

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

À présenter en double dans les trente jours suivant l'achèvement, le remaniement, l'abandon et le reconditionnement de chaque puits, ou après suspension.

Well Name & No. — Nom et n° du puits Mesa Nahanni Butte L-20	Permit No. — N° de permis 5044	Lease No. — N° de concession
(Permitter, Licensee, Lessee) — (Défendeur de permis ou de licence, du concessionnaire) Western Decalta Petroleum Ltd.*	Exploratory Licence No. — N° de licence de sondage 1454, 1486, 1460, 1453, 1456	
(Operator) — (Exécutant) Mesa Petroleum (Northern) Ltd.	Exploratory Licence No. — N° de licence de sondage 1962	

LOCATION — EMLACEMENT

Unit — Unité L	Section 20	Grid — Étendue quadrillée 61-00-123-30	Latitude 60° 59' 42" N	Longitude 123° 33' 30" W
Unique Well Identifier — Code d'ordinateur 300L206100123300			Universal Well Location Reference — Références universelles d'emplacement du puits Lat. 60.99500°N Long. 123.55833°N	

Spudded Début des travaux	Date Feb. 4/73	Depth — Profondeur ---	Pool(s) Gisement(s)	---
Suspended Suspension des travaux	---	---	Interval(s) Open to Production Intervalle(s) de production	---
Resumed Operations Reprise des travaux	---	---		
Finished Drilling Forage terminé	Mar. 15/73	4818		
Deepened Approfondissement	---	---		
Complete (Gas/Oil) Achèvement (Gaz/Pétrole)	---	---		
Abandoned Abandon	Mar. 20/73	4818	Elevation: Gr. Altitude du sol	661 K.B. 676
Rig Released Fin des travaux	Mar. 21/73	4818	Rig No. N° de la tour de forage	10 Drilling Contractor Entrepreneur en forage Nabors
			Contractor's Business Licence No. N° du permis de l'entrepreneur	

CASING RECORD — TUBAGE

Casing Size (Inches) Diamètre (en pouces)	Grade Qualité	Weight Poids	Amount Longueur	Set at — Fixation à	Sacks of Cement and Additives Sacs de ciment et d'additifs
1. 13 3/8" ST & C	J-55	54 lb/ft	646.68'	641	600 sks+1½% CaCl ₂
2.					and 80 sks+3% CaCl ₂
3. 9 5/8" ST & C	K-55	36 lb/ft	1654.58'	1650	720 sks+3%CaCl ₂
4.					
5.					
6.					

Geological Tops Sommet des formations	Elevation — Profondeur		Core Record — Carottes					
	Depths Sous le niveau du sol	Sub-Seal Sous le niveau de la mer	From — de	To — à	Rec. Récupérées	From — de	To — à	Rec. Récup.
Middle Devonian			none					
Shale	900	-224						
Nahanni	3115	-2439						
Arnica	3941	-3265						

Log Record — Diagrammes			
Run Série	Type of Log Genre de diagramme	From — De	To — À
1	Dual Induction	4819	1652
1	Formation Density	4825	1652
	Measurement Lithological Log		

*Kerr McGee of Canada (North West) Ltd., The Petrol Oil and Gas Company Ltd., Petrorep (Canada) Ltd., Corexcal Inc.

Remarks

CEMENTING RECORD (Plug, Squeeze, etc.) CIMENTATION (Bouchon, sous pression, etc.)				SERVICING RECORD (Acidizing, Fracing, etc.) ENTRETIEN (acidification, fracturation, etc.)			
Date	From - de	To - à	Remarks - Remarques	Date	From - de	To - à	Remarks - Remarques
Mar. 20/73	4800	4700	150 sks.				
Mar. 20/73	4000	3900	150 sks.		none		
Mar. 20/73	3200	3100	100 sks. plus 2% CaCl ₂				
Mar. 20/73	3100	3000	200 sks. plus 1% CaCl ₂				
Mar. 21/73	1700	1600	200 sks.				

WELL STEM TESTS - ESSAIS AUX TIGES

No. - No	Date	Formation	From - de	To - à	V.O. Mins. Vane ouverte (minutes)	I.S.I. Mins. Première obturation (minutes)	F.S.I. Mins. Obturation définitive (minutes)	I.S.I.B.H.P. Pression de fond à l'obturation (lbf)	I.F.B.H.P. Pression de fond au jaillissement	F.F.S.H.P. Pression de fond à l'écoulement définitif	L.H.P. Pression hydrostatique de début	F.H.P. Pression hydrostatique définitive	Remarks - Remarques
1	Mar. 16/73	Arnica	4410	4680	60		Misrun	1668	539	1368	2073	2073	Rec. 3440' S.W.
2	Mar. 18/73	Arnica	3970	4090	120	60	120	1639	375	790	1843	1786	Rec. 3144' S.W.
3	Mar. 19/73	Arnica	4410	4680	120	60	240	2055	855	1971	2065	2065	Rec. 4090' S.W.

ANALYSIS - ANALYSE

PRESENT STATUS OF WELL ETAT ACTUEL DU Puits				ANALYSIS - ANALYSE			
Lab. No. No de laboratoire	Sample Echantillon	From - de	To - à	Source	Remarks - Remarques	Oil Pétrole	Gas Gaz
F73-289-3	Water	4410	4680	DST #1	March 17, 1973		
F73-290-3	Water	3970	4090	DST #2	March 19, 1973		
F73-291-3	Water	4410	4680	DST #3	March 19, 1973		
						Dry Sec	
						Susp. Travaux sus.	

Company Mesa Petroleum (Northern) Ltd.
Société

Signed by
Signé par

Title District Engineer
Titre

Date September 20, 1973

Forms to be prepared in duplicate and forwarded to the District Conservation Engineer.

Préparer les formulaires remplies à l'ingénieur en conservation du district.

DRILLING AND COMPLETION PROGRAM

WELL: Mesa Nahanni Bore L-20 FIELD: Wellbore DATE: Nov. 13/72
 PROVINCE: N.W.T. LOCATION: 60 deg., 59', 42" N. Lat. OP No.:
 123 deg., 33', 30" W. Long.

LOGGING			GEOLOGICAL MARKERS			R.C.
TYPE	SCALE	INTERVAL	EST ELEVATION: GR. est. 660'		K.B. 675'	
BILL	2" & 5"	TD to surf. csg.	MARKER	DEPTH	SUBSEA	
FDC-GR-CNL-Cal	2" & 5"	TD to surf. csg.	Glacial Drift to	1000		
			Mid Dev. Shale	1000	-325	
			Nahanni L.S.	2500	-1825	
			Arnica Dol.	3000	-2325	
Remarks:			TD	6000	-5325	
Schlumberger logs.						
TYPE	SPECIAL TESTS	INTERVAL				
DST	As requested by wellsite geologist					
Remarks:						
Lynes testing tools and services.						
INTERVAL	DR. CUT. SAMPLES	FREQUENCY	INTERVAL	DRILLING TIME	FREQUENCY	
surf. csg. to TD			0 - TD	Geolograph		
Remarks:						
Two sets of samples washed & dried - One set to the Dept. of Indian Affairs & Northern Development - One set to Mesa.			TOTAL DEPTH: 6000'		Prob. Compl. Interval: Arnica Dol.	
			POSSIBLE PAY:			
MUD: INTERVAL	TYPE	WEIGHT	VISCOSITY	W-L	OTHER SPECIFICATIONS	
0 - 600	Gel-Lime	8.5	As req'd	No control	Sawdust & fibre seal for lost circ.	
600 - 1200	Benex-Gel Chem	9.0	45 - 50	No control		
1200 - 6000	Benex-Gel Chem	9.0-9.2	45-50 for drlg. 80-90 for DST & logs	8 - 10 c.c.		
Remarks:						
CASING: INTERVAL	CSG. SIZE	BIT SIZE	CEMENT		DESCRIPTION OF LANDING POINT, ETC.	
			Sacks	Type		
0 - 1000	9 5/8"	12 1/2"	475	const + 3% CaCL2	TD	
1000 - 6000	7"	8 3/4"	600	oilwell + 2% Gel	TD	
Halliburton material & services for cementing.						
CORING:						
As requested by wellsite Geologist						
Christenson Coring Tools and Services.						
COMPLETION:						
To be determined.						
GENERAL REMARKS: TIGHT HOLE						
Mesa Representatives: Garry Smith						
John Nadurak			403-263-3482 (answering service)			
John Pope						



Drilling Authority No. 644

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 Mesa Nahanni Butte L-20
Location: Unit L Section 20 Grid 61-00-123-30
Latitude 60° 59' 42" N. Longitude 123° 33' 30" W
From Established Reference Marker 300L206100123300 Unique Well Identifier
Universal Well Location Reference Lat. 60.99500° N. Long 123.55833° W.
Permit No. 5044 Lease No. -

Mesa Petroleum (Northern) Ltd.
(Permittee, Licencee, Lessee)

Date of commencement of proposed program -

OIL, GAS, AND WATER ENCOUNTERED
(Depths)

Oil at -
Gas at -
Water at 3207' (lost circulation prod. wtr. while air drlg.)
Total Depth 4818' Date of last operations March 22/73
Present condition of well Dry and Abandoned

CASING RECORD

Casing Size O.D. Inches	Weight	Amount	Set At—	Sacks of Cement and Additives	Amount Pulled
1. 13 3/8"	54#	659'	641'KB	600 sx + 1 1/2% CaCL2	
2. 9 5/8"	36#	1668'	1650'KB	720 sx + 3% CaCL2	
3.					
4.					
5.					

PROPOSED ABANDONMENT PROGRAM

Plug		Geological Formation	Number of Sacks of Cement	Remarks
No.	Position			
1	4800 - 4700		150	PIP @ 9:15 a.m. Mar 20/73
2	4000 - 3900		150	Felt @ 3920'KB
3	3200 - 3100		100	Felt @ 3210'KB
4	3100 - 3000		200	PIP @ 11:55 p.m. Mar 20/73
5	1700 - 1600		200	PIP @ 2:30 a.m. Mar 21/73

The following logs have been run DILL, FDC-GR-Cal

Other operations proposed -

Operations to be carried out by Nabors Rig #10 Contractor Licence No. -
Address 440 -444 - 7th Avenue S.W., Calgary Address
Responsible Agent in field Lon Abel
Dated at Calgary this 13th Day of June 1973
Signed by [Signature] Company Mesa Petroleum (Northern) Ltd.
Title Operations Superintendent Operator's Exploratory Licence No. 1963 (72-73) 336 (73-74)

Note:--The District 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. Greg Wood March 19, 1973.

Dated June 15, 1973

[Signature]
District Conservation Engineer

File No.....

Drilling Authority No.....



DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
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. 644, concerning Mesa Nahanni Butte L-20

(Name and Number of Well)

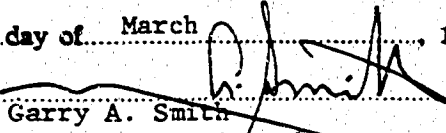
The following amendments are required: Changes in casing sizes from those originally applied for to those shown below:

9 5/8" 36# 1668' set at 1650' KB with 720 sx + 3% CaCL₂

13 3/8" 54# 659' set at 641' KB with 600 sx + 1 1/2% CaCL₂

Reasons for the amendments: Top hole formation were unconsolidated which required setting casing to depth deeper than anticipated.

Dated at Calgary, this 29th day of March, 1973

Signed by 

Garry A. Smith

Title Operations Superintendent

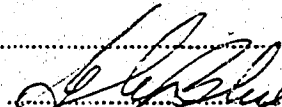
Company Mesa Petroleum (Northern) Ltd.

(For Oil and Mineral Division use only)

APPROVED

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

Date April 3, 1973


Oil Conservation Engineer

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





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 . . . Mesa, Nahanni, Butte, L-20

Location: Unit L Section 20 Grid 61-00-123-30
Latitude 60° 59' 42" N Longitude 123° 33' 30" W.
Unique Well Identifier 300L206100123300
Universal Well Location Reference. Lat. 60.99500° N., Long. 123.55833° W.

Elevation: Ground est. @ 660' K.B. est. @ 674' feet above sea-level.
Well is expected to produce from . . . Arnica Dolomite formation at a depth
of about 3000 feet. Expected total final depth 6000'
Area assigned to well
(for District Conservation Engineer's use only)

Permit No. 5044 Lease No. Acreage 62,244 ✓
Permittee, licensee, or lessee Western Decalta, Kerr-McGee, of Canada (North-West), Ltd., The Petrol Oil &
Exploratory Licence No. 1454, 1456, 1460, Gas Company Limited, Petrorep (Canada) Ltd., Corexcal
Surface owned by Crown XXX (If alienated submit name and address of owner and occupant.) Inc.,

Petroleum and natural gas rights owned by . . . Dominion of Canada
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 7/8"	36	J-55	New	1000'	475
2. 7"	20 & 23	J-55	New	6000'	as required by Caliper
3.					
4.					
5.					

Expected water, gas, and oil horizons and type of control equipment.
Arnica Dolomite - 12" Hydril, Double Gate
BOP with blind & pipe rams, chokes and manifold as per diagram attached
Well will be drilled with Rotary Rig No. . . . 10 by Nabors Drilling
(Drilling Contractor or company)

Responsible agent of applicant:—

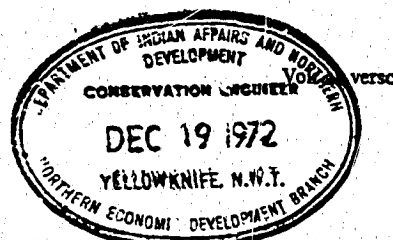
At well . . . Garry A. Smith Contractor's Business Licence No.
Address #500, 202 - 6th Avenue S.W. Address #500, 202 - 6th Avenue S.W., Calgary, Alberta
It is understood that if changes become necessary, notice of the change of plan will be submitted.
Dated at . . . Calgary this . . . 6th . . . day of . . . December 19 72
Signed by Company . . . Mesa Petroleum (Northern) Ltd.
Title Operations Superintendent . . . Operator's Licence No. . . . 1962

(For Oil and Mineral Division use only)

APPROVED

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

Dated . . . Dec 29 . . . 19 72 District Conservation Engineer
Forms to be submitted to District Conservation Engineer,
Department of Indian Affairs and Northern Development.

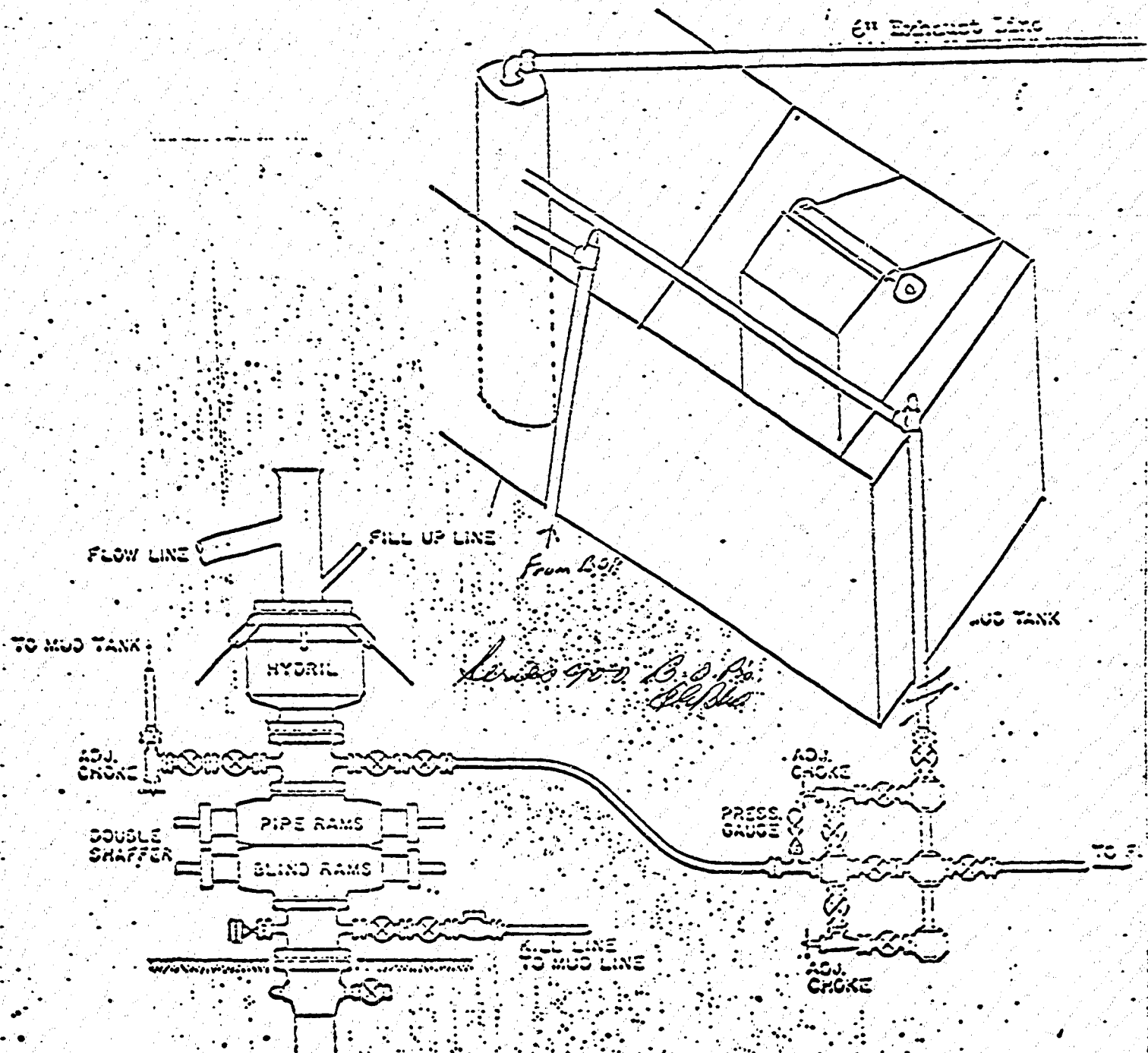


WELL Mesa Nahanni Butte L-20

1. Copies of this Drilling Authority, conditions of approval and Daily Drilling Report Preparation Requirements Card, shall be posted in a conspicuous manner in both the doghouse and drilling foreman's or engineer's office between spud and rig release dates.
2. The company will submit to this office, on Tuesday morning of each week, a day-by-day progress report summary on the well FOR THE PAST WEEK. (See daily drilling report preparation that are attached for pertinent details.)
3. All shows of oil & gas are to be reported to the District Conservation Engineer immediately.
4. When a fatal accident occurs the District Conservation Engineer is to be notified immediately and drilling activities must cease. Permission to resume operations will be granted by the District Conservation Engineer after a fatality.
5. All waste material on and around the wellsite area, shall be disposed of in a manner that will prevent pollution to adjacent areas. Refuse shall be burned and the residue shall be buried with an adequate cover of earth.
6. The location of Mesa Nahanni Butte L-20 is approximately 1,750' from the northern border of permit 5044. In the event that deviation problems create an offset distance approaching 1,750' you may be required to run a directional survey.
7. Forward to this office/two (2) field prints of all well logs, copies of core analysis and fluid analysis as soon as they are available.
8. Prior approval from a District Conservation Engineer is required for any changes to the approved drilling authority.
9. Surface casing to be set 50 feet (min.) into a consolidated formation at the approved depth. Please notify this office before drilling beyond 1,000'.
10. 3000# W.P. (Ser. 900) B.O.P.'s are required to 12,000 ft. (Max.)
5000# W.P. (Ser. 1500) B.O.P.'s are required below 12,000 ft.

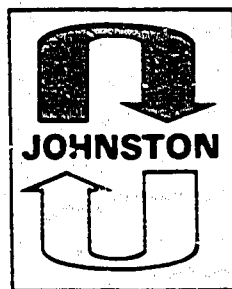
A. E. Blue

RECOMMENDED HOOK-UP TO RECOVER GASIFIED MUD



JOHNSTON
Schlumberger

technical report



JOHNSTON

Schlumberger

JOHNSTON TESTERS

A DIVISION OF SCHLUMBERGER CANADA LIMITED
321 - 50th AVENUE S.E. CALGARY, ALBERTA T2G 2B3

TEST DATA						TOOL SEQUENCE		
Type of Test	Casing Positrieve.					Tool	Length	O.D.
Time Started in Hole	0530	Hrs.	Tool Opened	1715	Hrs.	P.O. Sub	1.15	
First Flow	7	Min.	Initial Shut-In	120	Min.	Drill Collars		
Second Flow	38	Min.	Second Shut In		Min.	Sub	.86	
Third Flow		Min.	Final Shut In	240	Min.	Safety Valve	19.00	
Pulled Loose @	0245	Hrs.	Out of Hole	0700	Hrs.	Sub	.75	
Wt. Set/on Packers	25,000	#	Pulled Loose Wt.	10,000	#	Drill Collars		255.00
Description of Blow During Test	Strong initial blow decreasing to nil in 10 minutes of second flow.					Sub	.89	
						Reverse Circ. Tool	5.26	
						Recorder	4.40	
						Sub	1.10	
						Drill Collars		186.00
						Sub	.85	
						Orifice Choke Sub	1.17	
						Sub	.90	
						P.C.T. Valve	17.00	
						MFE Tool	10.80	
						Recorder	5.60	
						Blank Joint	2.00	
						Jars	5.50	
						Safety Joint	1.75	
						Sub	1.00	
						Positrieve Packer	2.00	9 5/8"
						Total	82.98	
						Stub	3.20	
						Sub	1.80	
						Perfs	10.00	
						Temp. Recorder	7.80	
						Recorder	7.80	
						Recorder	7.80	
						Recorder	7.60	
						Total Interval	46.00	
						TOTAL LENGTH		
						Elevation G.L.	6	K.B. 33
						Bottom Hole Choke Size	1/2"	
						Fluid Cushion Type	Nil	Amt.
						MUD AND HOLE DATA		
						Mud Type	Shell Pal	W.L. 10.0
						Filter Cake	2/32 Visc. 45	Wt. 9.4
						Time Taken		
						Contractor	Adeco Drilling Rig No. 5	
						Drill Pipe Size	4 1/2" XH	
						Drill Collar Size	2 15/16" ID	
						Drill Collar Length	464' &	
						Main Hole Size	9 5/8" Casing Rat Hole	
						RESISTIVITY		
						SALT CONTENT		
Recovery Water	@	°F.				ppm.		
Mud Pit sample filtrate	@	°F.				ppm.		
District	Inuvik	Ticket No.	DO9177	Date	July 5, 1973	Test No.	1	J.T. No. 1
Company	Shell Canada Limited			Address	639 - 5 Avenue, S.W.			
Well Name	Shell Kugpik				Calgary, Alberta			
Number	68°52'50"N 135°18'15"W			Field	Kugpik Province N.W.T.			
Formation				Co. Rep.	P. Ettinger			
Interval	T.D. 8363'			Technician	N. Young & C. Adams			
Distribution of Reports	6 - Calgary			Attention: D. Hemphill				

REMARKS: Test satisfactory.

Pressure tested surface equipment when on bottom.

Perforated from 7404' to 7424'.

Packer set @ 7388'.

P.O. Sub set @ 7338'.

JOHNSTON
Schlumberger

A DIVISION OF SCHLUMBERGER CANADA LIMITED
321 - 50th AVENUE S.E. CALGARY, ALBERTA T2C 2B3

A DIVISION OF SCHLUMBERGER Canada Limited

321 - 50th AVENUE S.E. CALGARY, ALBERTA T2G 2B3

DO9177 PRESSURE DATA FLUID SAMPLE REPORT

INSTRUMENT No.		AKI-2568	RPG-23786N	AKI-2027	Sample No.	
CAPACITY (psig)		4650	4500	4350	Type	
INSTRUMENT DEPTH FT.		7332	7369	7411	Depth	
INSTRUMENT OPENING		Inside	Inside	Outside	Volume	
WELL TEMP. °F. 154						
✓					Sample Pressure:	
INITIAL HYDROSTATIC	A	15#	3673#	3679#		psig. at Surface
FIRST FLOW	B				Gravity	API @ °F
	B-1	2735#	2486#	2513#	Gas/Oil Ratio	Cu.Ft./bbl.
INITIAL SHUT-IN	C					
SECOND FLOW	D		2723#	2728#		
	D-1	2510#			Recovery:	
SECOND SHUT-IN	E		2742#	3105#	Cu. Ft. Gas	
THIRD FLOW	F				cc. Oil	
	F-1	Ran above	3094#	3105#	cc. Water	
FINAL SHUT-IN	G	MFE			cc. Mud	
FINAL HYDROSTATIC	H		3277#	3340#	Total Liquid cc.	

REMARKS:	No prints made on recorder #RPG-21224N and #RPG-23786N and #RPG-23065N.
	Temperature recorder #23065 - 32° to 250° = 147.0°F @ 7403'.

PRESSURE INCREMENTS ON RECORDER #

[illegible]

Schlumberger

A DIVISION OF SCHLUMBERGER CANADA LIMITED

321 - 50th AVENUE S.E. CALGARY, ALBERTA T2G 2B3

DO9177

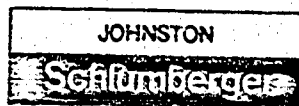
PRESSURE DATA

FLUID SAMPLE REPORT

INSTRUMENT No.		AK1-2103	RPG-21224N			Sample No.	
CAPACITY (psig)		5250	4600			Type	
INSTRUMENT DEPTH FT.		7419	7426			Depth	
INSTRUMENT OPENING		Outside	Outside			Volume	
WELL TEMP. °F. 154							
INITIAL HYDROSTATIC A		3667#	3705#			Sample Pressure:	
FIRST FLOW B							psig. at Surface
B-1		2420#	2514#			Gravity	API @ °F
INITIAL SHUT-IN C						Gas/Oil Ratio	Cu.Ft./bbl.
SECOND FLOW D		2742#	2739#				
D-1						Recovery:	
SECOND SHUT-IN E		3057#	3055#			Cu. Ft. Gas	
THIRD FLOW F						cc. Oil	
F-1		3118#	3114#			cc. Water	
FINAL SHUT-IN G						cc. Mud	
FINAL HYDROSTATIC H		3357#	3286#			Total Liquid cc.	

PRESSURE INCREMENTS ON RECORDER #

[illegible]



321-50TH AVENUE S.E. • CALGARY, ALBERTA T2G 2B3 • PH. (403) 255-1151

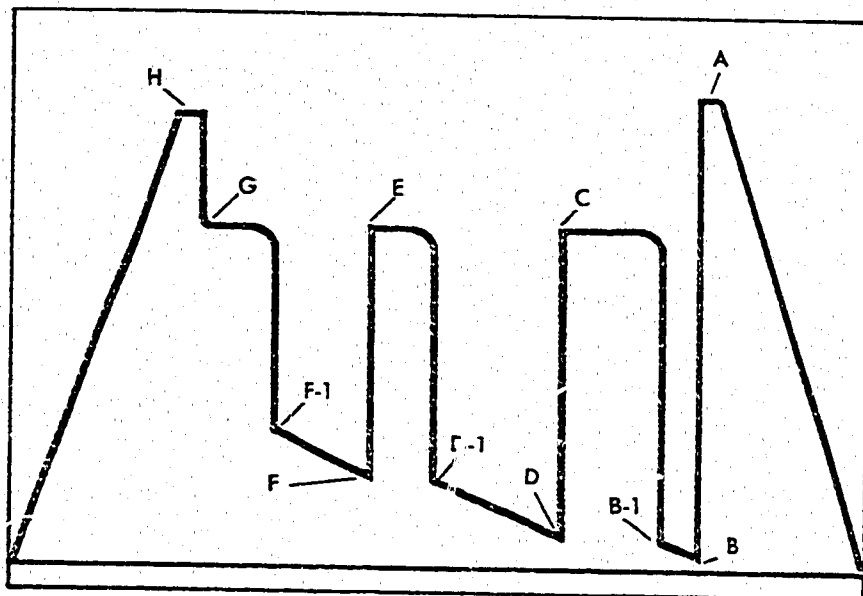
GUIDE TO IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS

FIELD
REPORT NO.

RECORDER NO.

D09177

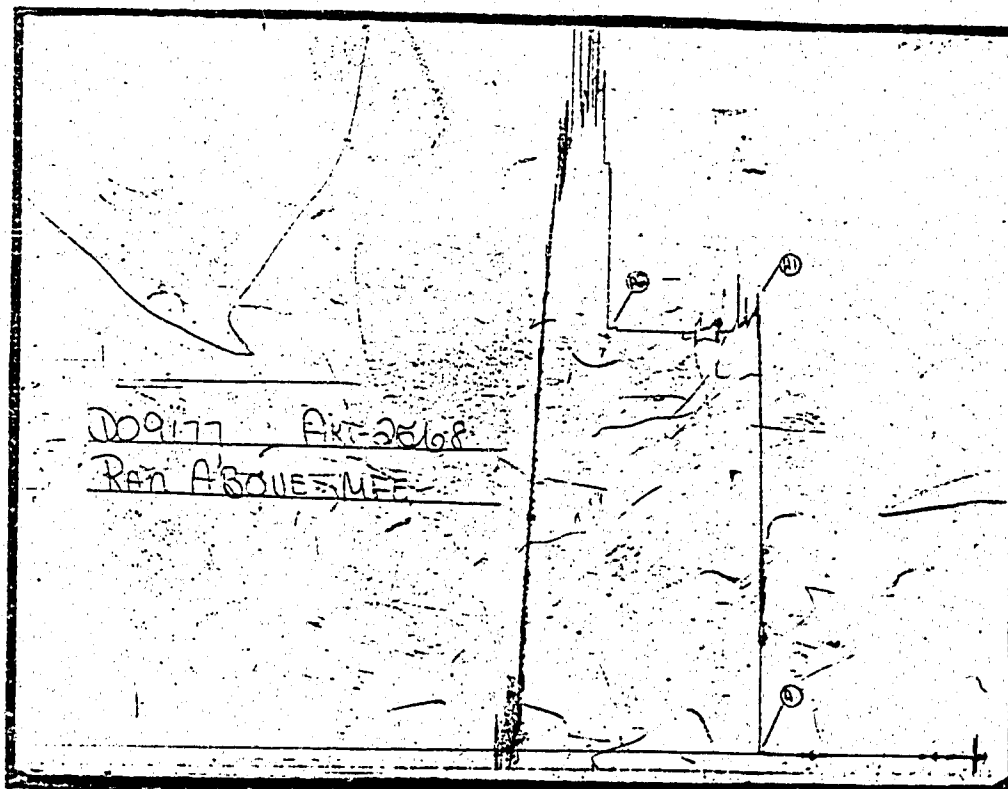
AK1-2568

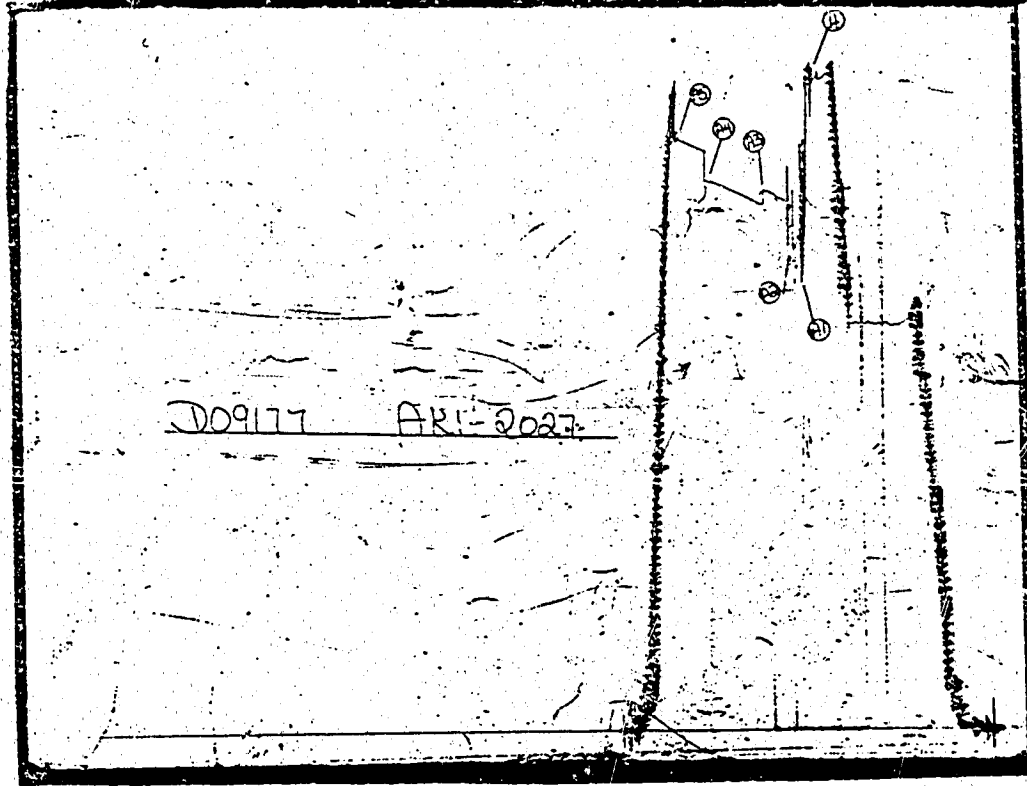
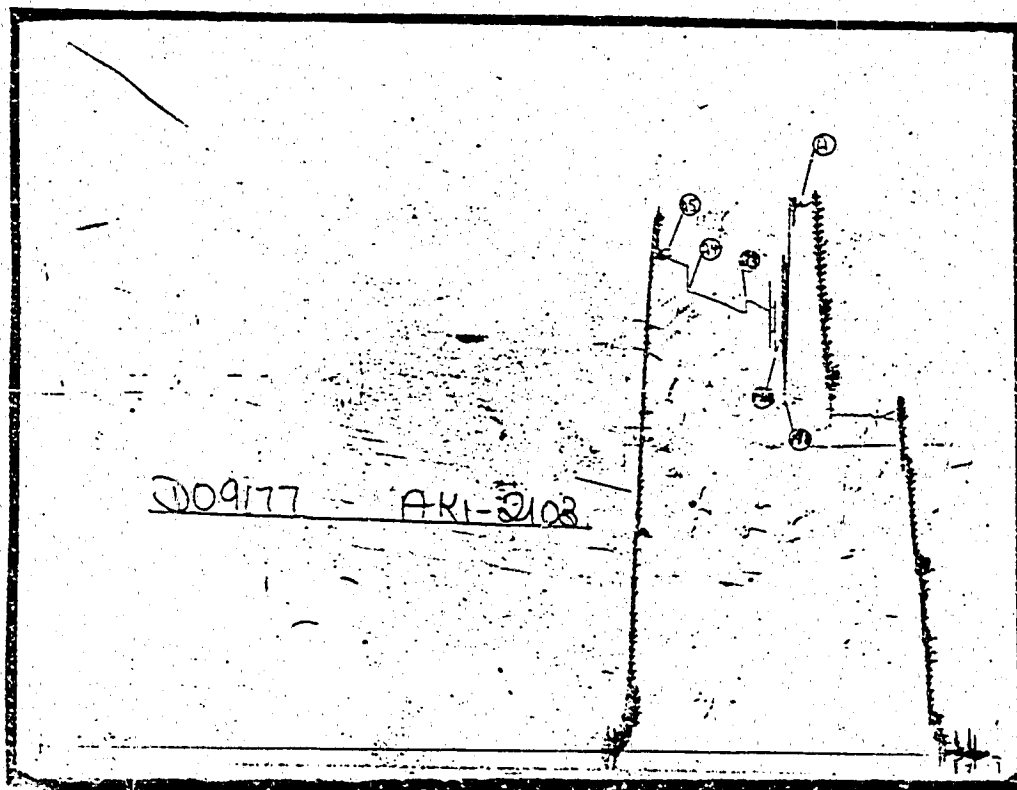


- A. Initial Hyd. Mud
- B. First Flow
- C. Initial Shut-In
- D. Second Flow
- E. Second Shut-In
- F. Third Flow
- G. Final Shut-In
- H. Final Hyd. Mud

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

A-1, A-2, A-3, etc. Initial Hyd. Pressures
Z — Special pressure points such as pumping pressures recorded for formation breakdown.





