\frac{t_o + Ø}{Ø}$	PSIG	PSIG² ÷10⁶ (Gas)
0	-----	148				0	------	521	
5	2.000	683				5	8.000	683	
10	1.500	684				10	4.500	683	
15	1.333	684				15	3.333	684	
20	1.250	687				20	2.750	684	
25	1.200	688				25	2.400	685	
30	1.167	689				30	2.167	685	
35	1.143	689				35	2.000	687	
40	1.125	690				40	1.875	688	
45	1.111	690				45	1.778	688	
50	1.100	690				50	1.700	689	
55	1.091	690				55	1.636	689	
60	1.083	690				60	1.583	689	

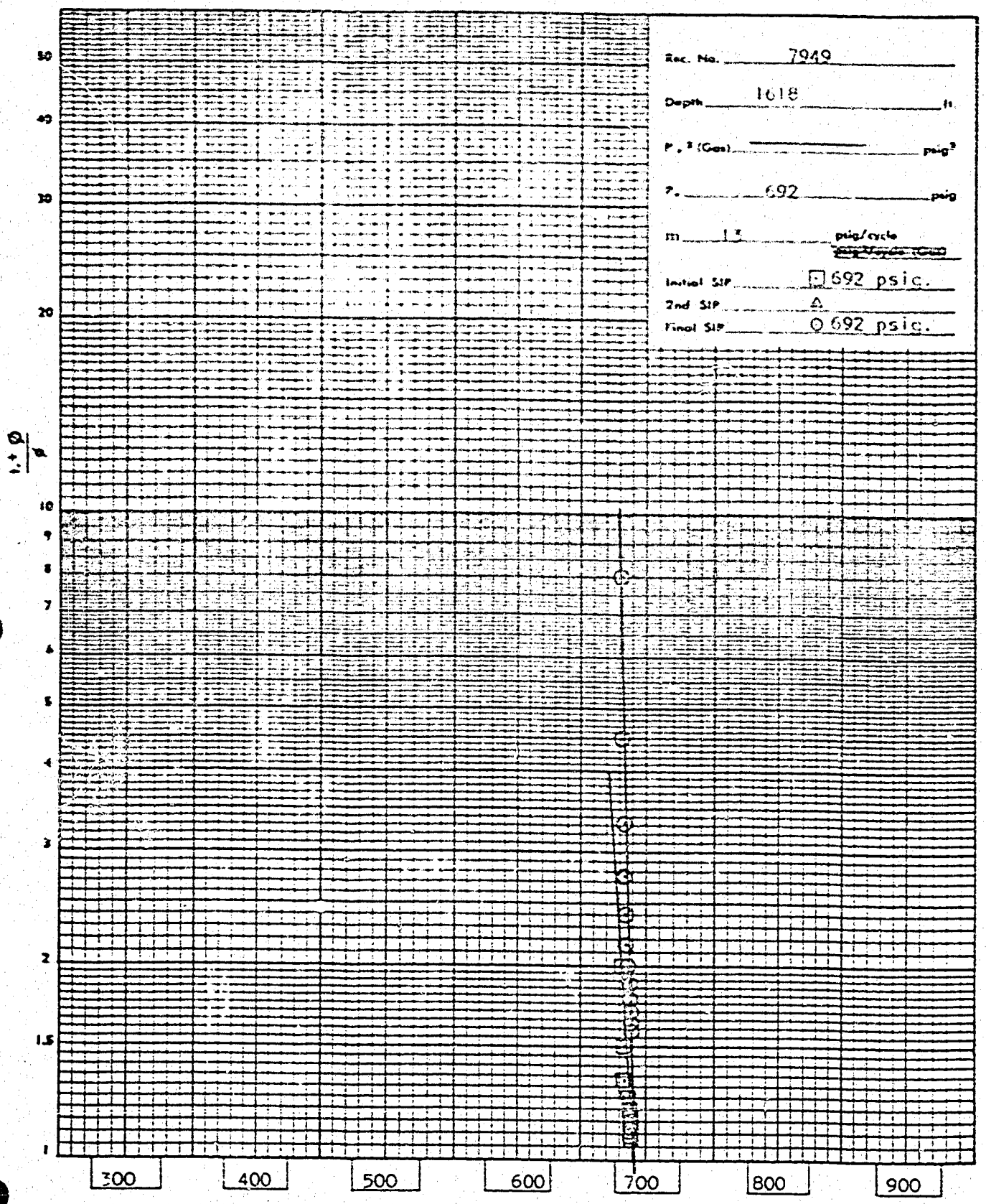
Recorder Depth ft. Subsea depth ft. Ticket No. Hour Recorder No.

t_o = Mins. Initial Shut-In Pressure				Second Flow Pressure		t_o = Mins. Final Shut-In Pressure			
Time, Min. Ø	$\frac{t_o + Ø}{Ø}$	PSIG	PSIG² ÷10⁶ Ø	Time Defl. .000"	PSIG	Time, Min. Ø	$\frac{t_o + Ø}{Ø}$	PSIG	PSIG² ÷10⁶ (Gas)

Interval of Pressure Readings (Mins.) ISIP 5 2nd Flow Press. FSIP 5

Remarks: DST # 2

PRESSURE DATA



PSIG (OIL OR WATER)

DST # 1

PRESSURE EXTRAPOLATION PLOT

LYNES UNITED SERVICES LTD.

TEST DATA

Test No. 2 Lynes Test 1

Formation: Lone Bay TD 2530 ft

Interval Tested: 1610 ft to 1720 ft

Feet of Net Pay Tested: 110 ft

Type of Test: Inflatable Straddle

Cushion: nil Amount ft

Started in Hole at: 2:00 Hrs Tool Open at: 5:15 Hrs

Pre-Flow: 5 Mins Initial Shut-in: 60 Mins

2nd Flow: Mins Second Shut-in: Mins

Final Flow: 30 Mins Final Shut-in: 60 Mins

Remarks:

Blow: Fair initial puff. Fair air blow, increasing then holding steady until the end of the test.

GENERAL INFORMATION

Company: Gulf Oil Canada Ltd.

Address: 10255 - 124 Street, Edmonton, Alberta

Well Name: Gulf et al Red Knife

Well Number: 61° 27' 15.67 119° 03' 51.15

K.B. Elevation: 70 Sub Sea Elevation

Area: Grimshaw Province: Alberta

Company Rep: Glenn Hannegan

Tester: Joe Hood

Contractor: Tri City Rig No. 4

Ticket No. 2056 Date February 4, 1970

Service Reports To: to - above address

GAS BLOW MEASUREMENTS

Measured with

Time	Surface Choke	Reading Inches	Cubic Feet/Day

MUD AND HOLE DATA

Mud Type: Peltex

Weight: 9 Viscosity: 59 Water Loss

Filter Cake: 2/32" Bottom Hole Temperature

Drill Pipe Size: 4 1/2" XH Weight: 1660

Drill Collars: 4 1/2" H90 ID 2 7/8" Feet Run

Main Hole or Casing Size: 7 7/8"

Rathole or Liner Size: No. of Feet

Bottom Hole Choke Size: 1"

Surface Choke Size: 3/4"

Packer Rubber Size: 7 x 72"

REMARKS

Shut-in pressures suggest excellent permeability within the interval tested.

RECOVERY

TOTAL FLUID RECOVERED 1050 Ft. Consisting of:

120 Ft. of Muddy water

930 Ft. of Muddy salt water

Ft. of

Ft. of

Test was/was not Reverse Circulated

Oil Recovery A.P.I. Water Specific Gravity

Salinity 179,000 PPM

PRESSURE READINGS

	Inside ___ Outside X	Inside ___ Outside X	Inside ___ Outside ___	Inside ___ Outside ___
Recorder No.	2523	7949		
Capacity	1550	3000		
Depth	1618	1618		

NUMBER KEY:

1 - INITIAL HYDROSTATIC	807	810		
2 - PRE-FLOW	146	148		
3 - INITIAL SHUT-IN	687	690		
4a - 2nd INITIAL FLOW				
4b - 2nd FINAL FLOW				
4c - 2nd SHUT-IN				
5 - 3rd INITIAL FLOW	146	148		
6 - FINAL FLOW	519	521		
7 - FINAL SHUT-IN	686	689		
8 - FINAL HYDROSTATIC	804	807		

Gulf Oil Canada Ltd. Company

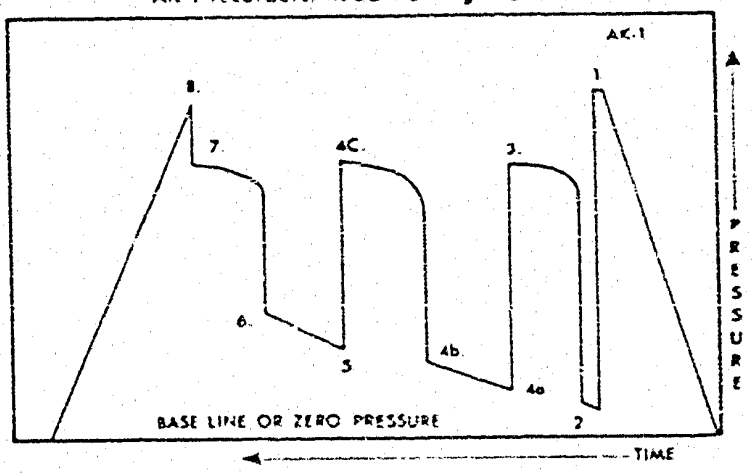
Gulf et al Red Knife 61° 27' 15.67 Well Name and Description 119° 03' 51.15

Test No. 2

February 4, 1970 Date of Test

GUIDE TO INTERPRETATION AND IDENTIFICATION OF LYNES DRILL STEM TEST PRESSURE CHARTS

AK-1 recorders. Read from right to left.

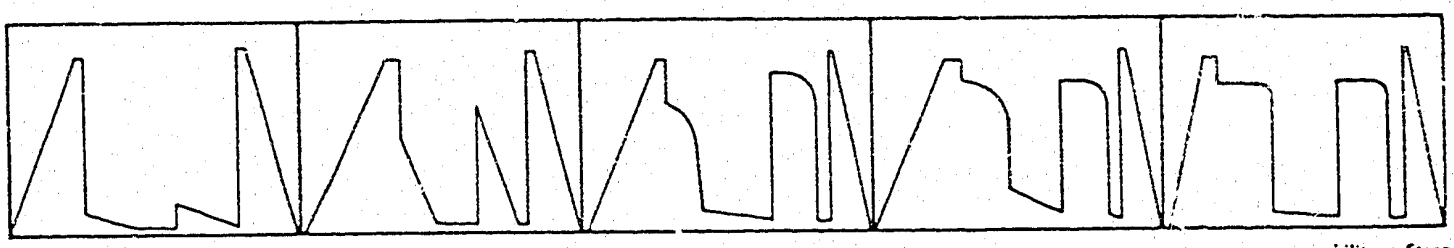


K-3 recorders. Read from left to right.

1. INITIAL HYDROSTATIC MUD PRESSURE
2. PRE-FLOW
3. INITIAL SHUT-IN
4a. 2nd INITIAL FLOW
4b. 2nd FINAL FLOW
4c. 2nd SHUT-IN
5. 3rd INITIAL FLOW
6. FINAL FLOW
7. FINAL SHUT-IN
8. FINAL HYDROSTATIC MUD PRESSURE

N.B. When only two shut-in and flow periods are run, 4a, 4b and 4c are omitted.

Typical charts for visual field analysis ranging from very low to high permeability.



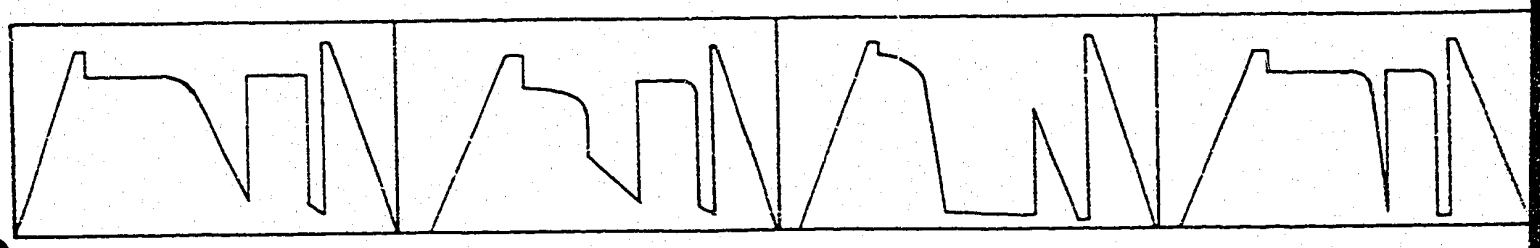
Very low permeability. Usually only mud recovered from interval tested. Virtually no permeability.

Slightly higher permeability. Again usually mud recovered.

Slightly higher permeability. Small recovery, less than 200' ft).

Average permeability. Final and initial shut-ins differ by 50 psi.

Average permeability. Strong damage effect. High shut-in pressure, low flow pressure.

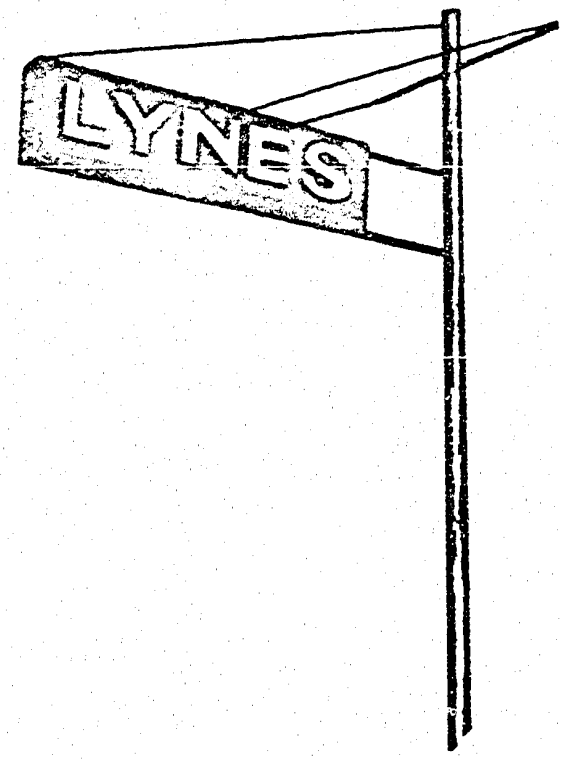


Excellent permeability where final flow final shut-in pressure.

High permeability where ISIP and FSIP are within 10 psi.

Deep well bore invasion or damage. Final shut-in higher than the initial shut-in.

Tight hole chamber tester. Permeability very difficult to interpret unless the recovery is less than chamber length. Flow pressure builds up rapidly if recovery is large, similar to a shut-in.


LYNES

P 13 (1/69)

70-37.

GULF OIL CANADA LIMITED
WATER ANALYSIS REPORT

LEASE Gulf et al Red Knife LOCATION H-28 FIELD Wildcat SAMPLE Sample #4.D.S.T.#2.

SAMPLE DATE February 4, 1970 FORMATION Lonely Bay Limestone INTERVAL DEPTH 1610 FT. TO 1720 FT. KBE 70 FT.

SAMPLE HEIGHT ABOVE TOOL Top of Tool FT. RECOVERY DATA 1050' of water

OTHER DATA

ION	MILLIGRAMS/LITRE CONCENTRATION	PER CENT MILLIGRAM EQUIVALENTS
SODIUM – NA	58,100	40.75
POTASSIUM – K		
CALCIUM – CA	10,707	8.61
MAGNESIUM – MG	480	0.64
SULPHATE – SO_4	3,880	1.30
CHLORIDE – CL	107,808	48.68
BROMIDE – BR		
IODIDE – I		
BICARBONATE – HCO_3	61	0.02
CARBONATE – CO_3		
HYDROXIDE – OH		
TOTAL	181,036	100.00

S. G. @ 60°F. 1.126
pH 7.79
H_2S Negative
RESISTIVITY 0.049 OHM METERS AT 77 °F.

TOTAL DISSOLVED SOLIDS IN MILLIGRAMS/LITRE

AS NACL FROM RES. 170,000
BY EVAPORATION
AFTER IGNITION

ANALYSED BY Ralph L. Eng. RLE
LAB. NO. W-043-70

DATE RECEIVED February 6, 1970
DATE ANALYSED February 10, 1970
DATE DISTRIBUTED February 10, 1970

REMARKS AND CONCLUSIONS Sample #3 Resistivity - 0.058 OM @ 77°F.
Appears to be a formation water similar to Slave Point formation water

P 13 (1/69)

70-36.

GULF OIL CANADA LIMITED
WATER ANALYSIS REPORT

LEASE Gulf et al Red Knife LOCATION H-28 FIELD Wildcat SAMPLE Sample #2 D.S.T.#1

SAMPLE DATE January 27, 1970 FORMATION Lonely Bay Limestone INTERVAL DEPTH 1408 FT. TO 1451 FT. KBE 706 FT.

SAMPLE HEIGHT ABOVE TOOL Top of Tool FT. RECOVERY DATA 240' of water.

OTHER DATA

ION	MILLIGRAMS/LITRE CONCENTRATION	PER CENT MILLIGRAM EQUIVALENTS
SODIUM – NA	51,925	39.91
POTASSIUM – K		
CALCIUM – CA	10,009	8.82
MAGNESIUM – MG	871	1.27
SULPHATE – SO_4	290	0.11
CHLORIDE – CL	107,207	49.87
BROMIDE – BR		
IODIDE – I		
BICARBONATE – HCO_3	75	0.02
CARBONATE – CO_3		
HYDROXIDE – OH		
TOTAL	170,377	100.00

S. G. @ 60°F. 1.122
pH 6.64
H_2S Negative
RESISTIVITY 0.049 OHM METERS AT 77 °F.

TOTAL DISSOLVED SOLIDS IN MILLIGRAMS/LITRE

AS NACL FROM RES. 170,000
BY EVAPORATION 181,700
AFTER IGNITION

ANALYSED BY Ralph L. Eng.
LAB. NO. W-040-70

DATE RECEIVED February 6, 1970
DATE ANALYSED February 11, 1970
DATE DISTRIBUTED February 11, 1970

REMARKS AND CONCLUSIONS Sample #1 Resistivity - 0.420 OM @ 77°F.

Sample appears to be a formation water similar to Slave Point formation water.

March 12, 1970.

GULF OIL CANADA LIMITED

Gulf et al Red Knife H-28

Red Knife (Lat.61°30'N Lat.119°30'W Long.)

Northwest Territories, Canada

March 9, 1970.

