B.A. - TEX. ARROWHEAD

B-16

Drilling Authority No. 124

Date Issued

WELL NAME B.A. -Tex. Arrowhead E-76

FIELD Area:

LOCATION: Unit 5 Section 76 Grid 60°30'N, 122°15'W

Latitude 60°25'02" N Longitude 122°52'02" W

From Established Reference Marker Between shot-point 24 and 25, line BA-11

Rig Release Date:

Status

Information Release Date

CHANGE OF NAME:

DATE RECEIVED	INDEX
	Application for a Drilling Authority.
	Well Completion Data.
	Well History Report.
	Application to Amend a Drilling Authority.
	Application to change a Well Name.
	Application to Abandon a Well or Suspend Drilling.
	Application to Alter Condition of a Well.
	Well History Supplement.
	Well Completion Data.
	Work-over Report No. .....
	Application to Commingle Production before Measurement.
	Data for Back Pressure Test on Natural Gas Wells — Monograph / Method.
	Data for Back Pressure Test on Natural Gas Wells — Vitter's Method.
	M.P.R. — Oil — Calculations.
	New Oil Well Report.
	New Gas Well Report.
	Well Inspection Report.
	Rig Inspection Report.
	Battery Inspection Report.
	Equipment Report.
	Well Card.
	Well Visit.
	Daily Drilling Reports.
	Logs. Large scale ..... Small scale .....

Drilling Authority No. 124

Date Issued November 26, 1963

CANADA

DEPARTMENT OF NORTHERN AFFAIRS AND NATIONAL RESOURCES
RESOURCES DIVISION

WELL COMPLETION DATA

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

Well name and number B.A. Tex. Arrowhead B-76

Permit No. 1258

British American Oil Company Limited and Lease No. --
Texaco Exploration Company (Permittee, Licensee, Lessee) Exploratory Licence No. 654

British American Oil Company Ltd. (Operator) Exploratory Licence No. 654

Location: Unit 5 Section 76 Grid 60°30'N, 122°45'W

Latitude 60°25'02" N Longitude 122°59'02" W

From Established Reference Marker Between shot-point 24 and 25, Line B.A.-11

	DATE	DEPTH
Spudded	1-12-64	
Suspended		
Resumed		
Finished Drilling	3-6-64	9805
Deepened		
Complete (gas/oil)		
Abandoned	3-11-64	9805
Rig released	3-11-64	

Pool (s)

Interval(s) open to production

Elevation: Gr. 1250

K.B. 1266

Drilling Contractor & Rig No. Cascade Drlg. Rig #2

Contractor's Licence No. A 11809 (1964-1965) (A 11320-1963 CD

CASING RECORD

Casing Size (Inches)	Weight	Amount	Set at	Sacks of Cement	Method
1. 13-3/8" OD	48#	938.70'	955'	900	
2. 9-5/8" OD	36#	3384'	3400'	400	
3.					
4.					
5.					
6.					

GEOLOGICAL TOPS Ind. E-Log Tops	ELEVATION Depths	Sub-Sea
Upper Sikanni sh.	183'	+1,066
Lower Sikanni ss.	220	+1,031
Upper Buckinghorse	492	+ 759
Scatter	1078	- 173
Lower Buckinghorse	1175	+ 76
Flett ls.	1607	- 356
Banff sh.	3258	-2007
Exshaw sh	4817	-3566
Kotcho sh	4862	-3611
First Lime	5185	-3934
Tetcho	6105	-4854
Trout River	6215	-4964
Kakisa	6482	-5231
Redknife Ft. Simp.	6548	-5297
Muskwa	8448	-7197
Slave Point	8479	-7228
Watt Mountain	8790	-7539
Fine Point Dolomite	8823	-7572

CORE RECORD

From	To	Rec.	From	To	Rec.
8697	8747	22			
8747	8748	1			
8910	8960	50			
8960	9010	50			

LOG RECORD

Run No.	Type of Log	From	To
1	Induction E Log	3335	955
	Induction E Log	3400	3135
	Gamma Sonic Caliper	3400	955
	Microlog Caliper	3400	955
2	Induction E Log	9805	3400
	Gamma Sonic Caliper	9805	3400
	Continuous Dipmeter Log	8550	8350
	Well Velocity Survey		

CEMENTING RECORD (Plug, Squeeze, etc.)

Date	From	To	Remarks
3-9-64	9805'	9700'	P&A Plug No. 1 Pine Point Dol. 50 sacks cement 0.5% HR 4. No feel.
3-9-64	8950'	8800'	P&A Plug No. 2 Watt Mountain Pine Point Dol. 90 sacks cement 0.5% HR 4. Plug felt at 8770'
3-10-64	3450'	3350	P&A Plug No. 3 Banff 65 sacks cement 2% CaCl2. Felt plug at 3370'

PERFORATING RECORD (Bullet, Jet)

Date	From	To	Remarks

SERVICING RECORD (Acidizing, Fracing, etc.)

Date	From	To	Remarks

DRILL STEM TESTS

No.	Date	Formation	From	To	V.O. Mins.	I.S.I. Mins.	F.S.I. Mins.	I.S.I.B.H.P.	F.S.I.B.H.P.	I.F.B.H.P.	F.F.B.H.P.	I.H.P.	F.H.P.	REMARKS
1	2-23-64	Slave Point	8840	8910	60	15	30	2425	2114	578	583	4348	4331	4½" drill pipe recovery 1026' water cushion and 240' gas cut drilling mud.
2.	2-28-64	Mid. Devonian	8840	9150	60	30	30	2201	2974	173	46	4474	4340	Gas to surface at 234 MSCFD, decreasing to 131 MSCFD, after 45 minutes, remaining steady for remainder of test. 4½" drill pipe recovered 150' of highly gassified mud.
3.	3-8-64	Presqu'ile (Pine Point Dol.)	9155	9805	60	60	60	4463	4356	2071	3457	5241	5006	Gas to surface in 15 mins. at 142 MSCFD, decreased to 0.76 MSCFD in 50 minutes. 4½" drill pipe recovery - 4975' salt water cut highly gassified mud, 2250' gassy salt water.

Lab. No.	Sample	From	To	Source	Remarks
E23081	Core No. 3	8910	8960		only 14.2' analyzed
67-64	DST No. 2	8840	9150	Middle Devonian	Gas Analysis B.A. Lab Analysis
W-99-64	DST No. 3	9155	9805	Presqu'ile	Water Analysis
W-100-64	DST No. 3	9155	9805	Presqu'ile	Mud Analysis
W-101-64	DST No. 3	9155	9805	Presqu'ile	Mud Analysis
W-102-64	DST No. 2	8840	9150	Middle Devonian	Mud Analysis

PRESENT STATUS OF WELL

Oil		(Interval)
Gas		(Interval)
Dry	X	
Susp.		

Company The BRITISH AMERICAN OIL COMPANY Limited

ORIGINAL SIGNED BY

Signed by W. L. STEVENS

Title Edmonton Zone Production Manager

Date May 15, 1964

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

File No.

Drilling Authority No. 124

DEPARTMENT OF NORTHERN AFFAIRS AND NATIONAL RESOURCES
RESOURCES DIVISION

Application to Abandon a Well or Suspend Drilling

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

Name and number of well BA Texaco Arrowhead B76

Location: Unit B Section 76 Grid 60° 30'N, 122° 45'W

Latitude 60° 25'02"N Longitude 122°59'02"W

From Established Reference Marker Between shot point 24 & 25, line B4-11

Permit No. 1050 Lease No. -

The British American Oil Co. Ltd. and Texaco Exploration Company
(Permittee, Lessee, Lessee)

Date of commencement of proposed programme 3-6-64

OIL, GAS, AND WATER ENCOUNTERED
(Depths)

Oil at -
Gas at 8823' - 9410' (Small volumes)
Water at 9410'
Total Depth 9805' Date of last operations 3-6-64
Present condition of well Standing

CASING RECORD

	Casing Size O.D. Inches	Weight	Amount	Set At	Sack of Cement	Method	Amount Pulled
1.	13-3/8"	48#	30 joints	955'	900(2%$CaCl_2$)		
2.	9-5/8"	36#	103 joints	3400'	400(2%$CaCl_2$)		
3.							
4.							
5.							

PROPOSED ABANDONMENT PROGRAMME

Plug No.	Plug Position	Geological Formation	Number of Sacks of Cement	Remarks
1	9800-9700'	Chinchaga & lower Prespu'ile	50 (0.5%HR-4)	Not required to feel for plug
2	8950-8800'	Prespu'ile & Watt Mountain	90 (0.5%HR-4)	WOC 8 hours and feel, re-spot if necessary
3	3450-3350'	Banff Shale	65(2%$CaCl_2$)	WOC 8 hours and feel, re-spot if necessary

The following logs have been run Induction E Log, Caliper Log, Dipmeter and Velocity Survey
Other operations proposed

Operations to be carried out by Cascade Drilling Co. Ltd. Contractor Licence No. A11320
Address Calgary, Alberta Address
Responsible Agent in field L.G. Mulholland, Financial Building, Edmonton
Dated at Edmonton, this 12 Day of March 19 64
Signed by W. L. STEVENS Company The British American Oil Company Limited
Title Zone Production Manager Exploratory Licence No. 654

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

(For RESOURCES DIVISION use only)

APPROVAL

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

Confirming oral approval given 6th March 1964.

Dated 17th March, 19 64

A R Crook
Assistant Oil Conservation Engineer

Forms to be submitted in triplicate to Oil Conservation Engineer, Calgary, Alberta

NANR 52-90 (5) (1-61)

File No.

Drilling Authority No. 124

DEPARTMENT OF NORTHERN AFFAIRS AND NATIONAL RESOURCES
RESOURCES 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 made hereby for approval to drill:—

Name and number of well B.A.-Tex. Arrowhead B-76

Location: Unit B Section 76 Grid 60°30'N, 122°45'W

Latitude 60°25'02" N Longitude 122°59'02" W

From Established Reference Marker Between shot-point 24 & 25, line BA-11

Elevation: Ground 1250 feet K.B. 1265 feet feet above sea-level.

Well is expected to produce from Middle Devonian Carbonate formation at a depth of about 9240 feet.

Area assigned to well

(for Oil Conservation Engineer's use only)

Permit No. 1050 Lease No. -- Acreage 31,566

Permittee, licensee, or lessee The British American Oil Company Limited and Texaco Exploration Company

Exploratory Licence No. 654

Surface owned by Crown or Crown
(If alienated submit name and address of owner and occupant.)

Petroleum and natural-gas rights owned by Crown

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

Casing Size O.D. (Inches)	Weight (Lb./Ft.)	Grade	Brand	New or Used	Estimated Depth	Sacks of Cement
1. 13-3/8	54.5 STC	J-55	API	New	950'	850
2. 9-5/8	36.0 STC	J-55	API	New	3600'±	
3. 9-5/8	40.0 STC	J-55	API	New	4500'	450
4. 7	26 XL	J-55	API	New	250'	
5. 7	23 & 26 LTC	N-80	API	New	9240'	
7	29 LTC	N-80	API	New	9500'	600

Expected water, gas, and oil horizons and type of control equipment

Matson & Middle Devonian Carbonate

1950' 9250'

12" Shaffer Double Gate, hydraulic and 12" Hydril GK900 w/3 station controls

Well will be drilled with (Rotary) Rig No. 2 by [redacted] Cascade Drilling Co.
(Cable)
(Drilling Contractor or company)

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

At well L.G. Mulholland At registered office N.S. Shibley

Address B.A., Financial Bldg., Edm. Address B.A. Oil, Financial Bldg., Edmonton

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

Dated at Edmonton, Alberta, this 22nd day of November 1963

Signed by N. S. SHIBLEY Company The British American Oil Co. Ltd.

Title Zone Engineer Licence No. P. Eng. - Alta. Lic. B.C.

(For Resources Division use only)

APPROVED

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

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

Dated 26th November 1963

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

NANR 52-90(1) (1-61)

WELL HISTORY REPORT

B.A.-Tex Arrowhead B-76

Unit B, Section 76
Grid 60°30'N, 122°45'W
Latitude 60°25'02" N
Longtitude 122°59'02"W

Oil Conservation Engineer
Department of Northern Affairs and National Resources
725 - 11th Avenue, S.W.
Calgary, Alberta

W E L L H I S T O R Y R E P O R T

B.A.-Tex Arrowhead B-76

Unit B, Section 76
Grid 60°30' N, 122°45' W
Latitude 60°25'02" N
Longtitude 122°59'02" W

The BRITISH AMERICAN OIL COMPANY Limited

Edmonton Production Zone

Edmonton, Alberta

April 1964

CONFIDENTIAL

I N D E X

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WELL HISTORY REPORT

B.A.-Tex Arrowhead B-76

I. SUMMARY OF WELL DATA

(a) Well Name: B.A.-Tex Arrowhead B-76

(b) Permittee: The British American Oil Company Limited and Texaco Exploration Company

(c) Name of Operator: The British American Oil Company Limited
6th Flr., Financial Building
Edmonton, Alberta

(d) Location: Unit B, Section 76, Grid 60°30' N, 122°45' W
Latitude 60°25'02" N, Longtitude 122°59'02" W

(e) Co-ordinates: --

(f) Permit Number: 1050

(g) Drilling Contractor: Cascade Drilling Company Limited, Rig No. 2 National 100 with 2 Superior PTDS6 - 595 h.p. each and a 131 foot L.C. Moore derrick.

(h) Drilling Authority: 124, issued November 26, 1963.

(i) Classification: New field well

(j) Elevations:

Ground	1250 feet
Distance H	16.3 feet
Ground to K.B.	16.0 feet
K.B. Elevation	1266 feet

(k) Spudded: 7:00 a.m. January 12, 1964

(l) Completed Drilling: March 5, 1964

(m) Total Depth: 9805 feet

(n) Well Status: Plugged and Abandoned at final total depth of 9805 feet

(o) Rig Released: 6:00 p.m. March 11, 1964

(p) Hole Size:

17-1/2"	0' to 955'
12-1/4"	955' to 3400'
8-3/4"	3400' to 7805'

(q) Casing: 13-3/8" OD 48# 8RT, H-40 R-2 Class A SS casing set at 955 feet (6 centralizers and 5 scratchers on bottom 300 feet) and cemented by HOWCO with 900 sacks Canadian Portland cement with 2 percent CaCl2 added to last 500 sacks.

9-5/8" OD 36# 8RT J-55 R-2 and R-3 Class A SS casing set at 3400 feet (25 scratchers and 5 centralizers on bottom 300 feet) and cemented by HOWCO with 400 sacks construction cement with 2 percent CaCl2 added.

II GEOLOGICAL SUMMARY

(a) Formation Tops:

K.B. 1,251 feet

Formation and Markers	Ind. E'log	Subsea	Sample Top
Surface Drift			
CRETACEOUS			
Upper Sikanni (shale)	185'	+1,066'	185'
Lower Sikanni (sandstone)	220'	+1,031'	220'
Upper Buckinghorse (shale)	492'	+ 759'	495'
Scatter (sandstone)	1,078'	+ 173'	
Lower Buckinghorse (shale)	1,175'	+ 76'	
MISSISSIPPIAN			
Flett (limestone	1,607'	- 356'	1,674'
Banff (shale)	3,258'	-2,007'	
Exshaw (shale)	4,817'	-3,566'	4,840'
DEVONIAN			
Kotcho (shale)	4,862'	-3,611'	4,860'
First Lime	5,185'	-3,934'	
Tetcho	6,105'	-4,854'	5,970'
Trout River	6,215'	-4,964'	6,230'
Kakisa	6,482'	-5,231'	6,510'
Redknife-Fort Simpson	6,548'	-5,297'	6,610'
Muskwa	8,448'	-7,197'	8,425'
Slave Point	8,479'	-7,228'	8,465'
Watt Mountain	8,790'	-7,539'	8,815'
Pine Point Dolomite (Presqu'ile)	8,823'	-7,572'	8,845'
Total Depth	9,805'	-8,554'	

(b) Cored Intervals:

Core No.	Interval	Formation	Recovery
1	8,697'-8,747'	Slave Point	22' (cut 50')
2	8,747'-8,748'	Slave Point	1' (cut 1')
3	8,910'-8,960'	Presqu'ile	50' (cut 50')
4	8,960'-9,010'	Presqu'ile	50' (cut 50')

(c) Core Description:

Core No. 1

Interval: 8,697'-8,747'
Cut 50' Recovered 22 feet

Top 2' Limestone, calcisiltite, dark grey to dark brown, slightly dolomitic (small rhombs less than 5%), slightly argillaceous in parts, stylolites, rare brachiopoda in light brown dolomite preservation.

Next 1' Same as above, but with abundant horizontal Amphipora and Stromatopora.

Next 3' Same as above, but few Stromatopora, Amphipora and brachiopoda.

Next 10' Limestone, calcisiltite, some calcarenite, 10 to 20% dolomitized, large fist-size Stromatopora, Amphipora.

Next 6' Same as above, few fossils.
Very little brown oil bleeding from lower one-half of core. The entire core contains a few small vertical fractures filled with white dolomite.

Coring time - 7 minutes per foot

Core No. 2

Interval: 8,747'-8,748'
Cut: 1' Recovered 1'

1' Limestone, calcisiltite - lutite, dark grey to dark brown, stylolites, very slightly argillaceous, few fossils, brachiopoda debris.

Coring time - 7 minutes per foot.

Core No. 3

Interval: 8,910'-8,960'
Cut 50' Recovered 50'

Top 15' Dolomite, white, coarse crystalline, numerous vugs up to 1" in length, horizontally arranged, average vug size 1/4 inch, secondary quartz crystals in vugs, good vuggy porosity, permeability poor to fair, some stylolites, intercrystalline spaces filled with black, brittle pyrobitumen.

Next 5' Limestone, medium grey, very coarse crystals, recrystallized, stylolites, a few algae and brachiopoda.

Next 28' Limestone, dark grey, lutite - siltite, varying dolomitization, black, bituminous shale partings, stylolites, numerous large brachiopoda (Atrypa sp.)

Next 2' Dolomite, white, coarse crystalline, black, brittle pyrobitumen fills intercrystalline spaces.

Coring time - 8 minutes per foot

Core No. 4

Interval: 8,960'-9,010'
Cut: 50' Recovered 50'

Top 6' Dolomite, white, very coarse crystalline, some coarse crystalline, medium grey patches, a few pyrite blebs, stylolites, trace porosity, originally excellent intercrystalline porosity infilled with black pyrobitumen, faint fossil outlines, Stromatopora and algae indicated.

Next 9' Limestone, dark grey, siltite - lutite, some recrystallization, fine Brachiopoda debris, very rare algae, some discontinuous stylolites. In lower one-third of interval vertical fractures filled with white calcite, in lowest three feet mottled dolomitization, dolomite less than 20%. Dolomitization limited to Stromatopora and algae.

Next 3' Dolomite, white, coarse crystalline, some medium grey patches, tight. Lowest one foot of this interval is mottled dolomite (mottled limestone - dolomite).

Next 1' Limestone, dark grey, siltite - lutite, brachiopoda debris.

Next 8' Dolomite, white, very coarse crystalline, some medium grey patches, very few vugs, original intercrystalline porosity infilled with black pyrobitumen, stylolites, porosity poor to nil, permeability nil. Lowest 1' of

this interval contains a few isolated vugs up to one-half inch in diameter.

Next 23' Limestone, medium dark to dark grey, siltite - lutite, fine Brachiopoda debris, gastropods, cup corals, very few small Stromatopora. Strongly fractured in lower 10 feet, vertical fractures healed by white calcite, some stylolites, no dolomitization recognized.

Coring time - 12½ minutes per foot

(d) Sample Description: Attached.

III ENGINEERING SUMMARY

(a) Report of Drill Stem Tests:

DST #1 February 23, 1964 - Interval tested 8840-8910 feet. Slave Point, dual 7½" packers and ½" ss choke. Used 1026 feet water cushion. Initial shut-in - 15 mins., Tool open 60 minutes commencing at 4:00 p.m. 2-23-64. Final shut-in - 30 mins. Good initial air puff followed by weak air blow. Gas to surface in 26 mins. measured at 39 MCF by manometer 4½" drill pipe recovery - 1026' water cushion and 240' gas cut drilling mud. IHSP - 4348, FHSP - 4331, IFP - 578, FFP - 583, ISIP - 2425, FSIP - 2114.

DST #2 February 28, 1964 - Interval tested 8840' to 9150' in Middle Devonian, dual 7½" packers and 1/2" ss choke. No water cushion. Gas to surface in 4 minutes during pre-initial flow period. 30 minute initial shut-in, tool open 60 minutes, 30 minute final shut-in. Good initial puff, gas to surface at rate of 234 MCFD after 15 minutes, 142 MCFD after 30 minutes, 131 MCFD after 45 minutes and remaining constant for remainder of test. 4½" drill pipe recovered 150 feet of highly gassified mud. IHSP - 4474, FHSP - 4340, IFP - 173, FFP - 46, ISIP - 2201, FSIP - 2974.

DST #3 March 8, 1964 - Interval tested 9155' to 9805' in Presqu'ile, dual 7½" packers, 1/2" ss choke. 60 min. initial shut-in, tool open 60 minutes, 60 minute final shut-in. Gas to surface in 3 minutes during initial flow period. Good initial air puff, gas to surface in 15 minutes at a rate of 142 MCFD, decreasing to 34 MCFD in 30 minutes, to 0.8 MCFD in 45 minutes and 0.76 MCFD in 50 minutes. 4½" drill pipe recovery - 4975 feet salt water cut highly gassified mud, 2250 feet gassy salt water. IHSP - 5241, FHSP - 5006, IFP - 2071, FFP - 3457, ISIP - 4463, FSIP - 4356

(above pressures recorded on bottom gauge)

Note: Drill stem test data including charts were submitted on March 6, 11, and 19, respectively.

(b) Casing Record:

January 19, 1964 - ran 30 joints 13-3/8" OD 48# H-40 R-2 Class A SS casing and set at 955 feet. Ran 6 centralizers and 5 scratchers on the bottom 300 feet. Cemented by HOWCO with 900 sacks Canada Portland cement with 2 percent CaCl2 added to last 500 sacks. Pumped plug to 921 feet. Plug down at 10:55 p.m. 1-19-64. Cement circulated 20 barrels. Witnessed by Arneault for contract and Lock for British American.

Surface casing hole size 17½ inches.

February 8, 1964 - ran 103 joints 9-5/8" OD 36# 8RT J-55 Range 2 and 3, Class A SS casing and set at 3400 feet. Ran 25 scratchers and 5 centralizers on the bottom 300 feet. Cemented by HOWCO with 400 sacks construction cement with 2 percent CaCl2 added. Pumped plug to 3364 feet. Plug down at 12:35 p.m. 2-8-64. Witnessed by Arndt for contractor and Lock for British American.

(c) Bit Record:

No.	Size	Type	Depth In	Depth Out	Footage	Hours
1A	17½	OSC3	0	220	220	22¼
2A	17½	OSC3	220	476	256	25½
3A	17½	OSC3	476	651	175	20-3/4
4A	12¼	OSC3	651	947	296	19-3/4
5A	17½	Reamer	651	940	289	39½
6A	12¼	YT3	651	940	-	39½
*3A	17½	OSC3	947	955	8	1½
1	8-3/4	YC4G	955	2230	1275	50-3/4
2	8-3/4	H8J	2230	3324	1094	47½
3	12¼	Reamer	955	1617	662	11¼
4	8-3/4	W7	955	1617	-	11¼
5	12¼	Button Rmr.	1617	2903	1286	52
4	8-3/4	W7	1617	2903	-	52
6	12¼	Reamer	2903	2967	64	12½
7	8-3/4	OSC3	2903	2967	-	12½
8	12¼	Buttom Rmr.	2967	3324	357	33
9	12¼	OSC1G	3324	3400	76	5¼
7	8-3/4	OSC3	3400	3450	50	2-3/4
10	8-3/4	RG7J	3450	6086	2636	51¼
11	8-3/4	H8J	6086	8320	2234	40½
12	8-3/4	OSC1G	8320	8507	187	18½
13	8-3/4	W7	8507	8697	190	21
1C	6-1/8	KOEB	8697	8737	40	6
**14	8-3/4	W7	8737	8839	102	9-3/4
15	8-3/4	M4N	8839	8910	71	6-3/4
1C	6-1/8	KOEB	8910	8960	50	8
16	8-3/4	H7 Reamed	8910	8960	50	
1C	6-1/8	KOEB	8960	9010	50	11
**17	8-3/4	W7R2	9010	9083	73	11-3/4
18	8-3/4	H7	9083	9150	67	9½
19	8-3/4	W7R2	9150	9277	127	21¼

No.	Size	Type	Depth In	Depth Out	Footage	Hours
20	8-3/4	W7J	9277	9362	85	17
21	8-3/4	H7V	9362	9487	125	16-3/4
22	8-3/4	W7R2J	9487	9635	148	19⅓
23	8-3/4	W7R2J	9635	9741	106	18-3/4
24	8-3/4	YGWG	9741	9800	59	13
	Correction			9805		

*Reamed from 940 to 947 feet
**Does not include reaming

(d) Mud Report:

Surface Hole - water gel mud - viscosity 38-75 sec.

Depth 955'-1207' Air drilled

Depth 1207'-3324' Mist drilled (Hole was mudded up after reaming to 2984 feet)

Depth 3324'-3400' Caustic Q-Broxin mud

Mud weight	8.7 to 9.2#
Viscosity	85 to 193 sec.
Water Loss	4 to 5.6 cc
pH	9 to 9.5
Filter Cake	2/32"

Depth 3400'-8320' Air drilled

Depth 8320-9700' Caustic Q-Broxin mud

Mud weight	9.0 to 9.5#
Viscosity	85 to 210 sec.
Water Loss	3.0 to 5.0 cc
pH	9.0 to 9.5
Filter Cake	2/32"

Depth 9700'-9805' Mud flipped to Gyp Q-Broxin at 9700 feet after encountering anhydrite

Mud Weight	9.3 to 9.7#
Viscosity	180 to 245 sec.
Water Loss	3.2 to 3.4 cc
pH	9.5
Filter Cake	2/32"

Materials

Aquagel	128,800 pounds
Baroid	10,800 pounds
Bicarb	100 pounds
Carbonox	8,800 pounds
Caustic Soda	4,700 pounds

Materials Cont'd

Fibertex	240 pounds
Lime	2,400 pounds
Q-Broxin	11,850 pounds
Cellex Regular	1,450 pounds
Dextrid	6,600 pounds
Cellophane	2,050 pounds
Al Sterate	100 pounds
Soda Bichromate	200 pounds
Cranox	3,120 gallons

(e) Deviation Record:

Depth	Deviation	Depth	Deviation	Depth	Deviation
72	1/8	813	1/8	4500	1-5/8
100	1/4	875	1/16	4750	2
128	1/8	906	1/8	4900	1-3/4
160	1/4	938	1/2	5150	1-3/4
190	1/4	1086	1/2	5400	1-1/4
220	1/8	1231	1/8	5650	1-1/4
250	1/8	1398	1	5900	1-1/4
280	1/2	1461	1/2	6180	1
310	3/8	1674	1-1/8	6460	3/4
342	7/8	1884	1-1/8	6740	1
374	1/8	2070	1-1/2	6987	1
406	1/8	2195	1-3/4	7265	1/2
437	1/4	2380	1-1/4	7544	3/4
469	3/4	2610	1-1/2	7820	1/2
501	3/4	2800	1	7950	7/8
532	3/8	3044	1-1/4	8470	2-1/8
563	1/4	3282	1-3/4	8660	1-3/4
594	3/8	3324	1-3/4	8960	2-1/4
625	3/8	3400	2-1/8	9270	3-7/8
658	1/2	2540	2-1/4	9460	2-3/4
690	1/8	3760	2	9635	2-3/4
721	3/8	3950	2-3/8	9740	4
751	3/4	4250	1-3/4	9800	4-1/4
782	3/4				

(f) Abandonment Plugs:

Date	Plug No.	Position	Geological Formation	Sacks	WOC Hrs.	Depth Plug Felt
3-9-64	1	9805 - 9700	Pine Point Dol.	50 to 0.5% HRU	nil	not required
3-9-64	2	8950 - 8800	Watt Mountain Pine Point Dol.	90 to 0.5% HRU	8	8770
3-10-64	3	3450 - 3350	Banff	65 to 5% CaCl	7	3370

Dumped 5 sacks cement inside 9-5/8" OD casing, welded steel plate on 9-5/8" OD casing and 13-3/8" OD casing. Welded sign post on 13-3/8" OD casing. Rig released 6:00 p.m. 3-11-64

(g) Lost Circulation Zones:

Lost approximately 20 barrels mud at 400 feet. Added gel and 6 sacks Fibertex to the mud system.

(h) Report of Blowouts: None. A small gas blow was indicated at 6220 feet while drilling with air. However, the gas blow only lasted about 1½ minutes.

IV LOGS

Date	Run No.	Interval	Type
2-7-64	1	3335' - 955'	Induction E Log
		3400' - 3135'	Induction E Log
		3400' - 955'	Gamma Sonic Caliper
		3400' - 955'	Microlog Caliper
3-7-64	2	9805' - 3400'	Induction E Log
		9805' - 3400'	Gamma Sonic Caliper
		8550' - 8350'	Continuous Dipmeter Log
3-7-64		9800' - 960'	Well Velocity Survey

NOTE: Copies of the Induction E and Gamma Sonic Caliper logs were submitted on April 20, 1964, and copies of the Microlog Caliper log were submitted on April 21, 1964. Copies of the Continuous Dipmeter log were submitted on March 24, 1964.

V ANALYSIS

(a) Core Analysis - Results were submitted to your office on March 5, 1964.

(b) Water Analysis - Submitted to your office on April 10, 1964. (DST Nos. 2 and 3)

(c) Gas Analysis - Submitted to your office on April 13, 1964. (DST No. 2)

(d) Oil Analysis - none made.

VI COMPLETION SUMMARY

(a) Tubing Record: nil

(b) Perforation Record: nil

(c) Cementation Record - Covered under Section III (f)

(d) Acidization and Fracturing Record: nil

(e) Back Pressure and Production Tests: nil

Respectfully submitted,

The BRITISH AMERICAN OIL COMPANY Limited

W. I. Stevens
Edmonton Zone Production Manager

Edmonton, Alberta
April 30, 1964

B.A. TEXACO ARROWHEAD B-76
60°25'02"N Lat. 122°59'02"W. Long.

SAMPLE DESCRIPTION

Spudded 7:00 a.m. Jan. 12/64
17½" bit. Wentworth size scale used.
40' of conductor pipe in hole.

50'-65' Grey, sandy, silty, very soft shale, 80%; sandstone, 1 to 3 mm. subrounded quartz and granite pebbles, 20%.

65'-80' Sandstone, medium to granules and pebbles, mostly loose, unconsolidated white quartz, clear quartz, granite, feldspars, biotite, etc. 90%; 10% shale, as above.

80'-90' As above, fair amount of feldspar.

90'-110' As above, scattered quartzite.

Drilling break 116' speeded up a little. Gravel coming over shale shaker at 128 feet

120'-140' Sandstone, as above, multicolored sandstone, minor medium size, 60% pebbles.

Summary: Gravel was encountered at 128 feet
50' to 128 feet is probably glacial drift, loose clay with abundant sandstone and pebbles, 4 to 16 mm.

140'-150' Sandstone to gravel, pebbles 30%; medium to granules, 70%. Pebbles composed of pink to grey quartzite, coarse to very coarse sandstone and granules, white to clear quartzite and quartz.

150'-170' As above, abundant feldspar.

170'-190' Very poor sample - all mud (probably as above.).

TOP FT. ST. JOHN 185'

190'-200' As above, trace grey, very soft (muddy) shale, poorly washed.

200'-210' Sandstone and gravel, as above; 10% fissile, dark grey, medium hard, micromicaceous, noncalcareous shale.

210'-220' Sandstone and gravel, as above, 80%; very probably cavings. Shale, as above, 20%.

220'-230' Sandstone and gravel, as above, 90%, very probably cavings; shale, as above, 10%.

230'-240' Siltstone to very fine grained sandstone, grey, glauconitic, with muscovite and biotite, slightly pyritic, friable, argillaceous, tight, 100%.

240'-250' Siltstone, grey to medium dark grey, as above, 100%.

250'-260' Siltstone to very fine grained sandstone, grey to medium dark grey, as above, 90%; shale, dark grey, fissile, as above, in stringers, 10%.

260'-270' Sandstone, grey, very fine grained, glauconitic, scattered biotite and muscovite with scattered dark grey, argillaceous stringers and minor dark grey, fissile shale breaks, scattered yellow stain, trace pyrite, argillaceous; grains angular to subangular, clear white quartz.

270'-280' Sandstone, as above, 50% shows excellent clean intergranular porosity, remainder tight with argillaceous material.

280'-290' Sandstone, as above, 25% shows porosity, as above, colored grey to grey yellow because abundant yellow particles of very fine grain size, also increase in glauconite.

290'-300' Sandstone, very fine grained, 90%, as above, trace only shows porosity, as above; trace fine grained, clear quartzitic, angular sandstone; tightly interlocking shale, dark grey, blocky, micaceous, 10%.

300'-310' Sandstone, very fine grained, grey to yellow grey, as above, glauconitic, micaceous, as above, 90%; shale, as above, to sandy, 10%.

310'-320' Sandstone, as above, fair amount yellow grey color, argillaceous to tight, 85%; shale, dark grey, micaceous, argillaceous, blocky, trace pyrite, 15%.

320'-330' Sandstone, as above, 90%; shale, as above, 10%.

Note: abundant gravel cavings, hole slightly sticky on connection therefore viscosity raised to clean out gravel.

330'-340' Sandstone, very fine grained, 90%; dark grey in patches where very argillaceous, quite glauconitic, 10%, argillaceous, tight; abundant gravel cavings.

340'-350' Sandstone, as above, 90% silty; shale, as above, 10%.

350'-360' Sandstone, as above, 90%; shale, as above, 10%, abundant gravel cavings.

360'-370' Sandstone, grey to grey green due to 15% glauconite, very fine to fine grained, hard and tight due to interlocking; very calcareous, biotite and muscovite flakes, fine size, sample quality much better.

370'-380' Sandstone, as above, scattered, excellent, clean, intercrystalline porosity.

380'-390' As above.

390'-400' Sandstone, grey to grey green, very fine grained to siltstone, 90%, 10% to glauconite, very argillaceous, with light colored material, therefore tight, scattered biotite and muscovite; no calcite.

400'-410' Sandstone, as above, 80%; glauconite 10%, as above; shale, dark grey, fissile, micaceous, as above, 10%.

410'-420' Sandstone, very fine grained, 85%, grey to green grey, very calcareous, micaceous; green due to glauconite, 15%.

420'-430' Sandstone, as above, 75%; glauconite 15%; shale, as above, 10%.

430'-470' No sample due to misunderstanding of procedure to be followed in catching samples without a shale shaker.

470'-480' Sandstone, very fine grained to silt, grey to grey green, 85%; glauconite, 15%.

480'-490' Sandstone, as above, glauconite, as above, abundant gravel cavings.

490'-500' Sandstone, very fine grained, grey green, 65%; very glauconitic, 15%; biotite, muscovite; shale, dark grey, micromicaceous, fissile, to medium dark brown, hard, and glauconitic, 20%.

BUCKINGHORSE FORMATION 495 feet

500'-510' Sandstone, as above, 65%; the dark grey near shale type argillaceous material is increasing yielding more dark grey color; shale, as above, 20%.

510'-520' Shale, dark grey, fissile to angular, blocky, micromicaceous to micaceous, sandy, silty, and scattered glauconite, 90%; shale, as above, 10%.

520'-530' Shale, as above, 85%, with 5% glauconite; sandstone, as above, 10%.

530'-550' Shale, as above, 95%; blocky, glauconitic, 5%.

550'-560' Shale, dark grey, 100%, micromicaceous, scattered micaceous, scattered glauconite, blocky, trace sandstone and silt.

560'-570' Shale, as above, 100%.

570'-580' Shale, 85%, dark grey, blocky, micromicaceous, scattered glauconite, pyrite; sandstone, very fine grained, dark grey, glauconitic, very argillaceous, 15%, breaks in shale.

580'-590' Shale, as above, 100%, with fair amount of scattered silt and sandstone, very fine grained; trace sandstone, as above.

590'-610' Shale, as above, 90%; sandstone, dark grey, as above, 10%.

610'-620' Shale, dark grey, blocky, 80%; fair amount siltstone; very fine to fine grained sandstone, glauconitic, micaceous and pyritic in shale; sandstone, light grey to grey green, very fine grained very glauconitic, quite argillaceous, tight, 20%.

620'-630' Shale, as above, 50%; sandstone, grey to grey green and medium dark grey, very fine grained, glauconitic, angular to subrounded quartz, 50%; probably cavings sandstone.

630'-640' Shale, as above, 50%; sandstone, as above, 50%.

640'-650' Shale, as above, 80%, quite sandy in places; shale, as above, 20%.

650'-660' Shale, as above, 85%; sandstone, as above, 15%, three black chert pebbles, 4 to 5 mm. rounded.

Trip reduced hole size from 17½" to 12¼"

660'-670' Shale, dark grey, 70%, very sandy, very fine grained, 20% scattered glauconitic, micromicaceous; sandstone, very fine grained, grey to grey green, 10%, probably cavings.

670'-680' Shale, as above, 75%; sandy, as above, 20%; sandstone, as above, 5%.

680'-690' Shale, as above, 75%; sandy, as above, and silty, 20%; sandstone, as above, trace.

690'-700' Shale, as above, 80%; sandy and silty, as above, 20%; sandstone, as above, trace.

700'-710' Shale, as above, 85%; sandy and silty, as above, 15%; sandstone, as above, trace.

710'-730' Shale, dark grey, 95%; angular, blocky, micromicaceous, glauconitic, sandy in places; minor thin sandstone, very fine grained, grey to grey green, glauconitic breaks, 5%.

730'-740' Shale, as above, 90%; sandstone, as above, 10%.

740'-780' Shale, as above, 95%; sandstone, as above, 5%.

780'-790' Shale, as above, 85%; sandstone, as above, 15%.

790'-800' Shale, as above, 80%; sandstone, as above, 20%.

800'-810' Shale, as above, 66%; sandstone, as above, 34%.

810'-820' Shale, dark grey, 85%, angular, blocky, micromicaceous, trace glauconitic, sandy, silty, sandstone, grey, silt to very fine grained, glauconitic, micromicaceous, argillaceous, tight, 15%.

820'-830' Shale, as above, 80%; sandstone, as above, to medium dark grey, 20%.

830'-850' Shale, as above, 85%; sandstone, as above, 15%.

850'-860' Shale, as above, 85%; sandstone, as above, mostly medium dark grey, 15%.

860'-880' Shale, as above, 90%; sandstone, as above, 10%, trace ironstone.

880'-890' Shale, dark grey and bulky, 100%, sandy and silty in shale, trace micaceous, glauconitic, pyritic; trace sandstone, as above.

890'-900' Shale, as above, 90%; sandstone, as above, 10%.

900'-910' Shale, as above, 100%; sandstone, as above, trace.

910'-940' Shale, as above, 100%; sandstone, as above, trace.

940'-945' Shale, as above, 100%.

945'-955' Shale, dark grey, angular, blocky, 100%, micromicaceous, scattered sandstone, siltstone, and glauconite, trace pyrite.

945' + 10 mins.

True T.D. 947' pipe tally count
Depth after running casing and drilling out just cement 955 feet

Started air drilling

960'-980' No returns.

980'-990' Shale, dark grey, angular, blocky, micromicaceous, noncalcareous, trace pyrite, trace silt in shale.

990'-1,000' Shale, dark grey and blocky, micromicaceous, 90%; 10% siltstone in shale, trace glauconite.