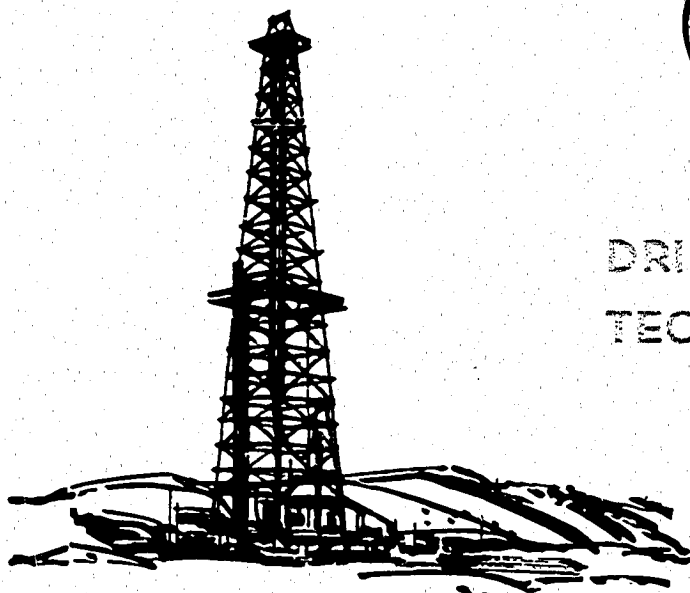
LYNES

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 SIP buildup plot, psig/cycle (psig ² /cycle for gas)
b	= approximate radius of investigation, feet
r_w	= wellbore radius, feet
t_o	= total flowing time, minutes
P_o	= Extrapolated maximum reservoir pressure, psig
P_i	= final flowing pressure, psig
$P.I.$	= productivity index, bbls./day/psi
$P.I._d$	= 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_d	= theoretical absolute open flow if damage were removed
Z	= subsea depth
W	= water gradient based on salinity
H_o	= potentiometric surface

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INTERPRETATION CALCULATIONS (OIL/WATER)	
AVERAGE PRODUCTION RATE DURING TEST $Q = \frac{1440 \text{ (bbl./day capacity of reservoir) } \times \text{ (drill pipe capacity) } \times \text{ (test interval)}}{\text{initial flow time} + \text{final flow time}}$ $= 1440 \left[\frac{1}{\text{initial flow time}} + \frac{1}{\text{final flow time}} \right]$ $= 1440 \left[\frac{1}{0.0145} + \frac{1}{0.0073} \right]$ $= \text{bbl./day}$	
FLUID PROPERTIES API Gravity @ 60° F. ° Some for Gravity @ 60° F. Est. Viscosity cp Estimated Bottom Hole Temperature °	
TRANSMISSIBILITY $\frac{k h}{\mu} = \frac{152.6 Q}{m} = \frac{152.6}{\text{md-ft. cp}}$	
IN SITU CAPACITY $k h = \text{md-ft.}$	
AVERAGE EFFECTIVE PERMEABILITY $k = \frac{\text{md-ft. cp}}{\text{Actual Pay Thickness}} = \text{md.}$	
PRODUCTIVITY INDEX $P.I. = \frac{Q}{P_o - P_i} = \text{bbl./day/psi}$	
DAMAGE RATIO $D.R. = \frac{0.183 (P_o - P_i)}{m} = 0.183 \left[\frac{\text{psig}}{\text{psig/cycle}} \right] =$	
PRODUCTIVITY INDEX WITH DAMAGE REMOVED $P.I._d = P.I. \times D.R. = \text{bbl./day/psi}$	
APPROXIMATE RADIUS OF INVESTIGATION $b = \sqrt{r_w^2 + \frac{4.52 Q}{m}} = \text{ft.}$	
Drawdown Factor = $\frac{1.5 \text{ S.I.P.} - \text{F.S.I.P.}}{\text{S.I.P.}} \times 100 = \text{ } \times 100 = \%$ (4% to 5% is considered serious or substantial)	
Potentiometric Surface = $H_o = Z + \frac{P_o}{W}$ $H_o = \text{ft.}$	

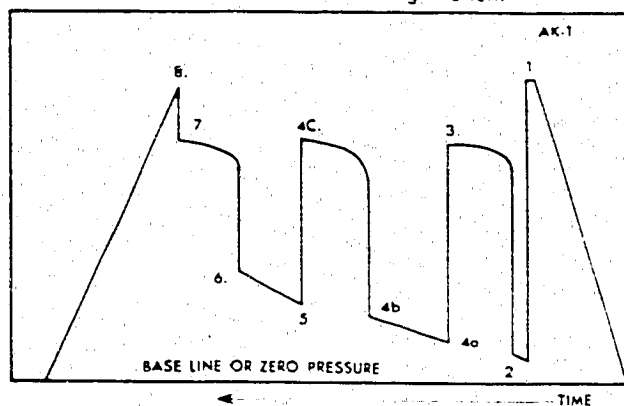
INTERPRETATION CALCULATIONS (GAS)	
ESTIMATED GAS PROPERTIES Gravity @ 60° F. Viscosity (Pas.) cp. Estimated Bottom Hole Temperature ° Compressibility Factor (Z)	
TRANSMISSIBILITY Measured D.S.T. Gas Rate mcf/d. $\frac{k h}{\mu} = \frac{1637 Q_g Z T_r}{m} = \frac{1637}{\text{md-ft. cp.}}$	
IN SITU CAPACITY $k h = \text{md-ft.}$	
AVERAGE EFFECTIVE PERMEABILITY $k = \frac{\text{md-ft. cp.}}{\text{Actual Pay Thickness}} = \text{md.}$	
APPROXIMATE RADIUS OF INVESTIGATION $b = 0.02 \sqrt{r_w^2 P_o} = 0.02 \sqrt{\text{ft.}^2 \text{ psig}} = \text{ft.}$	
ACTUAL CAPACITY $k h = \frac{3270 Q_g Z T_r \log(0.472 \frac{P_o}{P_i})}{P_o^2 - P_i^2} = \frac{3270}{\text{md-ft.}}$	
DAMAGE RATIO $D.R. = \frac{\text{In Situ Capacity}}{\text{Actual Capacity}} = \text{ } =$ $E.D.R. = \frac{(P_o^2 - P_i^2)}{m (\log T_o - 2.65)}$ $E.D.R. =$	
ESTIMATED RANGE OF AOF POTENTIAL $\text{Max. AOF} = \frac{Q_g P_o}{P_o^2 - P_i^2} = \frac{\text{mcf/d.}}{\text{psig}^2} = \text{MCF/D}$ $\text{Min. AOF} = \frac{Q_g P_o}{\sqrt{P_o^2 - P_i^2}} = \frac{\text{mcf/d.}}{\sqrt{\text{psig}^2}} = \text{MCF/D}$	
ESTIMATED RANGE OF AOF POTENTIAL, DAMAGE REMOVED $\text{Max. AOF}_d = [\text{Max. AOF}] (D.R.) = \text{MCF/D}$ $\text{Min. AOF}_d = [\text{Min. AOF}] (D.R.) = \text{MCF/D}$	
Drawdown Factor = $\frac{\text{S.I.P.} - \text{F.S.I.P.}}{\text{S.I.P.}} \times 100 = \text{ } \times 100 = \%$ (4% to 5% is considered serious or substantial)	
Potentiometric Surface = $H_o = Z + \frac{P_o}{W}$ $H_o = \text{ft.}$	

Excellent
flow time

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

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.

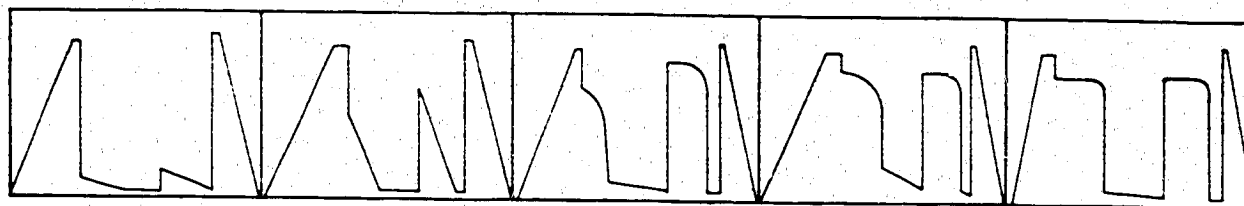
AK-1 recorders. Read from right to left.



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

K-K-3 recorders. Read from left to right.

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



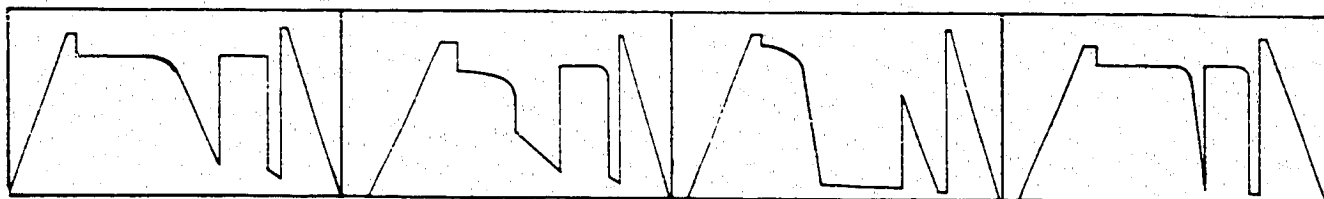
Very low permeability. Usually only mud recovered from interval tested. Virtually no permeability.

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.

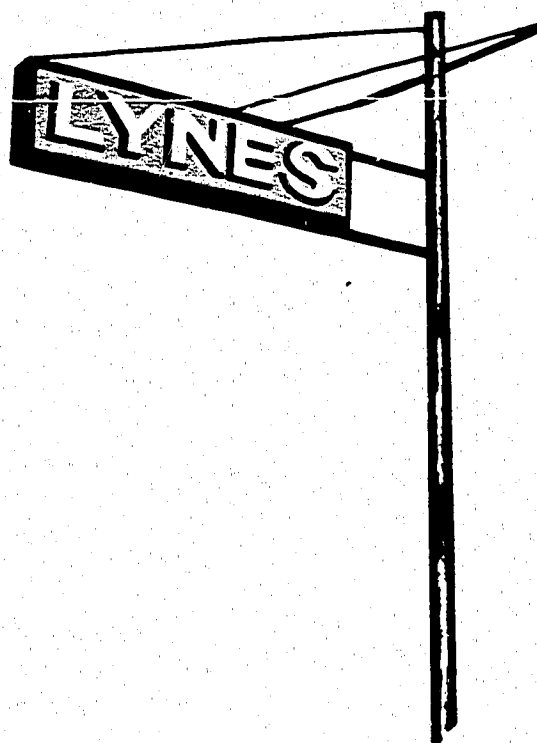


Excellent permeability where final flow final shut-in pressure.

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 UNITED SERVICES LTD. 262-4501 CALGARY, ALBERTA

Mesa Petroleum

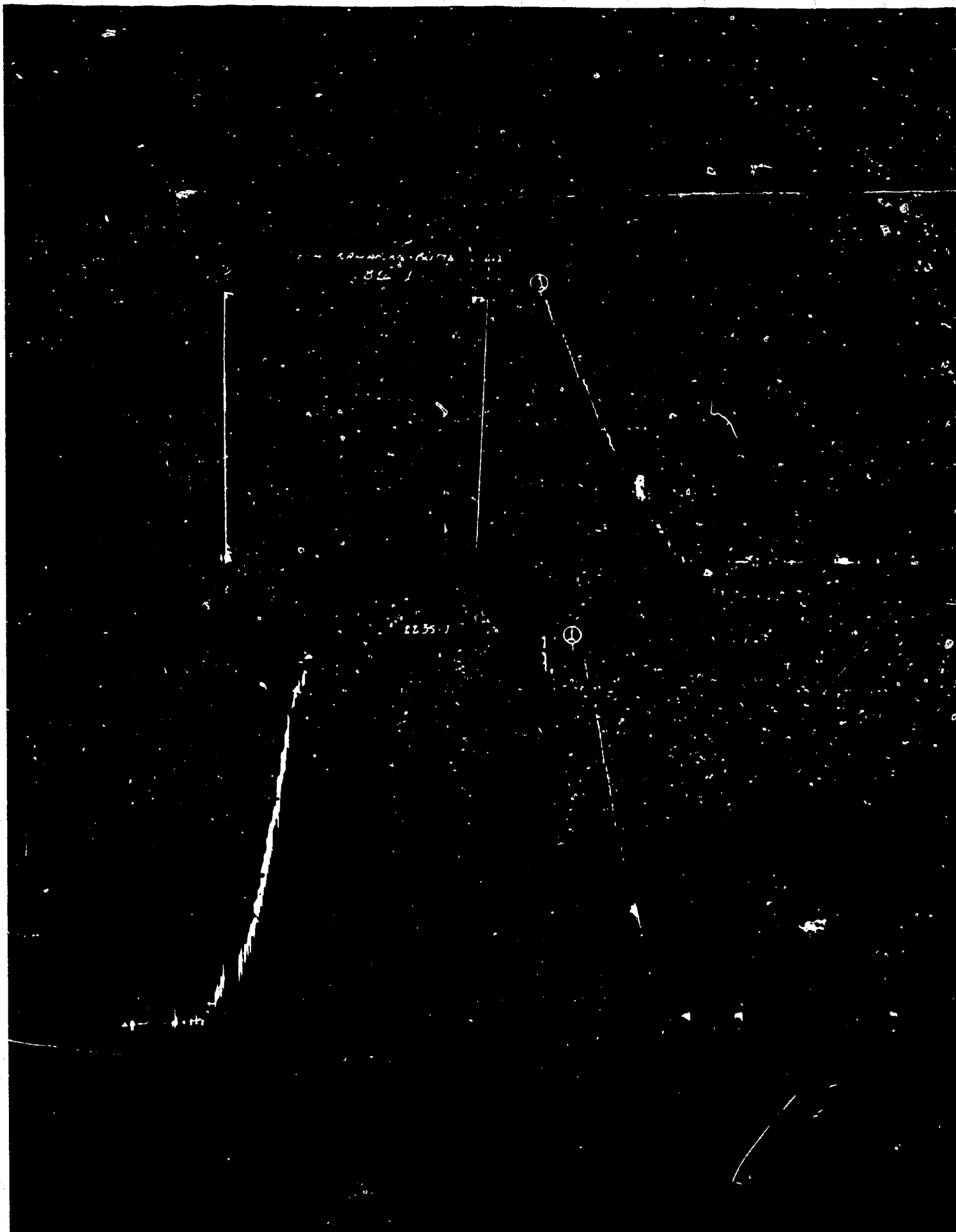
Company

Mesa Nahanni Butte L-20

Well Norms and Descriptions

工

March 16/73



WEST NAWANNA BUTTE L20
2514-1

⑧

①

1235-1

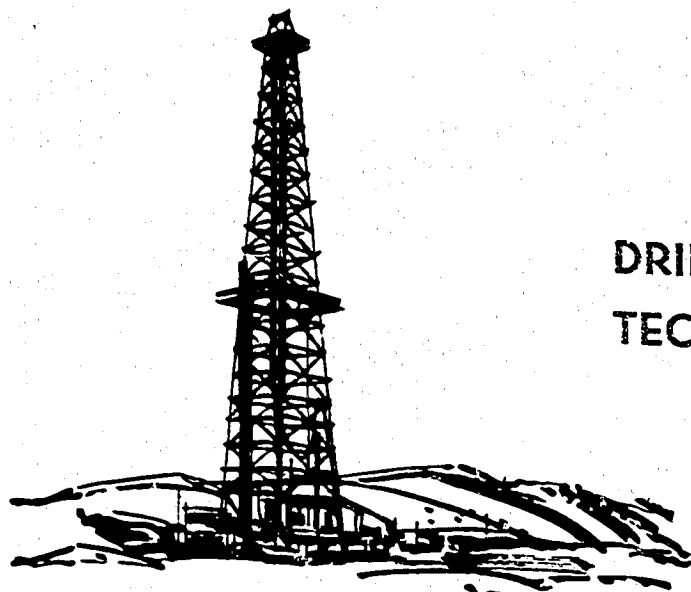
①



LYNES

BRIGHT NAME IN THE OIL PATCH

Inflatable and Conventional Packer Tools



DRILL STEM TEST
TECHNICAL SERVICE REPORT

LYNES UNITED SERVICES LTD.

WELL NAME - MESA NAHANNI BUTTE

LOCATION - L-20

DST NUMBER - 2

INTERVAL TESTED - 3970 TO 4090

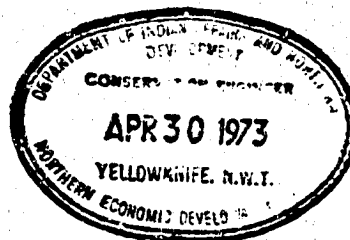
RECORDER NO. - 2816

DEPTH - 3995

INITIAL SHUT IN PRESSURE

TIME(MIN) Ø	T + Ø Ø	PSIG
0	0.0000	365
5	7.0000	1441
10	4.0000	1475
15	3.0000	1502
20	2.5000	1526
25	2.2000	1547
30	2.0000	1565
35	1.8571	1583
40	1.7500	1599
45	1.6667	1614
50	1.6000	1625
55	1.5455	1632
60	1.5000	1639

EXTRAPOLATION OF INITIAL SHUT-IN = 1714.16



LYNES UNITED SERVICES LTD.

WELL NAME - MESA NAHANNI BUTTE

LOCATION - L-20

DST NUMBER - 2

INTERVAL TESTED - 3970 TO 4090

RECORDER NO. - 2816

DEPTH - 3995

SECOND SHUT IN PRESSURE

TIME(MIN) ϕ	$\frac{T + \phi}{\phi}$	PSIG
0	0.0000	790
10	16.0000	1413
20	8.5000	1470
30	6.0000	1504
40	4.7500	1530
50	4.0000	1555
60	3.5000	1576
70	3.1429	1593
80	2.8750	1612
90	2.6667	1627
100	2.5000	1641
110	2.3636	1655
120	2.2500	1668

EQU. FITTED LINE IS $\text{LOG}((T_0 + \phi)/\phi) = -0.00257 \text{ PSIG} + 4.64165$

EXTRAPOLATION OF SECOND SHUT-IN = 1804.95 M= 388.86

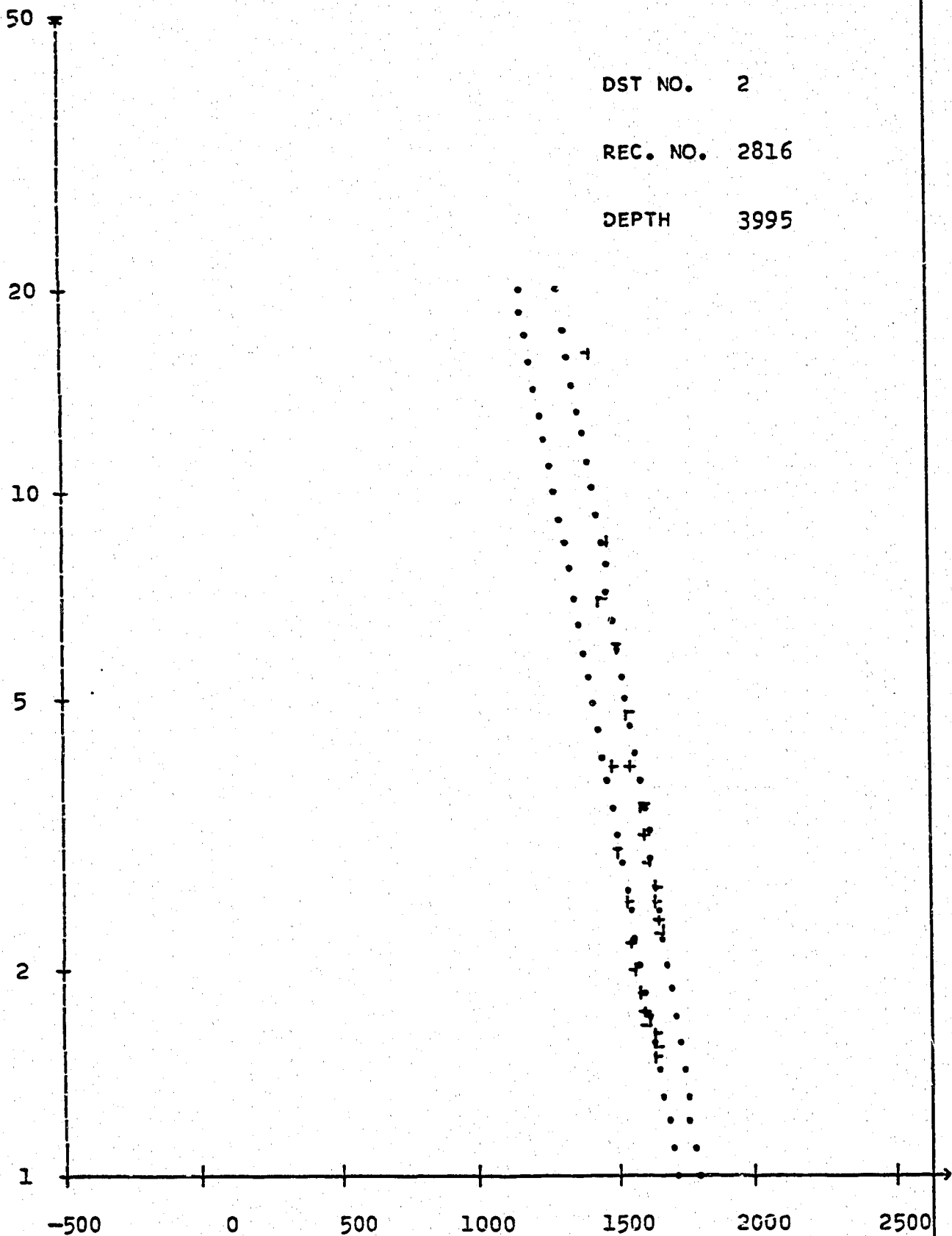
LYNES UNITED SERVICES LTD.

DST NO. 2

REC. NO. 2816

DEPTH 3995

$$\frac{T_0 + \phi}{\phi}$$



PSIG(OIL OR WATER)

PRESSURE EXTRAPOLATION PLOT

LYNES UNITED SERVICES LTD.

TEST DATA		Test No. 2		Lynes Test 2		GENERAL INFORMATION	
Formation Nahanni		T.D. 4818 Ft.		Company Mesa Petroleum Ltd.			
Interval Tested 3970		Ft. to 4090		Address			
Interval Tested 120		Ft. Net Pay Tested					
Type of Test Conv. Straddle By-pass							
Cushion		Amount		Ft.		Well Name Mesa Nahanni Butte	
Started in Hole at 2:00		Hrs.		Tool Open at 5:25		Hrs.	
Pre-Flow 30		Mins.		Initial Shut-in 60		Mins.	
2nd Flow		Mins.		Second Shut-in		Mins.	
Final Flow 120		Mins.		Final Shut-in 120		Mins.	
Remarks:				Tester L. London			
Prewflow - fair air blow increasing				Contractor Nabors		Rig No. 10	
Blow: to strong after 3 minutes.				Ticket No. 6026		Date March 18/73	
Weak-tool opened for flow. No				Service Reports To:			
bubbles in pail indicating dead							
flow.							
GAS BLOW MEASUREMENTS							
Measured with				MUD AND HOLE DATA			
				Mud Type Salt water			
				Weight		Viscosity	
				Filter Cake		Bottom Hole Temperature	
				Drill Pipe Size 4 1/2 H90		Weight	
				Drill Collars 4 1/2		I.D. 2 7/8	
				Main Hole or Casing Size 8 3/4"		Feet Run 472	
				Rathole or Liner Size		No. of Feet	
				Bottom Hole Choke Size 1/2"			
				Surface Choke Size 1 1/4"			
				Packer Rubber Size 7 7/8"			
				REMARKS			
				Shut-in pressures suggest low			
				permeability within the interval			
				tested.			
RECOVERY							
TOTAL FLUID RECOVERED 3144		Ft. Consisting of:		Moistured from hot salt water			
3144 Ft. of		salt water		158,000 - 177,000 PPM		froze chicksans causing dead flow	
Ft. of						in pail.	
Ft. of							
Ft. of							
Test was/was not Reverse Circulated							
Oil Recovery A.P.I.		Water Specific Gravity					
Salinity							
PRESSURE READINGS							
		Inside _____ Outside 2815		Inside _____ Outside 2235		Inside _____ Outside _____	
		Recorder No. 4600		Recorder No. 3350		Recorder No. _____	
		Capacity 3995		Capacity 3991		Capacity _____	
		Depth _____		Depth _____		Depth _____	
NUMBER KEY:							
1 - INITIAL HYDROSTATIC		1843		1841			
2 - PRE-FLOW		365		374			
3 - INITIAL SHUT-IN		1639		1638			
4a - 2nd INITIAL FLOW							
4b - 2nd FINAL FLOW							
4c - 2nd SHUT-IN							
5 - 3rd INITIAL FLOW		375		376			
6 - FINAL FLOW		790		787			
7 - FINAL SHUT-IN		1668		1667			
8 - FINAL HYDROSTATIC		1785		1785			

Mesa Petroleum Ltd.

Company

Mesa Nahanni Butte L-20

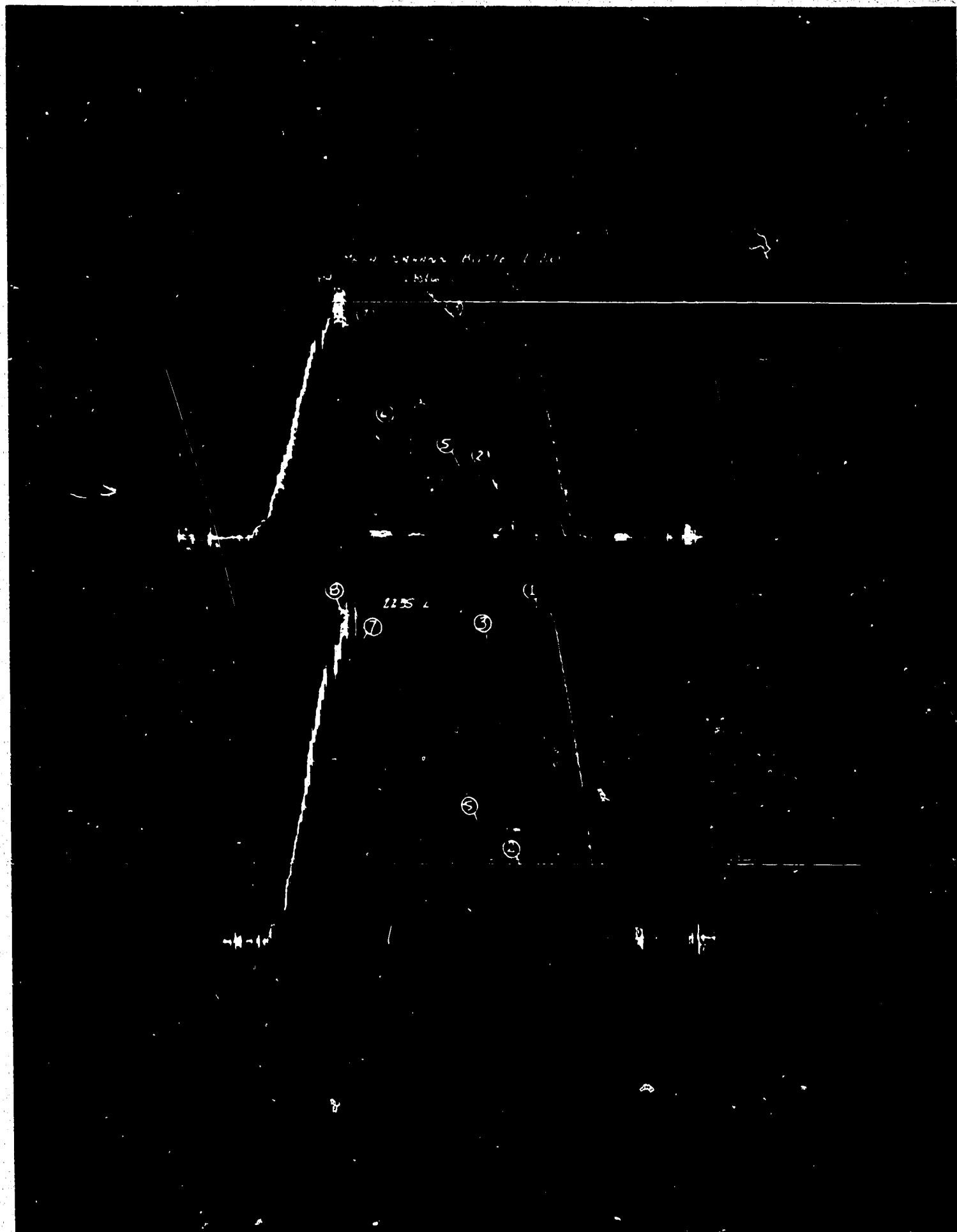
Well Name and Description

#2

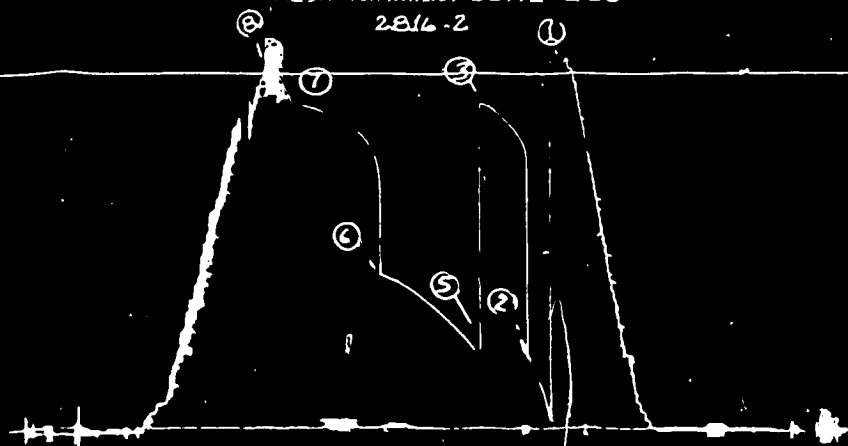
March 18/73

Date of Test

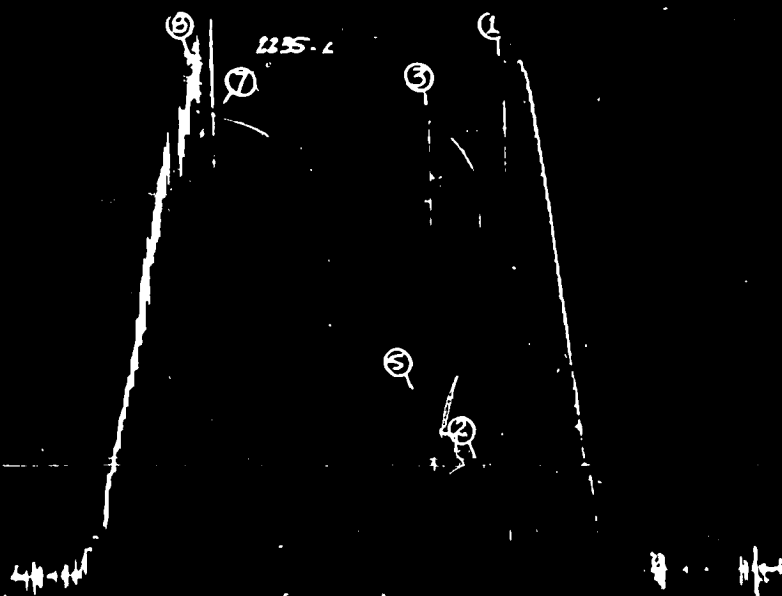
Test No.

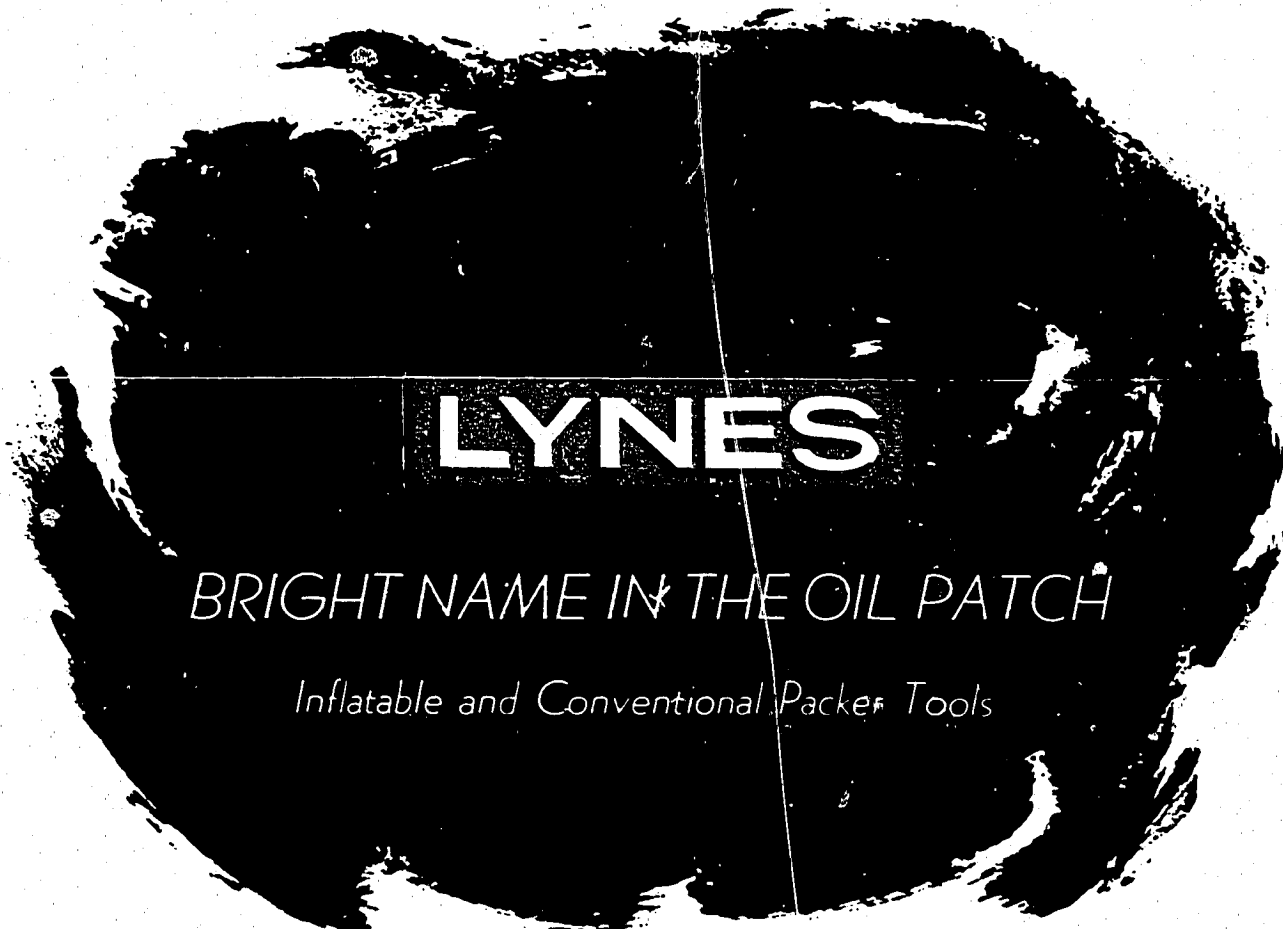


MESA NAHANNI BUTTE L-20
2816-2



2255-2

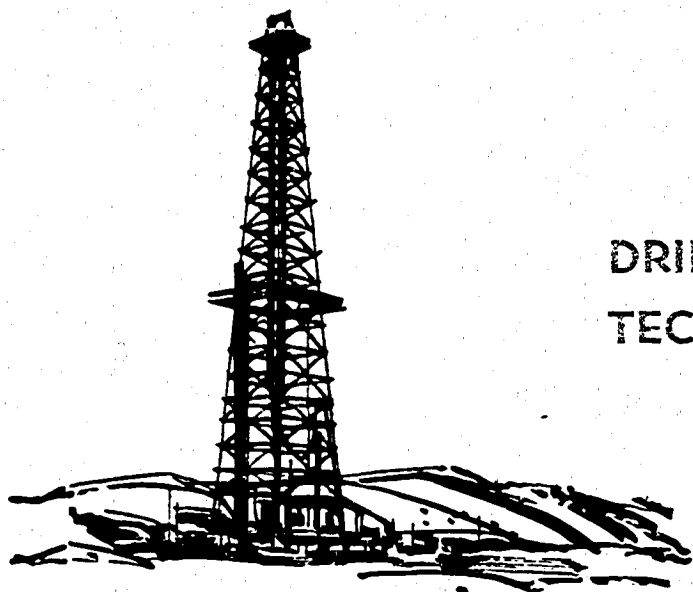




LYNES

BRIGHT NAME IN THE OIL PATCH

Inflatable and Conventional Packer Tools



**DRILL STEM TEST
TECHNICAL SERVICE REPORT**

LYNES UNITED SERVICES LTD.

TEST DATA				GENERAL INFORMATION			
Test No.	3			Lynes Test	3		
Formation	Arnica			T.D.	48±8		
Interval Tested	4410			Ft. to	4680		
Interval Tested	270			Ft. Net Pay Tested			
Type of Test	Conv. Straddle						
Cushion	Amount			Ft.	Well Name		
Started in Hole at	7:30			Hrs. Tool Open at	9:45		
Pre-Flow	30	Mins.	Initial Shut-in	60	Mins.	K.B. Elevation	674
2nd Flow		Mins.	Second Shut-in		Mins.	Area	Nahanni
Final Flow	120	Mins.	Final Shut-in	240	Mins.	Company Rep.	L. Aber
Remarks:	Weak initial increasing to strong air blow. Strong throughout the flow						
Tester	L. London						
Contractor	Nabors						
Ticket No.	6027						
Date	March 19/73						
Service Reports To:							
GAS BLOW MEASUREMENTS							
Measured with							
MUD AND HOLE DATA							
Mud Type salt water							
Weight Viscosity Water Loss							
Filter Cake Bottom Hole Temperature							
Drill Pipe Size 4 1/2H90 Weight							
Drill Collars 4 1/2H90 I.D. 2 7/8 Feet Run 414							
Main Hole or Casing Size 8 3/4"							
Rathole or Liner Size No. of Feet							
Bottom Hole Choke Size 1/2"							
Surface Choke Size 1 1/4							
Packer Rubber Size 7 7/8"							
REMARKS							
Drilling blind with air and salt water. Fluid level down 120 feet approx in hole. Shut-in pressures suggest average permeability within the interval tested.							
RECOVERY							
TOTAL FLUID RECOVERED 4090 Ft. Consisting of:							
4090 Ft. of salt water 190,000 PPM							
Ft. of							
Ft. of							
Ft. of							
Test was/was not Reverse Circulated							
Oil Recovery A.P.I. Water Specific Gravity							
Salinity							
PRESSURE READINGS							
Inside Outside X		Inside Outside X		Inside Outside		Inside Outside	
Recorder No. 2816		Recorder No. 2235		Recorder No.		Recorder No.	
Capacity 4600		Capacity 3350		Capacity		Capacity	
Depth 4430		Depth 4426		Depth		Depth	
NUMBER KEY:							
1 - INITIAL HYDROSTATIC		2065		2063			
2 - PRE-FLOW		844		853			
3 - INITIAL SHUT-IN		2055		2054			
4a - 2nd INITIAL FLOW							
4b - 2nd FINAL FLOW							
4c - 2nd SHUT-IN							
5 - 3rd INITIAL FLOW		855		890			
6 - FINAL FLOW		1971		1968			
7 - FINAL SHUT-IN		2062		2056			
8 - FINAL HYDROSTATIC		2065		2062			

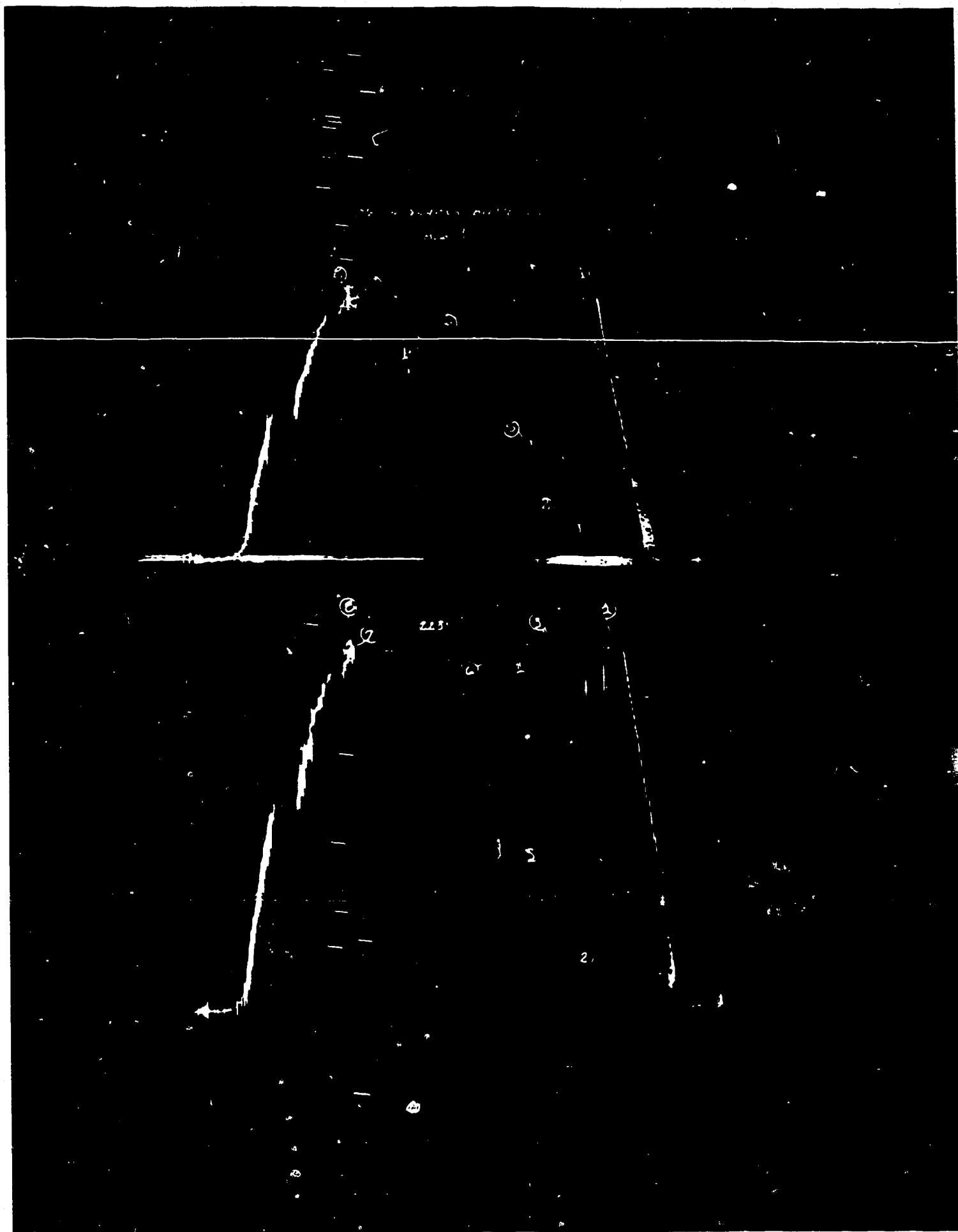
Mesa Petroleum Ltd.