CORE DATA SHEET

P-76 (10/64)

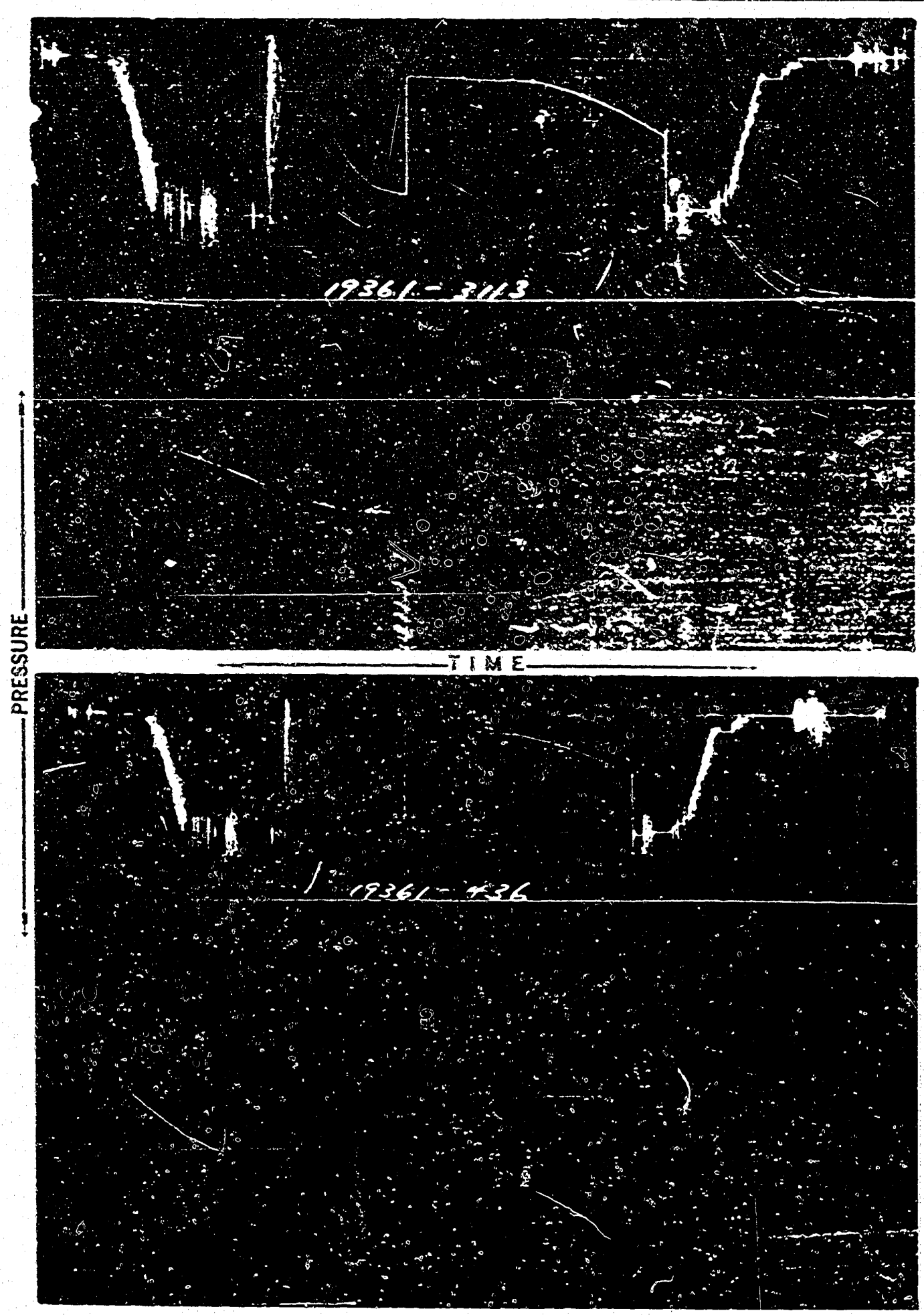
LEASE AND WELL NO. Gulf et al Red Knife H-28

LOCATION

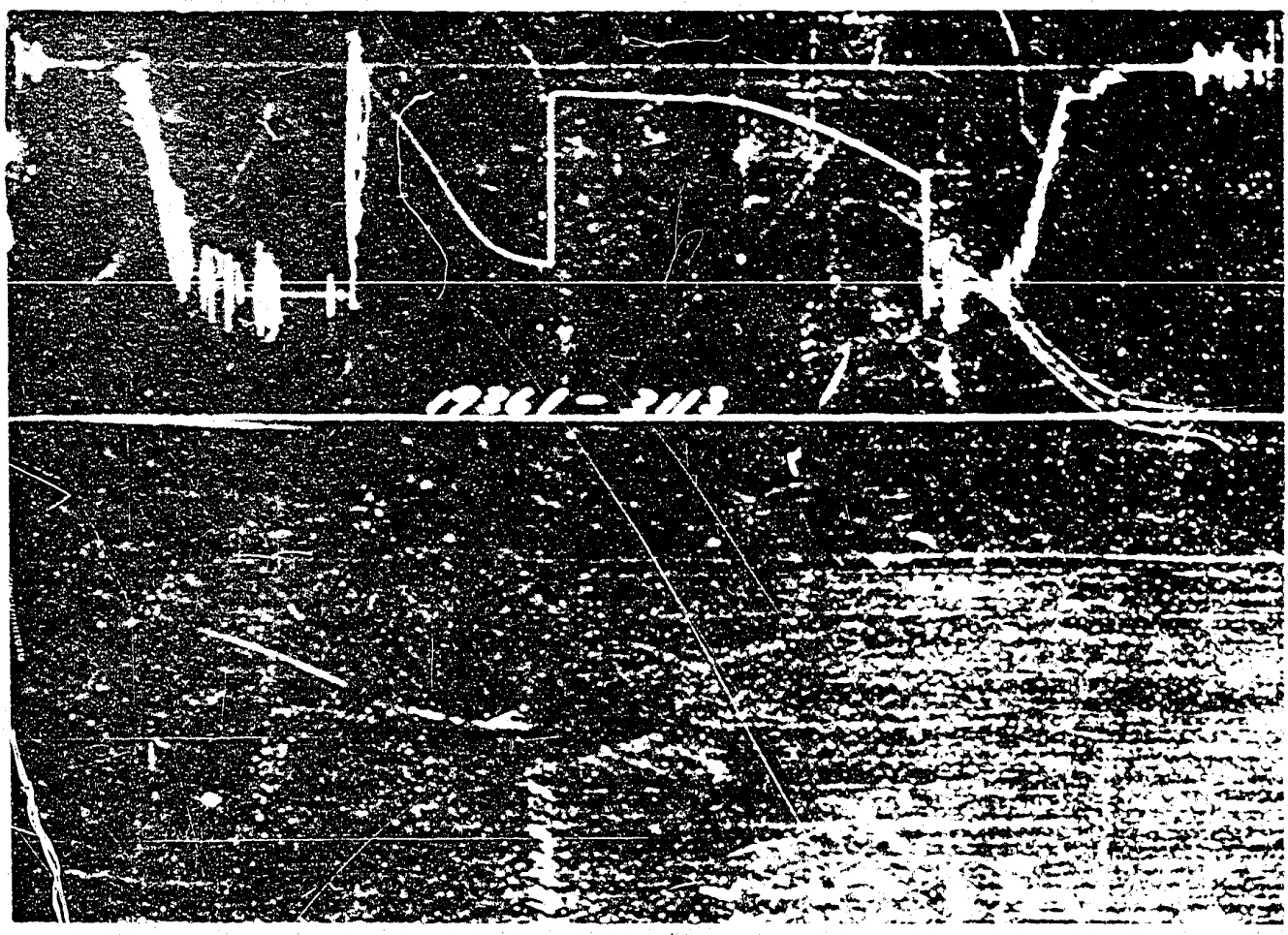
LSD	SEC	TWP	RGE	M

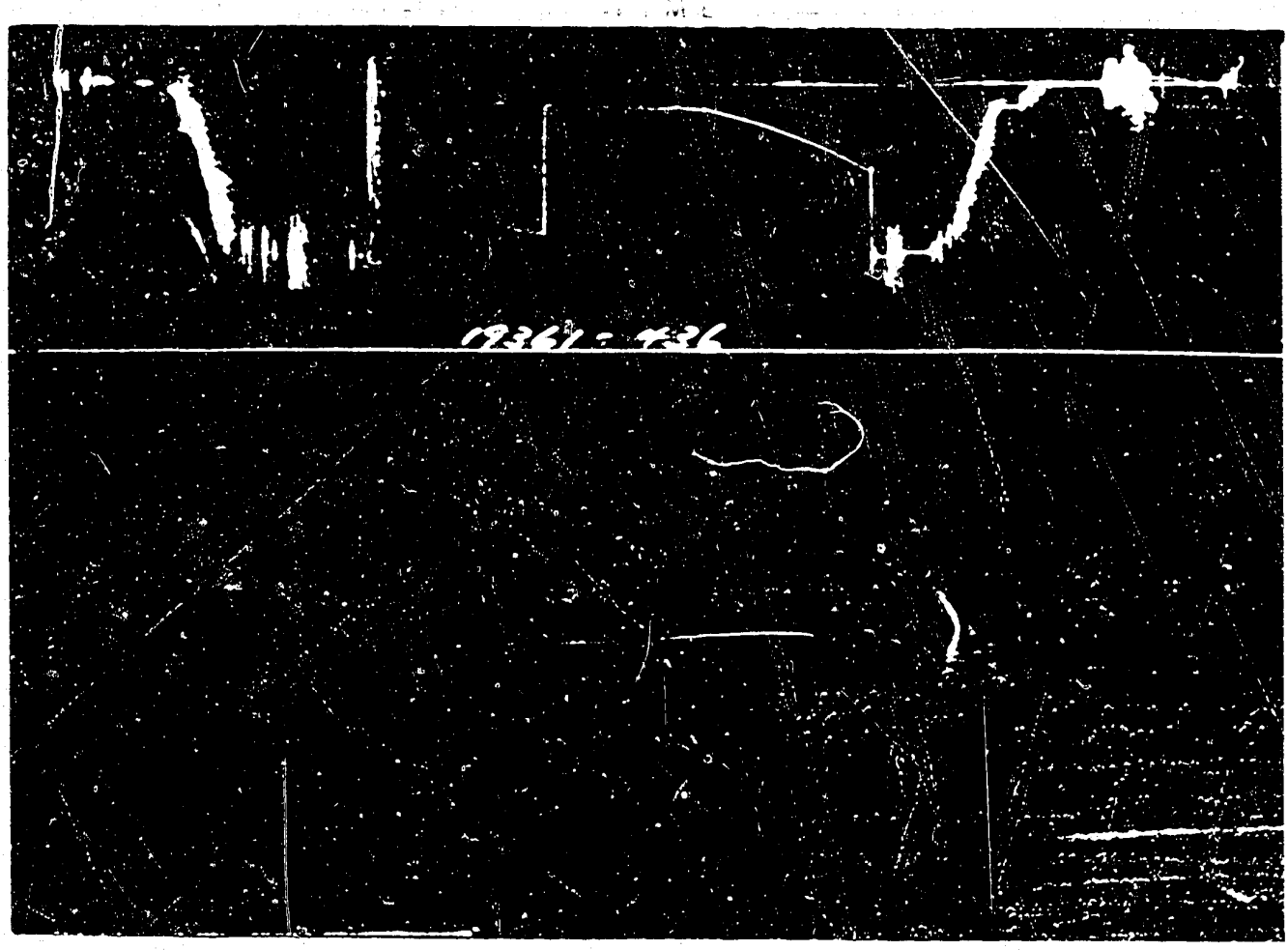
61°30'N lat. 119°30'W long.

SAMPLE NO.	TOP DEPTH FEET	INTERV. REP. FEET	WHOLE CORE POR %	WHOLE CORE PERMEABILITY VERT. md	WHOLE CORE PERMEABILITY 90° md	WHOLE CORE PERMEABILITY MAX. md.	WHOLE CORE PERMEABILITY RAD md	So %	Sw %	POROSITY FEET	SMALL PLUG POR %	SMALL PLUG PERMEABILITY VERT md	SMALL PLUG PERMEABILITY HORIZ. md	Grain Density
Core #1 1411.0 to 1451.0 Recovered 39.3'														
1	1411.0	11.0	1.3	<.01	.36	.53				14.33				2.70
2	1422.0	7.6	2.4	.08	.97	4.2 F				18.24				2.71
3	1429.6	3.0	0.4	<.01	.10	.10				.12				2.69
4	1432.6	2.4	1.7	<.01	3.03 F	3.10 F				4.08				2.69
5	1435.0	1.8	2.4	.20 F	.96	61.0 F				4.32				2.68
6	1436.8	3.2	2.1	43.0 F	150.0 F	370.0 F				6.72				2.70
7	1440.0	2.0	1.1	<.01	.06	.10				2.20				2.70
8	1442.0	1.6	2.2	.43	.59	6.0 F				3.52				2.69
9	1443.6	1.6	.23	.21	1.3	1.7				3.68				2.70
10	1445.2	5.1	2.2	<.01	.31	.35				11.22				2.69
LOSS	1450.3	0.7												

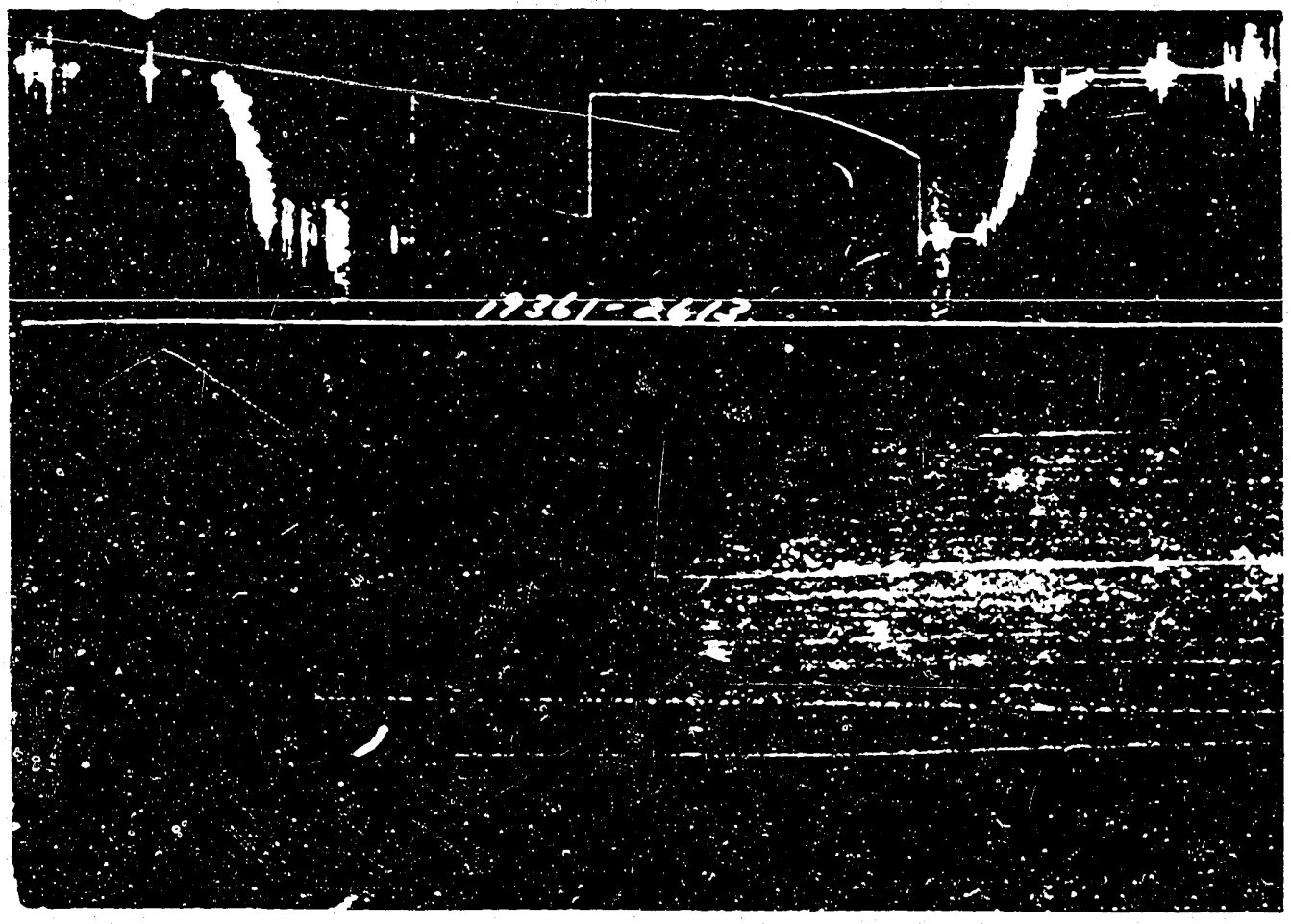


Each Horizontal Line Equal to 1000 p.s.i.





Each Horizontal Line Equal to 1000 p.s.i.



TEMPERATURE RECORD

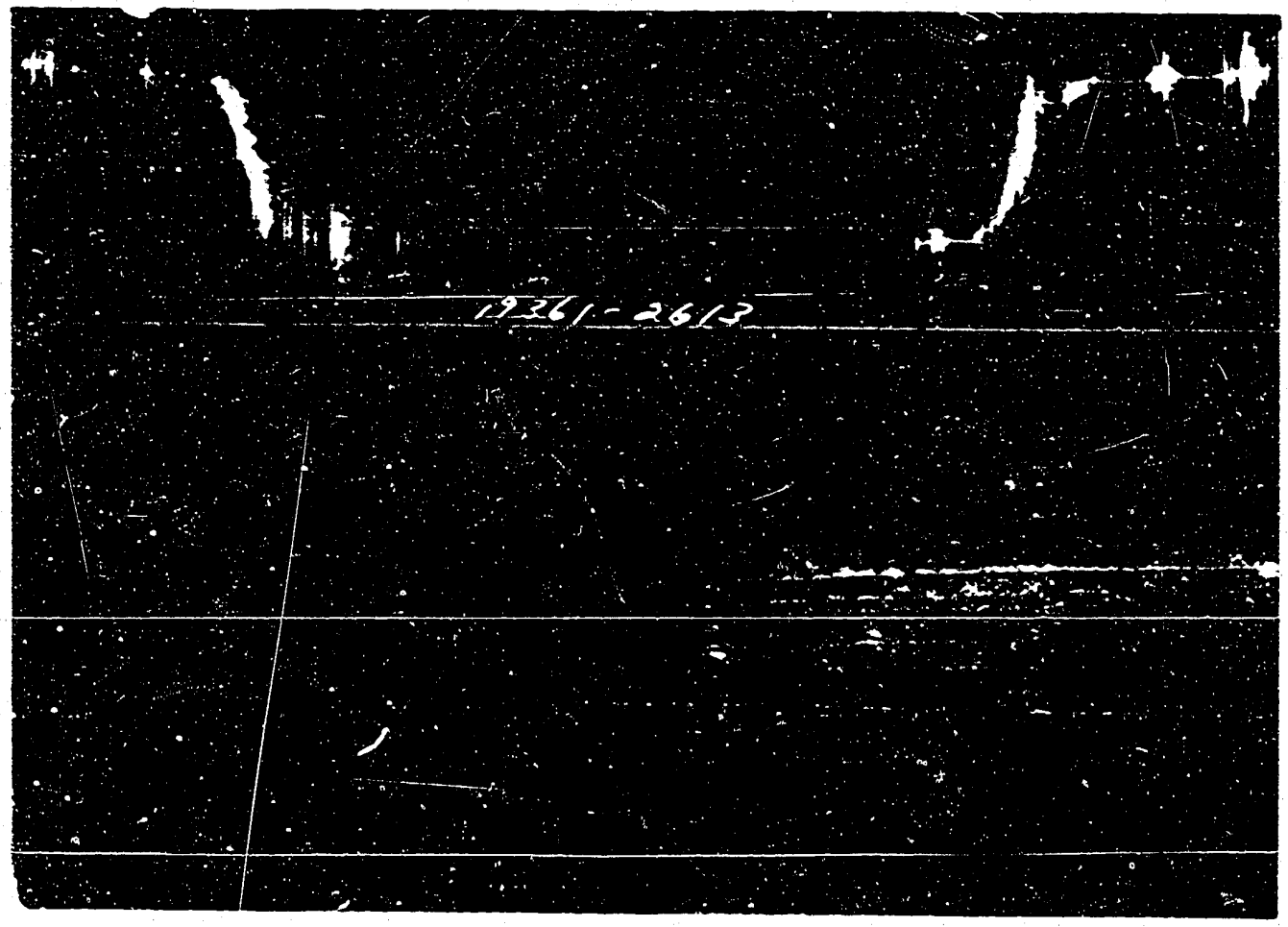
A

B

C MAX F

D 77 F

GULF ET AL REDKNIFE



TEMPERATURE RECORD

Each concentric line equals 10°F.
Temperature increases outwardly

Ticket No T. 19361

Temperature Range °F

70 °F to [illegible] °F

A to B — Initial CIP

B to C — 2nd Flow

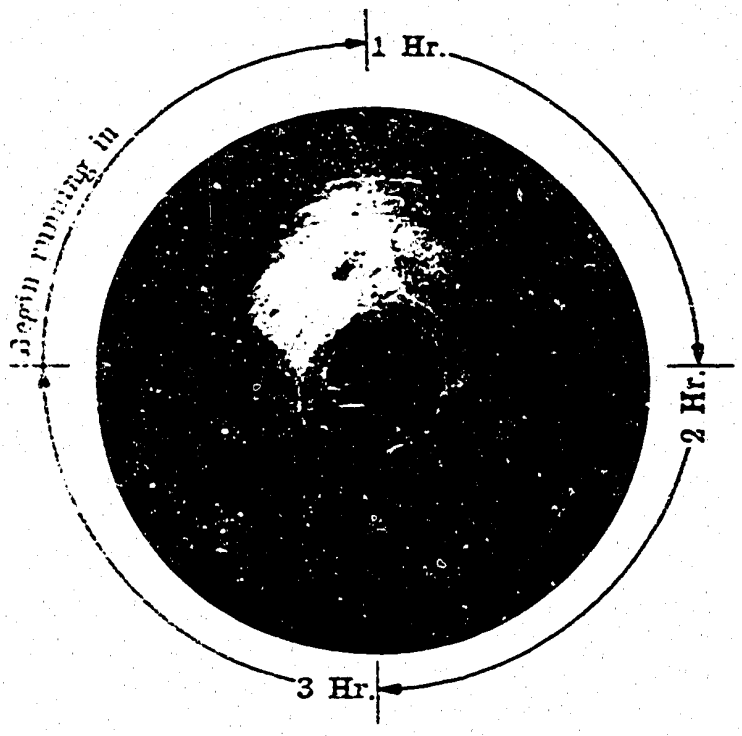
C to D — Final CIP

A ..... °F

B ..... °F

C MAX °F

D 77 °F



HOWCO 521020

Depth Top Gauge 1386 Ft.		Blanked Off No	
BT P.R.D. No. 3113		8695 12 Hr. Clock	
Pressure Readings	Field	Office Corrected	
Initial Hydro Mud Pressure	649	652	
Initial Closed in Pressure	39	562	
Initial Flow Pressure	390	77	
Final Flow Pressure	519	99	
Final Closed in Pressure	325	326	
Final Hydro Mud Pressure	649	645	
Depth Centre Gauge 1392 Ft.		Blanked Off NO	
BT P.R.D. No. 436		2993 12 Hr. Clock	
Pressure Readings	Field	Office Corrected	
Initial Hydro Mud Pressure		648	
Initial Closed in Pressure		563	
Initial Flow Pressure		81	
Final Flow Pressure		103	
Final Closed in Pressure		328	
Final Hydro Mud Pressure		645	
Depth Bottom Gauge 1447 Ft.		Blanked Off Yes	
BT P.R.D. No. 2613		8742 12 Hr. Clock	
Pressure Readings	Field	Office Corrected	
Initial Hydro Mud Pressure		673	
Initial Closed in Pressure		589	
Initial Flow Pressure		105	
Final Flow Pressure		129	
Final Closed in Pressure		352	
Final Hydro Mud Pressure		672	

Date January 27, 1970 | Ticket No. 32-19361

Kind of Job Single Btm. Hol | HOWCO District High Level

Tester B. J. Bauer | Witness G. Hannegan

Contractor Tri City Drilling Co. Ltd.