1,000'-1,010' Shale, dark grey, micromicaceous, angular, blocky, trace pyrite; sample quality good.

1,010'-1,020' Shale.

1,020'-1,030' Shale, as above, scattered very fine sandstone in shale, and glauconite in shale.

1,030'-1,040' Shale, dark grey, angular, blocky, micromicaceous, scattered sandstone in shale.

1,040'-1,060' Shale, as above, trace pyrite.

1,060'-1,090' Shale, as above, trace grey, very fine grained, glauconitic sandstone, tight.

1,090-1,100' Sandstone, fine grained, 85%, grey to grey green with scattered brown color stain (not oil stain). Glauconite, 10%, scattered micaceous, appears argillaceous and tight.

1,100'-1,110' Shale, as above, 90%; sandstone, as above, 10%.

1,110'-1,120' Sandstone, grey, slightly green, 95%, very fine grained, abundant loose grains, glauconite 5%, generally tight but some good clean intergranular porosity.

1,120'-1,130' Sandstone, as above, abundant loose grains, 65%; sandstone, brown, fine grained, glauconitic, quartzitic, 35%, tight, color is similar to aurora but only color texture here slightly more quartzitic.

1,130'-1,140' Sandstone, grey to grey green, as above, abundant loose grains, 50%, brown sandstone, as above, less quartzitic in places and shows porosity - looks like Raven F-73, scatter sandstone, 50%.

1,140'-1,150' Loose sand grains, very fine to fine grained quartz, subrounded to subangular, 95%; 5% glauconite.

1,150'-1,160' Sandstone, loose grains, as above, 90%; brown quartzitic sandstone, as above, tight, 10%.

1,160'-1,170' Loose sandstone grains, as above, 100%.

(1,120'-1,160' Nearly all loose sandstone grains and must be washed carefully or the sandstone all washed away)

1,170'-1,180' Sandstone, grey green, very fine grained, very glauconitic, 75%, generally tight, with scattered good clean porosity. Sandstone, brown, very fine grained, quartzitic, glauconitic, tight, 25%. Looks like scatter.

1,180'-1,190' Sandstone, grey, very fine grained, showing scattered, good clean porosity, 30%; sandstone, brown, tight, quartzitic, as above, 10%; shale, dark grey, angular, blocky, micromicaceous, 60%.

1,190'-1,200' Shale, as above, 100%.

1,200'-1,210' Shale, dark grey, nearly black, micromicaceous, 100%; trace pyrite.

1,210'-1,230' N.S. converting to mist drilling.

1,230'-1,240' Siderite, brown, possibly silty, 25%; trace glauconite and sand grains; shale, dark grey, micromicaceous, trace glauconite, 50%; Sandstone, very fine grained, micaceous to micromicaceous, glauconitic, quartzitic, angular, porous, clean to silty, argillaceous, tight, 25%; trace pyrite.

1,240'-1,250'	Sandstone, 75%, very fine, grey to grey brown, the sandstone looks common subangular to angular quartz, scattered micaceous, 10%, glauconitic. The brown color looks like a stain but not live oil - it may be dead oil stain. Scattered poor porosity; shale, dark grey, angular, blocky, micromicaceous, glauconitic, and a fair amount of scattered sandstone grains, 25%; trace ironstone.
1,250'-1,260'	Sandstone, as above, 70%, tight; shale, as above, 30%; scattered ironstone, trace pyrite.
1,260'-1,270'	Sandstone, as above, 50%; shale, as above, 30%; ironstone, 20%, trace pyrite.
1,270'-1,280'	Sandstone, as above, 40%; shale, as above, 40%; ironstone, 20%, contains glauconite.
1,280'-1,290'	Sandstone, as above, 40%; shale, as above, 50%; ironstone, 10%, trace pyrite and coal.
1,290'-1,300'	Sandstone, as above, 30%; shale, as above, 60%; ironstone, 10%.
1,300'-1,310'	Sandstone, as above, 20%; shale, as above, 80%; scattered ironstone.
1,310'-1,320'	Sandstone, grey to medium dark grey brown, glauconitic, micromicaceous, very argillaceous, tight, 40%; shale, dark grey, micromicaceous, scattered sandstone and glauconite, 60%; trace pyrite.
1,320'-1,330'	N.S.
1,330'-1,340'	Sandstone, as above, 20%; shale, as above, 80%.
1,340'-1,350'	N.S.
1,350'-1,360'	Shale, as above, 90%; sandstone, 10%, all loose grains.
1,360'-1,370'	Poor sample due to very small quantity.
1,370'-1,380'	Shale, 60%, dark grey, micromicaceous, scattered sandstone and siltstone, trace glauconite, trace siderite; sandstone, very fine grained to siltstone, grey to brown, glauconitic, micaceous, tight, 40%.
1,380'-1,390'	Shale, as above, 90%; sandstone to medium dark grey, as above, tight, 10%. Numerous orange white frosted varicolored light quartz and chert pebbles 1/2 to 1½ mm. Looks like surface hole but cased off.
1,390'-1,400'	Shale, as above, 50%; 50% loose sandstone grains, very fine, brown to grey, as above.
1,400'-1,410'	Sample as above, poor, all very fine.
1,410'-1,420'	Shale, dark grey, micromicaceous, angular, blocky to glauconitic, 70%; siltstone, brown, tight, 30%, scattered siderite, trace pyrite and glauconite.

1,420'-1,430' Loose sandstone grains, very fine, subangular to angular, 80%; very fine grain size pieces of shale, 20%.

1,430'-1,440' Sample, as above, poor, all very fine grained particles.

1,440'-1,450' Shale, dark grey, micromicaceous, angular, blocky, 50%; brown siltstone, as above, 50%; scattered siderite.

1,450'-1,460' N.S. no water running.

1,460'-1,470' Shale, as above, 85%; loose sandstone grains and silt, as above, 15%

1,470'-1,480' Shale, as above, 80%; brown siltstone, as above, 20%, glauconite in siltstone.

1,480'-1,490' Shale, as above, 40%; loose sandstone grains and siltstone, as above, 60%.

1,490'-1,500' N.S.

1,500'-1,510' Shale, dark grey, as above, 50%; trace black lenticular shale; loose sandstone grains and brown siltstone, as above, 50%.

1,510'-1,520' Samples to 4 mm. quite well rounded, give impression of accumulated material finally cleared from the hole.
Shale, dark grey, micromicaceous, sandy, silty, 50%; sandstone, brown, glauconitic, very fine grained, silty, [illegible]%; brown siderite, 10%, glauconitic in part.

1,520'-1,530' Whole sample as above; sandstone, as above, argillaceous, tight, 60%; shale, as above, 30%; siderite, as above, 10%.

1,530'-1,540' Sample similar as above, but more angular; sandstone, very fine grained, medium dark grey brown, argillaceous, tight, micromicaceous, silty, 70%; shale, as above, 30%.

1,540'-1,550' Sample as in 1,510' interval; sandstone, very fine grained to siltstone, argillaceous, tight, medium dark brown, glauconitic, micromicaceous, 40%; shale, micromicaceous, dark grey, 60%; trace siderite.

1,550'-1,560' Siltstone, medium dark brown, to very fine grained sandstone, argillaceous, tight, glauconitic, 70%; shale, dark grey, angular, blocky, 30%.

1,560'-1,570' Medium dark brown siltstone, argillaceous, 50%; shale, dark grey, as above, sandy to silty in places, 50%; trace siderite; trace black, bentonitic shale.

1,570'-1,580' Sample similar to above; shale, dark grey, micromicaceous, 35%; 5% siderite, siltstone, as above, glauconitic, medium dark brown, 60%.

1,580'-1,590' Siltstone, as above, 35%; shale, as above, 65%.

1,590'-1,600' All particles 1/2 mm. or smaller, i.e. very small; shale, as above, dark grey, not micromicaceous; 80%; siltstone, as above, 20%.

1,600'-1,620' N.S.

The above samples 1,480 feet to 1,620 feet are unreliable.

1,620'-1,630' Shale, dark grey, micromicaceous, 80%; brown siltstone, as above, 20%; trace siderite.

1,630'-1,650' N.S.

1,650'-1,660' Shale, dark grey, as above, 80%; medium dark brown siltstone, very argillaceous, glauconitic, 20%; trace siderite.

1,660'-1,680' No sample.

1,680'-1,690' Sample as above.

1,690'-1,700' No sample.

1,700'-1,710' Chert, white to smoky grey, massive, 10%; limestone, brown, possibly slightly dolomitic, 90%; minor black shale in form of small discs; trace brown, very fine to silty, glauconitic sandstone.

1,710'-1,720' Chert, as above, 10%, some brown speckled, apple green, soft, waxy shale, trace; limestone, brown to grey brown, looks like very fine, subrounded, arenaceous particles of lutite in calcareous cement, scattered, argillaceous, darker patches, one limestone pebble observed, 90%.

1,720'-1,730' Limestone, brown to grey brown, medium to coarse subrounded, arenite, 75% in clear, 25% calcite cement, scattered black bituminous material, patches all tight; trace chert and green shale, as above.

1,730'-1,740' Limestone, grey, argillaceous lutite, 30%; limestone, brown, as above, 65%, crinoids observed, scattered black patches medium to coarse, subrounded chert, as above, 5%; trace pyrite; possibly 10% brown oil stain?, sandstone - silt, as above.

1,740'-1,750' Limestone, grey brown, with dark grey patches of argillaceous material in form of fine to medium subrounded arenite particles, slightly argillaceous, 100%; trace massive chert, one piece white showing spicules, some grey brown translucent, brown sandstone, as above.

1,750'-1,760' Limestone, grey brown, as above, 60%; limestone, grey, sandy, silty, lutite, 20%; sandstone, very fine grained to siltstone, brown due to oil stain, tight, probably sandstone over chert, 20%, highly glauconitic, scattered pyrite, scattered chert, as above.

1,760'-1,770' Limestone, brown grey, as above, with lutite, arenite, 50%; limestone, grey, silty, argillaceous, lutite, 30%; shale, black, hard, noncalcareous, 10%; sandstone, as above, 10%; trace chert, as above.

1,770'-1,780' Limestone, brown grey, as above, 50%; limestone, grey, silty, argillaceous, as above, 50%; trace chert and sandstone, as above.

1,780'-1,790' Limestone, grey brown, fine to medium arenite, light color and bituminous particles, as above, in calcite cement, 80%, looks mottled; 10% black chert pebbles and brown; limestone, grey, silty, argillaceous, as above, 10% plus trace massive chert, as above.

1,790'-1,800' Limestone, grey brown, as above, 90%; limestone, grey, argillaceous, as above, 10%; trace ostracods, crinoid ossicles, massive chert.

1,800'-1,810' Limestone, grey brown, as above, 90%; limestone, grey, argillaceous, as above, 10%; trace crinoid ossicles, ostracods, black chert pebbles, massive chert.

1,810'-1,820' Limestone, grey brown, as above, 100%; trace pyrite, ostracods, trace limestone, grey, argillaceous, as above.

1,820'-1,830' Limestone, brown grey, fine to medium subrounded, arenite, as above, some arenite particles, fossil fragments, some black bituminous particles of fine to medium size in clear calcite cement. Has mottled brown to grey appearance, 100%; trace pyrite, massive chert.

1,830'-1,840' Limestone, lighter color, brown grey, as above, 100%.

1,840'-1,850' Limestone, lighter brown grey, as above, 25%; limestone, light grey to brown, lutite, 60%; chert, massive, brown, with white spots, fine to coarse size, 15%; trace pyrite and crinoid ossicles.

1,850'-1,860' Limestone, lighter brown, grey mottled, as above, 60%; limestone, light grey to brown, lutite, as above, 30%; chert, massive, some massive white chert, massive brown with white spots, 10%; trace ostracods, one crinoid ossicle 2½ mm. diameter.

1,860'-1,870' Limestone, light brown to grey, 95%; chips now in 1/2 mm. size range, therefore difficult to determine texture; chert, massive, as above, 5%.

1,870'-1,880' Limestone, grey to brown, fine to medium arenite, as above, 60%; limestone, light brown to grey, probably lutite, as above, 35%; chert, brown, massive, as above, 5%; trace crinoid ossicles, pyrite.

1,880'-1,890' Limestone, grey, argillaceous, silty, lutite, 70%; limestone, grey to brown, arenite, as above, 25%; chert, massive brown, as above, 5%, trace ostracods, crinoid ossicles, pyrite.

1,890'-1,900' Limestone, grey to brown, lutite and arenite, as above, 75%; chert, massive, brown, with white specks, 15%; dolomite, brown, very fine crystalline, 10%.

1,900'-1,910' Limestone, brown grey, fine to medium subrounded, arenite, composed of lutite, lutite black patches and probably fossil fragments, 75%; dolomite, brown, very fine crystalline, as above, 10%; chert, massive, brown, 15%.

1,910'-1,920' Limestone, as above, brown grey, 60%; limestone, grey, silty, argillaceous, lutite, 20%; dolomite, as above, 10%; chert, as above, 10%.

1,920'-1,930' Limestone, brown grey, mottled, as above, 20%; limestone, grey, silty, as above, 60%; dolomite, brown, very fine crystalline, as above, 10%; chert, as above, 10%.

1,930'-1,940' Limestone, brown grey, arenite, mottled, as above, 60%; limestone, grey, argillaceous, sandy, 20%; chert, brown, as above, 15%; dolomite, brown, very fine crystalline, as above, 5%.

1,940'-1,950' Limestone, brown grey, arenite, mottled, 65%; limestone, grey, argillaceous, sandy, 20%; chert, brown, as above, 15%; trace dolomite, as above.

1,950'-1,960' Limestone, brown grey, mottled, arenite, as above, 60%; chert, as above, 15%; dolomite, brown, very fine crystalline, 10%; silty limestone, as above, 15%.

1,960'-1,970' Limestone, grey brown, mottled, arenite, 60%; dolomite, brown, very fine crystalline, 15%; limestone, grey, silty, argillaceous, 25%.

1,970'-1,980' Limestone, grey brown, slightly argillaceous, lutite, quite sandy in places, pyritic in places, 90%; chert, as above, 10%.

1,980'-1,990' Limestone, as above, 80%; dolomite, very fine crystalline, brown, 10%; chert, as above, 10%; trace crinoid ossicles.

1,990'-2,000' Limestone, grey brown, fine to medium arenite, bituminous arenite patches, fossil fragments and other, 50%; limestone, grey, argillaceous, silty, 30%; dolomite, as above, 10%; chert, as above, 10%.

2,000'-2,010' Limestone, grey brown, as above, 30%; limestone, grey, silty, argillaceous, 60%; 5% chert and 5% dolomite, as above.

2,010'-2,020' Limestone, grey brown, as above, 30%; limestone, grey, silty, argillaceous, 60%; chert, as above, 10% shows replaced fossil fragments in white in the brown chert.

2,020'-2,030' Limestone, grey brown, as above, 40%; limestone, grey silty, argillaceous, 50%; chert, 10%, as above.

2,030'-2,040' Limestone, grey brown, as above, 50%; limestone, grey, silty, as above, 50%; scattered pyrite, trace ostracods, fossil shells.

2,040'-2,050' Limestone, grey brown, arenite, as above, 40%, with 10% crinoid ossicles; limestone, grey, silty, argillaceous, 40%; chert, brown with white specks, as above, 10%.

2,050'-2,060' Limestone, grey brown, arenite, as above, 15%; limestone, grey, silty, argillaceous, 75%; chert, massive, brown, as above, 10%.

2,060'-2,070' Limestone, grey brown, arenite, as above, 40%; limestone, grey, silty, argillaceous, 45%; chert, as above, 15%.

2,070'-2,080' Limestone, grey brown, arenite, 60%; limestone, grey, silty, argillaceous, 20%; chert, as above, 20%.

2,080'-2,090' Limestone, brown grey, fine to medium subrounded, arenaceous, with fossil fragments, black bituminous patches and lutite size patches, 80%; quite argillaceous in places; limestone, grey, argillaceous, silty, 10%; chert, massive, brown, as above, 10%.

2,090'-2,100' Limestone, brown grey, as above, 50%; scattered pyrite and very argillaceous patches, limestone, grey, argillaceous, as above, 40%; chert, brown with abundant white patches, 10%.

2,100'-2,110' Limestone, brown grey, as above, 90%; chert, as above, 10%.

2,110'-2,120' Limestone, brown grey, as above, 90%, scattered crinoid ossicles, bituminous patches, pyrite, ostracods; chert, as above, 10%.

2,120'-2,130' Limestone, brown grey, as above, 40%; 10% shell fragments, brachiopods; limestone, grey, argillaceous, silty, 40%; chert, as above, 10%.

2,130'-2,140' Limestone, medium light brown, very fine to fine fragmental, arenite, with fossil fragments, algal tubes, others unrecognizable, 80%; crinoid ossicles 10%; chert, as above, 10%; trace brown, very fine crystalline dolomite.

2,140'-2,150' Limestone, as above, 50%; limestone, grey, silty, argillaceous, 40%; chert, as above, 10%.

2,150'-2,160' Limestone, medium light brown, as above, 50%; limestone, grey, sandy, argillaceous, silty, 40%; chert, as above, 10%; scattered pyrite, trace ostacods, trace very fine crystalline, brown dolomite.

2,160'-2,170' Limestone, medium light brown, as above, 80%; chert, as above, 10%; scattered pyrite.

2,170'-2,180' No sample.

2,180'-2,190' Limestone, medium light brown, as above, 70%; limestone, medium grey, argillaceous, silty, 20%; some very dark grey crinoid ossicles and ostracods, 10%; trace chert, as above.

2,190'-2,200' Limestone, 66%, medium dark brown grey, fine to medium arenite in calcite cement, with irregular bituminous patches, 33%; trace pyrite and chert.

2,200'-2,210' Limestone, brown grey, fine to medium arenite comprising crinoids, ostracods, other fossil fragments, lutite particles, 90%; chert, 10%, brown, massive, with white spots like fossil replacement.

2,210'-2,220' Limestone, brown, grey, arenite, as above, 70%; shale, dark grey, angular, blocky, very slightly calcareous, 30%; scattered pyrite, crinoid ossicles, chert.

2,220'-2,230' Limestone, as above, 80%; shale, as above, 20%; trace pyrite and chert.

2,230'-2,240' Limestone, as above, 70%; shale, as above, 30%; trace pyrite and chert.

2,240'-2,250' Limestone, brown grey, fine to medium, arenite, as above, 90%; scattered ostracods, numerous crinoid ossicles; shale, very dark grey, angular, blocky, noncalcareous, 10%; trace chert, grey, argillaceous limestone; scattered pyrite.

2,250'-2,260' Limestone, as above, 70%; limestone, grey, argillaceous, silty, 20%; shale, medium dark grey, calcite has ostracods in it, 10%; crinoid ossicles, trace chert, trace pyrite.

2,260'-2,270' Limestone, as above, 60%; limestone, grey, argillaceous, as above, 30%; pyrite, massive to cubic, 10%.

2,270'-2,280' Limestone, as above, scattered, very pyritic patches, 60%; shale, grey, quite pyritic, slightly calcareous, contains fossil fragments, probably interbedded with limestone, 30%; pyrite, cubic, massive, 10%; trace crinoid ossicles, ostracods.

2,280'-2,290' Limestone, brown to grey, as above, 80%; shale, grey, as above, 20%; trace massive, brown chert with minor white specks.

2,290'-2,300' Limestone, as above, 80%; shale, as above, 10%; chert, as above, 10%; scattered pyrite.

2,300'-2,310' Limestone, brown to dark brown, silty in places, slightly to very argillaceous, 80%; trace crinoid and brown chert; shale, grey, calcareous, angular, blocky, 20%.

2,310'-2,320' Shale, grey, slightly calcareous, bentonitic, 20%, fissile; shale, very dark grey, fissile, noncalcareous, 50%; limestone, as above, 30%; scattered pyrite.

2,320'-2,330' Limestone, as above, 70%; shale, grey, slightly calcareous, as above, interbedded with limestone, 10%; shale, very dark grey, as above, 20%; trace chert, crinoid ossicles, ostracods, pyrite.

2,330'-2,340' Limestone, grey brown, fine to medium arenite, 30%; limestone, grey to dark grey brown, silty to very argillaceous, 30%; shale, grey, fossiliferous, slightly pyritic, bentonitic, 20%; shale, dark grey, fissile, micromicaceous, slightly pyritic, noncalcareous, 20%; trace chert.

2,340'-2,350' Limestone, grey brown, as above, 40%; numerous ostracods, crinoid ossicles; limestone, grey to dark grey brown, as above, 30%; shale, grey, bentonitic, as above, 20%; shale, dark grey, as above, 10%.

2,350'-2,360' Limestone, brown too small to determine texture, 80%; chert, brown, massive, with white spots, 10%; shale, grey, as above, 10%.

2,360'-2,370' Limestone, as above, 30%; dolomite brown, argillaceous, with calcite, 50%; chert, as above, 10%; shale, grey and black, pyritic, as above, 10%.

2,370'-2,380' Limestone, as above, 80%; limestone, medium dark brown, argillaceous, silty in part, 50%; chert, as above, 10%; trace shale, as above.

2,380'-2,390' Limestone, brown, as above, 40%; limestone, medium dark brown, argillaceous, 50%; chert, as above, 10%.

2,390'-2,400' Limestone, brown, as above, 70%; limestone, medium dark brown, as above, 20%; chert, grey to brown, massive, with white spots, 10%.

2,400'-2,410' Limestone, brown, as above, 80%; limestone, medium dark grey, as above, 10%; chert, as above, 10%.

2,410'-2,420' Limestone, brown, as above, 90%; chert, grey, massive, with white specks, 10%.

2,420'-2,430' Limestone, medium light brown grey, 40%; limestone, medium dark brown grey, very argillaceous in places, 50%; chert, grey, massive, 10%.

2,430'-2,440' Limestone, light brown grey too fine to determine texture, 60%; limestone, medium dark brown grey, 30%; chert, as above, to brown, massive, with white spots, 10%;

2,440'-2,450' Limestone, light brown, as above, 60%; limestone, medium dark brown, 30%, silty and sandy in places; chert, as above, 10%.

2,450'-2,470' No sample.

2,470'-2,480' Limestone, light brown, 20%; limestone, medium dark brown, grey, argillaceous, silty, sandy, 80%; trace chert, crinoid, ossicles, pyrite.

2,480'-2,490' Limestone, medium dark brown grey, very argillaceous, dolomitic, lutite, with scattered fine arenite, algal tubes, 80%; limestone, light brown grey, 20%; trace chert, pyrite, crinoid.

2,490'-2,500' Limestone, medium dark grey brown, very argillaceous, dolomitic, lutite, as above, 90%; limestone, light brown, 10%; trace chert, as above, ostracods.

2,500'-2,510' Limestone, medium dark grey brown, as above, 90%; limestone, light brown, as above, 10%; trace pyrite and chert, as above.

2,510'-2,520' Limestone, medium dark grey brown, as above, 100%; trace limestone, light brown, as above, trace chert.

2,520'-2,530' Limestone, medium dark to dark grey, argillaceous, silty lutite, 100%.

2,530'-2,540'	Limestone, as above, 90%; trace chert; limestone, brown, 10%.
2,540'-2,550'	Limestone, medium to dark brown grey, argillaceous to very argillaceous, silty and sandy, 100%.
2,550'-2,560'	Limestone, as above, 80%; shale, grey, pyritic, fossiliferous, slightly calcareous, bentonitic, 20%.
2,560'-2,570'	Limestone, as above, 80%; shale, as above, 20%.
2,570'-2,580'	Limestone, as above, scattered medium fossil fragments, 100%.
2,580'-2,600'	Limestone, as above, 100%.
2,600'-2,610'	No sample.
2,610'-2,620'	Limestone, as above, pyritic in places, 100%; scattered pyrite and crinoid ossicles.
2,620'-2,630'	Limestone, as above, 100%.
2,630'-2,640'	Limestone, grey brown to dark grey brown, very argillaceous, dolomitic, fine to medium, arenite to argillaceous lutite, 80%; shale, grey, fossiliferous, slightly pyritic, medium soft, calcareous, 20%.
2,640'-2,650'	Limestone, as above, 80%; shale, as above, 20%.
2,650'-2,660'	Limestone, brown, fine to medium arenite, 40%; pyritic; limestone, dark grey brown, argillaceous, silty, 40%; shale, grey, as above, 20%; trace dark grey calcareous shale.
2,660'-2,670'	Limestone, brown, as above, 40%; limestone, dark grey brown, as above, 40%; shale, as above, 20%.
2,670'-2,680'	Limestone, brown, as above, 20%; limestone, argillaceous, dark grey, as above, 50%; shale, grey, fossiliferous, calcareous, bentonitic, 30%. Shale, dark grey, micromicaceous, fissile, noncalcareous, cavings?
2,680'-2,690'	Limestone, as above, brown, 30%; shale, grey, pyritic, calcareous, fossiliferous, bentonitic, 40%; limestone, dark grey, argillaceous, 30%.
2,690'-2,700'	Limestone, brown, as above, fine to medium arenite, 30%; limestone, dark grey, argillaceous, 20%; shale, grey, as above, 50%.
2,700'-2,710'	Limestone, grey brown, fine to medium, arenite, argillaceous in places, 33%; limestone, dark grey, argillaceous, dolomitic in part, 33%; shale, grey, as above, 33%.
2,710'-2,720'	Limestone, grey brown, 30%, as above; limestone, dark grey brown, argillaceous, as above; 40%; shale, grey, as above, 20%.

2,720'-2,730' Limestone, grey brown, as above, 30%; limestone, dark grey, argillaceous, 20%; shale, grey, as above, 50%.

2,730'-2,740' Limestone, grey brown, as above, 30%; limestone, dark grey, argillaceous, 20%; shale, grey, as above, 50%.

2,740'-2,750' Limestone, grey brown, as above, 30%; limestone, dark grey, argillaceous, 30%; shale, grey, as above, 40%.

2,750'-2,760' Limestone, grey brown, as above, 30%; limestone, dark grey, argillaceous, 20%; shale, grey, as above, 50%.

2,760'-2,770' Limestone, brown, as above, 10%; limestone, grey, argillaceous, as above, 10%; shale, grey, pyritic, fossil fragments, calcareous, nonbentonitic, 80%.

2,770'-2,780' Shale, grey, fissile, calcareous, micromicaceous, trace brown calcite specks, possibly fossil fragments, trace pyrite, 100%

2,780'-2,790' Shale, grey, fissile, calcareous, fossil fragments, some bentonite, 90%; slightly pyritic in places; shale, dark grey, micromicaceous, noncalcareous.

2,790'-2,800' Shale, grey, fissile, as above, 90%, trace bentonite; shale, dark grey, as above, 10%.

2,800'-2,810' Shale, grey, fissile, as above, very calcareous, 90%; shale, dark grey, as above, 10%, scattered fossil fragments and pyrite cubes.

2,810'-2,820' Shale, grey, fissile, very calcareous, trace pyrite, micromicaceous, 90%; shale, dark grey, noncalcareous, trace fossil fragments? flaky appearance, 10%.

2,820'-2,830' Shale, grey, as above, 100%; trace shale, dark grey, as above.

2,830'-2,840' Shale, grey, as above, 100%.

2,840'-2,860' Shale, grey, as above, traces pyrite, trace fossil fragments, 100%; some pieces quite pyritic to disseminated pyrite.

2,860'-2,870' Shale, grey, as above, 100%, scattered disseminated pyrite.

2,870'-2,910' Shale, grey, as above, 100%; scattered diseeminated pyrite, trace crinoids.

2,910'-2,920' Shale, as above, 100%; very slight trace shale debris, grey, fissile, noncalcareous.

2,920'-2,950' Shale, as above, 100%, scattered fosail fragments and pyrite.

2,950'-2,960' Shale, as above, 100%, fair amount pyrite.

2,960'-2,970' Shale, as above, 100%, minor shale, dark grey, fissile.

2,970'-2,980' Shale, grey, as above, 90%; shale, dark grey, fissile, calcareous, 10%.

2,980'-2,990' As above, 100%.

2,990'-3,000' Shale, grey as above, 80%; limestone, medium subrounded, arenite (looks medium pelletoidal), looks like shells, light brown with brown outer case in calcite cement, possibly limestone pebbles or fossil fragments, 20%.

3,000'-3,010' Shale, grey, calcareous, slightly pyritic, with scattered fossil fragments, 70%; limestone, brown, subrounded to round, arenite, as above, 20%; limestone, brown, very fine arenite in slightly argillaceous calcite cement, 10%.

3,010'-3,020' Shale, grey, as above, 70%; limestone, brown, medium arenaceous, as above, 20%; limestone, brown, very fine arenite, as above, 10%.

3,020'-3,030' Limestone, brown grey with dark grey, argillaceous patches. This lime is a medium to coarse, subrounded (as above), fossiliferous arenite in a calcite cement which is argillaceous, some of the fragments have a bituminous outline. Trace gastropods, pyrite, 80%; shale, as above, 20%.

3,030'-3,040' Limestone, brown grey, as above, 80%; shale, as above, 20%.

3,040'-3,050' Limestone, as above, 90%, some angular fragments; shale, as above, 10%.

3,050'-3,060' Limestone, as above, more bituminous outline on subround particles, more irregular angular fragments, 90%; shale, as above, 10%.

3,060'-3,070' Limestone, as above, scattered coarse crinoid ossicles, 100%; shale, as above, trace.

3,070'-3,080' Limestone, as above, light brown grey, angular, fragmental to subrounded, arenite in calcite cement, scattered argillaceous and bituminous patches, scattered pyrite, 90%; shale, grey, pyritic, very calcareous, fissile, as above, 10%.

3,080'-3,090' Limestone, as above, 80%; shale, as above, 20%.

3,090'-3,100' Limestone, as above, 70%; shale, as above, 30%.

3,100'-3,110' Limestone, as above, 80%; shale, as above, 20%, scattered pyrite.

3,110'-3,120' Limestone, as above, to grey brown, slightly angular lutite, 50%; shale, grey, fissile to flakey, calcareous, 50%.

3,120'-3,130' Limestone, as above, 30%; shale, grey, as above, 50%; shale, dark grey, fissile to flakey, noncalcareous, 20%; micromicaceous.

3,130'-3,140' Limestone, as above, 20%; shale, grey, as above, 60%; shale, dark grey, as above, to slightly calcareous, 20%.

3,140'-3,150' Limestone, as above, 10%; shale, grey, as above, 70%; shale, dark grey, as above, noncalcareous, 20%.

3,150'-3,160' Limestone, as above, 10%; shale, grey, as above, 70%; shale, dark grey, as above, 20%.

3,160'-3,170' Limestone, as above, 25%, crinoids; shale, grey, as above, 65%, shale, dark grey, as above, 10%.

3,170'-3,180' Limestone, as above, 30%; shale, as above, 60% and 10%.

3,180'-3,200' No sample.

3,200'-3,210' Shale, medium dark grey, fissile, noncalcareous, 80%; limestone, as above, 20%.

3,210'-3,230' No sample.

3,230'-3,240' Abundant cavings. Shale, grey, calcareous, as above, fissile, 80%; limestone, as above, arenite, 20%; shale, dark grey, non-calcareous, trace.

3,240'-3,250' Limestone, as above, fine to medium fragmental, arenaceous, argillaceous in places, brown to dark grey brown, 30%; cavings, shale, grey, calcareous, 40%; shale, dark grey, fissile (near black), 30%; scattered pyrite.

3,250'-3,260' Limestone, as above, 50%; probably cavings; shale, grey, calcareous, as above, 30%; shale, dark grey, as above, 20%.

3,260'-3,270' Limestone, as above, to fine, argillaceous arenite, 50%; shale, grey, calcareous, as above, 40%; shale, dark grey, fissile, noncalcareous, 10%.

3,270'-3,280' Limestone, light grey brown, fine to medium arenite, 50%; siltstone, light grey, very argillaceous, calcareous, 10%; shale, medium dark grey, slightly calcareous in places, trace pyrite, 40%.

3,280'-3,290' Limestone, as above, 50%; sandstone, light grey, quartzitic, calcareous, very fine grained, tight, 20%; numerous rounded, frosted quartz pebbles, varicolored, loose, 10%; shale, as above, 20%; scattered pyrite; trace pale green, calcareous shale.

3,290'-3,300' Limestone, as above, 40%; sandstone, as above, 20%; shale, grey to medium dark grey, fissile, calcareous to noncalcareous, 25%, quartz pebbles, as above, 15%.

3,300'-3,310' Limestone, as above, 40%; scattered pyrite; shale, grey to medium grey, as above, calcareous in part, 60%.

3,310'-3,320'	Limestone as above, 60%; shale, as above, 40%; scattered pyrite.
3,320'-3,330'	All cavings - chips large and rounded; shale, grey, calcareous, 70%; limestone, as above, 30%.
3,330'-3,340'	This sample appears to be random cutting - no good.
3,340'-3,360'	Shale, grey green, calcareous; limestone, light grey brown, fine to medium fragmental, arenaceous, some fossil fragments.
3,360'-3,370'	As above, also a few chert (black) fragments.
3,370'-3,380'	Shale, light grey green, slightly calcareous, also very minor amount of siltstone, medium brown.
3,380'-3,390'	Poor sample.
3,390'-3,400'	Shale, medium grey green, calcareous, fissile.
3,400'-3,410'	Shale, as above, numerous cavings.
3,410'-3,420'	Poor sample.
3,420'-3,440'	Shale, medium grey green, very slightly calcareous, trace pyrite, also a few chips of limestone, medium brown, microcrystalline, very argillaceous, a few crinoids.
3,440'-3,460'	Shale, light grey green, slightly calcareous, micromicaceous, platy, trace limestone, as above, scattered crinoids.
3,460'-3,470'	No sample.
3,470'-3,480'	Shale, medium grey, slightly calcareous, micromicaceous; siltstone, medium grey, calcareous.
3,480'-3,500'	Shale, as above; siltstone, as above, trace sand.
3,500'-3,510'	Shale, light grey green, calcareous, micromicaceous, trace pyrite; limestone, dolomitic, light grey brown, fine crystalline, silty, argillaceous.
3,510'-3,520'	Shale, as above; limestone, as above, 5% crinoid and ostracod fragments.
3,520'-3,530'	Shale, as above, crinoid and ostracod fragments.
3,530'-3,550'	Shale, as above, with fossil fragments that seem to be dolomitic limestone.
3,550'-3,560'	Shale, medium grey, calcareous, micromicaceous, slightly silty; siltstone, medium grey, calcareous.
3,560'-3,580'	Shale, as above, with fossil fragments.

3,580'-3,610'	Shale, medium grey green, calcareous, silty.
3,610'-3,620'	Shale, medium grey, calcareous, plus 5% limestone, dolomitic, light brown, cryptocrystalline (fossil fragments).
3,620'-3,650'	Shale, as above; siltstone, medium grey brown, calcareous.
3,650'-3,670'	Shale, light to medium grey, slightly calcareous, trace pyrite; siltstone, light to medium grey, calcareous, (fossil fragments)
3,670'-3,690'	Shale, medium grey brown, slightly calcareous, micromicaceous, scattered ostracod fragments.
3,690'-3,710'	Shale, medium grey green, very slightly calcareous, micromicaceous, crinoid and ostracod fragments.
3,710'-3,730'	Shale, as above, with very minor amount of siltstone, medium brown, calcareous.
3,730'-3,750'	Shale, as above; 5% siltstone, as above.
3,750'-3,760'	Shale, medium grey green, calcareous, micromicaceous, blocky, might be getting some cavings.
3,760'-3,780'	Shale, as above, and fossil fragments.
3,780'-3,790'	Shale, as above, becoming very slightly silty.
3,790'-3,810'	Shale, as above, plus fossil fragments (crinoid and ostracod).
3,810'-3,880'	Shale, medium grey green, slightly calcareous, micromicaceous, platy, and fossil fragments.
3,880'-3,910'	Shale, medium grey brown, micromicaceous, very slightly calcareous.
3,910'-3,920'	Shale, medium grey, micromicaceous, calcareous, trace pyrite.
3,920'-3,960'	Shale, as above, fossil fragments.
3,960'-3,970'	Shale, medium grey, calcareous, micromicaceous, becoming silty.
3,970'-4,010'	Shale, as above, fossil fragments.
4,010'-4,020'	Shale, as above, fossil fragments, cuttings becoming very small.
4,020'-4,030'	Shale, as above, fossil fragments; shale, medium grey brown, micromicaceous - very slightly calcareous.
4,030'-4,110'	Shale, medium grey brown, micromicaceous, very slightly calcareous.
4,110'-4,190'	Shale, light to medium grey, micromicaceous, slightly calcareous.

4,190'-4,200'	Shale, as above, trace pyrite.
4,200'-4,320'	Shale, as above.
4,320'-4,350'	Shale, as above, plus fossil fragments.
4,350'-4,410'	Shale, as above, disseminated pyrite.
4,410'-4,420'	Shale, light to medium grey, slightly calcareous, micromicaceous, slightly silty.
4,420'-4,450'	Shale, light to medium grey, slightly calcareous, micromicaceous.
4,450'-4,480'	Shale, as above, fossil fragments.
4,480'-4,490'	Shale, as above, pyrite (scattered large pieces)
4,490'-4,500'	Shale, as above, pyrite, also minor siltstone.
4,500'-4,530'	Shale, as above, pyrite.
4,530'-4,550'	Shale, light to medium grey, slightly calcareous, micromicaceous.
4,550'-4,560'	Shale, as above, fossil fragments.
4,560'-4,600'	Shale, as above, pyrite.
4,600'-4,610'	Shale, as above, minor amount shale, medium to dark grey, pyritic.
4,610'-4,630'	Shale, light to medium grey, slightly calcareous, micromicaceous, with disseminated pyrite; shale, dium to dark grey brown, brown streak.
4,630'-4,650'	Shale, medium grey, pyritic, micromicaceous.
4,650'-4,660'	Shale, light to medium grey, micromicaceous, trace pyritic, very slightly calcareous.
4,660'-4,720'	Shale, medium grey, pyritic.
4,720'-4,730'	Shale, medium grey, slightly silty, disseminated pyrite.
4,730'-4,740'	Shale, as above; siltstone, light to medium brown, calcareous, 10%
4,740'-4,750'	Shale, as above.
4,750'-4,760'	Shale, as above; siltstone, minor amount, as above.
4,760'-4,800'	Shale, as above.
4,800'-4,810'	Shale, as above; siltstone, medium to dark grey.

4,810-4,840'	Shale, as above.
4,840-4,860'	Shale, as above; shale, medium to dark grey, brown streak, disseminated pyrite.
4,860'-4,870'	Shale, dark grey brown, very slightly calcareous, brown streak, hard, some pyrite.
4,870'-4,880'	Shale, as above; siltstone, medium to dark grey, calcareous.
4,880'-4,890'	Siltstone, light grey, calcareous.
4,890'-4,910'	Siltstone, light grey brown, calcareous, a few fossil fragments; shale, light grey, micromicaceous, slightly silty, calcareous.
4,910'-4,960'	Siltstone, light grey, very calcareous, probably stringers; shale, medium grey brown, pyritic, slightly silty, very slightly calcareous.
4,960'-5,980'	Shale, medium grey, pyritic, slightly silty.
4,980'-5,000'	Shale, as above; siltstone, light grey, very calcareous.
5,000'-5,010'	Shale, as above; shale, medium brown, calcareous, pyritic; siltstone, as above.
5,010'-5,020'	Shale, medium to light grey green, calcareous, silty, micromicaceous, some pyrite; siltstone, light grey, calcareous.
5,020'-5,030'	Shale, as above.
5,030'-5,090'	Shale, as above; siltstone, as above.
5,090'-5,110'	Shale, as above.
5,110'-5,190'	Shale, light grey to medium grey, slightly calcareous, slightly silty, micromicaceous; siltstone, light to medium grey, calcareous, slightly argillaceous (stringers).
5,190'-5,210'	Shale, as above; siltstone, as above, stringers, a few chips of chalky, argillaceous limestone?
5,210'-5,220'	As above, with trace pyrite.
5,220'-5,230'	Siltstone, light to medium grey, calcareous, argillaceous; shale, medium to dark grey, very slightly calcareous, pyritic, slightly silty.
5,230'-5,240'	Siltstone, light grey, very calcareous, slightly argillaceous (almost a silty limestone), a few fossil fragments. Sample cuttings becoming very small.
5,240'-5,290'	Shale, light grey, very calcareous, very slightly sandy, almost an argillaceous limestone.