Mesa Nahanni Butte L-20

Test No.

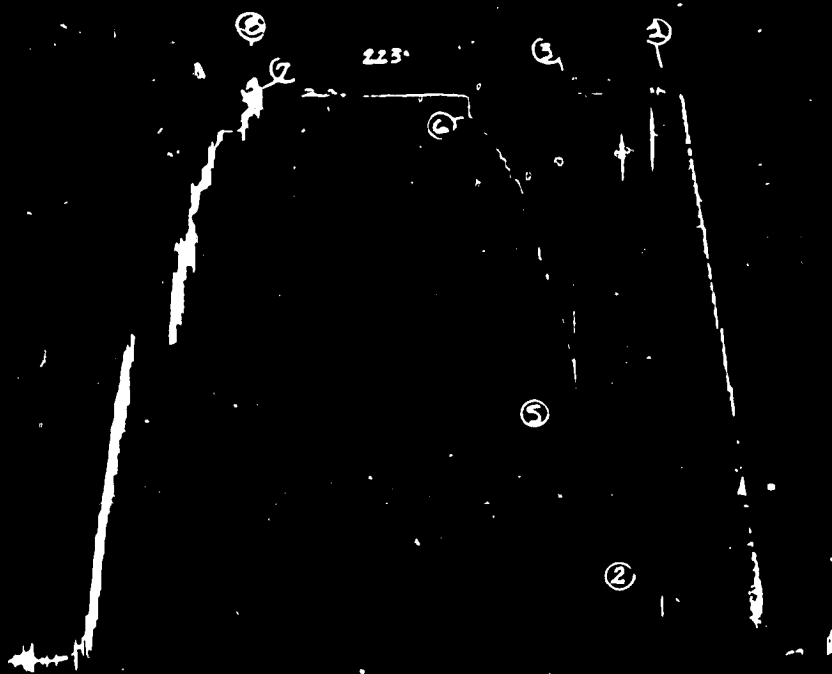
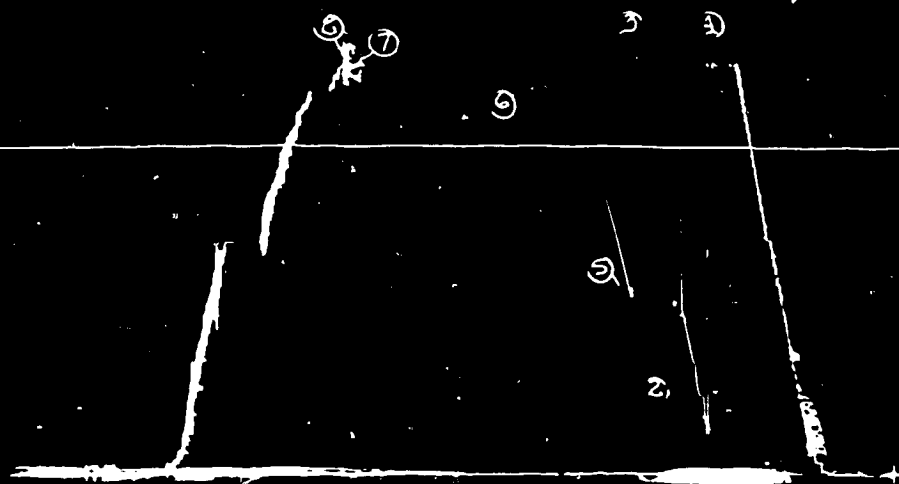
March 19/73

Date of Test



MESA NAHANNI BUTTE L20

2016-3



7

LYNES UNITED SERVICES LTD.

WELL NAME - MESA NAHANNI BUTTE

LOCATION - L-20

DST NUMBER - 3

INTERVAL TESTED - 4410 TO 4680

RECORDER NO. - 2816

DEPTH - 4430

INITIAL SHUT IN PRESSURE

TIME(MIN) Ø	$\frac{T}{Ø} + \frac{Q}{Ø}$ Ø	PSIG
0	0.0000	844
5	7.0000	2032
10	4.0000	2041
15	3.0000	2046
20	2.5000	2048
25	2.2000	2049
30	2.0000	2051
35	1.8571	2052
40	1.7500	2053
45	1.6667	2054
50	1.6000	2054
55	1.5455	2055
60	1.5000	2055

EXTRAPOLATION OF INITIAL SHUT-IN = 2060.72



LYNES UNITED SERVICES LTD.

WELL NAME - MESA NAHANNI BUTTE

LOCATION - L-20

DST NUMBER - 3

INTERVAL TESTED - 4410 TO 4680

RECORDER NO. - 2816

DEPTH - 4430

SECOND SHUT IN PRESSURE

TIME(MIN) ϕ	$\frac{T + \phi}{\phi}$	PSIG
0	0.0000	1971
20	8.5000	2053
40	4.7500	2056
60	3.5000	2057
80	2.8750	2057
100	2.5000	2059
120	2.2500	2060
140	2.0714	2060
160	1.9375	2061
180	1.8333	2061
200	1.7500	2062
220	1.6818	2062
240	1.6250	2062

EQU. FITTED LINE IS $\log((T_0 + \phi)/\phi) = -0.07044 \text{ PSIG} + 145.45540$

EXTRAPOLATION OF SECOND SHUT-IN = 2064.99 M= 14.20

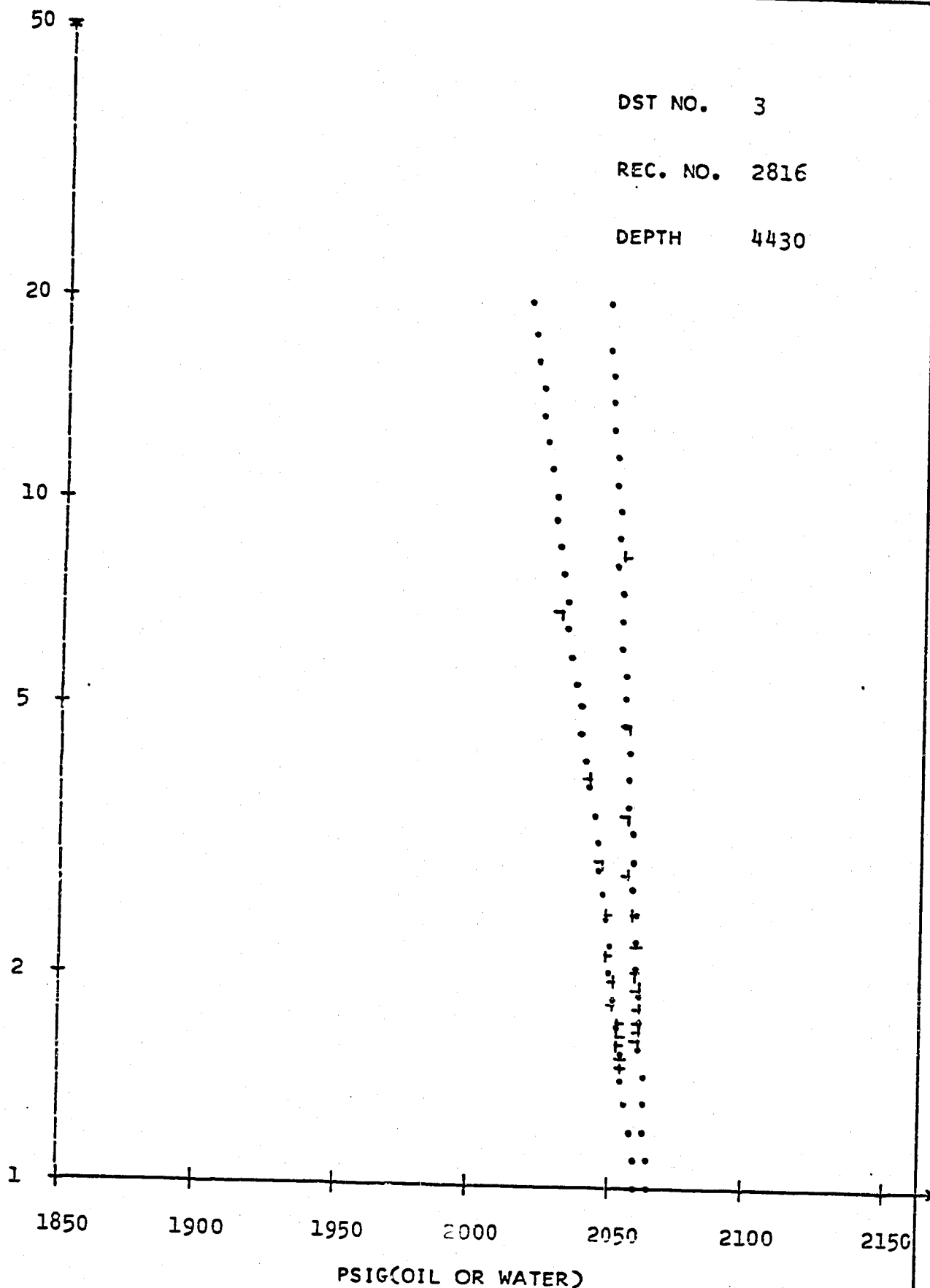
LYNES UNITED SERVICES LTD.

DST NO. 3

REC. NO. 2816

DEPTH 4430

$$\frac{\tau_0 + \phi}{\phi}$$



PRESSURE EXTRAPOLATION PLOT

WELL HISTORY REPORT

ON

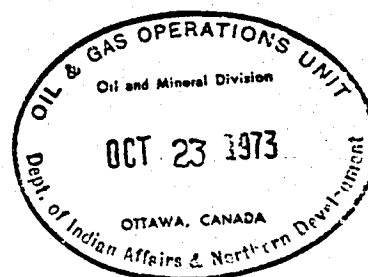
MESA NAHANNI BUTTE L-20

60° 59' 42" North Latitude

123° 33' 30" West Longitude

NORTHWEST TERRITORIES

CANADA



Prepared by Blair

Approved by Hope

Dated at CALGARY, Alberta, this
28th day of September, 1973.

746-12-04-002

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WELL HISTORY REPORTSECTION I - SUMMARY OF WELL DATA(a) WELL NAME AND NUMBER

Mesa Nahanni Butte L-20

(b) PERMITTEE

Western Decalta Petroleum Ltd.
Kerr - McGee of Canada (North West) Ltd.
The Petrol Oil and Gas Company Limited
Petrorep (Canada) Ltd.
Corexcal Inc.

(c) NAME OF OPERATOR

Mesa Petroleum (Northern) Ltd.
#500, 202 Sixth Avenue S. W.
CALGARY, Alberta
T2P 2R9

(d) LOCATION

Unit: L, Section: 20, Grid: 61-00-123-30
Latitude: 60° 59' 42" N; Longitude: 123° 33' 30" W
Unique Well Identifier: 300L206100123300
Universal Well Location Reference - Lat. 60. 99500°N
Long. 123. 55833°W

(e) CO-ORDINATES

Not applicable.

(f) PERMIT NUMBER

5044

(g) DRILLING CONTRACTOR

Nabors Drilling Limited Rig No. 10 (Rotary)

(h) DRILLING AUTHORITY

No. 644 Issued December 29, 1972

(i) CLASSIFICATION

Exploratory (New Field Wildcat)

(j) ELEVATION

Ground Elevation: 661 K.B. Elevation: 676

(k) DATE SPUDDED

February 4, 1973 at 2:00 a.m.

(l) DATE COMPLETED DRILLING

March 14, 1973

(m) TOTAL DEPTH

4818'

(n) WELL STATUS

Dry and Abandoned

(o) DATE RIG RELEASED

March 21, 1973 at 6:00 p.m.

(p) HOLE SIZE

17 1/2" from surface to 641'
12 1/4" from 641' to 1650'
8 3/4" from 1650' to 4818' T.D.

(q) CASING

Surface - 13 3/8" ST & C, J55, 54.0# landed
 at 641.00' K.B.
Intermediate - 9 5/8" ST & C, K55, 36# landed
 at 1650.00' K.B.

(r) SUPERVISORS

Drilling
 L. Abel and J. Fleck

Geological
 M. G. McKellar

SECTION II - GEOLOGICAL SUMMARY(a) Formation Tops✓
K.B. 676'

<u>FORMATION</u>	<u>E-LOG DEPTH</u>	<u>SUB-SEA DEPTH</u>	<u>SAMPLE DEPTH</u>
Middle Devonian Shale	---	-224	900
Nahanni	3115	-2439	3115
Arnica	3941	-3265	3941
Total Depth	4825	-4149	4818

NOTE: Lost circulation was encountered at 3242 and the hole was drilled partially blind to TD with poor to no sample returns in many areas.

(b) Cores

No cores taken

(c) Core Description

Not applicable

(d) Sample Description

See sample log in pocket

(e) Paleontological Determinations

See sample log in pocket

SECTION III - ENGINEERING SUMMARY

(a)

DRILL STEM TEST RECORDDRILL STEM TEST #1 (4410 - 4680) Arnica

Times: 5 - 60 - 120 - 240

Blow: Weak initial puff. Weak through flow period increasing to fair. Dead after 75 minutes. Misrun due to lost packer seat.

Recovery: 3440' of Salt Water.

Pressures: IF 539, FF 1368, IHP 2073, FHP 2073.
GHI BHP

Remarks: See DST report in back of report.

DRILL STEM TEST #2 (3970 - 4090) Arnica

Times: 30 - 60 - 120 - 120

Blow: Preflow - fair air blow increasing to strong after 3 minutes. Dead on V.O.

Recovery: 3144' of Salt Water.

Pressures: ISI 1639, FSI 1668, IF 375, FF 790, IHP 1843, FHP 1786.

Remarks: See DST report in back of report.

DRILL STEM TEST #3 (4410 - 4680) Arnica

Times: 30 - 60 - 120 - 240

Blow: Weak initial increasing to strong air blow. Strong throughout the flow period.

Recovery: 4090' of Salt Water.

Pressures: ISI 2055, FSI 2062, IF 855, FF 1971, IHP 2065, FHP 2065.

Remarks: See DST report in back of report.

(b)

CASING RECORD

1. Surface

Ran 16 joints of 13 3/8" 54.5 pound J-55 Czech, ST & C, new casing (overall length 646.68'). Landed casing at 641.00' K.B. and cemented with 600 sacks plus 1.5% CaCl_2 . Plug down at 12:15 a.m., February 9, 1973. No returns. Re-cemented from surface with 80 sacks. Felt cement after 8 hours at 90'.

2. Intermediate

Ran 42 joints of 9 5/8" 36 pound K-S Czech and Mann, ST & C, new casing (overall length 1657.15'). Landed casing at 1650.00' K.B. and cemented with 720 sacks plus 3% CaCl_2 . Plug down at 3:00 p.m., February 18, 1973.

See following casing reports.

Pajak Land & Offshore Supervisors Ltd.

Feb. 9, 1973

V. H. HUNTER & ASSOCIATES

CASING—CEMENTING REPORT

Name of Well Mesa Nahanni Butte L-20Contract Rig Nabors Rig #10Prepared By Louis Abel

CASING	SIZE O.D. (IN.)	WEIGHT LB./FT.	GRADE	MANUFACTURER	COLLARS SHORT/LONG	NO. OF JOINTS	AMOUNT FT.	DEPTH FT. K.D. (ft)
	13 3/8	54.5	J55	CZECH	Short	16	613.98	617
STAGING COLLAR								
BACK-OFF COLLAR OR PACKER								
FLOAT COLLAR							1.50	
CASING								
SHOE							1.20	
HOLE SIZE <u>17 1/2</u> IN. FROM <u>0</u> TO <u>617</u> FT.							TOTAL	646.68
HOLE SIZE _____ IN. FROM _____ TO _____ FT.							CALC. AMT. UP ON LAST JT.	5.00
HOLE SIZE _____ IN. FROM _____ TO _____ FT.							ACTUAL AMT. UP ON LAST JT.	5.00
K.B. TO TOP OF SURFACE CASING FLANGE _____ FT.							MAKE UP ALLOWANCE	NIL
CASING CUTOFF _____ IN. ABOVE TOP OF CASING FLGE.							CASING SET	641.00
TYPE OF CASING - A.P.I. ☒ EXTREME LINE ☐							TOTAL DEPTH OF HOLE	641.00
POWER TONGS USED - YES ☒ NO ☐								
POWER TONGS SUPPLIED BY <u>Farr</u>								
TYPE OF FLOAT EQUIPMENT <u>Guide Shoe & Float Collar</u> MANUFACTURER <u>Davis</u>								
ITEM	TYPE	MANUFACTURER	NO.	SPACING FT.	INTERVAL COVERED	FT. K.D. (ft)		
SCRATCHERS								
CENTRALISERS		Davis	1	On Btm Jt.				

Type of Mud

Final Mud: Wt. 10.2 lb./gal. Viscosity 100 sec.

Initial Mud: Wt. _____ lb./gal. Viscosity _____ sec.

Cemented By HalliburtonCement Used 600 sks. Sol. 1 1/2 % CaCl₂ ~~xxx~~

Additives _____ Amt. _____ sks.

_____ Amt. _____ sks.

Time Casing Started In Hole _____ a.m. p.m.

Dropping Rate At 2000' was _____ sec. for _____ ft. jt.

4000' was _____ sec. for _____ ft. jt.

6000' was _____ sec. for _____ ft. jt.

8000' was _____ sec. for _____ ft. jt.

Was There Loss of Fluid While Running Pipe? No

If So At What Depth? _____ ft.

Time Casing On Bottom _____ a.m. p.m.

Circulation Broken at _____ a.m. p.m.

Pressure Required To Break Circulation _____ p.s.i.

Circulating Pressure After Clean-up 150 p.s.i.Stroke Length While Reciprocating 30 ft Initially

_____ ft. Finally

Time Started Mix Cement _____ a.m. 10:30 p.m.Was Bottom Plug Used No?Pressure Just Before Plug Hits 150 p.s.i.Maximum Pressure 1050 p.s.i.Plug Chased With _____ and Bumped at 12:15 m. p.m.Stroke Length While Cementing 30 ft.

Was There Any Difference in Pump Pressure On Upstroke And

Downstroke? None None p.s.i.Mud Returns While Cementing ☒ Full ☐ Partial☐ None Explain In Remarks.Reciprocation Stopped at _____ a.m. 12:00 p.m.Remarks: No Cement returns - cement with
80 sax from top through 1" pipe. felt
top of cement 8 hrs. later at about 90'.

Feb. 18, 1973

Pajak Land & Offshore Supervisors Ltd.

V. H. HUNTER & ASSOCIATES

CASING—CEMENTING REPORT

Name of Well Mesa Nahanni Butte L-20Contract Rig Nabors Rig #10Prepared By Louis Abol

CASING	SIZE O.D. (IN.)	WEIGHT LB./FT.	GRADE	MANUFACTURER	COLLARS SHORT/LONG	NO. OF JOINTS	AMOUNT FT.	DEPTH FT. K.B. (O)
	9 5/8	36	KS	CITCO & Mann.	Short	12	7451.31	7450
STAGING COLLAR								
BACK-OFF COLLAR OR PACKER								
FLOAT COLLAR							1.65	
CASING								
SHOE							1.16	
HOLE SIZE <u>12 1/2</u> IN. FROM <u>0</u> TO <u>1650</u> FT.					TOTAL			
HOLE SIZE _____ IN. FROM _____ TO _____ FT.					CALC. AMT. UP ON LAST JT.			
HOLE SIZE _____ IN. FROM _____ TO _____ FT.					ACTUAL AMT. UP ON LAST JT.			
K.B. TO TOP OF SURFACE CASING FLANGE _____ FT.					MAKE UP ALLOWANCE			
CASING CUTOFF _____ IN. ABOVE TOP OF CASING FLCE.					CASING SET			
TYPE OF CASING - A.P.I. - ☒ EXTREME LINE - ☐					TOTAL DEPTH OF HOLE			
POWER TONGS USED - YES ☒ NO ☐					1650.00			
POWER TONGS SUPPLIED BY <u>Form</u>					1650.00			
TYPE OF FLOAT EQUIPMENT <u>Guide & Float</u>					MANUFACTURER <u>Halliburton</u>			
ITEM	TYPE	MANUFACTURER	NO.	SPACING FT.	INTERVAL COVERED	FT. K.B. (O)		
SCRATCHERS								
CENTRALISERS	Howco	Howco	3	Centre of				
				First 3 jts.				

Type of Mud

Final Mud: Wt. 10.1 lb./gal. Viscosity 83 sec.

Initial Mud: Wt. _____ lb./gal. Viscosity _____ Sec.

Cemented By HalliburtonCement Used 720 sks. Cel.: 3% CaCl₂ sks.

Additives _____ Amt. _____ sks.

_____ Amt. _____ sks.

Time Casing Started In Hole 7:30 a.m. p.m.

Dropping Rate At 2000' was _____ sec. for _____ ft. jt.

4000' was _____ sec. for _____ ft. jt.

6000' was _____ sec. for _____ ft. jt.

8000' was _____ sec. for _____ ft. jt.

Was There Loss of Fluid While Running Pipe? _____

If So At What Depth? _____ ft.

Time Casing On Bottom 11:30 a.m. p.m.Circulation Broken at 12:00 a.m. p.m.Pressure Required To Break Circulation 150 p.s.i.Circulating Pressure After Clean-up 100 p.s.i.Stroke Length While Reciprocating 35 ft Initially25 ft. FinallyTime Started Mix Cement _____ a.m. 1:30 p.m.Was Bottom Plug Used No?Pressure Just Before Plug Hits 750 p.s.i.Maximum Pressure 1200 p.s.i.Plug Chased With _____ and Bumped at _____ a.m. 3:00 p.m.Stroke Length While Cementing 20 ft.

Was There Any Difference In Pump Pressure On Upstroke And

Downstroke? None None p.s.i.Mud Returns While Cementing ☒ Full ☐ Partial☐ None Explain In Remarks.Reciprocation Stopped at _____ a.m. 2:45 p.m.Remarks: Pipe got so it didn't want to come down anymore.

(c)

BIT RECORD

BIT NO.	DEPTH		SIZE	TYPE	FOOTAGE	HOURS RUN	REMARKS
	FROM	TO					
1A	0	526	12 1/4	XIG	526	24 1/4	good
2A	526	1024	12 1/4	XIG	498	23 3/4	fair
3A	0	641	17 1/2	T3AJ	641	33 1/4	reamed
4A	641	1372	12 1/4	XIG(RR)	731	20 1/4	not available
5A	1372	1599	12 1/4	XIG(RR)	227	29 1/4	2-1-I
6A	1599	1650	12 1/4	DSJ	51	22	2-1-I
1	1650	1750	8 3/4	DGTJ	100	9 1/2	2-1-I
2	1750	1850	8 3/4	DGTJ	100	6 1/4	2-1-I
3	1850	2095	8 3/4	V2HJ	245	16	2-1-I
4	2095	2138	8 3/4	FCM5	43	2 3/4	3-1-I
5	2138	2322	8 3/4	V2HJ	184	19 1/4	3-5-I
6	2332	2607	8 3/4	DSS	285	18 1/2	not available
7	2607	2959	8 3/4	DSS	350	27 1/2	8-4-I
8	2959	3102	8 3/4	DSS	143	15 1/4	6-7-I
9	3102	3253	8 3/4	XDV	151	14 3/4	not available
10	3253	3276	8 3/4	XDV	23	2	1-1-I
11	3276	3396	8 3/4	SMG	120	13 1/4	8-8-I
12	3396	4060	8 3/4	X55R	664	35 3/4	5-6-I
13	4060	4496	8 3/4	M 88	436	23 1/2	8040I
14	4496	4818	8 3/4	FCH5	322	26 1/2	not available

(d)

MUD REPORT

The 17 1/2" surface hole was drilled to 646' using a gel slurry system with sawdust being used to control minor lost circulation. The cost per foot for the surface hole was \$1.98. The 12 1/4" intermediate hole was drilled to 1650' in eight days using a gel chemical system. The average cost per foot for this section of hole was \$2.13. After running the 9 5/8" intermediate casing and drilling out, the hole was mudded up to a Gel: DV-68 system. The water loss was controlled at 10 cc, or less with CMC. The mud weight was carried as low as possible by continually dumping and cleaning the tanks. At 3242', circulation was lost completely and a total of 10 lost circulation pills of 150 barrels each were displaced in an attempt to re-gain circulation. The well was static after the first two batches, and partial returns were obtained after pumping the fifth pill, but full returns were never obtained. A 100-sack cement plug was then run and drilled out. The cement contamination was treated out with Bi-Carb and the hole drilled ahead to T.D. with intermittent partial returns. Two logs were obtained without complications, and the hole remained in condition to run the abandonment plugs.

A summary of the material used (in sacks) as taken from the invoices is presented hereunder.

Bi-carb of Soda	22
Calcium Chloride	5
Caustic Soda	34
CMC Hi Vis	8
DV - 68	51
Gel	922
Interlok	50
Kwikseal	50
Lime	12
Pelten	13
Polyseal	80
Sawdust	1100
Soda Ash	12
Cane Fibre	20
Hi Foam	2
Redwood Fibre	85
Super Lube Flow	55
HME	1
D Foam	5
Phenoseal	23

(e)

DEVIATION SURVEYS

<u>Depth Feet</u>	<u>Deviation Degrees</u>	<u>Change Degrees</u>	<u>Interval Feet</u>	<u>Hole Size Inches</u>
100	3/4	+3/4	100	12 1/4
150	1/2	-1/4	50	12 1/4
250	1/3	-1/6	100	12 1/4
370	1/4	+1/12	120	12 1/4
462	1/4	Ø	92	12 1/4
524	1/4	Ø	62	12 1/4
580	3/4	+1/2	56	12 1/4
640	1/2	-1/4	60	12 1/4
730	3/4	+1/4	90	12 1/4
930	1/2	-1/4	200	12 1/4
1024	1/2	Ø	94	12 1/4
1120	1/2	Ø	96	12 1/4
1186	3/4	+1/4	66	12 1/4
1290	1/2	-1/4	104	12 1/4
1370	1/2	Ø	80	12 1/4
1440	1/2	Ø	70	12 1/4
1500	1/2	Ø	60	12 1/4
1525	1/2	Ø	25	12 1/4
1590	2	+1 1/2	65	12 1/4
1620	2	Ø	30	12 1/4
1750	2 3/4	+3/4	130	8 3/4
1900	3	+1/4	150	8 3/4
2000	3 1/2	+1/2	100	8 3/4
2085	4 1/2	+1	85	8 3/4
2090	4	-1/2	5	8 3/4
2135	5	+1	45	8 3/4
2190	5	Ø	55	8 3/4
2311	5 1/4	+1/4	121	8 3/4
2340	5 1/2	+1/4	29	8 3/4
2373	5	-1/2	33	8 3/4

II.

<u>Depth Feet</u>	<u>Deviation Degrees</u>	<u>Change Degrees</u>	<u>Interval Feet</u>	<u>Hole Size Inches</u>
2435	5	-1/2	33	8 3/4
2500	4 3/4	-1/4	62	8 3/4
2607	3 3/4	-1	65	8 3/4
2690	1 1/2	+1 1/2	107	8 3/4
2785	3 3/4	+3/4	95	8 3/4
2880	4	+1/4	95	8 3/4
3195	7	+3	315	8 3/4
3960	6 3/4	-1/4	765	8 3/4
4575	6 1/4	-1/2	615	8 3/4

(f)

ABANDONMENT PLUGS

<u>Plug #</u>	<u>Date</u>	<u>Interval</u>	<u>Cement</u>	<u>Felt at</u>	<u>Formation</u>
1	March 20, 1973	4818-4700	150 sacks	no feel required	Arnica
2	March 20, 1973	4000-3900	150 sacks	3922	Arnica
3	March 20, 1973	3200-3100	100 sacks plus 2% CaCl ₂	3210	Nahanni
4	March 20, 1973	3100-3000	200 sacks plus 1½% CaCl ₂	no feel required	Build up plug #3
5	March 21, 1973	1700-1600	200 sacks	1550	Over intermediate casing

(g) LOST CIRCULATION ZONES

See mud report for details and corrective measures.

(h) BLOWOUTS

No blowouts.

SECTION IV - LOGS

(a) Logging operations carried out on March 15, 1973.

(b) Types and Intervals

1. Schlumberger Dual Induction Laterlog

2" (linear) 1652 - 4819

5" (logrithmic) 1652 - 4819

2. Schlumberger Formation Density with Gamma Ray and Caliper

2" 1652 - 4825

5" 1652 - 4825

Logs forwarded earlier.

SECTION V - ANALYSIS

<u>Lab No.</u>	<u>Sample Type</u>	<u>From</u>	<u>To</u>	<u>Source</u>	<u>Date</u>
F73-289-3	Water	4410	4680	DST #1	March 17, 1973
F73-290-3	Water	3970	4090	DST #2	March 19, 1973
F73-291-3	Water	4410	4680	DST #3	March 19, 1973

See copies of analysis on following pages

CHEMICAL GEOLOGICAL LABORATORIES LTD.

WATER ANALYSIS

Lab No. F73-289-3

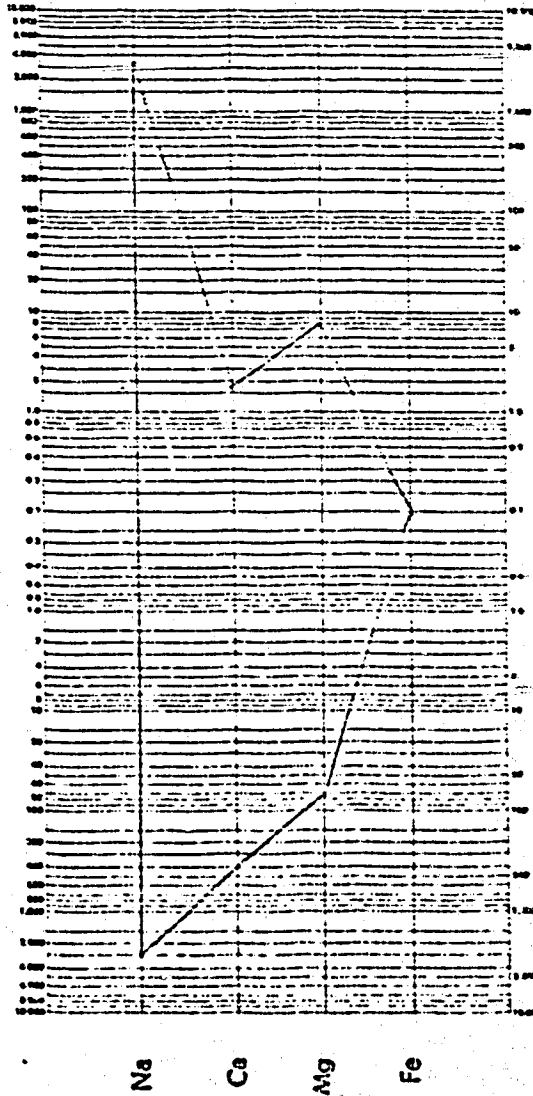
Received: Mar. 23, 1973 Reported: Mar. 28, 1973 Well: Location: Mesa Nahanni Butte L-20 69° 59' 42"N 123° 33' 30"W
 Operator: MESA PETROLEUM CO. Field or Area: Wildcat
 Elev.: K.B. 674' Grd. Zone/Formation: Arnica
 Method of Production: D.S.T. #1 Sampled from: Above tool Sampled by: Lynes United Services Ltd. Date: Mar. 17, 1973
 Sample Interval: 4410' - 4680'

OTHER PERTINENT DATA

16. (Signed)

Mg/L	Na & K	K	Ca	Mg	SO ₄	Cl	CO ₃	HCO ₃	Oil
65,600			8,170	923	380	118,000	0	100	0
2853.59			407.68	75.87	7.90	3327.60	---	1.64	---
42.75			6.11	1.14	0.12	49.86	---	0.02	---
Total Solids Mg/L:	By Evaporation 206,700				Fe Much	Specific Gravity 1.128	@60°F	Observed pH 6.1	@ 75 °F
Calculated 193,173	After Ignition 184,540				H ₂ S Nil	Refractive Index 1.3638	@25°C	Resistivity 0.057 ohm meters @ 68 °F	

Pattern Unit Meq./L



Remarks and Conclusions

Sample consisted of colourless water with a trace brown sediment.

F73-289-1: Top

RESISTIVITY: 0.062 Ohm-Meters @ 68°F.

CHLORIDE: 103,000 Mg/L.

Sample consisted of colourless water with a trace brown sediment.

F73-289-2: Middle

RESISTIVITY: 0.060 Ohm-Meters @ 68°F.

CHLORIDE: 112,000 Mg/L.

Sample consisted of colourless water with a trace brown sediment.

CHEMICAL GEOLOGICAL LABORATORIES LTD.

WATER ANALYSIS

Lab No. F73-20-3

Received: Mar. 23, 1973 Reported: Mar. 28, 1973

Operator: MESA PETROLEUM CO.

Elev.: K.B. 674' Grd.

Method of Production: D.S.T. #2

OTHER PERTINENT DATA

Well location: Mesa Nahanni Butte L-20 69° 59' 42"N 123° 33' 30"W

Field or Area: Wildcat

Zone/Formation: Nahanni

Sampled from: Above tool

Sample Interval: 3970' - 4090'

Sampled by: Lynes United Services Ltd.

Date: Mar. 19, 1973

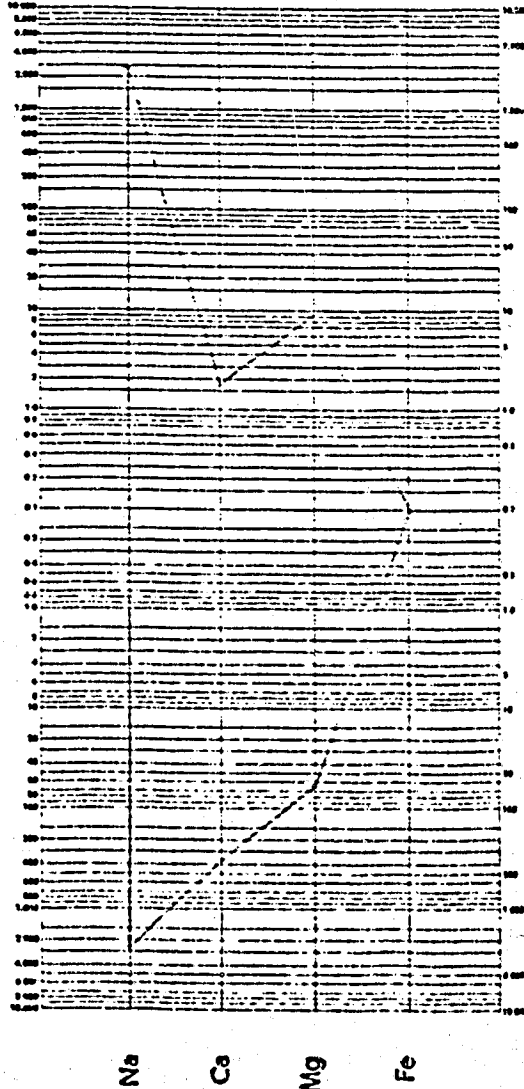
17.

(Signed)

Na & K	K	Ca	Mg	SO ₄	Cl	CO ₂	HCO ₃	OH
Mg./L								
57.654		7.449	778	438	104,000	0	105	0
2507.97		371.71	63.95	9.11	2932.80	---	1.72	---
42.60		6.31	1.09	0.15	49.82	---	0.03	---

Total Solids Mg/L: By Evaporation 180,780 Fe Much Specific Gravity 1.114 @60°F Observed pH 6.3 @ 75 °
 Calculated 170,424 After Ignition 163,280 H₂S Nil Refractive Index 1.3605 @25°C Resistivity 0.062 ohm meters @ 68 °

Pattern Unit Meq./L



Remarks and Conclusions

Sample consisted of colourless water with a trace brown sediment.