K B Elevation | Top Packer Depth 1408 | Bottom Packer Depth –

Total Depth 1451 | Casing Perforations Top / Bottom

Interval Tested 1408-1451 | Formation Tested Horn River

Hole Size 7 7/8 | Liner or Rathole Size

Size Surface Choke 1" | Size Bottom Choke 5/8" | Size and Type Well Packer 6 1/2 E.S.

Size Drill Pipe 4 1/2 XH | ID and Length Drill Collars 2 7/8"x254'

Anchor Size I.D. / O.D. 5" | Amount-Type of Cushion 6 1/2" E.S.

Gauge Depth 77 °F mean. / Temp. °F est. | Mud Weight 8.9 | Mud Viscosity 50

All Depths Measured From K.B. | No. Folders Reproduced 18

Time Periods (Minutes): 1st Flow 5 | Initial CIP 60 | 2nd Flow 60 | Final CIP 60

Recovered Feet of

Recovered 180 Feet of Mud

Recovered 60 Feet of Mud Cut Salt Water

Recovered Feet of

Oil Recovery Degrees API | Water Recovery Specific Gravity 1.0486

REMARKS: Tool opened at 10:10 with weak blow for 2 1/2 mins, then died. Shut in at 10:15. Tool open at 11:15. Fair blow throughout flow period. Tool closed at 12:15. Pulled loose at 1:15.

LEGAL DESCRIPTION 61 27 15. 67 119 33' 51.3"

FIELD OR AREA FT. SIMPSON

PROVINCE N.W.T.

Lease Name GULF ET AL REDSNIFE

Well No. H-28

Test No. I

Owner's District CALGARY

Lease Owner GULF OIL CANADA LTD.

FORM 233

DRILL STEM TEST DATA

Gulf Oil Canada Ltd.
Company

Gulf et al. Rad Knife 61° 27' 15.67"
Well Name and Description 1190 31' 51.15"

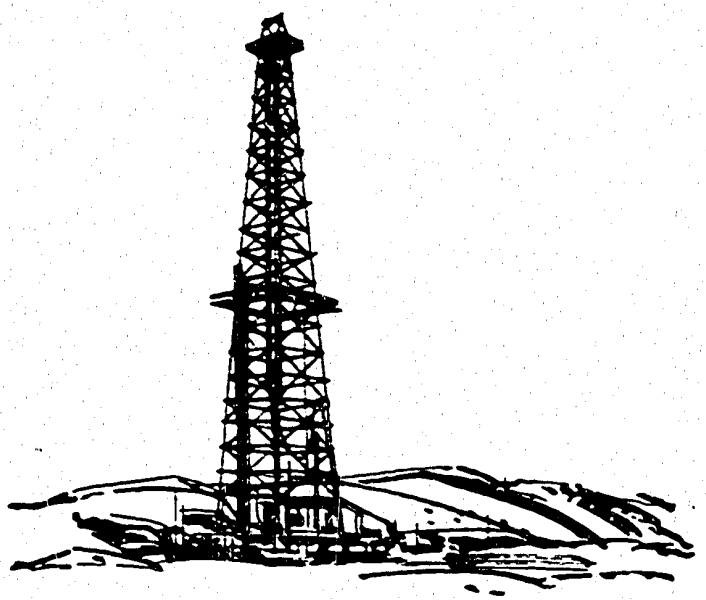
2
Test No.

February 4, 1970
Date of Test

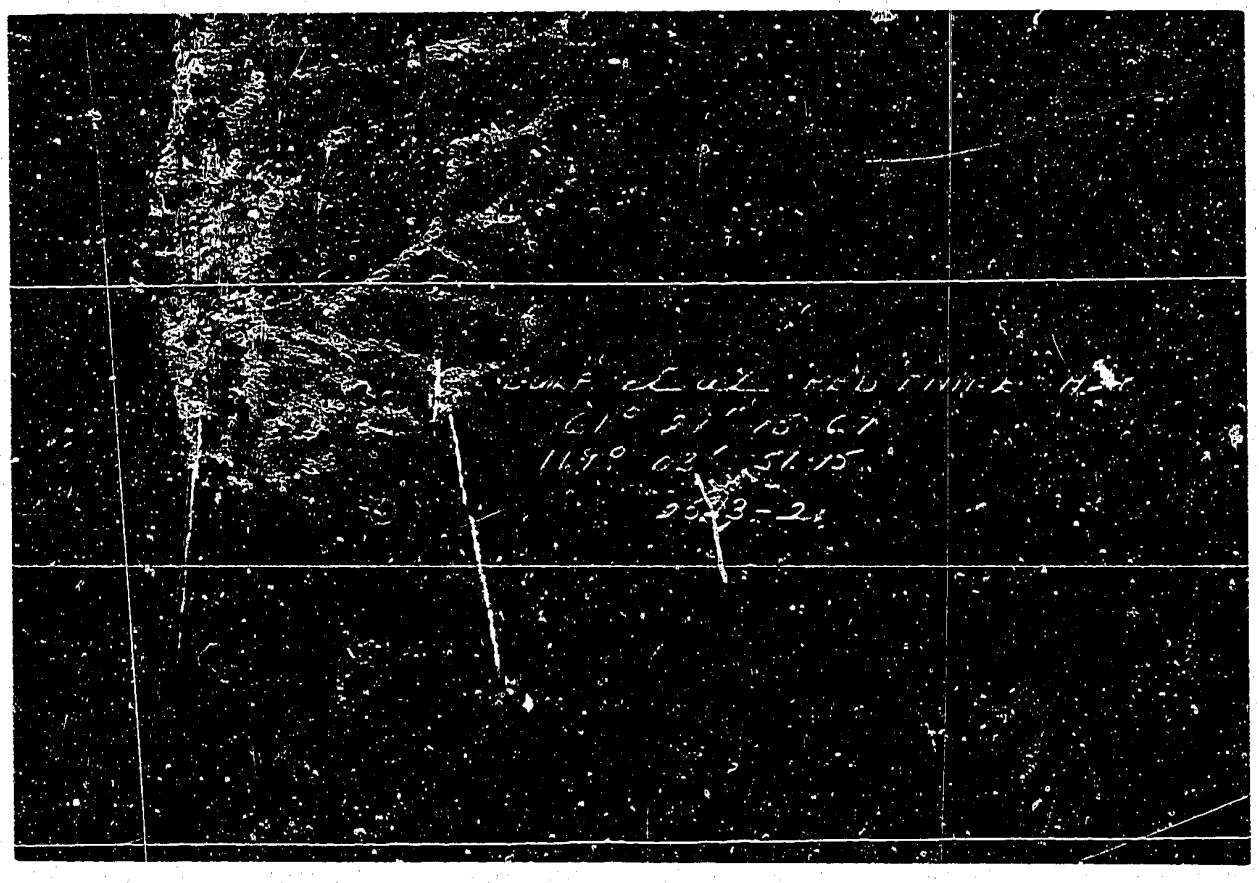
LYNES

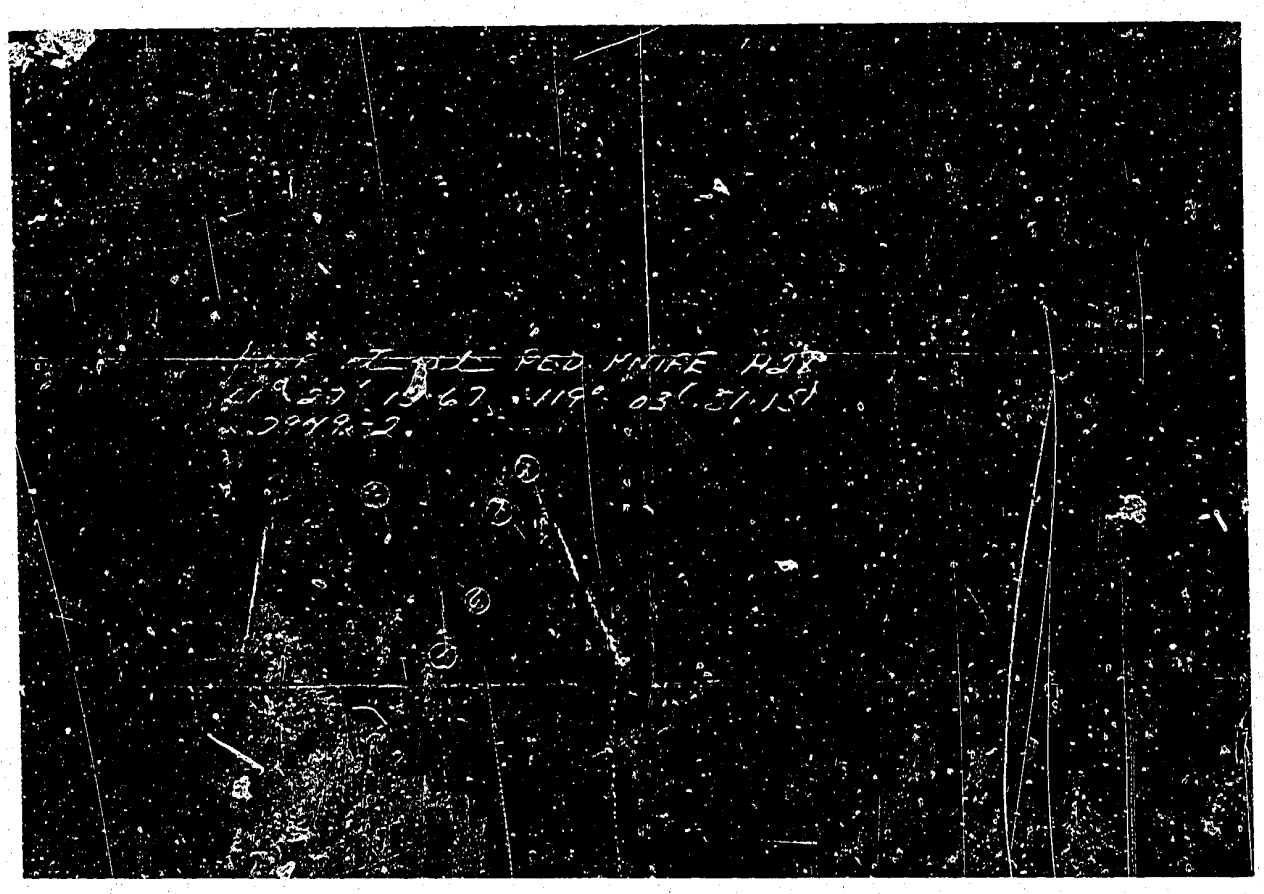
BRIGHT NAME IN THE OIL PATCH

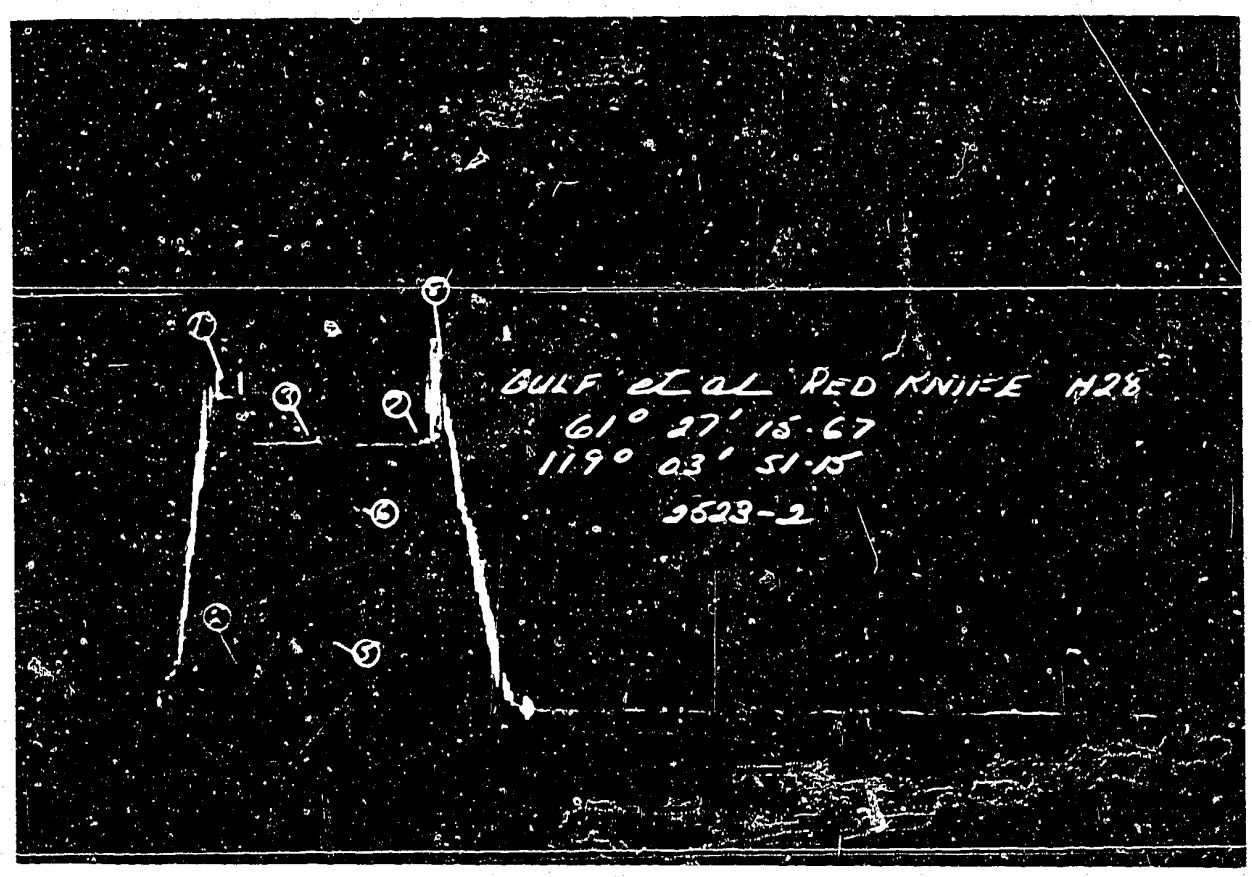
Inflatable and Conventional Packer Tools

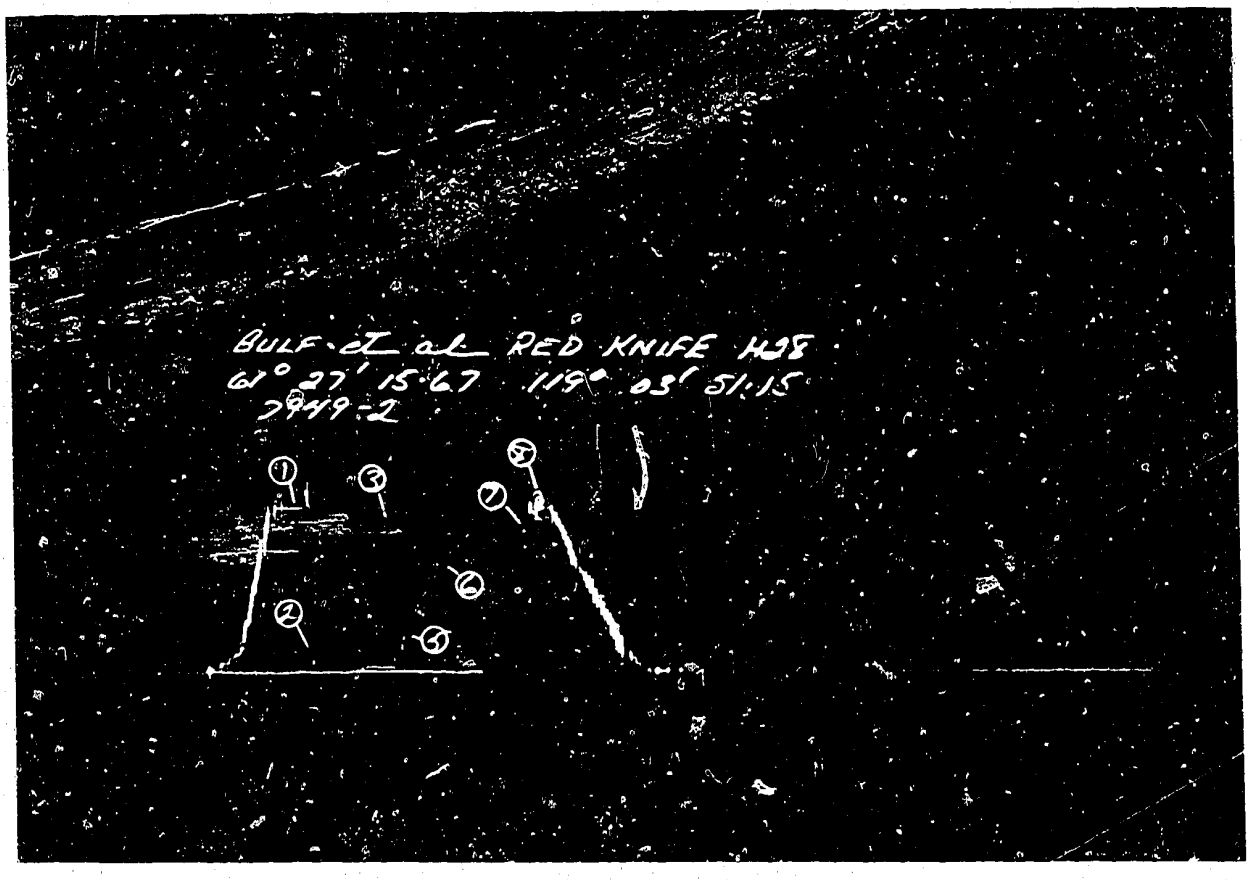


DRILL STEM TEST
TECHNICAL SERVICE REPORT


RED KNIFE HOT
119° 03' 51.15"
3043-2


RED KNIFE HOT
119° 03' 51.15"
3049-2


BULF et al RED KNIFE H28
61° 27' 15.67
119° 03' 51.15
9523-2


BULF et al RED KNIFE H28
61° 27' 15.67 119° 03' 51.15
7949-2

Gulf Oil Canada Ltd.
Gulf et al Red Knife H28 DST # 2

NOMENCLATURE (Definition of Symbols)

Q	=	average production rate during test, bbls./day
Q_g	=	measured gas production rate during test, MCF/day
k	=	permeability, md
h	=	net pay thickness, ft. (when unknown, test interval is chosen)
μ	=	fluid viscosity, centipoise
Z	=	compressibility factor
T_r	=	reservoir temperature, ° Rankine
m	=	slope of final SIP buildup plot, psig/cycle (psig²/cycle for gas)
b	=	approximate radius of investigation, feet
r_w	=	wellbore radius, feet
t_p	=	total flowing time, minutes
P_e	=	Extrapolated maximum reservoir pressure, psig
P_f	=	final flowing pressure, psig
P.I.	=	productivity index, bbls./day/psi
$P.I._a$	=	theoretical productivity index with damage removed, bbl./day/psi
D.R.	=	damage ratio
E.D.R.	=	estimated damage ratio
AOF	=	absolute open flow potential, MCF/D
AOF_a	=	theoretical absolute open flow if damage were removed
Z	=	subsea depth
W	=	water gradient based on salinity
H_w	=	potentiometric surface

In making any interpretation, our employees will give Customer the benefit of their best judgment as to the correct interpretation. Nevertheless, since all interpretations are opinions based on inferences from electrical, mechanical or other measurements, we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not be liable or responsible, except in the case of gross or wilful negligence on our part, for any loss, costs, damages or expenses incurred or sustained by Customer resulting from any interpretation made by any of our agents or employees.