5,290'-5,300'	Siltstone, light grey, calcareous.
5,300'-5,310'	Siltstone, light grey green, calcareous.
5,310'-5,320'	Siltstone, light to medium grey green, calcareous (becoming less calcareous).
5,320'-5,330'	Siltstone, light grey green, very slightly calcareous; shale, light grey green, calcareous, slightly silty.
5,330'-5,360'	As above, shale and siltstone.
5,360'-5,380'	Siltstone, light grey, calcareous, slightly argillaceous.
5,380'-5,390'	Siltstone, as above, fossil fragments.
5,390'-5,420'	Siltstone, light grey, calcareous, slightly argillaceous; shale, light grey, calcareous, silty, micromicaceous.
5,420'-5,430'	As above, plus a few calcite fragments.
5,430'-5,470'	Siltstone and shale, as above.
5,470'-5,480'	Shale, light grey, calcareous, silty, micromicaceous.
5,480'-5,580'	Siltstone, light grey, calcareous; shale, light grey, calcareous, slightly silty, micromicaceous.
5,580'-5,590'	As above, some pyrite.
5,590'-5,610'	Siltstone and shale, as above.
5,610'-5,630'	As above, plus a few pieces of white, dolomitic calcite.
5,630'-5,820'	Shale, light grey brown, calcareous, micromicaceous, slightly silty, some pyrite.
5,820'-5,840'	Shale, as above; shale, medium grey brown, slightly pyritic, very calcareous.
5,840'-5,870'	Shale, light to medium brown, slightly calcareous, micromicaceous, pyrite.
5,870'-5,880'	Shale, as above, fossil fragments.
5,880'-5,900'	Shale, as above; shale, dark grey, pyritic, silty (few pieces).
5,900'-5,910'	Shale, light grey brown, calcareous, micromicaceous.
5,910'-5,920'	Shale, as above, one piece limestone, light brown, microcrystalline, very argillaceous, trace silt.
5,920'-5,930'	Shale, as above, some silt.

5,930'-5,940'	Shale, as above, one piece limestone, as above.
5,940'-5,950'	Shale, medium grey brown, calcareous, micromicaceous.
5,950'-5,960'	Shale, as above, becoming more calcareous, a few pieces of limestone, as above.
5,960'-5,970'	Shale, as above, limestone, as above, one brachiopod? fragment.
5,970'-5,610'	Shale, as above, very minor limestone, as above (very small pieces).
5,610'-6,020'	Shale, medium grey green, calcareous, slightly silty, pyritic, micromicaceous; siltstone, medium grey brown, calcareous, a few small chips limestone, medium grey brown, microcrystalline, silty.
6,020'-6,050'	Shale, as above; siltstone, as above; limestone, as above, a few chips.
6,050'-6,070'	Shale, as above; siltstone, as above; limestone, a few chips, very silty.
6,070'-6,090'	Shale, as above; siltstone, as above; limestone, as above, a few chips.
6,090'-6,100'	Shale, as above; shale, dark grey to black, calcareous, slightly silty, pyritic?; limestone, as above, a few chips.
6,100'-6,120'	As above, a few pieces of calcite.
6,120'-6,140'	Shale, as above, predominantly the dark grey to black.
6,140'-6,160'	Shale, as above, a few chips limestone, as above.
6,160'-6,170'	Shale, as above, mostly the dark grey to black; limestone, as above, few chips.
6,170'-6,180'	Shale, medium brown black, calcareous, pyritic; shale, light brown, very calcareous, argillaceous, slightly silty; shale, light grey green, slightly calcareous, silty, pyritic.
6,180'-6,230'	Shale, as above; siltstone, light grey, calcareous, well indurated.
6,230'-6,280'	Siltstone, light grey, very calcareous, slightly argillaceous; shale, dark grey to black, calcareous, pyritic, some calcite?
6,280'-6,300'	Siltstone, as above; shale, as above; limestone, minor amount, medium brown, cryptocrystalline, argillaceous, slightly silty.
6,300'-6,310'	Siltstone, as above, almost a silty limestone; shale, as above.

6,310'-6,410'	Siltstone, as above; shale, as above; trace limestone, light grey, microcrystalline to cryptocrystalline, silty, argillaceous.
6,410'-6,480'	Siltstone, light to medium grey, very calcareous, hard, slightly argillaceous; shale, medium to dark grey, pyritic, slightly calcareous.
6,480'-6,510'	Siltstone, as above; shale, as above; limestone, light grey brown, cryptocrystalline, very silty - small percentage of sample.
6,510'-6,520'	Limestone, light grey brown to buff, cryptocrystalline, very slightly silty, some pyrite crystals in sample.
6,520'-6,610'	Limestone, buff, cryptocrystalline, very slightly silty.
6,610'-6,640'	Siltstone, light grey green, calcareous, occasional piece glauconite? (interbedded); shale, light grey, calcareous, micromicaceous.
6,640'-6,660'	Siltstone, as above; limestone, as above, a few fossil fragments, shale, as above.
6,660'-6,740'	Limestone, as above; siltstone, as above, interbedded; shale, as above.
6,740'-6,750'	Limestone, light brown to buff, cryptocrystalline, very slighly argillaceous, very slightly silty, interbedded; siltstone, light to medium grey green, slightly calcareous, interbedded; shale, light to medium grey green, slightly calcareous, micromicaceous, slightly silty.
6,750'-6,760'	Shale, as above, very slightly calcareous, 90%; limestone, as above.
6,760'-6,840'	Shale, as above; limestone, as above, trace pyrite.
6,840'-6,850'	Shale, as above; limestone, light brown, cryptocrystalline, argillaceous; siltstone, light to medium grey green, very slightly calcareous.
6,850'-6,890'	Shale, as above, 95%; limestone, as above.
6,890'-6,910'	Shale, as above; limestone, as above, trace pyrite in sample.
6,910'-6,940'	Shale, light to medium grey, slightly calcareous, micromicaceous, slightly silty (mostly shale); siltstone, light grey brown, very calcareous; limestone, light grey brown, cryptocrystalline, slightly silty - small percentage of sample.
7,040'-7,080'	Shale, light to medium grey, very slightly calcareous, micromicaceous, slightly silty, trace pyrite; siltstone, light grey brown, very calcareous.

7,080'-7,110'	Shale, as above; siltstone, as above; limestone, light to medium brown, silty.
7,110'-7,140'	Siltstone, as above; limestone, as above; shale, medium grey green, micromicaceous (noncalcareous).
7,140'-7,150'	Shale, medium grey, very slightly calcareous, micromicaceous.
7,150'-7,210'	Shale, as above; siltstone, as above; limestone, as above, becoming very argillaceous.
7,210'-7,220'	Shale, as above; trace siltstone, as above; trace shale, medium grey green, very calcareous, slightly silty.
7,220'-7,230'	Shale, medium grey, very slightly calcareous, micromicaceous.
7,230'-7,260'	Shale, as above, trace siltstone, as above.
7,260'-7,290'	Shale, as above.
7,290'-7,390'	Shale, as above; shale, medium to dark grey, slightly pyritic (noncalcareous).
7,390'-7,540'	Shale, dark grey, slightly pyritic, noncalcareous, 10%; shale, medium grey, micromicaceous, noncalcareous.
7,540'-7,560'	Shale, as above, 50%; shale, as above, 50%; trace siltstone, medium grey.
7,560'-7,680'	Shale, dark grey, micromicaceous, trace pyrite, 80%; shale, medium grey, micromicaceous, 20%.
7,680'-7,780'	Shale, dark grey, micromicaceous, trace pyrite.
7,780'-7,840'	Shale, medium dark grey, micromicaceous, trace pyrite, also shale, medium grey, micromicaceous.
7,840'-7,880'	Shale, as above.
7,880'-7,890'	Shale, as above; trace siltstone, medium grey brown, calcareous.
7,890'-7,910'	Shale, as above.
7,910'-7,920'	Shale, as above; siltstone, a few chips - medium brown, slightly calcareous.
7,920'-7,980'	Shale, as above, becoming more pyritic.
7,980'-8,060'	Shale, medium to dark grey brown, pyritic; shale, medium grey, very slightly calcareous, slightly silty, micromicaceous?
8,060'-8,080'	Shale, medium grey, micromicaceous, slightly pyritic; trace siltstone, medium grey brown.

8,080'-8,100' Shale, as above.

8,100'-8,110' Shale, as above; trace siltstone, medium grey, very slightly calcareous.

8,110'-8,220' Shale, medium to dark grey, pyritic, minor amount shale, medium grey, micromicaceous, slightly pyritic, slightly silty.

8,220'-8,300' Shale, as above; trace siltstone, as above.

8,300'-8,330' Shale, dark grey to black, slightly calcareous, slightly silty.

Started drilling with mud at 8,320 feet.

8,330'-8,340' Shale, dark grey, pyritic, micromicaceous, mostly cavings.

8,340'-8,350' Shale, as above? Heavy cavings.

8,350'-8,390' No sample (cavings)

8,390'-8,400' Shale, medium grey, micromicaceous - still heavy cavings; also a few pieces of sandstone, brick red, very fine grained, sub-rounded quartz grains (is probably cavings).

8,400'-8,410' Shale, as above, numerous heavy cavings, also a piece of sandstone, as above.

8,410'-8,420' Shale, as above, cavings.

8,420'-8,430' Shale, as above, a few crinoids, cavings.

8,430'-8,440' Shale, as above; shale, medium to dark grey, pyritic, cavings.

8,440'-8,450' Shale, dark grey, pyritic, cavings.

8,450'-8,470' Shale, dark grey to black, pyritic, cavings.

8,470'-8,480' Shale, black, very slightly calcareous, pyritic, 80% (not counting cavings; also limestone, buff, cryptocrystalline, chalky, and limestone, buff, fine crystalline (20%); limestone buff, fine crystalline.

8,480'-8,500' Shale, as above, 80% of sample - not counting the cavings; also a piece chert, medium brown; a single quartz grain, coarse, rounded, slightly pitted; remaining 20% of sample - limestone, as above; also a chip limestone, medium brown, microcrystalline, argillaceous, dolomitic.

8,500'-8,510' Still quite a number of cavings. Limestone, dark grey brown, cryptocrystalline, very clean; limestone, dolomitic, dark brown, microcrystalline, slightly silty, bituminous matrix; limestone, dolomitic, buff, cryptocrystalline to chalky, very clean.

8,510'-8,520' Heavy cavings. Limestone, dolomitic, medium to dark brown, microcrystalline, slightly argillaceous, trace pyrite, trace quartzitic silt, thinly laminated.

8,520'-8,540' Limestone, as above, plus lots of caving - all lithologies from above.

8,540'-8,550' Limestone, dolomitic, very light grey brown, crypto- to microcrystalline, very clean, semi vitreous luster, 70%, not including cavings; limestone, dolomitic, medium to dark brown, as above, 30%, plus cavings.

8,550'-8,560' Limestone, as above, about 30% each, also limestone, dolomitic, light grey brown, fine crystalline, very clean; cavings.

8,560'-8,590' Limestone, as above, all three types, about 1/3 each.

8,590'-8,620' Limestone, dolomitic, medium to dark brown, mottled, fine crystalline, black bituminous partings and small black bituminous blebs, and bitumen intercrystalline infilling, some coarse dolomite rhombs, some fossil fragments, trace pyrite in residue. This limestone appears tight and is very clean aside from the bitumen, however the bitumen appears to have infilled pre-existing intercrystalline porosity; also limestone, dark brown, dolomitic, cryptocrystalline, trace pyrite, very slightly argillaceous, bituminous.

8,620'-8,630' Limestone, as above, with some fine to medium crystalline.

8,630'-8,660' Limestone, as above, with occasional fossil fragments.

8,660'-8,690' Limestone, as above, with a few fossil fragments, looks like brachiopods.

8,690'-8,697' Limestone, as above, dark brown increasing to 50%.

CUT CORE NO. 1 8,697'-8,747'

8,710'-8,730' Limestone, dark grey to black, dense, dolomitized (rhombs silt size) up to 10% dolomite, probably mottled dolomitization, fossils (Stromatopora - Amphipora), black bituminous matter - finely disseminated pyrite, calcite-filled hairline fractures.

8,730'-8,740' As above, with brownish grey limestone, very fine calcilutite, parts siliceous with conchoidal fracture, minute pyrite crystals.

8,740'-8,760' Limestone (calcilutite), dark grey to black, dense, parts slightly dolomitized, with secondary calcite in fractures, finely disseminated pyrite.

8,760'-8,770' Calcilutite, as above, and calcarenite, light brownish grey, medium grained, very slightly dolomitized, dolomite less than 10%, pyrite, trace argillaceous, fossils - Stromatoporas, calcilutite: calcarenite = 50:50.

8,770'-8,780' Calcilutite (dense, brownish grey limestone), pelletoidal, pyrite - stylolites, slightly argillaceous, no dolomite.

8,780'-8,790' Calcarenite limestone, light brownish grey, medium grained, and calcilutite, as above, 50%; fossils rare.

8,790'-8,800' As above, with limestone, light grey to medium light grey, dense, (calcilutite, pelletoidal), platy, hard, conchoidal fracture in parts.

8,800'-8,810' Calcilutite 80%; calcarenite 20%;, nonargillaceous, slightly pyritic, no fossils. Chalk is common in the samples below 8,760 feet, much, however is caused by the drill.

8,810'-8,820' As above, but increasing light grey chalk content.

8,820'-8,830' Calcarenite, medium to coarse grained, light brownish grey, much chalk; shale, light green, waxy, strongly pyritic.

8,830'-8,840' Calcarenite, light grey, abundant chalk, no green shale.

8,840'-8,850' As above, some slight dolomitization (rhombs), less than 10%. Excessive shale cavings.

8,850'-8,860' Strong cavings, same as above, plus dolomite, white, coarse crystalline, black material between crystals could be fine pyrite, very little green, waxy shale, pyritic.

8,860'-8,870' Chalk, light brown grey, pyritic, calcarenite, slightly dolomitic, some white dolomite, coarse crystalline, some green, waxy, pyritic shale.

8,870'-8,880' As above, plus dolomite, white, coarse crystalline, ± vuggy porosity, some intercrystalline porosity.

8,880'-8,890' Dolomite, white, coarse crystalline, pyrite, black, bituminous infilling between crystals, some large euhedral dolomite - vuggy porosity.

8,900'-8,910' (circulating) As above, good to excellent vuggy and good intercrystalline porosity.

8,910' (circulating) Dolomite, white, coarse crystalline, black bituminous matter between crystals, good vuggy porosity, large rhombs, large secondary quartz.

D.S.T. #1 8,840'-8,910'

Reaming samples:

8,910'-8,930' Dolomite, white, coarse crystalline, hard, black, bituminous matter in intercrystalline spaces, traces vuggy porosity.

8,930'-8,940' As above, plus pyrite, good vuggy porosity, sec. quartz crystals.

8,940'-8,950' Limestone, medium dark grey, coarse calcarenite, partly coarsely recrystallized, abundant light fossil debris, very slightly dolomitized, stylolites.

8,950'-8,960' Limestone, medium grey to dark grey, calcarenite and siltite, some recrystallized, abundant light fossil debris, argillaceous parts with fine disseminated pyrite, dolomitization irregular but slight.

8,960' Limestone, as above, argillaceous, pyritic, and dolomite, white, coarse crystalline, tight and very hard, intercrystalline spaces filled with black, brittle pyrobitumen.

CORE NO. 2 8,747'-8,748'
CORE NO. 3 8,910'-8,960'
CORE NO. 4 8,960'-9,010'

9,020'-9,030' Limestone, medium dark grey, siltite, slightly dolomitized, fine fossil debris.

9,030'-9,040' As above, dolomitization about 20%; fine disseminated pyrite, abundant fossil debris.

9,040'-9,050' Limestone, brownish grey, some calcarenite, some chalk, calcarenite 60%, remainder siltite - lutite, dolomitization varies strongly - indication of mottled dolomitization, stylolites, trace argillaceous.

9,050'-9,060' Dolomite, white, coarse crystalline, pyritic, a few vugs, black bituminous matter fills intercrystalline spaces, rare secondary glass quartz, a few pieces dolomite, medium grey, coarse crystalline (probably patchy pattern); limestone, as before, cavings or mottled dolomitization indicated, some green, waxy, strongly pyritic shale (cavings?)

9,060'-9,070' As above; green waxy, strongly pyritic shale, cavings?

9,070'-9,080' Dolomite, white, coarse crystalline, strongly pyritic, black bituminous infilling, abundant secondary quartz (glassy quartz) crystals, some cuttings are coarse crystalline secondary quartz (glassy) with dolomite crystals (silicification similar to Imp. Netla F7),; traces porosity - vugs, no permeability.

9,080'-9,110' Dolomite, medium grey, medium crystalline, some coarse crystalline, white crystals, intercrystalline spaces filled with black pyrobitumen, some coarse crystalline dolomite in the secondary quartz growth, as before at 9,070'

9,110'-9,120' Dolomite, as above, and limestone, medium dark grey, siltite size and limestone, light brownish grey, chalky.

9,120'-9,130' Dolomite, medium grey, medium to coarse crystalline, 70%, white, very coarse crystalline, 20%; limestone, medium dark grey, siltite - lutite, 10%.

9,130'-9,140' Dolomite, white, coarse crystalline, black, bituminous infilling, a few vugs, secondary quartz, 40%; dolomite, medium grey, medium to coarse crystalline, black bituminous infilling, rare black bituminous shale partings, 40%; limestone, medium dark grey, siltite - lutite, slightly dolomitized.

9,140'-9,150' Dolomite, white, coarse crystalline, black bituminous infilling, 50%; dolomite, medium grey, medium to coarse crystalline, black bituminous infilling, 50%; pyrite, rare black bituminous shale partings.

9,150'-9,160' Same, but large amounts of secondary glass quartz.

9,150' 60 minutes circulation
Dolomite, white, coarse crystalline, black bituminous infilling; dolomite, medium to medium dark grey, medium to coarse crystalline, black (pyro-) bitumen in intercrystalline spaces, secondary quartz; trace porosity - vugs, rare black bituminous shale partings, pyritic.

9,150' 90 minutes circulation
As above.

9,150' 100 minutes circulation
No change.

D.S.T. NO. 2 8,840-9,150 feet

9,160'-9,170' Dolomite, white, coarse crystalline, black bituminous matter in intercrystalline spaces, secondary quartz growth (glass); dolomite, medium to medium dark grey, medium crystalline.

9,170'-9,180' Same two types of dolomite, plus limestone, dark grey to dark brownish grey, siltite - lutite size, fractures filled with white calcite, some limestone is slightly dolomitized to mottled dolomitization.

9,180'-9,190' Limestone, as above.

9,190'-9,210' Limestone, as above, and dolomite, medium dark grey, medium crystalline (very little white, coarse crystalline dolomite - probably cavings).

9,210'-9,220' Limestone, medium dark grey, dense (siltite - lutite size), some dark grey, medium crystalline dolomite, pyrite, rare black bituminous shale partings (brown streak), secondary fracture calcite, some light brownish grey chalk.

9,220'-9,230' As above, incipient dolomitization in the chalk.

9,230'-9,240'	Dolomite, white, coarse to very coarse crystalline, black bituminous infilling, black bituminous shale partings (probably stylolites), trace vug porosity, some secondary quartz growth (glass quartz).
9,240'-9,250'	Dolomite, as above, and limestone, medium dark grey, siltite - lutite size, slightly dolomitized and some dolomite, medium dark grey, medium crystalline.
9,250'-9,270'	Dolomite, white, coarse crystalline, rare black bituminous shale partings, pyritic, black bituminous infilling, secondary quartz, trace vug porosity.
9,270'-9,290'	Dolomite, white, coarse crystalline, as above, and dolomite, medium dark grey, medium crystalline, secondary dolomite in fractures, rare bituminous shale partings, secondary quartz, trace vugs.
9,290'-9,300'	Dolomite, white, coarse crystalline, and dolomite, medium grey, medium crystalline, as before.
9,300'-9,310'	Same, plus secondary quartz.
9,310'-9,320'	Dolomite, white, 50%; dolomite, medium grey, medium crystalline, 50%, secondary quartz, pyrite.
9,320'-9,340'	Dolomite, white, very coarse crystalline, black bituminous infilling, 50%; trace vugs; dolomite, medium grey, fine to medium crystalline, pyritic, secondary quartz.
9,340'-9,370'	As above, abundant secondary quartz (anhedral masses); secondary quartz coated with black bituminous matter.
9,370'-9,400'	Dolomite, white, coarse crystalline, black bituminous infilling; dolomite, medium grey, medium crystalline, pyritic, secondary quartz.
9,400'-9,410'	Same, plus limestone, medium dark grey, siltite - lutite with long needles of secondary quartz, some secondary quartz masses with poor intercrystalline porosity elongated along C axis of the quartz.
9,410'-9,420'	Same, plus chalk, white, light brownish grey, and secondary quartz masses, trace dead oil stain, good porosity.
9,420'-9,430'	Dolomite, as above, little light brownish grey chalk, secondary quartz, fair to good porosity (9,403'-9,405' depth), intercrystalline porosity in secondary quartz masses.
9,430'-9,440'	Dolomite, as above, secondary quartz masses, slightly porous, pyrite.
9,440'-9,450'	Dolomite, white, very coarse crystalline, some medium grey, medium crystalline, secondary quartz, black bituminous infilling, pyrite.

9,450'-9,460' Dolomite, white,very coarse crystalline, pyritic, some medium grey, medium crystalline, secondary quartz, black bituminous infilling.

9,460'-9,470' Same, some trace pinpoint porosity with trace dead oil stain.

9,470'-9,490' Dolomite, white, very coarse crystalline, very little medium grey, rare secondary quartz, some black bituminous infilling, one brachiopod shell fragment.

9,490'-9,500' Poor sample. Dolomite, as above, and dolomite, light brownish grey, coarse crystalline, very little black bituminous matter, rare secondary quartz.

9,500'-9,510' 40% dolomite, white, coarse to very coarse crystalline, pyritic, black bituminous infilling; 40% dolomite, light brownish grey, coarse crystalline, one piece of hard, green, pyritic shale; 20% dolomite, medium dark grey, medium crystalline, secondary quartz common.

9,510'-9,520' As above, trace vug porosity.

9,520'-9,540' As above, small isolated vugs and trace pinpoint porosity.

9,540'-9,550' Dolomite, white, very coarse crystalline, no black bituminous intercrystalline matter, 80%; dolomite light brownish grey, 10%; no quartz; dolomite, medium dark grey, medium crystalline, 10%.

9,550'-9,560' Same, pyrite, trace vug porosity, some secondary quartz.

9,560'-9,570' Dolomite, medium dark grey, fine to medium crystalline, 40%; dolomite, brownish grey, medium crystalline, poor intercrystalline porosity, rare, 40%; dolomite, as above, 20%.

9,570'-9,580' Dolomite, medium grey to brownish grey, fine to medium crystalline, trace of intercrystalline porosity, trace dead oil stain, secondary quartz rare.

9,580'-9,590' Dolomite, brownish to medium grey, very fine to fine crystalline, some medium crystalline, slightly pyritic.

9,590'-9,630' As above, trace intercrystalline porosity.

9,630'-9,640' As above; dolomite, brownish grey to medium grey, fine to medium crystalline and cryptocrystalline, trace intercrystalline porosity, slightly pyritic, trace silt (in dense, cryptocrystalline, brownish grey dolomite), very rare secondary quartz, fractures white secondary dolomite, trace fracture porosity; one piece of light green, pyritic shale.

9,640'-9,650' Same, one piece of green, waxy, shale, pyritic,

9,650'-9,660' As above, one piece green, waxy shale.

9,660'-9,680' Dolomite, brownish grey to medium grey, medium crystalline,95%; fine crystalline 5%, rare pyrite, hairline fractures healed by secondary white dolomite, trace vug porosity.

9,680'-9,690' As above, plus cryptocrystalline, brownish grey dolomite, pyritic in places.

9,690'-9,700' Dolomite, medium grey to brownish grey and greenish grey, cryptocrystalline, fine crystalline, rare medium crystalline.

9,700'-9,710' As above, secondary dolomite in fractures.

9,710'-9,720' Dolomite, light brownish to brownish grey, cryptocrystalline.

9,720'-9,740' Dolomite, medium to medium dark grey, fine crystalline, secondary white fractured dolomite.

9,740'-9,750' As above, plus some dolomite, light brownish grey, cryptocrystalline, anhydritic (very slightly).

9,746' 60 mins. circ.) same as 9,740 feet and dolomite, light brownish
90 mins. circ.) grey, cryptocrystalline, silty, floating silt
120 mins. circ.) grains.

9,750'-9,760' Dolomite, brownish grey, cryptocrystalline, floating sand grains, silty, green, waxy shale, pyritic.

9,760'-9,770' Dolomite, brownish grey, greenish grey, cryptocrystalline, probably slightly anhydritic.

9,770'-9,780' As above, some brownish grey dolomite, cryptocrystalline, slightly silty.

9,780'-9,790' Dolomite, medium grey to brownish grey, cryptocrystalline, anhydritic.

9,790'-9,800' Dolomite, medium grey to greenish grey, argillaceous, anhydritic, marlstone, greenish grey, anhydritic, pyritic.

9,800' - Dolomite, medium grey, greenish grey, cryptocrystalline, anhydritic, very hard, pyrite blebs, hairline and larger fractures filled with white secondary dolomite, insoluble residue investigations leave very little white-grey material - probably anhydrite.

9,800' 60 mins. circulation - no change in lithology.

9,800' 90 mins. circulation - dolomite, brownish grey, cryptocrystalline, some fine crystalline.

9,800' 120 mins. circulation - bottom hole sample Dolomite, brownish grey - greenish grey, cryptocrystalline to very fine crystalline, very hard, no visible anhydrite.

WELL VELOCITY SURVEY — GULF RESEARCH & DEVELOPMENT COMPANY – PITTSBURGH · PA.

WELL NAME	LOCATION	WELL ELEV	TOTAL DEPTH	CASING RECORD	SURVEYED BY – SRS	DATUM – 1150'
B.A. Texaco Arrowhead B-76	69° 21' 02" N 123° 02" W North[illegible] Territories, Canada	K.B. – 1251' R.T. – D.F. – G.R. –	9805'	954' 11,001'	SURVEYED FOR – BA SURVEY DATE – March 7, 1968 COMPUTED BY – ESD-GAS ASM	V_E – 6000'/Sec.

R-N	S-P	E_{SP}	T_{UH}	O_s	Δ_E	H_c	H_s	X	TAN θ	COS θ	T_o	Q	T_y	H_D	T	T_{VD}	T_{VD}	V	ΔH_D	ΔT_{VD}	V_I	WELL CALLS DATUM
2	9	1218	.006	42	-33	960	885	705	.7466	.7821	.121	0	.132	859	-.034	.098	.098	8770	859	.098	8770	L. Simpson 319'
3	8	1218	.005	35	-33	1607	1530	725	.4711	.9246	.187	F	.169	1506	-.006	.163	.163	9240	647	.065	9959	Buckinghorse 3[illegible]'
4	13	1217	.008	50	-34	2506	2416	740	.3063	.9561	.238	0	.228	2399	-.003	.225	.225	10,660	893	.062	11,600	Scobbar Sh. 927'
5	14	1218	.006	50	-33	3258	3175	755	.2378	.9729	.299	0	.291	3157	-.003	.288	.288	10,860	758	.063	12,030	Mississippian
6	6	1219	.005	35	-32	4000	3933	755	.1920	.9821	.372	0	.365	3899	-.004	.359	.359	10,860	862	.082	10,510	(Flett) 1906'
7	12	1218	.006	40	-33	4865	4794	720	.1502	.9889	.451	F	.446	4776	-.005	.441	.441	10,810	783	.063	12,430	Banff 3157'
8	11	1218	.008	60	-33	5650	5557	700	.1260	.9922	.509	0	.505	5519	-.003	.504	.504	11,010	833	.067	12,430	Pashaw 4716'
9	10	1218	.007	50	-33	6382	6300	690	.1078	.9942	.577	F	.574	6281	-.003	.571	.571	11,180	778	.059	13,020	Kotcho 4761'
10	4	1219	.005	40	-32	7250	7178	740	.1031	.9947	.636	F	.635	7149	-.005	.630	.630	11,350	750	.061	12,300	Tetcho 6004'
11	2	1219	.006	60	-32	8000	7908	730	.0869	.9970	.696	0	.693	7880	-.002	.691	.691	11,430	800	.075	10,550	Trout River 6116'
12	3	1219	.009	70	-32	8800	8708	725	.0834	.9965	.719	F	.716	8694	.000	.716	.716	11,660	600	.030	20,000	Kakisa 6381'
13	5	1219	.011	80	-32	9400	9288	765	.0824	.9964	.777	0	.774	9299	+.002	.776	.776	11,980	609	.019	21,050	Redknife-
14	15	1218	.011	85	-33	9800	9682	780	.0806	.9968	.794	0	.791	9699	+.003	.794	.795	12,200				Fort Simpson 6[illegible]7'
																						Muskwa 8[illegible]7'
																						Slave Point 8378'
																						W-11 Pt. 8[illegible]9'
																						First Shale 8[illegible]'
																						Presqu'ile 8727'
																						Second Shale 8[illegible]9'

$19,102,?

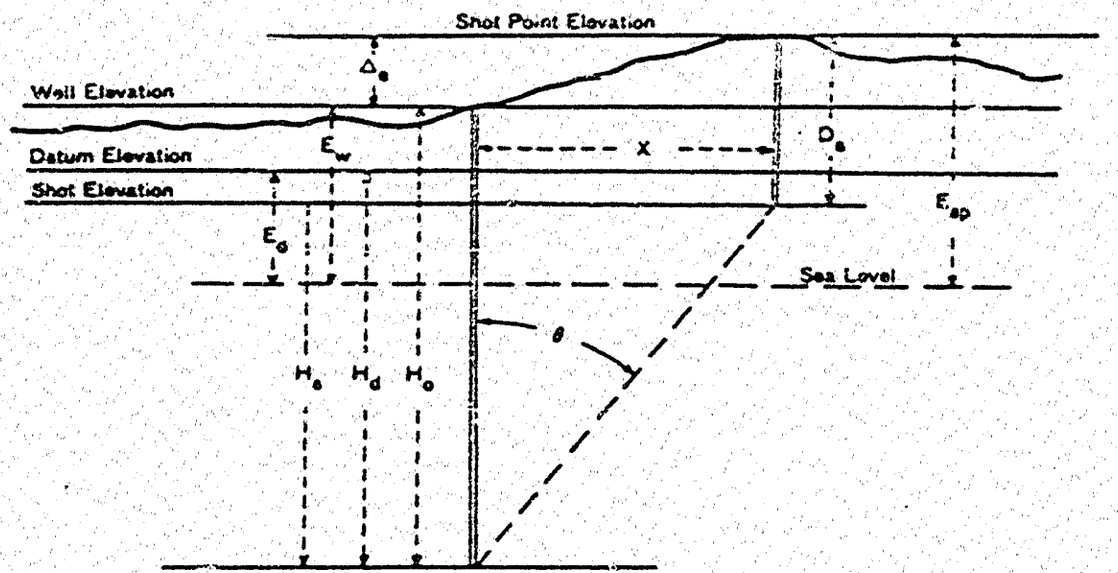
Copy 1 of 19.

POOR COPY

WELL VELOCITY SURVEY

GULF RESEARCH & DEVELOPMENT COMPANY **PITTSBURGH, PA.**

LEGEND SHEET



R-N = Record Number

S-P = Shot Point

E_{sp} = Elevation of shot point

T_{uh} = Uphole time

H_e = Detector depth below well elevation

D_e = Depth of explosive charge

Δ_e = Elevation correction = $E_{sp} - E_w$, where E_w = well elevation

H_o = Detector depth below shot = $H_e - (D_e - \Delta_e)$

X = Horizontal distance well to shot point

$\text{Tan}\theta = \frac{X}{H_o}$

T_o = Observed slant time below shot

Q = Quality of record

T_v = Vertical time below shot = $T_o \cdot \text{Cos}\ \theta$

H_d = Detector depth below datum = $H_o - (E_w - E_d)$, where E_d = datum elevation

τ = Correction to datum = $\frac{H_d - H_o}{V_e}$, where V_e = elevation velocity

T_{vd} = Corrected vertical time below datum $T_v + \tau$

$\overline{T}_{vd}$ = Average corrected vertical time below datum

$\overline{V}$ = Average vertical velocity = $\frac{H_d}{T_{vd}}$

ΔH = Interval depth

ΔT_{vd} = Interval time

V_i = Interval velocity = $\frac{\Delta H_d}{\Delta T_{vd}}$

C.G.L. 51

Chemical & Geological Laboratories Ltd.

Operator The British American Oil Company Limited Interval Cored 8910' To 8963'

Well No. B.A. Tex. Arrowhead B-76 Coring Fluid ---

Lab. No. E23081 Elevation --- Formation ---

Comments There appeared to be very little, if any, oil staining on the core received in the laboratory.

Vertical and horizontal fractures were prevalent throughout the fourteen feet analyzed.

Sample numbers 3 and 4 had pronounced vertical fractures.

The interpretation herein is based on information obtained from analysis of cores and/or material supplied by customer. Chemical & Geological Laboratories Ltd. assumes no responsibility nor makes any guarantee as to the type of production this well may yield. The opinion herein represents the best judgment of Chemical & Geological Laboratories Ltd.

CGL 59

CHEMICAL & GEOLOGICAL LABORATORIES LTD.

10568 - 114 St. EDMONTON, ALBERTA PHONES: 25624 42562

FULL DIAMETER CORE STUDY

OPERATOR The British American Oil Company Limited Area Arrowhead, N.W.T. WELL NO. B.A. Tex. Arrowhead B-76

LOCATION 60° 25° 02" N.L. 122° 59° 02" W.L. FORMATION --- DEPTHS 8910' - 8960' DATE Received: February 26, 1964 LAB NO. E23001

Footage of --- formation cored	50.0'	No. of representative samples selected for analysis	10.
FEET OF CORE:			
Received at laboratory for analysis	14.2'	Compared (to tested samples)	---
Not accounted for	35.8'	Dense sections not represented	2.9'
Represented by samples	11.3'	Badly fractured sections not represented	---

SUMMARY OF REPRESENTED SECTIONS: (1) represented / received = 11.3 / 14.2 (2) represented / cored = 11.3 / 50.0

Weighted average porosity	5.7 %	Maximum porosity	10.4 %
Weighted average K_H permeability	59. md.	Minimum porosity	3.0 %
Weighted average K' permeability	46. md.	Maximum K_H permeability	227. md.
Weighted average vertical permeability	6.8 md.	Minimum K_H permeability	0.94 md.
Weighter average maximum permeability	59. md.	Maximum vertical permeability	15. md.
Porosity Foot	64.14	Minimum vertical permeability	0.18 md.

CORE WITH MAXIMUM PERMEABILITY:	10.0 md. or greater	between 1.0 and 9.9 md. inclusive	less than 1.0 md.
Footage	9.6'	0.9'	0.8'
Weighted average porosity	5.9 %	5.5 %	3.2 %
Weighted average K_H permeability	69. md.	7.0 md.	0.94 md.
Weighted average vertical permeability	7.2 md.	7.7 md.	0.18 md.
Porosity feet	56.63	4.95	2.56

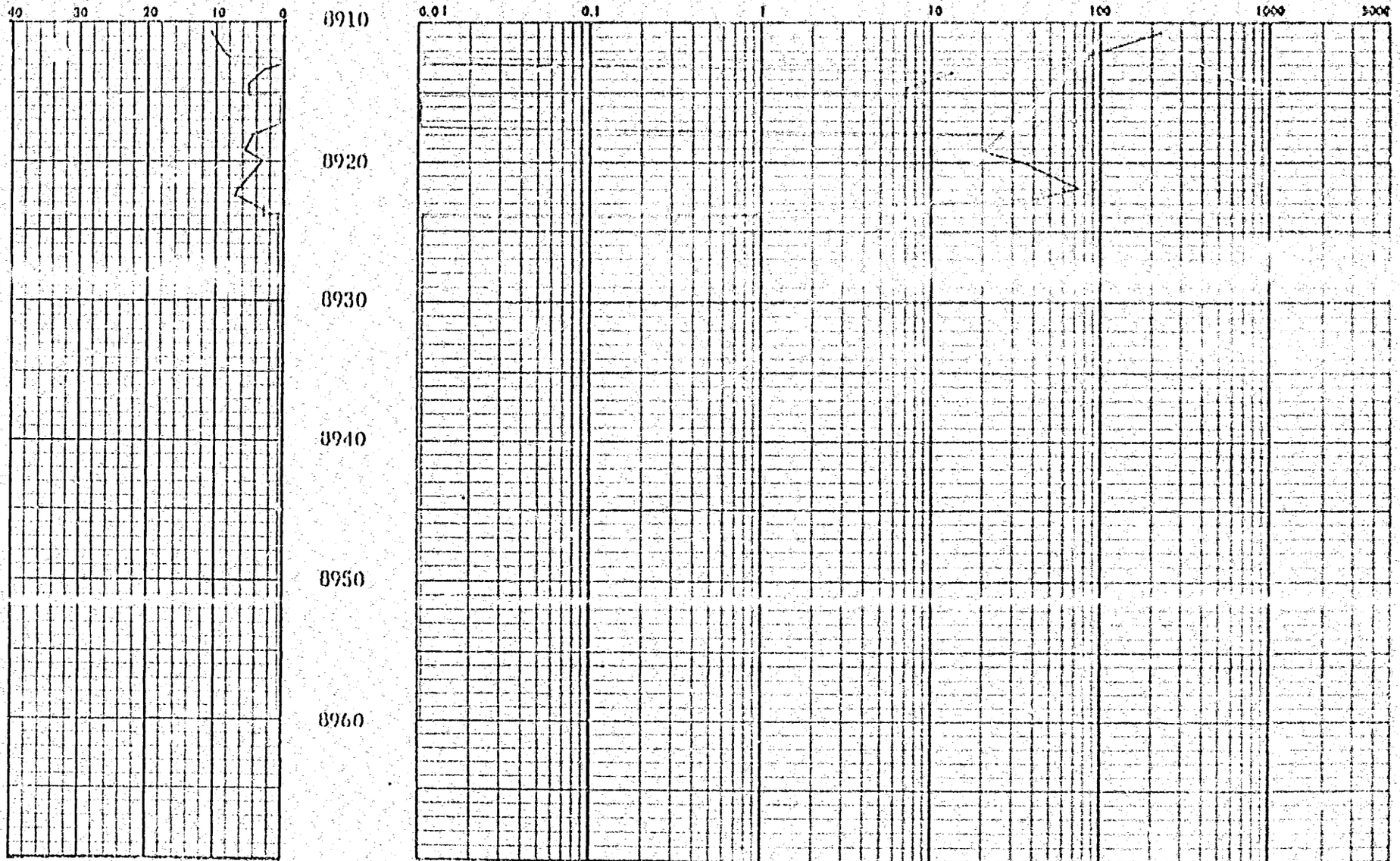
CCL 52

CHEMICAL & GEOLOGICAL LABORATORIES LTD.