F73-290-1: Top

RESISTIVITY: 0.069 Ohm-Meters @ 68°F.

CHLORIDE: 95,000 Mg/L.

Sample consisted of colourless water with a trace brown sediment.

F73-290-2: Middle

RESISTIVITY: 0.055 Ohm-Meters @ 68°F.

CHLORIDE: 100,000 Mg/L.

Sample consisted of colourless water with a trace brown sediment.

CHEMICAL GEOLOGICAL LABORATORIES LTD.

WATER ANALYSIS

Lab No. F73-29

Received: Mar. 23, 1973 Reported: Mar. 28, 1973 Well: Location: Mesa Nahanni Butte L-20 69° 59' 42"N 123° 33' 30"W
 Operator: MESA PETROLEUM CO. Field or Area: Wildcat
 Elev.: K.B. 674' Grd. Zone/Formation: Arnica
 Method of Production: D.S.T. #3 Sampled from: Above tool Sampled by: Lynes United Services Ltd. Date: Mar. 19, 1973
 Sample Interval: 4410' - 4680'

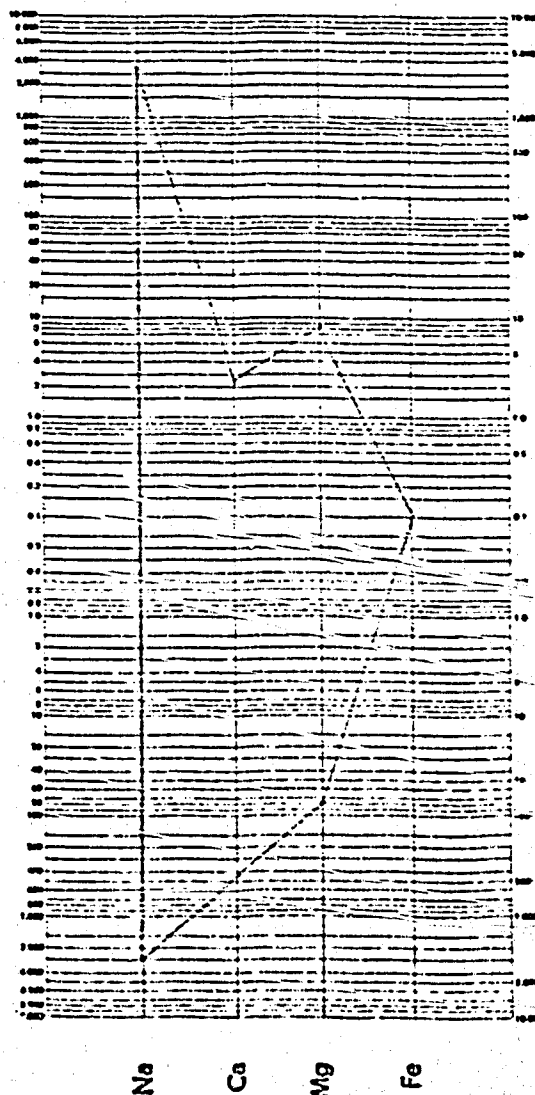
OTHER PERTINENT DATA

(Signed)

Na & K	K	Ca	Mg	SO ₄	Cl	CO ₂	HCO ₃	OH
57.114		8.491	972	387	121,000	0	170	0
2919.44		423.70	79.90	8.05	3412.20	---	2.79	---
42.64		6.19	1.17	0.12	49.84	---	0.04	---

Total Solids Mg/L: By Evaporation 212,880 Fe Much Specific Gravity 1.132 @60°F Observed pH 6.3 @ 75 °F
 Calculated 198,134 After Ignition 189,060 H₂S Nil Refractive Index 1.3645 @25°C Resistivity 0.056 ohm meters @ 68 °F

Pattern Unit Meq./L



Remarks and Conclusions:
 Sample consisted of colourless water with a trace of brown sediment.

F73-291-1: Top

RESISTIVITY: 0.060 Ohm-Meters @ 68°F.
 CHLORIDE: 112,000 Mg/l.

Sample consisted of colourless water with a trace of brown sediment.

F73-291-2: Middle

RESISTIVITY: 0.057 Ohm-Meters @ 68°F.
 CHLORIDE: 119,000 Mg/l.

Sample consisted of colourless water with a trace of brown sediment.

SECTION VI - COMPLETION SUMMARY

<u>Plug #</u>	<u>Date</u>	<u>Interval</u>	<u>Cement</u>	<u>Felt At</u>	<u>Formation</u>
1	March 20, 1973	4810-4700	150 sacks	no feel required	Arnica
2	March 20, 1973	4000-3900	150 sacks	3922	Arnica
3	March 20, 1973	3200-3100	100 sacks plus 2% CaCl ₂	3210	Nahanni
4	March 20, 1973	3100-3000	200 sacks plus 1½% CaCl ₂	no feel required	Build up plug #3
5	March 21, 1973	1700-1600	200 sacks	1550	Over intermediate casing

LYNES UNITED SERVICES LTD.

TEST DATA		Test No.		Lynes Test		GENERAL INFORMATION	
Formation	Arnica		T.D.	4818		Fr.	Company
Interval Tested	4410		Fr. to	4680		Fr.	Address
Interval Tested	270		Fr.	Net Pay Tested		Fr.	
Type of Test	Straddle By-pass conv.						
Cushion	Amount		Fr.	Well Name		Mesa Nahanni Butte	
Started in Hole at	5:00		Hrs.	Tool Open at		8:20	
Pre-Flow	5		Mins.	Initial Shut-in		60	
2nd Flow			Mins.	Second Shut-in			
Final Flow	120		Mins.	Final Shut-in		240	
Remarks:							
Blow:	Weak initial puff. Weak through flow increasing to fair. Dead after 75 minutes.						
				Tester			
				Contractor			
				Ticket No.			
				Service Reports To:			
				7 - above address			
GAS BLOW MEASUREMENTS							
Measured with				MUD AND HOLE DATA			
				Mud Type			
				Weight			
				Filter Cake			
				Bottom Hole Temperature			
				Drill Pipe Size			
				Drill Collars			
				Main Hole or Casing Size			
				Rathole or Liner Size			
				Bottom Hole Choke Size			
				Surface Choke Size			
				Packer Rubber Size			
				REMARKS			
RECOVERY							
TOTAL FLUID RECOVERED							
300 Ft. of salt water 175,000PPM							
3140 Ft. of salt water 185,000PPM							
Ft. of 196,000PPM							
Ft. of							
Test was/was not Reverse Circulated							
Oil Recovery A.P.I.							
Salinity							
PRESSURE READINGS							
Inside		Outside		Inside		Outside	
Recorder No.		2816		Recorder No.		2235	
Capacity		4600		Capacity		3350	
Depth		4440		Depth		4436	
NUMBER KEY:							
1 - INITIAL HYDROSTATIC		2073		2072			
2 - PRE-FLOW							
3 - INITIAL SHUT-IN							
4a - 2nd INITIAL FLOW							
4b - 2nd FINAL FLOW							
4c - 2nd SHUT-IN							
5 - 3rd INITIAL FLOW		539		535			
6 - FINAL FLOW		1368		1351			
7 - FINAL SHUT-IN							
8 - FINAL HYDROSTATIC		2073		2070			

Mesa Petroleum

Company

Mesa Nahanni Butte L-20

Well Name and Description

#1

Test No.

March 16/73

Date of Test

Not

LYNES UNITED SERVICES LTD.

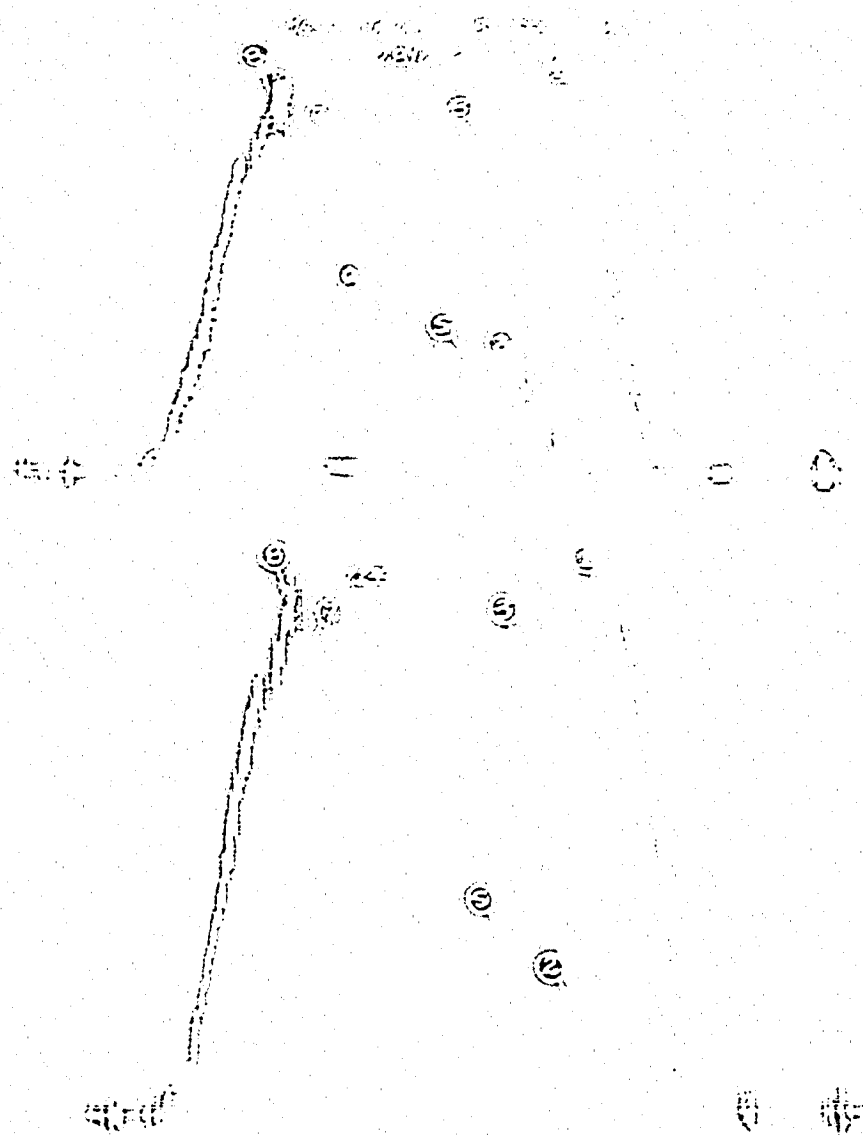
TEST DATA		Lynes Test		GENERAL INFORMATION	
Test No.	2	T.D.	4813 Ft.	Company	Mesa Petroleum Ltd.
Formation	Nahanni	Ft. to	4090	Address	
Interval Tested	3970	Interval Tested	120	Net Pay Tested	
Type of Test	Conv. Straddle By-pass				
Cushion	Amount	Ft.	Well Name	Mesa Nahanni Butte	
Started in Hole at	2:00	Mrs. Tool Open at	5:25	Mrs. Well Number	L-20
Pre-Flow	30	Mins.	Initial Shut-in	60	Mins.
2nd Flow		Mins.	Second Shut-in		Mins.
Final Flow	120	Mins.	Final Shut-in	120	Mins.
Remarks:	Preflow - fair air blow increasing to strong after 3 minutes. Weak-tool opened for flow. No bubbles in pail indicating dead flow.				
GAS BLOW MEASUREMENTS			MUD AND HOLE DATA		
Measured with			Mud Type Salt water		
Time	Surface Choke	Reading Inches	Cubic Feet/Day	Weight	Viscosity
				Filter Cake	Bottom Hole Temperature
				Drill Pipe Size	4 1/2 H90
				Drill Collars	4 1/2 I.D. 2 7/8 Feet Run 472
				Main Hole or Casing Size	8 3/4"
				Rathole or Liner Size	No. of Feet
				Bottom Hole Choke Size	1/2"
				Surface Choke Size	1 1/4"
				Packer Rubber Size	7 7/8"
			REMARKS		
			Shut-in pressures suggest low permeability within the interval tested.		
RECOVERY			Moistured from hot salt water		
TOTAL FLUID RECOVERED 3144			Ft. Consisting of:		
3144 Ft. of salt water			158,000 - 177,000 BPM		
Ft. of					
Ft. of					
Ft. of					
Test was/was not Reverse Circulated					
Oil Recovery A.P.I. Water Specific Gravity					
Salinity					
PRESSURE READINGS					
Inside Outside X		Inside Outside X		Inside Outside	
Recorder No. 2816		Recorder No. 2235		Recorder No.	
Capacity 4600		Capacity 3350		Capacity	
Depth 3995		Depth 3991		Depth	
NUMBER KEY:					
1 - INITIAL HYDROSTATIC		1843		1841	
2 - PRE-FLOW		365		374	
3 - INITIAL SHUT-IN		1639		1638	
4a - 2nd INITIAL FLOW					
4b - 2nd FINAL FLOW					
4c - 2nd SHUT-IN					
5 - 3rd INITIAL FLOW		375		376	
6 - FINAL FLOW		790		787	
7 - FINAL SHUT-IN		1668		1667	
8 - FINAL HYDROSTATIC		1786		1785	

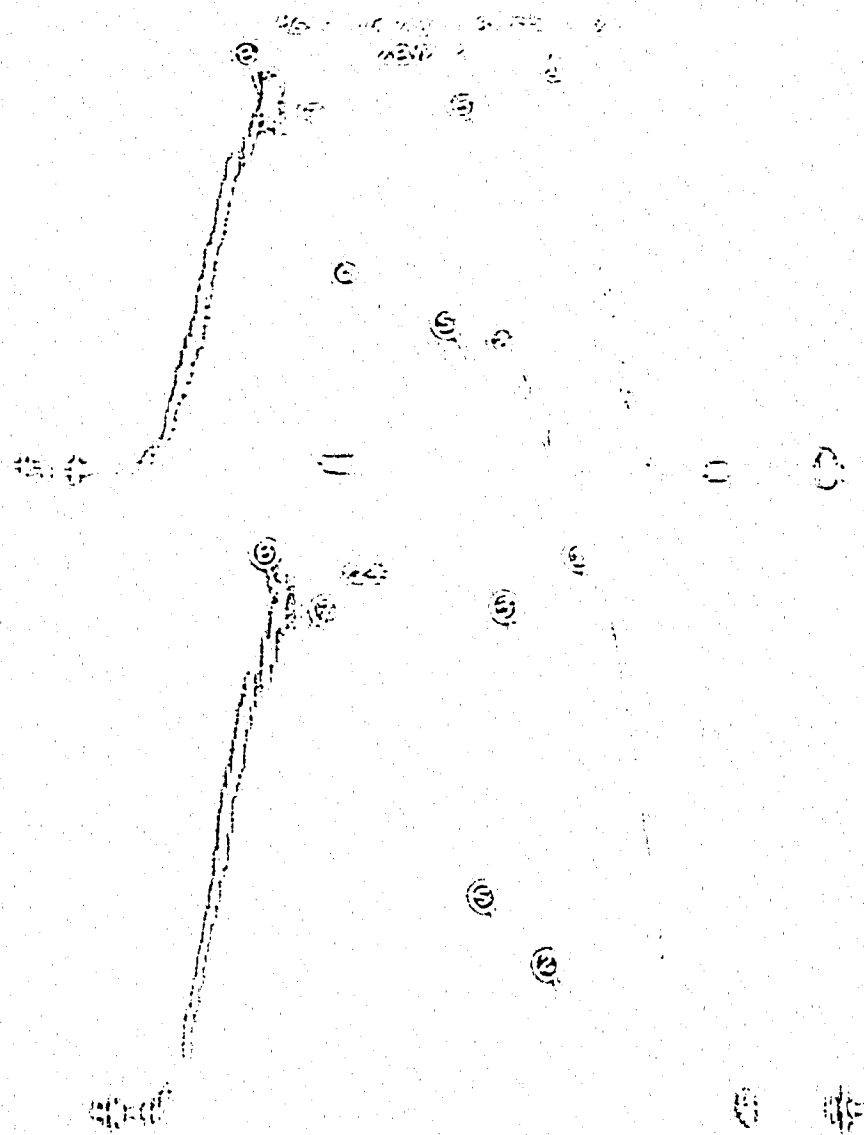
Mesa Petroleum Ltd. Company

Mesa Nahanni Butte L-20 Well Name and Description

#2

March 18/73 Date of Test





Mesa Petroleum Ltd.

Company

Mesa Nahanni Butte L-20

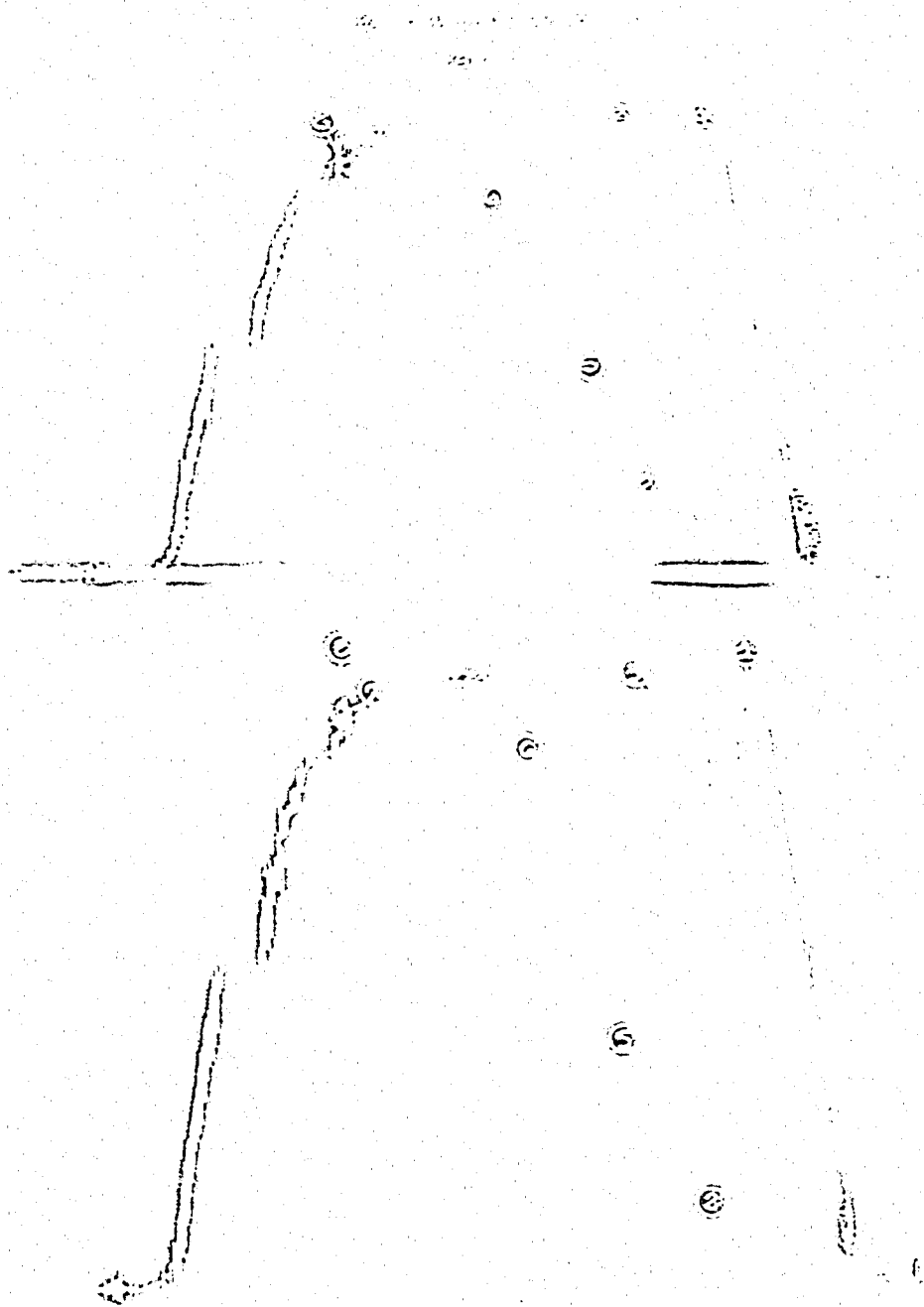
Well Name and Description

Test No.

Date of test

7/3

March 19/73



Not

DATE MAR 21

1973

NABORS DRILLING LIMITED

WORK RECORD

NOTE: Do Not Record Payroll Information Here

DATE MAR 21

1973

Rig No. 10 Page No. 54 LOCATION Mesa Nakanni B. H. 20

Rig No. 10 Report No. 54

From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands	
No.		Size		Type		Size Jets		Serial No.		Wt.		R.P.M.		From		To		Ftg.		Hrs.	
4818																					
MUD		12 a.m.		2 a.m.		4 a.m.		6 a.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added					
WEIGHT										400" SODIUM						1		8			
VISCOSITY										PHOSPHATE						2		8			
GEL																3					
P		No. 1		Pressure												Light Plant		8			
U		Model		S.P.M.												2		BOILER HRS.		X	
M		No. 2		Pressure												Slip		Feet or		Cut	
P		Model		S.P.M.												Casing Record		Surface Prod.			
S		Liner Size																			
W.L.		F.C.		pH.		Solids		Cement													
From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands	
No.		Size		Type		Size Jets		Serial No.		Wt.		R.P.M.		From		To		Ftg.		Hrs.	
MUD		8 a.m.		10 a.m.		12 p.m.		2 p.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added					
WEIGHT																1		8			
VISCOSITY																2		8			
GEL																3					
P		No. 1		Pressure												Light Plant		8			
U		Model		S.P.M.												2		BOILER HRS.		8	
M		No. 2		Pressure												Slip		Feet or		Cut	
P		Model		S.P.M.												Casing Record		Surface Prod.			
S		Liner Size																			
W.L.		F.C.		pH.		Solids		Cement													
From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands	
No.		Size		Type		Size Jets		Serial No.		Wt.		R.P.M.		From		To		Ftg.		Hrs.	
MUD		4 p.m.		6 p.m.		8 p.m.		10 p.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added					
WEIGHT																1		4			
VISCOSITY																2		4			
GEL																3					
P		No. 1		Pressure												Light Plant		8			
U		Model		S.P.M.												2		BOILER HRS.		8	
M		No. 2		Pressure												Slip		Feet or		Cut	
P		Model		S.P.M.												Casing Record		Surface Prod.			
S		Liner Size																			
W.L.		F.C.		pH.		Solids		Cement													
From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands	
No.		Size		Type		Size Jets		Serial No.		Wt.		R.P.M.		From		To		Ftg.		Hrs.	
MUD		4 p.m.		6 p.m.		8 p.m.		10 p.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added					
WEIGHT																1		4			
VISCOSITY																2		4			
GEL																3					
P		No. 1		Pressure												Light Plant		8			
U		Model		S.P.M.												2		BOILER HRS.		8	
M		No. 2		Pressure												Slip		Feet or		Cut	
P		Model		S.P.M.												Casing Record		Surface Prod.			
S		Liner Size																			
W.L.		F.C.		pH.		Solids		Cement													

REMARKS	Time		
	Start	Stop	Interval
LAY DOWN DRILL PIPE	12:00	2:00	2
RAN PLUG #5 1600-1700	2:00		
200 SKS		2:30	1/2
W.O.C. PLUG #5	2:30	8:00	5 1/2
W.O.C. PLUG #5	8:00	10:00	2
RUN IN FEEL PLUG #5	10:00		
AT 1550 LAY DOWN PIPE		1:00	3
TEAR OUT B.O.P.'S	1:00	4:00	3
CUT CSG BOWL & WELD ON 4:00			
PLATE & SIGN	6:00		2
TEAR OUT RIG	6:00	12:00	6
Rig released @ 6:00 P.M.			
March 21/73			

Tour — Midnight - 8 a.m.	
Specify actual hours worked.	Hrs.
Driller N. Callaghan	8
Derrick D. Lowen	8
Motor A. Taylor	8
Floor M. Whelan	
Floor K. Bernardin	8
Accidents N/A	
Outside Temp. -22°	
Weather Conditions CLEAR	
Road Conditions Rough	
Tour — 8 a.m. to 4 p.m.	
Specify actual hours worked.	Hrs.
Driller C. Staroba	12
Derrick L. LaFleur	12
Motor G. Nolette	12
Floor R. Fritz	12
Floor R. Johnson	12
A. Webster	12
Accidents NIL	
Outside Temp. +10°	
Weather Conditions CLEAR	
Road Conditions ROUGH	
Tour — 4 p.m. to Midnight	
Specify actual hours worked.	Hrs.
Driller N. Callaghan	4
Derrick D. Lowen	4
Motor A. Taylor	4
Floor K. Bernardin	4
Floor	
Accidents NIL	
Outside Temp. 5°	
Weather Conditions CLEAR	
Road Conditions Rough	

Totco Ring on Bit No. _____ D.P. Calipered Date _____ Results _____ From Pipe Rack _____ Total Contractor Time _____ Hrs. Toolpusher _____
B.O.P. Test-Operated _____ Time _____ Results _____ Total Company Time _____ Hrs. Approved by _____ Approved by _____

DATE Mar 20/73 19 73

NABORS DRILLING LIMITED

WORK RECORD

DATE Mar 20/73 19 73Rig No. 10 Page No. 53LOCATION Mesa Nahanni Butte #1.20

NOTE: Do Not Record Payroll Information Here

Rig No. 10 Report No. 53

From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands	
No.		Size		Type		Size Jets		Serial No.		Wt.		R.P.M.		From		To		Ftg.		Hrs.	
4818																					
MUD		12 a.m.		2 a.m.		4 a.m.		6 a.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added					
WEIGHT																					
VISCOSITY																					
GEL																					
No. 1		Pres- sure																			
Model		S.P.M.																			
No. 2		Pres- sure																			
Model		S.P.M.																			
Liner Size																					
Casing Record																					
Surface Prod.																					
W.L.		F.C.		pH.		Solids		Cement													
From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands	
No.		Size		Type		Size Jets		Serial No.		Wt.		R.P.M.		From		To		Ftg.		Hrs.	
MUD		8 a.m.		10 a.m.		12 p.m.		2 p.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added					
WEIGHT																					
VISCOSITY																					
GEL																					
No. 1		Pres- sure																			
Model		S.P.M.																			
No. 2		Pres- sure																			
Model		S.P.M.																			
Liner Size																					
Casing Record																					
Surface Prod.																					
W.L.		F.C.		pH.		Solids		Cement													
From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands	
No.		Size		Type		Size Jets		Serial No.		Wt.		R.P.M.		From		To		Ftg.		Hrs.	
MUD		4 p.m.		6 p.m.		8 p.m.		10 p.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added					
WEIGHT																					
VISCOSITY																					
GEL																					
No. 1		Pres- sure																			
Model		S.P.M.																			
No. 2		Pres- sure																			
Model		S.P.M.																			
Liner Size																					
Casing Record																					
Surface Prod.																					
W.L.		F.C.		pH.		Solids		Cement													

REMARKS		Time	
		Start	Stop
Rig Service / B.O.P.		12:00	12:15
Repair Drawworks Chain.		12:15	1:15
Run in Drill Collars		1:15	
Lay down same.			6:30
Run in open end		6:30	8:00
5 min safety talk on Lay down drill pipe			
With Pipe			
Without Pipe			
Standby			
Rig Service + B.O.P.		8:00	8:15
Run in open end		8:15	8:45
Run Plug #1 - 4700 - 4818		8:45	9:15
Pull up run plug #2		9:15	
3900 - 4000			9:45
W.O.C. Plug #2		9:45	1:45
FEEL Plug #2 at 3928'		1:45	2:15
Pull up to run plug #3		2:15	3:15
Run Plug #3 - 3100 - 3200		3:15	4:00
PLUGS #1 x 2 150 SKS EACH			
PLUG #3 100 SKS + 2% CaCl ₂			
With Pipe			
Without Pipe			
Standby			
W.O.C. Plug #3		4:00	10:00
Run in FEEL Plug #3 at			
3210 Pull up 1 stand and 10:00			
Run Plug #4 - 3100 - 3000			
200 SKS PLUS 1 1/2% CaCl ₂		12:00	2
With Pipe			
Without Pipe			
Standby			

Tour — Midnight - 8 a.m.	
Specify actual hours worked.	
Driller	Hrs.
N. Callaghan	8
Derrick	8
Motor	8
Floor	8
Floor	
Accidents Nil	
Outside Temp. -30	
Weather Conditions clear	
Road Conditions rough	
Tour — 8 a.m. to 4 p.m.	
Specify actual hours worked.	
Driller	Hrs.
C. STAROBA	12
Derrick	12
Motor	12
Floor	12
Floor	12
A. WEBSTER	12
Accidents	
Outside Temp.	
Weather Conditions	
Road Conditions	
Tour — 4 p.m. to Midnight	
Specify actual hours worked.	
Driller	Hrs.
N. Callaghan	4
Derrick	4
Motor	4
Floor	4
Floor	4
K. BERNARDIN	4
Accidents Nil	
Outside Temp. 0"	
Weather Conditions clear	
Road Conditions rough	
Toolpusher	
Approved by	

Totco Ring on Bit No. _____ D.P. Calipered Date _____ Results _____ From Pipe Rack _____ Total Contractor Time _____ Hrs. Toolpusher _____

B.O.P. Test-Operated _____ Time _____ Results _____ Total Company Time _____ Hrs. Approved by _____

DATE MAR. 13 1973

NABORS DRILLING LIMITED

WORK RECORD

DATE MAR. 13 1973Rig No. 10 Page No. 51 LOCATION MESA NAHANNI BUTTE #420

NOTE: Do Not Record Payroll Information Here

From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands							
No.		Size		Type		Size Jets		Serial No.		Wt.		R.P.M.		From		To		Ftg.		Hrs.		Ft. Reamed		Hrs.		COND.	
4318																											
MUD		12 a.m.		2 a.m.		4 a.m.		6 a.m.		Additives				At Surveys Degree		MOTOR HOURS		Oil Added									
WEIGHT																											
VISCOSITY																											
GEL																											
P		No. 1		Pressure																							
U		Model		S.P.M.																							
M		No. 2		Pressure																							
S		Model		S.P.M.																							
W.L.		F.C.		pH.		Solids		Cement																			
From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands							
No.		Size		Type		Size Jets		Serial No.		Wt.		R.P.M.		From		To		Ftg.		Hrs.		Ft. Reamed		Hrs.		COND.	
MUD		8 a.m.		10 a.m.		12 p.m.		2 p.m.		Additives				At Surveys Degree		MOTOR HOURS		Oil Added									
WEIGHT																											
VISCOSITY																											
GEL																											
P		No. 1		Pressure																							
U		Model		S.P.M.																							
M		No. 2		Pressure																							
S		Model		S.P.M.																							
W.L.		F.C.		pH.		Solids		Cement																			
From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands							
No.		Size		Type		Size Jets		Serial No.		Wt.		R.P.M.		From		To		Ftg.		Hrs.		Ft. Reamed		Hrs.		COND.	
MUD		4 p.m.		6 p.m.		8 p.m.		10 p.m.		Additives				At Surveys Degree		MOTOR HOURS		Oil Added									
WEIGHT																											
VISCOSITY																											
GEL																											
P		No. 1		Pressure																							
U		Model		S.P.M.																							
M		No. 2		Pressure																							
S		Model		S.P.M.																							
W.L.		F.C.		pH.		Solids		Cement																			

REMARKS		Time		
		Start	Stop	Interval
WAIT ON TEST TOOL		12 ⁰⁰	8	8
D.S.T. #2 3970-4090.				
I.H.P. - 1815				
P.F. - 368				
I.S.I. - 1650				
I.F. - 368				
F.F. - 280				8
F.S.I. - 1650				
F.H. - 1755				
REC'D 2800' SALT WATER				
With Pipe		Without Pipe		Standby
RIG SERV. + B.O.P.		8 ⁰⁰	8 ¹⁵	15
WAIT ON TEST TOOL		8 ¹⁵	11 ⁰⁰	23
MAKE UP TESTING TOOL FORD ST #2			2 ³⁰	8 ¹⁵
RUN IN SLOW WITH PACKER		2 ³⁰	4 ⁰⁰	1 ³⁰
D.S.T. #2 - 3970-4090 "NAHANNI"				
PRE FLOW 30 MINS - WEAK				
TO FAIR FLOW AFTER 3 MINS				
With Pipe		Without Pipe		Standby
FINISH RUNNING IN HOLE		4 ⁰⁰	5 ³⁰	1 ³⁰
PACKER ON BOTTOM		5 ³⁰		
Testing Host Test			1 ⁰⁰	5 ¹⁵
		11 ⁰⁰	12 ⁰⁰	1
INITIAL SHUT IN - 60 MINS				
FLOW - 120 MINS				
FINAL SHUT IN - 120 MINS				
With Pipe		Without Pipe		Standby

Tour — Midnight - 8 a.m.	
Specify actual hours worked.	
Driller	Hrs.
N. Callaghan	8
Derrick D. LAMEN	8
Motor M. PARSON	8
Floor A. TAYLOR	8
Floor M. WHELAN	8
Accidents N/A	
Outside Temp. - 32°	
Weather Conditions clear	
Road Conditions Rough	
Tour — 8 a.m. to 4 p.m.	
Specify actual hours worked.	
Driller	Hrs.
C. STAROBA	12
Derrick L. LALEUR	12
Motor G. NOLETTE	12
Floor R. FRITZ	12
Floor R. JOHNSON	12
A. WEBSTER	12
K. BERNARDIN	12
Accidents N/A	
Outside Temp. - 20°	
Weather Conditions clear	
Road Conditions ROUGH	
Tour — 4 p.m. to Midnight	
Specify actual hours worked.	
Driller	Hrs.
N. Callaghan	4
Derrick D. LAMEN	4
Motor M. PARSON	4
Floor A. TAYLOR	4
Floor M. WHELAN	4
Accidents N/A	
Outside Temp. - 10°	
Weather Conditions	
Road Conditions rough	

Totco Ring on Bit No. _____ D.P. Calipered Date _____ Results _____ From Pipe Rack _____ Total Contractor Time _____ Hrs. Toolpusher _____
B.O.P. Test-Operated _____ Time _____ Results _____ Total Company Time _____ Hrs. Approved by _____
Toolpusher R. S. Loh
Approved by _____

DATE Mar 15 1973

NABORS DRILLING LIMITED

WORK RECORD

DATE MAR 15 1973Rig No. 10 Page No. 43 LOCATION Mesa Nahanni Butte L20

NOTE: Do Not Record Payroll Information Here

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS				FUEL	WATER	CRUDE	Stands
No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft. Reamed	Hrs.
4755	67	4818	6 1/2	98M	12	64	23	40	23	17	6	1055
MUD 12 a.m. 2 a.m. 4 a.m. 6 a.m. Additives At Surveys Degree MOTOR HOURS Oil Added WEIGHT VISCOSITY GEL P U M S No. 1 No. 2 Model S.P.M. S.P.M. Liner Size Liner Size Size TRIPS No. Lines TON MILES TOTAL MILES Slip Feet or Cut Feet Left on Spool Next Slip Casing Record Surface Prod. Desilter Hrs. 8 W.L. F.C. pH. Solids Cement												
4818	7.0	4818	98M	12	64	23	40	4818	322	26 1/2		1055
MUD 8 a.m. 10 a.m. 12 p.m. 2 p.m. Additives At Surveys Degree MOTOR HOURS Oil Added WEIGHT VISCOSITY GEL P U M S No. 1 No. 2 Model S.P.M. S.P.M. Liner Size Liner Size Size TRIPS No. Lines TON MILES TOTAL MILES Slip Feet or Cut Feet Left on Spool Next Slip Casing Record Surface Prod. Desilter 8 Hrs W.L. F.C. pH. Solids Cement												
4818	7.0	4818	98M	12	64	23	40	4818	322	26 1/2		1055
MUD 4 p.m. 6 p.m. 8 p.m. 10 p.m. Additives At Surveys Degree MOTOR HOURS Oil Added WEIGHT VISCOSITY GEL P U M S No. 1 No. 2 Model S.P.M. S.P.M. Liner Size Liner Size Size TRIPS No. Lines TON MILES TOTAL MILES Slip Feet or Cut Feet Left on Spool Next Slip Casing Record Surface Prod. Desilter 8 Hrs W.L. F.C. pH. Solids Cement												

REMARKS	Time		
	Start	Stop	Interval
Big send check 130105	12 00	12 15	15
DRILL 8 3/4	12 15	5 00	43 1/2
Pull out well Flowing	5 00	6 30	1 1/2
DRILL 8 3/4 Hole	6 30	8	1 1/2
5 MIN SAFETY TALK ON SLIPPING			
HAL Line			
PUMP SUMP	8 00	9 30	1 1/2
HOIST PIPE	9 30	12 00	2 1/2
LAY DOWN STAB SHOCK SUB	12 00		
+ SMALL DRILL COLLAR		12 30	1/2
RIG UP SCHUMBERGER	12 30	1 00	1/2
LOGGING WITH SCHUMBERGER	1 00	4 00	3
5 MIN SAFETY TALK ON "PUMPER"			
WAY TO USE TOWERS WHEN PULLING PIPE			
LOGGING WITH SCHUMBERGER	4 00	6 30	2 1/2
LAY DOWN Logging equipment	6 30	7 30	1
TEAR OUT AIR DRILLING EQUIPMENT	7 30	10 30	3
Run in collars. BACK WIRE	10 30	12	1 1/2
W. O. O.			8
RAN DUAL INDUCTION LATER LOG (DIL)			
FORMATION DENSITY - GAMMA - CALIPER			
FROM 1650 TO TD			