DEFINITION OF SYMBOLS

Recorder Depth 1618 ft. Subsea depth ft. Ticket No. 2036 Hour Recorder No. 7959

t_p = 5 Mins. Initial Shut-In Pressure				Second Flow Pressure		t_p = 35 Mins. Final Shut-In Pressure			
Time, Min. Ø	$\frac{t_p + Ø}{Ø}$	PSIG	PSIG² ÷10⁶ (Gas)	Time Defl. .000"	PSIG	Time, Min. Ø	$\frac{t_p + Ø}{Ø}$	PSIG	PSIG² ÷10⁶ (Gas)
0	------	148				0	------	521	
5	2.000	683				5	8.000	683	
10	1.500	684				10	4.500	683	
15	1.333	684				15	3.333	684	
20	1.250	687				20	2.750	684	
25	1.200	688				25	2.400	685	
30	1.167	689				30	2.167	685	
35	1.143	689				35	2.000	687	
40	1.125	690				40	1.875	688	
45	1.111	690				45	1.778	688	
50	1.100	690				50	1.700	689	
55	1.091	690				55	1.636	689	
60	1.083	690				60	1.583	689	

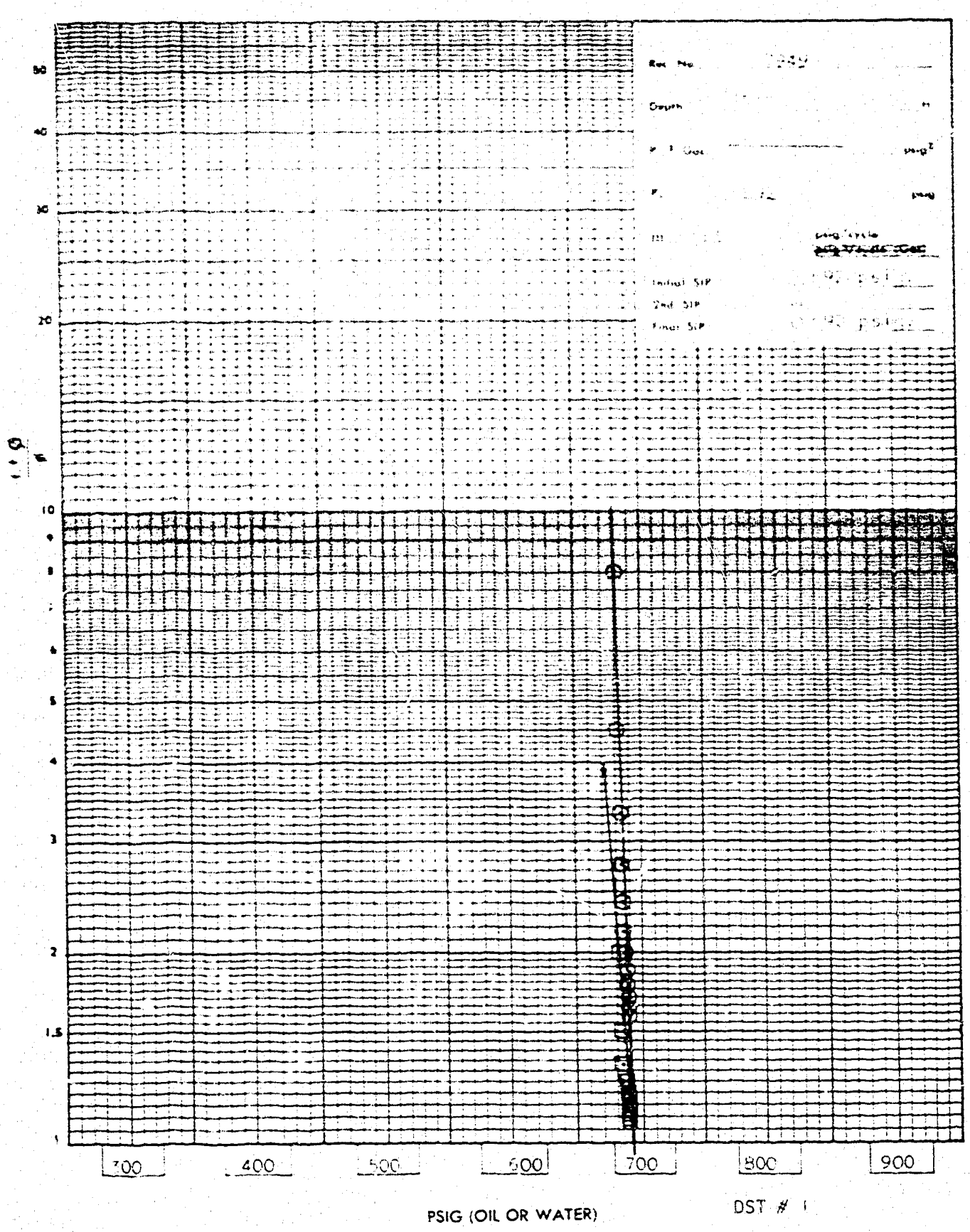
Recorder Depth ft. Subsea depth ft. Ticket No. Hour Recorder No.

t_p = Mins. Initial Shut-In Pressure				Second Flow Pressure		t_p = Mins. Final Shut-In Pressure			
Time, Min. Ø	$\frac{t_p + Ø}{Ø}$	PSIG	PSIG² ÷10⁶ Ø	Time Defl. .000"	PSIG	Time, Min. Ø	$\frac{t_p + Ø}{Ø}$	PSIG	PSIG² ÷10⁶ (Gas)

Interval of Pressure Readings (Mins.) ISIP 5 2nd Flow Press. FSIP 5

Remarks: DST # 2

PRESSURE DATA



PRESSURE EXTRAPOLATION PLOT

LYNES UNITED SERVICES LTD.

TEST DATA

Test No. 2 — Lynes Test 1

Formation: Lone Bay — TD 2330 Ft.

Interval Tested: 1610 Ft. to 1720 Ft.

Feet of Net Pay Tested: 110 Ft.

Type of Test: Inflatable Straddle

Cushion: nil — Amount — Jt.

Started in Hole at: 2:00 Hrs. — Tool Open at: [illegible] Hrs.

Pre-Flow: 5 Mins. — Initial Shut-in: 60 Mins.

2nd Flow: Mins. — Second Shut-in: Mins.

Final Flow: 60 Mins. — Final Shut-in: 60 Mins.

Remarks:

Blow: Fair initial puff. Fair air blow, increasing then holding steady until the end of the test.

GENERAL INFORMATION

Company: Gulf Oil Canada Ltd.

Address: 10235 - 124 Street, Edmonton, Alberta

Well Name: Gulf et al Red Knife

Well Number: 61° 27' 15.6" 119° 05' 51.15

K.B. Elevation: 706 — Sub Sea Elevation:

Area: Grimshaw — Province: Alberta

Company Rep: Glenn Hennegan

Tester: Joe Hoedl

Contractor: Tri City — Rig No. 4

Ticket No. 2036 — Date: February 4, 1970

Service Reports To: to - above address

GAS BLOW MEASUREMENTS

Measured with:

Time	Surface Choke	Reading Inches	Cubic Feet/Day

MUD AND HOLE DATA

Mud Type: Peltex

Weight: 9 — Viscosity: 59 — Water Loss:

Filter Cake: 2/32" — Bottom Hole Temperature:

Drill Pipe Size: 4 1/2" XH — Weight: 1660

Drill Collars: 4 1/2" H90 ID 2 7/8" Feet Run

Main Hole or Casing Size: 7 7/8"

Rathole or Liner Size: — No. of Feet:

Bottom Hole Choke Size: 1"

Surface Choke Size: 3/4"

Packer Rubber Size: 7 x 72"

REMARKS

Shut-in pressures suggest excellent permeability within the interval tested.

RECOVERY

TOTAL FLUID RECOVERED: 1050 Ft. Consisting of:

120 Ft. of Muddy water

930 Ft. of Muddy salt water

Ft. of

Ft. of

Test was/was not Reverse Circulated

Oil Recovery A.P.I.: — Water Specific Gravity:

Salinity: 179,000 PPM

PRESSURE READINGS

	Inside ___ Outside X	Inside ___ Outside X	Inside ___ Outside ___	Inside ___ Outside ___
Recorder No.	2523	7949		
Capacity	1550	3000		
Depth	1618	1618		

NUMBER KEY:

1 - INITIAL HYDROSTATIC	807	810		
2 - PRE-FLOW	146	148		
3 - INITIAL SHUT-IN	687	690		
4a - 2nd INITIAL FLOW				
4b - 2nd FINAL FLOW				
4c - 2nd SHUT-IN				
5 - 3rd INITIAL FLOW	146	148		
6 - FINAL FLOW	519	521		
7 - FINAL SHUT-IN	686	689		
8 - FINAL HYDROSTATIC	804	807		

Company: Gulf Oil Canada Ltd.

Well Name and Description: Gulf et al Red Knife 61° 27' 15.6" 119° 05' 51.15

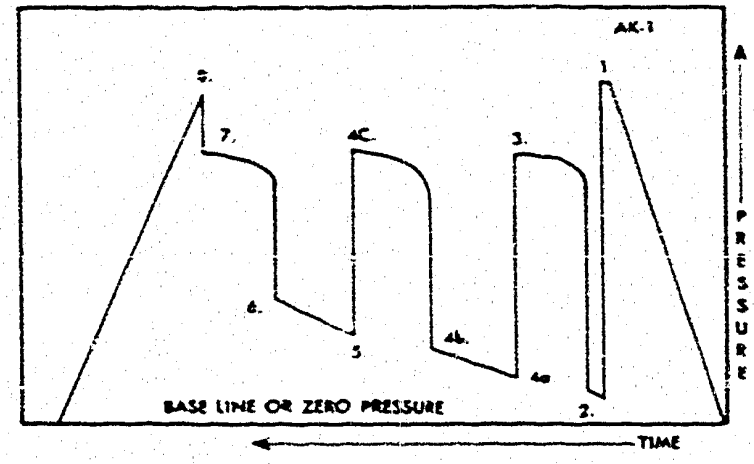
Test No. 2

Date of Test: February 4, 1970

LYNES

GUIDE TO INTERPRETATION AND IDENTIFICATION OF LYNES DRILL STEM TEST PRESSURE CHARTS

AK-1 recorders. Read from right to left.

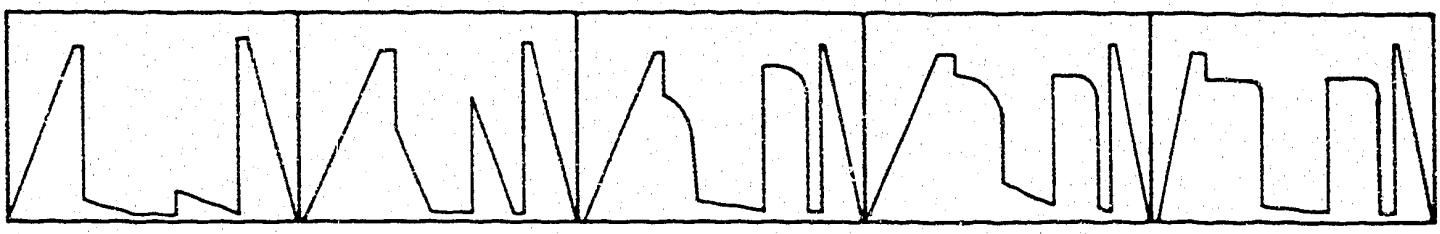


K-3 recorders. Read from left to right.

1. INITIAL HYDROSTATIC MUD PRESSURE
2. PRE-FLOW
3. INITIAL SHUT-IN
4a. 2nd INITIAL FLOW
4b. 2nd FINAL FLOW
4c. 2nd SHUT-IN
5. 3rd INITIAL FLOW
6. FINAL FLOW
7. FINAL SHUT-IN
8. FINAL HYDROSTATIC MUD PRESSURE

N.B. When only two shut-in and flow periods are run, 4a, 4b and 4c are omitted.

Typical charts for visual field analysis ranging from very low to high permeability.



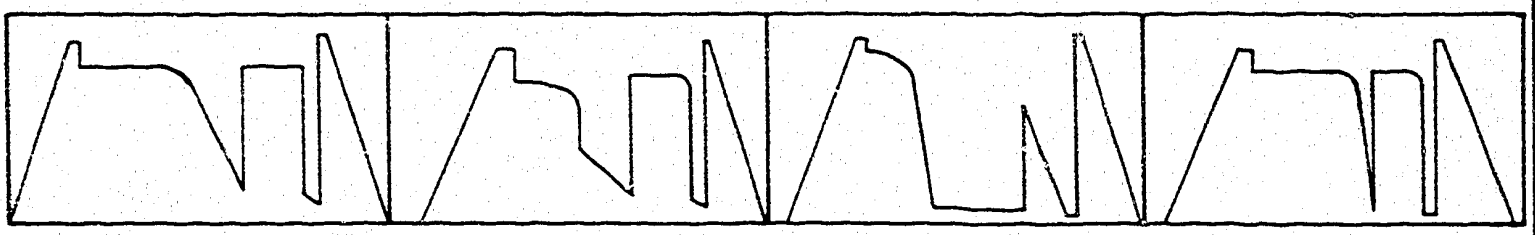
Very low permeability. Usually only mud recovered from interval tested. Virtually no permeability.

Slightly higher permeability. Again usually mud recovered.

Slightly higher permeability. Small recovery, less than 200' ft).

Average permeability. Final and initial shut-ins differ by 50 psi.

Average permeability. Strong damage effect. High shut-in pressure, low flow pressure.

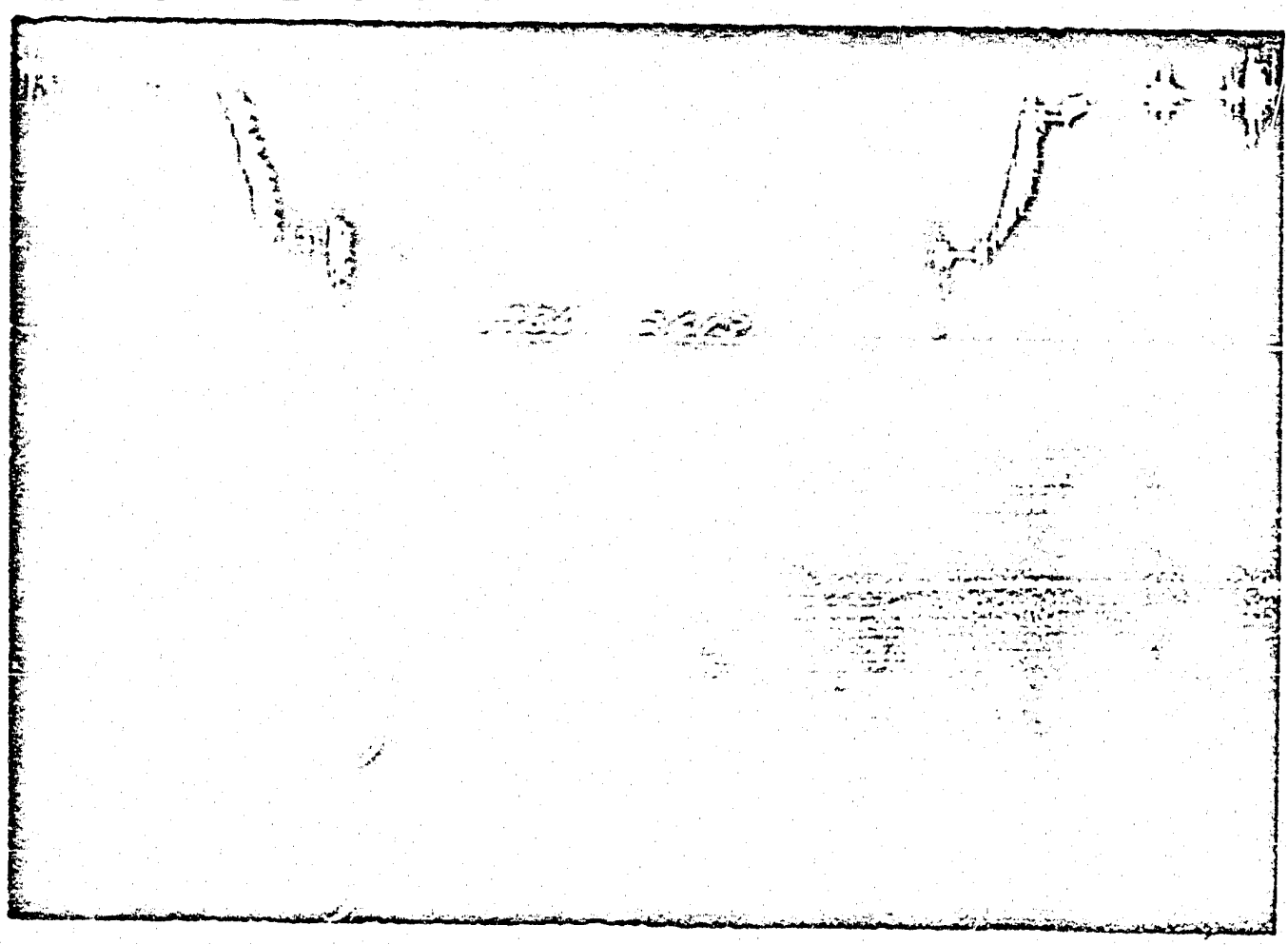


Excellent permeability where final flow final shut-in pressure.

High permeability where ISIP and FSIP are within 10 psi.

Deep well bore invasion or damage. Final shut-in higher than the initial shut-in.

Tight hole chamber tester. Permeability very difficult to interpret unless the recovery is less than chamber length. Flow pressure builds up rapidly if recovery is large, similar to a shut-in.



TEMPERATURE RECORD

Each concentric line equals 10°F.
Temperature increases outwardly

Ticket No T. 19361

Temperature Range °F

70 °F to 176 °F

A to B — Initial CIP

B to C — 2nd Flow

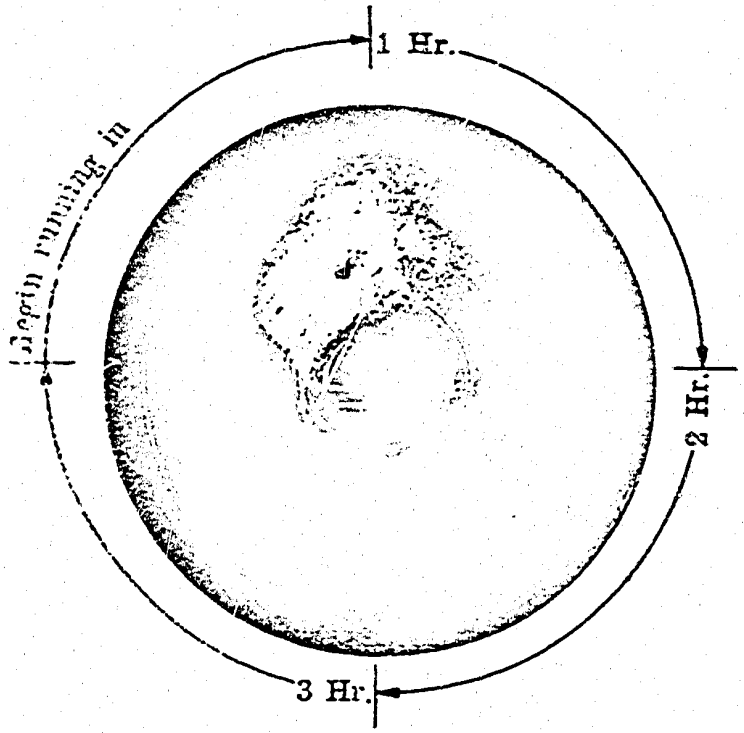
C to D — Final CIP

A ..... °F

B ..... °F

C MAX °F

D 77 °F



HOWCO 521020

WELL PROGRESS REPORT — FIELD

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POST 7 DAYS REPORTS FOR EACH WELL ON ONE SHEET, AND MAIL TO PRODUCTION DEPARTMENT, CALGARY, PROMPTLY. MAKE REPORTS COMPLETE, SUCH AS DESCRIPTION OF CASING . . . SHOW, AS SOON AS KNOWN, NAME OF CONTRACTOR, TYPE OF RIG, AND KIND OF FUEL . . . IN GUIDE MARGIN SHOW CASING (AS. 7"), "CONTRACTOR," "SHOT," "ACIDIZED," ETC.