Operator The British American Oil Company Limited Interval Cored 8910' To 8960'

Well No. B.A. Tex. Arrowhead B-76 Coring Fluid ---

Lab. No. E23081 Elevation --- Formation ---



CGL 30

CHEMICAL & GEOLOGICAL LABORATORIES LTD.

Operator The British American Oil Company Limited ..... Well No. B.A. Tex. Arrowhead B-76 Lab. No. 823091 Date Received: February 26, 1964.

Sample Number	Midpoint of Sample in Ft.	Representative of Feet	Footage Rep.	Permeability md. Vertical	K_H	K'	% Porosity	Porosity Feet	Description
Core Number 3		8910' - 8960'	Cored 50.0 Feet			Received in lab. 14.2 Feet			
1	8910.8	8910.0-8911.4	1.4	11.	227.	214.	10.4	14.56	Dol NR I V RF
2	8912.2	8911.4-8912.4	1.0	1.6	88.	76.	8.1	8.10	Dol NR I V Ca RF
No Sample		8912.4-8912.9	0.5	---	---	---	---	---	D Dol
3	8913.6	8912.9-8914.2	1.3	15.	14.	2.3	3.0	3.90	Dol NR SV VSI RF A
4	8914.5	8914.2-8915.1	0.9	7.7	7.0	6.0	5.5	4.95	Dol NR SV I VF A
No Sample		8915.1-8917.1	2.0	---	---	---	---	---	D Dol
5	8918.0	8917.1-8918.7	1.6	10.	27.0	13.	4.4	7.04	Dol NR SV I RF A
6	8919.1	8918.7-8919.4	0.7	3.3	21.	18.	5.7	3.99	Dol NR V I RF A
7	8920.0	8919.4-8921.0	1.6	3.0	33.	26.	3.7	5.92	Dol NR SV SI RF A St
8	8922.0	8921.0-8922.2	1.2	6.9	72.	39.	6.4	7.68	Dol NR V I RF A
9	8922.6	8922.2-8923.0	0.8	2.1	50.	41.	6.8	5.44	Dol NR V I RF
10	8923.6	8923.0-8924.2	1.2	0.10	0.94	0.94	3.2	2.56	Dol NR SV SI
[illegible]		[illegible]	[illegible]	---	---	---	---	---	D Dol
Not Received		8924.2-8960.0	35.8	---	---	---	---	---	---

CORE DESCRIPTION SYMBOLS

Dol	Dolomite
NR	Not reactive to cold 15% HCl
I	Intergranular
V	Vuggy
RF	Random Fracture
Ca	Calcite
D	Dense
SV	Slightly Vuggy
VSI	Very Slightly Intergranular
A	Anhydrite
VF	Vertical Fracture
SI	Slightly Intergranular
St	Stylolite
K_H	Maximum Horizontal Permeability measured.
K'	Taken 90° to K_H

NB. K_H and K' are transverse permeability measurements on full diameter samples.

P 13 (10/62)

THE BRITISH AMERICAN OIL COMPANY LIMITED

WATER ANALYSIS REPORT

"TIGHT HOLE"

"TIGHT HOLE"

LEASE BA TEXACO ARROWHEAD b-76 NWT LOCATION 60° 25' 2" N 122° 59' 2" W FIELD New Field SAMPLE

SAMPLE DATE March 16/64 FORMATION Presquille INTERVAL DEPTH ____ FT. TO ____ FT. KBE 1250 FT.

Lab. No.	Above Tool	DST #	Res. OM at 77 F	As Mg/L NaCl	Recovery	Interval
W-102-64	90'	2	0.790	7000	150' gassified mud	8840-9150
W-100-64	3400'	3	0.053	163000	2250' sw, 4975 sw and gassy mud	9150-9805
W-101-64	7225	3	0.076	92000	2250' sw, 4975 sw and gassy mud	9150-9805

ION	MILLIGRAMS/LITRE CONCENTRATION	PER CENT MILLIGRAM EQUIVALENTS
SODIUM – NA		
POTASSIUM – K		
CALCIUM – CA		
MAGNESIUM – MG		
SULPHATE – SO_4		
CHLORIDE – CL		
BROMIDE – BR		
IODIDE – I		
BICARBONATE – HCO_3		
CARBONATE – CO_3		
HYDROXIDE – OH		
TOTAL		

S. G. @ 60°F.
pH
H_2S
RESISTIVITY OHM METERS AT °F.

TOTAL DISSOLVED SOLIDS IN MILLIGRAMS/LITRE

AS NACL FROM RES.
BY EVAPORATION
AFTER IGNITION

ANALYSED BY D. BRANDER
LAB. NO. W102,100,101-64

DATE RECEIVED March 18 19 64
DATE ANALYSED March 31 19 64
DATE DISTRIBUTED April 1 19 64

REMARKS AND CONCLUSIONS Mud appears to be mixed with formation water in the DST 3 sample.

P 13 (10/62)

THE BRITISH AMERICAN OIL COMPANY LIMITED
WATER ANALYSIS REPORT

"TIGHT HOLE"

"TIGHT HOLE"

LEASE BA TEXACO ARROWHEAD b-76 NWT LOCATION 60° 25' 2" N 122° 59' 2" W FIELD Wildcat SAMPLE DST #3

SAMPLE DATE March 16/64 FORMATION Presquille INTERVAL DEPTH 9150 FT. TO 9805 FT. KBE 1250 FT.

SAMPLE HEIGHT ABOVE TOOL 1850 FT. RECOVERY DATA 2250' gassy salt water & 4975' salt water cut gassy mud.

OTHER DATA

ION	MILLIGRAMS/LITRE CONCENTRATION	PER CENT MILLIGRAM EQUIVALENTS
SODIUM – NA	50139	36.34
POTASSIUM – K		
CALCIUM – CA	14905	12.40
MAGNESIUM – MG	920	1.26
SULPHATE - SO_4	0	0.0
CHLORIDE – CL	105910	49.79
BROMIDE – BR	0	0.0
IODIDE – I	0	0.0
BICARBONATE – HCO_3	772	0.21
CARBONATE – CO_3		
HYDROXIDE – OH		
TOTAL	172646	

REMARKS AND CONCLUSIONS Analysis similar to Beaverhill formation water in Swan Hills area. Suspect to be formation water.

S. G. @ 60°F. 1.127

pH 6.12

H_2S Nil

RESISTIVITY 0.050 OHM METERS AT 77 °F.

TOTAL DISSOLVED SOLIDS IN MILLIGRAMS/LITRE

AS NACL FROM RES. 180,000

BY EVAPORATION

AFTER IGNITION

ANALYSED BY D. H. BRANDER

LAB. NO. W-99-64

DATE RECEIVED March 18 19 64

DATE ANALYSED March 30 19 64

DATE DISTRIBUTED April 1 19 64

GAS SAMPLE AND ANALYSIS REPORT

P 14

FIELD New Field FORMATION Middle Devonian LEASE BA Texaco Arrowhead B 76
K.B.E. 1250 LOCATION B 76 60° 25' N. Lat.
OPERATOR The British American Oil Company Limited LAB. NO. 67-64 122° 59 W. Long
SAMPLED BY _____ DATE 3-18-64 ANALYZED BY W. B. Lewis DATE 4-2-64

SAMPLE INFORMATION

POINT WHERE SAMPLE OBTAINED Test Line PRESSURE _____ PSIG TEMP. _____ °F
SAMPLE CONTAINER NO. 392 PRESSURE _____ PSIG
AIR TEMPERATURE _____ °F BAROMETRIC PRESSURE _____ MM HG
FIELD DETERMINATIONS AVE. H_2S _____ AVE. CO_2 _____
SAMPLE ENTERING CONDITIONS CONTAINER TEMPERATURE 120 °F CONTAINER PRESSURE 15 PSIG
REMARKS: DST #2 8840' - 9150', Tool open 60 minutes, gas to surface in 4 minutes. Rate after 15 minutes 234 MCFD decreasing to 131 MCFD after 30 minutes, steady to end of test. Recovered 150' of gassified mud.

PODBIELNIAK LOW TEMPERATURE FRACTIONATION

	MOL. % AS REC'D.	MOL. % AIR FREE	G.P.M.			
OXYGEN						
NITROGEN		2.77				
CARBON DIOXIDE		23.09				
HYDROGEN SULPHIDE		0.0				
METHANE		73.63				
ETHANE and higher		0.51				
PROPANE						
ISO-BUTANE						
N-BUTANE						
ISOPENTANE						
N-PENTANE						
HEXANE						
HEPTANES AND HIGHER						
TOTAL		100.00				

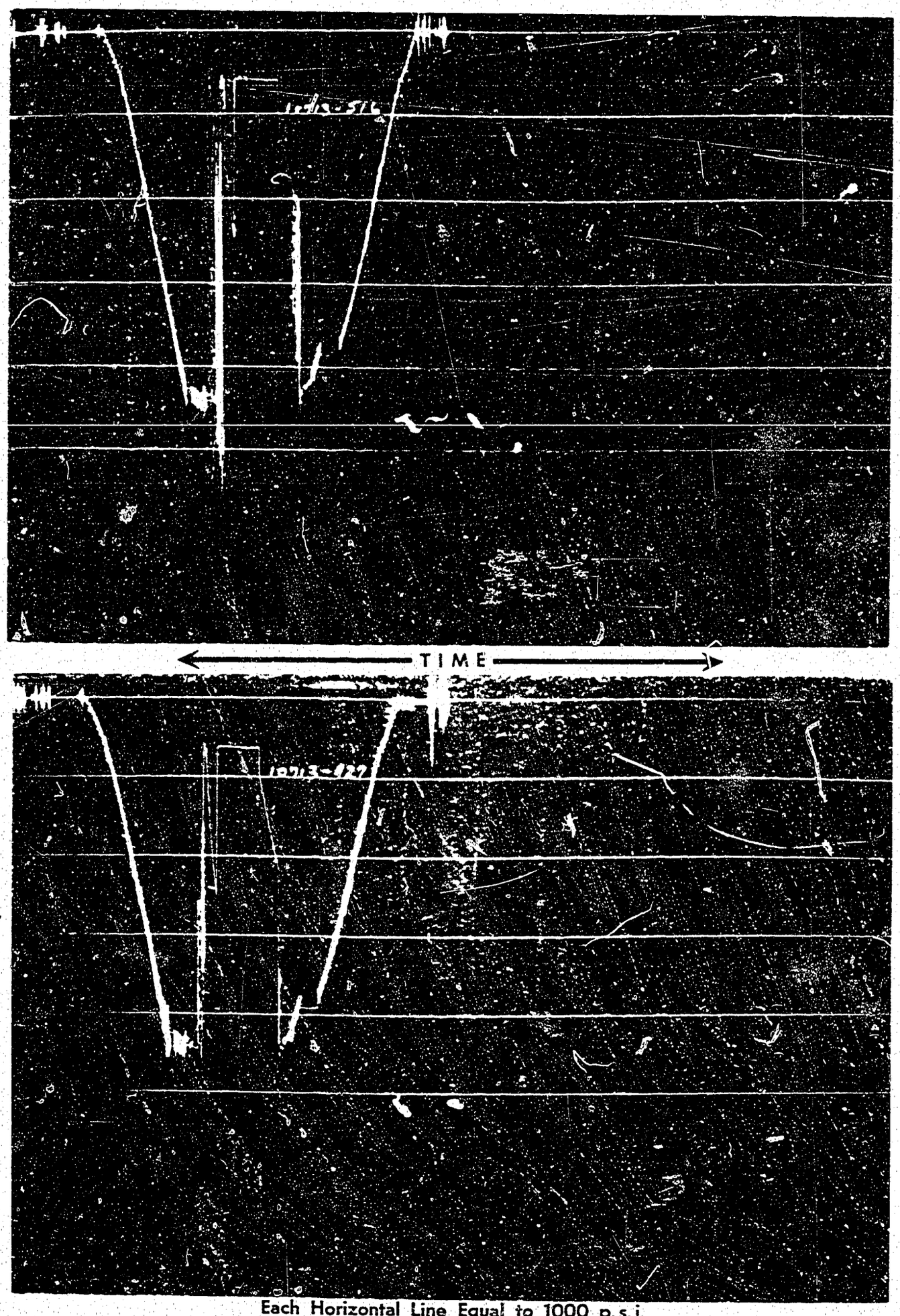
G.P.M.

GROSS BTU BY POD. (ACID GAS FREE) 976
SPECIFIC GRAVITY BY POD. (AIR FREE) _____
SPECIFIC GRAVITY BY POD. (AS REC'D) 0.791
SPECIFIC GRAVITY BY WEIGHT 0.797
SPECIFIC GRAVITY _____
AVERAGE MOLECULAR WEIGHT _____

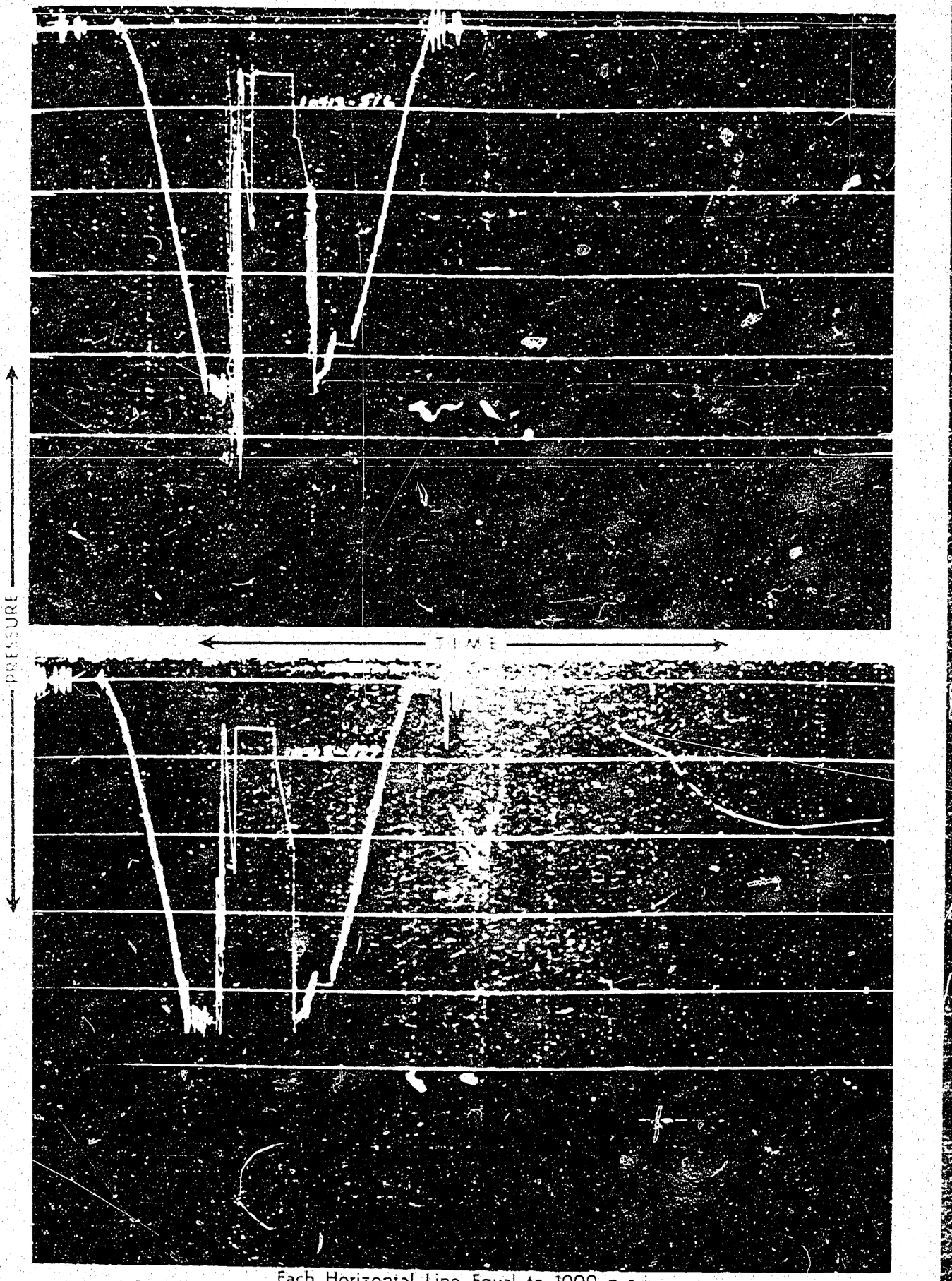
ACTUAL PENTANES + _____
CALCULATED AT 12 LBS. _____
CALCULATED AT 15 LBS. _____
CALCULATED AT 22 LBS. _____
CALCULATED AT 26 LBS. _____
VAPOR PRESSURE (CALCULATED)
ACTUAL PENTANES + _____

G.P.M. AND B.T.U. REPORTED AT 60°F AND 14.65 PSIA.

REMARKS: Insufficient sample for heavier hydrocarbon determination.
DST #3 - Insufficient sample for analysis - CO_2 = 23.78% Specific Gravity = 0.816
DST #3 - 9150' - 9805' Presqu'ile. Tool open 60 minutes, gas to surface in 3 minutes, maximum rate 142 MCFD after 15 minutes declining to 7.6 MCFD at end of test, recovered 4975' of gassified mud cut salt water.



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



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

TEMPERATURE RECORD

Each concentric line represents 10 F

Temperature increases outwards

Ticket No. F 10316

Temperature Range F

70 F to 170 F

A to B — Initial CP

B to C — 2nd Hrs

C to D — Final CP

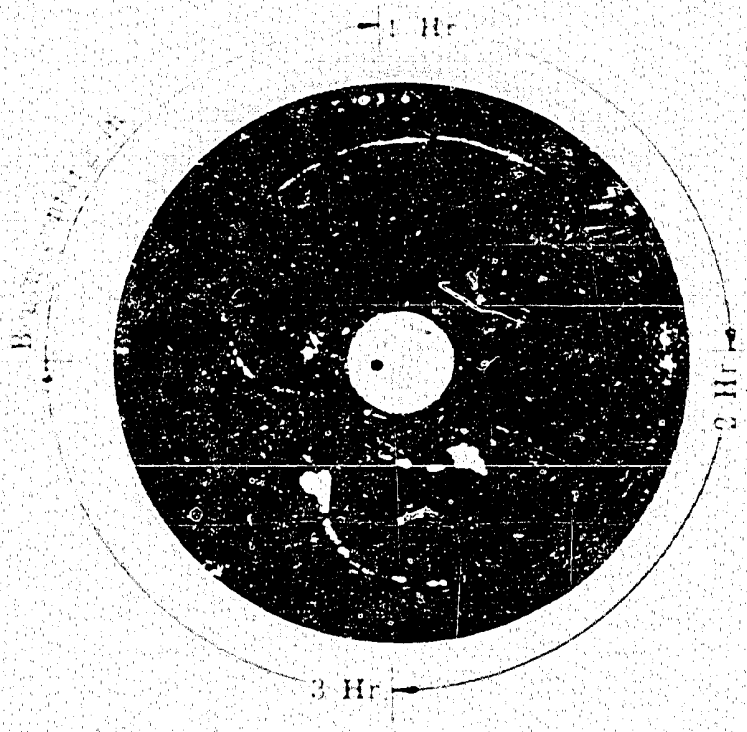
A F

B F

C F

maximum

D 180 F



TEMPERATURE RECORD

Each concentric line equals 10 F.
Temperature increases outwardly

Ticket No T 103116

Temperature Range F

70 °F to 170 °F

A to B — Initial CIP

B to C — 2nd Flow

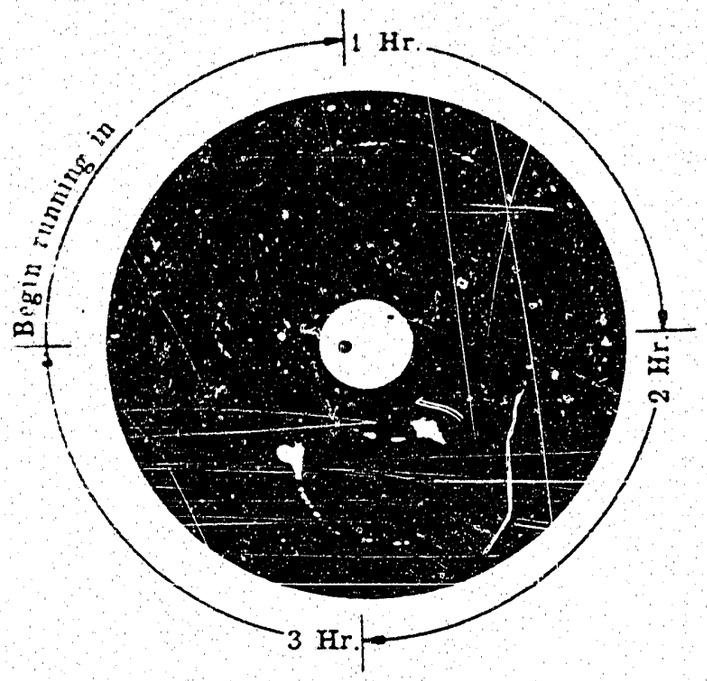
C to D — Final CIP

A ..... °F

B ..... °F

C ..... °F
maximum

D 180 °F



HOWCO 521020

HALLIBURTON TICKET No.

Depth Top Gauge	8825 Ft.	Blanked Off	No	Date February 28, 1964	Ticket No. T 10714
DT P.R.D. No.	427		24 Hr. Clock	Kind of Job Dual Bottom Hole	HOWCO District Calgary
Pressure Readings	Field	Office Corrected		Tester A. Sim	Witness R. Lock
Initial Hydro Mud Pressure	4510	4474		Contractor Cascade Drilling	
Initial Closed in Pressure	2198	2201		K B Elevation 1250' Top Packer Depth 8835' Bottom Packer Depth 8840'	
Initial Flow Pressure	138	173		Total Depth 9150' Casing Perforations Top / Bottom	
Final Flow Pressure	55	46		Interval Tested 8840 - 9150' Formation Tested Presquile	
Final Closed in Pressure	2990	29		Casing or Hole Size 8¾" Liner or Rathole Size	
Final Hydro Mud Pressure	4350	4340		Size Surface Choke ¾" Orf Size Bottom Choke ½" Size and Type Well Packer 7½" E.S.	
Depth Centre Gauge	Ft.	Blanked Off		Size Drill Pipe 4½" F.H. ID and Length Drill Collars 180' x 2 7/8"	
DT P.R.D. No.			Hr. Clock	Anchor Size I.D. 5" O.D. Amount-Type of Cushion Nil	
Pressure Readings	Field	Office Corrected		Gauge Depth 250 °F meas. °F est. Mud Weight 9.5 Mud Viscosity 200	
Initial Hydro Mud Pressure				All Depths Measured From K.B. No. Folders Reproduced 5	
Initial Closed in Pressure				Time Periods (Minutes) 1st Flow 4 Initial CIP 30 2nd Flow 60 Final CIP 60	
Initial Flow Pressure				Recovered 150 Feet of heavy gassified drilling	
Final Flow Pressure				Recovered Feet of mud.	
Final Closed in Pressure				Recovered Feet of	
Final Hydro Mud Pressure				Recovered Feet of	
Depth Bottom Gauge	9147 Ft.	Blanked Off	Yes	Oil Recovery Degrees API Water Recovery Specific Gravity	
DT P.R.D. No.	566		24 Hr. Clock	REMARKS: Valve opened with fair air blow. Gas	
Pressure Readings	Field	Office Corrected		to surface in 4 minutes. Weak gas blow till	
Initial Hydro Mud Pressure	4750	4584		end of test. Open valve to flare line after	
Initial Closed in Pressure	2255	2264		10 mins. through ¾" orifice -	
Initial Flow Pressure	405	422		234 MCF/D in 15 mins.	
Final Flow Pressure	355	376		142 MCF/D in 30 mins. 131 MCF/D in 45 mins.	
Final Closed in Pressure	3048	3055		131 MCF/D in 60 mins.	
Final Hydro Mud Pressure	4450	4446		No special readings due to nature of C.I.P.	

LEGAL DESCRIPTION B-76-GRID 60°30'N 122½45'

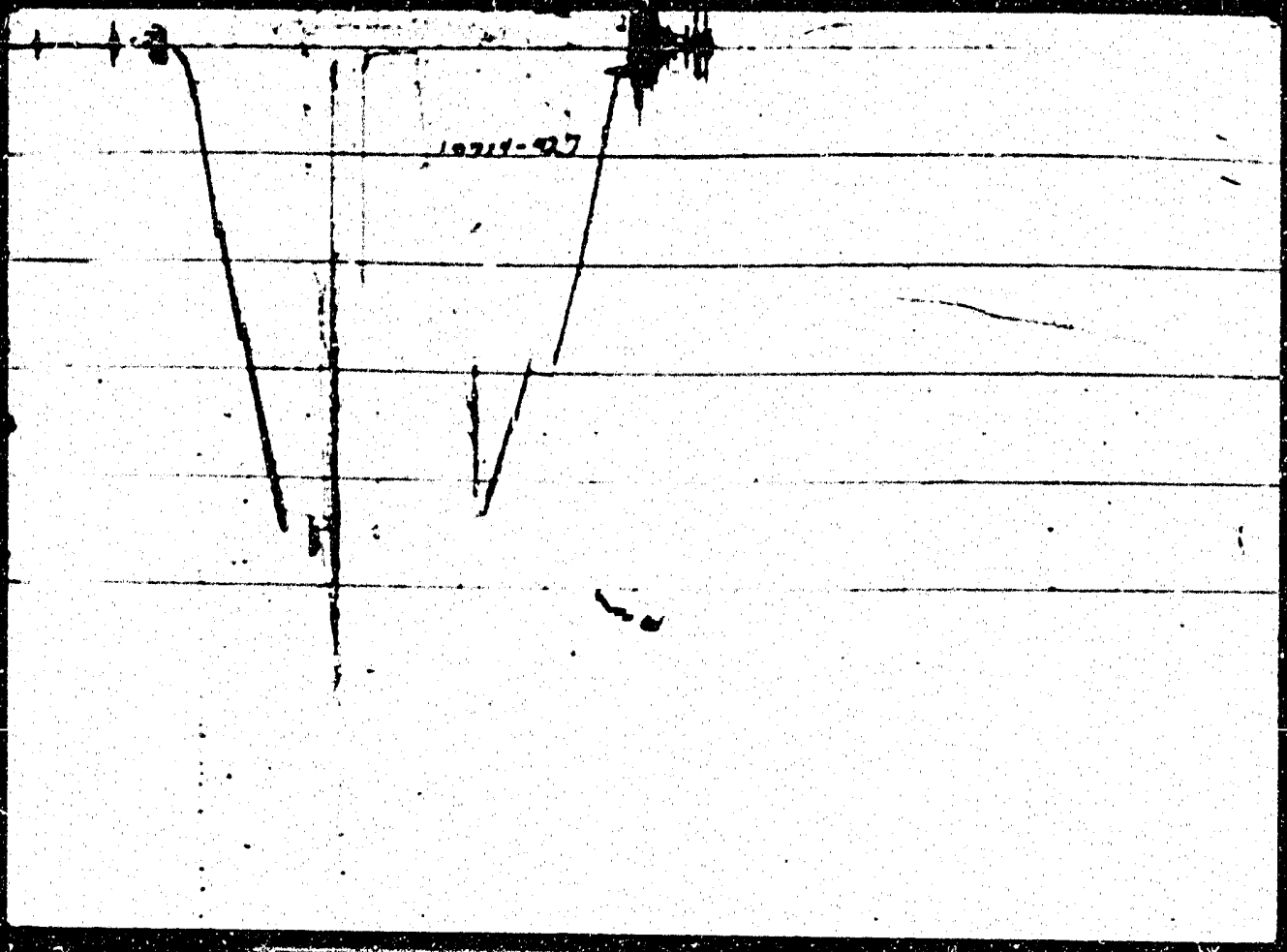
B.A. TEX ARROWHEAD — Lease Name — B-76 Well No. — 2 Test No. — EDMONTON Owner's District — THE BRITISH AMERICAN OIL CO. LTD. Lease Owner

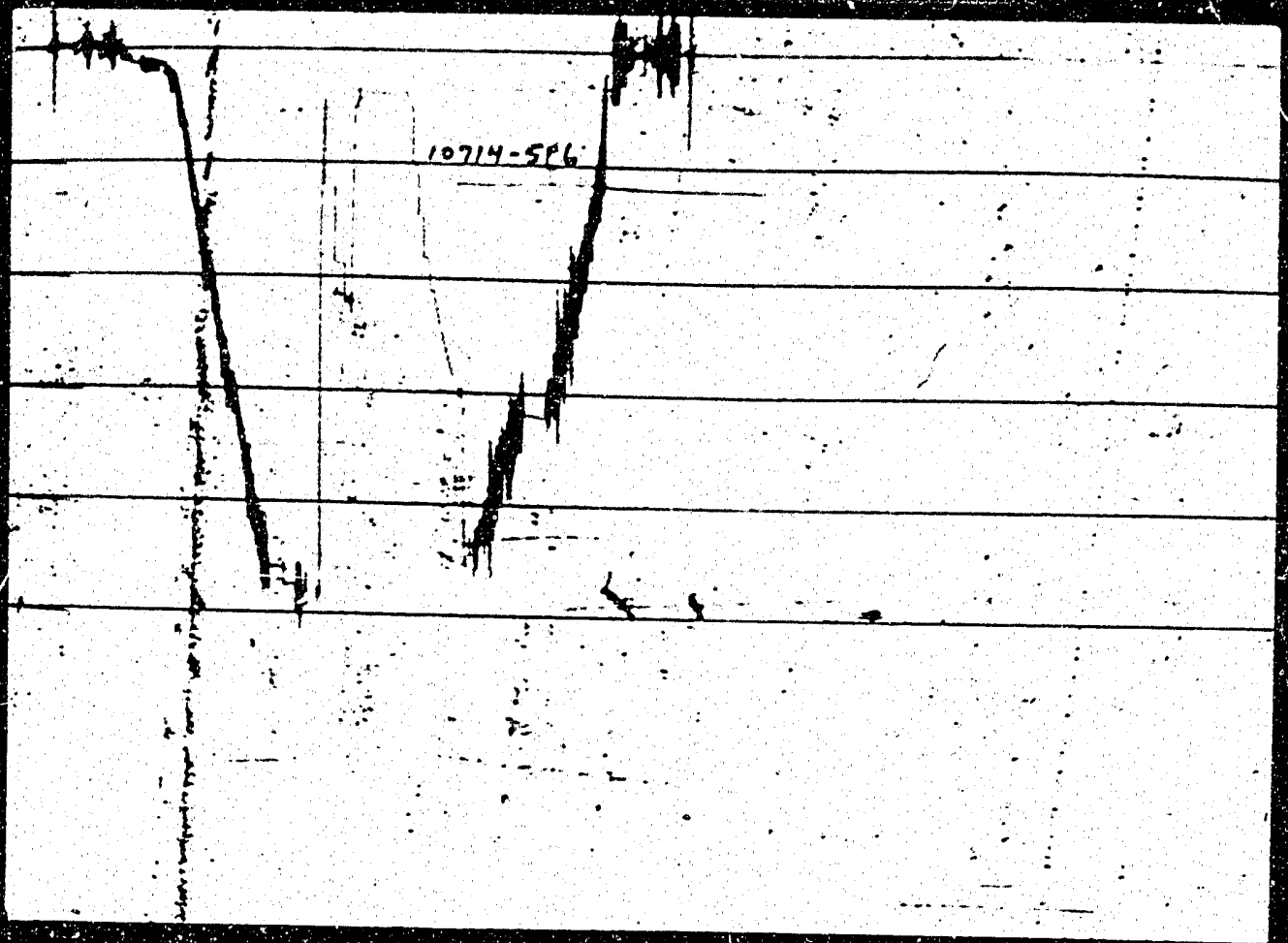
FIELD OR AREA ARROWHEAD RIVER — PROVINCE N.W.T.

FORM 2D 321012

DRILL STEM TEST DATA

curves.


10714-SP7


10714-SP6

HALLIBURTON TICKET No.

Depth Top Gauge	9040 Ft.	Blanked Off	No	Date March 8, 1964	Ticket No. T 10717
BT P.R.D. No.	516	12 Hr. Clock		Kind of Job Dual Bottom Hole	HOWCO District Calgary
Pressure Readings	Field	Office Corrected		Tester A. Sim	Witness R. Lock
Initial Hydro Mud Pressure	4905			Contractor Cascade Drilling	
Initial Closed in Pressure	4125			K B Elevation 1250' Top Packer Depth 9145' Bottom Packer Depth 9150'	
Initial Flow Pressure	965			Total Depth 9805' Casing Perforations Top Bottom	
Final Flow Pressure	2700			Interval Tested 9155' - 9805' Formation Tested Presquille (8')	
Final Closed in Pressure	4000			Casing or Hole Size 8¾" Liner or Rathole Size	
Final Hydro Mud Pressure	4652			Size Surface Choke 1"-1" Orifice Size Bottom Choke ¼" Size and Type Wall Packer 7½" E.S.	
Depth Centre Gauge	Ft.	Blanked Off		Size Drill Pipe 4½" F.H. ID and Length Drill Collars 89' x 2 7/8"	
BT P.R.D. No.		Hr. Clock		Anchor Size I.D. 5" O.D. 7" Amount-Type of Cushion Nil	
Pressure Readings	Field	Office Corrected		Gauge Depth Temp. 274 °F meas. °F est. Mud Weight 9.5 Mud Viscosity 195	
Initial Hydro Mud Pressure				All Depths Measured From K.B. No. Folders Reproduced 5	
Initial Closed in Pressure				Time Periods (Minutes) 1st Flow 4 Initial CIP 60 2nd Flow 65 Final CIP 60	
Initial Flow Pressure				Recovered 7225 Feet of total recovery.	
Final Flow Pressure				Recovered 4975 Feet of salt water cut highly gassified drilling mud.	
Final Closed in Pressure				Recovered 2250 Feet of salt water, gassified.	
Final Hydro Mud Pressure				Recovered Feet of	
Depth Bottom Gauge	9802 Ft.	Blanked Off	Yes	Oil Recovery Degrees API Water Recovery Specific Gravity	
BT P.R.D. No.	427	24 Hr. Clock		REMARKS: Valve opened with fair air blow.	
Pressure Readings	Field	Office Corrected		Gas to surface in 3 minutes, decreasing	
Initial Hydro Mud Pressure	5238	5241		during test.	
Initial Closed in Pressure	4455	4463		1" orifice - 142 MCF/D.	
Initial Flow Pressure	2038	2071		½" " - 34.9 MCF/D.	
Final Flow Pressure	3458	3457		¼" " - 7.62 MCF/D.	
Final Closed in Pressure	4350	4356			
Final Hydro Mud Pressure	5005	5006			

LEGAL DESCRIPTION 12-59-2 W5

Lease Name B.A. TEX ARROWHEAD Well No. B-76 Test No. 3

FIELD OR AREA ARROWHEAD RIVER

Owner's District EDMONTON Lease Owner THE BRITISH AMERICAN OIL CO. LTD.

PROVINCE N.W.T.