Rig No. <u>10</u> Report No. <u>43</u>	
Tour — Midnight - 8 a.m.	
Specify actual hours worked. Hrs.	
Driller <u>N. Callaghan</u>	8
Derrick <u>D. Loewen</u>	8
Motor <u>N. PARSON</u>	8
Floor <u>A. Taylor</u>	8
Floor <u>M. Whelan</u>	8
Accidents <u>NIL</u>	
Outside Temp. <u>0°</u>	
Weather Conditions <u>Light Snow</u>	
Road Conditions <u>Rough</u>	
Tour — 8 a.m. to 4 p.m.	
Specify actual hours worked. Hrs.	
Driller <u>C. STARORA</u>	12
Derrick <u>L. LAELEUR</u>	12
Motor <u>G. NOLETTE</u>	12
Floor <u>R. FRITZ</u>	12
Floor <u>R. JOHNSON</u>	12
<u>A. WEBSTER</u>	12
<u>K. BERNARDIN</u>	12
Accidents <u>NIL</u>	
Outside Temp. <u>0°</u>	
Weather Conditions <u>OVERCAST</u>	
Road Conditions <u>ROUGH</u>	
Tour — 4 p.m. to Midnight	
Specify actual hours worked. Hrs.	
Driller <u>N. Callaghan</u>	4
Derrick <u>D. Loewen</u>	4
Motor <u>N. PARSON</u>	4
Floor <u>A. Taylor</u>	4
Floor <u>M. Whelan</u>	4
Accidents <u>NIL</u>	
Outside Temp. <u>0°</u>	
Weather Conditions <u>SNOW</u>	
Road Conditions	

Totco Ring on Bit No. _____ D.P. Caliper Date _____ Results _____ From Pipe Rack _____ Total Contractor Time _____ Hrs. Toolpusher _____
 B.O.P. Test-Operated _____ Time _____ Results _____ Total Company Time _____ Hrs. Approved by _____
 Approved by _____

DATE MARCH 19 73

NABORS DRILLING LIMITED

WORK RECORD

DATE MARCH 14 19 73

NOTE: Do Not Record Payroll Information Here

Rig No. 10 Page No. 47 LOCATION MOSENAHANNI Butte 420Rig No. 10 Report No. 47

From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands	
4496		69		4565		5 1/2		95M		No. 6		9.D. 2 3/8		Wgt. 40M		Gals. 3 1/2 FT		Bbls. 31.33		3980	
No. 14		Size 8 3/4		Type FCH5T		Size Jets 1 1/2-3 1/2		Serial No. 265282		Wt. 20-25		R.P.M. 55		From 4496		To 4565		Ftg. 69		Hrs. 5 1/2	
COND. RUN		D. Collars 534.58		Other Ft. 31.33		C.B. Ft.		Subs. Ft. 2.60		Ft. Down on Kelly 17		TOTAL 4565		Slip		Feet Left on Spool		Next Slip			
MUD		12 a.m.		2 a.m.		4 a.m.		6 a.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added					
WEIGHT																					
VISCOSITY																					
GEL																					
No. 1		Pres- sure		S.P.M.																	
Model		Liner Size																			
No. 2		Pres- sure		S.P.M.																	
Model		Liner Size																			
W.L.		F.C.		pH.		Solids		Cement													

From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands	
4565		80		4645		7		95 M		No. 6		9.D. 2 3/8		Wgt. 50M		Gals.		Bbls.		3980	
No. 14		Size 8 3/4		Type FCH5T		Size Jets 2-1 1/2		Serial No. 265282		Wt. 20-25		R.P.M. 50		From 4496		To 4645		Ftg. 149		Hrs. 12 1/2	
COND. RUN		D. Collars 534.58		Other Ft. 31.33		C.B. Ft.		Subs. Ft. 2.60		Ft. Down on Kelly 36		TOTAL 4645		Slip		Feet Left on Spool		Next Slip			
MUD		8 a.m.		10 a.m.		12 p.m.		2 p.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added					
WEIGHT																					
VISCOSITY																					
GEL																					
No. 1		Pres- sure		S.P.M.																	
Model		Liner Size																			
No. 2		Pres- sure		S.P.M.																	
Model		Liner Size																			
W.L.		F.C.		pH.		Solids		Cement													

From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands	
4645		110		4755		7 3/4		95 M		No. 6		9.D. 2 3/8		Wgt. 40		Gals.		Bbls.		4116	
No. 14		Size 8 3/4		Type FCH5T		Size Jets 2-1 1/2		Serial No. 265282		Wt. 20-25		R.P.M. 55		From 4496		To 4755		Ftg. 259		Hrs. 20 1/2	
COND. RUN		D. Collars 534.58		Other Ft. 31.33		C.B. Ft.		Subs. Ft. 2.60		Ft. Down on Kelly 21		TOTAL 4775		Slip		Feet Left on Spool		Next Slip			
MUD		4 p.m.		6 p.m.		8 p.m.		10 p.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added					
WEIGHT																					
VISCOSITY																					
GEL																					
No. 1		Pres- sure		S.P.M.																	
Model		Liner Size																			
No. 2		Pres- sure		S.P.M.																	
Model		Liner Size																			
W.L.		F.C.		pH.		Solids		Cement													

REMARKS	Time		
	Start	Stop	Interval
Rig serv. check BOP OK	12:00	12:15	15
Run in	12:15	2:00	1:45
Break circuit (Name to BOP)	2:00	2:30	30
Drill 8 3/4 Hole	2:30		
5 min safety talk on			
Mixing chemicals in muds			
With Pipe			
Without Pipe			
Standby			
RIG SERV. + B.O.P. ✓	8:00	8:15	15
DRILL 8 3/4 HOLE	8:15	9:30	1:15
SURVEY 4575 ft	9:30	10:15	45
DRILL 8 3/4 HOLE	10:15	4:00	5:45
5 min safety talk on			
NEAT HOUSE KEEPING			
With Pipe			
Without Pipe			
Standby			
RIG SERV. + B.O.P. ✓	4:00	4:15	15
DRILL 8 3/4 HOLE	4:15	12:00	7:45
With Pipe			
Without Pipe			
Standby			

Tour — Midnight — 8 a.m.	
Specify actual hours worked.	Hrs.
Driller <u>N. Callaghan</u>	8
Derrick <u>D. LORWEN</u>	8
Motor <u>N. PARSON</u>	8
Floor <u>A. TAYLOR</u>	8
Floor <u>M. WHELAN</u>	8
Accidents <u>NIL</u>	
Outside Temp. <u>0°</u>	
Weather Conditions <u>OVERCAST</u>	
Road Conditions <u>ROUGH</u>	
Tour — 8 a.m. to 4 p.m.	
Specify actual hours worked.	Hrs.
Driller <u>C. STARORA</u>	12
Derrick <u>L. LALEUR</u>	12
Motor <u>G. NOLETTE</u>	12
Floor <u>R. FRITZ</u>	12
Floor <u>R. JOHNSON</u>	12
<u>A. WEBSTER</u>	12
<u>K. BERNARDIN</u>	12
Accidents <u>NIL</u>	
Outside Temp. <u>0°</u>	
Weather Conditions <u>Clear</u>	
Road Conditions <u>ROUGH</u>	
Tour — 4 p.m. to Midnight	
Specify actual hours worked.	Hrs.
Driller <u>N. Callaghan</u>	4
Derrick <u>D. LORWEN</u>	4
Motor <u>N. PARSON</u>	4
Floor <u>A. TAYLOR</u>	4
Floor <u>M. WHELAN</u>	4
Accidents <u>NIL</u>	
Outside Temp. <u>5°</u>	
Weather Conditions <u>OVERCAST</u>	
Road Conditions <u>ROUGH</u>	

Totco Ring on Bit No. _____ D.P. Calipered Date _____ Results _____ From Pipe Rack _____ Total Contractor Time _____ Hrs. Toolpusher _____ Toolpusher _____
B.O.P. Test-Operated _____ Time _____ Results _____ Total Company Time _____ Hrs. Approved by Louis Adell Approved by _____

DATE MAR 13 1973

NABORS DRILLING LIMITED

WORK RECORD

DATE MAR 13 1973

NOTE: Do Not Record Payroll Information Here

Rig No. 10 Page No. 46

LOCATION Mesa Malmanni Butte #120

Rig No. 10 Report No. 46

From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands	
No.		Size		Type		Size Jets		Serial No.		Wt.		R.P.M.		From		To		Ftg.		Hrs.	
4120		150		4270		7 1/2		90M		12		6 1/2		2 3/4		40"		33 1/2		1369	
13		8 3/4		OC M89		5-1/8		912303		2530		50-60		4060		4270		210		11 1/2	
MUD		12 a.m.		2 a.m.		4 a.m.		6 a.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added		Subs. Ft.		260	
WEIGHT																		Ft. Down on Kelly		37	
VISCOSITY																		TOTAL		4270	
GEL																		Light Plant		8	
P		No. 1		Pressure														BOILER HRS.		8	
U		Model		S.P.M.														Slip		Feet or Cut	
M		No. 2		Pressure		1000		600		1000		600						Slip		Feet or Cut	
P		Model		S.P.M.		68		54		68		54						Slip		Feet or Cut	
S		Liner Size		5 1/2 + 14														Slip		Feet or Cut	
W.L.		F.C.		pH.		Solids		Cement										Slip		Feet or Cut	
From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands	
4270		158		4438		7 3/4		90M		12		6 1/2		2 3/4		40"		33 1/2		1369	
13		8 3/4		SEC M88		5-1/8		912303		2530		50-60		4060		4438		378		19 1/2	
MUD		8 a.m.		10 a.m.		12 p.m.		2 p.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added		Subs. Ft.		260	
WEIGHT																		Ft. Down on Kelly		15	
VISCOSITY																		TOTAL		4438	
GEL																		Light Plant		8	
P		No. 1		Pressure														BOILER HRS.		8	
U		Model		S.P.M.														Slip		Feet or Cut	
M		No. 2		Pressure		500		500		500		500						Slip		Feet or Cut	
P		Model		S.P.M.		45		45		45		45						Slip		Feet or Cut	
S		Liner Size		5 1/2 + 14														Slip		Feet or Cut	
W.L.		F.C.		pH.		Solids		Cement										Slip		Feet or Cut	
From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands	
4438		58		4496		4 1/2		90M		12		6 1/2		2 3/4		40"		33 1/2		1369	
13		8 3/4		SEC M88		5-1/8		912303		2530		50-60		4060		4496		436		2 3/4	
MUD		4 p.m.		6 p.m.		8 p.m.		10 p.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added		Subs. Ft.		260	
WEIGHT																		Ft. Down on Kelly		41	
VISCOSITY																		TOTAL		4496	
GEL																		Light Plant		8	
P		No. 1		Pressure														BOILER HRS.		8	
U		Model		S.P.M.														Slip		Feet or Cut	
M		No. 2		Pressure		700		700										Slip		Feet or Cut	
P		Model		S.P.M.		48		48										Slip		Feet or Cut	
S		Liner Size		5 1/2 + 14														Slip		Feet or Cut	
W.L.		F.C.		pH.		Solids		Cement										Slip		Feet or Cut	

REMARKS

Time

Start Stop Interval

Big SERV. check BOPS
Drill 8 3/4 Hole12 00 12 15 1/4
12 15 2 45 2 1/2WORK on Desilter plugged up
Drill 8 3/4 Hole w/ sand 4 1/2 SKS2 45 3 15 1/2
3 15 8 4 1/25 MIN SAFETY TALK on
Lay Down Drill pipe

With Pipe

Without Pipe

Standby

RIG SERV. + B.O.P. ✓
Drill 8 3/4 Hole8 00 8 15 1/4
8 15 4 00 7 3/4

With Pipe

Without Pipe

Standby

RIG SERV. + B.O.P. ✓
Drill 8 3/4 Hole
Trip for Bit Change8 00 8 15 1/4
8 15 8 30 1 1/2
8 30 12 00 3 1/2

With Pipe

Without Pipe

Standby

Tour — Midnight - 8 a.m.

Specify actual hours worked. Hrs.

Driller	N. Callaghan	8
Derrick	D. Lowen	8
Motor	M. Sedger	8
Floor	A. Taylor	8
Floor	M. Whelan	8

Accidents Nil

Outside Temp. -2°

Weather Conditions overcast

Road Conditions Rough

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked. Hrs.

Driller	C. STARORA	12
Derrick	L. LAFLEUR	12
Motor	G. NOLETTE	12
Floor	R. FRITZ	12
Floor	R. JOHNSON	12
	A. WEBSTER	12
	K. BERNARDIN	12
	N. PARSON	12

Accidents Nil

Outside Temp. 0

Weather Conditions Clear

Road Conditions Rough

Tour — 4 p.m. to Midnight

Specify actual hours worked. Hrs.

Driller	N. Callaghan	4
Derrick	D. Lowen	4
Motor	A. PARSON	4
Floor	A. Taylor	4
Floor	M. Whelan	4

Accidents Nil

Outside Temp. 32°

Weather Conditions Cloudy

Road Conditions Rough

Totco Ring on Bit No. _____ D.P. Calipered Date _____ Results _____ From Pipe Rack _____ Total Contractor Time _____ Hrs. Toolpusher _____

B.O.P. Test-Operated _____ Time _____ Results _____ Total Company Time _____ Hrs. Approved by _____

Toolpusher _____

Approved by _____

DATE MAR 12 1973

NABORS DRILLING LIMITED

WORK RECORD

DATE MAR 12 1973

Rig No. 10 Page No. 45 LOCATION MESA NAHANN BATTLE L 20

NOTE: Do Not Record Payroll Information Here

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS				FUEL	WATER	CRUDE	Stands				
3956	75	4019	3 1/4	88"	No. 6	O.D. 9.0	I.D. 2 3/4	Wgt. 44	Gals.	Bbls.	Gol.	3409				
12 6 1/2 2 3/4 44 5' in Tank																
No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft. Reamed	Hrs.	COND.	D. Collars		
12	8 3/4	H.W.X.S.S.A	2 1/2	VR 37	30	55	3396	4019	113	33 1/2			IN	534 58		
MUD 12 a.m. 2 a.m. 4 a.m. 6 a.m. Additives												At Surveys Degree	MOTOR HOURS	Oil Added	Subs. Ft.	
WEIGHT												3960	6 3/4	1	8	2.60
VISCOSITY														2	8	
GEL														3		
No. 1	Pressure	4 1/2														
Model	S.P.M.	2 1/2														
No. 2	Pressure	1000	600	600												
Model	S.P.M.	65	42	42												
Liner Size	5 1/2	14														
Casing Record	Surface	Desilter 3 HAS														
Prod.																
W.L.	F.C.	pH.	Solids	Cement												

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS				FUEL	WATER	CRUDE	Stands				
4019	41	4060	2 1/2	88"	No. 6	O.D. 9.0	I.D. 2 3/4	Wgt. 40"	Gals.	Bbls.	Gol.	3409				
12 6 1/2 2 3/4 40"																
No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft. Reamed	Hrs.	COND.	D. Collars		
12	8 3/4	H.W.X.S.S.P	2 1/2	VR 37	30	55	3996	4060	664	35 1/2			56 1/2	534 58		
MUD 8 a.m. 10 a.m. 12 p.m. 2 p.m. Additives												At Surveys Degree	MOTOR HOURS	Oil Added	Subs. Ft.	
WEIGHT														1	8	2.60
VISCOSITY														2	8	
GEL														3		
No. 1	Pressure															
Model	S.P.M.															
No. 2	Pressure															
Model	S.P.M.	600														
Liner Size	3 1/2	42														
Casing Record	Surface	DESILTER 8														
Prod.																
W.L.	F.C.	pH.	Solids	Cement												

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS				FUEL	WATER	CRUDE	Stands				
4060	54	4120	4 1/2	88"	No. 6	O.D. 9.0	I.D. 2 3/4	Wgt. 44"	Gals.	Bbls.	Gol.	3409				
12 6 1/2 2 3/4 44"																
No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft. Reamed	Hrs.	COND.	D. Collars		
13	8 3/4	S.C.C.	2 1/2	912307	30	50-55	4060	4120	54	4 1/2			Run	534 58		
MUD 4 p.m. 6 p.m. 8 p.m. 10 p.m. Additives												At Surveys Degree	MOTOR HOURS	Oil Added	Subs. Ft.	
WEIGHT														1	8	2.60
VISCOSITY														2	8	
GEL														3		
No. 1	Pressure															
Model	S.P.M.															
No. 2	Pressure	700	700	700	700											
Model	S.P.M.	59	59	59	59											
Liner Size	5 1/2	34														
Casing Record	Surface	Desilter 8 HAS														
Prod.																
W.L.	F.C.	pH.	Solids	Cement												

REMARKS	Start	Time	Interval
Rig serv. check No 15	12:00	12:15	1/4
Circ sump down hole	12:15	1:00	3/4
Circ sample with pump & air	1:00	2:00	1
Drill 8 3/4 Hole	2:00	3:15	1 1/2
Survey @ 2960 (circ sample)	3:15	4:30	1 1/2
Circ sump down hole	4:30	6:00	1 1/2
Drill 8 3/4 Hole	6:00	8:00	2
TOTAL			8

REMARKS	Start	Time	Interval
RIG SERV - B.O.P. ✓	8:00	8:15	1/4
CIRC SUMP DOWN HOLE	8:15	8:30	1/4
DRILL 8 3/4 HOLE	8:30	11:00	2 1/2
HOIST PIPE	11:00	1:30	2 1/2
INSTALL NEW BIT REPAIR	1:30		
FLOAT + SLIP LINE		2:30	1
RUN IN WITH BIT # 13	2:30	4:00	1 1/2
TOTAL			8

REMARKS	Start	Time	Interval
FINISH RUNNING IN PIPE	4:00	4:30	1/2
BREAK CIRC	4:30	4:45	1/4
DRILL 8 3/4 HOLE	4:45	6:15	1 1/2
CLEAN PLUGGED CONES	6:15		
ON DESILTER		8:15	2
DRILL 8 3/4 Hole	8:15	8:30	1/4
CLEAN OUT DESILTER	8:30	9:15	3/4
DRILL 8 3/4 Hole	9:15	12:00	2 3/4
TOTAL			8

Rig No. 10	Report No. 45
Tour — Midnight - 8 a.m.	
Specify actual hours worked. Hrs.	
Driller	M. Callaghan 8
Derrick	D. LARSEN 8
Motor	M. SEDGE 8
Floor	A. Taylor 8
Floor	M. Whelan 8

Accidents: Nil

Outside Temp. - 50°

Weather Conditions - Clear

Road Conditions Rough

Tour — 8 a.m. to 4 p.m.	
Specify actual hours worked. Hrs.	
Driller	C. STAROBA 12
Derrick	L. LALEUR 12
Motor	G. NOLETTE 12
Floor	R. FRITZ 12
Floor	R. JOHNSON 12
	A. WEBSTER 12
	K. BERNARDIN 12
	N. PARSON 12

Tour — 4 p.m. to Midnight	
Specify actual hours worked. Hrs.	
Driller	M. Callaghan 4
Derrick	D. LARSEN 4
Motor	M. SEDGE 4
Floor	A. Taylor 4
Floor	M. Whelan 4

Accidents: Nil

Outside Temp. 80°

Weather Conditions Clear

Road Conditions Rough

Totco Ring on Bit No. _____ D.P. Calipered Date _____ Results _____ From Pipe Rack _____ Total Contractor Time _____ Hrs. Toolpusher _____

B.O.P. Test-Operated _____ Time _____ Results _____ Total Company Time _____ Hrs. Approved by _____

DATE MAR 11 1973

NABORS DRILLING LIMITED

WORK RECORD

DATE MAR 11 1973

NOTE: Do Not Record Payroll Information Here

Rig No. 44 Page No. 44 LOCATION MESA NAHANNI B. W. T. P. 120

Rig No. 10 Report No. 44

From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands	
3570		130		3700		6 1/2		84"		No. 12		P.D. 6 1/2		I.D. 2 3/4		Wgt. 40"		Gals. 21.1		Bbls. 3030.8	
No. 12		Size 8 3/4		Type HX557		Size Jets 1 1/2		Serial No. VR 537		Wt. 40		R.P.M. 55		From 3396		To 3700		Ftg. 304		Hrs. 16 1/2	
MUD		12 a.m.		2 a.m.		4 a.m.		6 a.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added		Subs. Ft.		2.60	
WEIGHT		6																Ft. Down on Kelly		39	
VISCOSITY																					
GEL																					
No. 1		Pressure																			
Model		S.P.M.																			
Liner Size		6 1/2		6 1/2		1000		1000													
No. 2		Pressure																			
Model		S.P.M.		46		46		65		65											
Liner Size		5 1/2		5 1/2		14		14													
W.L.		F.C.		pH.		Solids		Cement													
From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands	
3700		135		3835		7 3/4		85"		No. 12		O.D. 6 3/4		I.D. 2 3/4		Wgt. 40"		Gals. 21.1		Bbls. 3186	
No. 12		Size 8 3/4		Type HX558		Size Jets 1 1/2		Serial No. VR 537		Wt. 35		R.P.M. 55		From 3396		To 3835		Ftg. 439		Hrs. 24 1/2	
MUD		8 a.m.		10 a.m.		12 p.m.		2 p.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added		Subs. Ft.		2.60	
WEIGHT																		Ft. Down on Kelly		15	
VISCOSITY																					
GEL																					
No. 1		Pressure																			
Model		S.P.M.																			
Liner Size		1000		1000		1000		1000													
No. 2		Pressure																			
Model		S.P.M.		65		42		65		65											
Liner Size		5 1/2		5 1/2		14		14													
W.L.		F.C.		pH.		Solids		Cement													
From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands	
3835		121		3956		5 3/4		83"		No. 12		O.D. 6 3/4		I.D. 2 3/4		Wgt. 40"		Gals. 21.1		Bbls. 3314.9	
No. 12		Size 8 3/4		Type HX558		Size Jets 1 1/2		Serial No. VR 537		Wt. 30		R.P.M. 55		From 3396		To 3956		Ftg. 560		Hrs. 30	
MUD		4 p.m.		6 p.m.		8 p.m.		10 p.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added		Subs. Ft.		12.60	
WEIGHT																		Ft. Down on Kelly		9	
VISCOSITY																					
GEL																					
No. 1		Pressure																			
Model		S.P.M.																			
Liner Size		600		600		1500		1000													
No. 2		Pressure																			
Model		S.P.M.		42		42		65		65											
Liner Size		5 1/2		5 1/2		14		14													
W.L.		F.C.		pH.		Solids		Cement													

REMARKS		Time	
		Start	Stop
Rig SERV check BOPs		12:00	12:15
Drill 8 3/4 Hole		12:15	3:15
WORK on Disiliter plugged		3:15	
come + suction			4:30
Drill 8 3/4 Hole		4:30	8:30
(Note Disiliter plugging up w/ Sawdust Bags & Holes)			8:30
5 min SAFETY TALK on good House keeping			
With Pipe			
Without Pipe			
Standby			
Rig SERVICE + B.O.P. ✓		8:00	8:15
Drill 8 3/4 HOLE		8:15	4:00
Held 5 min SAFETY MEETING			
DISCUSSED "HOW TO WORK WITH YOUR FELLOW EMPLOYEES"			
TEAM WORK IS VERY IMPORTANT			
With Pipe			
Without Pipe			
Standby			
Rig SERVICE + B.O.P. ✓		4:00	4:15
Drill 8 3/4 HOLE		4:15	10:15
Circ saw down Hole		10:15	12:00
With Pipe			
Without Pipe			
Standby			

Tour — Midnight - 8 a.m.	
Specify actual hours worked. Hrs.	
Driller	N. Callaghan 8
Derrick	D. LARSEN 8
Motor	M. SEDGE 8
Floor	A. TAYLOR 8
Floor	M. WHELAN 8
Accidents Nil	
Outside Temp. 20°	
Weather Conditions clear	
Road Conditions Rough	
Tour — 8 a.m. to 4 p.m.	
Specify actual hours worked. Hrs.	
Driller	C. STAROBA 12
Derrick	L. LAFLEUR 12
Motor	G. NOLETTE 12
Floor	R. FRITZ 12
Floor	R. JOHNSON 12
A. WEBSTER 12	
K. BERNARDINI 12	
N. PARSON 12	
Accidents Nil	
Outside Temp. 10°	
Weather Conditions clear	
Road Conditions Rough	
Tour — 4 p.m. to Midnight	
Specify actual hours worked. Hrs.	
Driller	N. Callaghan 4
Derrick	D. LARSEN 4
Motor	M. SEDGE 4
Floor	A. TAYLOR 4
Floor	M. WHELAN 4
Accidents Nil	
Outside Temp. 75°	
Weather Conditions clear	
Road Conditions Rough	

Totco Ring on Bit No. _____ D.P. Calipered Date _____ Results _____ From Pipe Rack _____ Total Contractor Time _____ Hrs. Toolpusher _____

B.O.P. Test-Operated _____ Time _____ Results _____ Total Company Time _____ Hrs. Approved by _____

DATE MAR 10 1973

NABORS DRILLING LIMITED

WORK RECORD

DATE MAR 10 1973

NOTE: Do Not Record Payroll Information Here

Rig No. 10 Page No. 43 LOCATION MESA NAHANNI Bldg L20

From		Footage		To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS				FUEL	WATER	CRUDE	Stands
No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	No.	O.D.	I.D.	Wgt.	Gals.	Bbls.	Gal.	Bbls.
3345	44	3384	80"	12	6 1/2	2 3/4	40"	3 1/2	12	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2
MUD 12 c.m. 2 a.m. 4 a.m. 6 a.m. Additives At Surveys Degree MOTOR HOURS Oil Added WEIGHT VISCOSITY GEL P U M S No. 1 No. 2 Model S.P.M. Liner Size Size TRIPS No. Lines TON MILES TOTAL MILES Slip Feet or Cut Feet Left on Spool Next Slip Casing Record Surface Prod. W.L. F.C. pH. Solids Cement														
3389	46	3435	80"	12	6 1/2	2 3/4	40"	3 1/2	12	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2
MUD 8 a.m. 10 a.m. 12 p.m. 2 p.m. Additives At Surveys Degree MOTOR HOURS Oil Added WEIGHT VISCOSITY GEL P U M S No. 1 No. 2 Model S.P.M. Liner Size Size TRIPS No. Lines TON MILES TOTAL MILES Slip Feet or Cut Feet Left on Spool Next Slip Casing Record Surface Prod. W.L. F.C. pH. Solids Cement														
3435	135	3570	85"	12	6 1/2	2 3/4	40"	3 1/2	12	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2
MUD 4 p.m. 6 p.m. 8 p.m. 10 p.m. Additives At Surveys Degree MOTOR HOURS Oil Added WEIGHT VISCOSITY GEL P U M S No. 1 No. 2 Model S.P.M. Liner Size Size TRIPS No. Lines TON MILES TOTAL MILES Slip Feet or Cut Feet Left on Spool Next Slip Casing Record Surface Prod. W.L. F.C. pH. Solids Cement														

REMARKS	Time		
	Start	Stop	Interval
Rig SERV	12:00	12:15	1/4
Drill 8 3/4 Hole	12:15	6:30	6 1/4
Try Taget Circ	6:30	7:30	1
Drill 8 3/4 Hole	7:30	8	1/2
5 min TALK on Blow out			
RIG SERVICE	8:00	8:15	1/4
Drill 8 3/4 Hole	8:15	9:15	1
HOIST PIPE	9:15	11:30	2 1/4
CHECK FLOAT + INSTALL NEW BIT	11:30	11:45	1/4
RUN IN WITH BIT #12	11:45	1:15	1 1/2
BACK CIRC. + REAM 5' TO BOTTOM	1:15	1:45	1/2
Drill 8 3/4 Hole	1:45	4:00	2 1/4
5 min SAFETY TALK ON TRIPPING			
RIG SERVICE "CHECKED BLIND	4:00	4:15	1/4
RAM + HYDROIL "O.K." ON TRIP	4:15	12:00	7 3/4
Drill 8 3/4 Hole	12:00		

Rig No. 10 Report No. 43	
Tour — Midnight - 8 a.m.	
Specify actual hours worked. Hrs.	
Driller N. Callaghan	8
Derrick D. Loewen	8
Motor M. Sedger	8
Floor A. Taylor	8
Floor M. Whelan	8
Accidents Nil	
Outside Temp. -10°	
Weather Conditions OVERCAST	
Road Conditions Rough	
Tour — 8 a.m. to 4 p.m.	
Specify actual hours worked. Hrs.	
Driller C. STAROBA	12
Derrick L. LALEUR	12
Motor G. NOLETTE	12
Floor R. FRITZ	12
Floor R. JOHNSON	12
A. WEBSTER	12
K. BERNARDIN	12
N. PARSON	12
Accidents Nil	
Outside Temp. -10°	
Weather Conditions FAIR	
Road Conditions Rough	
Tour — 4 p.m. to Midnight	
Specify actual hours worked. Hrs.	
Driller N. Callaghan	4
Derrick D. Loewen	4
Motor M. Sedger	4
Floor A. Taylor	4
Floor M. Whelan	4
Accidents Nil	
Outside Temp. -8°	
Weather Conditions CLEAR	
Road Conditions Rough	

Totco Ring on Bit No. D.P. Colipered Date Results From Pipe Rack Total Contractor Time Hrs. Toolpusher

B.O.P. Test-Operated Time Results Total Company Time Hrs. Approved by

DATE MAR 9 19

NABORS DRILLING LIMITED

WORK RECORD

DATE MAR 9 1973

NOTE: Do Not Record Payroll Information Here

Rig No. 10 Page No. 42 LOCATION MESA NAHANN, B. H. #20Rig No. 10 Report No. 42

From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands													
No.		Size		Type		Size Jets		Serial No.		Wt.		R.P.M.		From		To		Ftg.		Hrs.		Ft. Reamed		Hrs.		COND.		D. Collars		Other Ft.		C.B. Ft.	
B		8 3/4		ROD-SME		OPEN		697965																									
I																																	
T																																	
S																																	
M																																	
P																																	
U																																	
M																																	
P																																	
S																																	
W.L.		F.C.		pH.		Solids		Cement																									
From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands													
No.		Size		Type		Size Jets		Serial No.		Wt.		R.P.M.		From		To		Ftg.		Hrs.		Ft. Reamed		Hrs.		COND.		D. Collars		Other Ft.		C.B. Ft.	
B		8 3/4		SMG		OPEN		697965		30		70		3276		3345		59		55													
I																																	
T																																	
S																																	
M																																	
P																																	
U																																	
M																																	
P																																	
S																																	
W.L.		F.C.		pH.		Solids		Cement																									

REMARKS		Time		
		Start	Stop	Interval
Rig service		12	12:15	1/4
Finnish Trip in		12:15	12:30	1/4
TAY To get CIRC & REAM		12:30		
To bottom			8:00	7 1/2
Hit plug @ 3244 approx.				
5 min. wait, Talk at Lay 129				
Down - pick up Del pipe				
With Pipe		Without Pipe		Standby
RIG SERV. B.O.P.V		8:00	8:15	1/4
CLEAN TO BOTTOM		8:15	9:30	1 1/4
TRIP OUT, plugged Bit		9:30	100	3 1/2
Run plug Bit & Bit sub		100	200	
Makeup Bit				
Run in		200	400	200
With Pipe		Without Pipe		Standby
Rig serv.		4	4:15	1/4
check RAP				
BREAK CIRC		4:15	4:30	1/4
REAM OUT PLUG		4:30	6:30	2
DRILL 8 3/4 HOLE WITH AIREATED		6:30		
MUD			12:00	5 1/2
With Pipe		Without Pipe		Standby

Tour — Midnight - 8 a.m.	
Specify actual hours worked. Hrs.	
Driller	N. Callaghan 12
Derrick	M. Sedger 12
Motor	N. Parson 8
Floor	A. Taylor 12
Floor	M. Whelan 12
	K. Bernardin 8
Accidents N.I.	
Outside Temp. 0°	
Weather Conditions OVERCAST	
Road Conditions Rough	
Tour — 8 a.m. to 4 p.m.	
Specify actual hours worked. Hrs.	
Driller	P. Negrely 4
Derrick	L. LaFleur 12
Motor	G. Nolette 12
Floor	R. Fritz 12
Floor	R. Johnson 12
Accidents N.I.	
Outside Temp. 5°	
Weather Conditions FOG	
Road Conditions Rough	
Tour — 4 p.m. to Midnight	
Specify actual hours worked. Hrs.	
Driller	C. Staroba 12
Derrick	D. Loewen 4
Motor	
Floor	N. Parson 4
Floor	K. Bernardin 4
	A. Webster 8
Accidents N.I.	
Outside Temp. 6°	
Weather Conditions OVERCAST	
Road Conditions Rough	

Totco Ring on Bit No. _____ D.P. Calipered Date _____ Results _____ From Pipe Rack _____ Total Contractor Time _____ Hrs. Toolpusher _____
B.O.P. Test-Operated _____ Time _____ Results _____ Total Company Time _____ Hrs. Approved by _____
Toolpusher _____ Approved by _____

DATE MAR 8 1973

NABORS DRILLING LIMITED

WORK RECORD

DATE MAR 8 1973

Rig No. 10 Page No. 41 LOCATION Mesa Mahanni Butte L20

NOTE: Do Not Record Payroll Information Here

From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands							
No.		Size		Type		Size Jets		Serial No.		Wt.		R.P.M.		From		To		Ftg.		Hrs.		Ft. Reamed		Hrs.		COND.	
3276		8 1/2		Roads on open		697965																					
MUD		12 a.m.		2 a.m.		4 a.m.		6 a.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added											
WEIGHT																											
VISCOSITY																											
GEL																											
P		No. 1		Pressure																							
U		Model		S.P.M.																							
M		No. 2		Pressure																							
S		Model		S.P.M.																							
W.L.		F.C.		pH.		Solids		Cement																			
From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands							
3276		8 1/2		Roads on open		697965																					
MUD		8 a.m.		10 a.m.		12 p.m.		2 p.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added											
WEIGHT																											
VISCOSITY																											
GEL																											
P		No. 1		Pressure																							
U		Model		S.P.M.																							
M		No. 2		Pressure																							
S		Model		S.P.M.																							
W.L.		F.C.		pH.		Solids		Cement																			
From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands							
3276		8 1/2		Roads on open		697965																					
MUD		4 p.m.		6 p.m.		8 p.m.		10 p.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added											
WEIGHT																											
VISCOSITY																											
GEL																											
P		No. 1		Pressure																							
U		Model		S.P.M.																							
M		No. 2		Pressure																							
S		Model		S.P.M.																							
W.L.		F.C.		pH.		Solids		Cement																			

REMARKS

Run in
Rigging Rotating Head for AIR DR
Attempt to CIRC
Hoist 10 stands
Clean last circ material
From pumps & put 6" LIPS
in No 1 pump
Note Pumps not working properly due to
4 min SAFETY TALK on
SAFE in TAPPING

With Pipe Without Pipe Standby

RIG SERV. B.O.P. 8:00 8:15 1/4
WORK ON PUMP 8:15 9:30 1 1/4
CLEAN TO BOTTOM 9:30 4:00 6 1/2
Note Clean out last Circulation Material
when working on pumps
SAFETY TALK ON WORKING
NEW MEN

With Pipe Without Pipe Standby

RIG SERV. 4:00
CHECK RIG FOR THE BEAR 4:15 1/4
CLEAN TO BOTTOM 4:15 5:00 3/4
MIX MUD 5:00 7:15 2 1/4
Hoist 7:15 9:30 2 1/4
Run in 9:30 12:00 2 1/2

Rig No. 10 Report No. 41

Tour — Midnight - 8 a.m.

Specify actual hours worked. Hrs.

Driller N. Callaghan 8
Derrick M. Sledge 8
Motor N. Parson 8
Floor A. Taylor 6
Floor M. Whelan 8
K. Bernard 8

Accidents Nil
Outside Temp. 0
Weather Conditions CLEAR
Road Conditions Rough

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked. Hrs.

Driller P. NEAREY 12
Derrick L. LAFLEUR 12
Motor G. NOLETTE 12
Floor L. SEMENIUK 12
Floor R. FRITZ 12
R. JOHNSON 12

Accidents Nil
Outside Temp. 35
Weather Conditions CLEAR
Road Conditions Rough

Tour — 4 p.m. to Midnight

Specify actual hours worked. Hrs.