GUIDE MARGIN	DATE	YEAR 1970 A.F.E. 19041 LEASE Gulf et al Red Knife WELL No. H-28 NWT
	Feb. 6	TD 2330 , Ftg. 0, Precambrian, 7 7/8" hole WOC Plug No. 4 PBTD 555 Days from Spud: 16 Cost to Date $114,607 Waiting on cementer to come from High Level. Started running cement P & A plugs as follows: Ran P & A Plug No. 1 2330' - 2200' Howco with 65 sacks construction cement. Started mixing at 10:12 A.M., February 5. Finished mixing at 10:17 A.M. Started displacement at 10:18 A.M. Plugge down at 10:28 A.M. Displaced with 31 barrels mud. Pulled up and ran plug No. 2 from 2,000 to 1,600 by Howco with 340 sacks construction cement. Started mixing at 10:50 A.M. Finished mixing at 11:08 A.M. Plugged down at 11:15 A.M., February. Displaced with 22 barrels mud. W.O.C. 8 hours. Pull out of hole, laid down surplus drill pipe. Ran back in, felt for plug No. 2 at 7:15 P.M. Found cement at 1,335' with all weight of drill pipe (15 - 20,000 lbs). Pulled up off cement top 5 feet. Broke circulation, washed back down to top of cement plug, pumped 10 barrels fresh water and ran P & A plug No. 3, 1325' - 1250' Howco with 100 sacks of construction cement with 2% $CaCl_2$ added. Started mixing at 7:43 P.M. Finished mixing at 7:50 P.M. Plug displaced at 7:51 P.M. Plug down at 8:00 P.M., February 5. Displaced with 17 barrels water. Pulled out of hole. W.O.C. 8 hours (mud system badly contaminate with cement - dumped all to mud tanks but one). Ran back in and felt for plug No. 3 at 4:00 A.M., February 6. Found cement top at 1060' with all the weight of the drill pipe. Laid down surplus drill pipe while pulling out of hole. Ran back in to 655. Ran P & A Plug No. 4 from 655' to 555' Howco with 75 sacks construction cement with 2% calcium added. Mix at 4:35 A.M. February 6. Finished mixing at 4:40 A.M. Plug was down at 4:45 A.M. February 6. W.O.C. 8 hours. Displaced with 7 barrels water. Time Breakdown: W.O.C. 15 hours, feel for plugs 1 hour, running plugs 4½ hours, wait on cementer 1½ hours, laying down drill pipe 2 hours. Mud Additives: Bi-carb 100#, Sawdust 25 sacks. Temp. -8° Clear, N Wind Reported by Hannegan
	Feb. 7	Depth 2330, Ftg. 0, Precambrian, 7 7/8" hole Tearing out rotary tools PBTD 0 Days from Spud: 17 W.O.C. Plug #4 for 6¾ hours. Felt for Plug #4 at 545'. Layed down drill pipe and BOP's. Cut off casing 3' below ground. Placed 5 sacks cement plug in casing, welded on steel plate. Installed riser with name plate. Rig Released at 4 P.M., 2-6-70.

- - - D R O P - - -

DEPT. OF INDIAN AFFAIRS & NORTHERN DEVELOPMENT
OIL & MINERAL DIVISION
FEB 13 1970
CALGARY 1, ALBERTA
OIL CONSERVATION ENGINEER
Northwest Territories & Yukon Territory

WELL PROGRESS REPORT — FIELD

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POST 7 DAYS REPORTS FOR EACH WELL ON ONE SHEET, AND MAIL TO PRODUCTION DEPARTMENT, CALGARY, PROMPTLY. MAKE REPORTS COMPLETE, SUCH AS DESCRIPTION OF CASING . . . SHOW, AS SOON AS KNOWN, NAME OF CONTRACTOR, TYPE OF RIG, AND KIND OF FUEL . . . IN GUIDE MARGIN SHOW CASING (AS, 7"), "CONTRACTOR," "SHOT," "ACIDIZED," ETC.

GUIDE MARGIN	DATE	YEAR 1970 A.F.E. 19041 LEASE Gulf et al Red Knife WELL No. H-28
	Feb. 4	Continued Pump No. 1, 5½ X 12. Bit No. 7RR,)DV, 7 7/8", 2302 - 2330, Ftg. 28, 3¾ hours, clean out run. Time Breakdown: Logging 22½ hours. Tear out loggers and thaw out rig 1½ hours. Temp. -20° Clear and Calm Reported by Hannegan
	Feb. 5	Depth 2330, Ftg. 0, Precambrian, 7 7/8" hole Circulating hole through open ended drill pipe. Days from Spud: 15 Cost to Date: $108,539 Finished in hole for conditioning. No fill on bottom. Circulated 2¾ hours. Pulled out and picked up testing tools. Ran in for DST #2 as follows. Mud Wt. 9.2, 59, 8.0, 2/32, 9.5. Pump No. 1, SPM 58, 5½ X 12, 500 psi. Bit No. 7, ODVJ, 7 7/8", 2302 - 2330, Ftg. 28, 3¾ hours, clean out. Time Breakdown: Trip 6 hours, Testing 3½ hours, Circulating 3½ hours. Pickup and lay down tools 3½ hours, lay down drill pipe 2¼ hours, waiting on cementer 5¾ hours. Mud Additives: Soda Ash 100#, Peltex 100#, Sawdust 5 sacks. Temp. -12° Clear and Calm Reported by Hannegan
D.S.T. #2		Dated 2-4-70. Ran DST #2 by Lynes United in Lonely Bay Limestone. Interval 1610' to 1720', 7" inflatable straddle packer ½ ss choke no water cushion 5 minute pre-flow 60 minute initial shut-in. Tool open 30 minutes commencing at 4:25 P.M., 2-4-70. 60 minute final shut-in. Fa initial air puff. Increased to strong at end of pre-flow. Died immediately when shut-in. Opened with strong air blow, remaining steady throughout test. No gas to surface. 180' drill collar recovery 870" dri pipe recovery. 1050' fluid recovery - muddy s.w. Salinity 179,000 ppm. Samples taken: 2 - 1 gallon IHSP 809, FHSP 809, IFP 143, FFP 515, ISIP 678, FSIP 678, pre-flow psi 31 Remarks: Test successful. Charts good.

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POST 7 DAYS REPORTS FOR EACH WELL ON ONE SHEET, AND MAIL TO PRODUCTION DEPARTMENT, CALGARY, PROMPTLY. MAKE REPORTS COMPLETE, SUCH AS DESCRIPTION OF CASING . . . SHOW, AS SOON AS KNOWN, NAME OF CONTRACTOR, TYPE OF RIG, AND KIND OF FUEL . . . IN GUIDE MARGIN SHOW CASING (AS, 7"), "CONTRACTOR," "SHOT," "ACIDIZED," ETC.

GUIDE MARGIN	DATE	YEAR 1970 A.F.E. 19041 LEASE Gulf et al Red Knife WELL No. H-28 NWT
	Feb. 2	Continued Mud Wt. 9.2, 40, 10, 2/32, 12.0. Surveys: 2242 - 1½°. RPM 120, Bit Wt. 18,000, String Wt. 59,000. Drilling String: 9 - 6¼" X 2 7/8" H-90 drill collars. Pump No. 1, SPM 48, 5½ X 12, 500 psi. Bit No. 5, M4NGJ, 7 7/8" 2065 - 2150, Ftg. 85, 12 hours, 4-2-I. Bit No. 6, W7, 7 7/8", In 2150, Ftg. 95, 13¼ hours, drilling. Time Breakdown: Drilling 13¼ hours, Trip for Bit 4 hours, Surveys ½ hour, Rig Service ¾ hour. Handling fishing tools 1½ hours, work fish loose 2½ hours, break and reset drill collars 1 hour, cleaning out to bottom ¾ hour. Mud Additives: Gel 1300#, Benex, CMC Reg. Caustic 100#, Peltex 250#, Soda Ash 800#. Temp. -38° Clear and Calm Reported by Hannegan
	Feb. 3	Depth 2330, Ftg. 85, Precambrian, 7 7/8" hole Logging. Rigging up to run density log. Days from Spud: 13 Cost to Date: $90,328 Drilled from 2245' to 2302'. Tripped out for new bit. Hole good, no fill on bottom. Ran in Bit #7. Drilled to 2330 TD. Raised viscosity to 59. Circulated hole ¾ hour. Tripped out strapping drill pipe. 2330 = 2330. No correction. Rigged up Schlumberger, ran DIL, SNP. Rigging up to run BHCGSC. Precambrian Top 2317' - -1611 sub sea. Mud Wt. 9.4, 59, 7.8, 2/32, 9.5. RPM 120, Bit Wt. 18,000, String Wt. 61,000. Drilling String: 9 - 6¼" X 2 7/8" H-90 drill collars. Pump No. 1, SPM 48, 5½ X 12, 500 psi. Bit No. 6, W7, 7 7/8", 2150 - 2302, Ft 152, 23 hours, 5-2-I. Bit No. 7, ODV, 7 7/8", 2302, 2330, Ftg. 28, 3¾ hours, 1-1-I. Time Breakdown: Drilling 14 hours, Trip for Bit 2½ hours, Circulating 1 hour, Logging 5¾ hours, Rig Service ¾ hour. Mud Additives: Gel 700#, Peltex 100#, CMC Reg. 50#, Soda Ash 400#. Temp. -18° Lt. Snow Reported by Hannegan
PRECAMBIAN TOP 2317 - -1611 Sub Sea		
	Feb. 4	Depth 2330, Ftg. 0, Precambrian, 7 7/8" hole Running in hole to conditi for test. Days from Spud: 14 Cost to Date: $100,591 Ran BHCGSC log and FDC log by Schlumberger. Ran dipmeter and velocity survey by same. Complete BHCGSC Total depth to 608' (s.c.) FDC Total Depth to 608' (s.c.) Dipmeter Total Depth to 608' (s.c.) Velocity As Directed Mud Wt. 9.4, 59, 7.8, 2/32, 9.5 Drilling String: 9 - 6" drill collars.

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FOR 7 DAYS REPORTS FOR EACH WELL ON ONE SHEET, AND MAIL TO PRODUCTION DEPARTMENT, CALGARY, PROMPTLY. MAKE REPORTS COMPLETE, SUCH AS DESCRIPTION OF CASING . . . SHOW, AS SOON AS KNOWN, NAME OF CONTRACTOR, TYPE OF RIG, AND KIND OF FUEL . . . IN GUIDE MARGIN SHOW CASING (AS, 7"), "CONTRACTOR," "SHOT," "ACIDIZED," ETC.

GUIDE MARGIN	DATE	YEAR 1970 A.F.E. 19041 LEASE Gulf et al Red Knife WELL No. H-28 NWT
	Jan. 31	Depth 2095, Ftg. 122, Dolomite and Amhyd, 7 7/8" hole Drilling
BEAR ROCK DOLOMITE 1978 - 1272		Days from Spud: 10 Cost to Date: $79,340 Drilling ahead and dumping pits to keep mud weight down. Average penetration 7 fph. Mud Wt. 9.1, 44, 9.8, 2/32, 11.5. Surveys: 1955 - 2½°, 2050 - 1½°. RPM 140, Bit Wt. 18,000, String Wt. 58,000. Drilling String: 10 - 6½" X 2 7/8" H-90 drill collars. Pump No. 1, SPM 60, 5½ X 12, 650 psi. Bit No. 4, M4NGJ, 7 7/8", 1943 - 2065, Ftg. 122, 19 hours, 6-2-1. Bit No. 5, M4NGJ, 7 7/8", In 2065, Ftg. 30, 4½ hours, drilling. Time Breakdown: Drilling 19 hours, Trip for Bit 3 hours, Surveys ¾ hour, Rig Service ¾ hour. Clean mud tanks ½ hour. Mud Additives: Gel 2800#, Benex 12#, Caustic 250#, CMC Reg. 100#, Soda Ash 100#. Temp. -40° Clear and Calm Reported by Hannegan
	Feb. 1	Depth 2150, Ftg. 55, Dolomite and Amhyd, 7 7/8" hole Tripping out to pi[illegible] up overshot and ja[illegible]
		Days from Spud: 11 Cost to Date: $82,232 Drilled to 2150'. Drill collar string parted at root of threads in box on No. 5 drill collar. Leaving 5 - 6½" drill collars and bit in hole. (all collars had been tuboscoped prior to commencement of hole). Called BS & B (Howco) fishing company out of High Level. Mud Wt. 9.2, 39, 8.0, 2/32, 9.5. RPM 120, Bit Wt. 18,000, String Wt. 58,000. Pump No. 1, M4NGJ, 7 7/8", 2065 - 2150, Ftg. 85, 12 hours, pulling. Time Breakdown: Drilling 8 hours, Rig Service ½ hour. Waiting [illegible] fishing tools 15½ hours. Mud Additives: Gel 2200#, Benex 25#, CMC Reg. 150#, Sawdust 200#, Soda Ash 600#. Temp. -60° Clear and Foggy Reported by Hannegan
	Feb. 2	Depth 2245, Ftg. 95, Red Brown Lmst. 7 7/8" hole Drilling
		Days from Spud: 12 Cost to Date: $86,900 Finished out of hole with open end drill pipe, picked up 7½" X 6½" Bowen overshot, set hydraulic jars, bumper sub, and five drill collars. Ran in broke circulation, circulated hole ½ hour. Engaged fish pulled free from 5', 15,000# pull over string weight (66,000#). Worked fish for 2½ hours due to extreme cold temperature. (Most capacity 100,000#). Pipe pulled free. Laid down fish and fishing tools. Ran in with Bit #6. Checking all drill collar joints on way in. 10' soft fill on bottom. Drilling ahead. Strapped drill pipe. Tally 2176.53' Board 2175'.

WELL PROGRESS REPORT — FIELD

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POST 7 DAYS REPORTS FOR EACH WELL ON ONE SHEET, AND MAIL TO PRODUCTION DEPARTMENT, CALGARY, PROMPTLY. MAKE REPORTS COMPLETE, SUCH AS DESCRIPTION OF CASING . . . SHOW, AS SOON AS KNOWN, NAME OF CONTRACTOR, TYPE OF RIG, AND KIND OF FUEL . . . IN GUIDE MARGIN SHOW CASING (AS, 7"), "CONTRACTOR," "SHOT," "ACIDIZED," ETC.

GUIDE MARGIN	DATE	YEAR 1970 A.F.E. 19041 LEASE Gulf et al Red Knife WELL No. H-28 NWT
		DST #1 - Continued Samples taken: 2 - 1 gallon and 1 quart. IHSP 649, FHSP 649, IFP 390, FFP 519, ISIP 39, FSIP 329 Remarks: Hole good and charts good.
	Jan. 29	Depth 1841, Ftg. 248, Dolomite, 7 7/8" hole Drilling Days from Spud: 8 Cost to Date: $72,789 Hole in good condition in base of Lonely Bay limestone. Mud Wt. 9.2, 44, 8.2, 2/32, 9.0. Surveys: 1544 - 2½°, 1576 - 1¾°, 1608 - 2°, 1640 - 1¾°, 1672 - 2°, 1703 - 7/8°, 1798 - 1¾°. RPM 140, Bit Wt. 10 - 12,000, String Wt. 52,000. Drilling String: Same 10 - 6½" drill collars, H-90. Pump No. 1, SPM 60, 5½ X 12, 600 psi. Bit Serial No. 2 3-12" Nozzles. Bit No. 2, M4N, 7 7/8", Ftg. 50', ream. Bit No. 2, M4N, 7 7/8", 1451 - 1672, Ftg. 221, 18¾ hours, 5-2-I. Bit No. 3, X1G, 7 7/8", In 1672, Ftg. 169, 12½ hours, drilling. Time Breakdown: Drilling 19½ hours, Trip for Bit 1½ hours, Surveys 1½ hours, Rig Service ½ hour, dump mud pits 1 hour. Mud Additives: Gel 1500#, Benex 6#, CMC Reg. 100#, Caustic 50#, Sawdust 3 sacks. Temp. -20° Clear, Calm Reported by Hannegan
	Jan. 30	Depth 3066, Ftg. 936, Brazeau, 8¾" hole Drilling Days from Spud: 9 Cost to Date: $81,738 Changed out leaking kelly cock. Pressure tested to 2000 psi. Held okay. Mud Wt. 8.5, 28, Surveys: 2250 - ¾°, 2500 - 1°, 2745 - 1°, 2860 - ¾° TOTCO RPM 85, Bit Wt. 40,000, String Wt. 112,000. Drilling String: Teledrift sub, 18 - 7" drill collars. Pump No. 1, SPM 60, 5½ X 18, 1825 - 2100 psi. Bit Serial No's 1 9-9-10, No. 2 10-10-9. Bit No. 1, XIGJ, 8¾", 2006-2869, Ftg. 863, 3½ hours, running. Time Breakdown: Drilling 20 hours, Trip for Bit 2½ hours. Change kelly cock ½ hours Temp. 35° Overcast Reported by McKerricher

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GUIDE MARGIN	DATE	YEAR 1970 A.F.E. 19041 LEASE Gulf et al Red Knife WELL No. H-28
	Jan. 27	Continued Core No. 1 - 1411' - 1451' 4' poor vugular porosity 8' fractured porosity Gas popping from vugs when pulled. Slight H_2S odor, no oil stain. Mud Wt. 8.9, 50, 8.2, 2/32, 9. RPM Coring 100 Ream 180, Bit Wt. Core 14,0 Ream 4,000, String Wt. 50,000. Drilling String: 10 - 6½" drill collar X 2 7/8" H-90 drill collar. Pump No. 1, SPM 63, 5½ X 12, 650 psi. Bit No. 1 S4, 7 7/8", 605 - 1401, Ftg. 796, 20½ hours. Bit No. 1, Core - diamond, 6 1/8", 1411 - 1451, 7½ hours - Good. Bit No. 2, M4M, 7 7/8", 1411 - 1451. Ftg. 40, 2½ hours - pulling. Time Breakdown: Drilling ¾ hour, Coring 7½ hours, Trip for Bit 5½ hours, Circulating 1 hour, Rig Service ¾ hour. Drai mud tanks 1 hour, mix mud 2½ hours, Pick up core barrel 2 hours. Recover core 1 hour, ream core hole 2½ hours. Mud Additives: Gel 4500#, Benex 4#. Temp. -12° Clear Reported by Hannegan
	Jan. 28	Depth 1593, Ftg. 142, Limestone, 7 7/8" hole Drilling Days from Spud: 7 Cost to Date: $69,962 Finished out of hole for DST. Picked up testing tools to run in for DST #1. Layed down testing tools and core barrel. Ran in with Bit #2 and drilling ahead with light weight due to deviation. Drilled very rough from 1451' to 1550' due to fractures. Mud Wt. 8.9, 47, 8.8, 2/32, 9. Surveys: 1482 - 2½°, 1544-2½°, 1576 - 1½°. RPM 140, Bit Wt. 6 - 10,000, String Wt. 54,000. Drilling String: 10 - 6½ X 2 7/8 H-90 drill collars. Pump No. 1, SPM 59, 5½ X 12, 650 psi. Bit Serial No: 12-12-12. Bit No. 2, M4NJ, 7 7/8", 1411 - 1451, Ftg. 40, 2½ hours - reaming. Bit No. 2, M4NJ, 7 7/8", In 1451, Ftg. 142, 10 hours drilling. Time Breakdown: Drilling 10 hours, Trip for Bit 3½ hours, Surveys ¾ hour, Testing 8¾ hours, Rig Service ¾ hour, lay down core barrel 1 hour. Temp. -20° Clear Reported by Hannegan
D.S.T. #1		Dated: 1-27-70. Ran DST #1 by Howco in Horn Plateau Reef. Interval 1408' - 1451', 6½" bottom hole packer 5/8 ss choke 0 water cushion 5 minute pre-flow 60 minute initial shut-in. Tool open 40 minutes commencing at 11:15 A.M., 1-27-70. 60 minute final shut-in. Good initial air puff WAB for 2½ minutes and died on pre-flow. Moderate air blow. Steady throughout test. No gas to surface. 120' of 2 7/8" I.D. drill collar and 120' 4½" drill pipe. Top 180' drilling mud. No gas or oil visible. Next 60' mud out salt water - 70,000 ppm.