HOWCO B21012

DRILL STEM TEST DATA

HALLIBURTON TICKET No. T 10717

BT No. 514 Depth 9040 12 Hr. Clock No. 2996 Temperature Corrected to 274 °F

	1st Flow Pressure		Initial CIP					2nd Flow Pressure		Final CIP				
	Time Defl. .000" T—P10	PSIG Temp. Corr.	Time Defl. .000" Δ	T+Θ	T+Θ / Θ	PSIG Temp. Corr.	PSIG² ÷10⁶ (Gas)	Time Defl. .000" T—P10	PSIG Temp. Corr.	Time Defl. .000" Δ	T+Θ	T+Θ / Θ	PSIG Temp. Corr.	PSIG² ÷10⁶ (Gas)
P0	.000	999	.000			965		.000	1027	.000			3687	
P1	.012	967	.040			4038		.045	1104	.041			3915	
P2	.024	965	.080			4100		.090	1250	.082			3932	
P3			.120			4108		.135	1337	.123			3950	
P4			.160			4113		.180	1484	.164			3960	
P5			.200			4115		.225	2025	.205			3967	
P6			.240			4118		.270	2154	.246			3970	
P7			.280			4120		.315	2299	.287			3975	
P8			.320			4120		.360	2425	.328			3977	
P9			.360			4123		.405	2557	.369			3980	
P10			.400			4123		.450	2687	.410			3982	

BT No. 607 Depth 9802 24 Hr. Clock No. 4143 Temperature Corrected to 274 °F

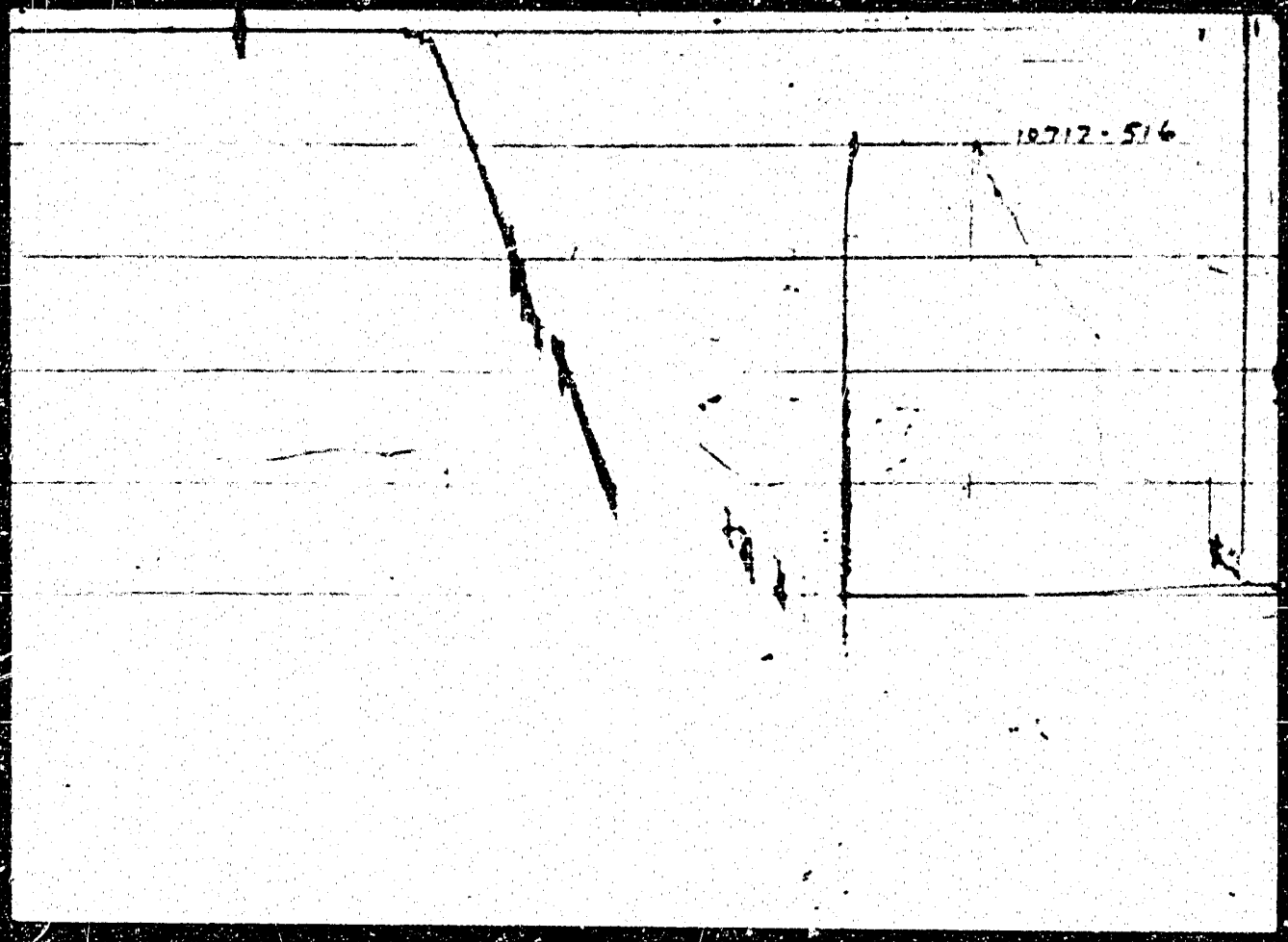
	1st Flow Pressure		Initial CIP					2nd Flow Pressure		Final CIP				
	Time Defl. .000" T—P10	PSIG Temp. Corr.	Time Defl. .000" Δ	T+Θ	T+Θ / Θ	PSIG Temp. Corr.	PSIG² ÷10⁶ (Gas)	Time Defl. .000" T—P10	PSIG Temp. Corr.	Time Defl. .000" Δ	T+Θ	T+Θ / Θ	PSIG Temp. Corr.	PSIG² ÷10⁶ (Gas)
P0	.000	2164	.0000			1971		.000	2071	.000			3457	
P1	.007	2008	.0195			4356		.022	2092	.019			4267	
P2	.014	1971	.0390			4429		.044	2274	.038			4296	
P3			.0585			4445		.066	2565	.057			4317	
P4			.0780			4453		.088	2596	.076			4330	
P5			.0975			4455		.110	2815	.095			4338	
P6			.1170			4458		.132	2942	.114			4340	
P7			.1365			4461		.154	3042	.133			4348	
P8			.1560			4463		.176	3312	.152			4351	
P9			.1755			4463		.198	3404	.171			4353	
P10			.1950			4463		.220	3457	.190			4356	

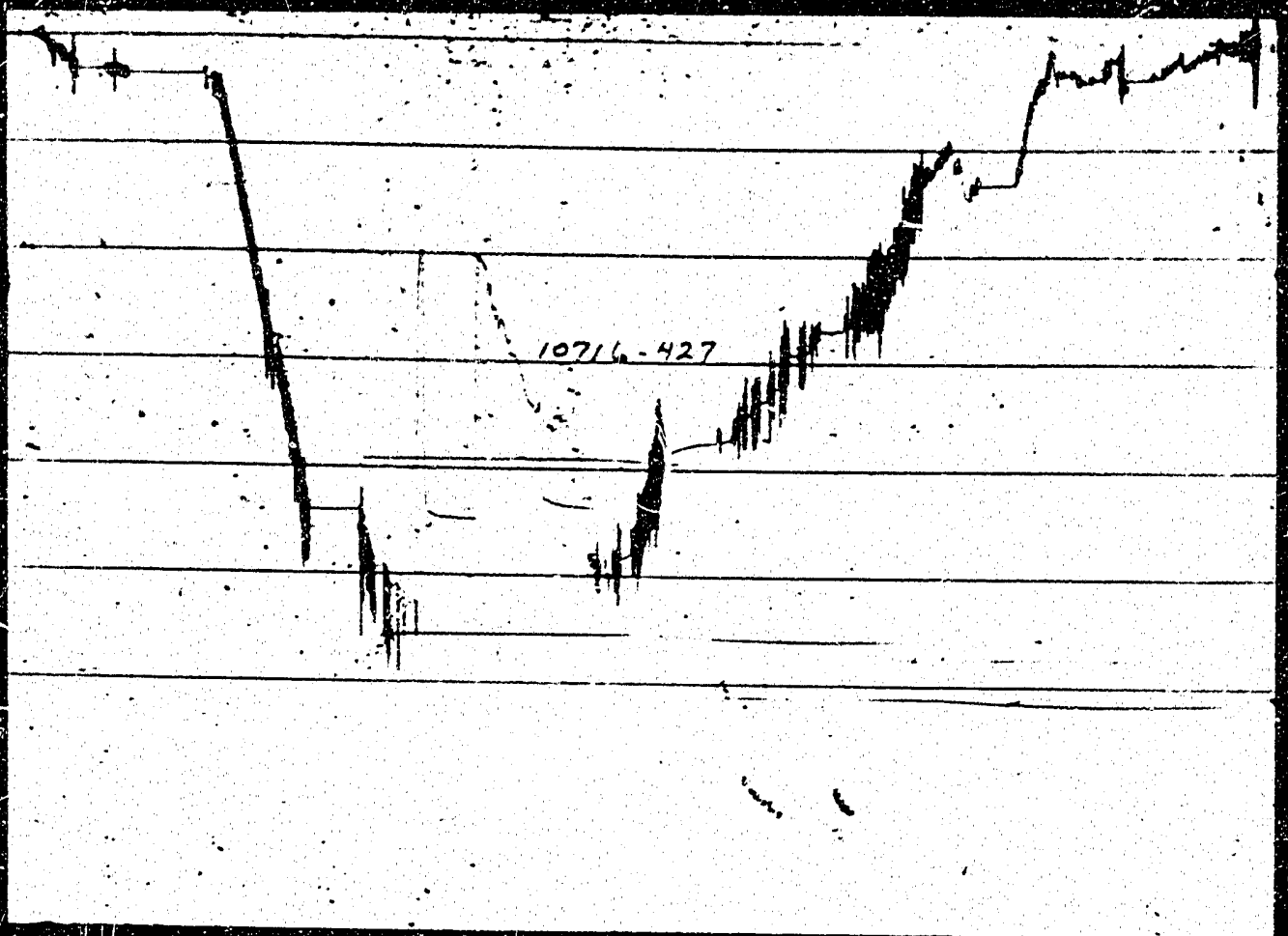
Intervals of Pressure Readings (Minutes): 1st Flow Pressure 2.0 Initial CIP 6.0 2nd Flow Pressure 6.5 Final CIP 6.0

Remarks:

HOWCO 52107

PRESSURE DATA


10712 - 514


10714 - 427

HALLIBURTON TICKET No.

Depth Top Gauge	8825 Ft.	Blanked Off No	Date February 23, 1964	Ticket No. T 10713	
BT P.R.D. No.	516	12 Hr. Clock	Kind of Job Dual Bottom Hole	HOWCO District Calgary	
Pressure Readings	Field	Office Corrected	Tester A. Sim	Witness R. Rud	
Initial Hydro Mud Pressure	4425	4348	Contractor Cascade Drilling		
Initial Closed in Pressure	2435	2425	KB Elevation 1250'	Top Packer Depth 8835'	Bottom Packer Depth 8840'
Initial Flow Pressure	600	578	Total Depth 8910'	Casing Perforations Top / Bottom	
Final Flow Pressure	600	583	Interval Tested 8840' - 8910' (45' of pay)	Formation Tested Presquile	
Final Closed in Pressure	2038	2114	Casing or Hole Size 8¾"	Liner or Ratthole Size	
Final Hydro Mud Pressure	4375	4331	Size Surface Choke ¾"	Size Bottom Choke ½"	Size and Type Well Packer 7¼" E.S.
Depth Centre Gauge	Ft.	Blanked Off	Size Drill Pipe 4½" F.H.	ID and Length Drill Collars 180' x 2 7/8"	
BT P.R.D. No.		Hr. Clock	Anchor I.D. / Size O.D.	Amount-Type of Cushion 1026' of water.	
Pressure Readings	Field	Office Corrected	Gauge Depth 252 °F meas. / °F est.	Mud Weight 9.2	Mud Viscosity 210
Initial Hydro Mud Pressure			All Depths Measured From K.B.		No. Folders Reproduced 5
Initial Closed in Pressure			Time Periods (Minutes) 1st Flow 5	Initial CIP 15	2nd Flow 60 Final CIP 30
Initial Flow Pressure			Recovered 1026 Feet of water gassified		
Final Flow Pressure			Recovered 240 Feet of gassified drilling mud.		
Final Closed in Pressure			Recovered Feet of		
Final Hydro Mud Pressure			Recovered Feet of		
Depth Bottom Gauge	8907 Ft.	Blanked Off Yes	Oil Recovery Degrees API	Water Recovery Specific Gravity	
BT P.R.D. No.	427	24 Hr. Clock	REMARKS: Valve opened with weak air blow,		
Pressure Readings	Field	Office Corrected	increasing slightly. Gas to surface in		
Initial Hydro Mud Pressure	4455	4435	26 minutes.		
Initial Closed in Pressure	2460	2449	No special readings due to nature of C.I.P.		
Initial Flow Pressure	650	625	curves.		
Final Flow Pressure	650	625	½" orifice - 39.8 MCF/D.		
Final Closed in Pressure	2142	2161			
Final Hydro Mud Pressure	4400	4401			

LEGAL DESCRIPTION 9-76-Grid 60° 30' 122° 45W

FIELD OR AREA ARROWHEAD RIVER

PROVINCE N.W.T.

B.A. TEX. ARROWHEAD / B-76 — Lease Name / Well No.

1 — Test No.

EDMONTON — Owner's District

THE BRITISH AMERICAN OIL CO. LTD. — Lease Owner

HOWCO B21012

DRILL STEM TEST DATA

S19.1022 Copy 12 of 19.

WELL VELOCITY SURVEY
AND
SONIC LOG

IN THE

B.A.-TEXACO ARROWHEAD B-76
60°25'02"N, 122°59'02"W
NORTHWEST TERRITORIES, CANADA

Edgar S. Driver

Douglas H. Smith

Anna S. Marta

GULF RESEARCH & DEVELOPMENT COMPANY

GEOPHYSICS DIVISION

PITTSBURGH, PENNSYLVANIA

MAY 4, 1964

Well Velocity Survey
and
Velocity Log
in the
B.A. Texaco Arrowhead B-76
60°25'02"N, 122°59'02"W
Northwest Territories, Canada

This survey was made by Seismic Reference Service on March 7, 1964. A well detector was used to obtain data from 13 levels ranging from 960 to 9800 feet below the kelly bushing elevation of 1251 feet. These data were used to calibrate the Sonic log. This log, with transmitter-to-receiver distances of 3 and 6 feet, was run as follows:

Run No. 1 Interval logged 954'-3393' Date: February 7, 1964
Run No. 2 Interval logged 3400'-9816' Date: March 7, 1964

A copy of the log is included on which a velocity scale is shown properly relating the velocity log to the calibration determination. Also included are copies of all check shot records with traces identified; a detailed location sketch; a graph showing corrected vertical travel times below a datum at 1150 feet, interval velocities, and average velocities; a computation sheet giving pertinent information about the survey, including the quality of each downhole recording; and a calibration curve.

The well survey and log are considered to be of normal reliability except for a few localized zones of erratic data on the log.

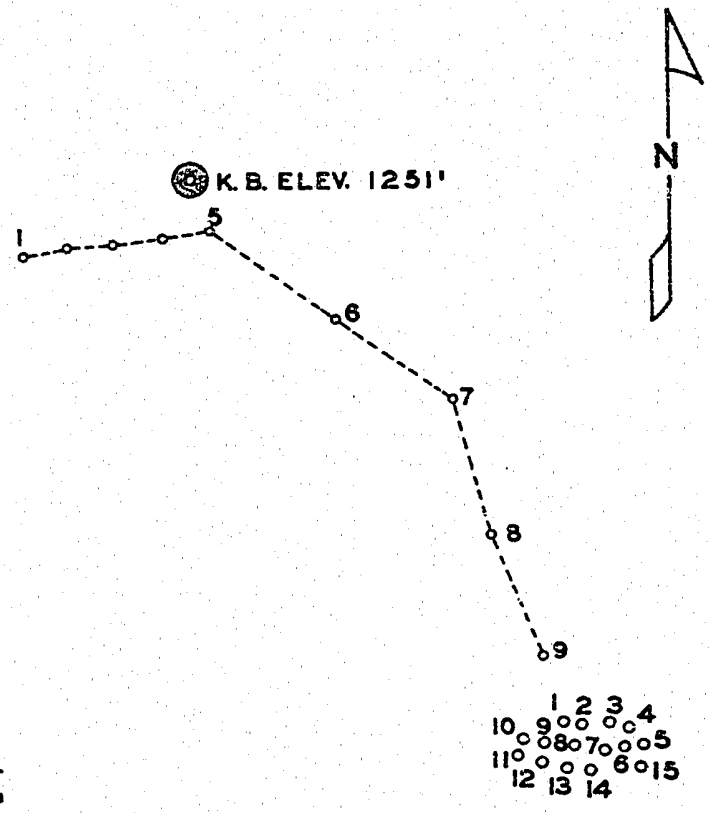
Edgar S. Driver

D. H. Smith

A. S. Marta

Date: May 4, 1964

S19.1022



S.P.	ELEV.	DIST.
1	1218'	695'
2	1219'	710'
3	1219'	725'
4	1219'	740'
5	1219'	765'
6	1219'	755'
7	1218'	745'
8	1218'	725'
9	1218'	705'
10	1218'	690'
11	1218'	700'
12	1218'	720'
13	1217'	740'
14	1218'	755'
15	1218'	780'

⊙ - WELL SURVEYED

o - SHOT POINT

o - GEOPHONE

SCALE : 1' = 200'

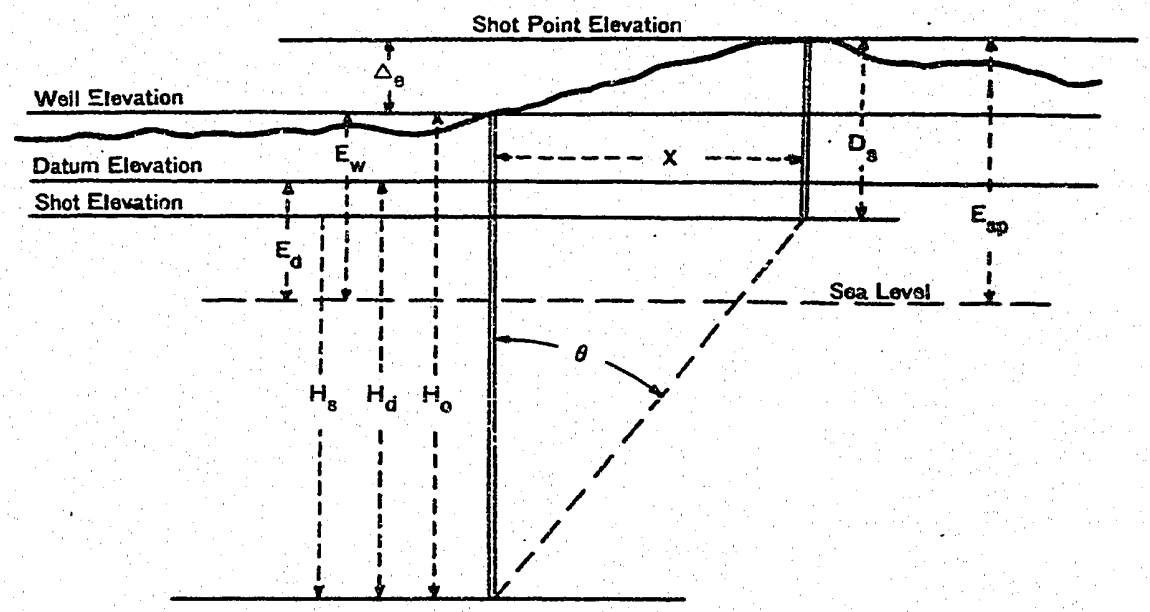
ENGINEERING SKETCH

B. A. - TEXACO ARROWHEAD B-76

WELL VELOCITY SURVEY

GULF RESEARCH & DEVELOPMENT COMPANY **PITTSBURGH, PA.**

LEGEND SHEET



R–N = Record Number

S–P = Shot Point

E_{sp} = Elevation of shot point

T_{uh} = Uphole time

H_o = Detector depth below well elevation

D_s = Depth of explosive charge

Δ_c = Elevation correction = $E_{sp} - E_w$, where E_w = well elevation

H_s = Detector depth below shot = $H_o - (D_s - \Delta_c)$

X = Horizontal distance well to shot point

$\text{Tan}\theta = \frac{X}{H_s}$

T_o = Observed slant time below shot

Q = Quality of record

T_v = Vertical time below shot = $T_o \cdot \text{Cos}\ \theta$

H_d = Detector depth below datum = $H_o - (E_w - E_d)$, where E_d = datum elevation

τ = Correction to datum = $\frac{H_d - H_s}{V_e}$, where V_e = elevation velocity

T_{vd} = Corrected vertical time below datum $T_v + \tau$

$\overline{T}_{vd}$ = Average corrected vertical time below datum

$\overline{V}$ = Average vertical velocity = $\frac{H_d}{\overline{T}_{vd}}$

ΔH = Interval depth

$\Delta \overline{T}_{vd}$ = Interval time

V_i = Interval velocity = $\frac{\Delta H_d}{\Delta \overline{T}_{vd}}$

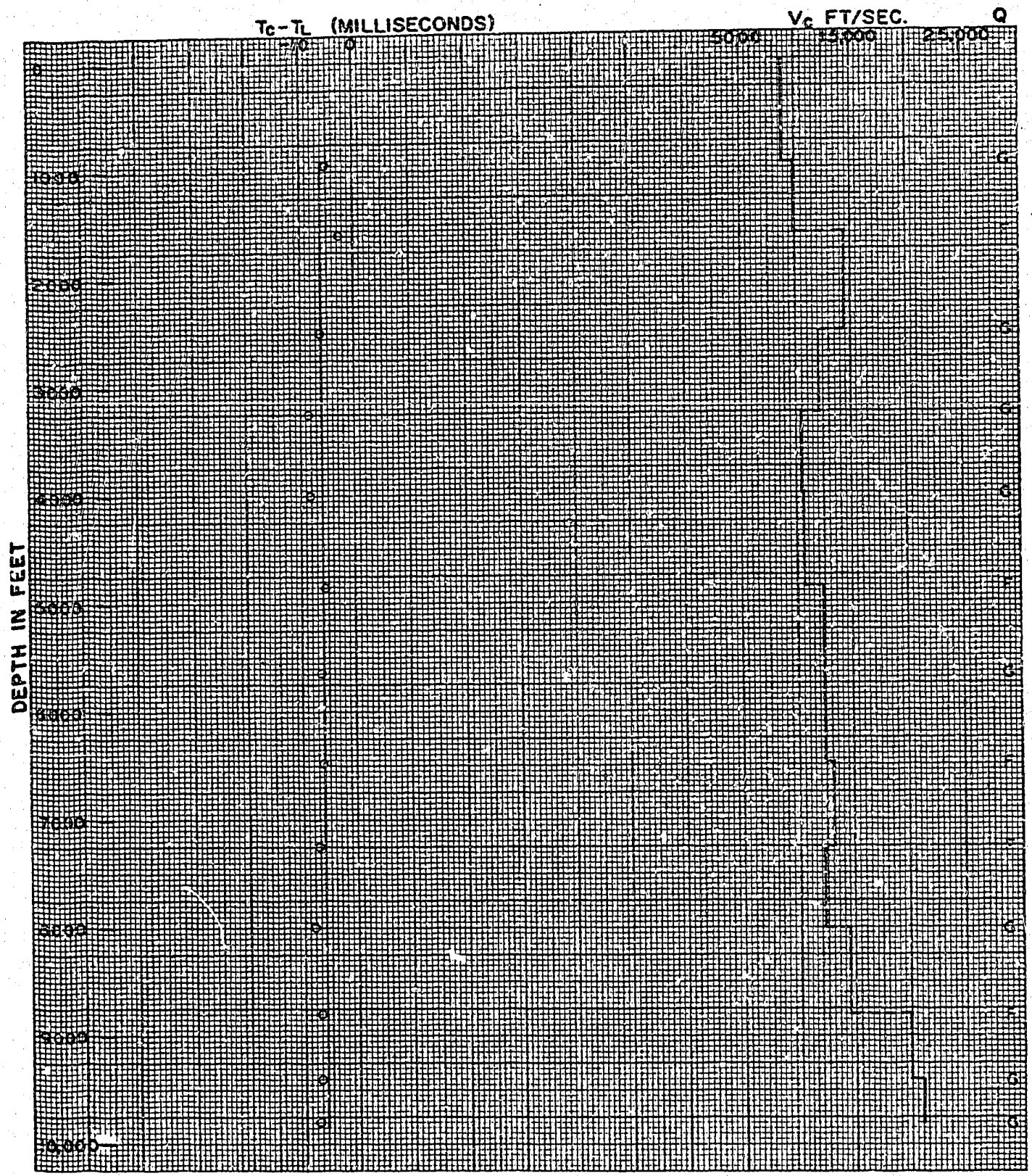
WELL VELOCITY SURVEY — GULF RESEARCH & DEVELOPMENT COMPANY — PITTSBURGH-PA.

WELL NAME	LOCATION	WELL ELEV.	TOTAL DEPTH	CASING RECORD	SURVEYED BY — SRS SURVEYED FOR — BA SURVEY DATE — March 7, 1964 COMPUTED BY — ESD-DHS-ASM	DATUM — 1150' V_E — 6000'/Sec.
B.A. Texaco Arrowhead B-76	60° 25' 02" N 122° 50' 02" W Northwest Territories, Canada	K.B. - 1251' R.T. - D.F. - G.R. -	9805'	954' 3400'		

R-N	S-P	E_{SP}	T_{UH}	D_S	Δ_E	H_O	H_S	X	TAN θ	COS θ	T_O	Q	$\bar{T}_V$	H_D	τ	T_{VD}	$\bar{T}_{VD}$	$\bar{V}$	ΔH_D	$\Delta \bar{T}_{VD}$	V_i	WELL CALLS SUBDATUM
2	9	1218	.006	42	-33	960	885	705	.7966	.7821	.131	G	.102	859	-.004	.098	.098	8770	859	.098	8770	
3	8	1218	.005	35	-33	1607	1530	725	.4711	.9046	.187	F	.169	1506	-.006	.163	.163	9240	647	.065	9950	L. Sikannis 119'
4	13	1217	.008	50	-34	2500	2416	740	.3063	.9561	.238	G	.228	2399	-.003	.225	.225	10,660	893	.062	14,400	Buckinghorse 394'
5	14	1218	.006	50	-33	3258	3175	755	.2378	.9729	.299	G	.291	3157	-.003	.288	.288	10,960	758	.063	12,030	Scatter Ss. 977'
6	6	1219	.005	35	-32	4000	3933	755	.1920	.9821	.372	G	.365	3899	-.006	.359	.359	10,860	742	.071	10,450	Mississippian
7	12	1218	.006	40	-33	4867	4794	720	.1502	.9889	.451	F	.446	4766	-.005	.441	.441	10.810	867	.082	10,570	(Flett) 1506'
8	11	1218	.008	60	-33	5550	5557	700	.1260	.9922	.509	G	.505	5549	-.001	.504	.504	11,010	783	.063	12,430	Banff 3157'
9	10	1218	.007	50	-33	6482	6390	690	.1078	.9942	.577	F	.574	6381	-.003	.571	.571	11,180	832	.067	12,420	Exshaw 4716'
10	4	1219	.006	40	-32	7250	7178	710	.1031	.9947	.638	F	.635	7149	-.005	.630	.630	11,350	768	.059	13,020	Kotcho 4761'
11	2	1219	.008	60	-32	8000	7908	710	.0898	.9960	.696	G	.693	7899	-.002	.691	.691	11,430	750	.061	12,300	Tetcho 6004'
12	3	1219	.009	70	-32	8800	8608	725	.0834	.9965	.746	F	.746	8699	.000	.746	.746	11,660	800	.055	14,550	Trout River 6114'
15	5	1219	.011	80	-32	9400	9288	765	.0824	.9966	.777	G	.774	9299	+.002	.776	.776	11,980	600	.030	20,000	Kakisa 6381'
13	7	1218	.013	110	-33	9800	9657	745	.0771	.9970	.790	F	.788	9699	+.007	.795	.795	12,200	400	.019	21,050	Redknife- Fort Simpson 6447'
14	15	1218	.011	85	-33	9800	9682	780	.0806	.9968	.794	G	.791	9699	+.003	.794						Muskwa 8347'
																						Slave Point 8378'
																						Watt Mt. 8689'
																						First Shale 8714'
																						Pres'quile 8722'
																						Second Shale 8739'

S19.1022.2

Copy 12 of 19 .



CALIBRATION CURVE
B.A.-TEXACO ARROWHEAD B-76

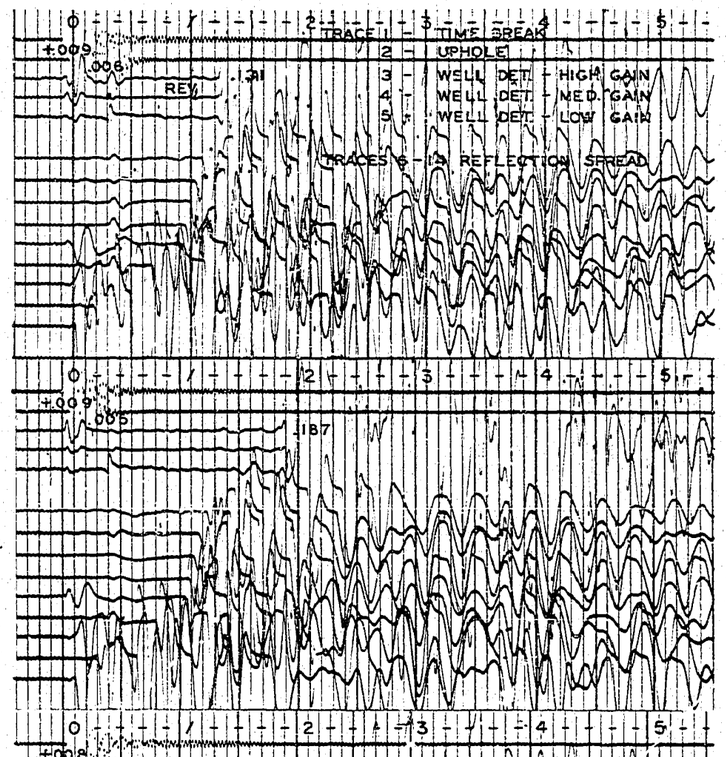
T_L = UNCORRECTED LOG TIME
T_C = CHECK SHOT TIME
V_C = CHECK SHOT VELOCITY
Q = QUALITY

TO LOG 0.0 ms/ft. FROM 954 TO 9816 FT.
ms/ft. FROM TO FT.

S19.1022.3 COPY 12 OF 12.

SEISMIC REFERENCE SERVICE
Record Number: 2
Shot Point Number: 9 Shot: A
Charge: 2 1/2 lbs. Depth: 41/42 ft.
Reflection Filter: 32-1-66

Dgm.: 960 ft.



SEISMIC REFERENCE SERVICE
Record Number: 3
Shot Point Number 8 Shot: A
Charge: 2 1/2 lbs. Depth: 34/35 ft.
Reflection Filter: 32-1-66

Dgm.: 1607 ft.

SEISMIC REFERENCE SERVICE
Record Number: 4
Shot Point Number: 13 Shot: A
Charge: 5 lbs. Depth: 48/50 ft.
Reflection Filter: 39-1-66

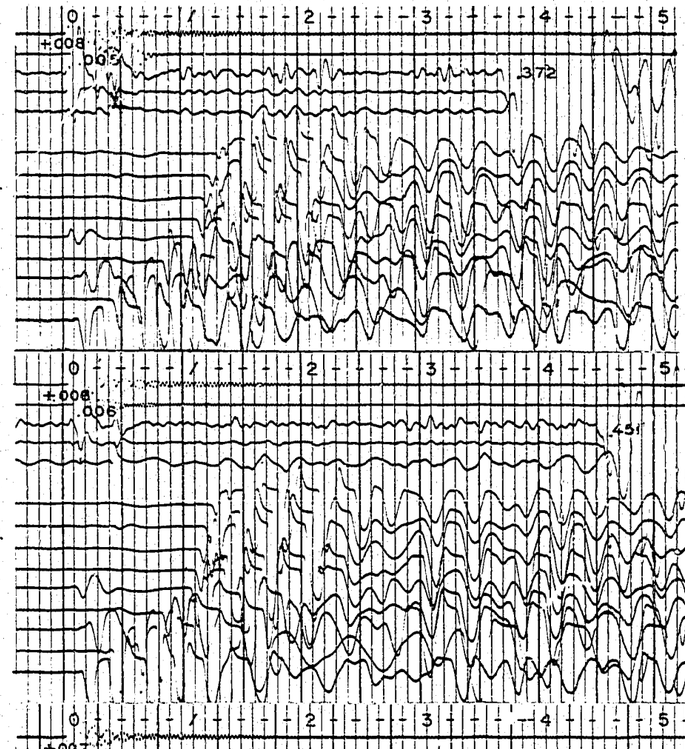
Dgm.: 2500 ft.

SEISMIC REFERENCE SERVICE
Record Number: 5
Shot Point Number: 14 Shot: A
Charge: 5 lbs. Depth: 48/50 ft.
Reflection Filter: 39-1-66

Dgm.: 3258 ft.

SEISMIC REFERENCE SERVICE
Record Number: 6
Shot Point Number: 6 Shot: A
Charge: 5 lbs. Depth: 33/35 ft.
Reflection Filter: 39-1-46

Dgm.: 4000 ft.

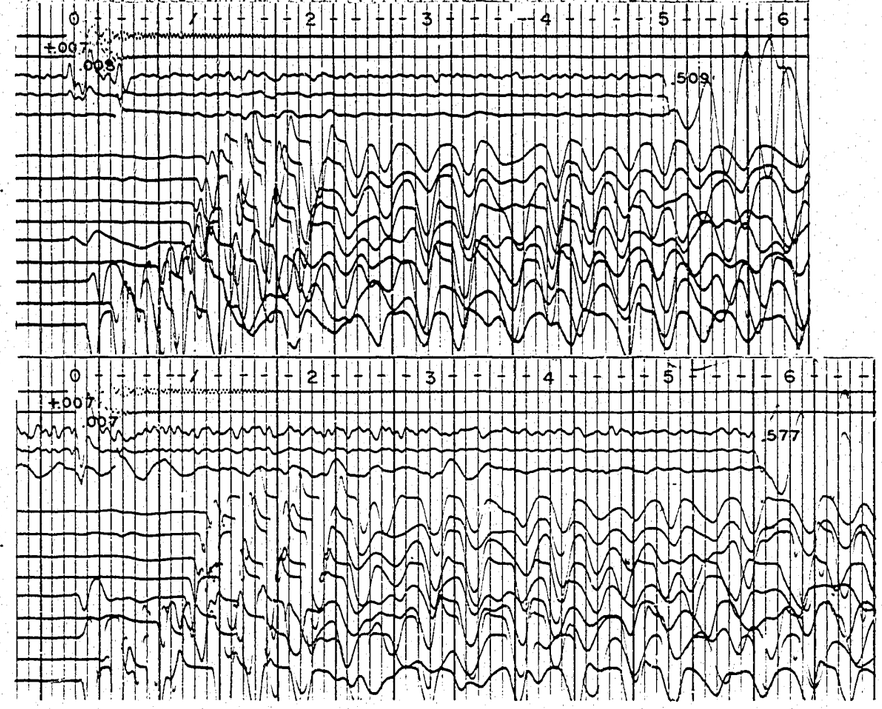


SEISMIC REFERENCE SERVICE
Record Number: 7
Shot Point Number: 12 Shot: A
Charge: 10 lbs. Depth: 36/40 ft.
Reflection Filter: 39-1-46

Dgm.: 4867 ft.

SEISMIC REFERENCE SERVICE
Record Number: 8
Shot Point Number: 11 Shot: A
Charge: 10 lbs. Depth: 56/60 ft.
Reflection Filter: 32-1-46

Dgm.: 5650 ft.



SEISMIC REFERENCE SERVICE
Record Number: 9
Shot Point Number: 10 Shot: A
Charge: 15 lbs. Depth: 44/50 ft.
Reflection Filter: 32-1-66

Dgm.: 6482 ft.

SEISMIC REFERENCE SERVICE
Record Number: 10
Shot Point Number: 4 Shot:
Charge: 15 lbs. Depth: 34/40 ft.
Reflection Filter: 32-1-46

Dgm.: 7250 ft.

SEISMIC REFERENCE SERVICE
Record Number: 11
Shot Point Number: 2 Shot: A
Charge: 20 lbs. Depth: 52/60 ft.
Reflection Filter: 32-1-66

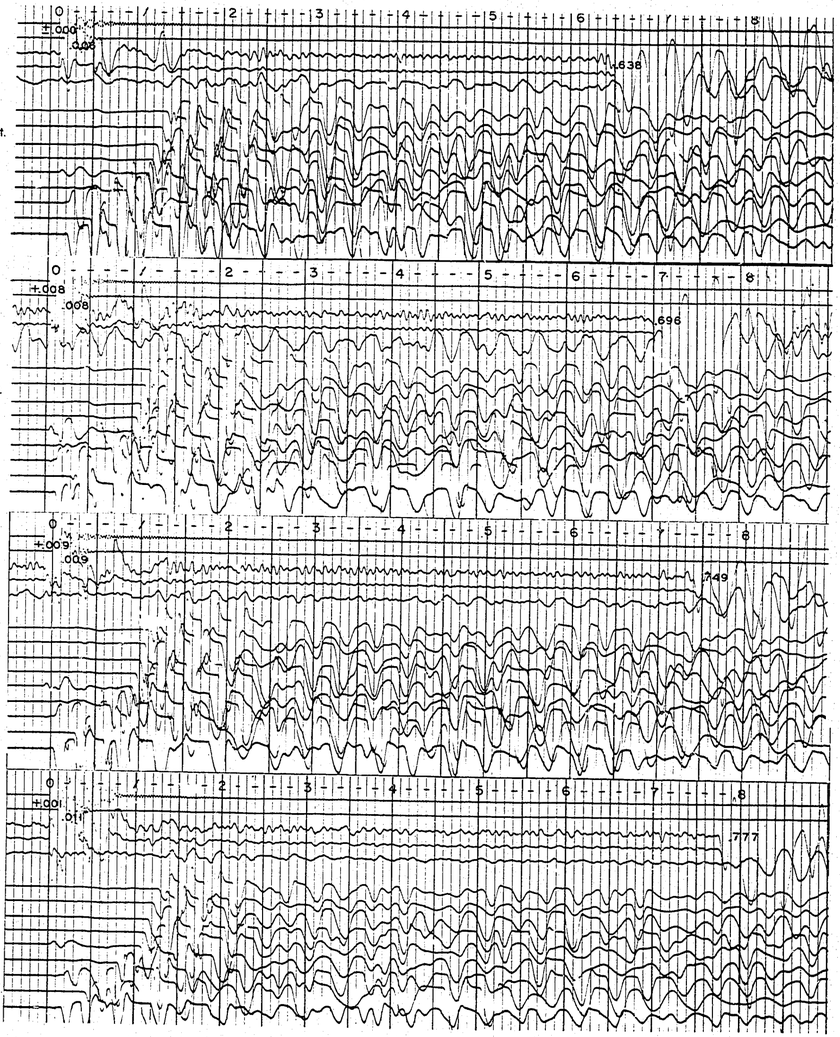
Dgm.: 8000 ft.

SEISMIC REFERENCE SERVICE
Record Number: 12
Shot Point Number: 3 Shot: A
Charge: 25 lbs. Depth: 60/70 ft.
Reflection Filter: 32-1-66

Dgm.: 8800 ft.

SEISMIC REFERENCE SERVICE
Record Number: 15
Shot Point Number: 5 Shot: A
Charge: 30 lbs. Depth: 68/80 ft.
Reflection Filter: 39-1-66

Dgm.: 9400 ft.

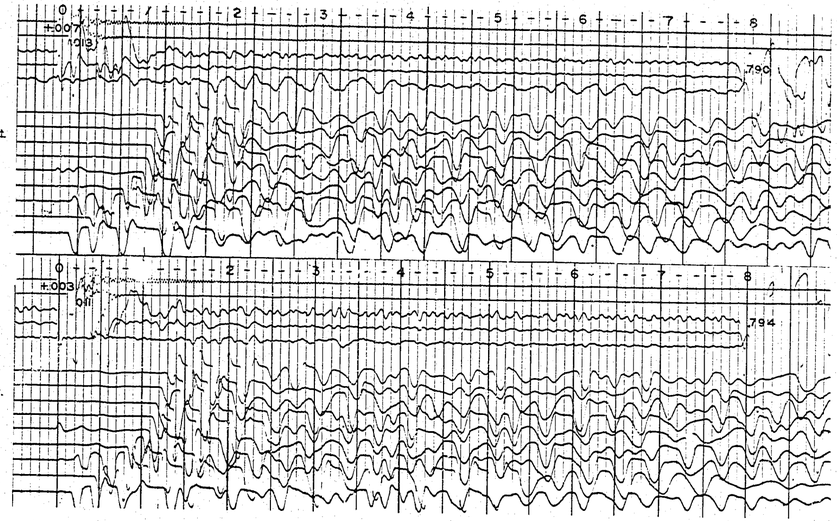


SEISMIC REFERENCE SERVICE
Record Number: 13
Shot Point Number: 7 Shot: A
Charge: 50 lbs. Depth: 90/110 ft.
Reflection Filter: 39-1-66

Dgm.: 9800 ft.

SEISMIC REFERENCE SERVICE
Record Number: 14
Shot Point Number: 15 Shot: A
Charge: 40 lbs. Depth: 69/85 ft.
Reflection Filter: 39-1-66

Dgm.: 9800 ft.



B.A.-TEXACO ARROWHEAD B-76
316.1032.4A COPY 2 OF 2

VERTICAL VELOCITY IN THOUSANDS OF FEET PER SECOND

5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

RECIPROCAL VELOCITY IN MICROSECONDS PER FOOT

200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40

VERTICAL TIME IN SECONDS

0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0

WELL ELEVATION + 729' K.B.

DATUM + 752'

0
- L. Sikanni 119'
- Buckinghorse 1914'

1000
- Beaver River 1015'
- Pleistocene Pebbles 1506'

2000
- Vertical Time

3000
- Banff 3157'

4000
- Exshaw 4716'
- Kiskatinaw 4781'

5000

6000
- Jedney 6004'
- Trout River 6118'
- Kiwigana 6381'
- Redknife-Fort Simpson 6447'

7000

8000
- Muskwa 8347'
- Slave Point 8438'
- Hare Indian 8699'
- Ft. Simpson Shale 8711'
- Presqu'ile 8729'
- Second Shale 8739'

Sonic Log

Vertical Average Velocity

Vertical Interval Velocity

VERTICAL VELOCITY IN THOUSANDS OF FEET PER SECOND

5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

RECIPROCAL VELOCITY IN MICROSECONDS PER FOOT

200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40

VERTICAL TIME IN SECONDS

0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0

WELL ELEVATION + 1.25" x 2"

DATUM + 1.25"

0

1000

2000

3000

4000

5000

6000

7000

8000

L. Sikanni 1119'

Pinekingfisher 3914'

Slater 3511' 3919'

Fantasy (Permo-Pennsylvanian) 4506'

Vertical Time

Vertical Average Velocity

Sonic Log

Vertical Interval Velocity

Ershaw 4716'

Kaskaskia 4761'

Tetcho 6008'

Trout River 6114'

Kakisa 6381'

Redknife - Fort Simpson 6447'

Muskwa 8347'

Chasm Point 8378'

Wadlin 8689'

First Shale 8714'

Pinekingfisher 8726'

Second Shale 8739'

DEPTH BELOW DATUM + 1750' — WELL ELEVATION + 1257' K.

4000
5000
6000
7000
8000
9000
10,000
11,000
12,000
13,000
14,000

Vertical Interval Velocity

Eashaw 4716'
Kotcho 4761'

Kotcho 6008'
Trout River 6114'

Kakisa 6381'
Redknife - Fort Simpson 6475'

Mystkwa 8347'
Slave Point 8378'

Watt Mt. 8699'
First Shale 8716'
Presquile 8722'
Second Shale 8739'

O - Infill Survey
Δ - Shot Log

GULF R & D CO. PITTSBURGH, PA.