Driller N. Callaghan 4
Derrick M. Sledge 4
Motor N. Parson 4
Floor A. Taylor 4
Floor M. Whelan 4
K. Bernard 4

Accidents Nil
Outside Temp. 25
Weather Conditions CLEAR
Road Conditions Rough

Totco Ring on Bit No. D.P. Calipered Date Results From Pipe Rock Total Contractor Time Hrs. Toolpusher
B.O.P. Test-Operated Time Results Total Company Time Hrs. Approved by

DATE Mar 6 1973

Rig No. 10 Report No. 29

[illegible]

Tour — Midnight - 8 a.m.		
Specify actual hours worked.	Hrs.	
Driller <i>N. Callaghan</i>	8	
Derrick <i>M. Sedger</i>	8	
Motor <i>N. PARSON</i>	8	
Floor <i>A Taylor</i>	8	
Floor <i>M Whelan</i>	8	
<i>K BERNARDIN</i>	8	
Accidents <i>NIL</i>		
Outside Temp. <i>28°</i>		
Weather Conditions <i>CLEAR</i>		
Road Conditions <i>Rough</i>		
Tour — 8 a.m. to 4 p.m.		
Specify actual hours worked.	Hrs.	
Driller <i>P. NEGREY</i>	12	
Derrick <i>L. LAFLÉUR</i>	12	
Motor <i>G. NOLETTE</i>	12	
Floor <i>L. SEMENIUK</i>	12	
Floor <i>R. FRITZ</i>	12	
<i>R. JOHNSON</i>	12	
Accidents <i>NIL</i>		
Outside Temp. <i>0</i>		
Weather Conditions <i>CLEAR</i>		
Road Conditions <i>ROUGH</i>		
Tour — 4 p.m. to Midnight		
Specify actual hours worked.	Hrs.	
Driller <i>N. Callaghan</i>	4	
Derrick <i>M Sedger</i>	4	
Motor <i>N. PARSON</i>	4	
Floor <i>A. Taylor</i>	4	
Floor <i>M Whelan</i>	4	
<i>K BERNARDIN</i>	4	
Accidents <i>NIL</i>		
Outside Temp. <i>-12°</i>		
Weather Conditions <i>CLEAR</i>		
Road Conditions <i>Rough</i>		

Totco Ring on Bit No. _____ D.P. Calipered Date _____ Results _____ From Pipe Rack _____ Total Contractor Time _____ Hrs. Toolpusher A. Smith Toolpusher K. Fisher
S.O.P. Test-Operated _____ Time _____ Results _____ Total Company Time _____ Hrs. Approved by James Approved by _____

S.O.P. Test-Operated _____ Time _____ Results _____ Total Company Time _____ Hrs. Approved by Focus 11/1/01 Approved by _____

Rig No. 10 Page No. 38 LOCATION MOSA NAMANI BULLO # 620

From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands				
										No.	O.D.	I.D.	Wgt.	Gals.		Bbls.		Gal.		Bbls.				
3276														34 FT										
B	No.	Size	Type	Size	Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft. Reamed	Hrs.	COND.	D. Collars								
I																Other Ft.								
T																C.B. Ft.								
S																Subs. Ft.								
MUD		12 a.m.	2 a.m.	4 a.m.	6 a.m.	Additives				At Surveys Degree				MOTOR HOURS		Oil Added								
WEIGHT														1		8								
VISCOSITY														2		8								
GEL														3										
P	No. 1	Pressure													Light Plant		8							
U	Model	S.P.M.													2		BOILER HRS.		8		TOTAL			
M	No. 2	Pressure													Slip		Feet or		Cut		Feet Left on Spool		Next Slip	
P	Model	S.P.M.																						
S	Liner Size																							
W.L.		F.C.		pH.		Solids		Cement																

From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands				
										No.	O.D.	I.D.	Wgt.	Gals.		Bbls.		Gal.		Bbls.				
3276										6	9.0	4.2	27											
B	No.	Size	Type	Size	Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft. Reamed	Hrs.	COND.	D. Collars								
I																Other Ft.								
T																C.B. Ft.								
S																Subs. Ft.								
MUD		8 a.m.	10 a.m.	12 p.m.	2 p.m.	Additives				At Surveys Degree				MOTOR HOURS		Oil Added								
WEIGHT														1		8								
VISCOSITY														2		8								
GEL														3										
P	No. 1	Pressure													Light Plant		8							
U	Model	S.P.M.													2		BOILER HRS.		8		TOTAL			
M	No. 2	Pressure													Slip		Feet or		Cut		Feet Left on Spool		Next Slip	
P	Model	S.P.M.																						
S	Liner Size																							
W.L.		F.C.		pH.		Solids		Cement																

From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands	
										No.	O.D.	I.D.	Wgt.	Gals.		Bbls.		Gal.		Bbls.	
B	No.	Size	Type	Size	Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft. Reamed	Hrs.	COND.	D. Collars					
I																Other Ft.					
T																C.B. Ft.					
S																Subs. Ft.					
MUD		4 p.m.	6 p.m.	8 p.m.	10 p.m.	Additives				At Surveys Degree											

Totco Ring on Bit No. _____ D.P. Calipered Date _____ Results _____ From Pipe Rack _____ Total Contractor Time _____ Hrs. Toolpusher _____ Toolpusher _____
B.O.P. Test-Operated _____ Time _____ Results _____ Total Company Time _____ Hrs. Approved by _____ Approved by _____

Rig No. 10 Page No. 35 LOCATION MESA NAHANMI BUTTE L-20

NOTE: Do Not Record Payroll Information Here

Rig No. 10 Report No. 35

[illegible][illegible]

Tour — Midnight - 8 a.m.		
	Specify actual hours worked.	Hrs.
Driller	C. STARORA	8
Derrick	D. LOEWEN	8
Motor	M. SEDGER	8
Floor	J. JORDIE	8
Floor	G. PETERS	8
	M. PARSONS	12
Accidents NIL		
Outside Temp. -10°		
Weather Conditions CLEAR		
Road Conditions ROUGH		
Tour — 8 a.m. to 4 p.m.		
	Specify actual hours worked.	Hrs.
Driller	P. NEGLEY	12
Derrick	G. OSMACHENKO	12
Motor	C. NOLETTE	12
Floor	I. SEMENIUK	12
Floor	R. FITZ	4
	LARRY LAFLUR	4
	A. WEBSTER	4
Accidents NIL		
Outside Temp. -5		
Weather Conditions CLEAR		
Road Conditions ROUGH.		
Tour — 4 p.m. to Midnight		
	Specify actual hours worked.	Hrs.
Driller	N. Callahan	4
Derrick	M. Sedger	4
Motor	A. Taylor	4
Floor	M. Wilcox	4
Floor	R. Johnson	4
	K. BERNARDIN	4
Accidents NIL		
Outside Temp. -18°		
Weather Conditions CLEAR		
Road Conditions ROUGH		

DATE MAR. 1 1923

NABORS DRILLING LIMITED

WORK RECORD

DATE MAR. 1 1923

Rig No. 10 Page No. 34

LOCATION MESA NAHANNI BUTTE L-20

NOTE: Do Not Record Payroll Information Here

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS				FUEL	WATER	CRUDE	Stands	
No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Fr. Reamed	Hrs.	COND.
3242	0	3242	0	80	6	7	12	6	2 1/2	9	11	13 1/2	
MUD 12 a.m. 2 a.m. 4 a.m. 6 a.m. Additives 2 DV 68 At Surveys Degree MOTOR HOURS Oil Added													
WEIGHT 10 GEL													
VISCOSITY 1/2 CAUSTIC													
GEL 40 SANDUST													
No. 1 Pressure 3 REDWOOD FIBRE													
Model S.P.M. 3 CANE FIBRE 10 FEET IN 52													
Liner Size 5 1/2 x 14													
No. 2 Pressure													
Model S.P.M.													
Liner Size													
W.L. F.C. pH. Solids Cement													

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS				FUEL	WATER	CRUDE	Stands	
No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Fr. Reamed	Hrs.	COND.
3242	11	3253	1	80	6	7	12	6	2 1/2	9	11	13 1/2	
MUD 8 a.m. 10 a.m. 12 p.m. 2 p.m. Additives GE-66 OIL-6 At Surveys Degree MOTOR HOURS Oil Added													
WEIGHT 66 OIL-6													
VISCOSITY 1/2 CAUSTIC													
GEL 40 SANDUST													
No. 1 Pressure 3 REDWOOD FIBRE													
Model S.P.M. 3 CANE FIBRE 10 FEET IN 52													
Liner Size 5 1/2 x 14													
No. 2 Pressure													
Model S.P.M.													
Liner Size													
W.L. F.C. pH. Solids Cement													

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS				FUEL	WATER	CRUDE	Stands	
No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Fr. Reamed	Hrs.	COND.
3253	0	3253	0	80	6	7	12	6	2 1/2	9	11	13 1/2	
MUD 4 p.m. 6 p.m. 8 p.m. 10 p.m. Additives At Surveys Degree MOTOR HOURS Oil Added													
WEIGHT 10 GEL													
VISCOSITY 1/2 CAUSTIC													
GEL 40 SANDUST													
No. 1 Pressure 3 REDWOOD FIBRE													
Model S.P.M. 3 CANE FIBRE 10 FEET IN 52													
Liner Size 5 1/2 x 14													
No. 2 Pressure													
Model S.P.M.													
Liner Size													
W.L. F.C. pH. Solids Cement													

REMARKS	Time		
	Start	Stop	Interval
MIX MUD + LOST CIR. MATERIAL	12.00	1.00	1
RIG SERV.	1.00	1.15	1/4
MIX MUD + LOST CIR. MATERIAL	1.15	7.00	5 3/4
PUMP DOWN 140 BBL'S.	7.00	7.30	1/2
MIX MUD	7.30	8.00	1/2
TOTAL 3242			

With Pipe	Without Pipe	Standby	
RIG SERVICE	8.00	8.15	1/4
MIX SANDUST, GEL, + LOST	8.15	10.30	2 1/4
CIRCULATION MATERIAL	10.30	11.30	1
PUMP DOWN 140 BBL'S.	11.30	2.30	3
MIX LOST CIRC. MAT	2.30	3.30	1
+ GEL	3.30	4.00	
Drig (Fractures).			
MIX LOST CIRC. MAT			
+ GEL			

With Pipe	Without Pipe	Standby	
MIX LOST CIRC. MAT + GEL.	4.00	6.00	2
RIG SERV. R.O. R.V.	6.00	6.15	1/4
TRIPPING PLUGGED JETS.	6.15	9.30	3 1/4
LAY DOWN STARS + SHOCK	9.30	9.45	1/4
CHANGE BIT BLIND RAME	9.45	12.00	2 1/4
TRIP IN			

With Pipe	Without Pipe	Standby

Rig No. 10 Report No. 34

Tour — Midnight - 8 a.m.	
Specify actual hours worked.	Hrs.
Driller P. NEGREY	8
Derrick D. LOEWEN	8
Motor M. SEDGER	8
Floor J. JORDE	8
Floor S. PETERS	8
Accidents NIL	
Outside Temp. 25	
Weather Conditions CLEAR	
Road Conditions ROUGH	

Tour — 8 a.m. to 4 p.m.	
Specify actual hours worked.	Hrs.
Driller G. OSMAS	8
Derrick HENKO	12
Motor G. NOLETTE	12
Floor N. PARSON	12
Floor A. WEBSTER	12
Accidents	
Outside Temp.	
Weather Conditions	
Road Conditions	

Tour — 4 p.m. to Midnight	
Specify actual hours worked.	Hrs.
Driller P. NEGREY	8
Derrick D. LOEWEN	4
Motor M. SEDGER	4
Floor J. JORDE	4
Floor S. PETERS	4
Accidents NIL	
Outside Temp. -10	
Weather Conditions LIGHT SNOW	
Road Conditions ROUGH	

Totco Ring on Bit No. D.P. Calipered Date Results From Pipe Rack Total Contractor Time Hrs. Toolpusher

B.O.P. Test-Operated Time Results Total Company Time Hrs. Approved by

DATE FEB. 28 1973

NABORS DRILLING LIMITED

WORK RECORD

DATE FEB. 28 1973

Rig No. 10 Page No. 33 LOCATION MESA NAHANNI BUTTE L-20

NOTE: Do Not Record Payroll Information Here

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS	FUEL	WATER	CRUDE	Stands
3139	68	3207	7 1/4	78.000	No. 12 O.D. 6 1/4 I.D. 3 7/8 Wgt. 12				2636.61
MUD 12 a.m. 2 a.m. 4 a.m. 6 a.m. Additives At Surveys Degree MOTOR HOURS Oil Added									
WEIGHT 4.1 9.1 9.1 9.1 1700 GEL 2195 7 1 8									
VISCOSITY 47 40 38 32 50 LUBE FLOW 2 5									
GEL 50 CMC 3									
P No. 1 Pressure 1000 1000 1000 1000									
Model S.P.M. 60 60 60 60									
Liner Size 5 1/2 x 14									
Casing Record Surface Prod.									
W.L. 10.8 F.C. pH. Solids Cement									

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS	FUEL	WATER	CRUDE	Stands
3207	35	3242	3 1/2	78	No. 12 O.D. 6 1/4 I.D. 3 7/8 Wgt. 12				2636.61
MUD 8 a.m. 10 a.m. 12 p.m. 2 p.m. Additives At Surveys Degree MOTOR HOURS Oil Added									
WEIGHT 9.2 8100 21-28-5 1 8									
VISCOSITY 36 29 6 1/2 2 8									
GEL 6 1/2 3									
P No. 1 Pressure 1000 1000 1000 1000									
Model S.P.M. 60 60 60 60									
Liner Size 5 1/2 x 14									
Casing Record Surface Prod.									
W.L. 11.2 F.C. pH. 8.5 Solids Cement									

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS	FUEL	WATER	CRUDE	Stands
3242	0	3242	0	75	No. 12 O.D. 6 1/4 I.D. 3 7/8 Wgt. 12				2636.61
MUD 4 p.m. 6 p.m. 8 p.m. 10 p.m. Additives At Surveys Degree MOTOR HOURS Oil Added									
WEIGHT 10 GEL 1 8									
VISCOSITY 2 CAUSTIC 2 5									
GEL 2 SANDUCT 3									
P No. 1 Pressure 1000 1000 1000 1000									
Model S.P.M. 60 60 60 60									
Liner Size 5 1/2 x 14									
Casing Record Surface Prod.									
W.L. F.C. pH. Solids Cement									

REMARKS	Start	Stop	Interval
DRILL 5 1/4" HOLE	12:00	1:30	1 1/2
RIG SERV. B.O.P. SWIVEL	1:30	1:45	1/4
DRILL 5 1/4" HOLE	1:45	7:15	5 1/2
SURVEY @ 3195 7'	7:15	7:45	1/2
DRILL	7:45	8:00	1/4
✓ Crown Stapper & Drag Line (OK) R.S.			

With Pipe	Without Pipe	Standby
RIG SERVICE + B.O.P	8:00	8:15 1/4
DRILL 8 3/4" HOLE	8:15	11:45 3 1/2
LOST CIRCULATION PULL	11:45	
TWO STANDS PIPE + MIX		
LOST CIRCULATION MATERIAL	3:30	3:45 1/4
Run 2 Stands	3:30	4:00 1/2
DESIGN - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 20 - 21 - 22 - 23 - 24 - 25 - 26 - 27 - 28 - 29 - 30 - 31 - 32 - 33 - 34 - 35 - 36 - 37 - 38 - 39 - 40 - 41 - 42 - 43 - 44 - 45 - 46 - 47 - 48 - 49 - 50 - 51 - 52 - 53 - 54 - 55 - 56 - 57 - 58 - 59 - 60 - 61 - 62 - 63 - 64 - 65 - 66 - 67 - 68 - 69 - 70 - 71 - 72 - 73 - 74 - 75 - 76 - 77 - 78 - 79 - 80 - 81 - 82 - 83 - 84 - 85 - 86 - 87 - 88 - 89 - 90 - 91 - 92 - 93 - 94 - 95 - 96 - 97 - 98 - 99 - 100 - 101 - 102 - 103 - 104 - 105 - 106 - 107 - 108 - 109 - 110 - 111 - 112 - 113 - 114 - 115 - 116 - 117 - 118 - 119 - 120 - 121 - 122 - 123 - 124 - 125 - 126 - 127 - 128 - 129 - 130 - 131 - 132 - 133 - 134 - 135 - 136 - 137 - 138 - 139 - 140 - 141 - 142 - 143 - 144 - 145 - 146 - 147 - 148 - 149 - 150 - 151 - 152 - 153 - 154 - 155 - 156 - 157 - 158 - 159 - 160 - 161 - 162 - 163 - 164 - 165 - 166 - 167 - 168 - 169 - 170 - 171 - 172 - 173 - 174 - 175 - 176 - 177 - 178 - 179 - 180 - 181 - 182 - 183 - 184 - 185 - 186 - 187 - 188 - 189 - 190 - 191 - 192 - 193 - 194 - 195 - 196 - 197 - 198 - 199 - 200 - 201 - 202 - 203 - 204 - 205 - 206 - 207 - 208 - 209 - 210 - 211 - 212 - 213 - 214 - 215 - 216 - 217 - 218 - 219 - 220 - 221 - 222 - 223 - 224 - 225 - 226 - 227 - 228 - 229 - 230 - 231 - 232 - 233 - 234 - 235 - 236 - 237 - 238 - 239 - 240 - 241 - 242 - 243 - 244 - 245 - 246 - 247 - 248 - 249 - 250 - 251 - 252 - 253 - 254 - 255 - 256 - 257 - 258 - 259 - 260 - 261 - 262 - 263 - 264 - 265 - 266 - 267 - 268 - 269 - 270 - 271 - 272 - 273 - 274 - 275 - 276 - 277 - 278 - 279 - 280 - 281 - 282 - 283 - 284 - 285 - 286 - 287 - 288 - 289 - 290 - 291 - 292 - 293 - 294 - 295 - 296 - 297 - 298 - 299 - 300 - 301 - 302 - 303 - 304 - 305 - 306 - 307 - 308 - 309 - 310 - 311 - 312 - 313 - 314 - 315 - 316 - 317 - 318 - 319 - 320 - 321 - 322 - 323 - 324 - 325 - 326 - 327 - 328 - 329 - 330 - 331 - 332 - 333 - 334 - 335 - 336 - 337 - 338 - 339 - 340 - 341 - 342 - 343 - 344 - 345 - 346 - 347 - 348 - 349 - 350 - 351 - 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686 - 687 - 688 - 689 - 690 - 691 - 692 - 693 - 694 - 695 - 696 - 697 - 698 - 699 - 700 - 701 - 702 - 703 - 704 - 705 - 706 - 707 - 708 - 709 - 710 - 711 - 712 - 713 - 714 - 715 - 716 - 717 - 718 - 719 - 720 - 721 - 722 - 723 - 724 - 725 - 726 - 727 - 728 - 729 - 730 - 731 - 732 - 733 - 734 - 735 - 736 - 737 - 738 - 739 - 740 - 741 - 742 - 743 - 744 - 745 - 746 - 747 - 748 - 749 - 750 - 751 - 752 - 753 - 754 - 755 - 756 - 757 - 758 - 759 - 760 - 761 - 762 - 763 - 764 - 765 - 766 - 767 - 768 - 769 - 770 - 771 - 772 - 773 - 774 - 775 - 776 - 777 - 778 - 779 - 780 - 781 - 782 - 783 - 784 - 785 - 786 - 787 - 788 - 789 - 790 - 791 - 792 - 793 - 794 - 795 - 796 - 797 - 798 - 799 - 800 - 801 - 802 - 803 - 804 - 805 - 806 - 807 - 808 - 809 - 810 - 811 - 812 - 813 - 814 - 815 - 816 - 817 - 818 - 819 - 820 - 821 - 822 - 823 - 824 - 825 - 826 - 827 - 828 - 829 - 830 - 831 - 832 - 833 - 834 - 835 - 836 - 837 - 838 - 839 - 840 - 841 - 842 - 843 - 844 - 845 - 846 - 847 - 848 - 849 - 850 - 851 - 852 - 853 - 854 - 855 - 856 - 857 - 858 - 859 - 860 - 861 - 862 - 863 - 864 - 865 - 866 - 867 - 868 - 869 - 870 - 871 - 872 - 873 - 874 - 875 - 876 - 877 - 878 - 879 - 880 - 881 - 882 - 883 - 884 - 885 - 886 - 887 - 888 - 889 - 890 - 891 - 892 - 893 - 894 - 895 - 896 - 897 - 898 - 899 - 900 - 901 - 902 - 903 - 904 - 905 - 906 - 907 - 908 - 909 - 910 - 911 - 912 - 913 - 914 - 915 - 916 - 917 - 918 - 919 - 920 - 921 - 922 - 923 - 924 - 925 - 926 - 927 - 928 - 929 - 930 - 931 - 932 - 933 - 934 - 935 - 936 - 937 - 938 - 939 - 940 - 941 - 942 - 943 - 944 - 945 - 946 - 947 - 948 - 949 - 950 - 951 - 952 - 953 - 954 - 955 - 956 - 957 - 958 - 959 - 960 - 961 - 962 - 963 - 964 - 965 - 966 - 967 - 968 - 969 - 970 - 971 - 972 - 973 - 974 - 975 - 976 - 977 - 978 - 979 - 980 - 981 - 982 - 983 - 984 - 985 - 986 - 987 - 988 - 989 - 990 - 991 - 992 - 993 - 994 - 995 - 996 - 997 - 998 - 999 - 1000		

With Pipe	Without Pipe	Standby
Pump 110 bbls heavy	4:00	
Mud + Sandst	4:30	
Mix mud + Sandst	4:30	
Pump on 120 bbls	7:00	2 1/2
Mix Mud + LOST CIR MATERIAL	11:30	4 1/2
PUMP Run 120 bbls	11:30	12:00 1/2

Rig No. 10 Report No. 33

Tour — Midnight - 8 a.m.	
Specify actual hours worked. Hrs.	
Driller P. NEGREY	8
Derrick D. LOEWEN	8
Motor M. SEDGER	8
Floor J. JORDE	8
Floor S. PETERS	8
IRVIN WAAD	8
Accidents NIL	
Outside Temp. -20	
Weather Conditions CLOUDY	
Road Conditions ROUGH	

Tour — 8 a.m. to 4 p.m.	
Specify actual hours worked. Hrs.	
Driller C. STAROBA	12
Derrick G. OSMACHENKO	12
Motor	
Floor N. PARSON	12
Floor L. SEMENUK	12
A WEBSTER	12
Accidents NIL	
Outside Temp. -20	
Weather Conditions CLEAR	
Road Conditions ROUGH	

Tour — 4 p.m. to Midnight	
Specify actual hours worked. Hrs.	
Driller P. NEGREY	4
Derrick D. LOEWEN	4
Motor M. SEDGER	4
Floor J. JORDE	4
Floor S. PETERS	4
Accidents NIL	
Outside Temp. -10	
Weather Conditions CLEAR	
Road Conditions ROUGH	

Totco Ring on Bit No. D.P. Caliper Date Results From Pipe Rack Total Contractor Time Hrs. Toolpusher

B.O.P. Test-Operated Time Results Total Company Time Hrs. Approved by

DATE FEB. 27 1973

NABORS DRILLING LIMITED

WORK RECORD

DATE FEB. 27 1973

Rig No. 10 Page No. 32 LOCATION MESA NAHANNI ROUTE 1-20

NOTE: Do Not Record Payroll Information Here

Rig No. 10 Report No. 32

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS				FUEL	WATER	CRUDE	Stands	
No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Fr. Reamed	Hrs.	COND.
2968	72	3040	7 1/4	75.000	12	7 1/2	2 3/8		2 1/2" Gals.			244.66	
MUD 12 a.m. 2 a.m. 4 a.m. 6 a.m. Additives At Surveys Degree MOTOR HOURS Oil Added WEIGHT 4.1 9.1 9.1 9.1 VISCOSITY 15 28 36 GEL No. 1 Pressure Model S.P.M. Liner Size No. 2 Pressure Model S.P.M. Liner Size W.L. 12.0 F.C. 32 p.H. 9.0 Solids Cement													
3040	62	3102	7	75 M	12	6 1/2	2 3/8	40 M				244.41	
MUD 8 a.m. 10 a.m. 12 p.m. 2 p.m. Additives At Surveys Degree MOTOR HOURS Oil Added WEIGHT 4.8 8.8 8.8 9.9 VISCOSITY 33 29 32 30 GEL No. 1 Pressure Model S.P.M. Liner Size No. 2 Pressure Model S.P.M. Liner Size W.L. F.C. pH. Solids Cement													
3102	37	3139	3	75	12	6 1/2	2 3/8					254.00	
MUD 4 p.m. 6 p.m. 8 p.m. 10 p.m. Additives At Surveys Degree MOTOR HOURS Oil Added WEIGHT 9.0 VISCOSITY 34 GEL No. 1 Pressure Model S.P.M. Liner Size No. 2 Pressure Model S.P.M. Liner Size W.L. 10 F.C. pH. Solids													

REMARKS	Start	Stop	Interval
DRILL 5 3/4" HOLE	12:00	1:45	1 3/4
RIL SERV. B.O.P. ✓	1:45	2:00	1/4
DRILL 5 3/4" HOLE	2:00	5:00	3
SURVEY @ 2007	5:00	5:30	1/2
DRILL 5 3/4" HOLE	5:30	8:00	2 1/2
RIG SERVICE	8:00	8:15	1/4
DRILL 8 3/4" HOLE	8:15	9:00	3/4
SURVEY 3035	9:00	9:30	1/2
DRILL 8 3/4" HOLE	9:30	3:45	6 1/4
CIRC. BOTTOM HOLE SAMPLE	3:45	4:00	1/4
350 P.S.I. at 30 STROKES			
DESLINTER. REJECT - 3 GPM			
O.F. - 8.7			
U.F. - 9.5			
CIRC. BOTTOM HOLE SAMPLE	4:00	4:15	1/4
DROP SURVEY	4:15	4:30	1/4
HOLST PIPE	4:30	6:00	1 1/2
CHANGE STABILIZER TO	6:00		
60 + 90 FT INSTALL BIT		6:45	3/4
RUN IN WITH BIT # 9	6:45	8:30	1 3/4
CLEAN TO BOTTOM	8:30	9:00	1/2
DRILL 5 3/4" HOLE	9:00	12:00	3

Tour — Midnight - 8 a.m.	
Specify actual hours worked.	Hrs.
Driller P. NEGREY	8
Derrick D. LOEWEN	8
Motor M. SEDGER	8
Floor I. JORDE	8
Floor S. PETERS	8
IRVIN WARD.	8
Accidents NIL	
Outside Temp. - 25	
Weather Conditions LIGHT SNOW	
Road Conditions ROUGH.	
Tour — 8 a.m. to 4 p.m.	
Specify actual hours worked.	Hrs.
Driller C. STABORA	12
Derrick G. OSMACHENKO	12
Motor G. NOLETTE	12
Floor N. PARSON	12
Floor L. SEMENIUK	12
A. WEBSTER	12
Accidents NIL	
Outside Temp. - 5°	
Weather Conditions SNOW	
Road Conditions ROUGH	
Tour — 4 p.m. to Midnight	
Specify actual hours worked.	Hrs.
Driller F. NEGREY	4
Derrick D. LOEWEN	4
Motor M. SEDGER	4
Floor I. JORDE	4
Floor S. PETERS	4
IRVIN WARD	4
Accidents NIL	
Outside Temp. - 15	
Weather Conditions CLOUDY	
Road Conditions ROUGH.	

Totco Ring on Bit No. _____ D.P. Calipered Date _____ Results _____ From Pipe Rack _____ Total Contractor Time _____ Hrs. Toolpusher R. Schul
 B.O.P. Test-Operated _____ Time _____ Results _____ Total Company Time _____ Hrs. Approved by R. Schul
 Approved by _____

DATE FEB. 26 1973

NABORS DRILLING LIMITED

WORK RECORD

DATE FEB. 26 1973

Rig No. 10 Page No. 31 LOCATION MESA NAHANNI ROUTE 1-20

NOTE: Do Not Record Payroll Information Here

Rig No. 10 Report No. 31

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS				FUEL	WATER	CRUDE	Stands	
No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft. Reamed	Hrs.	COND.
2779	70	2569	7 3/4	75	12	7 1/2	2322	2569	262	19 1/2		2329.68	
MUD 12 a.m. 2 a.m. 4 a.m. 6 a.m. Additives WEIGHT 9.0 9.0 9.1 VISCOSITY 40 38 40 GEL No. 1 Pressure Model S.P.M. No. 2 Pressure Model S.P.M. W.L. F.C. pH. Solids Cement													
2869	85	2954	7 1/2	75	12	7 1/2	2807	2954	2807	21 1/2		2959.41	
MUD 8 a.m. 10 a.m. 12 p.m. 2 p.m. Additives WEIGHT 9.2 9.2 9.1 9.1 VISCOSITY 37 32 30 35 GEL No. 1 Pressure Model S.P.M. No. 2 Pressure Model S.P.M. W.L. F.C. pH. Solids Cement													
2954	5	2968	2	75	12	7 1/2	2929	2959	2968	8	1	2968	
MUD 4 p.m. 6 p.m. 8 p.m. 10 p.m. Additives WEIGHT 9.1 9.1 9.1 9.1 VISCOSITY 33 35 35 35 GEL No. 1 Pressure Model S.P.M. No. 2 Pressure Model S.P.M. W.L. F.C. pH. Solids Cement													

REMARKS	Start	Stop	Interval
DRILL 5 3/4" HOLE	12:00	2:45	2 1/2
DRILL 5 3/4" HOLE	2:45	3:00	1/4
DRILL 5 3/4" HOLE	3:00	8:00	5 1/4
400 P.S.I. at 30 S.P.M.			
RIG SERVICE - KELLY COCK	8:00	8:15	1/4
DRILL 8 3/4" HOLE	8:15	9:15	1
SURVEY 2880 4"	9:15	9:45	1/2
DRILL 8 3/4" HOLE	9:45	4:00	6 1/4
DESINTER - REJECT - 3 GPM			
J.F. - 8.8			
J.F. - 9.5			
RIG SERVICE	4:00	4:15	1/4
DRILL 8 3/4" HOLE	4:15	5:15	1
CIRC BOTTOM HOLE SAMPLE	5:15	5:45	1/2
DROP SURVEY	5:45	6:00	1/4
HOIST PIPE	6:00	7:45	1 3/4
RECOVER SURVEY CHANGE BIT 7:45			
BLIND RAMS		8:15	1/2
RUN IN W/RT # 8	8:15	10:30	2 1/4
CLEAN 30' TO BOTTOM	10:30	11:00	1/2
DRILL	11:00	12:00	1

Tour — Midnight - 8 a.m.	
Specify actual hours worked.	Hrs.
Driller P. NEGREY	8
Derrick D. LOEWEN	8
Motor M. SEDGER	8
Floor I. JORDE	8
Floor S. PETERS	8
IRVIN WARD	8
Accidents NIL	
Outside Temp. -35	
Weather Conditions LIGHT SNOW	
Road Conditions ROUGH	
Tour — 8 a.m. to 4 p.m.	
Specify actual hours worked.	Hrs.
Driller C. STAROBA	12
Derrick G. OSMACHENKO	12
Motor G. NOLETTE	12
Floor N. PARSON	12
Floor I. SEMENIUK	12
A. WEBSTER	12
Accidents NIL	
Outside Temp. -20	
Weather Conditions SNOWY	
Road Conditions ROUGH	
Tour — 4 p.m. to Midnight	
Specify actual hours worked.	Hrs.
Driller P. NEGREY	4
Derrick D. LOEWEN	4
Motor M. SEDGER	4
Floor I. JORDE	4
Floor S. PETERS	4
IRVIN WARD	4
Accidents NIL	
Outside Temp. -20	
Weather Conditions LIGHT SNOW	
Road Conditions ROUGH	

Totco Ring on Bit No. D.P. Calipered Date Results From Pipe Rack

B.O.P. Test-Operated

Time

Results

Total Contractor Time Hrs. Toolpusher

Total Company Time Hrs. Approved by

Toolpusher

Approved by

DATE FEB. 25 1973

NABORS DRILLING LIMITED

WORK RECORD

DATE FEB. 25 1973

Rig No. 10 Page No. 31 LOCATION MESA NAHANNI BUTTE L-20

NOTE: Do Not Record Payroll Information Here

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS				FUEL	WATER	CRUDE	Stands
No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Fr. Reamed	Hrs.
2540	67	2607	4	68.000	12	6 7/8	27 1/2					20755
MUD 12 a.m. 2 a.m. 4 a.m. 6 a.m. Additives WEIGHT 2600 VISCOSITY 1 GEL 2 No. 1 Pressure Model S.P.M. 11.26 No. 2 Pressure Model S.P.M. 6.40 W.L. F.C. pH. Solids Cement												

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS				FUEL	WATER	CRUDE	Stands
No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Fr. Reamed	Hrs.
2607	93	2700	4 1/2	68	6	7 1/8	28 1/2	40				206748
MUD 8 a.m. 10 a.m. 12 p.m. 2 p.m. Additives WEIGHT 8.87 VISCOSITY 28 GEL 30 No. 1 Pressure Model S.P.M. 11.26 No. 2 Pressure Model S.P.M. 6.40 W.L. F.C. pH. Solids Cement												

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS				FUEL	WATER	CRUDE	Stands
No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Fr. Reamed	Hrs.
2700	99	2799	7 1/4	68	6	7 1/8	28 1/2	40				222602
MUD 4 p.m. 6 p.m. 8 p.m. 10 p.m. Additives WEIGHT 8.9 VISCOSITY 33 GEL 43 No. 1 Pressure Model S.P.M. 11.26 No. 2 Pressure Model S.P.M. 6.40 W.L. F.C. pH. Solids Cement												

REMARKS	Start	Stop	Interval
RIG SERV. R.D.P. ✓	12:00	12:15	1/4
DRILL 5 3/4" HOLE	12:15	4:00	2 3/4
SURVEY @ 2600	4:00	4:30	1/2
DRILL	4:30	4:45	1/4
CIR. SAMPLE	4:45	5:15	1/2
DROP SURVEY	5:15	5:30	1/4
TRIP OUT	5:30	8:00	2 1/2

With Pipe	Without Pipe	Standby
RIG SERVICE ✓	8:00	8:15
CHANGE STABILIZERS TO 30'	8:15	
60' INSTALL BIT	9:00	3/4
RUN IN WITH BIT #7	9:00	10:30
REAM STABILIZERS 60' TO BOTTOM	10:30	11:15
DRILL 5 3/4" HOLE	11:15	3:30
SURVEY 2690 "30"	3:30	4:00
DESILTER - REJECT - 2.00 - 2.00		
O.F. - 8.4		
U.F. - 9.3		

With Pipe	Without Pipe	Standby
RIG SERVICE	4:00	4:15
DRILL 8 3/4" HOLE	4:15	10:45
SURVEY @ 2785 3 3/4"	10:45	11:15
DRILL 5 3/4" HOLE	11:15	12:00
400 PSI @ 30 S.P.M.		

With Pipe	Without Pipe	Standby

Rig No. 10 Report No. 30

Tour	Midnight - 8 a.m.	Hrs.
Specify actual hours worked.		
Driller	P. NEGREY	8
Derrick	IRVIN WARD	8
Motor	M. SEDGER	8
Floor	L. TORDE	8
Floor	S. PETERS	8
	D. LOEWEN	8

Tour	8 a.m. to 4 p.m.	Hrs.
Specify actual hours worked.		
Driller	C. STARGER	12
Derrick	G. OSMACHEKO	12
Motor	G. NOLETTE	12
Floor	N. PARSON	12
Floor	L. SEMENIUK	12
	A. WEBSTER	12

Tour	4 p.m. to Midnight	Hrs.
Specify actual hours worked.		
Driller	D. NECCEN	4
Derrick	D. LOEWEN	4
Motor	M. SEDGER	4
Floor	I. TORDE	4
Floor	S. PETERS	4
	IRVIN WARD	4

Tour	Midnight - 8 a.m.	Hrs.
Specify actual hours worked.		
Driller	P. NEGREY	8
Derrick	IRVIN WARD	8
Motor	M. SEDGER	8
Floor	L. TORDE	8
Floor	S. PETERS	8
	D. LOEWEN	8

Totco Ring on Bit No. D.P. Calipered Date Results From Pipe Rack Total Contractor Time Hrs. Toolpusher

B.O.P. Test-Operated Time Results Total Company Time Hrs. Approved by

DATE FEB. 24 1973

NABORS DRILLING LIMITED

WORK RECORD

DATE FEB. 24 1973

Rig No. 10 Page No. 30

LOCATION MESA NAHANNI BUTTE L-20

NOTE: Do Not Record Payroll Information Here

Rig No. 10 Report No. 30

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS				FUEL	WATER	CRUDE	Stands							
No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft. Reamed	Hrs.	COND.	D. Collars	Singles				
2322	15	2337	1 1/2	64	12	6 1/2	2322	2337	15	1 1/2				534.58	1750.91				
MUD 12 a.m. 2 a.m. 4 a.m. 6 a.m. Additives														At Surveys Degree		MOTOR HOURS		Oil Added	
WEIGHT 9.1														1		8			
VISCOSITY 37														2		8			
GEL														3					
P U M S														Light Plant		BOILER HRS. 8		TOTAL 2337	
Casing Record														Surface Prod.		Measure pipe 147 dft.			
W.L. F.C. pH. Solids Cement																			
2337	98	2435	6 3/4	65	12	6 1/2	2337	2435	113	8 1/4				534.58	1750.41				
MUD 8 a.m. 10 a.m. 12 p.m. 2 p.m. Additives														At Surveys Degree		MOTOR HOURS		Oil Added	
WEIGHT 9.1 4.1 9.1 9.1														1		8			
VISCOSITY 39 36 34 42														2		8			
GEL														3					
P U M S														Light Plant		BOILER HRS. 8		TOTAL 2435	
Casing Record														Surface Prod.					
W.L. F.C. pH. Solids Cement																			
2435	105	2540	6 1/4	66	12	6 1/2	2435	2540	218	14 1/4				534.58	1940.11				
MUD 4 p.m. 6 p.m. 8 p.m. 10 p.m. Additives														At Surveys Degree		MOTOR HOURS		Oil Added	
WEIGHT 9.1 9.1 9.1 9.1														1		5			
VISCOSITY 43 40 37 35														2		5			
GEL														3					
P U M S														Light Plant		BOILER HRS. 8		TOTAL 2540	
Casing Record														Surface Prod.					
W.L. F.C. pH. Solids Cement																			

REMARKS	Time		
	Start	Stop	Interval
TRIP OUT.	12:00	6:30	1 1/2
CHANGE STABILIZERS	1:30		
2 PIT. RUN IN. COLLARS		2:15	1 3/4
SLIP + CUT D. LINE	3:15	4:15	1
RUN IN.	4:15	6:00	1 3/4
CLEAN 30' TO B-TOM.	6:00	6:30	1/2
DRILL	6:30	8:00	1 1/2
With Pipe	Without Pipe	Standby	
RIG SERVICE	8:00	8:15	1/4
DRILL 8 3/4 HOLE	8:15	9:45	1 1/2
SURVEY 2340 5 1/2"	9:45	10:15	1/2
DRILL 8 3/4 HOLE	10:15	12:30	2 1/4
SURVEY 2373 5"	12:30	1:00	1/2
DRILL 8 3/4 HOLE	1:00	4:00	3
DESILTER - REJECT - 3:00 P.M.			
O.F. - 9.0			
L.F. - 10.1			
With Pipe	Without Pipe	Standby	
RIG SERVICE	4:00	4:15	1/4
DRILL 8 3/4 HOLE	4:15	4:45	1/2
SURVEY 2435 4 3/4"	4:45	5:15	1/2
DRILL 8 3/4 HOLE	5:15	8:45	3 1/2
SURVEY @ 2500 3 3/4"	8:45	9:15	1/2
DRILL	9:15	10:15	1
WORK ON PUMP	10:15	10:45	1/2
DRILL	10:45	12:00	1 1/4
With Pipe	Without Pipe	Standby	

Tour — Midnight - 8 a.m.	
Specify actual hours worked.	Hrs.
Driller P. NEGREY	8
Derrick D. LOEWEN	8
Motor M. SEDGER	8
Floor I. JORDE	8
Floor S. PETERS	8
IRVIN WARD	8
Accidents	
Outside Temp. 0	
Weather Conditions LIGHT SNOW	
Road Conditions ROUGH	
Tour — 8 a.m. to 4 p.m.	
Specify actual hours worked.	Hrs.
Driller C. STAROBA	12
Derrick G. OSMACHENKO	12
Motor G. NOLETTE	12
Floor N. PARSON	12
Floor L. SEMENOV	12
A. WEBSTER	12
Accidents NIL	
Outside Temp. 0	
Weather Conditions SNOWY	
Road Conditions ROUGH	
Tour — 4 p.m. to Midnight	
Specify actual hours worked.	Hrs.
Driller P. NEGREY	4
Derrick IRVIN WARD	4
Motor M. SEDGER	4
Floor I. JORDE	4
Floor C. PETERS	4
Accidents NIL	
Outside Temp. -5	
Weather Conditions CLOUDY	
Road Conditions ROUGH	