WELL PROGRESS REPORT — FIELD

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GUIDE MARGIN	DATE	YEAR 1970 A.F.E. 19041 LEASE Gulf et al Red Knife WELL No. H-28
	Jan. 25	Depth 758, Ftg. 153, Shale, 7 7/8" hole Trip out to clear drill collar rubber plug. Days from Spud: 4 Cost to Date: $56,639 W.O.C. Nipple up BOP's and cellar. Installed choke manifold and flare lines. Pressured up on manifold to 100 psi, no leaks. Left diesel in line Pressured up on blind rams to 1000 psi for 15 minutes. Okay. Ran in new bit. Top of cement at 571'. Pressured up on 4½" pipe rams and hydril to 1000 psi for 15 minutes. Held okay. Checked motor shut offs. Okay. Held BOP drill with crew. Drilled out cement and plug. Drilling new formation at 3:30 A.M. Shoe at 605'. Drilled to 758' when pressure built up. Tripped out to remove rubber ring from drill collar. Mud Wt. - Water, RPM 160, Bit Wt. 18,000, String Wt. 40,000. Drilling String: 10 - 6¾" X 2 7/8" X H drill collar. Pump No. 1, SPM 75, 5½ X 12, 800 psi. Bit No. 1, S4, 7 7/8", In 605, Ftg. 153, 2¾ hours - drilling. Time Breakdown: Drilling 2¾ hours, Trip for Bit 1¼ hour, Rig Service ¼ hour, W.O.C. 18 hours. Press. BOP 1 hour, clean suction tank ½ hour. Mud Additives: SAPP 50#, Bi-carb 200#. Temp - 15° Clear, Calm Reported by Hannegan
	Jan. 26	Depth 1401, Ftg. 642, Limestone (Horn R.), 7 7/8" hole Tripping out to clean tanks and mix mud. Preparing to core.
HORN R. SH HORN R. LMST	1360' 1385'	Days from Spud: 5 Cost to Date: $59,202 Drilled 7 7/8" hole to 977'. Ran survey 3½°. Holding back on weight to 3.5M#. Drilled ahead. Mud Wt. 8.7, 30, 977 - 3½°, 1000 - 3½°, 1040 - 3°, 1070 - 3°, 1103 - 2¾°, 1135 - 2¾°, 1166 - 2½°, 1198 - 2¼°, 1229 - 2°, 1261 - 1¾°, 1387 - 2°. RPM 170 - 140, Bit Wt. 5,000. Drilling String: 10 - 6¾" X 2 7/8" (H-90) drill collar.. Pump No. 1, SPM 74, 5½ X 12, 700 psi. Bit No. 1, S4, 7 7/8", 605 - 1401, 796 Ftg. 20¼ hours. Time Breakdown: Drilling 18¾ hours Trip for Bit ¾ hour, Surveys 4 hours, BOP and Rig Service ¾ hour. Temp. -10° Slt. Overcast Reported by Hannegan
	Jan. 27	Depth 1451, Ftg. 50, Reef, 7 7/8" - 6 1/8" hole Pulling out to Run DST #1 Days from Spud: 6 Cost to Date: $63,069 Cleaned out mud tanks with water, mixed gel to 50 viscosity (Benex). Ran in with bit No. 1 - rerun. Conditoned mud to hole. Drilled 1401' to 1411 Pulled out, picked up core barrel - 6 1/8" hole from 1411' - 1451'. Jammed at 1451'. Pulled out and recovered 40 feet of core. Ran in with Bit No. Drilled 6 1/8" core hole to 7 7/8" ie: 1411' to 1451'. Circulating and pulling out to test.

WELL PROGRESS REPORT — FIELD

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POST 7 DAYS REPORTS FOR EACH WELL ON ONE SHEET, AND MAIL TO PRODUCTION DEPARTMENT, CALGARY, PROMPTLY. MAKE REPORTS COMPLETE, SUCH AS DESCRIPTION OF CASING . . . SHOW, AS SOON AS KNOWN, NAME OF CONTRACTOR, TYPE OF RIG, AND KIND OF FUEL . . . IN GUIDE MARGIN SHOW CASING (AS, 7"), "CONTRACTOR," "SHOT," "ACIDIZED," ETC.

GUIDE MARGIN	DATE	YEAR 1970 A.F.E. 19041 LEASE Gulf et al Red Knife WELL No. H-28
	Jan. 24	Depth 605, Ftg. 35, Ft. Simpson Shale, 12¼" hole W.O.C. Days from Spud: 3 Finished repairing hand throttle. Attempted to drill ahead. Bit was balled up. Tripped out and cleaned bit 12' fill on bottom. Drilled from 570' to 605'. Raised viscosity to 100. Circulated hole for ½ hour and pulled out. Rigged up to run casing as follows. Mud Wt. 9.1, 100, 600 - ¾°. RPM 160, Bit Wt. 16,000, String Wt. 44,000. Drilling String: Same 10 - 6¼" X 2 7/8" X H drill collars. Pump No. 1, SPM 75, 5½ X 12, 200 psi. Bit No. 2A, S4, 12¼", 570 - 605, Ftg. 35, 1¾ hours, 1-1-1. Time Breakdown: Drilling 2 hours, Trip for Bit 2½ hours Surveys ¼ hour, Circulating Hole 2¼ hours, W.O.C. 9 hours, Run Casing 4½ hours. Hand throttle 1 hour, rig to run casing 1 hour, circulate casing 1 hour, cementing ½ hour. Mud Additives: Gel 1500#, Lime 25#, Caustic 5[illegible] Benex 4#, Sawdust 1 sack. Temp. -4° Overcast Reported by Hannegan
9 5/8" SURFACE CASING		Date: 1-23-70. Casing Bowl: Size 10 Series 900 Type - Welded. Ran 20 joi[illegible] 9 5/8" O.D. casing set at 605' (613' by pipe tally) as follows: 20 joints 9 5/8" O.D. 36# 8rd Thd. Grade J-55 Class A 618.86' Total Tally 618.86' Cut Off 16.70' Net Tally 602.16' Ground Elevation 694' Changed 0' Distance Ground to K.B. 11.50'. Dist. 'H' 11.50'. K.B. Elevation 705.5'. Ran 3 centralizers (TOPCO) on bottom 150'. Ran first and second wiper plugs: used float shoe (Larkin) and Float Collar (Larkin). Circulated mud 1 hour after pipe on bottom. Circulation rate 235 gals/min. Reciprocated casing in 30' strokes 60 minutes prior to cementing. Reciprocating casing in 20' strokes 10 minute[illegible] while cementing. Pumped 10 barrels of water ahead of cement. Cemented by Howco with 300 sacks Oilwell cement with 2% $CaCl_2$. Started to mix cement at 7:50 P.M. Finished mixing cement at 8:07 P.M. Plug down at 8:20 P.M., 1-23-70. Maximum pumping pressure 300 psi. Pumped plug to 574' with 44 barrels of water. Average slurry weight 15.4#/Gal. Average displacement 4 barrels/minute. Cement circulated 120 sacks. Number of samples taken: 4 Witnessed by Carroll for Contractor and Hannegan for Gulf. Surplus: 3 joints and cut off 87.3' plus 16.7' on H.O. #GWH5. Remarks: Hole condition in good shape.

WELL PROGRESS REPORT — FIELD

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GUIDE MARGIN	DATE	YEAR 1970 A.F.E. 19041 LEASE Gulf et al Red Knife WELL NO. H-28 NWT
CO-ORDINATES		Lat. 61°27'15.67" North, Long. 119°03'51.15" West
	Jan. 22	Depth 236, Ftg. 236, Shale and Sandstone, 12¼" hole, Drilling Tri-City Rig #4 from Edmonton Area
SPUDDED		Days from Spud: 1 Spudded at 7:15 P.M., January 21, 1970
		Visc. 42, 95 - ¼°, 208 - ¼°. RPM 180, Bit Wt. 12,000, String Wt. 24,000. Drilling String: 7 - 6¼ X 2 7/8" drill collars (X-hole). Pump No. k, SPM 75, 5½ X 12, 100 psi. Bit Serial No 87293. Bit No. 1A, S4JR, 12¼", In 0, Ftg. 236, 10 hours - drilling. Time Breakdown: Drilling 10 hours, Surveys ½ hour, Rig Service ½ hour, rathole 4½ hours, rig up 6½ hours. Mud Additives: Gel 1000#, Lime 50#, Caustic 50#.
		Temp. -10° Overcast Reported by Hannegan
	Jan. 23	Depth 570, Ftg. 334, Simpson Sh., 12¼" hole Repairing hand throttle on draw-works.
		Days from Spud: 2 Cost to Date: $45,494 Drilled form 236 to 291'. Ran low on water. Waited 6 hours for water truck. Trip out. Trip good. Drilled to 570'. Dummy tripped. Straped out okay. Tripped in. Hit fill at 380' to bottom. Balled bit up and had to trip out. Ran in with new bit. Had 20' fill on bottom. Cleaned out to bottom and broke hand throttle.
		Mud Wt. 9.1, 43, 320 - ½°, 414 - ¼°, 538 - 7/8°. RPM 180, Bit Wt. 16,000, String Wt. 34,000. Drilling String: 10 - 6¼ X 2 7/8" X H drill collar. Pump No. 1, SPM 75, 5½ X 12, 200 psi. Bit Serial No's 87293 Retip #2 904417 New. Bit No. 1A, S4, 12¼", 0 - 570, Ftg. 570, 20¼ hours - 6-6-1. Bit No. 2A, S4, 12¼", In 570. Time Breakdown: Drilling 10½ hours, Trip 2½ hours, Surveys ½ hour, Rig Service ½ hour. Waiting on water 6 hours, mix mud ½ hour, clean to bottom 3¼ hours, waiting on hand throttle ¼ hour.
		Temp. 0° Overcast Reported by Hannegan

P95 (1-69)

DRILLING CONTRACTOR'S DAILY REPORT

WELL NO. [illegible] LEASE [illegible] DATE [illegible] 19 [illegible]

SEC. _____ T. _____ R. _____ PROVINCE [illegible] CONTRACTOR [illegible]

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO THE COMPANY ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO THE COMPANY: WITH DRILL PIPE HRS.	WITH DRILL PIPE MIN.	WITHOUT DRILL PIPE HRS.	WITHOUT DRILL PIPE MIN.	OTHER HRS.	OTHER MIN.
[illegible]	[illegible]	[illegible]					

DEVIATION RECORD DEPTH	SURVEY	DEPTH	SURVEY

	HRS	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO THE COMPANY						
DAY WORK PER 24 HOUR DAY						

BIT RECORD

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO	S.P.M.	LINER SIZE	NUMBER AND SIZE DRILL COLLARS

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR [illegible]

CONTRACT DRILLER OR WATCHMAN [illegible]

DEPTH END SECOND TOUR [illegible]

CONTRACT DRILLER OR WATCHMAN [illegible]

DEPTH END THIRD TOUR [illegible]

CONTRACT DRILLER OR WATCHMAN [illegible]

TIME CHARGEABLE TO THE COMPANY IS APPROVED

CONTRACTOR'S REPRESENTATIVE [illegible]

COMPANY'S REPRESENTATIVE

COMPANY FOREMAN OR SUPERINTENDENT [illegible]

P95 (1-69)

DRILLING CONTRACTOR'S DAILY REPORT

WELL NO. [illegible] LEASE [illegible] DATE [illegible] 19[illegible]

SEC. _____ T. _____ R. _____ PROVINCE [illegible] CONTRACTOR [illegible]

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO THE COMPANY ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO THE COMPANY: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
[illegible]	[illegible]	W O C							
[illegible]		Run [illegible] Plug [illegible]							
		Cut [illegible]							
	[illegible]	W O C							
[illegible]									
400	1200	~~Rig out & move loads To~~							
		~~[illegible] location~~							
[illegible]	[illegible]	W O C							
1215	1245	Run & Cell. Plug 4#							
1245	400	Lay Down pipe & Rig out							
400	1200	Rig out & move loads							
		To Next location							
1200	4:00	Tore out Bops Cutt Casing and							
		weld on steel plate							
		Rig Release at 4:Pm Feb-6-1990							

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY

	HRS	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO THE COMPANY						
DAY WORK PER 24 HOUR DAY						

BIT RECORD

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO	S.P.M.	LINER SIZE	NUMBER AND SIZE DRILL COLLARS

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	pH	SAND CONTENT

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR

DEPTH END SECOND TOUR

DEPTH END THIRD TOUR

CONTRACT DRILLER OR WATCHMAN [illegible]

CONTRACT DRILLER OR WATCHMAN

CONTRACT DRILLER OR WATCHMAN [illegible]

TIME CHARGEABLE TO THE COMPANY IS APPROVED

[illegible] Carroll

CONTRACTOR'S REPRESENTATIVE

COMPANY'S REPRESENTATIVE

[illegible]

COMPANY FOREMAN OR SUPERINTENDENT

PS5 (1-69)

DRILLING CONTRACTOR'S DAILY REPORT

WELL NO. H 75 LEASE Gulf of B.C. Strait DATE Feb. 5 & 6 1970

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR Trinity Rig #4

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO THE COMPANY ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO THE COMPANY: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
		Ran P&A plug #1 from 2330-2200 By Hunco with 65 sacks cement. Spot cement starting at 1012 Am Feb 5. Plug down at 1030 Am with 21 bbls mud. Average cement wt. 15.4 lbs/gal. Pulled some					
		Ran P&A plug #2 By Hunco from 2000 to 1850 with 340 sacks construction spot cement. Started mix at 1010 Pm Feb 5. Plug down at 1100 Am with 21 bbls mud. Average cement wt. 15.4 lbs/gal. 1500 psi. 2000 psi. Left for plug #3 at 1100 Pm Feb 5. Found solid cement with all weight of drill pipe at 1225 ft.					
		Back circulate. Pump 2 bbls fresh water ahead of cement. Ran P&A plug #3 from 1325 to 1250' with 100 sacks construction spot cement with 2% calcium added. Started mix at 7:45 Pm Feb 5. Plug down at 8:00 Pm with 17 bbls water. Average slurry wt. 15.6 psig. Wait 8 hrs. Pulled out of hole. Hole partly contaminated with cement.					
		Left for plug #3 at 8:00 Am Feb 6. Found solid cement at 1060' with all weight of drill pipe. Trip down surface. Ran P&A plug #4 from 655-555 By Hunco with 75 sx construction spot cement with 2% calcium added. Started mix at 11:35 Am Feb 6. Plug down at 11:45 Am Feb 6 with 7 bbls water. Wait 8 hrs. Tripping out. Tripping. Left for plug #5 at 1:15 Pm. Found solid cement at 54 ft. Trip down. Pulling 4 drill pipe. Turn out. Back out. Weld. Cut off casing 6' below ground. Install steel cap. Top of casing welded.					

DEPTH	SURVEY	DEPTH	SURVEY
3/4°			

DEVIATION RECORD

Stand Plans and Welded

Rig Released at 4:00 Pm Feb 6-1970

TOTAL TIME CHARGEABLE TO THE COMPANY ON A DAY WORK BASIS FOR 24 HOUR DAY

HRS	MIN.	HRS.	MIN.	HRS.	MIN.

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO	S.P.M.	LINER SIZE	NUMBER AND SIZE DRILL COLLARS

BIT RECORD

Foreman Hamilton

All plugs witnessed by Jim Cowell for Gulf Canada and Mr. Hall.

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	pH	SAND CONTENT

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR ____ DEPTH END SECOND TOUR ____ DEPTH END THIRD TOUR ____

CONTRACT DRILLER OR WATCHMAN ____ CONTRACT DRILLER OR WATCHMAN ____ CONTRACT DRILLER OR WATCHMAN ____

TIME CHARGEABLE TO THE COMPANY IS APPROVED

CONTRACTOR'S REPRESENTATIVE ____ COMPANY'S REPRESENTATIVE ____ COMPANY FOREMAN OR SUPERINTENDENT ____

P95 (1-69)

DRILLING CONTRACTOR'S DAILY REPORT

WELL NO. 11-2X LEASE [illegible] DATE [illegible] 5 19 70

SEC. ____ T. ____ R. ____ PROVINCE [illegible] CONTRACTOR [illegible]

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO THE COMPANY ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO THE COMPANY: WITH DRILL PIPE HRS.	WITH DRILL PIPE MIN.	WITHOUT DRILL PIPE HRS.	WITHOUT DRILL PIPE MIN.	OTHER HRS.	OTHER MIN.
1200	100	Rig up [illegible] for 20 7 [illegible]					
100	300	WOC [illegible]					
300		Rig up complete					
		Run cement Plugs 1st, 2nd					
		3rd O.C					
400	645	WOC					
645		Run in a fresh plug No 2					
	715	was @ 1325					
715	745	Run Plug #3					
745	1200	WOC					
			D/W				
		TOTAL TIME CHARGEABLE TO THE COMPANY	24	00			
		DAY WORK PER 24 HOUR DAY					

DEVIATION RECORD

DEPTH	SURVEY	DEPTH	SURVEY

BIT RECORD

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO	S.P.M.	LINER SIZE	NUMBER AND SIZE DRILL COLLARS
											1		6	

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT

MUD ADDITIVES:

AMOUNT	TYPE	TIME
25 sks	Sawdust	
100#	Biscal	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR 2330

CONTRACT DRILLER OR WATCHMAN [illegible]

DEPTH END SECOND TOUR

CONTRACT DRILLER OR WATCHMAN [illegible]

DEPTH END THIRD TOUR

CONTRACT DRILLER OR WATCHMAN [illegible]

TIME CHARGEABLE TO THE COMPANY IS APPROVED

[illegible] Carroll

CONTRACTOR'S REPRESENTATIVE

COMPANY'S REPRESENTATIVE

[illegible]

COMPANY FOREMAN OR SUPERINTENDENT

P95 (1-69)

DRILLING CONTRACTOR'S DAILY REPORT

WELL NO. 11-32 LEASE [illegible] RESOURCES DATE FEB 4 19 70

SEC. _____ T. _____ R. _____ PROVINCE [illegible] CONTRACTOR [illegible]

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO THE COMPANY ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO THE COMPANY: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12 00	4 30	Run Velocity Logs					
4 30	6 30	Change Pipe					
6 30	7 30	Run in w/Bit [illegible]					
7 30	8 00	Circ					
8 00	8 15	Check					
8 15	11 00	Circ - Con Mud					
11 00	12 00	Hoist To Test					
12 00	2 00	Pick up and make up DST 2					
2 00	3 00	Run in w/ Packer					
3 00	4 00	Rig up & Testing					
4 00	630	Rig Selu Testing No 2					
630	830	Hoist w/ Packer. Chain Tongues					
830		Break & Lay Tool & load out					
	945	& Wash Rig					
945	1200	Lay Down D.C.					
			N/C				
		TOTAL TIME CHARGEABLE TO THE COMPANY	24	00			
		DAY WORK PER 24 HOUR DAY					

DEVIATION RECORD

DEPTH	SURVEY	DEPTH	SURVEY

BIT RECORD

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NUMBER AND SIZE DRILL COLLARS
7	7 7/8	OWV	[illegible]	2130	2330	19	33			200	[illegible]		5 1/2	[illegible]

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT

MUD ADDITIVES:

AMOUNT	TYPE	TIME
100	Sodi [illegible]	
1	Pelter	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR 2330

CONTRACT DRILLER OR WATCHMAN [illegible]

DEPTH END SECOND TOUR 2333

CONTRACT DRILLER OR WATCHMAN [illegible]

DEPTH END THIRD TOUR

CONTRACT DRILLER OR WATCHMAN [illegible]

TIME CHARGEABLE TO THE COMPANY IS APPROVED

[illegible] Carroll

CONTRACTOR'S REPRESENTATIVE

COMPANY'S REPRESENTATIVE

[illegible]

COMPANY FOREMAN OR SUPERINTENDENT

P95 (1-69)

DRILLING CONTRACTOR'S DAILY REPORT

WELL NO. H-28 LEASE Gulf of Rilkuito DATE Feb-4 19 70

SEC. _____ T. H-28 R. _____ PROVINCE N.W.T. CONTRACTOR Tri-City #4

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO THE COMPANY ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO THE COMPANY: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
		Ran DST #2 in Lowsly Bay Zone Strun from 1610 To 1740					
		Using Tyrus Inflatable Packers. 7" Straddle. ¼" SS choke					
		No Cushion 5 minute pre flow 60 minute Initial Shut in					
		Tool open 30 minutes, Commencing at 4:25 PM. Feb. 4-70					
		60 minute Final shut in. Fair initial air pull					
		increasing to strong at end 5 min. pre-flow. Rise					
		immediately in shutting tool in. open air with strong					
		air blow, but remained steady through 1st air opening					
		Tool. No gas to surface.					
		1050 ft fluid Rise of muddy salt water with a					
		Salinity of 179000/min. Took 2-1 gallon samples.					
		IHSP AHSP IFP. FFP ISIP ASIP BHT.					
		809 809 643 515 678 675. Deg.					