WELL VELOCITY SURVEY
AND
CONTINUOUS VELOCITY SURVEY
IN THE
B.A.-TEXACO ARROWHEAD B-76
60°25'02"N, 122°59'02"W
NORTHWEST TERRITORIES, CANADA

TIME-DEPTH & VELOCITY-DEPTH CURVES

SURVEYED BY: SEISMIC REFERENCE SERVICE
SURVEY DATE: MARCH 7 1964
LOGGED BY: SCHLUMBERGER
LOG DATE: FEB 7, MAR 7 1964
V_E = 6000'/SEC

SID 1022.5 COPY 1 OF 2

WELL VELOCITY SURVEY
AND
SONIC LOG

IN THE

B.A.-TEXACO ARROWHEAD B-76
60°25'02"N, 122°59'02"W
NORTHWEST TERRITORIES, CANADA

S19.1022 Copy 11 of 19.

WELL VELOCITY SURVEY
AND
SONIC LOG

IN THE

B.A.-TEXACO ARROWHEAD B-76
60°25'02"N, 122°59'02"W
NORTHWEST TERRITORIES, CANADA

Edgar S. Driver

Douglas H. Smith

Anna S. Marta

GULF RESEARCH & DEVELOPMENT COMPANY

GEOPHYSICS DIVISION

PITTSBURGH, PENNSYLVANIA

MAY 4, 1964

Well Velocity Survey
and
Velocity Log
in the
B.A. Texaco Arrowhead B-76
60°25'02"N, 122°59'02"W
Northwest Territories, Canada

This survey was made by Seismic Reference Service on March 7, 1964. A well detector was used to obtain data from 13 levels ranging from 960 to 9800 feet below the kelly bushing elevation of 1251 feet. These data were used to calibrate the Sonic log. This log, with transmitter-to-receiver distances of 3 and 6 feet, was run as follows:

Run No. 1 Interval logged 954'-3393' Date: February 7, 1964
Run No. 2 Interval logged 3400'-9816' Date: March 7, 1964

A copy of the log is included on which a velocity scale is shown properly relating the velocity log to the calibration determination. Also included are copies of all check shot records with traces identified; a detailed location sketch; a graph showing corrected vertical travel times below a datum at 1150 feet, interval velocities, and average velocities; a computation sheet giving pertinent information about the survey, including the quality of each downhole recording; and a calibration curve.

The well survey and log are considered to be of normal reliability except for a few localized zones of erratic data on the log.

Edgar S. Driver

D. H. Smith (ESD)

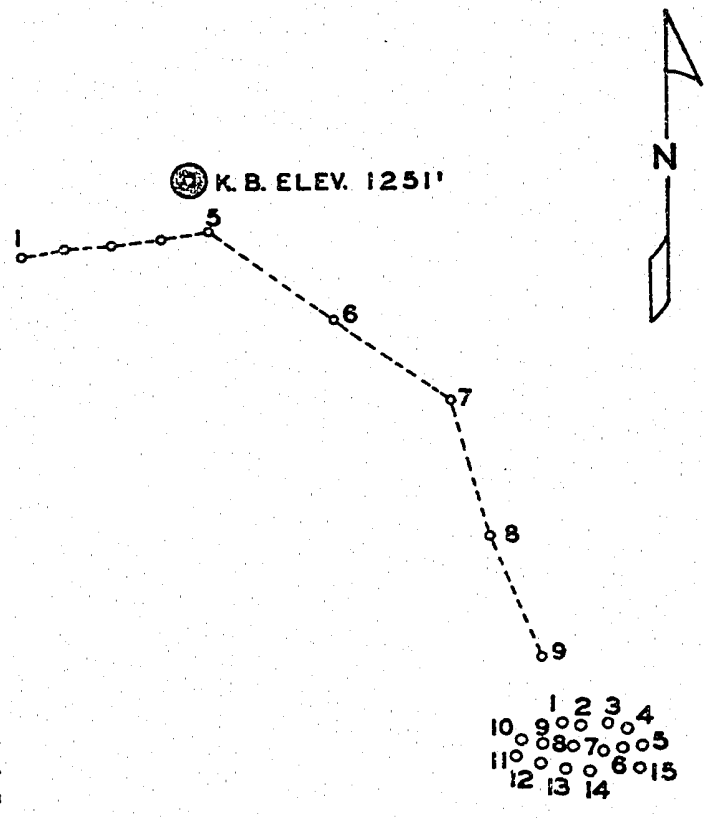
D. H. Smith

A. S. Marta

A. S. Marta

Date: May 4, 1964

S19.1022



S.P.	ELEV.	DIST.
1	1218'	695'
2	1219'	710'
3	1219'	725'
4	1219'	740'
5	1219'	765'
6	1219'	755'
7	1218'	745'
8	1218'	725'
9	1218'	705'
10	1218'	690'
11	1218'	700'
12	1218'	720'
13	1217'	740'
14	1218'	755'
15	1218'	780'

⊙ - WELL SURVEYED

o - SHOT POINT

o - GEOPHONE

SCALE : 1" = 200'

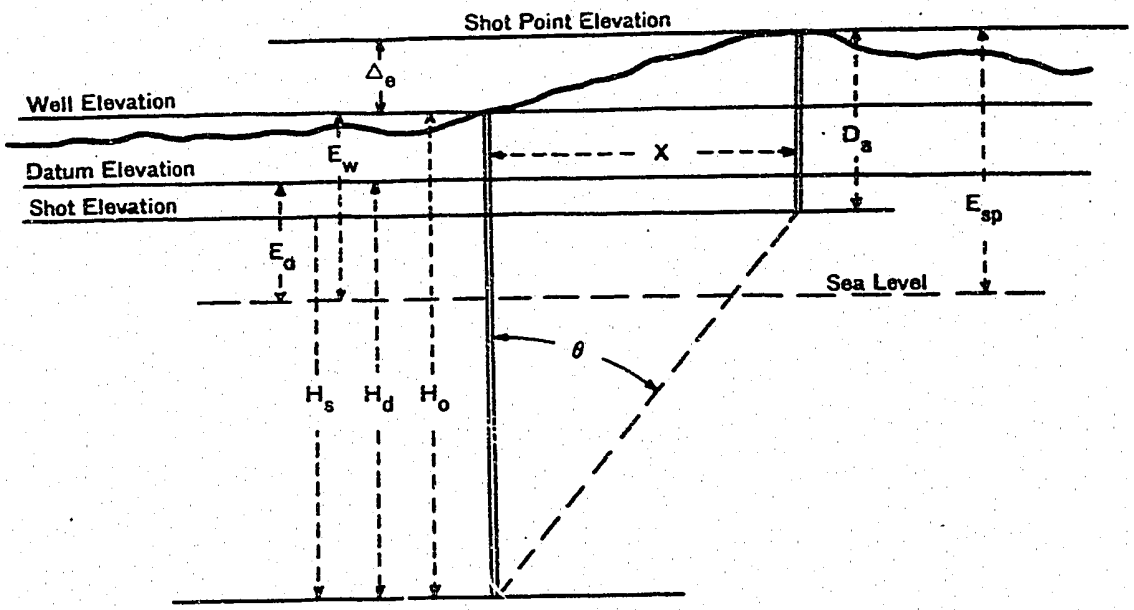
ENGINEERING SKETCH

B. A. - TEXACO ARROWHEAD B-76

WELL VELOCITY SURVEY

GULF RESEARCH & DEVELOPMENT COMPANY **PITTSBURGH, PA.**

LEGEND SHEET



R–N = Record Number .

S–P = Shot Point

E_{sp} = Elevation of shot point

T_{uh} = Uphole time

H_o = Detector depth below well elevation

D_s = Depth of explosive charge

Δ_c = Elevation correction = $E_{sp} - E_w$, where E_w = well elevation

H_s = Detector depth below shot = $H_o - (D_s - \Delta_c)$

X = Horizontal distance well to shot point

$\text{Tan}\theta = \frac{X}{H_s}$

T_o = Observed slant time below shot

Q = Quality of record

T_v = Vertical time below shot = $T_o \cdot \text{Cos}\ \theta$

H_d = Detector depth below datum = $H_o - (E_w - E_d)$, where E_d = datum elevation

τ = Correction to datum = $\frac{H_d - H_s}{V_c}$, where V_c = elevation velocity

T_{vd} = Corrected vertical time below datum $T_v + \tau$

$\overline{T}_{vd}$ = Average corrected vertical time below datum

$\overline{V}$ = Average vertical velocity = $\frac{H_d}{\overline{T}_{vd}}$

ΔH = Interval depth

$\Delta \overline{T}_{vd}$ = Interval time

V_i = Interval velocity = $\frac{\Delta H_d}{\Delta \overline{T}_{vd}}$

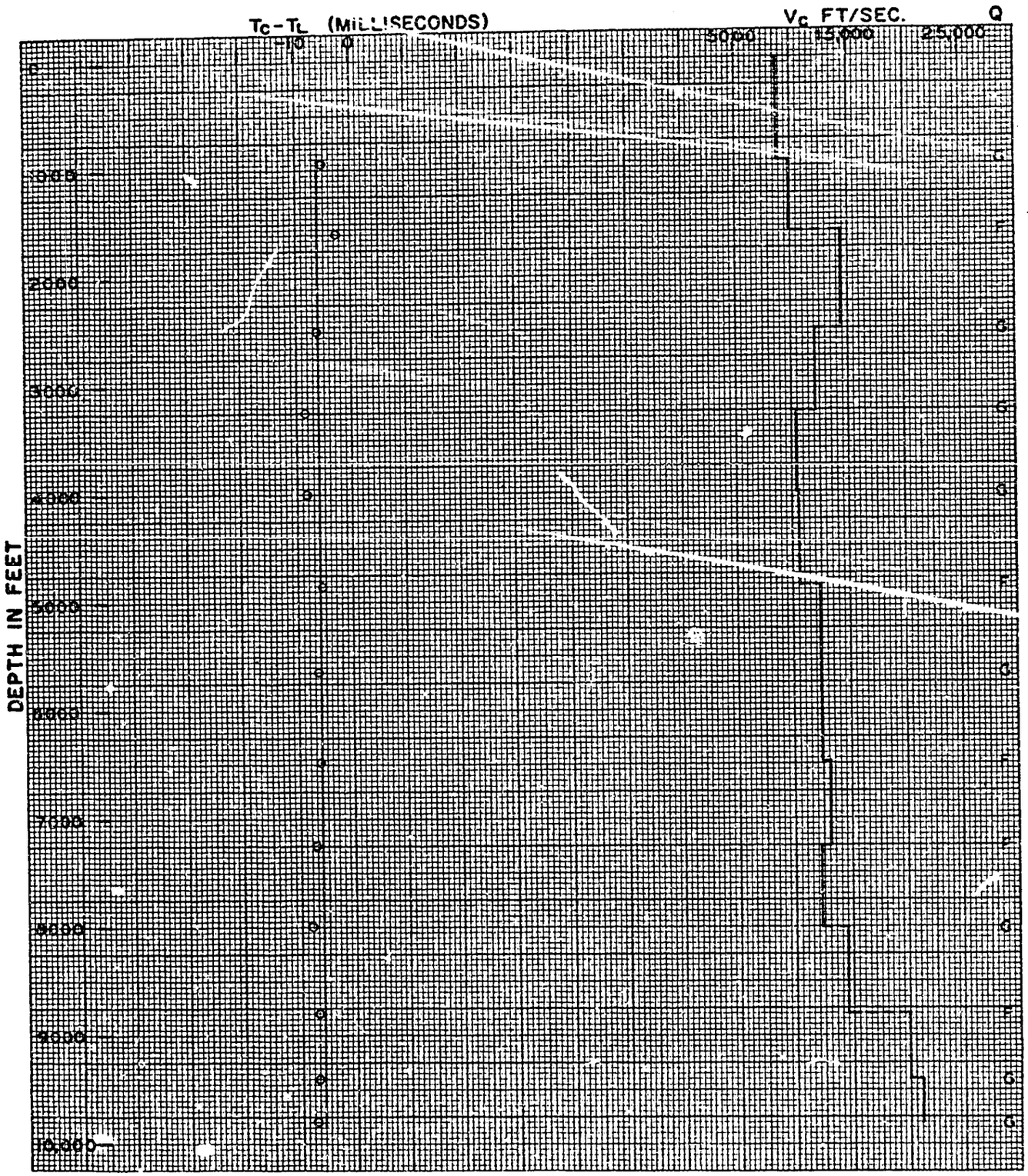
WELL VELOCITY SURVEY — GULF RESEARCH & DEVELOPMENT COMPANY – PITTSBURGH-PA.

WELL NAME	LOCATION	WELL ELEV.	TOTAL DEPTH	CASING RECORD	SURVEYED BY – SRS	DATUM – 1150'
R.A. Texaco Arrowhead B-76	60° 25' 02" N 122° 50' 02" W Northwest Territories, Canada	K.B. – 1251' R.T. – D.F. – G.R. –	9805'	954' 3400'	SURVEYED FOR – BA SURVEY DATE – March 7, 1964 COMPUTED BY – ESD-DHS-ASM	V_E – 6000'/Sec.

R-N	S-P	E_{SP}	T_{UH}	D_S	$\Delta\varepsilon$	H_O	H_S	X	TAN θ	COS θ	T_O	Q	T_V	H_D	τ	T_{VD}	$\overline{T}_{VD}$	$\overline{V}$	ΔH_D	$\Delta\overline{T}_{VD}$	V_i	WELL CALLS SUBDATUM
2	9	1218	.006	42	-33	960	885	705	.7966	.7821	.131	G	.102	859	-.004	.098	.098	8770	859	.098	8770	
3	8	1218	.005	35	-33	1607	1530	725	.4711	.9046	.187	F	.169	1506	-.006	.163	.163	9240	647	.065	9950	L. Sikannis 119'
4	13	1217	.008	50	-34	2500	2416	740	.3063	.9561	.238	G	.228	2399	-.003	.225	.225	10,660	893	.062	14,400	Buckinghorse 394'
5	14	1218	.006	50	-33	3258	3175	755	.2378	.9729	.299	G	.291	3157	-.003	.288	.288	10,960	758	.063	12,030	Scatter Ss. 977'
6	6	1219	.005	35	-32	4000	3933	755	.1920	.9821	.372	G	.365	3899	-.006	.359	.359	10,860	742	.071	10,450	Mississippian
7	12	1218	.006	40	-33	4867	4794	720	.1502	.9880	.451	F	.446	4766	-.005	.441	.441	10,810	867	.082	10,570	(Flett) 1506'
8	11	1218	.008	60	-33	5650	5557	700	.1260	.9922	.509	G	.505	5549	-.001	.504	.504	11,010	783	.063	12,430	Banff 3157'
9	10	1218	.007	50	-33	6482	6390	690	.1078	.9942	.577	F	.574	6381	-.003	.571	.571	11,180	832	.067	12,420	Exshaw 4716'
10	4	1219	.006	40	-32	7250	7178	740	.1031	.9947	.638	F	.635	7140	-.005	.630	.630	11,350	768	.059	13,020	Kotcho 4761'
11	2	1219	.008	60	-32	8000	7908	710	.0898	.9960	.696	G	.693	7890	-.002	.691	.691	11,430	750	.061	12,300	Tetcho 6004'
12	3	1219	.009	70	-32	8800	8698	725	.0834	.9965	.749	F	.746	8699	.000	.746	.746	11,660	800	.055	14,550	Trout River 6114'
15	5	1219	.011	80	-32	9400	9288	765	.0824	.9966	.777	G	.774	9299	+.002	.776	.776	11,980	600	.030	20,000	Kakisa 6381'
13	7	1218	.013	110	-33	9800	9657	745	.0771	.9970	.790	F	.788	9699	+.007	.795	.795	12,200	400	.019	21,050	Redknife- Fort Simpson 6447'
14	15	1218	.011	85	-33	9800	9682	780	.0806	.9968	.794	G	.791	9699	+.003	.794						Muskwa 8347'
																						Slave Point 8378'
																						Watt Mt. 8689'
																						First Shale 8714'
																						Pres'quile 8722'
																						Second Shale 8739'

S19.1022.2

Copy // of 19.



CALIBRATION CURVE
B.A.-TEXACO ARROWHEAD B-76

T_L = UNCORRECTED LOG TIME
T_C = CHECK SHOT TIME
V_C = CHECK SHOT VELOCITY
Q = QUALITY

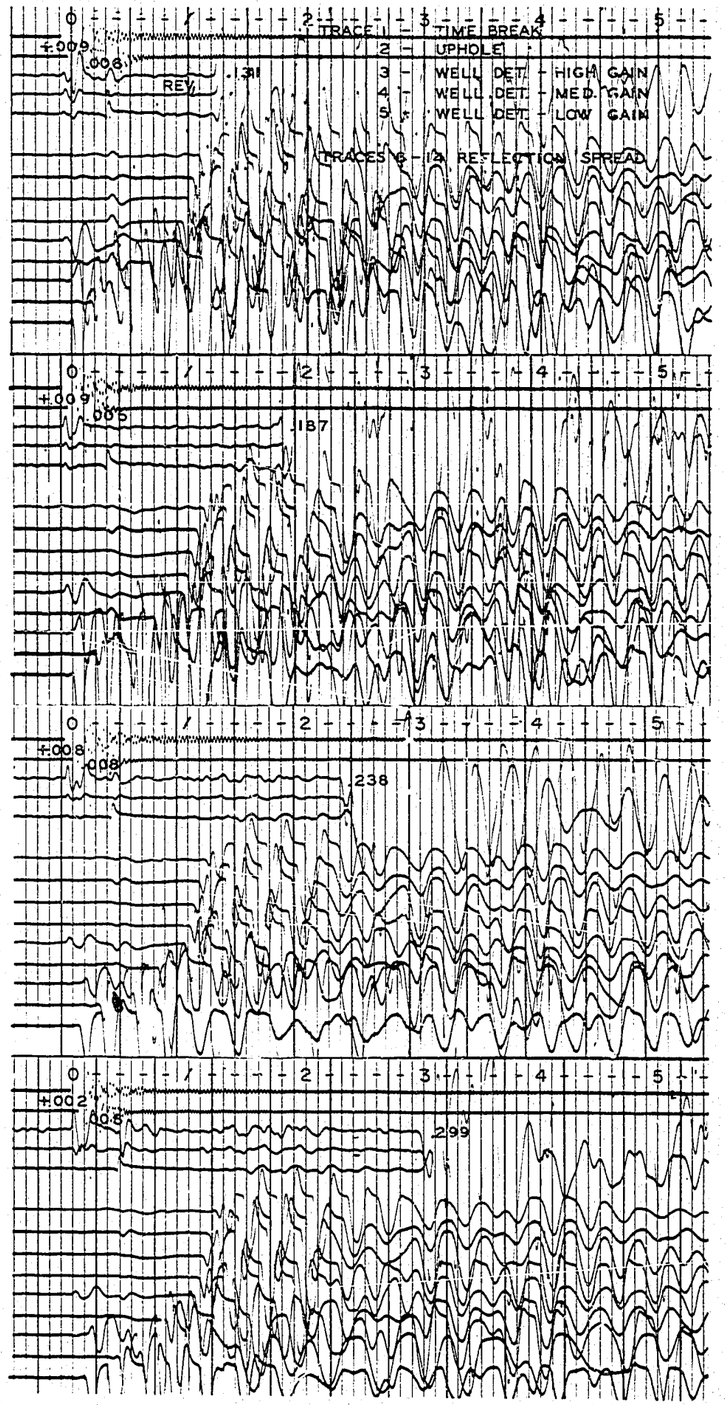
TO LOG 0.0 ms/ft. FROM 954 TO 9816 FT.
ms/ft. FROM TO FT.

S19.1022.3 COPY 11 OF 19.

SEISMIC REFERENCE SERVICE

Record Number: 2
Shot Point Number: 9 Shot: A
Charge: 2 1/2 lbs. Depth: 41/42 ft.
Reflection Filter: 32-1-66

Dgm.: 960 ft.



SEISMIC REFERENCE SERVICE

Record Number: 3
Shot Point Number: 8 Shot: A
Charge: 2 1/2 lbs. Depth: 34/35 ft.
Reflection Filter: 32-1-66

Dgm.: 1607 ft.

SEISMIC REFERENCE SERVICE

Record Number: 4
Shot Point Number: 13 Shot: A
Charge: 5 lbs. Depth: 48/50 ft.
Reflection Filter: 39-1-66

Dgm.: 2500 ft.

SEISMIC REFERENCE SERVICE

Record Number: 5
Shot Point Number: 14 Shot: A
Charge: 5 lbs. Depth: 48/50 ft.
Reflection Filter: 39-1-66

Dgm.: 3258 ft.

SEISMIC REFERENCE SERVICE

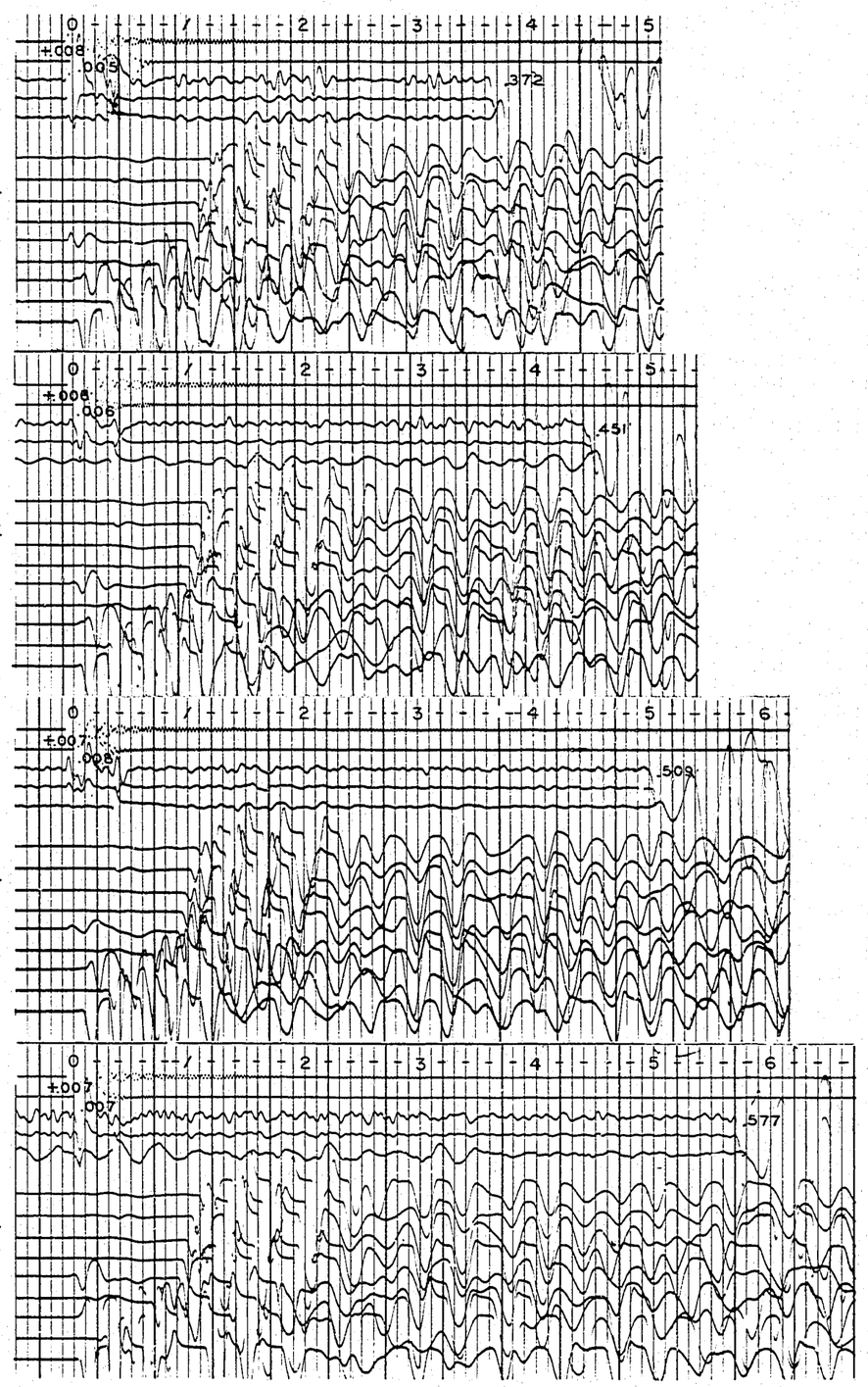
Record Number: 6
Shot Point Number: 6 Shot: A
Charge: 5 lbs. Depth: 33/35 ft.
Reflection Filter: 39-1-46

Dgm.: 4000 ft.

SEISMIC REFERENCE SERVICE

Record Number: 7
Shot Point Number: 12 Shot: A
Charge: 10 lbs. Depth: 36/40 ft.
Reflection Filter: 39-1-46

Dgm.: 4867 ft.



SEISMIC REFERENCE SERVICE

Record Number: 8
Shot Point Number: 11 Shot: A
Charge: 10 lbs. Depth: 56/60 ft.
Reflection Filter: 32-1-46

Dgm.: 5650 ft.

SEISMIC REFERENCE SERVICE

Record Number: 9
Shot Point Number: 10 Shot: A
Charge: 15 lbs. Depth: 44/50 ft.
Reflection Filter: 32-1-66

Dgm.: 6482 ft.

SEISMIC REFERENCE SERVICE
Record Number: 10
Shot Point Number: 4 Shot:
Charge: 15 lbs. Depth: 34/40ft.
Reflection Filter: 32-1-46

Dgm.: 7250 ft.

SEISMIC REFERENCE SERVICE
Record Number: 11
Shot Point Number: 2 Shot: A
Charge: 20 lbs. Depth: 52/60 ft.
Reflection Filter: 32-1-66

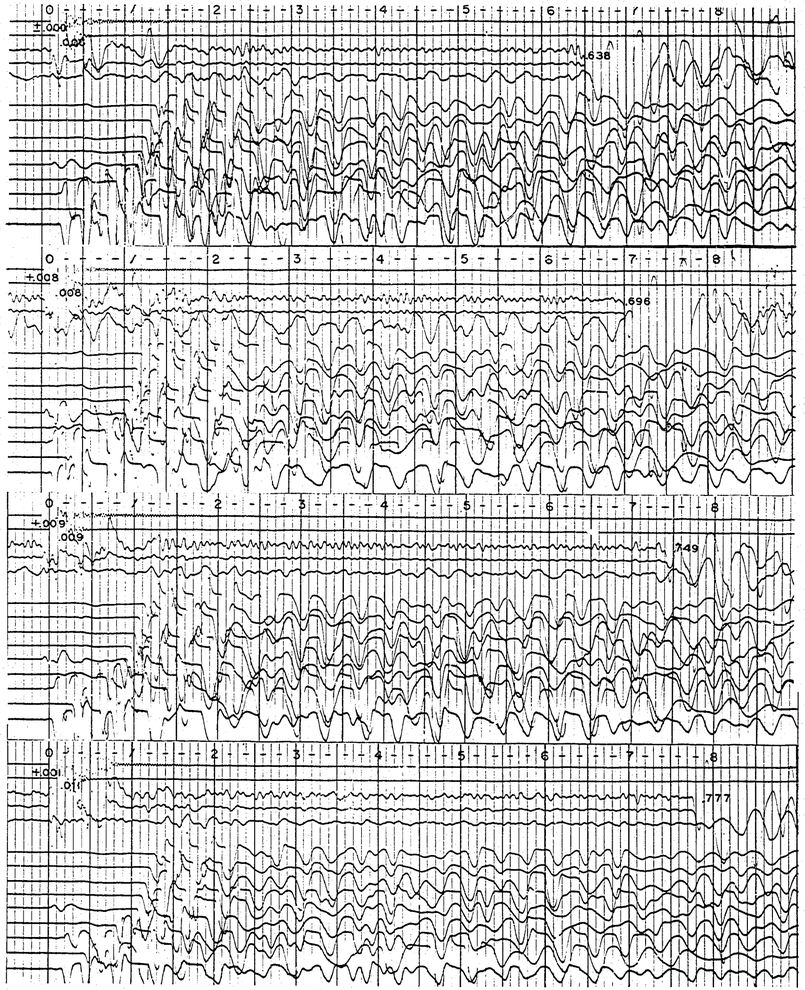
Dgm.: 8000 ft.

SEISMIC REFERENCE SERVICE
Record Number: 12
Shot Point Number: 3 Shot: A
Charge: 25 lbs. Depth: 60/70ft.
Reflection Filter: 32-1-66

Dgm.: 8800 ft.

SEISMIC REFERENCE SERVICE
Record Number: 15
Shot Point Number: 5 Shot: A
Charge: 30 lbs. Depth: 68/80 ft.
Reflection Filter: 39-1-66

Dgm.: 9400 ft.

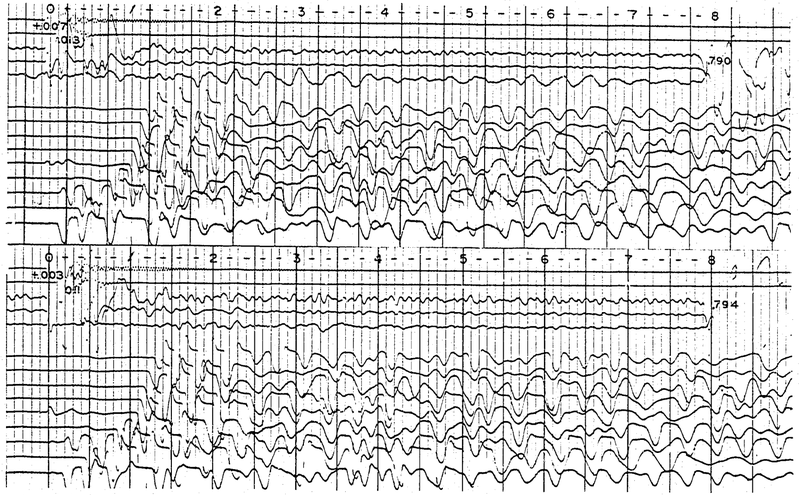


SEISMIC REFERENCE SERVICE
Record Number: 13
Shot Point Number: 7 Shot: A
Charge: 50 lbs. Depth: 90/110 ft.
Reflection Filter: 39-1-66

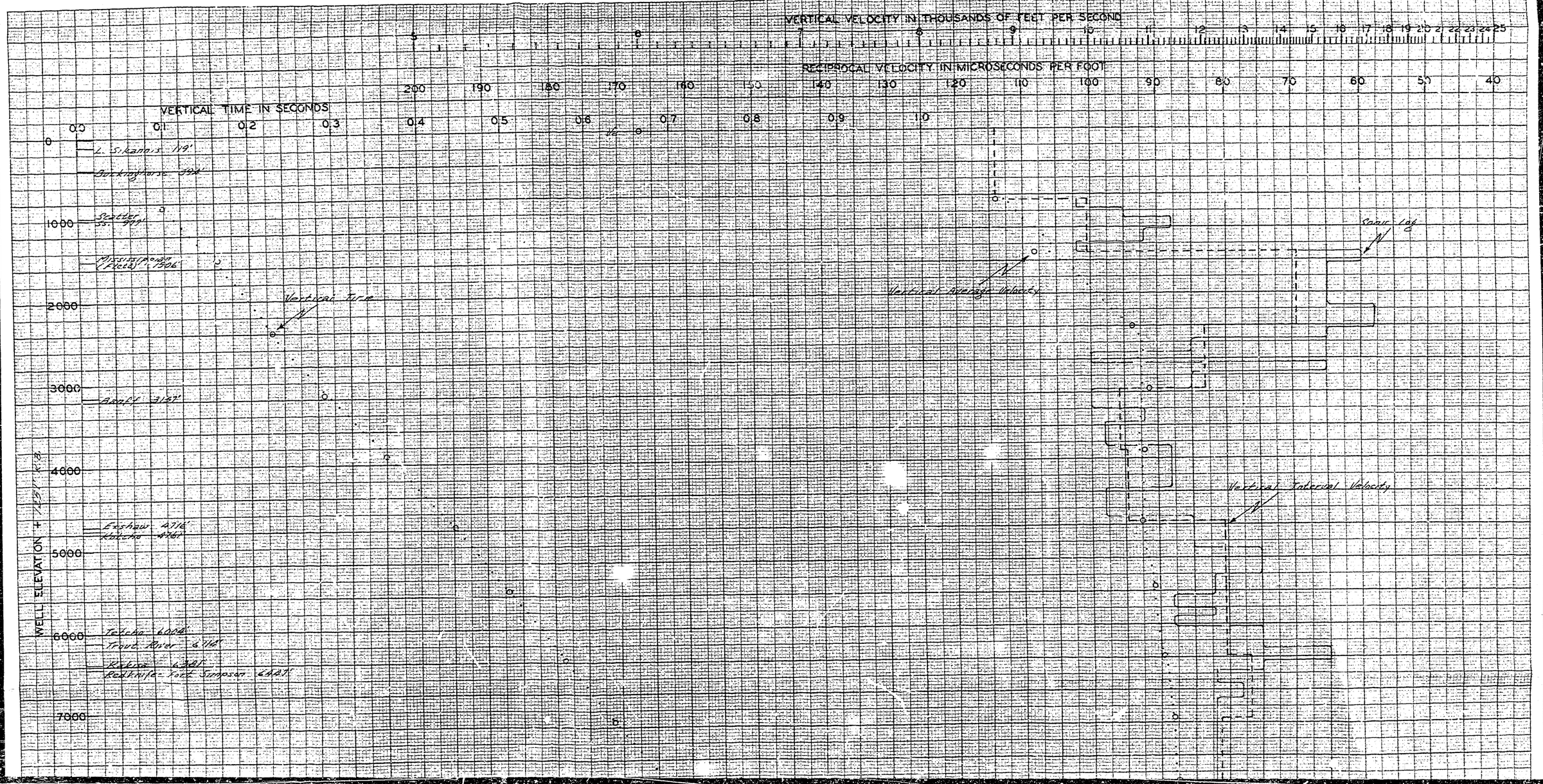
Dgm.: 9800 ft.

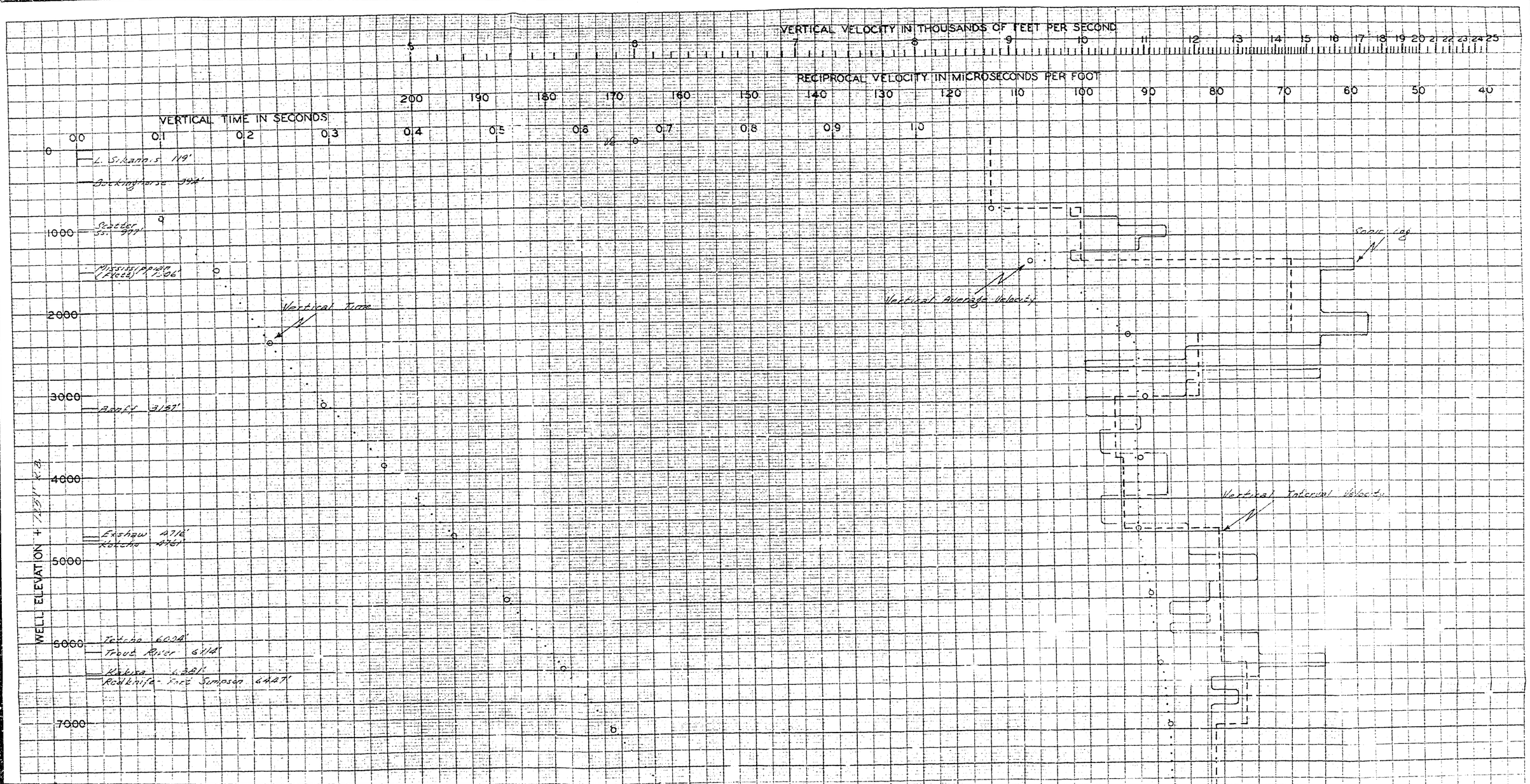
SEISMIC REFERENCE SERVICE
Record Number: 14
Shot Point Number: 15 Shot: A
Charge: 40 lbs. Depth: 69/85 ft.
Reflection Filter: 39-1-66

Dgm.: 9800 ft.