Totco Ring on Bit No. D.P. Calipered Date Results From Pipe Rack Total Contractor Time Hrs. Toolpusher

B.O.P. Test-Operated Time Results Total Company Time Hrs. Approved by

DATE Feb 23 1973

NABORS DRILLING LIMITED

WORK RECORD

DATE Feb 23 1973

NOTE: Do Not Record Payroll Information Here

Rig No. 10 Page No. 29 LOCATION Mesa Nakana Butte L20

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS				FUEL	WATER	CRUDE	Stands
No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Gals.	Bbls.	Gals.	Singles
2138	77	2215	6 1/2	64M	12	5 1/2	23	4	3.5			1592
MUD 12 a.m. 2 a.m. 4 a.m. 6 a.m. Additives At Surveys Degree MOTOR HOURS Oil Added WEIGHT 86 46 86 6.1 1000 lbs 2190 5 1 8 VISCOSITY 34 34 40 2V 12 1/2 2 8 GEL 3 3 3 3 3 3 3 3 3 3 3 3 3												
P U M S No. 1 Pressure Model S.P.M. 11.26 11.26 11.26 11.26 11.26 11.26 11.26 11.26 11.26 11.26 11.26 11.26 No. 2 Pressure Model S.P.M. 900 900 900 900 900 900 900 900 900 900 900 900 Casing Record Surface Prod.												
W.L. 12 F.C. 2.12 pH. Solids Cement												
2215	50	2265	6 1/2	64M	12	5 1/2	23	40				1623
MUD 8 a.m. 10 a.m. 12 p.m. 2 p.m. Additives At Surveys Degree MOTOR HOURS Oil Added WEIGHT 89 89 90 9.1 5.12 2.35 1.1 1.1 1.1 1.1 1.1 1.1 1.1 VISCOSITY 37 39 35 33 3 3 3 3 3 3 3 3 3 GEL 3 3 3 3 3 3 3 3 3 3 3 3 3												
P U M S No. 1 Pressure Model S.P.M. 11.26 11.26 11.26 11.26 11.26 11.26 11.26 11.26 11.26 11.26 11.26 11.26 No. 2 Pressure Model S.P.M. 900 900 900 900 900 900 900 900 900 900 900 900 Casing Record Surface Prod.												
W.L. 13 F.C. 2.12 pH. 4.5 Solids 5% Cement												
2265	57	2322	6 1/4	64M	12	5 1/2	23	40				1718
MUD 4 p.m. 6 p.m. 8 p.m. 10 p.m. Additives At Surveys Degree MOTOR HOURS Oil Added WEIGHT 90 91 91 9.1 2211 5 1/4 1 9 VISCOSITY 37 35 37 40 2 5 GEL 3 3 3 3 3 3 3 3 3 3 3 3 3												
P U M S No. 1 Pressure Model S.P.M. 11.26 11.26 11.26 11.26 11.26 11.26 11.26 11.26 11.26 11.26 11.26 11.26 No. 2 Pressure Model S.P.M. 900 900 900 900 900 900 900 900 900 900 900 900 Casing Record Surface Prod.												
W.L. F.C. pH. Solids												

REMARKS	Start	Stop	Interval
Finish in Hole	12:00	12:45	3/4
Break in	12:45	1:15	3/4
Drill 8 3/4 Hole	1:15	5:15	4 1/2
Survey 2190	5:15	5:45	1/2
Drill 8 3/4 Hole	5:45	8:00	2 1/2
Under Flow 11.2 - 3 Bbls. - 11.2			
Not in 8.5			
Slack 8.6			
With Pipe Without Pipe Standby			
Drill 8 3/4 Hole	8:00	8:30	1/2
Rig Service	8:30	8:45	1/4
Repair Rotary Chain	8:45	9:30	3/4
Drill 8 3/4 Hole	9:30	2:00	4 1/2
Survey 2245 50"	2:00	2:30	1/2
Drill 8 3/4 Hole	2:30	4:00	1 1/2
REFECT-2.65 GPM			
DF - 8.7"			
UF - 10.5 SHAR - 8.9"			
With Pipe Without Pipe Standby			
Rig Service	4:00	4:15	1/4
Drill 8 3/4 Hole	4:15	10:15	6
Survey	10:15	10:45	1/2
Drill			
Tail P.	11:00	12:00	1
With Pipe Without Pipe Standby			

Rig No. 10 Report No. 29	
Tour - Midnight - 8 a.m.	
Specify actual hours worked. Hrs.	
Driller	N. Gallagher 8
Derrick	D. Lucien 8
Motor	M. Sedger 8
Floor	J. Jorde 8
Floor	S. Peters 8
Floor	M. Weller 8
Accidents Nil	
Outside Temp. 0°	
Weather Conditions LIGHT SNOW	
Road Conditions RAIN	
Tour - 8 a.m. to 4 p.m.	
Specify actual hours worked. Hrs.	
Driller	C. STAROBA 12
Derrick	G. OSMACHENKO 12
Motor	L. LALEUR 4
Floor	N. PARSON 12
Floor	L. SEMENIUK 8
Floor	A. WEBSTER 12
Floor	G. NOLETTE 8
Accidents Nil	
Outside Temp. +5°	
Weather Conditions SNOW	
Road Conditions ROUGH	
Tour - 4 p.m. to Midnight	
Specify actual hours worked. Hrs.	
Driller	P. NEGREY 4
Derrick	D. LOEWEN 4
Motor	M. SEDGER 4
Floor	J. JORDE 4
Floor	S. PETERS 4
Floor	IRVIN WARD 4
Accidents NIL	
Outside Temp. 2°	
Weather Conditions LIGHT SNOW	
Road Conditions ROUGH	

Totco Ring on Bit No. _____ D.P. Calipered Date _____ Results _____ From Pipe Rack _____ Total Contractor Time _____ Hrs. Toolpusher _____
 B.O.P. Test-Operated _____ Time _____ Results _____ Total Company Time _____ Hrs. Approved by _____
 Approved by _____

DATE Feb 20 1973

NABORS DRILLING LIMITED

WORK RECORD

DATE Feb 20 1973

NOTE: Do Not Record Payroll Information Here

Rig No. 10 Page No. 26 LOCATION MESA, NABORS UNIT 120

From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands			
No.		Size		Type		Size Jets		Serial No.		Wt.		R.F.M.		From		To		Ftg.		Hrs.		COND.	
1650		10		1660		1		54"		12		2 3/4		40"									
MUD		12 a.m.		2 a.m.		4 a.m.		6 a.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added							
WEIGHT																							
VISCOSITY																							
GEL																							
P. No. 1		S.P.M.																					
U. Model		S.P.M.																					
M. No. 2		S.P.M.																					
S. Model		S.P.M.																					
W.L.		F.C.		pH.		Solids		Cement															
1660		80		1740		7 3/4		54"		12		2 3/4		40"									
MUD		4 p.m.		6 p.m.		8 p.m.		10 p.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added							
WEIGHT																							
VISCOSITY																							
GEL																							
P. No. 1		S.P.M.																					
U. Model		S.P.M.																					
M. No. 2		S.P.M.																					
S. Model		S.P.M.																					
W.L.		F.C.		pH.		Solids		Cement															

REMARKS		Time		Interval	
		Start		Stop	
Heading Test Blind RAME		12		8:00	
Inspecting collars				8	
With Pipe					
Without Pipe					
Standby					
RIG SERV.		8:00		8:15 1/4	
FINISH TRIP IN HOLE		8:15		10:15 2	
PRESSURE R.D. + MANIFOLD		10:15		12:15 2	
DRILL OUT CEMENT, FLOAT, COLLAR AND SHOE		12:15		3:00 2 3/4	
DRILL 8 3/4 HOLE		3:00		4:00 1	
PRESSURE FORMATION TO 400 P.S.I. HELD O.K.				8	
With Pipe					
Without Pipe					
Standby					
DRILL 8 3/4 HOLE		4:00		4:45 3/4	
RIG SERVICE		4:45		5:00 1/4	
DRILL 8 3/4 HOLE		5:00		12 7	
With Pipe					
Without Pipe					
Standby					

Rig No. 10 Report No. 26

Tour — Midnight — 8 a.m.	
Specify actual hours worked.	
Hrs.	
Driller	N. Callaghan 8
Derrick	D. L. L. 8
Motor	M. S. S. 8
Floor	I. J. J. 8
Floor	S. P. P. 8
Floor	M. W. W. 8
Accidents Nil	
Outside Temp. 20	
Weather Conditions Clear	
Road Conditions Rough	
Tour — 8 a.m. to 4 p.m.	
Specify actual hours worked.	
Hrs.	
Driller	C. STAROGA 12
Derrick	G. OSMACHENKO 12
Motor	L. LALEUR 12
Floor	N. PARSON 12
Floor	R. FRITZ 12
Floor	A. WEBSTER 12
Accidents Nil	
Outside Temp. 40	
Weather Conditions Windy	
Road Conditions Rough	
Tour — 4 p.m. to Midnight	
Specify actual hours worked.	
Hrs.	
Driller	N. Callaghan 4
Derrick	D. L. L. 4
Motor	M. S. S. 4
Floor	I. J. J. 4
Floor	S. P. P. 4
Floor	M. W. W. 4
Accidents Nil	
Outside Temp. 40	
Weather Conditions Clear	
Road Conditions Rough	

Totco Ring on Bit No. _____ D.P. Calipered Date _____ Results _____ From Pipe Rack _____ Total Contractor Time _____ Hrs. Toolpusher _____ Toolpusher _____
B.O.P. Test-Operated _____ Time _____ Results _____ Total Company Time _____ Hrs. Approved by _____ Approved by _____

DATE Feb 19 1973

NABORS DRILLING LIMITED

WORK RECORD

DATE Feb 19 1973

NOTE: Do Not Record Payroll Information Here

Rig No. 10 Page No. 25

LOCATION MESA NA HAHN BATTLE 120

From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands			
No.		Size		Type		Size Jets		Serial No.		Wt.		R.P.M.		From		To		Ftg.		Hrs.		COND.	
MUD		12 a.m.		2 a.m.		4 a.m.		6 a.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added		Singles		D. Collars		Other Ft.	
WEIGHT																							
VISCOSITY																							
GEL																							
P No. 1		Pres- sure																					
U Model		S.P.M.																					
M No. 2		Pres- sure																					
S Model		S.P.M.																					
W.L.		F.C.		pH.		Solids		Cement															
From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands			
No.		Size		Type		Size Jets		Serial No.		Wt.		R.P.M.		From		To		Ftg.		Hrs.		COND.	
MUD		8 a.m.		10 a.m.		12 p.m.		2 p.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added		Singles		D. Collars		Other Ft.	
WEIGHT																							
VISCOSITY																							
GEL																							
P No. 1		Pres- sure																					
U Model		S.P.M.																					
M No. 2		Pres- sure																					
S Model		S.P.M.																					
W.L.		F.C.		pH.		Solids		Cement															
From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands			
No.		Size		Type		Size Jets		Serial No.		Wt.		R.P.M.		From		To		Ftg.		Hrs.		COND.	
MUD		4 p.m.		6 p.m.		8 p.m.		10 p.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added		Singles		D. Collars		Other Ft.	
WEIGHT																							
VISCOSITY																							
GEL																							
P No. 1		Pres- sure																					
U Model		S.P.M.																					
M No. 2		Pres- sure																					
S Model		S.P.M.																					
W.L.		F.C.		pH.		Solids		Cement															
From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands			
No.		Size		Type		Size Jets		Serial No.		Wt.		R.P.M.		From		To		Ftg.		Hrs.		COND.	
MUD		4 p.m.		6 p.m.		8 p.m.		10 p.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added		Singles		D. Collars		Other Ft.	
WEIGHT																							
VISCOSITY																							
GEL																							
P No. 1		Pres- sure																					
U Model		S.P.M.																					
M No. 2		Pres- sure																					
S Model		S.P.M.																					
W.L.		F.C.		pH.		Solids		Cement															

REMARKS	Time		
	Start	Stop	Interval
W.O.C	12 ⁰⁰	8 ⁰⁰	8
Clear mud tanks			
Washed pump			
W.O.C	8 ⁰⁰	4 ⁰⁰	8
HEADING UP			
W.O.C	4 ⁰⁰	12 ⁰⁰	8
HEADING UP			
W.O.C	4 ⁰⁰	12 ⁰⁰	8
HEADING UP			

Rig No. 10 Report No. 25

Tour — Midnight - 8 a.m.	
Specify actual hours worked.	Hrs.
Driller N. Callaghan	8
Derrick D. Loewen	8
Motor M. Sedge	8
Floor J. Jorde	8
Floor S. Peters	8
M. Whelan	8
Accidents	
Outside Temp. - 22°	
Weather Conditions CLEAR	
Road Conditions Rough	
Tour — 8 a.m. to 4 p.m.	
Specify actual hours worked.	Hrs.
Driller C. Starce	12
Derrick G. Osmachenko	12
Motor L. Lapeur	12
Floor N. Parson	12
Floor R. Fritz	12
A. Webster	12
Accidents N.L.	
Outside Temp. - 10°	
Weather Conditions CLEAR	
Road Conditions ROUGH	
Tour — 4 p.m. to Midnight	
Specify actual hours worked.	Hrs.
Driller N. Callaghan	4
Derrick D. Loewen	4
Motor M. Sedge	4
Floor J. Jorde	4
Floor S. Peters	4
M. Whelan	4
Accidents Nil	
Outside Temp. - 73°	
Weather Conditions CLEAR	
Road Conditions Rough	

Totco Ring on Bit No. _____ D.P. Calipered Date _____ Results _____ From Pipe Rack _____ Total Contractor Time _____ Hrs. Toolpusher _____
B.O.P. Test-Operated _____ Time _____ Results _____ Total Company Time _____ Hrs. Approved by _____ Approved by _____

DATE Feb 13 1973

NABORS DRILLING LIMITED

WORK RECORD

DATE Feb 13 1973

NOTE: Do Not Record Payroll Information Here

Rig No. 10 Page No. 24 LOCATION MEJA NAHANNI Butte L20

From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands	
No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Fr. Reamed	Hrs.	COND.	Gals.	Bbls.	Gal.	Bbls.	Singles	D. Collars	Other Ft.	
1644	6	1650	2	60M	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	
MUD 12 a.m. 2 a.m. 4 a.m. 6 a.m. Additives At Surveys Degree MOTOR HOURS Oil Added																					
WEIGHT 10.2																					
VISCOSITY 53																					
GEL																					
P U M S																					
W.L. F.C. pH. Solids Cement																					

REMARKS	Time		
	Start	Stop	Interval
Rig service	12:00	12:15	15
DRILL 12" Hole	12:15	2:15	2
Drop survey and	2:15	2:45	1/2
Most lead & lay down 2 stabilizers	2:45		
3 9' collars		6:45	4 1/2
Rig to Run casing	6:45	7:30	1/4
Pick up joint of casing	7:30		
Add put on shoe		8:00	1/2
With Pipe Without Pipe Standby			
Weld shoe & float on	8:00		
Casing		8:15	1/4
Rig service	8:15	8:30	1/4
Run in 9 5/8 Casing	8:30	11:30	3
Rig up Kelly Hose & Circ.	11:30		
Head on Casing		12:00	1/2
Circ. 9 5/8 Casing	12:00	1:30	1 1/2
Run 700 SKS CEMENT	1:30	2:15	3/4
Pump down cement plug	2:15	3:00	3/4
Prepare to set Casing Slips	3:00	4:00	1
With Pipe Without Pipe Standby			
Tear out B.O.P.'s	4:00		
To set Casing Slips		12	8
W.O.C.			
Ran 42 joints 9 5/8, KS, 36"			
CSC TOTAL OF 1654.53,			
C.S.A. 1650. KB. CEMENTED			
WITH 720 SKS COST CEMENT			
PLUS 3% PACER CEMENT			
TO SURFACE PLUG IN PLACE			
3:00 P.M. FEB 18/73.			
With Pipe Without Pipe Standby			

Rig No. 10 Report No. 24

Tour — Midnight - 8 a.m.	
Specify actual hours worked.	Hrs.
Driller N. Callaghan	8
Derrick B. Loeven	8
Motor M. Sledge	8
Floor J. Jarde	8
Floor S. Peters	8
M. Whelan	8
Accidents N/I	
Outside Temp. - 21°	
Weather Conditions CLEAR	
Road Conditions Rough	
Tour — 8 a.m. to 4 p.m.	
Specify actual hours worked.	Hrs.
Driller C. STAROBA	12
Derrick LAFLEUR	12
Motor PARSON	12
Floor FRITZ	12
Floor WEBSTER	12
Accidents N/I	
Outside Temp. - 10°	
Weather Conditions CLEAR	
Road Conditions ROUGH	
Tour — 4 p.m. to Midnight	
Specify actual hours worked.	Hrs.
Driller N. Callaghan	4
Derrick D. Loeven	4
Motor M. Sledge	4
Floor J. Jarde	4
Floor S. Peters	4
M. Whelan	4
Accidents N/I	
Outside Temp. - 5°	
Weather Conditions CLEAR	
Road Conditions Rough	

Totco Ring on Bit No. _____ D.P. Caliper Date _____ Results _____ From Pipe Rack _____ Total Contractor Time _____ Hrs. Toolpusher _____
 B.O.P. Test-Operated _____ Time _____ Results _____ Total Company Time _____ Hrs. Approved by _____
 Approved by _____

DATE Feb 17 1978

Rig No. 10 Page No. 23 LOCATION MESA NAHANNI Butte L20

NOTE: Do Not Record Payroll Information Here

Rig No. 10 Report No. 23

From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands											
No.		Size		Type		Size Jets		Serial No.		Wt.		R.P.M.		From		To		Ftg.		Hrs.		Ft. Reamed		Hrs.		COND.		D. Collars			
1599		13		1612		5		60M		3		9		23		45		3 Ft. TA 15										11229			
B		No.		Size		Type		Size Jets		Serial No.		Wt.		R.P.M.		From		To		Ftg.		Hrs.		Ft. Reamed		Hrs.		COND.		Singles	
T		5		12 1/2		DSJ		OPEN		413719		2-4		100		1599		1612		13		5						11228			
S		6																										Other Ft.			
																												Sub 166			
																												C.B. Ft.			
																												Subs. Ft.			
																												7.70			
																												Ft. Down On Kelly			
																												28			
																												TOTAL			
																												1112			
																												Next Slip			
						</																									

[illegible]

Tour — Midnight - 8 a.m.	
Specify actual hours worked.	Hrs.
Driller <i>N. Callaghan</i>	<i>8</i>
Derrick <i>D. Leewen</i>	<i>8</i>
Motor <i>M. Sedger</i>	<i>8</i>
Floor <i>I. Jorde</i>	<i>8</i>
Floor <i>S. Peters</i>	<i>8</i>
<i>M. Whelan</i>	<i>8</i>
Accidents <i>NIL</i>	
Outside Temp. <i>-10°</i>	
Weather Conditions <i>cloud - snow</i>	
Road Conditions <i>Rough</i>	
Tour — 8 a.m. to 4 p.m.	
Specify actual hours worked.	Hrs.
Driller <i>C. Staroba</i>	<i>12</i>
Derrick <i>G. Osmachenko</i>	<i>12</i>
Motor <i>L. LaFleur</i>	<i>12</i>
Floor <i>N. Parson</i>	<i>12</i>
Floor <i>R. Fritz</i>	<i>12</i>
<i>A. Webster</i>	<i>12</i>
Accidents <i>NIL</i>	
Outside Temp. <i>-2°</i>	
Weather Conditions <i>Cloudy & snow</i>	
Road Conditions <i>ROUGH</i>	
Tour — 4 p.m. to Midnight	
Specify actual hours worked.	Hrs.
Driller <i>N. Callaghan</i>	<i>4</i>
Derrick <i>D. Leewen</i>	<i>4</i>
Motor <i>M. Sedger</i>	<i>4</i>
Floor <i>I. Jorde</i>	<i>4</i>
Floor <i>S. Peters</i>	<i>4</i>
<i>M. Whelan</i>	<i>4</i>
Accidents <i>NIL</i>	
Outside Temp. <i>-5</i>	
Weather Conditions <i>cloud</i>	
Road Conditions <i>Rough</i>	

Totco Ring on Bit No. _____ D.P. Calipered Date _____ Results _____ From Pipe Rack _____ Total Contractor Time _____ Hrs. Toolpusher [Signature] Toolpusher [Signature]
B.O.P. Test-Operated _____ Time _____ Results _____ Total Company Time _____ Hrs. Approved by [Signature] Approved by _____

DATE Feb 16 1973

NABORS DRILLING LIMITED

WORK RECORD

DATE Feb 16 1973

NOTE: Do Not Record Payroll Information Here

Rig No. 10 Page No. 22 LOCATION MESA NAHANNI BUTTE T22

From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands							
No.		Size		Type		Size Jets		Serial No.		Wt.		R.P.M.		From		To		Ftg.		Hrs.		Ft. Reamed		Hrs.		COND.	
1465		63		1528		7		59M		3 6 9 23		3 6 9 23		3 6 9 23		3 6 9 23		3 6 9 23		3 6 9 23		3 6 9 23		3 6 9 23		3 6 9 23	
1528		47		1575		7 1/4		59M		3 6 9 23 45"		3 6 9 23 45"		3 6 9 23 45"		3 6 9 23 45"		3 6 9 23 45"		3 6 9 23 45"		3 6 9 23 45"		3 6 9 23 45"		3 6 9 23 45"	
1575		24		1599		3 1/2		60M		3 6 9 23 45"		3 6 9 23 45"		3 6 9 23 45"		3 6 9 23 45"		3 6 9 23 45"		3 6 9 23 45"		3 6 9 23 45"		3 6 9 23 45"		3 6 9 23 45"	

REMARKS		Time		
		Start	Stop	Interval
RIG SERVICE		12:50	12:55	1/2
DRILL 12 1/4 HOLE		12:55	1:00	3 3/4
SURVEY @ 1520. MILES RUN		1:00		
TUMPER - LIE		1:05	1:10	3/4
DRILL 12 1/4 HOLE		1:05	1:20	3 1/4
RIG SERVICE		8:00	8:15	1/4
DRILL 12 1/4 HOLE		8:15	8:45	1/2
SURVEY 1525 "3/4"		8:45	9:15	1/2
DRILL 12 1/4 HOLE		9:15	9:40	6 3/4
RIG SERVICE		4:00	4:15	1/4
DRILL 12 1/4 HOLE		4:15	8:00	3 3/4
SURVEY		8:00	8:30	1/2
HOIST FOR NEW BIT		8:30	10:30	2
CLEAN STABILIZERS AND MAKEUP BIT		10:30	12:00	1 1/2

Rig No. 10 Report No. 22	
Tour — Midnight - 8 a.m.	
Specify actual hours worked. Hrs.	
Driller	N. Callaghan 8
Derrick	D. Loewen 8
Motor	M. Sedger 8
Floor	M. Sedger 8
Floor	M. Sedger 8
Accidents Nil	
Outside Temp. -5°	
Weather Conditions CLEAR	
Road Conditions Rough	
Tour — 8 a.m. to 4 p.m.	
Specify actual hours worked. Hrs.	
Driller	C. Staroba 12
Derrick	G. Osmachenko 12
Motor	L. LaFleur 12
Floor	N. Parson 12
Floor	R. Fritz 12
Floor	A. Webster 12
Floor	L. Semeniuk 4
Accidents Nil	
Outside Temp. -5°	
Weather Conditions CLOUDY	
Road Conditions Rough	
Tour — 4 p.m. to Midnight	
Specify actual hours worked. Hrs.	
Driller	N. Callaghan 11
Derrick	D. Loewen 11
Motor	M. Sedger 11
Floor	T. Jorde 11
Floor	M. Sedger 11
Floor	M. Sedger 11
Accidents Nil	
Outside Temp. -5°	
Weather Conditions cloudy	
Road Conditions	

Totco Ring on Bit No. _____ D.P. Calipered Date _____ Results _____ From Pipe Rock _____ Total Contractor Time _____ Hrs. Toolpusher _____
B.O.P. Test-Operated _____ Time _____ Results _____ Total Company Time _____ Hrs. Approved by _____
Approved by _____

DATE Feb 15 1973

NABORS DRILLING LIMITED

WORK RECORD

DATE Feb 15 1973

NOTE: Do Not Record Payroll Information Here

Rig No. 10 Page No. 21 LOCATION MESA NAHANN, BUTTE #20

Rig No. 10 Report No. 21

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS				FUEL	WATER	CRUDE	Stands	
No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft. Reamed	Hrs.	COND.
1290	12 1/4	HA	6 1/2	58M	2	7	23	1372	348	20 1/4			
MUD 12 a.m. 2 a.m. 4 a.m. 6 a.m. Additives WEIGHT 9.7 9.7 9.7 9.8 VISCOSITY 55 60 60 51 1950 cel GEL No. 1 Pressure 150 Model S.P.M. 0 Liner Size No. 2 Pressure 450 450 450 Model S.P.M. 68 68 68 68 Liner Size 6 1/2 + 14 W.L. F.C. pH. Solids Cement													

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS				FUEL	WATER	CRUDE	Stands	
No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft. Reamed	Hrs.	COND.
1372	22	HA	4	58M	2	7	23	1394	22	4	15	1	Run
MUD 8 a.m. 10 a.m. 12 p.m. 2 p.m. Additives WEIGHT 9.7 9.8 VISCOSITY 53 GEL No. 1 Pressure 150 Model S.P.M. 0 Liner Size No. 2 Pressure 450 450 Model S.P.M. 68 68 Liner Size 6 1/2 + 14 W.L. F.C. pH. Solids Cement													

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS				FUEL	WATER	CRUDE	Stands	
No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft. Reamed	Hrs.	COND.
1394	71	HA	7 1/2	59M	2	7	23	1465	93	11 1/2	4		
MUD 4 p.m. 6 p.m. 8 p.m. 10 p.m. Additives WEIGHT 9.7 9.7 9.7 9.7 1500 cel VISCOSITY 45 49 42 47 1000 cel GEL No. 1 Pressure 150 Model S.P.M. 0 Liner Size No. 2 Pressure 350 350 Model S.P.M. 60 60 Liner Size 6 1/2 + 14 W.L. F.C. pH. Solids Cement													

REMARKS	Start	Stop	Interval
Big Service	12:00	12:15	15
Drill 12 1/4 Hole	12:15	1:30	6 1/2
Drop survey	1:30	2:00	30
Hoist of new Bit	2:00	2:00	0
With Pipe Without Pipe Standby 8:00 8:30 1/2 8:30 8:45 15 8:45 9:30 45 9:30 11:00 90 11:00 12:00 60 12:00 4:00 200 4:00 4:00 0			

REMARKS	Start	Stop	Interval
FINISH HOISTING PIPE	8:00	8:30	1/2
RIG SERVICE + CHECK BLANKS	8:30	8:45	15
CLEAN + SERVICE 2 TWD	8:45	9:30	45
9" STABILIZERS	9:30	11:00	90
RUN IN WITH BIT NO 5A	11:00	12:00	60
BREAK CIRC + REAM 15' FULL	12:00	12:00	0
TO BOTTOM	12:00	12:00	0
DRILL 12 1/4 HOLE	12:00	4:00	200
"CHECKED CROWSAVER" O.K. 8			

REMARKS	Start	Stop	Interval
DRILL 12 1/4 HOLE	4:00	4:30	30
RIG SERVICE	4:30	4:45	15
DRILL 12 1/4 HOLE	4:45	9:30	435
SURVEY C 1440	9:30	10:00	30
DRILL 12 1/4 HOLE	10:00	12:00	120
With Pipe Without Pipe Standby 4:00 4:30 30 4:30 4:45 15 4:45 9:30 435 9:30 10:00 30 10:00 12:00 120			

Tour — Midnight - 8 a.m.	
Specify actual hours worked.	Hrs.
Driller H. Callaghan	8
Derrick E. Loewen	8
Motor M. Sedger	8
Floor F. Mischick	8
Floor M. Whelan	8

Accidents Nil

Outside Temp. 24°

Weather Conditions CLEAR

Road Conditions ROAD

Tour — 8 a.m. to 4 p.m.	
Specify actual hours worked.	Hrs.
Driller C. STAROBA	12
Derrick G. OSACHENKO	12
Motor L. LALEUR	12
Floor N. PARSON	12
Floor R. FRITZ	12
A. WEBSTER	12
L. SEMENIUK	12

Accidents Nil

Outside Temp. -10

Weather Conditions OVERCAST

Road Conditions ROUGH

Tour — 4 p.m. to Midnight	
Specify actual hours worked.	Hrs.
Driller H. Callaghan	11
Derrick D. Loewen	11
Motor M. Sedger	11
Floor F. Mischick	11
Floor M. Whelan	11

Accidents Nil

Outside Temp. 0

Weather Conditions cloudy

Road Conditions ROAD

Totco Ring on Bit No. D.P. Caliper Date Results From Pipe Rack Total Contractor Time Hrs. Toolpusher

B.O.P. Test-Operated Time Results Total Company Time Hrs. Approved by

Toolpusher

Approved by

NABORS DRILLING LIMITED

WORK RECORD

DATE Feb 14 1973

NOTE: Do Not Record Payroll Information Here

Rig No. 10 Page No. 20 LOCATION MESA NAHANNI Butte #20

Rig No. 10 Report No. 20

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS				FUEL	WATER	CRUDE		Stands		
					No.	O.D.	I.D.	Wgt.			Gals.	Bbls.		Gal.	Bbls.
					No. 3	O.D. 7	I.D. 2 3/4	Wgt. 44					58191		
													Singles		
B	No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft. Reamed	Hrs.	COND.	D. Collars
I	4A	12 1/4	X 16-RR	OPEN	41106	7-4	90								44228
T															Other Ft.
S															58166
															C.B. Ft.
	MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.	Additives				At Surveys Degree		MOTOR HOURS		Oil Added	
	WEIGHT				9.3							1	8		Subs. Ft.
	VISCOSITY				78							2	8		7.70
	GEL											3	8		Ft. Down On Kelly
P	No. 1	Pressure										Light Plant	8		TOTAL
U	Model	S.P.M.										BOILER HRS.	8		1030
M	No. 2	Pressure			Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip	
P	Model	S.P.M.													
S	No. 2	Pressure			Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip	
	Model	S.P.M.													
	No. 2	Pressure			Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip	
	Model	S.P.M.													
	No. 2	Pressure			Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip	
	Model	S.P.M.													
	No. 2	Pressure			Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip	
	Model	S.P.M.													
	No. 2	Pressure			Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip	
	Model	S.P.M.													
	No. 2	Pressure			Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip	
	Model	S.P.M.													
	No. 2	Pressure			Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip	
	Model	S.P.M.													
	No. 2	Pressure			Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip	
	Model	S.P.M.													
	No. 2	Pressure			Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip	
	Model	S.P.M.													
	No. 2	Pressure			Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip	
	Model	S.P.M.													
	No. 2	Pressure			Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip	
	Model	S.P.M.													
	No. 2	Pressure			Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip	
	Model	S.P.M.													
	No. 2	Pressure			Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip	
	Model	S.P.M.													
	No. 2	Pressure			Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip	
	Model	S.P.M.													
	No. 2	Pressure													

[illegible]

Tour — Midnight - 8 a.m.	
Specify actual hours worked.	Hrs.
Driller <u>N. Callaghan</u>	8
Derrick <u>D. Loewen</u>	8
Motor <u>M. Sedge</u>	8
Floor <u>F. Misivick</u>	8
Floor <u>M. Whelan</u>	8
Accidents <u>Nil</u>	
Outside Temp. <u>-10</u>	
Weather Conditions <u>clear</u>	
Road Conditions <u>rough</u>	
Tour — 8 a.m. to 4 p.m.	
Specify actual hours worked.	Hrs.
Driller <u>C. Staroba</u>	12
Derrick <u>G. Osmachenko</u>	12
Motor <u>L. Lafleur</u>	12
Floor <u>N. Parson</u>	12
Floor <u>R. Fritz</u>	12
<u>A. Webster</u>	12
<u>L. Semeniuk</u>	12
Accidents <u>Nil</u>	
Outside Temp. <u>-15</u>	
Weather Conditions <u>cloudy</u>	
Road Conditions <u>rough</u>	
Tour — 4 p.m. to Midnight	
Specify actual hours worked.	Hrs.
Driller <u>N. Callaghan</u>	12
Derrick <u>D. Loewen</u>	12
Motor <u>M. Sedge</u>	12
Floor <u>F. Misivick</u>	12
Floor <u>M. Whelan</u>	12
Accidents <u>Nil</u>	
Outside Temp. <u>-10</u>	
Weather Conditions <u>Slight snow</u>	
Road Conditions <u>rough</u>	

Totco Ring on Bit No. _____ D.P. Calipered Date _____ Results _____ From Pipe Rack _____ Total Contractor Time _____ Hrs. Toolpusher _____ Toolpusher _____
B.O.P. Test-Operated _____ Time _____ Results _____ Total Company Time _____ Hrs. Approved _____ Approved by _____

DATE Feb 13 1913

NABORS DRILLING LIMITED

WORK RECORD

DATE Feb 17 1913

NOTE: Do Not Record Payroll Information Here

Rig No. 10 Page No. 19 LOCATION MESANAHANNI Rutte #120

From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands									
No.	Size	Type	Size Jts	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft. Reamed	Hrs.	COND.	No.	O.D.	I.D.	Wgt.	Gals.	Bbls.	Gal.	Bbls.								
1	12 1/4	X 16 R.R.	OPEN	41106	4	10																							
MUD						12 a.m.	2 a.m.	4 a.m.	6 a.m.	Additives				At Surveys Degree		MOTOR HOURS		Oil Added											
WEIGHT						200								1		8													
VISCOSITY														2		9													
GEL														3															
P. No. 1														Light Plant		8													
Model														BOILER HRS.		8													
Liner Size														Slip		Feet or		Cut		Feet Left on Spool									
No. 2																													
Model																													
Liner Size																													
W.L.						F.C.						pH.						Solids						Cement					

REMARKS		Time		Interval	
Start	Stop	Interval	Start	Stop	Interval
Rig Service		12:00	12:15	1/4	
Run in T. Drill plug		12:15	12:15	0	
Pressure up Hydril		12:15	12:15	0	
4 pipe RAMS OK		12:15	12:15	0	
Drill out plug		12:15	12:15	0	
Pressure Hydril + Pipe		12:15	12:15	0	
RAMS TO 1000 P.S.I. HELD		12:15	12:15	0	
OK. CHECK OUT VALVES		12:15	12:15	0	
ON MANIFOLD HELD OK.		12:15	12:15	0	
With Pipe		Without Pipe		Standby	
Rig Service		8:00	8:15	1/4	
FINISH DRILLING OUT		8:15	8:15	0	
CEMENT PLUG		8:15	8:15	0	
DRILL OUT FLOAT ON CASING		8:15	8:15	0	
DRILL OUT CEMENT FROM 12"		8:15	8:15	0	
FLOAT TO SHOE 40"		8:15	8:15	0	
DRILL OUT SHOE 116' casing		8:15	8:15	0	
With Pipe		Without Pipe		Standby	
REAM OUT 12 1/4 HOLE		4:00	4:30	1/2	
Rig Service		11:30	11:45	1/4	
REAM OUT 12 1/4 HOLE		11:45	11:50	5/8	
Heist to check BIT		11:50	12:00	1/2	
With Pipe		Without Pipe		Standby	

Tour — Midnight - 8 a.m.	
Specify actual hours worked.	Hrs.
Driller N. Callaghan	8
Derrick D. Loewen	8
Motor M. Sedger	8
Floor F. Mismich	8
Floor M. Whelan	8
Accidents N.I.	
Outside Temp. - 52°	
Weather Conditions Clear	
Road Conditions Rough	
Tour — 8 a.m. to 4 p.m.	
Specify actual hours worked.	Hrs.
Driller C. Staroba	12
Derrick G. Osmachenko	12
Motor L. Lafeur	12
Floor N. Parson	12
Floor R. Fritz	12
A. Webster	12
L. Semeniuk	12
Accidents N.I.	
Outside Temp. - 45°	
Weather Conditions Clear	
Road Conditions Rough	
Tour — 4 p.m. to Midnight	
Specify actual hours worked.	Hrs.
Driller N. Callaghan	4
Derrick D. Loewen	4
Motor M. Sedger	4
Floor F. Mismich	4
Floor M. Whelan	4
Accidents N.I.	
Outside Temp. - 40°	
Weather Conditions Clear	
Road Conditions Rough	

Totco Ring on Bit No. _____ D.P. Calipered Date _____ Results _____ From Pipe Rack _____ Total Contractor Time _____ Hrs. Toolpusher _____
 B.O.P. Test-Operated _____ Time _____ Results _____ Total Company Time _____ Hrs. Approved by _____
 Approved by _____

NOTE: Do Not Record Payroll Information Here

Rig No. 10 Page No. 18 LOCATION MESA NARANJO BuTe L20

Rig No. _____ Report No. 8

From		Footage		To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS				FUEL	WATER		CRUDE		Stands					
							No.	O.D.	I.D.	Wgt.	Gals.	Bbls.	Gal.			Singles					
																Bbls.					
B I T S	No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.	D. Collars						
																Other Ft.					
																C.B. Ft.					
																Subs. Ft.					
MUD		12 a.m.	2 a.m.	4 a.m.	6 a.m.	Additives					At Surveys Degree	MOTOR HOURS		Oil Added		Ft. Down On Kelly					
WEIGHT																	1	8			TOTAL
VISCOSITY																	2	8			
GEL																	3				
P U M S	No. 1	Pressure														Light Plant	8				
	Model	S.P.M.														2	BOILER HRS.		8		
	Liner Size		Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip									
	No. 2	Pressure																			
P U M S	Model	S.P.M.					Casing Record	Surface Prod.													
	Liner Size																				
W.L.		F.C.		pH.	Solids		Cement														
From		Footage		To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS				FUEL	WATER		CRUDE		Stands					
							No.	O.D.	I.D.	Wgt.	Gals.	Bbls.	Gal.			Singles					
																Bbls.					
B I T S	No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.	D. Collars						
																Other Ft.					
																C.B. Ft.					
																Subs. Ft.					
MUD		8 a.m.	10 a.m.	12 p.m.	2 p.m.	Additives					At Surveys Degree	MOTOR HOURS		Oil Added		Ft. Down On Kelly					
WEIGHT																	1	8			TOTAL
VISCOSITY																	2	8			
GEL																	3				
P U M S	No. 1	Pressure														Light Plant	8				
	Model	S.P.M.														2	BOILER HRS.		8		
	Liner Size		Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip									
	No. 2	Pressure																			
P U M S	Model	S.P.M.					Casing Record	Surface Prod.													
	Liner Size																				
W.L.		F.C.		pH.	Solids		Cement														
From		Footage		To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS				FUEL	WATER		CRUDE		Stands					
							No.	O.D.	I.D.	Wgt.	Gals.	Bbls.	Gal.			Singles					
																Bbls.					
B I T S	No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.	D. Collars						
																Other Ft.					
																C.B. Ft.					
																Subs. Ft.					
MUD		4 p.m.	6 p.m.	8 p.m.	10 p.m.	Additives					At Surveys Degree	MOTOR HOURS		Oil Added		Ft. Down On Kelly					
WEIGHT																	1	8			TOTAL
VISCOSITY																	2	8			
GEL																	3				
P U M S	No. 1	Pressure														Light Plant	8				
	Model	S.P.M.														2	BOILER HRS.		8		
	Liner Size		Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip									
	No. 2	Pressure																			
P U M S	Model	S.P.M.					Casing Record	Surface Prod.													
	Liner Size																				
W.L.		F.C.		pH.	Solids		Desander Hours:														