DEVIATION RECORD

DEPTH	SURVEY	DEPTH	SURVEY

	HRS	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO THE COMPANY						
DAY WORK PER 24 HOUR DAY						

BIT RECORD

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NUMBER AND SIZE DRILL COLLARS

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	pH	SAND CONTENT

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR

CONTRACT DRILLER OR WATCHMAN

DEPTH END SECOND TOUR

CONTRACT DRILLER OR WATCHMAN

DEPTH END THIRD TOUR

CONTRACT DRILLER OR WATCHMAN

TIME CHARGEABLE TO THE COMPANY IS APPROVED

CONTRACTOR'S REPRESENTATIVE

COMPANY'S REPRESENTATIVE

Edward Thompson

COMPANY FOREMAN OR SUPERINTENDENT

P95 (1-69)

DRILLING CONTRACTOR'S DAILY REPORT

WELL NO. H-3E LEASE Gulf - Fed. Prospector DATE Feb 3 19 70

SEC. _____ T. _____ R. _____ PROVINCE _____ CONTRACTOR [illegible]

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO THE COMPANY ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO THE COMPANY: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
1:00	1:30	[illegible]					
1:30	1:[illegible]	Stand out [illegible]					
1:00	2:00	[illegible]					
400	1200	Run Velocity Logs					
		Run Dual Induction laterlog from surface csg to TD, SNP - BHC Sonic, F.D.C. all from surface casing to TD 2330 by Schlumberger also Dipmeter. Also run continuous vel. velocity survey.					
			D/W				
			HRS	MIN.	HRS.	MIN.	HRS.	MIN.
		TOTAL TIME CHARGEABLE TO THE COMPANY	24	00				
		DAY WORK PER 24 HOUR DAY						

DEVIATION RECORD

DEPTH	SURVEY	DEPTH	SURVEY

BIT RECORD

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO	S.P.M.	LINER SIZE	NUMBER AND SIZE DRILL COLLARS
7	7 7/8	OWS	17443	1200	1230	30	22							

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	pH	SAND CONTENT
12:30	9.4	55	7.2	3/32	7.5	

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR [illegible]

CONTRACT DRILLER OR WATCHMAN [illegible]

DEPTH END SECOND TOUR

CONTRACT DRILLER OR WATCHMAN

DEPTH END THIRD TOUR

CONTRACT DRILLER OR WATCHMAN

TIME CHARGEABLE TO THE COMPANY IS APPROVED

[illegible] Powell

CONTRACTOR'S REPRESENTATIVE

COMPANY'S REPRESENTATIVE

[illegible]

COMPANY FOREMAN OR SUPERINTENDENT

P95 (1-69)

Gulf

DRILLING CONTRACTOR'S DAILY REPORT

WELL NO. [illegible] LEASE [illegible]

DATE [illegible] 19[illegible]

SEC. ______ T. ______ R. ______ PROVINCE [illegible] CONTRACTOR [illegible]

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO THE COMPANY ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO THE COMPANY: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12[illegible]	[illegible]	[illegible]						
[illegible]	[illegible]	Drill						
[illegible]	[illegible]	Survey						
[illegible]	[illegible]	Drill						
[illegible]	[illegible]	Check [illegible]						
[illegible]	400	Drill [illegible] hole						
[illegible]	[illegible]	Drill						
[illegible]	[illegible]	[illegible]						
[illegible]	[illegible]	[illegible]						
[illegible]	[illegible]	[illegible]						
[illegible]	[illegible]	[illegible]						
[illegible]	[illegible]	Drill						
[illegible]	[illegible]	[illegible]						

D/W

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	[illegible]	1¼		

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO THE COMPANY	24	00				
DAY WORK PER 24 HOUR DAY						

BIT RECORD

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NUMBER AND SIZE DRILL COLLARS
[illegible]	7⅞	[illegible]	[illegible]	[illegible]	[illegible]	150	24	120	11	[illegible]	1	[illegible]	[illegible]	[illegible]
4	7⅞	[illegible]	[illegible]	[illegible]	[illegible]	30	[illegible]	120	12	500	1	[illegible]	[illegible]	

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
200	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	

MUD ADDITIVES:

AMOUNT	TYPE	TIME
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	

SWAB CUPS:

NUMBER	SIZE	TYPE
[illegible]	[illegible]	
[illegible]	[illegible]	

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR [illegible]

CONTRACT DRILLER OR WATCHMAN [illegible]

DEPTH END SECOND TOUR [illegible]

CONTRACT DRILLER OR WATCHMAN [illegible]

DEPTH END THIRD TOUR [illegible]

CONTRACT DRILLER OR WATCHMAN

TIME CHARGEABLE TO THE COMPANY IS APPROVED

[illegible]

CONTRACTOR'S REPRESENTATIVE

COMPANY'S REPRESENTATIVE

[illegible]

COMPANY FOREMAN OR SUPERINTENDENT

P95 (1-69)

DRILLING CONTRACTOR'S DAILY REPORT

WELL NO. [illegible] LEASE [illegible] DATE [illegible] 19 [illegible]

SEC. _____ T. _____ R. _____ PROVINCE [illegible] CONTRACTOR [illegible]

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO THE COMPANY ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO THE COMPANY: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
[illegible]		[illegible]					
	[illegible]	[illegible]					
[illegible]	[illegible]	[illegible]					
[illegible]	[illegible]	[illegible]					
8 00	9 30	Ran in w/ core shot					
9 30	12 30	Latch on & pull free					
12 30	1 15	Pull out					
1 15	3 15	Measure in w/ bit & drill collars					
3 15	4 00	Back ring clean out to bottom					
4 00	4 15	Trip [illegible]					
4 15	12 00	Drill 7 7/8 Hole					
		Recovered 5 - 6 1/4" x 2 1/4" to core drill					
		Complete					
			D/W HRS	MIN.	HRS.	MIN.	HRS.	MIN.
		TOTAL TIME CHARGEABLE TO THE COMPANY	24	00				
		DAY WORK PER 24 HOUR DAY						

DEVIATION RECORD

DEPTH	SURVEY	DEPTH	SURVEY

BIT RECORD

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NUMBER AND SIZE DRILL COLLARS
6	7 7/8	W273	49-3	2150	[illegible]									
6	7 7/8	W273	19183	2150	IN	57	7 3/4	120	20m	600	1	45	5 1/2	9 6 1/4 2 1/2

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	pH	SAND CONTENT
[illegible]	9.1	40	[illegible]	[illegible]	12.0	
6 00	9.1	46	7.2	2/32	10	
1200	9.2	50				

MUD ADDITIVES:

AMOUNT	TYPE	TIME
	[illegible]	[illegible]
	[illegible]	50
	[illegible]	250
	[illegible]	500

SWAB CUPS:

NUMBER	SIZE	TYPE
6 - [illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
6 - [illegible]	200#	

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR [illegible]

CONTRACT DRILLER OR WATCHMAN [illegible]

DEPTH END SECOND TOUR [illegible]

CONTRACT DRILLER OR WATCHMAN [illegible]

DEPTH END THIRD TOUR 2207

CONTRACT DRILLER OR WATCHMAN [illegible]

TIME CHARGEABLE TO THE COMPANY IS APPROVED

CONTRACTOR'S REPRESENTATIVE [illegible]

COMPANY'S REPRESENTATIVE

COMPANY FOREMAN OR SUPERINTENDENT [illegible]

P95 (1-69)

DRILLING CONTRACTOR'S DAILY REPORT

WELL NO. [illegible] LEASE [illegible] DATE [illegible] 31 19 70

SEC. _____ T. _____ R. _____ PROVINCE [illegible] CONTRACTOR [illegible]

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO THE COMPANY ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO THE COMPANY: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
1:00	1:30	[illegible]					
1:30	1:45	[illegible]					
1:45	2:00	[illegible]					
2:00	5:00	Drill 17½					
5:00	5:30	Drill 17½" hole					
5:30	2:45	Check BOPS					
2:45	3:15	Drill					
3:15	4:00	Pull out Twist off					
4:00	4:15	Rig down					
4:15	6:15	W.O.O.					
6:15		Too in To pipe above fish					
	7:00	Twisted off Drill Collars					
7:00	12:00	Wait for over shot					
		Leaving 5-6¼"x17½" DC's & bit in hole					
			D/W				
		TOTAL TIME CHARGEABLE TO THE COMPANY	24	00			
		DAY WORK PER 24 HOUR DAY					

DEVIATION RECORD

DEPTH	SURVEY	DEPTH	SURVEY

BIT RECORD

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NUMBER AND SIZE DRILL COLLARS
5	7⅞	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
[illegible]	9.1	44	7.5	[illegible]	11.5	
[illegible]	9.1	44	8.0	[illegible]	9.5	

MUD ADDITIVES:

AMOUNT	TYPE	TIME
100#	[illegible]	12P
25	[illegible]	[illegible]
100#	[illegible]	
5.	[illegible]	

~~SWAB CUPS:~~

NUMBER	SIZE	TYPE
Soda Ash		6 bags
Lime		50#
Cell		100#

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 1408

CONTRACT DRILLER OR WATCHMAN: [illegible]

DEPTH END SECOND TOUR: 2 Footbal 2150

CONTRACT DRILLER OR WATCHMAN: [illegible]

DEPTH END THIRD TOUR: 2150

CONTRACT DRILLER OR WATCHMAN: M. L. [illegible]

TIME CHARGEABLE TO THE COMPANY IS APPROVED

CONTRACTOR'S REPRESENTATIVE: [illegible]

COMPANY'S REPRESENTATIVE: _____

COMPANY FOREMAN OR SUPERINTENDENT: [illegible] Stevens Thompson

DRILLING CONTRACTOR'S DAILY REPORT

DATE _____ 19 70

TIME CHARGEABLE TO THE COMPANY

DEVIATION RECORD

	2056	1½															

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	JETS	DEPTH OUT	HRS.	FTG.	WT.	RPM	PUMP PRESS.	SPM					
4	7⅞															
4	7⅞	Sand	91024	1943			2									
4	7⅞	"	"	"		122	19	120	30							

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	pH	SAND CONTENT
6 AM	9.3	41	10.0	2/32	9.5	
2	9.1	44	8.8	2/32	10.5	
4 PM	9.1	45	8.6	2/32	10.3	

MUD ADDITIVES:

AMOUNT	TYPE	TIME
8 sx	Gel	
6 sx	Bryn	
200 #	Caustic	
100 #	CMC	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR 1975.

CONTRACT DRILLER OR WATCHMAN

DEPTH END SECOND TOUR 2029

CONTRACT DRILLER OR WATCHMAN

DEPTH END THIRD TOUR 2065

CONTRACT DRILLER OR WATCHMAN

TIME CHARGEABLE TO THE COMPANY IS APPROVED

CONTRACTOR'S REPRESENTATIVE

COMPANY'S REPRESENTATIVE

COMPANY FOREMAN OR SUPERINTENDENT

P95 (1-69)

DRILLING CONTRACTOR'S DAILY REPORT

WELL NO. 4-32 LEASE Gulf Et Al Reservoir DATE Feb 20 19 70

SEC. ____ T. ____ R. ____ PROVINCE Utah CONTRACTOR Thomas Rig 4

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO THE COMPANY ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO THE COMPANY: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12:00	1:30	Work [illegible]					
1:30	1:30	Tag Line - Secure [illegible]					
1:30	1:45	Run in					
1:45	3:45	Drill 7 7/8 Hole					
3:45	3:00	Survey @ [illegible] Shutdown					
3:00	6:00	Drill					
6:00	7:30	Wait on Cement (Retarded)					
7:30	7:45	Rig Up Line					
7:45	8:00	Drill					
8:00	9:45	Drill 7 7/8" Hole					
9:45	10:00	Check Rig - Rig Tons					
10:00	1:45	Drill					
1:45	2:15	Surveys					
2:15	4:00	Drill					
4:00	5:45	Drill 7 7/8 Hole					
5:45	6:00	Rig Service					
6:00	8:00	Drill					
8:00	8:15	Survey @ 2050 1 1/2°					
8:15	11:30	Drill					
11:30	12:00	Hoist For Lib					
			D/W				
			HRS	MIN.	HRS.	MIN.	HRS.	MIN.
		TOTAL TIME CHARGEABLE TO THE COMPANY	24	00				
		DAY WORK PER 24 HOUR DAY					

DEVIATION RECORD

DEPTH	SURVEY	DEPTH	SURVEY
1955	3/4		
2058	1 1/2		

BIT RECORD

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO	S.P.M.	LINER SIZE	NUMBER AND SIZE DRILL COLLARS
4	7 7/8	Smith	[illegible]	1948		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]
4	7 7/8	Smith	91024	1993		95	2	"	15	[illegible]	1	[illegible]	[illegible]	" "
4	7 7/8	"	"	"	[illegible]	122	19	120	20	"	1	"	"	" "

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
6 AM	9.3	41	10.0	2/32	9.5	
2	9.1	44	7.8	2/32	11.5	
4 PM	9.1	45	8.6	2/32	10.2	

MUD ADDITIVES:

AMOUNT	TYPE	TIME
8 [illegible]	Gel	
6 sks	Lime	
2 [illegible]	Caustic	
100#	CMC	

SWAB CUPS:

NUMBER	SIZE	TYPE
[illegible]	[illegible]	[illegible]

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR 1975.

CONTRACT DRILLER OR WATCHMAN [illegible]

DEPTH END SECOND TOUR 2029

CONTRACT DRILLER OR WATCHMAN B. Tickle

DEPTH END THIRD TOUR 2065

CONTRACT DRILLER OR WATCHMAN M. [illegible]

TIME CHARGEABLE TO THE COMPANY IS APPROVED

CONTRACTOR'S REPRESENTATIVE [illegible] Cavell

COMPANY'S REPRESENTATIVE

COMPANY FOREMAN OR SUPERINTENDENT [illegible] Hunnicutt

P9S (1-69)

DRILLING CONTRACTOR'S DAILY REPORT

WELL NO. [illegible] LEASE [illegible]

SEC. _____ T. _____ R. _____ PROVINCE [illegible] CONTRACTOR [illegible]

DATE [illegible] 19 70

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO THE COMPANY ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO THE COMPANY: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12[illegible]	12[illegible]	R.[illegible] Connect					
12[illegible]	3[illegible]	Drill					
3[illegible]	3[illegible]	Survey					
3[illegible]	8[illegible]	Drill					
8[illegible]	8[illegible]	Check BOPS - Rig Serv					
8[illegible]	8[illegible]	Survey					
8[illegible]	2[illegible]	Drill 7 7/8" Hole					
2[illegible]	2[illegible]	Survey					
2[illegible]	4[illegible]	Drill					
4[illegible]	4[illegible]	Rig Serv					
4[illegible]	10[illegible]	Drill 7 7/8 Hole					
10[illegible]	10[illegible]	Clean Suction Tank					
10[illegible]	11[illegible]	Drill					
11[illegible]	12[illegible]	Wait on [illegible]					
			O/W				
		TOTAL TIME CHARGEABLE TO THE COMPANY	24	00			
		DAY WORK PER 24 HOUR DAY					

DEVIATION RECORD

DEPTH	SURVEY	DEPTH	SURVEY
[illegible]	1	1861	2
1892	1		

BIT RECORD

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO	S.P.M.	LINER SIZE	NUMBER AND SIZE DRILL COLLARS
2	7 7/8	X1C	14258	1672			3	140	[illegible]	[illegible]	1	60	5 1/2	10 [illegible]
3	7 7/8	X1C	14258	1672		238	20 1/4	140	10-15	[illegible]	1	60	"	"
3	7 7/8	X1C	14258	1672	1943	270	25 1/4	140	10-15	"	"	"	"	"

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	pH	SAND CONTENT
4[illegible]	9.3	45	[illegible]	2/32	9.0	
2[illegible]	9.4	44	34	2/32	9.0	
6[illegible]	9.4	42	10	2/32	9.5	
10[illegible]	9.4	41	9.0			

MUD ADDITIVES:

AMOUNT	TYPE	TIME
1000#	Gel	[illegible]
4#	Sent	
Gell	1000#	4-12
Caustic	100#	

~~SWAB CUPS:~~

~~NUMBER~~	~~SIZE~~	~~TYPE~~
Bend	2#	
CMC	100#	
Soda Ash	200	

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR [illegible]

CONTRACT DRILLER OR WATCHMAN [illegible]

DEPTH END SECOND TOUR 1901

CONTRACT DRILLER OR WATCHMAN [illegible]

DEPTH END THIRD TOUR 1943

CONTRACT DRILLER OR WATCHMAN [illegible]

TIME CHARGEABLE TO THE COMPANY IS APPROVED

[illegible]

CONTRACTOR'S REPRESENTATIVE

COMPANY'S REPRESENTATIVE

[illegible]

COMPANY FOREMAN OR SUPERINTENDENT

P95 (1-69)

DRILLING CONTRACTOR'S DAILY REPORT

WELL NO. [illegible] LEASE [illegible] DATE Jan 27 19 90

SEC. ____ T. ____ R. ____ PROVINCE [illegible] CONTRACTOR Fairity No 4

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT. INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO THE COMPANY ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO THE COMPANY: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12 00	12 15	Rig Service					
12 15	1 45	Drill 7 7/8 Hole [illegible] on Bit					
1 45	3 00	Survey					
3 00	4 00	Drill					
4 00	4 45	Survey					
4 45	7 15	Drill					
7 15	7 30	Survey					
7 30	8 00	Drill					
8 00	8 15	Check BOPS					
8 15	9 45	Drill 7 7/8" Hole [illegible] on Bit					
9 45	10 15	Clean Tank [illegible] mud					
10 15	12 15	Drill					
12 15	12 30	Survey					
12 30	3 15	Drill					
3 15	3 30	Survey					
3 30	4 00	Wait for Bit					
4 00	4 30	Finish out w/ Bit No 2#					
4 30	4 45	Rig Serv					
4 45	5 15	Run in w/ Bit No 3#					
5 15	5 30	Clean To Bottom & pipe Clean					
5 30	7 45	Drill 7 7/8 Hole					
7 45	8 00	Survey 1703 7/8°					
8 00	11 15	Drill					
			D/W				

DEVIATION RECORD DEPTH	SURVEY	DEPTH	SURVEY
1544	2 1/4	1608	2°
1576	1 3/4	1640	1 3/4
1703 7/8			

	HRS	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO THE COMPANY	7.5	45				
DAY WORK PER 24 HOUR DAY						

BIT RECORD

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO	S.P.M.	LINER SIZE	NUMBER AND SIZE DRILL COLLARS
2	7 7/8	[illegible]	91079	1411				140	6-12	600	1	[illegible]	7 7/8	[illegible]
2	7 7/8	[illegible]	[illegible]	1411	1672	122	[illegible]	140	"	[illegible]	1		"	
3	7 7/8	X16	14958	1672		98	6	140	12-15	600	1	60	"	"

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	pH	SAND CONTENT
4	89	[illegible]	[illegible]	2/32	9.0	
8 pm	9.0	48	7.5	2/32	9.0	
1000	91	49				

MUD ADDITIVES:

AMOUNT	TYPE	TIME
Gel	1000#	
Barite	25 xs	
Lime	100#	
Caustic	50#	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR 1612
CONTRACT DRILLER OR WATCHMAN

DEPTH END SECOND TOUR
CONTRACT DRILLER OR WATCHMAN

DEPTH END THIRD TOUR ~~1820~~ 98
CONTRACT DRILLER OR WATCHMAN

TIME CHARGEABLE TO THE COMPANY IS APPROVED

CONTRACTOR'S REPRESENTATIVE

COMPANY'S REPRESENTATIVE

COMPANY FOREMAN OR SUPERINTENDENT

P95 (1-59)

DRILLING CONTRACTOR'S DAILY REPORT

WELL NO. H-28 LEASE Gulf Ethel Redkniee DATE JAN 25 19 70

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR Thielly Rig #4

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME. WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOLPUSHER OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO THE COMPANY ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO THE COMPANY: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
11:15	11:30	Survey - 1767 - 1 3/4°					
11:30	12:00	Drill.					
			D/W				
			HRS	MIN.	HRS.	MIN.	HRS.	MIN.
		TOTAL TIME CHARGEABLE TO THE COMPANY		45				
		DAY WORK PER 24 HOUR DAY						

DEVIATION RECORD

DEPTH	SURVEY	DEPTH	SURVEY

BIT RECORD

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO	S.P.M.	LINER SIZE	NUMBER AND SIZE DRILL COLLARS
3	7 7/8	XIE	14358	1672		98	6	140	12-15m	600	1	60	5 3/4	10 6 1/2 x 2 1/4 7 1/2

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	pH	SAND CONTENT

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR

CONTRACT DRILLER OR WATCHMAN

DEPTH END SECOND TOUR

CONTRACT DRILLER OR WATCHMAN

DEPTH END THIRD TOUR

CONTRACT DRILLER OR WATCHMAN

TIME CHARGEABLE TO THE COMPANY IS APPROVED

CONTRACTOR'S REPRESENTATIVE

COMPANY'S REPRESENTATIVE

COMPANY FOREMAN OR SUPERINTENDENT

P95 (1-69)

DRILLING CONTRACTOR'S DAILY REPORT

WELL NO. [illegible] LEASE Gulf Fee Moonshine DATE June 27 19 70

SEC. ____ T. ____ R. ____ PROVINCE [illegible] CONTRACTOR Trinity [illegible]