B.A.-TEXACO ARROWHEAD 8-76
319.1022.4A COPY 11 OF 19


VERTICAL VELOCITY IN THOUSANDS OF FEET PER SECOND
5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
RECIPROCAL VELOCITY IN MICROSECONDS PER FOOT
200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40
VERTICAL TIME IN SECONDS
0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0
WELL ELEVATION + 125' K.B.
0
1000
2000
3000
4000
5000
6000
7000
L. S. Kanosh 119'
Burkhalter 998'
Shell Ss. 999'
Mississippian (Fm?) 1506'
Vertical Time
Vertical Average Velocity
Sonic Log
Vertical Interval Velocity
Arapien 3152'
Eagle Ranch 4716'
Navajo 4761'
Twin Creek 6004'
Trout River 6114'
Preuss 6481'
Redknife-Twin Simpson 6681'

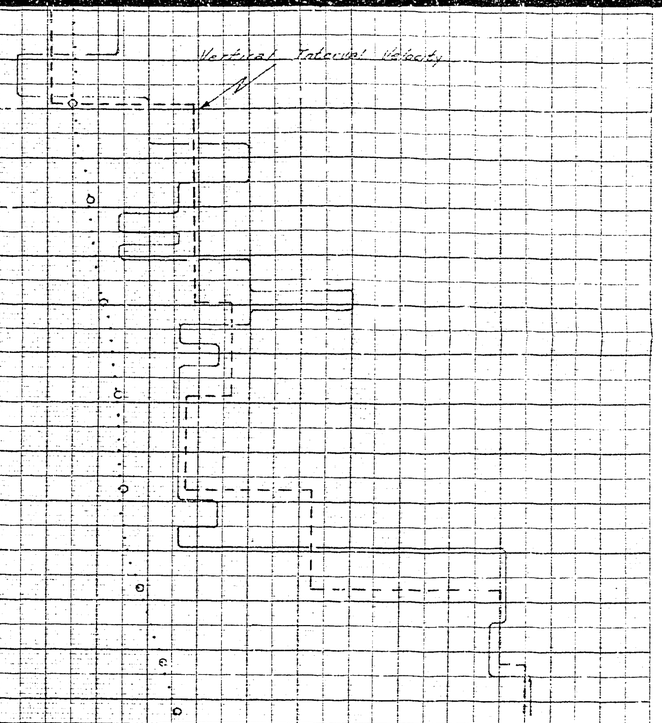

VERTICAL VELOCITY IN THOUSANDS OF FEET PER SECOND
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
RECIPROCAL VELOCITY IN MICROSECONDS PER FOOT
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
VERTICAL TIME IN SECONDS
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
WELL ELEVATION + 125' K.B.
0
1000
2000
3000
4000
5000
6000
7000
L. S. Kano-s 119'
Jockingfork 994'
Scatter 55. 909'
Mississippian (Fixed) 1506'
Banff 3152'
Exshaw 4716'
Kaskaskia 4761'
Jefferson 6004'
Trout River 6118'
Kiska 6381'
Rockhiffe-Fine Simpson 6444'
Vertical Time
Vertical Average Velocity
Sonic Log
Vertical Interval Velocity

WELL ELEVATION + 1431'

DEPTH BELOW DATUM + 1752'

4000
5000
6000
7000
8000
9000
10,000
11,000
12,000
13,000
14,000

Fireshaw 4716'
Kotcho 4781'
Tetcho 6004'
Trout River 6414'
Kakisa 6481'
Redknife-Fort Simpson 6447'
Muskwa 8347'
Slave Point 8376'
Watt Mtn 9089'
Fort Simpson Shale 8714'
Pacsanwin 8720'
Second Shale 8739'



o - Well Survey
• - Sonic Log

GULF R & D CO. PITTSBURGH, PA.

WELL VELOCITY SURVEY
AND
CONTINUOUS VELOCITY SURVEY
IN THE
B.A.-TEXACO ARROWHEAD B-76
60°25'02"N, 122° 39' 02"W
NORTHWEST TERRITORIES, CANADA

TIME-DEPTH & VELOCITY-DEPTH CURVES

SURVEYED BY: SEISMIC REFERENCE SERVICE
SURVEY DATE: MARCH 7, 1964
LOGGED BY: SCHLUMBERGER
LOG DATE: FEB 7, MAR 7, 1964
V_E = 6000'/SEC

S19-1022.5 COPY 11 OF 18

DRILLING CONTRACTOR'S DAILY REPORT

CC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE March 11 19 64 WELL NO. B-76 LEASE BATEXACO ROW HEAD

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE DRLG

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.
12⁰⁰	8⁰⁰	WASH mud TANKS & TEAR DOWN ON 13 3/8"
8:00	12:00	LAYED DOWN KELLY - MOUSE HOLE & B.O.P.'S
12:00	4:00	WELD JOINT ON 9 5/8" CASING - REMOVED PACKING & CASING SLIPS SLACKED OFF 9 5/8" CASING CUT OFF 9 5/8" & CEMENTED TOP OF CASING W/ 5 SACKS CEMENT CUT OFF 13 3/8" CASING - WELDED PLATE ON 9 5/8" & 13 3/8" CASING WELDED SIGN & POST ON TOP OF CASING PLATE. RIG RELEASED @ 6:00 P.M. 3-11-64 Robert Lock
		WELDER 3 HRS MAKING SIGN FOR WELL HEAD, CUTTING OFF 9 5/8" & 13 3/8" CASING - WELDING PLATES, SIGN POST & SIGN ON TOP OF CASING
		FOR YORK 3 HRS OVERTIME WELDING FOR B.A.
		NORM CALLAGHAN 8 HRS OVERTIME FOR DRIVING B.A. POWERWAGON FROM RIG #2 TO CAMP 14 HRS

TIME CHARGEABLE TO BRITISH AMERICAN	WITH DRILL PIPE HRS.	WITH DRILL PIPE MIN.	WITHOUT DRILL PIPE HRS.	WITHOUT DRILL PIPE MIN	OTHER HRS.	OTHER MIN.
			8	00		

DEVIATION RECORD

DEPTH	SURVEY	DEPTH	SURVEY

	HRS.	MIN.	HRS.	MIN	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.						
DAY WORK PER 24 HOUR DAY						

BIT RECORD:

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

Verbal agreement w/ toolpush & field superintendent was for 8 hrs so as not to interfere with preparations to move out & the casing was cut off & plate welded on when ~~time~~ time consent to do so. RH

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 9804 TD DEPTH END SECOND TOUR: DEPTH END THIRD TOUR:

M. Gallop DRILLER OR WATCHMAN W. Shackak DRILLER OR WATCHMAN C. [illegible] WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

[illegible] CONTRACTOR'S REPRESENTATIVE BRITISH AMERICAN'S REPRESENTATIVE Robert G Lock BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

THE BRITISH AMERICAN OIL COMPANY LIMITED

GC-95B

DATE MARCH 10 19 64 WELL NO. B76 LEASE BA TEXACO ARROWHEAD

SEC. ____ T. ____ R. ____ PROVINCE NWT CONTRACTOR CASCADE DRLG CO #2

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS, TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR. SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12 00	1130	W.O.C. CIRC.					
1130	5 15	RUN IN & FELT plug at 8770 - WASH 10m out					
5 15	8.	PULL OUT.					
		FELT FOR P&A PLUG #2 AFTER 8 HRS					
		FOUND TOP @ 8770					
RAN P&A PLUG #3 - 3430 - 3330 BY HOWCO W/ 65							
SKS ELK PT AND 3 BACK CEMENT W/ 2% CACL2 ADDED							
PLUG DOWN @ 8:48 AM. 3-10-64							
8 00	8 45	RUN PLUG #3 + PUMP DOWN SAME.					
8 45	400	W.O.C. HOIST DRILL P.PE & RUN IN TO FEEL FOR PLUG					
		FELT FOR P&A PLUG #3 AFTER 7 HRS					
		FOUND TOP @ 3370					
400	415	FINNISH RUNNING IN & FELT PLUG #3					
415	730	HOIST DRILL PIPE.			4	30	
730	1200	CLEANING MUD TANKS, WASH RIG					
		BOPS					
		TOTAL TIME CHARGEABLE TO B.A.	19	30	4	30	
		DAY WORK PER 24-HOUR DAY					

DEVIATION RECORD

DEPTH	SURVEY	DEPTH	SURVEY

BIT RECORD:

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

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 9805

M Ballard
DRILLER OR WATCHMAN

DEPTH END SECOND TOUR: 9805.

W. Hankuk.
DRILLER OR WATCHMAN

DEPTH END THIRD TOUR: 9805'

C. Markunas.
DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arnett
CONTRACTOR'S REPRESENTATIVE

W.E. Schmaltz
BRITISH AMERICAN'S REPRESENTATIVE

Robert G Lock
BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

THE BRITISH AMERICAN OIL COMPANY LIMITED

GC-958

DATE MARCH 9 19 60 WELL NO. B-76 LEASE BA TEXACO ARROWHEAD

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE DRLG #2

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS, TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR. SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.
8 AM	1 PM	LAYING DOWN CORE BBLS
1 PM	4 PM	RUN IN OPEN END
4 PM	8 PM	WAITING ON ORDERS & CIRC.
8 00	9 00	WAIT ON ORDERS. CIR.
9 00	7 00	CIRC. OPEN END WAITING ON ORDERS
7 00	8 00	RIG UP TO RAN CEMENT PLUGS + RAN PLUG #1 - 9805 - 9700. 50 SKS PORT LAND CEMENT W/.5% HR4 ADDED, PLUG DOWN @ 7:50 P.M.
8 00	8 15	HOIST 8 STANDS
8 15	9 16	RAN PLUG #2 - 8950 - 9800 - 90 SKS PORTLAND CEMENT WITH .5% HR4 ADDED. PLUG DOWN @ 9:15 P.M.
9 15	12 00	HOIST 12 STANDS + CIR. OPEN END WAIT ON CEMENT ~~TO T.C.~~

RAN B/A PLUG #1 - 9805 - 9700 BY HOWCO W/50 SKS - ELK PT LAND SK CEMENT W/.2% HR4 ADDED. PLUG DOWN @ 7:50 PM - 3 - 9 - 64 - DID NOT FEEL FOR PLUG

RAN 2ND PLUG #2 - 8950 - 8800 BY HOWCO W/90 SKS ELK PRTLND SK CEMENT W/.5% HR4 ADDED. PLUG DOWN @ 9:15 P.M - 3 - 9 - 64 BOILER 24 HRS.

TIME CHARGEABLE TO BRITISH AMERICAN	WITH DRILL PIPE HRS.	WITH DRILL PIPE MIN.	WITHOUT DRILL PIPE HRS.	WITHOUT DRILL PIPE MIN.	OTHER HRS.	OTHER MIN.
			1	00		
TOTAL TIME CHARGEABLE TO B.A.			1	00		
DAY WORK PER 24 HOUR DAY	23	00				

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NO. AND DRILL COLLARS
										650	1	42	6½	—

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
2 00	9.1	330	3.0	2/32	9.5	
6 00	9.1	200	3.4	2/32	9.5	

MUD ADDITIVES:

AMOUNT	TYPE	TIME
	WATER.	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 9805

DEPTH END SECOND TOUR: 9805

DEPTH END THIRD TOUR: ____

M. Callaghan
DRILLER OR WATCHMAN

W. Zaduk.
DRILLER OR WATCHMAN

C. Markuman.
DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt
CONTRACTOR'S REPRESENTATIVE

W. C. Schroeder
BRITISH AMERICAN'S REPRESENTATIVE

Robert Glock
BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

OAK SAFETY FILM

DRILLING CONTRACTOR'S DAILY REPORT

THE BRITISH AMERICAN OIL COMPANY LIMITED

GC-958

DATE MARCH 8 19 64 WELL NO B76 LEASE BA TEXACO ARROW HEAD

SEC. _____ T. _____ R. _____ PROVINCE NWT CONTRACTOR CASCADE DRIg #2

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12 00	2 30	Run in w/ DRI collars & Finish picking up Tool					
2 30	4 30	WAITING ON DAYLIGHT					
4 30	6 30	Finish Running in w/ packer					
6 30	8 00	TESTING					
8 00	10 30	TESTING					
10 30	4 00	HOISTING PACKER WET 21 STANDOFF BOTTOM.					
4 00	7 00	HOISTING PACKER					
7 00	8 00	BREAK DOWN PACKER & LAY DOWN SAME			1	00	
8 00	12 00	RIG UP TO LAY DOWN DRILL COLLARS & LAY DOWN, LAYING DOWN CORE BBLS.			4	00	

RAN DST #2 BY HOWCO W/ OVAL 1½" PACKERS W/ 1½" 55 CHOKE.
INTERVAL TESTED 9735 - 9805. 5 MIN. INITIAL BLEED DOWN
PERIOD W/ 60 MIN INITIAL SHUT-IN - 60 MINUTES OPEN & 60 MIN
FINAL SHUT-IN. GAS TO SURFACE IN 3 MIN OF INITIAL BLEED DOWN.
AFTER 10 OF OPEN 15 MIN GAS MEASURED 192 M.C.F AFTER 30
MIN 34 M.C.F. AFTER 45 MIN 5104 M.C.F AFTER 2 HR MIN 7.62 M.C.F
STILL DECREASING - 4½" DRILL PIPE RECOVERY 4913' SALT WATER
CUT. HEAVY GASSIFIED DRILLMUD + 2250' GASSIFIED SALT WATER

BOILER 24 HRS

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	19	00	5	00		
DAY WORK PER 24 HOUR DAY						

DEVIATION RECORD

DEPTH	SURVEY	DEPTH	SURVEY

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
1. H.P.	4 7/8	FH-P-	4652		1. F.P.	965			F FA 2 700					
1. S.P.	- 4123	FS-1P	4000		EHT- 274°F									

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 9805 DEPTH END SECOND TOUR: 9805 DEPTH END THIRD TOUR: 9805

N. Lalonde — DRILLER OR WATCHMAN

DRILLER OR WATCHMAN

C. Markunas — DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt — CONTRACTOR'S REPRESENTATIVE

W. Edmonds — BRITISH AMERICAN'S REPRESENTATIVE

Robert G Lock — BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-95B

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE MARCH 7 19 64 WELL NO. B76 LEASE BA. TEXACO - ARROWHEAD

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE DRLG #2

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12 00	3 00	FINISH STRAPING OUT	3	00				
3 00	5 00	WAITING ON LOGGERS						
5 00	8 00	LOGGING.						
8 00	4 00	LOGGING.						
4 00	10 30	LOGGING W/SCHLUMBERGER						
10 30	10 45	TEAROUT SCHLUMBERGER.						
10 45	12 00	MAKING UP PACKER						
		STRAPPED PIPE-BOARD 9800						
		S.L.M 9803'						
		MADE 3' CORRECTION						
		RAN IES LOG - T.D. TO CASING						
		RAN GAMMA SONIC LOG T.D. TO CASING						
		RAN DIP METER 8350 - 8350						
		RAN VELOCITY SURVEY						
		BOILER 24 HRS						

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	9800	4½		

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	8	00	21	00		
DAY WORK PER 24 HOUR DAY						

BIT RECORD:

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

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	pH	SAND CONTENT

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 9805 T.D. DEPTH END SECOND TOUR: 9805 DEPTH END THIRD TOUR: 9805

N. Ballogg — DRILLER ON WATCHMAN

DRILLER OR WATCHMAN

C. Harkonen — DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arnett — W. A. Schomaker — BRITISH AMERICAN'S REPRESENTATIVE.

Robert G Lock — BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE MARCH 6 19 64 WELL NO. B-76 LEASE B.A. TEX ARROWHEAD.

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE RIG #2.

TIME BY DRILLERS FROM	TIME BY DRILLERS TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	WITH DRILL PIPE MIN.	WITHOUT DRILL PIPE HRS.	WITHOUT DRILL PIPE MIN.	OTHER HRS.	OTHER MIN.
12.00	4.30	DRLG 8 3/4" HOLE.						
4.30	8.00	CIRC. & WAIT ON [redacted] LOGGERS.						
8.00	4.00	CIRC. WAITING ON LOGGERS						
4.00	4.45	HOIST 15 STANDS						
4.45	5.45	WAIT 1 HR W/ PUMP SHUT OF						
5.45	6.15	RUN IN 15 STANDS (NO. FILL ON BOTTOM						
6.15	10.00	CIRC. & WAIT ON LOGGERS						
10.00	10.30	BOTTOM HOLE SURVEY @ 9800' — 4 1/4°						
10.30	12.00	STRAPING OUT TO LOG.						
		BOILER 24 HRS						

DEVIATION RECORD DEPTH	SURVEY	DEPTH	SURVEY
9740	4°		
9800	4 1/4°		

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	24	00				
DAY WORK PER 24 HOUR DAY						

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
24	8 3/4	YHWG.	E2440	9741	9800	59	13	60	55	1650	1	69	6 1/2	3-7 1/8-6 5/8

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
12.00 AM	9.8	175	3.2	3/32	9.5	
6 AM	9.7	245	3.4	3/32	9.5	
12.00 PM	9.8	180	3.6	2/32	9.5	
10 P.M.	9.9	195	3.4	2/32	9.5	

MUD ADDITIVES:

AMOUNT	TYPE	TIME
1600 #	GEL	
150 #	CEBROUN	
500 #	CARBONOX	
200 #	CAUSTIC	
150 #	DEXTRID	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR 9800.00 DEPTH END SECOND TOUR: 9800' DEPTH END THIRD TOUR: 9800

C. Markunas. O'Callaghan. C. Markunas.

DRILLER OR WATCHMAN DRILLER OR WATCHMAN DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt W.E. Schumaker Robert G Lock

CONTRACTOR'S REPRESENTATIVE BRITISH AMERICAN'S REPRESENTATIVE BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-952

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE MARCH 5 19 64 WELL NO. B-76 LEASE B.A. TEX. ARROWHEAD.

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE #2 R

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12 00	12 30	DRLG 8 3/4" HOLE						
12 30	12 45	CHECK BOPS						
12 45	5 00	DRLG 8 3/4" HOLE						
5 00	5 30	SURVEY @ 9740 -						
5 30	8 00	HOIST FOR BIT						
8 00	9 30	Finish Hoisting						
9 30	10 00	change bits & check Rams				30		
10 00	10 30	Run in w/DRI collars						
10 30	11 00	Slip 110' Line						
11 00	1 00	Finish Running in						
1 00	1 30	BREAK CIRC						
1 30	2 15	DRlg 8 3/4" Hole						
2 15	4 00	CIRC SAMPLES.						
4 00	4 15	Cir. SAMPLES						
4 15	12 00	DRLG 8 3/4" HOLE						
		BAKER 24 HRS						

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	9460	2 3/4		
	9740	4°		

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	23	30		30		
DAY WORK PER 24 HOUR DAY						

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
23	8 3/4	WTR-2J	19079	9635	9741	106	18 3/4	60	55	1600	1	80	6 1/2	5 - 7" 18 - 6 3/4"
24	8 3/4	Y HWG	E24407	9641		5	3/4	60	25	1600	1	70	6 1/2	5 - 7" 18 - 6 3/4"
24	8 3/4	Y HWG	E24407	"		43	8 1/2	60	55	1600	1	69	6 1/2	"

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
4 AM	9.3	200	3.2	2/32	9	
10 P.M	9.8	175	3.2	2/32	9.5	

MUD ADDITIVES:

AMOUNT	TYPE	TIME
250#	DEXTRID	
300#	CAUSTIC	
2600#	[redacted] & BROKIN	
1100#	CARBONOX	
3000#	GEL.	

SWAB CUPS

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 9741 DEPTH END SECOND TOUR: 9746 DEPTH END THIRD TOUR: 9784

C. Markunas. N. Gallagher DRILLER OR WATCHMAN N. Gallagher C. Markunas. DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Cundt W. L. Schroeder BRITISH AMERICAN'S REPRESENTATIVE Robert G. Lock BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE MARCH 4 1964 WELL NO. B-76 LEASE B.A. TEX ARROWHEAD

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE RIG #2.

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME. WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR. SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12 00	12 15	CHECK BOPS						
12 15	1 15	DRLG 8 3/4" HOLE						
1 15	5 15	HOIST FOR BIT						
5 15	5 30	CHANGE BITS + CHECK BLIND RAMS.				15		
5 30	6 30	SLIP 40' DRLG. LINE + CUT 75'			1	00		
6 30	8 00	RUNING IN WIBIT #23.						
8 00	8 15	CHECK BOPS						
8 15	9 15	FINISH RUNNING IN						
9 15	9 45	BREAK CIRC.						
9 45	4.00	DRLG 8 3/4 HOLE						
4 00	4 15	CHECK BOPS & KELLY COCK						
4 15	12 00	DRLG 8 3/4" HOLE						
		Boiler 24 HRS.						
		TOTAL TIME CHARGEABLE TO B.A.	22	45	1	15		
		DAY WORK PER 24 HOUR DAY						

DEVIATION RECORD

DEPTH	SURVEY	DEPTH	SURVEY
9635	2 3/4		

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
22	8 3/4	W7R-J	19088	9481	9635	148	14 1/2	60	55	1600	1	70	6 1/2	5-7" 5-6 3/4"
23	8 3/4	W7R-J	19079	9635		40	6 1/4	"	25	1600	1	70	6 1/2	" "
"	"	"	"	"		84	14	60	55	1600	1	70	6 1/2	" "

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
12 MN	9.6	150	3.0	2/32	9.5	
12 Noon	9.6	210	3.8	1/32	9.1	
8 P.M	9.7	165	3.0	2/32	9.5	

MUD ADDITIVES:

AMOUNT	TYPE	TIME
600 #	CAUSTIC	
600 #	CARBONOX	
250 #	DEXTRID	
1500 #	GEL	
300 #	CAUSTIC	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 9635 DEPTH END SECOND TOUR: 9675 DEPTH END THIRD TOUR: 9719

C. Markunas, DRILLER OR WATCHMAN

N. Collison, DRILLER OR WATCHMAN

Callaghan & Markunas, DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt, CONTRACTOR'S REPRESENTATIVE

W. Eckhoudes, BRITISH AMERICAN'S REPRESENTATIVE

Robert G Lock, BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE MARCH 3 19 64 WELL NO. B-76 LEASE B.A. TEX ARROW HEAD

SEC. — T. — R. — PROVINCE N.W.T. CONTRACTOR CASCADE RIG # 2.

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12.00	1.00	Hoisting					
1.00	1.30	CHANGE BITS CHECK BOLTS				15	
1.30	1.45	SLIP 40' DRLG LINE				15	
1.45	4.30	RUNNING WIBIT #22					
4.30	5.00	BREAK CIRC AND CLEAN TO BOTTOM					
5.00	8.00	DRLG 8 3/4 HOLE					
8.00	10.00	DRLG 8 3/4 HOLE					
10.00	10.15	CHECK BOPS & KELLY COCK					
10.15	4.00	DRLG					
4.00	5.45	DRLG 8 3/4 HOLE					
5.45	6.00	CHECK BOPS & KELLY COCK					
6.00	12.00	DRLG 8 3/4" HOLE					

BOILER 24 HRS.

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	9460	2 3/4		

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	23	30		30		
DAY WORK PER 24 HOUR DAY						

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
22	8 3/4	W7R-2J	19088	9487	IN	20	3	60	25-50	1600	1	70	6 1/2	5-7" 18-6 3/4
"	"	"	"			83	10 3/4	"	50	"	1	70	6 1/2	" "
"	"	"	"	"	"	143	18 1/2	60	55	1600	2	80	6 1/2	" "

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
6 AM	9.3	210	3.6	2/32	10	
12 NOON	9.6	160	2.8	2/32	9.5	
10 PM	9.6	150	3.0	2/32	9.5	

MUD ADDITIVES:

AMOUNT	TYPE	TIME
600 lbs	Q-BROXIN	
600 lbs	CARBONOX	
250 lbs	DEXTRID	
300 lbs	CAUSTIC	
2000 lbs	GEL	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 9507 DEPTH END SECOND TOUR: 9570 DEPTH END THIRD TOUR: 9630

L. Markunas — DRILLER OR WATCHMAN

H. Ballantyne — DRILLER OR WATCHMAN

DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt — CONTRACTOR'S REPRESENTATIVE

W. C. Schomaker — BRITISH AMERICAN'S REPRESENTATIVE

Robert D. Lock — BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

CC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE MARCH 2 19 64 WELL NO. B-76 LEASE ESSO. TEX. ARROWHEAD.

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE RIG #2.

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS, TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR. SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12 00	2 15	RUN IN W/ BIT # 21					
2 15	2 45	BREAK CIRC. & CLEAN 12' TO BOTTOM.					
2 45	8 00	DRLG 8 3/4" HOLE.					
8 00	9 00	DRlg 8 3/4 Hole					
9 00	9 15	check BOPs & Kelly cock					
9 15	1 15	DRlg.					
1 15	2 30	work on pumps					
2 30	4 00	DRlg					
4 00	6 30	DRLg 8 3/4 Hole					
6 30	6 45	check BOPs & Kelly cock					
6 45	9 15	DRlg					
9 15	10 45	SURVEY @ 9460 - 2 3/4°					
10 45	12 00	HOIST FOR BIT.					
		BOILER 24 HRS.					
		TOTAL TIME CHARGEABLE TO B.A.	24	00			
		DAY WORK PER 24 HOUR DAY					

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	9270	3 3/4°		

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
21	8 3/4	H74	684662	9362	IN	32	5 1/4	60	20-50	1600	1	70	6 1/2	3-7" 18 6 3/4
〃	〃	〃	〃	〃	〃	53	10 3/4	60	50	1600	1+2	70-60	6 1/2	〃
〃	〃	〃	〃	〃	9487	125	16 3/4	60	50	1600	1	70	6 1/2	3-7" 18-6 3/4

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
6 AM	9.3	180	3.4	2/32	9.5	
12 Noon	9.5	180	2.8	2/32	9.5	
8 P.M	9.6	150	3.0	2/32	9.5	

MUD ADDITIVES:

AMOUNT	TYPE	TIME
600 #	Q-BROXIN	
600 #	CARBONOX	
300 #	CAUSTIC	
250 #	DEXTRID	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 9384 DEPTH END SECOND TOUR: 9447 DEPTH END THIRD TOUR: 9487

C. Markunas, DRILLER OR WATCHMAN

DRILLER OR WATCHMAN

C. Markunas, DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

CONTRACTOR'S REPRESENTATIVE

BRITISH AMERICAN'S REPRESENTATIVE

Robert Lock, BRITISH AMERICA'S FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE MARCH 1 19 64 WELL NO. B-76 LEASE B.A. TEK. ARROWHEAD

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE RIG # 2.

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
1200	115	FINISH RUN IN W/BIT						
115	130	BREAK CIRC. & CLEAN TO BOTTOM						
130	800	DRLG. 8 3/4" HOLE						
800	1000	DRlg 8 3/4 Hole						
1000	1015	check KELLY COCK & BOPS OK						
1015	400	DRlg						
400	415	check BOPT & KELLY cock						
415	700	DRlg 8 3/4 Hole						
740	1045	HOIST FOR BIT						
1045	1100	CHANGE BITS & CHECK BLIND RAMS.						
1100	1115	SLIP 40' DRLG. LINE				30		
1115	1200	RUNNING IN W/BIT # 21						
		BOILER 24 HRS.						

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	9270	3 7/8°		

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	23	30		30		
DAY WORK PER 24 HOUR DAY						

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
20	8 3/4	WT-J	18402	9277	IN	30	6 1/2	60	20-40	1650	1	70	6 1/2	19-6 3/4
"	"	"	"	"	"	71	14 1/4	"	40	16	"	"	"	"
20	8 3/4	WT-J	18402	9277	9362	85	17	60	40	1600	1	70	6 1/2	18-6 3/4

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
6AM	9.3	200	4.0	2/32	9.5	
2PM	9.8	174	3.8	1/32	9	

MUD ADDITIVES:

AMOUNT	TYPE	TIME
800 #	Q-BROXIN	
800 #	CARBONOX	
500 #	CAUSTIC	
1500 #	GEL	
250 #	DEXTRID	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 9307.00 DEPTH END SECOND TOUR: 9348 DEPTH END THIRD TOUR: 9362.

L. Markunas. N. Southern

DRILLER OR WATCHMAN DRILLER OR WATCHMAN DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

D. Crist W. Schroeder Robert G Lock.

CONTRACTOR'S REPRESENTATIVE BRITISH AMERICAN'S REPRESENTATIVE BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE FEB 29 19 61 WELL NO. B-76 LEASE B.A. TEX ARROWHEAD

SEC. _____ T. _____ R. _____ PROVINCE N. W.T CONTRACTOR CASCADE #2.

TIME BY DRILLERS FROM	TIME BY DRILLERS TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	WITH DRILL PIPE MIN.	WITHOUT DRILL PIPE HRS.	WITHOUT DRILL PIPE MIN.	OTHER HRS.	OTHER MIN.
12 00	4 00	DRLG 8 3/4" HOLE						
4 00	4 15	CHECK KELLY COCK + B.O.P.S						
4 15	8 00 AM	DRLG 8 3/4" HOLE						
8 00	8 AM	Drlg 8 3/4 Hole						
8 AM	9 00	check BOP's & Kelly cock						
9 00	4 00	Drlg.						
~~3 30~~								
4 00	6 00	DRLG 8 3/4" HOLE						
6 00	6 30	DROP SURVEY						
6 30	10 00	HOIST FOR BIT						
10 00	10 15	CHANGE BITS & CHECK BLIND RAMS.				15		
10 15	11 00	SLIP 40' DRLG LINE + CUT 180'				45		
11 00	12 00	RUNNING IN W/ BIT #20.						
		BOILER 24 HRS.						

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	8960	2 1/4°		

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	23	00	1	00		
DAY WORK PER 24 HOUR DAY						

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
19	8 3/4	W7R-2	34400	9150	IN	70	11 1/2	60	40	1500	1	70	6 1/2	18-6 3/4
19	"	"	"	"	17	117	19 1/2	60	40	1500	1	71	6 1/2	18-6 3/4

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
2 A.M.	9.3	197	4.0	3/32	9.5	
8 A.M.	9.5	150	11.1	2/32	9.	

MUD ADDITIVES:

AMOUNT	TYPE	TIME
3500 #	Gel	
250 #	DEXTRID	
200 #	CAUSTIC	
500 #	CARBANOX	
500 #	Q-BROXIN	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR 9220.00 DEPTH END SECOND TOUR: 9267 DEPTH END THIRD TOUR: 9277

C. Markunas
DRILLER OR WATCHMAN

N. Callaghan
DRILLER OR WATCHMAN

DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arnett
CONTRACTOR'S REPRESENTATIVE

W. L. Scammell
BRITISH AMERICAN'S REPRESENTATIVE

Robert G Lock
BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE FEB 28 19 64 WELL NO. B-76 LEASE B.A. TEX. ARROW HEAD.

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE RIG #2.

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME. WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12 00	12 30	CIR. + CONDITION HOLE TO TEST						
12 30	12 45	CHECK BOPS.						
12 45	3:45	HOIST TO TEST						
3 45	4 00	SLIP 40' DRLG LINE				15		
4 00	5 45	RUN IN DRILL COLLARS & MAKE UP PACKER						
5 45	8 00	RUNNING IN W/ PACKER.						
8 00	8 30	FINISH RUNNING IN W/ PACKER						
8 30	11 15	TESTING						
11 15	2 15	HOIST TEST			1	45		
2 15	4 00	LAYING DOWN TEST TOOL						
4 00	4 15	CHECK BOPS				15		
4 15	5 30	RUN IN W/ BIT #19						
5 30	6 00	LOAD TEST TOOLS ON TRUCK & SLIP 40' LINE						
6 00	7 45	RUNNING IN						
7 45	8 15	CLEAN 15' TO BOTTOM.						
8 15	12 00	DRLG 8 3/4" HOLE.						
		BOILER 24 HRS.						
		TOTAL TIME CHARGEABLE TO B.A.	21	45	2	15		
		DAY WORK PER 24 HOUR DAY						

DEVIATION RECORD

DEPTH	SURVEY	DEPTH	SURVEY
8960	2 1/4		

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
18	8 3/4	H7	721798	9083	9150	67	9 1/2	60	40	1400	1	72	6 1/2	18-6 3/4
19	8 3/4	W7R2	34400	9150		18	3 3/4	60	40	1500	1	70	6 1/2	18-6 3/4

MUD RECORD:

TIME	WEIGHT	VIS-COSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
10 PM	9.3	200	3.8	2/32	8.5	

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 9150.00 DEPTH END SECOND TOUR: 9150 DEPTH END THIRD TOUR: 9168

C. Markunas, DRILLER OR WATCHMAN

N. Callaghan, DRILLER OR WATCHMAN

DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt, CONTRACTOR'S REPRESENTATIVE

W. L. Thomson, BRITISH AMERICAN'S REPRESENTATIVE

Robert G. Lyck, BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE FEB 27 19 64 WELL NO. B-76 LEASE B.A. TEX. ARROWHEAD

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE RIG #2.

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12 00	12 30	DRLG 8 3/4 HOLE					
12 30	12 45	CHECK BOPS.					
12 45	4 30	HOISTING FOR BIT FIRST 8 STDS TIGHT					
		CIRC OUT 8 SINGLES.					
4 30	4 45	SLIP 50' DRLG LINE			15		
4 45	6 00	RUNING IN W/BIT #18					
6 00	7 15	WORK ON AIR RELEASE ON HIGH CLUTCH					
7 15	8 00	RUNNIN IN					
8 00	9 15	Running in					
9 15	9 45	Break circ - clean to bottom					
9 45	H 00	DRlg 8 3/4 Hole					
4 00	4 15	DRLG 8 3/4" HOLE					
4 15	4 30	CHECK BOPS & KELLY COCK.					
4 30	7 30	DRLG.					
7 30	9 15	CIR. HOLE CLEAN					
9 15	10 00	HOIST 15 STDS.					
10 00	10 30	WAIT 1/2 HR. W/PUMP SHUT OFF					
10 30	11 00	RUN IN 15 STDS. (2' FILL ON BOTTOM.)					
11 00	12 00	CIR. & CONDITION HOLE TO TEST					
		BOILER 24 HRS.					

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	8960	2 1/4		

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	23	45		15		
DAY WORK PER 24 HOUR DAY						

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP No.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
17	8 3/4	W7RZ	3377	8960	9083	30 Rotary 73	21	60	40	1400	1	70	6 1/2	18-6 1/4
18	8 3/4	H7	721798	9083		47	6 1/4	60	40	1400	1	〃	〃	〃 〃
18	9 3/4	H7	721798	〃	〃	〃	〃	〃	〃	〃	〃	〃	2	〃 〃
													1/4	

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
12MN.	94	125				

MUD ADDITIVES:

AMOUNT	TYPE	TIME
500 #	Q-BROXIN	
500 #	CARBONOX	
260 #	CAUSTIC	
200 # 250 #	GEL DEXTRID	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 9083 DEPTH END SECOND TOUR: 9130 DEPTH END THIRD TOUR: 9150

C. Marchuk — DRILLER OR WATCHMAN

N. Ballash — DRILLER OR WATCHMAN

DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arnett — CONTRACTOR'S REPRESENTATIVE

W. D. Thomas — BRITISH AMERICAN'S REPRESENTATIVE

Robert G. Lock — BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE FEB. 26 19 64 WELL No. B-76 LEASE B.A. TEX. ARROWHEAD

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE RIG #2,

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12 00	12 15	MAKE UP BIT & CHECK BLIND RAMS.				15	
12 15	2 15	RUN IN W/BIT # 17					
2 15	3 15	CLEAN 75' TO TOP OF RAT HOLE					
3 15	8 00	REAMING 6" RATHOLE TO 8 3/4"					
8 00	11 30	REAMING 6 3/4 TO 8 3/4" HOLE					
11 30	11 45	CHECK BOP & KELLY COCK					
11 45	12 00	REAMING					
12 00	4 00	DRLG 8 3/4" HOLE					
4 00	12	DRLG 8 3/4" HOLE.					
		BOILER 24 HRS.					

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	8960	2 1/4°		

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	23	45		15		
DAY WORK PER 24 HOUR-DAY						

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
17	8 3/4	W7R-2	3377	8960		30	7 1/4	60	10-12	1400	1	70	6 1/2	18-6 3/4
[illegible]			"	"	17A	26	17 1/2	"	40M	"	"	"	"	"
17	8 3/4	W7R-2	3377	8960			1/2							

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
6 A.M.	9.3	110	4.0	2/32	9.5	
12 NOON	9.3	120	3.8	2/32	9.5	
10 P.M.	9.4	110	4.0	2/32	9.5	

MUD ADDITIVES:

AMOUNT	TYPE	TIME
4000#	GEL	
500#	QBROXIN	
500# 200#	CARBONOX CAUSTIC	
250#	DEXTRID	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR 8983.00

DEPTH END SECOND TOUR 9036

DEPTH END THIRD TOUR 9036

C. Markunas
DRILLER OR WATCHMAN

N Ballog
DRILLER OR WATCHMAN

[illegible]
DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt
CONTRACTOR'S REPRESENTATIVE

W. L. Schroeder
BRITISH AMERICAN'S REPRESENTATIVE

BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE FEB 25/64 19 WELL NO B-76 LEASE B.A. TER. ARROWHEAD

SEC. T. R. PROVINCE N.W.T. CONTRACTOR CASCADE RIG #2.

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12 00	4 00	HOIST TO CORE (FIRST 6 STDS TIGHT CIRC.						
		OUT SINGLES.						
4 00	4 15	PICK UP CORE BBLS & CHECK BLIND RAMS						
4 15	4 30	SLIP 30' DRLG LINE				30		
4 30	7 00	RUN IN W/ CORE BBLS						
7 00	7 45	CLEAN TO BOTTOM W/ CORE BBLS.						
7 45	8 00	CUTTING CORE # 4 8960 —						
8 00	11 45	cutting core #4						
11 45	12 00	check BOPs & Kelly cock.						
12 00	4 00	COREing						
4 00	7 00	CUTTING CORE #4						
7 00	11 00	Pump out 5 SINGLES Hoist CORE						
11 00	11 30	RECOVER CORE						
11 30	12 00	SLIP & CUT DRLG LINE				1 00		
		Core #4 - 8960 - 9010 50/50						
		BOILER 24 Hrs.						

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	8960	2 1/4		

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	22	30	1	30		
DAY WORK PER 24 HOUR DAY						

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP No.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
1C	6 1/4	HOEC Q	HF8650	8960			1/4	60	3M	1050	2	32	6	6-6 3/4
"	"	"	"	"		40'	7 3/4	80	10	1050	2	"	"	" "
"	"	"	"	8960	9010	50	11 3/4	80	10	1050	2	32	"	" "

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
12 PM	9.2	164	11.2	2/32	9.5	
2 PM	9.3	178				
6 PM	9.2	135	11.2	2/32	9.5	

MUD ADDITIVES:

AMOUNT	TYPE	TIME
500	OBROX	
500	CARBONOX	
200	CAUSTIC	
1500	GEL-WATER	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 8960 DEPTH END SECOND TOUR: 9000 DEPTH END THIRD TOUR: 9010

C. Markuson
DRILLER OR WATCHMAN

N. Laliberte
DRILLER OR WATCHMAN

W. Lahuk
DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt
CONTRACTOR'S REPRESENTATIVE

W. E. Schoenhals
BRITISH AMERICAN'S REPRESENTATIVE

Robert D. Lock
BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-955B

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE FEB 24 19 64 WELL NO. B-76 LEASE B.A. TEK. ARROW HEAD

SEC. _____ T. _____ R. _____ PROVINCE N.W.T. CONTRACTOR CASCADE RIG #2,

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12 00	12 45	FINISH RUN IN W/CORE BBLS.						
12 45	1 00	CHECK BOPS						
1 00	1 45	CLEAN TO BOTTOM. W/CORE BBLS.						
1 45	8 00	CUTTING CORE #2. 8910-						
8 00	8 45	Cutting CORE #2						
8 45	9 00	Check BOPs KELLY COCK.						
9 00	10 00	COREing						
10 00	1 00	Hoisting CORE.						
1 00	2 30	Recover CORE & SERVICE CORE bbls				1	30	
2 30	3 15	Run in DRL collars with Bit #16						
3 15	3 30	SLip 35' DRG Line						
3 30	4 00	Run in.						
		Core #3 - 8910 - 8960 50/50						
4 00	4 45	FINISH IN HOLE W/ Bit #16						
4 45	5 00	CHECK BOPS						
5 00	5 15	CLEAN 20' FILL 8890- 8910						
5 15	11 30	Ream 6 1/8 Rat Hole To 8 3/4 8910-8960						
11 30	12 00	DROP SURVEY.						