REMARKS	Time		
	Start	Stop	Interval
W O C Heading Up	12 ⁰⁰	8 ⁰⁰	8
With Pipe Without Pipe Standby			
HEADING UP	8 ⁰⁰	12 ³⁰	4½
PRESSURE TEST BLIND RAMS	12 ³⁰	1 ³⁰	1
WELD + Hook Up DOOR BOY DEGASER	1 ³⁰	4 ⁰⁰	2½
			8
PRESSURE TEST BLIND RAMS TO 1200 P.S.I. HELD FOR 10 MINS - O.K.			
With Pipe Without Pipe Standby			
RUN IN 5 STANDS PIPE + LAY DOWN SINGLES	4 ⁰⁰	6 ³⁰	2½
Fixing up make up Bit Sub and Bit pick up 9' collar and 2 1/2 blowers. Standby	6 ³⁰	12	5½
INSTALL 1 NEW SEAT in Pump #2,			
With Pipe Without Pipe Standby			

Tour — Midnight - 8 a.m.	
Specify actual hours worked.	Hrs.
Driller <i>N. Callaghan</i>	8
Derrick <i>D. Loewen</i>	8
Motor <i>M. Sedger</i>	8
Floor <i>F. Mistwick</i>	8
Floor <i>M. Whelan</i>	8
Accidents <i>Nil</i>	
Outside Temp. <i>-38°</i>	
Weather Conditions <i>overcast</i>	
Road Conditions <i>Rough</i>	
Tour — 8 a.m. to 4 p.m.	
Specify actual hours worked.	Hrs.
Driller <i>C. Staroba</i>	12
Derrick <i>G. Osmachenko</i>	12
Motor <i>R. Cox</i>	12
Floor <i>R. Fritz</i>	12
Floor <i>A. Webster</i>	16
<i>L. Semeniuk</i>	16
<i>L. Lafleur</i>	12
<i>N. Parson</i>	12
Accidents	
Outside Temp. <i>-45°</i>	
Weather Conditions	
Road Conditions	
Tour — 4 p.m. to Midnight	
Specify actual hours worked.	Hrs.
Driller <i>N. Callaghan</i>	12
Derrick <i>D. Loewen</i>	12
Motor <i>M. Sedger</i>	12
Floor <i>F. Mistwick</i>	12
Floor <i>M. Whelan</i>	12
Accidents <i>Nil</i>	
Outside Temp. <i>-48°</i>	
Weather Conditions <i>clear</i>	
Road Conditions <i>Rough</i>	

Totco Ring on Bit No. _____ D.P. Calipered Date _____ Results _____ From Pipe Rack _____ Total Contractor Time _____ Hrs. Toolpusher H. S. Smith Toolpusher H. S. Smith
B.O.P. Test-Operated _____ Time _____ Results _____ Total Company Time _____ Hrs. Approved by Louis Hall Approved by _____

DATE Feb 11 1971

NABORS DRILLING LIMITED

WORK RECORD

DATE Feb 11 1971

NOTE: Do Not Record Payroll Information Here

Rig No. 10 Page No. 17 LOCATION MESA NABORS BUTTE #120

From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands			
No.		Size		Type		Size Jets		Serial No.		Wt.		R.P.M.		From		To		Ftg.		Hrs.		COND.	
MUD		12 a.m.		2 a.m.		4 a.m.		6 a.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added							
WEIGHT																							
VISCOSITY																							
GEL																							
No. 1		Pres- sure																					
Model		S.P.M.																					
Liner Size																							
No. 2		Pres- sure																					
Model		S.P.M.																					
Liner Size																							
W.L.		F.C.		pH.		Solids		Cement															
From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands			
No.		Size		Type		Size Jets		Serial No.		Wt.		R.P.M.		From		To		Ftg.		Hrs.		COND.	
MUD		8 a.m.		10 a.m.		12 p.m.		2 p.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added							
WEIGHT																							
VISCOSITY																							
GEL																							
No. 1		Pres- sure																					
Model		S.P.M.																					
Liner Size																							
No. 2		Pres- sure																					
Model		S.P.M.																					
Liner Size																							
W.L.		F.C.		pH.		Solids		Cement															
From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands			
No.		Size		Type		Size Jets		Serial No.		Wt.		R.P.M.		From		To		Ftg.		Hrs.		COND.	
MUD		4 p.m.		6 p.m.		8 p.m.		10 p.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added							
WEIGHT																							
VISCOSITY																							
GEL																							
No. 1		Pres- sure																					
Model		S.P.M.																					
Liner Size																							
No. 2		Pres- sure																					
Model		S.P.M.																					
Liner Size																							
W.L.		F.C.		pH.		Solids		Cement															
From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands			
No.		Size		Type		Size Jets		Serial No.		Wt.		R.P.M.		From		To		Ftg.		Hrs.		COND.	
MUD		4 p.m.		6 p.m.		8 p.m.		10 p.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added							
WEIGHT																							
VISCOSITY																							
GEL																							
No. 1		Pres- sure																					
Model		S.P.M.																					
Liner Size																							
No. 2		Pres- sure																					
Model		S.P.M.																					
Liner Size																							
W.L.		F.C.		pH.		Solids		Cement															

REMARKS

Time
Start Stop IntervalW.O.C.
Heading up12:00
8:00 8:00W.O.C.
HEADING UP8:00
4:00 8:00W.O.C.
Heading up11:00
12:00 5CSB BOWL - "CAMERON" 12"
900 SERIES

Totco Ring on Bit No. D.P. Calipered Date Results From Pipe Rack

B.O.P. Test-Operated Time Results

Total Contractor Time Hrs. Toolpusher

Total Company Time Hrs. Approved by

Rig No. 10 Report No. 17

Tour — Midnight - 8 a.m.

Specify actual hours worked. Hrs.

Driller	N. Callaghan	8
Derrick	D. Lawton	8
Motor	M. Sedger	8
Floor	F. Miswisch	8
Floor	M. Whelan	8

Accidents: nil

Outside Temp. 40

Weather Conditions clear

Road Conditions rough

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked. Hrs.

Driller	C. Staroba	12
Derrick	G. Osmachenko	12
Motor	R. Cox	12
Floor	R. Fritz	12
Floor	A. Webster	12
Floor	L. Semenuk	12
Floor	L. Lafleur	12

Accidents: nil

Outside Temp. - 30°

Weather Conditions SNOWY

Road Conditions ROUGH

Tour — 4 p.m. to Midnight

Specify actual hours worked. Hrs.

Driller	N. Callaghan	4
Derrick	D. Lawton	4
Motor	M. Sedger	4
Floor	F. Miswisch	4
Floor	M. Whelan	4

Accidents: nil

Outside Temp. 18

Weather Conditions OVERCAST

Road Conditions ROUGH

Toolpusher

Approved by

DATE Feb 18 1973

Rig No. 10 Report No. 76

[illegible]

Tour — Midnight - 8 a.m.	
Specify actual hours worked.	Hrs.
Driller <i>N. Callaghan</i>	8
Derrick <i>D. Loewen</i>	8
Motor <i>M. Sedger</i>	3
Floor <i>Fred Miskewich</i>	8
Floor <i>[scribble]</i>	
<i>M. Whelan</i>	8
Accidents <i>Nil</i>	
Outside Temp. <i>0</i>	
Weather Conditions <i>Clear</i>	
Road Conditions <i>Rough</i>	
Tour — 8 a.m. to 4 p.m.	
Specify actual hours worked.	Hrs.
Driller <i>C. Staroba</i>	12
Derrick <i>G. Osmachenko</i>	12
Motor <i>R. Cox</i>	12
Floor <i>R. Fritz</i>	12
Floor <i>N. Parson</i>	12
<i>A. Webster</i>	12
<i>L. Semeniuk</i>	12
<i>L. Lafeur</i>	12
Accidents <i>Nil</i>	
Outside Temp. <i>0</i>	
Weather Conditions <i>Cloudy</i>	
Road Conditions <i>Rough</i>	
Tour — 4 p.m. to Midnight	
Specify actual hours worked.	Hrs.
Driller <i>N. Callaghan</i>	4
Derrick <i>D. Loewen</i>	4
Motor <i>M. Sedger</i>	4
Floor <i>F. Miskewich</i>	4
Floor <i>M. Whelan</i>	4
Accidents <i>Nil</i>	
Outside Temp.	
Weather Conditions	
Road Conditions	

Totco Ring on Bit No. _____ D.P. Calipered Date _____ Results _____ From Pipe Rack _____ Total Contractor Time _____ Hrs. Toolpusher _____ Toolpusher _____
B.O.P. Test-Operated _____ Time _____ Results _____ Total Company Time _____ Hrs. Approved by _____ Approved by _____

DATE Feb 9 5 1973

NOTE: Do Not Record Payroll Information Here

Rig No. 10 Page No. 15 LOCATION ALTA NARRAGANSETT BATTLE L20

REMARKS

Time		
Start	Stop	Interval

Rig No. 10 Report No. 15

From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands									
632		0		632		Circ		26		No. 2		O.D. 8 1/2		I.D. 2 3/4		Wgt. 15		Gals.		Bbls.		Gal.		Bbls.		Singles			
No.		Size		Type		Size Jets		Serial No.		Wt.		R.P.M.		From		To		Ftg.		Hrs.		Ft. Reamed		Hrs.		COND.		D. Collars	
3A		17 1/2		Reed-101		Open		R.P.P.		24		85		0		632		632		32 1/2		632		32 1/2		in		2260	
B		I		T		S																						Other Ft.	
MUD		12 a.m.		2 a.m.		4 a.m.		6 a.m.		Additives				At Surveys Degree		MOTOR HOURS		Oil Added								C.B. Ft.			
WEIGHT		10.6		11.6		10.6		12.6						630		4		1		2						Subs. Ft.			
VISCOSITY		95		95		95		87										2		2						778			
GEL																		3								Ft. Down On Kelly			
P		No. 1		Pres- sure														Light Plant		4						TOTAL			
U		Model		S.P.M.														2		BOILER HRS.		8				40.02			
M		No. 2		Pres- sure														Slip		Feet or		Cut		Feet Left on Spool		Next Slip			
P		No. 2		Pres- sure																						67.77			
S		Model		S.P.M.		38		33		27		Casing Record		Surface Prod.															
W.L.		F.C.		pH.		Solids		Cement																					
From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands									
622		19		641		1		26m		No. 2		O.D. 8 1/2		I.D. 2 3/4		Wgt. 10		Gals.		Bbls.		Gal.		Bbls.		552.95			
No.		Size		Type		Size Jets		Serial No.		Wt.		R.P.M.		From		To		Ftg.		Hrs.		Ft. Reamed		Hrs.		COND.		D. Collars	
3A		17 1/2		Reed-101		Open		R.P.P.		24		85		0		641		641		32 1/2		641		32 1/2		Good		56.68	
B		I		T		S																						Other Ft.	
MUD		8 a.m.		10 a.m.		12 p.m.		2 p.m.		Additives				At Surveys Degree		MOTOR HOURS		Oil Added								C.B. Ft.			
WEIGHT		11.6		12.6		12.6												1								Subs. Ft.			
VISCOSITY		93		97		91												2								Ft. Down On Kelly			
GEL																		3								17			
P		No. 1		Pres- sure														Light Plant								TOTAL			
U		Model		S.P.M.														2		BOILER HRS.		8				641			
M		No. 2		Pres- sure														Slip		Feet or		Cut		Feet Left on Spool		Next Slip			
P		No. 2		Pres- sure																						3			
S		Model		S.P.M.		38		68				Casing Record		Surface Prod.															
W.L.		F.C.		pH.		Solids		Cement																					
From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL															

With Pipe	Without Pipe	Standby
CIRC. WAIT ON CASING	8 ⁰⁰	10 ⁴⁵ 2 ³ / ₄
REAM 12 ¹ / ₂ " TO 17 ¹ / ₂ " HOLE	10 ⁴⁵	11 ⁴⁵
CIRC HOLE	11 ⁴⁵	12 ¹⁵ 1 ¹ / ₂
PULL PIPE TO RUN CASING	12 ¹⁵	1 ¹⁵ 1
RIG UP TO RUN CASING	1 ¹⁵	2 ³⁰ 1 ¹ / ₄
RUN 13 ³ / ₈ SURFACE CASING	2 ³⁰	4 ⁰⁰ 1 ¹ / ₂
WEBSTER SEMENICK H&H OVER FOR CEMENT		8
With Pipe	Without Pipe	Standby
FINISH RUNNING IN 13 ³ / ₈ SURFACE CASING	4 ⁰⁰	5 ⁴⁵ 1 ³ / ₄
RIG UP CIRCULATING HEAD	5 ⁴⁵	6 ¹⁵ 1 ¹ / ₂
CIRC. PRIOR TO RUNNING CEMENT	6 ¹⁵	11 ⁰⁰ 4 ³ / ₄
cementing	11 ⁰⁰	12 1
RAN 16 JOBS 13 ³ / ₈ 54.5" JSS		8
CHECK CSG TOTAL OF 646.68		
C.S.A. GAL. K.B. CEMENT WITH		
600SKS CONST CEMENT PLUS 1 ¹ / ₂ %		
PAC 12 NO CEMENT RETURNS		
With Pipe	Without Pipe	Standby

Tour — Midnight - 8 a.m.	
Specify actual hours worked.	Hrs.
Driller <i>M. Callaghan</i>	8
Derrick <i>D. Loewen</i>	8
Motor <i>M. Sedger</i>	8
Floor <i>F. M. Siwich</i>	8
Floor <i>T. Gleeson</i>	8
Accidents <i>Nil</i>	
Outside Temp. <i>30°</i>	
Weather Conditions <i>clear</i>	
Road Conditions <i>rough</i>	
Tour — 8 a.m. to 4 p.m.	
Specify actual hours worked.	Hrs.
Driller <i>C. STAROBA</i>	12
Derrick <i>G. OSMACHENKO</i>	12
Motor <i>R. COX</i>	12
Floor <i>R. FRITZ</i>	12
Floor <i>N. PARSON</i>	12
<i>A. WEBSTER</i>	12
<i>L. SEMENIUK</i>	12
Accidents	
Outside Temp.	
Weather Conditions	
Road Conditions	
Tour — 4 p.m. to Midnight	
Specify actual hours worked.	Hrs.
Driller <i>M. Callaghan</i>	4
Derrick <i>D. Loewen</i>	4
Motor <i>M. Sedger</i>	4
Floor <i>F. M. Siwich</i>	4
Floor <i>T. GLEESON</i>	4
<i>HARRY LARFEE</i>	12
<i>M. WILLIAMS</i>	4
Accidents <i>Nil</i>	
Outside Temp. <i>30°</i>	
Weather Conditions <i>clear</i>	
Road Conditions <i>rough</i>	

Totco Ring on Bit No. _____ D.P. Calipered Date _____ Results _____ From Pipe Rack _____ Total Contractor Time _____ Hrs. Toolpusher _____ Toolpusher _____
B.O.P. Test-Operated _____ Time _____ Results _____ Total Company Time _____ Hrs. Approved by _____ Approved by _____

DATE Feb 8 1973

NOTE: Do Not Record Payroll Information Here

Rig No. 10 Page No. 14 LOCATION MESA NAHANNI Bk Hc L20

Rig No. 10 Report No. 14

From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands							
No.		Size		Type		Size Jets		Serial No.		Wt.		R.P.M.		From		To		Ftg.		Hrs.		Ft. Reamed		Hrs.		COND.	
231		142		383		7 3/4		25 M		2		9 3/8		2 3/8		120		415		Gals.		Bbls.		Gal.		Bbls.	
No.		Size		Type		Size Jets		Serial No.		Wt.		R.P.M.		From		To		Ftg.		Hrs.		Ft. Reamed		Hrs.		COND.	
3A		17 1/2		C. 1500		C. 1500		A. 1500		2 1/2		8 1/2		0		283		383		17 1/2		383		17 1/2		Run	
MUD		12 a.m.		2 a.m.		4 a.m.		6 a.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added											
WEIGHT		10.4		10.4		10.4		10.4		3.031										1		3					
VISCOSITY		84		84		95		95												2		8					
GEL																				3							
No. 1		Pressure																		Light Plant		X					
Model		S.P.M.																		BOILER HRS.		3					
No. 2		Pressure																		Slip		Feet or		Cut		Feet Left on Spool	
Model		S.P.M.																									
No. 2		Pressure																									
Model		S.P.M.																									
No. 2		Pressure																									
Model		S.P.M.																									
No. 2		Pressure																									
Model		S.P.M.																									
No. 2		Pressure																									
Model		S.P.M.																									
No. 2		Pressure																									
Model		S.P.M.																									
No. 2		Pressure																									
Model		S.P.M.																									
No. 2		Pressure																									
Model		S.P.M.																									
No. 2		Pressure																									
Model		S.P.M.																									
No. 2		Pressure																									
Model		S.P.M.																									

[illegible]

Tour — Midnight - 8 a.m.	
Specify actual hours worked.	Hrs.
Driller <u>N. Callaghan</u>	8
Derrick <u>D. Loewen</u>	8
Motor <u>M. Sedger</u>	8
Floor <u>F. Misiewicz</u>	8
Floor <u>T. Cleason</u>	8
Accidents	
Outside Temp.	-24
Weather Conditions	Clear
Road Conditions	Rough
Tour — 8 a.m. to 4 p.m.	
Specify actual hours worked.	Hrs.
Driller <u>C. Staroba</u>	12
Derrick <u>G. Osmachenko</u>	12
Motor <u>R. Cox</u>	12
Floor <u>R. Eritz</u>	12
Floor <u>N. Parson</u>	12
<u>A. Webster</u>	12
<u>L. Semeniuk</u>	12
Accidents	NIL
Outside Temp.	-10
Weather Conditions	Clear
Road Conditions	ROUGH
Tour — 4 p.m. to Midnight	
Specify actual hours worked.	Hrs.
Driller <u>N. Callaghan</u>	11
Derrick <u>D. Loewen</u>	11
Motor <u>M. Sedger</u>	11
Floor <u>F. Misiewicz</u>	11
Floor <u>T. Cleason</u>	11
Accidents	
Outside Temp.	15
Weather Conditions	Clear
Road Conditions	Rough

Totco Ring on Bit No. _____ D.P. Calipered Date _____ Results _____ From Pipe Rack _____ Total Contractor Time _____ Hrs. Toolpusher _____ Toolpusher _____
B.O.P. Test-Operated _____ Time _____ Results _____ Total Company Time _____ Hrs. Approved by _____ Approved by _____

DATE Feb 7

1973

NABORS DRILLING LIMITED

WORK RECORD

DATE Feb 7

1973

NOTE: Do Not Record Payroll Information Here

Rig No. 10 Page No. 13 LOCATION MESA NAHANNI Route 120

Rig No. 10 Report No. 13

From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands							
No.		Size		Type		Size Jets		Serial No.		Wt.		R.P.M.		From		To		Ftg.		Hrs.		Ft. Reamed		Hrs.		COND.	
992		32		1024		1		50M		6		33		23		42M				56191							
2A		12 1/2		S.G.		200N		4429		6-2		85		521		1024		49R		237							
MUD		12 a.m.		2 a.m.		4 a.m.		6 a.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added											
WEIGHT		10								GEL - 6 SKS		1024		1/2													
VISCOSITY		98																									
GEL																											
No. 1		Pres- sure																									
Model		S.P.M.																									
Liner Size																											
No. 2		Pres- sure																									
Model		S.P.M.																									
Liner Size																											
No. 3		Pres- sure																									
Model		S.P.M.																									
Liner Size																											
W.L.		F.C.		pH.		Solids		Cement																			
From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands							
63		14		77						1		83		23		6"				9346							
2A		17 1/2																		5668							
MUD		8 a.m.		10 a.m.		12 p.m.		2 p.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added											
WEIGHT		1		A		1		102		GEL - 1000F																	
VISCOSITY																											
GEL																											
No. 1		Pres- sure																									
Model		S.P.M.																									
Liner Size																											
No. 2		Pres- sure																									
Model		S.P.M.																									
Liner Size																											
W.L.		F.C.		pH.		Solids		Cement																			
From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands							
77		154		231		7 1/4		23M		2		83		23		23				9346							
2A		17 1/2		T307		200N		4429		6-2		85		521		1024		49R		237							
MUD		4 p.m.		6 p.m.		8 p.m.		10 p.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added											
WEIGHT		TR. 9		103		10.4																					
VISCOSITY		68		73		85		10		Piel																	
GEL																											
No. 1		Pres- sure																									
Model		S.P.M.																									
Liner Size																											
No. 2		Pres- sure																									
Model		S.P.M.																									
Liner Size																											
W.L.		F.C.		pH.		Solids		Cement																			

REMARKS		Time		Interval	
		Start		Stop	
DRILLING Hole		1200		1	
DRILLING Hole		1200		1	
DRILLING Hole		1200		1	
Rig SERV.		100		1.5	
Trip out of Hole key		1.15			
Down 9" collars stabilizers					
and shock sub, Tackler				8 1.3	
BREAKING 9" sub Bit Sub					
With Pipe		Without Pipe		Standby	
Rig SERVICE + CHECK MOTOR		800		8.15	
Pick up 6-6" COLLARS		1015		1.15	
Pick up 9" collar & Rig		1015			
to REAM Hole to 17 1/2"		115		2	
REAM 12 1/2" TO 17 1/2" HOLE		115		4.00	
				2.3	
				8	
With Pipe		Without Pipe		Standby	
REAM 12 1/2" TO 17 1/2" HOLE		400		4.30	
Rig SERVICE		430		4.45	
REAM 12 1/2" TO 17 1/2" HOLE		445		10.30	
SURVEY		1030		11	
REAM 12 1/2" TO 17 1/2" HOLE		1100		12.00	
				1	
With Pipe		Without Pipe		Standby	

Tour — Midnight - 8 a.m.	
Specify actual hours worked. Hrs.	
Driller	N. Callaghan 8
Derrick	D. Loken 8
Motor	M. Sedger 8
Floor	F. Misiwich 8
Floor	T. Gleason 8
Floor	M. Whelan 8
Accidents	
Outside Temp. 24°	
Weather Conditions Clear	
Road Conditions	
Tour — 8 a.m. to 4 p.m.	
Specify actual hours worked. Hrs.	
Driller	C. STAROBA 12
Derrick	G. OSMACHENKO 12
Motor	R. Cox 12
Floor	R. FRITZ 12
Floor	N. PARSON 12
Floor	A. WEBSTER 12
Floor	L. SEMENIUK 12
Accidents Nil	
Outside Temp. 5°	
Weather Conditions Clear	
Road Conditions Rough	
Tour — 4 p.m. to Midnight	
Specify actual hours worked. Hrs.	
Driller	N. Callaghan 4
Derrick	D. Loken 4
Motor	M. Sedger 4
Floor	F. Misiwich 4
Floor	T. Gleason 4
Accidents	
Outside Temp. 70°	
Weather Conditions Clear	
Road Conditions Rough	

Totco Ring on Bit No. _____ D.P. Colipered Date _____ Results _____ From Pipe Rack _____ Total Contractor Time _____ Hrs. Toolpusher _____
B.O.P. Test-Operated _____ Time _____ Results _____ Total Company Time _____ Hrs. Approved by _____
Toolpusher R. S. Loken Approved by _____

NABORS DRILLING LIMITED

WORK RECORD

DATE Feb 6 1973

NOTE: Do Not Record Payroll Information Here

Rig No. 10 Page No. 12 LOCATION MESA NEHANNI B.T.P. 220

Rig No. 10 Report No. 12

From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands	
546		102		648		7 1/4		48M		No.	O.D.	I.D.	Wgt.	Gals.		Bbls.		Gal.		186.86	
No.		Size		Type		Size Jets		Serial No.		Wt.		R.P.M.		From		To		Ftg.		Hrs.	
2A		12 1/2		X 16		OPEN		41109		8		85		526		648		229		R&N	
MUD		12 a.m.		2 a.m.		4 a.m.		6 a.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added		C.B. Ft.			
WEIGHT		9.6		9.6		9.6		9.6		25.3d		580		3/4		1		8		Subs. Ft.	
VISCOSITY		64		70		83		90		15" Lime						2		8		520	
GEL																3				Ft. Down On Kelly	
No. 1		Pressure														Light Plant		8		TOTAL	
Model		S.P.M.														BOILER HRS.		8		64931	
Liner Size										Size		TRIPS		No. Lines		TON MILES		TOTAL MILES		Next Slip	
No. 2		Pressure																Slip		Feet Left on Spool	
Model		S.P.M.		64		12 1/2		1.3		Casing Record		Surface									
Liner Size		12 1/2								Prod.											
W.L.		F.C.		pH.		Solids		Cement													
From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands	
648		112		760		7		48M		No.	O.D.	I.D.	Wgt.	Gals.		Bbls.		Gal.		280.12	
No.		Size		Type		Size Jets		Serial No.		Wt.		R.P.M.		From		To		Ftg.		Hrs.	
2A		12 1/2		X 16		OPEN		41109		8		85		526		760		234		16	
MUD		8 a.m.		10 a.m.		12 p.m.		2 p.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added		C.B. Ft.			
WEIGHT		9.6		9.7		9.7		9.7		35.5 - 29.00 F		640		1/2		1		8		Subs. Ft.	
VISCOSITY		80		82		85		95		TIME 20 M		730		3/4		2		8		520	
GEL																3				Ft. Down On Kelly	
No. 1		Pressure														Light Plant		8		TOTAL	
Model		S.P.M.														BOILER HRS.		8		64931	
Liner Size										Size		TRIPS		No. Lines		TON MILES		TOTAL MILES		Next Slip	
No. 2		Pressure		300"		300"												Slip		Feet Left on Spool	
Model		S.P.M.		64		64				Casing Record		Surface									
Liner Size		64 + 14								Prod.											
W.L.		F.C.		pH.		Solids		Cement													
From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands	
760		164		992		6 3/4		50M		No.	O.D.	I.D.	Wgt.	Gals.		Bbls.		Gal.		561.91	
No.		Size		Type		Size Jets		Serial No.		Wt.		R.P.M.		From		To		Ftg.		Hrs.	
2A		12 1/2		X 16		OPEN		41109		8		85		526		924		398		223	
MUD		4 p.m.		6 p.m.		8 p.m.		10 p.m.		Additives		At Surveys Degree		MOTOR HOURS		Oil Added		C.B. Ft.			
WEIGHT		9.9		1.9		9.9		9.9				930		1/2		1		8		Subs. Ft.	
VISCOSITY		87		93		97		95								2		8		520	
GEL																					

[illegible]

Tour — Midnight - 8 a.m.	
Specify actual hours worked.	Hrs.
Driller <u>N. Callaghan</u>	8
Derrick <u>D. Lorwen</u>	8
Motor <u>M. Sedger</u>	8
Floor <u>F. Misivich</u>	8
Floor <u>T. Gleeson</u>	8
<u>M. W. L. L. L.</u>	8
Accidents	
Outside Temp. - 10	
Weather Conditions <u>clear</u>	
Road Conditions <u>Rough</u>	
Tour — 8 a.m. to 4 p.m.	
Specify actual hours worked.	Hrs.
Driller <u>C. STAROE A</u>	12
Derrick <u>G. OSMACHENKO</u>	12
Motor <u>R. Cox</u>	12
Floor <u>R. FRITZ</u>	12
Floor <u>N. PARSON</u>	12
<u>A. WEBSTER</u>	12
<u>L. SEMENIUK</u>	12
Accidents <u>NIL</u>	
Outside Temp. <u>0</u>	
Weather Conditions <u>CLOUDY</u>	
Road Conditions <u>Rough</u>	
Tour — 4 p.m. to Midnight.	
Specify actual hours worked.	Hrs.
Driller <u>N. Callaghan</u>	4
Derrick <u>D. Lorwen</u>	4
Motor <u>M. Sedger</u>	4
Floor <u>F. Misivich</u>	4
Floor <u>T. Gleeson</u>	4
<u>T.</u>	
Accidents	
Outside Temp. - 10	
Weather Conditions <u>clear</u>	
Road Conditions <u>Rough</u>	

Totco Ring on Bit No. _____ D.P. Calipered Date _____ Results _____ From Pipe Rack _____ Total Contractor Time _____ Hrs. Toolpusher _____ Toolpusher _____
B.O.P. Test-Operated _____ Time _____ Results _____ Total Company Time _____ Hrs. Approved by _____ Approved by _____

DATE Feb 5 1973

NABORS DRILLING LIMITED

WORK RECORD

NOTE: Do Not Record Payroll Information Here

DATE Feb 5 1973

Rig No. 10 Page No. 14

LOCATION Mesa No. 10000 Butte 2.0

Rig No. 10 Report No. 11

From		Footage		To		Hrs. on Bottom		Wt. Drill String (1000 lbs.)		DRILL COLLARS				FUEL		WATER		CRUDE		Stands	
250		120		370		6 1/4		42		No. 8 3/4		I.D. 2 3/4		Wgt. 42		Gals.		Bbls.		Gal.	
No. 1		Size		Type		Size Jets		Serial No.		Wt.		R.P.M.		From		To		Ftg.		Hrs.	
1A		12 1/2		XIG		OPEN		41106		8-10		85		0		370		370		15 1/2	
COND.																				RUN	
D. Collars																				296.27	
Other Ft.																					
C.B. Ft.																					
Subs. Ft.																				772	
Ft. Down On Kelly																				38.90	
TOTAL																				370	
MOTOR HOURS																				8	
Oil Added																					
At Surveys Degree																					
Slip																					
Feet or Cut																					
Feet Left on Spool																					
Next Slip																					
MUD		12 a.m.		2 a.m.		4 a.m.		6 a.m.		Additives											
WEIGHT																					
VISCOSITY		85		90		85		80													
GEL																					
No. 1		Pres-sure																			
Model		S.P.M.																			
Liner Size																					
No. 2		Pres-sure																			
Model		S.P.M.		12		2		22		22											
Liner Size		6 1/2		14																	
W.L.		F.C.		p.H.		Solids		Cement													

REMARKS	Time		
	Start	Stop	Interval
Rig Service	12:00	12:15	15
Drill 12 1/2 Hole	12:15	12:45	30
connection	12:45	2:00	1:15
Drill 12 1/2 Hole	2:00	3:45	1:45
Pick up 2 collars - connection	3:45	4:30	45
Drill 12 1/2 Hole	4:30	6:00	1:30
connection	6:00	6:45	45
Drill 12 1/2 Hole	6:45	7:45	1:00
Pick up 2 collars	7:45	8:00	15

With Pipe	Without Pipe	Standby
Rig Service + Survey	8:00	8:30
Drill 12 1/2 Hole	8:30	12:15
Survey	12:15	12:45
Drill 12 1/2 Hole	12:45	4:00

With Pipe	Without Pipe	Standby
Drill 12 1/2 Hole	4:00	5:00
Rig Service + Survey	5:00	5:30
Drill 12 1/2 Hole	5:30	6:15
Hoist for New Bit	6:15	8:15
Makeup Bit #2 and Run in	8:15	10:15
Drill 12 1/2 Hole	10:15	12:00

With Pipe	Without Pipe	Standby
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Tour — Midnight - 8 a.m.	
Specify actual hours worked.	Hrs.
Driller N. Callaghan	8
Derrick D. Lowen	8
Motor F. Minnich	8
Floor T. Gleason	8
Floor M. Whelan	8

Accidents

Outside Temp. -14

Weather Conditions clear

Road Conditions Rough

Tour — 8 a.m. to 4 p.m.	
Specify actual hours worked.	Hrs.
Driller C. Staroba	12
Derrick R. Cox	12
Motor R. Fritz	12
Floor A. Webster	12
Floor L. Semeniuk	12
Derrick G. Omaschenko	4

Accidents Nil

Outside Temp. -5

Weather Conditions overcast

Road Conditions Rough

Tour — 4 p.m. to Midnight	
Specify actual hours worked.	Hrs.
Driller N. Callaghan	4
Derrick D. Lowen	4
Motor S. Sedger	4
Floor F. Minnich	4
Floor T. Gleason	4
M. Whelan	4

Accidents

Outside Temp.

Weather Conditions

Road Conditions

Totco Ring on Bit No. _____ D.P. Calipered Date _____ Results _____ From Pipe Rack _____ Total Contractor Time _____ Hrs. Toolpusher _____

B.O.P. Test-Operated _____ Time _____ Results _____ Total Company Time _____ Hrs. Approved by _____

DATE FEB 21 1973

NABORS DRILLING LIMITED

WORK RECORD

DATE Feb 21 1973

NOTE: Do Not Record Payroll Information Here

Rig No. 10 Page No. 10 LOCATION MESA NAHANNI BATTLE L20

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS				FUEL	WATER	CRUDE	Stands	
No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft. Reamed	Hrs.	COND.
0	74.55	74.55	1 3/4	8	1	82	23	8					
1	12 1/2	X 16	OPEN	41106	2.00	30	0	74	74	1 3/4			
MUD 12 a.m. 2 a.m. 4 a.m. 6 a.m. Additives													
WEIGHT													
VISCOSITY													
GEL													
PUMP													
MOTOR HOURS													
Oil Added													
At Surveys Degree													
Subs. Ft.													
Ft. Down on Kelly													
TOTAL													
W.L. F.C. pH. Solids Cement													
74	87	161	4 1/4	20	3	88	27	20					
1	12 1/2	X 16	OPEN	41106	10	75	0	161	161	6			
MUD 8 a.m. 10 a.m. 12 p.m. 2 p.m. Additives													
WEIGHT													
VISCOSITY													
GEL													
PUMP													
MOTOR HOURS													
Oil Added													
At Surveys Degree													
Subs. Ft.													
Ft. Down on Kelly													
TOTAL													
W.L. F.C. pH. Solids Cement													
161	250	250	3 1/2	35	6	82	23	35					
1	12 1/2	X 16	OPEN	41106	5-10	80	161	250	250	9 1/2			
MUD 4 p.m. 6 p.m. 8 p.m. 10 p.m. Additives													
WEIGHT													
VISCOSITY													
GEL													
PUMP													
MOTOR HOURS													
Oil Added													
At Surveys Degree													
Subs. Ft.													
Ft. Down on Kelly													
TOTAL													
W.L. F.C. pH. Solids Cement													

REMARKS	Start	Stop	Interval
MAKE UP #1 PICKUP	12:00		
CHANGE OVER SINKS, BLOW			
KELLY SET READY TO SPIN			
DRILL 12 1/2" HOLE	2:00	2:45	1 1/4
START KELLY BACK AND BLOW	2:45		
CHANGE SWIVEL PACKING		7:30	3 3/4
PICK UP #2 COLLAR	7:30	8:00	
Spud in @ 200 AM R270 BL 17.90 H			
MAKE UP #2 COLLAR CHANGE	8:00		
OVER SUB & KELLY		8:45	3/4
DRILL 12 1/2" SURFACE HOLE	8:45	11:45	3
PICK UP 9" COLLAR & MAKE DOWN	11:45	12:30	3/4
DRILL 12 1/2" HOLE	12:30	1:00	1/2
PICK UP 9" STABILIZER	1:00	2:15	1 1/4
SURVEY			
DRILL 12 1/2" HOLE	2:15	3:00	3/4
PICK UP 9" STABILIZER	3:00		
9" JARS		4:00	1
FINISH ASSEMBLING STAR JARS			
DRILL 12 1/2" HOLE	4:30	5:00	1/2
PICK UP 9" COLLAR + SURVEY	5:00	6:30	1 1/2
DRILL 12 1/2" HOLE	6:30	7:15	3/4
PICK UP 9" COLLAR + MAKE	7:15		
CONVECTION		8:00	3/4
DRILL 12 1/2" HOLE	8:00	8:45	3/4
PICK UP 9" COLLAR CORR.	8:45	9:30	3/4
DRILL 12 1/2" HOLE	9:30	10:45	1 1/4
PICK UP 9" COLLAR CORR. & SURVEY @ 250	10:45		

Rig No. 10 Report No. 10	
Tour — Midnight - 8 a.m.	
Specify actual hours worked. Hrs.	
Driller	N. Callaghan 8
Derrick	D. Loewen 8
Motor	F. Masiwick 8
Floor	T. Gleason 8
Floor	M. Whelan 8
Accidents nil	
Outside Temp. 10°	
Weather Conditions OVERCAST	
Road Conditions Rough	
Tour — 8 a.m. to 4 p.m.	
Specify actual hours worked. Hrs.	
Driller	C. Staroba 12
Derrick	R. Cox 12
Motor	R. Fritz 12
Floor	A. Webster 12
Floor	L. Semeniuk 12
Accidents NIL	
Outside Temp. - 10°	
Weather Conditions Clear	
Road Conditions Rough	
Tour — 4 p.m. to Midnight	
Specify actual hours worked. Hrs.	
Driller	N. Callaghan 4
Derrick	D. Loewen 4
Motor	F. Masiwick 4
Floor	T. Gleason 4
Floor	M. Whelan 4
Accidents	
Outside Temp.	
Weather Conditions	
Road Conditions	

Totco Ring on Bit No. _____ D.P. Calipered Date _____ Results _____ From Pipe Rack _____ Total Contractor Time _____ Hrs. Toolpusher _____

B.O.P. Test-Operated _____ Time _____ Results _____ Total Company Time _____ Hrs. Approved by _____