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO THE COMPANY ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO THE COMPANY: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12:00	12:15	Start Core Bbl.					
12:15	2:15	Recover Core					
2:15	3:00	Run in [illegible]					
3:00	5:[illegible]	Reamer Rat Hole					
5:[illegible]	5:[illegible]	Line to Test					
[illegible]	6:00	Wait					
6:[illegible]	6:00	Pick up Packers					
8:00	9:00	make up DST 1#					
9:00	10:00	Run in w/ Packer Shoe					
10:00	1:30	Testing					
1:30	2:30	Pull DST 1#					
2:30	3:30	Break Down Test + Lard out					
3:30	4:00	Pick up Core Bbl					
4:00	4:15	Rig Serv					
4:15	5:00	Break & Lay Down Cbls					
5:00	5:45	Too in Slow w/ bit #2					
5:45	6:15	Clean to Bottom + Circ Clean					
6:15	9:00	Drill 7 7/8 Hole					
9:00	9:15	Survey @ 1482' 2 1/2°					
9:15	12:00	Drill 7 7/8 Hole					
			D/W				
		TOTAL TIME CHARGEABLE TO THE COMPANY	24	00			
		DAY WORK PER 24 HOUR DAY					

DEVIATION RECORD DEPTH	SURVEY	DEPTH	SURVEY
1482	2 1/2		

BIT RECORD

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NUMBER AND SIZE DRILL COLLARS
2	7 7/8	M4N	91079	1411	1450	39	[illegible]	110	4-[illegible]	600	1	[illegible]	5 1/2	10-[illegible] 7 7/8 XH
2	7 7/8	M4N	91079	1450			[illegible]	110	8-6	600	[illegible]	59	5 1/2	" " "

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	pH	SAND CONTENT
4	8.9	49	8.2	2/32	9.0	
6	[illegible]	50				
8 PM	8.9	50				
10	8.8	48	7.5	2/32	8.5	

MUD ADDITIVES:

AMOUNT	TYPE	TIME
4 Bag	Sawdust	
1	Stream Water	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR 1450 DEPTH END SECOND TOUR 1450 DEPTH END THIRD TOUR 1450

CONTRACT DRILLER OR WATCHMAN [illegible] CONTRACT DRILLER OR WATCHMAN [illegible] CONTRACT DRILLER OR WATCHMAN [illegible]

TIME CHARGEABLE TO THE COMPANY IS APPROVED

[illegible] CONTRACTOR'S REPRESENTATIVE ____ COMPANY'S REPRESENTATIVE [illegible] COMPANY FOREMAN OR SUPERINTENDENT

P95 (1-69)

DRILLING CONTRACTOR'S DAILY REPORT

WELL NO. [illegible] LEASE [illegible] DATE [illegible] 19 70

SEC. _____ T. _____ R. _____ PROVINCE [illegible] CONTRACTOR [illegible]

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO THE COMPANY ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO THE COMPANY: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12 00	1 00	Drill 7 Hole 4 00 160 RPM					
1 00	1 [illegible]	[illegible]					
1 [illegible]	2 30	Drill					
2 30	2 45	[illegible]					
2 [illegible]	[illegible]	Drill					
3 [illegible]	4 [illegible]	Survey					
4 00	4 [illegible]	Drill					
4 45	[illegible]	Circ					
[illegible]	[illegible]	[illegible] Check BOP.					
[illegible]	[illegible]	[illegible]					
8 00	8 30	Mud up					
8 30	9 00	Run in w/ Bit					
9 00	10 30	Cor mud					
10 30	10 45	Check BOP - Rig Serv					
10 45	11 30	Drill 7 7/8" Hole					
11 30	12 00	Circ Sample					
12 00	12 45	Pull out					
12 45	2 45	Pick up Core Bbl make up Tools					
2 45	3 15	Run in w/ Core Bbl					
3 15	4 00	Circ Clean out					
4 00	4 15	Rig Serv					
4 15	11 30	Cut Core No 1 From 1411 To 1450					
11 30	12 00	Hoist w/ Core No 1	D/W				

DEVIATION RECORD DEPTH	SURVEY	DEPTH	SURVEY
1324	2°	1326	2°
1387	2°		

	HRS	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO THE COMPANY	24	00				
DAY WORK PER 24 HOUR DAY						

BIT RECORD

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NUMBER AND SIZE DRILL COLLARS
1	7 7/8	545	3226	605	1411	806	20½	100	4	900	1	34	5½	10 6½ x 2 7/8 4H
1	7 7/8	505	3226	605	1411	806	21	100	4	900	1	40	5½	"
2C	6 13/16	Δ	11261	1411	1450	39	7½	100	14	400	1	40	11	" "

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
12	8.1					
4 00	8.6					
11 00	9.2	51				
8 00 PM	9.8	50	7.5	2/32	10	

MUD ADDITIVES:

AMOUNT	TYPE	TIME
2000	Lime	[illegible]
25 sks	Kol	[illegible]
2400	Gel	[illegible]
2 Bags	Barite	[illegible]

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 1400'

DEPTH END SECOND TOUR:

DEPTH END THIRD TOUR:

CONTRACT DRILLER OR WATCHMAN

CONTRACT DRILLER OR WATCHMAN: A Tuttle

CONTRACT DRILLER OR WATCHMAN: Mike Company

TIME CHARGEABLE TO THE COMPANY IS APPROVED

CONTRACTOR'S REPRESENTATIVE: [illegible] Cassidy

COMPANY'S REPRESENTATIVE

COMPANY FOREMAN OR SUPERINTENDENT: [illegible]

P95 (1-69)

DRILLING CONTRACTOR'S DAILY REPORT

WELL NO. 11-32 LEASE Hulett Brookwise DATE Jan 25 1970

SEC. ____ T. ____ R. ____ PROVINCE Alta CONTRACTOR Tri City Drlg

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO THE COMPANY ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO THE COMPANY: WITH DRILL PIPE HRS.	WITH DRILL PIPE MIN.	WITHOUT DRILL PIPE HRS.	WITHOUT DRILL PIPE MIN.	OTHER HRS.	OTHER MIN.
12 00	12 15	Rig Repairs					
12 15	1 00	Nipple in Cement 0.571					
1 00	1 45	Clean Bot Fittings					
1 45		Pressure Test Blind & Hydril Connection					
	3 30	Cover Hole Sections					
3 30	3 45	Dollout					
3 45	4 00	Clean Suction Tank					
4 00	5 30	Drill 7 7/8 Hole					
5 30	6 00	Trip Pump Out					
6 00	7 00	Trip 7 7/8 Hole					
7 00	7 15	Check Mops Rig Floor					
7 15	7 30	Drill 7 7/8 Hole					
7 30	7 45	Survey					
7 45	10 00	Drill 7 7/8 Hole with Jet					
10 00	10 15	Survey					
10 15	11 45	Drill 7 7/8 Hole					
11 45	12 00	Survey					
12 00	1 15	Drill 7 7/8 Hole Fine					
1 15	1 30	Survey					
1 30	3 30	Drill 7 7/8 Hole Fine					
3 30	3 45	Survey					
3 45	4 00	Drill					
			D/W				

DEVIATION RECORD DEPTH	SURVEY	DEPTH	SURVEY
977	3 1/2	1010	3
1003	3 1/2	1011	3

	HRS	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO THE COMPANY	16	00				
DAY WORK PER 24 HOUR DAY						

BIT RECORD

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NUMBER AND SIZE DRILL COLLARS
1	7 7/8	545	3226	605		248	3	160	18	750	1	75	5 1/2	10-6 1/2 x 2 1/4
1	7 7/8	543	3226	605		497	9 3/4	120	14	700	1	74	5 1/2	" "

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
1	9.5	[illegible]	[illegible]			
2	9.4	29				

MUD ADDITIVES:

AMOUNT	TYPE	TIME
3 sks	Gravel	
200 #	Resos	
50 #	Soap	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR 753

CONTRACT DRILLER OR WATCHMAN [illegible]

DEPTH END SECOND TOUR 1112

CONTRACT DRILLER OR WATCHMAN [illegible]

DEPTH END THIRD TOUR

CONTRACT DRILLER OR WATCHMAN

TIME CHARGEABLE TO THE COMPANY IS APPROVED

[illegible] CONTRACTOR'S REPRESENTATIVE

COMPANY'S REPRESENTATIVE

[illegible] COMPANY FOREMAN OR SUPERINTENDENT

P95 (1-69)

DRILLING CONTRACTOR'S DAILY REPORT

WELL NO. H 28 LEASE Gulf Stat A. Ltd. DATE Jan 25 1970

SEC. _____ T. _____ R. _____ PROVINCE New T CONTRACTOR The City Drlg

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR ALL 24 HOURS OF THE DAY, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO THE COMPANY ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO THE COMPANY: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
		400 To 12 PM Tour					
400	430	Drill 7 7/8 Hole					
430	445	Survey @ 1135' 2 3/4° - Rig Sold					
445	630	Drill					
630	645	Survey @ 1166' 2 1/2°					
645	745	Drill					
745	800	Survey @ 1199' 2 1/4°					
800	900	Drill					
900	915	Survey @ 1229' 2°					
915	1000	Drill					
1000	1015	Survey @ 1261' 1 3/4°					
1015	1115	Drill					
1115	1130	Survey @ 1293 2°					
1130	200	Drill					
		Contract Drilling for Duration					

1135 2 3/4
DEVIATION RECORD 1166 1/2

DEPTH	SURVEY	DEPTH	SURVEY
1198	2 1/4	1261	1 3/4
1229	2°	1293	2°

	HRS	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO THE COMPANY						
DAY WORK PER 24 HOUR DAY						

BIT RECORD

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO	S.P.M.	LINER SIZE	NUMBER AND SIZE DRILL COLLARS
1	7 7/8	S4J	3226	605		680	26 1/4	160 140	7.5	200	1	74	5 1/2	10 6 1/4

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
600	8.5	29				
900	8.9	29				
1000	9.0	30				

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR

CONTRACT DRILLER OR WATCHMAN

DEPTH END SECOND TOUR

CONTRACT DRILLER OR WATCHMAN

DEPTH END THIRD TOUR 1295

CONTRACT DRILLER OR WATCHMAN Nile Pugsley

TIME CHARGEABLE TO THE COMPANY IS APPROVED

J. J. Carroll
CONTRACTOR'S REPRESENTATIVE

COMPANY'S REPRESENTATIVE

S. Lemuel Hemingway
COMPANY FOREMAN OR SUPERINTENDENT

PSS (1-69)

DRILLING CONTRACTOR'S DAILY REPORT

WELL NO. [illegible] LEASE [illegible] DATE [illegible] 19[illegible]

SEC. _____ T. _____ R. _____ PROVINCE [illegible] CONTRACTOR [illegible]

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO THE COMPANY ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO THE COMPANY: WITH DRILL PIPE HRS.	WITH DRILL PIPE MIN.	WITHOUT DRILL PIPE HRS.	WITHOUT DRILL PIPE MIN.	OTHER HRS.	OTHER MIN.
[illegible]	[illegible]	[illegible]					
[illegible]	1 15	[illegible]					
1 15	2 00	[illegible]					
2 00	4 00	Head up					
4 00	4 15	Rig Serv					
4 15	11 30	Head up Bops on manifold					
11 30	12 00	P.S.I 1000# Blind Rams For 15 mins Held OK. S.W.H.					

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY

	HRS	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO THE COMPANY						
DAY WORK PER 24 HOUR DAY						

BIT RECORD

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NUMBER AND SIZE DRILL COLLARS
													[illegible]	[illegible]

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR [illegible]

CONTRACT DRILLER OR WATCHMAN [illegible]

DEPTH END SECOND TOUR [illegible]

CONTRACT DRILLER OR WATCHMAN [illegible]

DEPTH END THIRD TOUR

CONTRACT DRILLER OR WATCHMAN [illegible]

TIME CHARGEABLE TO THE COMPANY IS APPROVED

[illegible]

CONTRACTOR'S REPRESENTATIVE

COMPANY'S REPRESENTATIVE

[illegible]

COMPANY FOREMAN OR SUPERINTENDENT

P95 (1-69)

DRILLING CONTRACTOR'S DAILY REPORT

WELL NO. H-28 LEASE Gulf et al Redknife DATE JAN 22 1970

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR Tri-City Rig #4

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO THE COMPANY ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO THE COMPANY: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
		TD. 605ft 12¼ hole - 5⅝ Pipe. WOC. Nippling up Bops.					
		Ran 20 JNTS 9⅝" - 36# SRT. J-55 - R.2 LT&C Mannesman Casing					
		Set on bottom at 605ft. Total Tally - 618.86ft. Cutt 16.70ft					
		Net Tally 602.16 Casing Tally. Ground Elevation 654ft.					
		Dist. Ground to K.B. 11.50ft. K.B.E 705.50ft					
		Ran 3 Topco Centralizers on bottom 150ft. with Larkin					
		Float Shoe & Float Collar. Top and bottom plug.					
		Circ. Casing thru before Cementing at 235 GPM. Reciprocate					
		Casing in 20ft strokes 10 minutes while Cementing					
		Pumped 10bbls water ahead of Cement. Cemented by Howco					
		With 300sacks oil well Cement with 640lbs Calz added to					
		water. Started mix at 7:50 PM Jan. 23. Finish mix 8:07PM					
		Started Displacing at 8:10PM. plug down at 8:30PM with 44bbls					
		water max. pumping PSI 300# average Slurry wt. 15.4#/Gal.					
		at 4 BBLS/minute Cement Circulated 120 sacks out. Witnessed					
		By Joe Carrol for Contractor and Hamman for Gulf.					
		Supplies 37ft class A = $37.07ft on Rig # 5 and Cutting					
		Pisco 16.70ft on Rig. #6.					

DEVIATION RECORD

DEPTH	SURVEY	DEPTH	SURVEY

	HRS	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO THE COMPANY						
DAY WORK PER 24 HOUR DAY						

BIT RECORD

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NUMBER AND SIZE DRILL COLLARS

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR | DEPTH END SECOND TOUR | DEPTH END THIRD TOUR

CONTRACT DRILLER OR WATCHMAN | CONTRACT DRILLER OR WATCHMAN | CONTRACT DRILLER OR WATCHMAN

TIME CHARGEABLE TO THE COMPANY IS APPROVED

CONTRACTOR'S REPRESENTATIVE | COMPANY'S REPRESENTATIVE | Stewart Hamman COMPANY FOREMAN OR SUPERINTENDENT

P95 (1-69)

DRILLING CONTRACTOR'S DAILY REPORT

WELL NO. [illegible] LEASE [illegible] DATE [illegible] 19 [illegible]

SEC. _____ T. _____ R. _____ PROVINCE [illegible] CONTRACTOR [illegible]

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO THE COMPANY ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO THE COMPANY: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
10 00	12 30	STRAP OUT [illegible]					
12 30	[illegible]	[illegible]					
[illegible]	[illegible]	[illegible]					
[illegible]	[illegible]	[illegible]					
[illegible]	[illegible]	[illegible]					
[illegible]	[illegible]	[illegible]					
[illegible]	[illegible]	[illegible]					
[illegible]	[illegible]	[illegible]					
8 00	8 30	Run in w/bit 12 ft fill					
8 30	8 45	Clean out + Rig Service					
8 45	9 45	Drill 12¼" Hole					
9 45	10 00	Survey					
10 00	10 30	Drill 12¼" Hole					
10 30	11 15	Dummy Trip					
11 15	1 15	Circ - Cond mud					
1 15	2 00	Pull out					
2 00	4 00	Rig up + Run csg					
4 00	7 30	Run 9⅝ CSG					
7 30	8 00	Circ CSG					
8 00	8 30	Cement + Pump Plug					
8 30	12 00	WOC					
			D/H				
		TOTAL TIME CHARGEABLE TO THE COMPANY	HRS 24	MIN. 00	HRS.	MIN.	HRS.	MIN.
		DAY WORK PER 24 HOUR DAY					

DEVIATION RECORD

DEPTH	SURVEY	DEPTH	SURVEY
600	¾		

BIT RECORD

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NUMBER AND SIZE DRILL COLLARS
10	17½	Sut	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	Sut	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
20	12¼	Sug	[illegible]	56	605	36	1¾	100	16	200	[illegible]	75	5½	"

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
[illegible]	[illegible]	36				
[illegible]	[illegible]	48				
[illegible]	70	42				
[illegible]	11	100				

MUD ADDITIVES: [illegible]

AMOUNT	TYPE	TIME
[illegible]	[illegible]	
30	[illegible]	
[illegible]	Gel	
50	Caustic Lime	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 201

DEPTH END SECOND TOUR: 605

DEPTH END THIRD TOUR:

CONTRACT DRILLER OR WATCHMAN: [illegible]

CONTRACT DRILLER OR WATCHMAN: [illegible]

CONTRACT DRILLER OR WATCHMAN: [illegible]

TIME CHARGEABLE TO THE COMPANY IS APPROVED

[illegible]

CONTRACTOR'S REPRESENTATIVE

COMPANY'S REPRESENTATIVE

[illegible]

COMPANY FOREMAN OR SUPERINTENDENT

P95 (1-69)

DRILLING CONTRACTOR'S DAILY REPORT

WELL NO. _____ LEASE [illegible] DATE [illegible] 19 78

SEC. _____ T. _____ R. _____ PROVINCE [illegible] CONTRACTOR [illegible]

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO THE COMPANY ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO THE COMPANY: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12 00	[illegible]	[illegible]					
12 [illegible]	[illegible]	[illegible]					
[illegible]	[illegible]	[illegible]					
[illegible]	[illegible]	[illegible]					
[illegible]	[illegible]	Survey					
[illegible]	7 [illegible]	[illegible]					
7 00	8 00	[illegible]					
8 00	8 30	Pull out					
8 30	1 00	Wait on water					
1 00	1 30	Run in					
1 30	2 00	Con Mud					
2 00	3 15	Drill 12¼" hole					
3 15	3 30	Survey					
3 30	4 00	Drill 12¼" Hole					
4 00	4 15	Rig Serv					
4 15	6 00	Drill 12¼ Hole					
6 00	6 15	Survey @ 414 ¼°					
6 15	10 00	Drill					
10 00	10 15	Survey @ 538 ¾°					
10 15	12 00	Drill					
			D/W				

DEVIATION RECORD DEPTH	SURVEY	DEPTH	SURVEY
[illegible]	¼	320	½
[illegible]	¼	414	¼°

538 ¾°

	HRS	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO THE COMPANY	24	00				
DAY WORK PER 24 HOUR DAY						

BIT RECORD

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NUMBER AND SIZE DRILL COLLARS
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]
10	12¼	S4J	87293	0		337	13¼	180	[illegible]	100	1	75	5½	10 - 6 ¼ - 2 7/8
10	12¼	S4J	87293	0		569	20¾	180	16	200	1	75	"	10 6¼ 2 7/8

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	pH	SAND CONTENT
[illegible]		42				
6 00		46				
7 00	8 [illegible]	35				
9 00	9.0	38				

MUD ADDITIVES:

AMOUNT	TYPE	TIME
[illegible] 1000	[illegible]	[illegible]
50 #	Lime	[illegible]

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR

CONTRACT DRILLER OR WATCHMAN [illegible]

DEPTH END SECOND TOUR

CONTRACT DRILLER OR WATCHMAN [illegible]

DEPTH END THIRD TOUR

CONTRACT DRILLER OR WATCHMAN [illegible]

TIME CHARGEABLE TO THE COMPANY IS APPROVED

[illegible] Carroll

CONTRACTOR'S REPRESENTATIVE

COMPANY'S REPRESENTATIVE

[illegible]

COMPANY FOREMAN OR SUPERINTENDENT

P95 (1-69)

DRILLING CONTRACTOR'S DAILY REPORT

WELL NO. H-28 LEASE Gulf et al Redknife H-28 DATE Jan 21 1970

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR Trinity Drill Rig 4

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO THE COMPANY ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO THE COMPANY: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
400	415	Rig Serv					1/4
415	715	Drill Rat Hole (Rocks)	3				3
715	1200	Rig up & Spud w/ 12 1/4					
			HRS	MIN.	HRS.	MIN.	HRS.	MIN.
		TOTAL TIME CHARGEABLE TO THE COMPANY	3	1/4				
		DAY WORK PER 24 HOUR DAY					

DEVIATION RECORD

DEPTH	SURVEY	DEPTH	SURVEY

BIT RECORD

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO	S.P.M.	LINER SIZE	NUMBER AND SIZE DRILL COLLARS
1A	12 1/4	Sec	8728	0		80	4 3/4	160 100	All	75	Pins	76	5 1/2	6 1/4

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
1000		45				

MUD ADDITIVES:

AMOUNT	TYPE	TIME
60	Caustic	
20	Lime	2:00

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR

CONTRACT DRILLER OR WATCHMAN

DEPTH END SECOND TOUR

CONTRACT DRILLER OR WATCHMAN

DEPTH END THIRD TOUR 80

CONTRACT DRILLER OR WATCHMAN M. L. Pagnieny

TIME CHARGEABLE TO THE COMPANY IS APPROVED

R. C. Purcell
CONTRACTOR'S REPRESENTATIVE

COMPANY'S REPRESENTATIVE

Glenn W. Hennigan
COMPANY FOREMAN OR SUPERINTENDENT