BOILER 24 HRS

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	8660	1 3/4		

TOTAL TIME CHARGEABLE TO B.A.	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
	22	30	1	30		
DAY WORK PER 24 HOUR DAY						

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP No.	S.P.M.	LINER SIZE	No. AND SIZE DRILL COLLARS
1C	6 1/8	HOEBD	HF96SA	8910		41	6 1/4	65	3-10	1050	2	40	6"	6-6 3/4
"	"	"	-	"	8960	50	8	"	10	"	"	34	"	"
16	8 3/4	H-7	721800	8910	8960	50 Ream	6 1/4	65	10	1500	1	72	6 1/2	18-6 3/4

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
4 AM	9.2	150	4.6	4/32	9.5	
6 A.M	9.1	145	4.4	2/32	9.5	
10 PM	9.2	140	4.4	2/32	9.5	

MUD ADDITIVES:

AMOUNT	TYPE	TIME
600#	CARBONOX	
200#	CAUSTIC	
100#	DEXTRID	
600#	QBROXIN	
100#	GEL	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 8951.00,

DEPTH END SECOND TOUR: 8960

DEPTH END THIRD TOUR: 8960

C. Markuman
DRILLER OR WATCHMAN

N. Gallant
DRILLER OR WATCHMAN

W. Zkanuk
DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED

V. Arndt
CONTRACTOR'S REPRESENTATIVE

W. Richmond
BRITISH AMERICAN'S REPRESENTATIVE

Robert G Lock
BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-950

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE FEB. 23 19 64 WELL NO B-76 LEASE B.A. TEX. ARROWHEAD

SEC. _____ T. _____ R. _____ PROVINCE N.W.T. CONTRACTOR CASCADE RIG #2.

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR. SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12 00	12 30	DRLG. 8 3/4" HOLE						
12 30	12 45	CHECK KELLY COCK & BOPS						
12 45	2 00	DRILL						
2 00	2 30	CIR. SAMPLE						
2 30	3 15	DRILL.						
3 15	4 15	CIR. HOLE CLEAN						
4 15	4 45	HOIST 15 STANDS						
4 45	5 15	WAIT ½ HR W/PUMP SHUT OFF.						
5 15	5 45	RUN IN & CLEAN 7' TO BOTTOM.						
5 45	7 00	CIR. HOLE TO TEST						
7 00	8 00	HOISTING. TO TEST						
8 00	10 30	Hoisting to TEST,						
10 30	12 30	Make up Test Tool and Run tool & collars						
12 30	12 45	Slip 40' DRlg Line						
12 45	3 00	Run in - (1026 Ft water cushion)						
3 00	4 00	Testing						
4 00	5 00	Tool OPEN.						
5 00	5 30	FINAL SHUT IN						
5 30	9 30	Hoist Packer						
9 30	9 30	Break & Lay Down Packer				1	00	
9 30	10 15	CHANGE SWIVEL IN INNER CORE BBL.					45	
10 15	10 30	SLIP 40' DRLG LINE 10 30 - 12 00 RUN IN CORE BBL.					15	

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	8660	1 3/4°		

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	22	00	2	00		
DAY WORK PER 24 HOUR DAY						

BIT RECORD: Boiler 24 Hrs.

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
15	8 3/4	M4N	724509	8839	8910	71	6 3/4	60	40	1500	1	71	6 1/2	18-6 3/4
1C	6 1/8	D	NF9659											

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
6 AM	9.2	140	4.0	2/32	9.5	

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR 8910 DEPTH END SECOND TOUR: 8910 DEPTH END THIRD TOUR: 8910

C. Markuman. H. Ladouceur W. Hanbidge

DRILLER OR WATCHMAN DRILLER OR WATCHMAN DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arnott W. Schoneck Robert D. Lock

CONTRACTOR'S REPRESENTATIVE BRITISH AMERICAN'S REPRESENTATIVE BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE Feb 23 19 64 WELL No B76 LEASE B.A. TEXACO ARROWHEAD

SEC. _____ T. _____ R. _____ PROVINCE N.W.T. CONTRACTOR CASCADE RIG #2

TIME BY DRILLERS FROM	TIME BY DRILLERS TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.

TIME CHARGEABLE TO BRITISH AMERICAN

WITH DRILL PIPE HRS.	WITH DRILL PIPE MIN.	WITHOUT DRILL PIPE HRS.	WITHOUT DRILL PIPE MIN.	OTHER HRS.	OTHER MIN.

Page 11

Ran DST #1 by Howco W/ 7 1/2" dual packers on 1/2" 55 choke. Interval tested 8845 - 8910. Ran 1026' of water cushion. 15 minute initial shut in. Tool open 60 minutes w/ 30 minute final shut in. Good initial puff followed by weak air blow. Gas to surface in 16 minutes too weak to measure. 4 1/2" Drill pipe recovery 1026' of water cushion + 240' of gassified mud. Witnessed by Rud + Arndt.

I.H.S.P. 4925 - F.H.P. - 4375 IFP - 600 FFP - 600 I.S.I.P. 2935 - F.S.I.P. - 2038 - B.H.T. 252

Amend
No copy to contractor
to contractor

DEVIATION RECORD

DEPTH	SURVEY	DEPTH	SURVEY

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.						
DAY WORK PER 24 HOUR DAY						

BIT RECORD:

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

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: _____ DRILLER OR WATCHMAN

DEPTH END SECOND TOUR: _____ DRILLER OR WATCHMAN

DEPTH END THIRD TOUR: _____ DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED

W.H. Desmond
CONTRACTOR'S REPRESENTATIVE

BRITISH AMERICAN'S REPRESENTATIVE

Robert G. Lock
BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE FEB. 22 19 64 WELL No. B-76 LEASE B.A. TEX. ARROWHEAD,

SEC. ____ T. ____ R. ____ PROVINCE N. W. T. CONTRACTOR CASCADE RIG # 2.

TIME BY DRILLERS FROM	TIME BY DRILLERS TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.
12 00	1 30	DRLG 8 3/4" HOLE.
1 30	1 45	CHECK KELLY COCK + BOPS.
1 45	7 00	DRLG 8 3/4 HOLE.
7 00	8 00	HOISTING FOR BIT
8 00	10 00	Hoisting for bit
10 00	11 00	Check bops & make up bit
11 00	12 00	Run in
12 00	1 00	SLIP 50 Ft DRlg Line cut 7 3/4
1 00	2 15	Run in
2 15	4 00	CIRC & REAM Hole clean
4 00	7 45	CLEAN FILL 8328 - 8450 RUN IN 5 STDS. CLEAN FILL 8750 - 8839.
7 45	12 00	DRLG 8 3/4" Hole.

Boiler Repair.

TIME CHARGEABLE TO BRITISH AMERICAN	WITH DRILL PIPE HRS.	WITH DRILL PIPE MIN.	WITHOUT DRILL PIPE HRS.	WITHOUT DRILL PIPE MIN.	OTHER HRS.	OTHER MIN.
				15		

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	8660	1 3/4°		

	HRS.	MIN	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	23	45		15		
DAY WORK PER 24 HOUR DAY						

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
14	8 3/4	W-7	22092	8697	8839	REAM 30 DRLG 92	15 1/2	60	40	1400	1	72	6 1/2	18-6 3/4
15	8 3/4	MUN	724509	8839	in	36	4 1/4	60	40	1400	1	72	6	18-6 3/4

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
12 A.M.	9.0	105	4.4	2/32	9.0	
6 A.M.	9.0	95	4.4	2/32	9.0	

MUD ADDITIVES:

AMOUNT	TYPE	TIME
1500 #	GEL	
100 #	CELLEX.	
600 #	DRISPAC	
680 #	CARBONOX	
180 #	CAUSTIC	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 8839.00 DEPTH END SECOND TOUR: 8839.00 DEPTH END THIRD TOUR: 8875.

C. Markunas, DRILLER OR WATCHMAN

N. Ballad, DRILLER OR WATCHMAN

W. [illegible], DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt, CONTRACTOR'S REPRESENTATIVE

W. Schonwald, BRITISH AMERICAN'S REPRESENTATIVE

Robert G. Lock, BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-95B

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE FEB 21 1964 WELL No. B-76 LEASE B.A. TEX. ARROWHEAD

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE RIG #2

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.
12 00	12 30	SERVICE & MAKE UP CORE BBLS.
12 30	12 45	SLIP 28' DRLG LINE
12 45	2 45	RUN IN W/CORE BBLS.
2 45	6 15	CLEANING 35' TO BOTTOM OF RAT HOLE
		TRYING TO RECOVER 30' OF LOST CORE
6 15	8 00	HOISTING. CORE BBLS.
8	9 45	Hoisting Core BBLs
9 45	10 45	Recover core service & stand back core BBLS
10 45	11 00	check BOPS
11 00	11 45	Run in DRI collars
11 45	12 00	SLip 28 DRlg Line
12 00	2 00	Run in with B. 7 7/8"
2 00	3 00	BREAK CIRC. CLEAN 15 Ft. to Bottom.
3 00		Reaming 6 1/8 to 8 3/4
4 00	4 15	CHECK BOPS & KELLY cock.
4 15	9 00	REAM RAT HOLE 8705 - 8747
9 00	12 00	DRLG. 8 3/4" HOLE
		Core #2 - 8747 - 8748 1/1
		Boiler 24 Hrs

TIME CHARGEABLE TO BRITISH AMERICAN	WITH DRILL PIPE HRS.	WITH DRILL PIPE MIN.	WITHOUT DRILL PIPE HRS.	WITHOUT DRILL PIPE MIN.	OTHER HRS.	OTHER MIN.
			1 15			

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	8660	1 3/4		

	H. S.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	22	45	1 15			
DAY WORK PER 24 HOUR DAY						

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
1 C	6 1/4	KOEBO	HF8659	8697	8747	50	6	75	10	1050	2	34	6	18-6 3/4
1A	8 3/4	W7	22056	8697				60	7	1300	1	72	6 1/2	" "
1A	"	"	"	"	IN	23.	8 3/4	60	10 TO 40	1400	1	72	6 1/2	" "

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
6AM	9.2	135	4.2	2/32	9.0	
8PM	9.1	125	4.4	2/32	9.0	

MUD ADDITIVES:

AMOUNT	TYPE	TIME
400 #	D-Broxin	7 00
400 #	CARBONOX	7 00
500 #	DISTRIS	7 00
300 #	Caustic	7 00
1600 #	Gel.	1000

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR 8747

C. Markunas.
DRILLER OR WATCHMAN

DEPTH END SECOND TOUR: 8747

N. Lalonde
DRILLER OR WATCHMAN

DEPTH END THIRD TOUR: 8770

Walt. Hearn
DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arnott
CONTRACTOR'S REPRESENTATIVE

W. C. Thomas
BRITISH AMERICAN'S REPRESENTATIVE

Robert G. Lock
BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE FEB. 20 1964 WELL NO B-76 LEASE B.A. ARROWHEAD

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE RIG #2.

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12 00	12 15	CHECK KELLY COCK & BOPS,						
12 15	12 45	HOIST TEN STANDS.						
12 45	1 15	WAIT ½ HR. WITH PUMP OFF						
1 15	1 45	RUN 2 IN & CLEAN 8' FILL ON BOTTOM.						
1 45	3 15	CIR. HOLE CLEAN TO CORE						
3 15	3 30	SURVEY @ 8660-						
3 30	6 45	HOIST TO CORE						
6 45	7 45	SLIP 28' DRLG LINE & CUT 68'						
7 45	8 00	PICKING UP CORE BBLS.						
8 00	9 45	MAKE UP CORE BBLS			2	00		
9 45	12 00	RUN IN WITH CORE BBLS						
12	12.30	BREAK CIRC						
12 30	2 00	WASHING SLOW TO BOTTOM 30'						
2 00	4 00	CORING						
4 00	8 00	CUTTING CORE #1						
8 00	8 15	SER. R.C. & BOPS.						
8 15	11 30	HOIST CORE #1.						
11 30	12 00	RECOVER CORE.						
		Core #1 - 8697-8747 50/2						
		BOILER 34 hrs.						

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	8660	1 3/4		

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	22	00	2	00		
DAY WORK PER 24 HOUR DAY						

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP No.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
13	8 3/4	417	22052	8507	8697	190	21	60	40	1400	1	72	6 ½	18-6 3/4
1C	6 3/8	KdB0	HF865AN	8697	8747	50	6	75	10	1050	2	34	6	18 6 3/4

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
2 AM	9.1	140	4.0	2/32	9.5	

MUD ADDITIVES:

AMOUNT	TYPE	TIME
25.0#	QUEBRACHO	
250#	CAUSTIC SODA	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 8697 DEPTH END SECOND TOUR: 8712. DEPTH END THIRD TOUR: 8797

E. Markunas — DRILLER OR WATCHMAN

N. Lalonde — DRILLER OR WATCHMAN

W. Stahl — DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED

D. Arnett — CONTRACTOR'S REPRESENTATIVE

W. L. Schroeder — BRITISH AMERICAN'S REPRESENTATIVE

Robert G. Lock — BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

THE BRITISH AMERICAN OIL COMPANY LIMITED

GC-958

DATE FEB. 19 1964 WELL NO B-76 LEASE B.A. TEX. ARROWHEAD.

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE #2.

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12 00	12 15	CHECK B.O.P.'S & KELLY COCK					
12 15	1 00	CLEANING TO BOTTOM, 8450-8507.					
1 00	8 00	DRLG. 8 3/4" HOLE					
8							
8 00	9	DRlg 8 3/4 Hole					
9 00	8 30	Rig service check B.O.P's Kelly cock					
8 30	4 00	DRlg					
		JOHN SMOLSKI 3 HRS. OVERTIME WASHING SAMPLES B.A.'s REQUEST.					
4 00	7 00	DRLG 8 3/4" HOLE					
7 00	9 15	CHECK B.O.P.'s & KELLY COCK.					
7 15	10 30	DRLG 8 3/4" HOLE					
10 30	12 00	CIR HOLE CLEAN.					
		81 std					
		Biter 24 hrs.					

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	8470	2 1/4		

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	24	00				
DAY WORK PER 24 HOUR DAY	1440					

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
13	8 3/4	W-7	22052	8507	IN	65.	7	60	40	1300	1	72	6 1/2	12-6 3/4
"	"	"	"	"	IN		14 1/2	60	40	1300	1	72	"	" "
"	"	"	"	"	8697	190	21	60	40	1400	1	72	"	" "

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
6 A.M.	9.1	85	4.6	2/32	9.5	
2 P.M.	9.1	115	4.4	2/32	9.5	
10 P.M.	9.2	145	4.0	3/32	9.5	

MUD ADDITIVES:

AMOUNT	TYPE	TIME
56000 #	GEL	
400 #	Q-BROKLIN	
400 #	CARBONOX	
200 #	CAUSTIC	
400 #	DEXTRID	
100 #	SPERSENE	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 8572. DEPTH END SECOND TOUR: 8641 DEPTH 8697

C. Markunas. N. Ballafoe. Walter Kozak

DRILLER OR WATCHMAN DRILLER OR WATCHMAN DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arnett W. W. Dowhaniuk

CONTRACTOR'S REPRESENTATIVE BRITISH AMERICAN'S REPRESENTATIVE

BRITISH AMERICAN OIL CO. SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE FEB 18 1964 WELL No. B-76 LEASE B.A. TEX. ARROWHEAD.

SEC. ____ T. ____ R. 76 PROVINCE N.W.T CONTRACTOR CASCADE RIG #2.

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME. WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12 00	~~12~~ 2 30	DRLG 8 3/4" HOLE						
2 30	2 45	CHECK B.O.P's + KELLY COCK.						
2 45	8 00	DRLG. 8 3/4" HOLE	8	00				
		GORDON RUDMAN 8 HRS OVERTIME WASHING						
		SAMPLES B.A's REQUEST.						
8 00	9 45	DRlg 8 3/4 Hole						
9 45	10 00	Rig SERVICE check BOP's + Kelly cock						
10 00	2 00	DRlg						
2 00	3 00	CIRC SAMPLE						
3 00	3 30	DROP SURVEY						
3 30	4 00	Hoisting	8	00				
4 00	4 15	SERVICE R.G + B.Ps.						
4 15	7 30	Hoisting Bit # 12.						
7 30	7 45	CHANGE Bits				15		
7 45	8 30	RUN IN DRILL COLLARS.						
8 30	8 45	SLIP 45' DRLG LINE						
8 45	10 30	RUN IN HOLE						
10 30	12 00	CLEANING FILL 8380 - 8450						
		Boiler 2 Hrs						

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	7950	1/4°		
	8470	2 1/8°		

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	23	45		15		
DAY WORK PER 24 HOUR DAY	$1440		$1365			

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESS.	PUMP No.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
12	8 3/4	OSC-1G	24088	8 30	IN	150	13 3/4	60	40	1300	1	72	6 1/2	18-6 3/4
"	"				8567	187	18 1/2	60	40	1300	1	72	6 1/2	18-6 3/4
13	8 3/4	W7	22052	8567										

MUD RECORD:

TIME	WEIGHT	VIS-COSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
6 AM	9.0	180	5.0	2/32	9.0	
12 Noon	9.3	85	5.0	2/32	9.	

MUD ADDITIVES:

AMOUNT	TYPE	TIME
3000 #	GEL	
150 #	CELLEX	
150 #	DEXTRID	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 8470

DEPTH END SECOND TOUR: 8507

DEPTH END THIRD TOUR: 8507

C. Markunas
DRILLER OR WATCHMAN

N. Gillingham
DRILLER OR WATCHMAN

W. Zack
DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt
CONTRACTOR'S REPRESENTATIVE.

W.C. Chamberlain
BRITISH AMERICAN'S REPRESENTATIVE

Robert D. Lock
BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE FEB 17 1964 WELL NO B-76 LEASE B.A. TEXACO ARROW HEAD.

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE RIG # 2.

TIME BY DRILLERS FROM	TIME BY DRILLERS TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	WITH DRILL PIPE MIN.	WITHOUT DRILL PIPE HRS.	WITHOUT DRILL PIPE MIN.	OTHER HRS.	OTHER MIN.
1200	300	TEAR OUT ROTATING & RIG UP TO DRIAL						
		W/ MUD.			3	00		
300	600	RUN IN W/BIT TO 3400						
600	800	TRYING TO BREAK CIRC. (FROST PLUGS IN PIPE)						
800	10.00	BREAK CIRC.						
1000	330	MIX MUD						
330	1100	RUN IN THE HOLE						
400	415	SERVICE RIG & BOPS.						
415	545	FINISH RUNNING IN HOLE						
545	600	BREAK CIR						
600	1200	DRIG 8 3/4" HOLE						
		BOILER 24 HRS.						

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	21	00	3	00		
DAY WORK PER 24 HOUR DAY						

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
12.	8 3/4	OSC 1G.	24088	8320	IN	74	6	60	40	1300	1	70	6 1/2	18-6 3/4
"	"										1	72	6 5/8	"

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
6 Am	9.2	190	5.2	2/32	9.0	
2 Pm	9.4	210	6.0	2/32	9.5	
10 Pm	8.9	70	6.2	2/32	9.5	

MUD ADDITIVES:

AMOUNT	TYPE	TIME
8000 #	GEL	
500 #	A-BROKIN	
200 #	CAUSTIC	
12 00	DEXTRID	

SWAB CUPS:

NUMBER	SIZE	TYPE
	6	
	7 7/8	
	10	

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 8320 DEPTH END SECOND TOUR: 8320 DEPTH END THIRD TOUR: 8394

C. Markuman — DRILLER OR WATCHMAN

N. Ballantyne — DRILLER OR WATCHMAN

W. Zienkewicz — DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arnette — CONTRACTOR'S REPRESENTATIVE

W. G. Dimmick — BRITISH AMERICAN'S REPRESENTATIVE

Robert G Lock — BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE FEB. 16 1964 WELL NO B-76 LEASE B.A. TEXACO ARROW HEAD

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE RIG #2.

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME. WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12 00	12 15	CHECK BOP'S & KELLY COCK.						
12 15	4 30	DRLG 9 3/4" HOLE						
4 30	5 15	SURVEY @ 7820 - 1/2°						
5 15	8 00	DRLG 9 3/4" HOLE						
		Roy Calloinx 8 Hrs over washing samples for B.A						
8 00	8 15	Rig service check BOP's & Kelly cock OK						
8 15	9 00	SURVEY at 7950 7/8°						
9 00	9 15	CIRC. To bottom.						
9 15	2 00	DRLG 8 3/4" Hole						
2 00	3 00	CIRC Hole clean						
3 00	3 30	TEAR out AIR equipment						
3 30	4 00	Pump mud down the Hole						
		Royce Schmutz 8 Hr over washing sample for BA						
4 00	4 15	CHECK BOP'S & KELLY cock.						
4 15	4 30	PUMP 100 BBLS MUD IN HOLE						
4 30	5 00	REMOVE Rot. HEAD RUBBER.						
5 00	6 15	Hoist 26 stds.						
6 15	7 00	PUMP 200 BBLS MUD IN HOLE						
7 00	10 30	FINISH Hoisting						
10 30	12 00	MIXING MUD DISMANTLE Rotating HEAD				1	30	
		Boiler 24 Hrs.	22	30				
			24			1	30	

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	7820	1/2°		
	7950	7/8		

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	24		1	30		
DAY WORK PER 24 HOUR DAY						

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE (AIR)	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
11	8 3/4	HG-J	375042	6086	IN	1923	35 3/4	80	10-12	120				12 - 6 5/8 1 - 8 5/16
✓	✓	✓	✓	✓	✓	2234	40 1/2	80.	10,8	✓				✓ ✓
✓	✓	✓	✓	✓	~~8320~~	2234	40 1/2							
					8320									

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
6 A.M.	9.3	200	4.0	2/32	8.0	
10 AM	9.3	200	4.0	2/32	9.0	

MUD ADDITIVES:

AMOUNT	TYPE	TIME
~~200~~ #	CAUSTIC	4 A.M
3000 #	GEL.	
100 #	Q-BROXIN	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR 8009.00 DEPTH END SECOND TOUR: 8320 DEPTH END THIRD TOUR: 8320

C. Markuman — DRILLER OR WATCHMAN

N. Calloyo — DRILLER OR WATCHMAN

Walter Hunter — DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt. — CONTRACTOR'S REPRESENTATIVE

W. E. Shoemaker — BRITISH AMERICAN'S REPRESENTATIVE

Robert G Lock — BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-9SB

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE FEB. 15 19 64 WELL NO. B-76 LEASE B.A. TEXACO ARROW HEAD.

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE RIG #2.

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.
12 00	12 15	CHECK BOP'S + KELLY COCK.
12 15	12 45	SURVEY @ 6460 - 3/4°
12 45	6 15	DRLG 8 3/4" HOLE
6 15	7 00	SURVEY @ 6740 - 1°
7 00	8 00	DRLG 8 3/4" HOLE
8 00	8 15	Rig service check BOPS & Kelly cock
8 15	11 45	DRLG 8 3/4 Hole
11 45	12 15	SURVEY @ 6987 1°
12 15	12 30	CIRC BTT to bottom
12 30		DRLG
		JERRY PASEMENY 8 HRS OVER WASHING SAMPLES FOR B.A.
4 00	4 15	CHECK BOPS + KELLY cock
4 15	5 15	DRLG 8 3/4" Hole
5 15	6 00	DEV. SURVEY @ 7265 - 1/2°
6 00	11 00	DRLG 8 3/4" Hole
11 00	11 45	DEV SURVEY @ 7544 - 3/4°
11 45	12 00	DRLG. 8 3/4" Hole.
		GORDON RUDMAN 8 HRS OVER WASHING.
		SAMPLES FOR B.A.

TIME CHARGEABLE TO BRITISH AMERICAN

WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.

Boiler 24 Hrs.

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	6460	3/4°	6987	1°
	6740	1°	7265	1/2°
			7544	3/4°

TOTAL TIME CHARGEABLE TO B.A.	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
	24	00				
DAY WORK PER 24 HOUR DAY						

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP No.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
11	8 3/4	H9-J	7350R	6086	IN.	704	15 1/4	75	14-12	95				12-6 3/4
✓	✓	✓	✓	✓	IN	1113	22 1/4	✓	12	100				1-8 3/16
✓	✓	✓	✓	✓	✓	1469	28 3/4	80	12.	95				✓ ✓
														✓ ✓

AIR

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
4 AM	9.1	235	4.8	2/32	8.5	
12 Noon	9.4	240	4.8	2/32	8.5	
10 P.M	9.3	185	4.4	2/32	8.5	

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 6795.00

DEPTH END SECOND TOUR: 7204.67

DEPTH END THIRD TOUR: 7555.

C. Markeman
DRILLER OR WATCHMAN

N Gallagher
DRILLER OR WATCHMAN

Walt. Hamlet
DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt
CONTRACTOR'S REPRESENTATIVE

W. E. Schroeder
BRITISH AMERICAN'S REPRESENTATIVE

Robert G Lock
BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-95E

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE FEB 19 19 69 WELL NO. B-76 LEASE B.A. TEXACO ARROWHEAD.

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE R.C #2.

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
1200	1215	CHECK BOPS + KELLY COCK.						
1215	430	DRLG 8 3/4" HOLE						
430	515	DEV SURVEY @ 5900 1 1/4°						
515	800	DRLG 8 3/4" HOLE.						
		GORDEN RUDMAN & FRED OVER. WASHING SAMPLES. B.A. REQUEST.						
800	845	CHECK BOPS + KELLY COCK						
845	1045	HOIST FOR BIT						
1045	1100	CHANGE BITS + CHECK BLIND RAMS.				15		
1100	1130	RUN IN DRILL COLLARS						
1130	1230	SLIP 20' DRILLINE & CUT 70'						
1230	215	RUN IN W/ BIT #11						
215	230	BREAK CIRC. & CLEAN 10' TO BOTTOM						
230	400	DRLG 8 3/4" HOLE						
400	445	DRlg 8 3/4 Hole						
445	500	check BOPs + Kelly cock - OK						
500	530	SURVEY @ 6180 1°						
530	1200	DRling						
		John Smolshi & Brown Time washing samples for B.A.						

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	5900	1 1/4		
	6180	1		

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	23	45		15		
DAY WORK PER 24 HOUR DAY						

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	AIR PUMP PRESSURE	PUMP No.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
10	8 3/4	RC-7J	38717	3450	-	2636	54 1/4	85	10	80				12-6 3/4 1-8 5/16.
10	8 3/4	"	"	"	6086	2636	54 1/4	85	"	"				"
11	8 3/4	HG-J	735013	6086	Run	74	1 1/2	70	10	"				"
"	"	"	"	"	Run	74	8 3/4	80	10-14	"				"

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
1200	9.0	70	4.6	2/32	9.0	
10 PM	90	220				

MUD ADDITIVES:

AMOUNT	TYPE	TIME
4000	Gel	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 6086. DEPTH END SECOND TOUR: 6160 DEPTH END THIRD TOUR: ____

W. Hamlet. C. Markunas. N Callaghan

DRILLER OR WATCHMAN DRILLER OR WATCHMAN DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt W. E. Schroeder Robert G Lock

CONTRACTOR'S REPRESENTATIVE BRITISH AMERICAN'S REPRESENTATIVE BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE Feb 13 19 64 WELL NO. B-76 LEASE B.A. TEXACO ARROWHEAD.

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE R.G #2.

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME. WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.
12 00	12 15	CHECK BOPS + KELLY COCK.
12 15	2 15	DRLG 8 3/4" HOLE
2 15	2 45	DEV SURVEY @ 4750 - 2°
2 45	6 45	DRLG. 8 3/4" HOLE
6 45	7 15	DEV SURVEY @ 4900 - 1 3/4°
7 15	8 00	DRLG. 8 3/4" HOLE.
		GORDON RUDMAN 8 HRS OVER WASHING SAMPLES FOR, BA
8 00	8 30	DRLG 8 3/4" HOLE
8 30	8 45	CHECK KELLY COCK + BOPS
8 45	12 30	DRLG 8 3/4 HOLE
12 30	1 00	SURVEY @ 5150 - 1 3/4°
1 00	4 00	DRLG 8 3/4" HOLE
		~~GORDON RUDMAN 8 HRS WASHING SAMPLES~~
		~~FOR B.A.~~
4 00	4 15	check BOPs & Kelly cock OK
4 15	6 15	DRlg 8 3/4 Hole
6 15	6 45	SURVEY @ 5400 1 1/4°
6 45	7 00	REAM 13FT of Fill
7	11 30	DRlg
11 30	12 00	SURVEY AT 5650.
		Royce Schmutz 6HRS OVER washing samples FOR BA.
		BOILER 2HRS

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	5150	1 3/4°	5650	1 1/4
	5400	1 1/4		

TIME CHARGEABLE TO BRITISH AMERICAN

	WITH DRILL PIPE HRS.	WITH DRILL PIPE MIN.	WITHOUT DRILL PIPE HRS.	WITHOUT DRILL PIPE MIN.	OTHER HRS.	OTHER MIN.
TOTAL TIME CHARGEABLE TO B.A.	24	00				
DAY WORK PER 24 HOUR DAY						

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	AIR ~~PUMP~~ PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
10	8 3/4	RC-7J	38717	3450	IN	1989	39 1/2	80	8.	80				12-6 5/8 1-8 5/8.
"	"	"	"	"	"	1854	37 3/4	75-80	8	80				"
"	"	"	"	"	"	2200		"	8-10	80-100				" "

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
2PM	9.0	72	4.6	2/32	9.0	
8AM	9.0	68	4.7	2/32	9.0	

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 4939.

W. Klankuk.
DRILLER OR WATCHMAN

DEPTH END SECOND TOUR: 5304

C. Markunas.
DRILLER OR WATCHMAN

DEPTH END THIRD TOUR: 5650

N. Gallagher
DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED

V. Arndt
CONTRACTOR'S REPRESENTATIVE

W. Schroeder
BRITISH AMERICAN'S REPRESENTATIVE

Robert G Lock
BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-95B

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE FEB 12 19 64 WELL NO. B-76 LEASE B.A. TEXACO ARROWHEAD

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE R.IG #2.

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.
12 00	12 15	SERVICE RIG + B.O.P.'s.
12 15	4 30	DRLG 8 3/4" HOLE
4 30	5 15	DEV SURVEY @ 3760 - 2°
5 15	8 00	DRLG. 8 3/4" HOLE
8 00	9 30	DRLG 8 3/4" HOLE
9 30	10 00	SURVEY @ 3950 - 2 3/4°
10 00	10 15	CHECK BOPS + KELLY COCK
10 15	4 00	DRLG 8 3/4" HOLE
		(8 HRS OVER TIME FOR JOHN SMOLESKI WASHING SAMPLES FOR BA
		WELDER WORKED ONE HR. WELDING COLLAR
		AT END OF WIRELINE & MAKING SAMPLE
		CATCHING NIPPLE
4 00	4 15	Check Bop's & Kelly cock OK
4 15	4 45	Survey @ 4220 Miss Run
4 45	5 30	DRlg 8 3/4 Hole
5 30	6 00	Survey @ 4250 1 3/4°
6 00	10 00	DRlg
10 00	10 30	Survey @ 4500 1 1/2°
10 30	12	DRLing
		Royce Schmutz & Hrycer washing samples for BA
		Boiler 24 HRS

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	3760	2°	4250	1 3/4°
	3950	2 3/4°	4500	1 1/2°

TIME CHARGEABLE TO BRITISH AMERICAN

	WITH DRILL PIPE HRS.	WITH DRILL PIPE MIN.	WITHOUT DRILL PIPE HRS.	WITHOUT DRILL PIPE MIN.	OTHER HRS.	OTHER MIN.
TOTAL TIME CHARGEABLE TO B.A.	24	00				
DAY WORK PER 24 HOUR DAY						

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	AIR PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
10	8 3/4	R6-JT	38717	3950	IN	468	10 1/2	60	10	60				12 - 6 3/4 1 - 8 1/4
V	V	V	V	V	IN	772	17 1/2	75	8	70				V
V	V	V	V	V	IN	1150	23 3/4	75-60	8-10M	60				V V

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
1200 AM	9.0	70	42	2/32	9.0	
	9.0	70	4.2	2/32	9.0	

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 3918

W. Ziemba
DRILLER OR WATCHMAN

DEPTH END SECOND TOUR: 4222

C. Markuson
DRILLER OR WATCHMAN

DEPTH END THIRD TOUR: 4600

N. Laboda
DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

[signature]
REPRESENTATIVE

W. C. Schmutz
BRITISH AMERICAN'S REPRESENTATIVE

Robert G. Lock
BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE FEB 11 1964 WELL NO. B-76 LEASE B.A. TEXACO ARROW HEAD.

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE RIG #2.

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12 00	12 45	W/ ON WATER TO FINISH DISPLACING HOLE						
12 45	1 00	FINISH DISPLACING HOLE W/ WATER						
1 00	1 45	REMOVE ROTATING HEAD RUBBER.						
1 45	2 15	HOIST 15 STDS. TO 2950						
2 15	3 00	R.G TO CIRC. W/ AIR.						
3 00	3 30	BLOW HOLE DRY @ 2950						
3 30	4 00	RUN IN TO 3363						
4 00	7 15	BLOW HOLE DRY						
7 15	8 00	DRLG CEMENT 3362 - 3394						
8 00	8 30	DRILL OUT CEMENT + SHOE 3394 - 3400						
8 30	9 30	DRILLING 8 3/4" HOLE						
9 30	9 45	CHECK BOPS & MOTOR SHUT OFFS. O.K.						
9 45	10 15	DRLG 8 3/4" HOLE						
10 15	12 00	HOIST TO CHANGE BITS.						
12 00	12 15	CHANGE BITS + CHECK BLIND RAMS.						
12 15	4 00	RUNNING IN PIPE WITHOUT RUBBERS.			15			
4 00	5 45	Ream pipe without Rubbers						
5 45	6 30	Ream soft to bottom						
6 30	8 00	Waiting on AIR comp. Nagaban						
8 00	10 30	DRlg 8 3/4 Hole						
10 30	11 15	Survey at 3500 (2 1/4)						
11 15	12 00	DRLing						

Boiler 2 HRS

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	3500	2 1/4		

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.						
DAY WORK PER 24 HOUR DAY	23	45	15			

BIT RECORD:

AIR

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
6RR	8 3/4	OSC-3	17157	3362	IN	32	3/4	60	6	60				5-7" 15-6 3/4
✓	✓	✓	✓	✓	3450	88	2 3/4	60	8	60				✓
10	8 3/4	RG7J	38717	3450	IN	170	3 1/4			100				12-6 3/4
									8 left	100				10 8 9/16

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT

MUD ADDITIVES:

AMOUNT	TYPE	TIME
90 GAL	ALCOMER	
15 GAL	SOAP.	
1 bag	MICROCEL E	
90 ~~gal~~	~~alcotol~~	

~~M Soda Soap,~~

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 3400

DEPTH END SECOND TOUR: 3450

DEPTH END THIRD TOUR: 3620

W. Ikachuck
DRILLER OR WATCHMAN

C. Markunas.
DRILLER OR WATCHMAN

N. Lalonde
DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arnett
CONTRACTOR'S REPRESENTATIVE

W. E. Schroeder
BRITISH AMERICAN'S REPRESENTATIVE

Robert G Lock
BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-95B

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE FEB. 10 19 64 WELL NO. B-76 LEASE B.A. TEXACO ARROWHEAD.

SEC. T. R. PROVINCE N.W.T. CONTRACTOR

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12 00	1 30	WORK ON BLOOEY LINE			1	30		
1 30	2 00	RUN IN HOLE 19 STDS.						
2 00	3 15	HOIST TO RUBBER DRILL P.P.						
3 15	8 00	JACKING SUB TO LEVEL DERRICK			4	45		
8 00	12 30	W.O.C.						
12 30	1 00	PRESSURE BLIND RAMS TO 1000 P.S.I FOR 15 MIN. OK.			5	00		
1 00	4 00	RUNNING IN W/ 9 3/4" BIT TO DRILL OUT	3	00				
4 00	4 30	Running in with 8 3/4 Bit						
4 30	5 00	Pick up Kelly & install Rotating HEAD						
5 00	6 00	PRESSURE up pipe & HYDRIL RAMS - OK						
6 00	11 15	DRlg out Plug - Float AT 3362						
11 15	12	Displace Hole w. WATER						
		CHECKED THE I.D. OF THE TOP 200' OF 9 5/8" CASING WITH 8 3/4" CASING ROLLER O.K.						
		PRESSURED UP ON HYD. PIPE RAMS TO 1100# FOR 15 MINS O.K.						
		PRESSURED UP ON HYDRIL TO 1100# FOR 15 MINS O.K.						
		BOILER 24 HRS						

DEVIATION RECORD

DEPTH	SURVEY	DEPTH	SURVEY

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	12	45	11	15		
DAY WORK PER 24 HOUR DAY						

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP No.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
RERUN #6	9 3/4	OSC3	17157	3400										5-7
"	"	"	"	"				58	5	1100	2		7"	10-6 3/4 "

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR 3400 DEPTH END SECOND TOUR: 3400 DEPTH END THIRD TOUR: N. Ballyf

Walter Hunt. C. Markuman 3400

DRILLER OR WATCHMAN DRILLER OR WATCHMAN DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt W. Chambers Robert G. Lock

CONTR... BRITISH AMERICAN'S REPRESENTATIVE BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE FEB 9 19 63 WELL NO. B-76 LEASE B.A. TEXACO ARROWHEAD.

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE RIG #2.

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME. WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.
1200	300	SET 9⅝ CASING SLIPS & CUT CASING
300	400	NIPPLING UP W/ BOPS.
800	400	W.O.C
		NIPPLING UP BOPS & BLOOEY LINE
400	1200	W.O.C NIPPLING UP BOPS & BLOOEY LINE
		BOILER 24 HRS.

TIME CHARGEABLE TO BRITISH AMERICAN

WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.

DEVIATION RECORD

DEPTH	SURVEY	DEPTH	SURVEY

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.			24	00		
DAY WORK PER 24 HOUR DAY						

BIT RECORD:

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

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 3400

W. Hamlet
DRILLER OR WATCHMAN

DEPTH END SECOND TOUR: 3400

C. Markuson
DRILLER OR WATCHMAN

DEPTH END THIRD TOUR: 3400

N. Collaft
DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt
CONTRACTOR'S REPRESENTATIVE

W. E. Schroeder
BRITISH AMERICAN'S REPRESENTATIVE

Robert G. Lock
BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE FEB 8 19 64 WELL NO. B-76 LEASE B.A. TEXACO ARROW HEAD.

SEC. T. R. PROVINCE N.W.T. CONTRACTOR CASCADE RIG #2.

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE-TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.
12:00	12:30	CIR HOLE TO RUN CASING
12:30	2:15	HOIST TO RUN CASING
2:15	2:45	RIG TO RUN CASING
2:45	9:00	RUNNING 9 5/8" CASING
9:00	11:00	RUNNING 9 5/8" CASING.
11:00	11:45	CIRC CASING.
11:45	12:30	CEMENT CASING & PUMP PLUG DOWN W/ RIG PUMP.
12:30	4:00	W.O.C.
4:00	8:00	W.O.C.
		5 MEN 4 HRS OVERT + 5 MEN 6 HRS OVER Running CASING AT B.A. Request

TIME CHARGEABLE TO BRITISH AMERICAN

WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
		5 MEN 4 HRS OVERTIME			
		RUN CASING & CEMENT.			
		B.A. Request	5	45	

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE FEB 7 19 64 WELL NO B-76 LEASE B.A. TEXACO ARROWHEAD.

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE R.C #2.

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12⁰⁰	12⁴⁵	CIR HOLE CLEAN. STRAP TALLY 3341.81						
12⁴⁵	2³⁰	HOIST TO LOG. BOARD 3335.50						
2³⁰	5⁴⁵	LOGGING W/ SCHLUMBERGER. DIFF 6.31			3	15		
5⁴⁵	7¹⁵	RUN IN HOLE. CORR. MADE.						
7¹⁵	8⁰⁰	DRLG 12¼" HOLE						
8⁰⁰	8¹⁵	RIG SER. & CHECK BOPS.						
8¹⁵	12⁰⁰	DRLG 12¼" HOLE						
12⁰⁰	12⁴⁵	CIRC. HOLE CLEAN TO LOG						
12⁴⁵	1⁰⁰	SURVEY @ 3400 - 2⅛°						
1⁰⁰	2³⁰	HOIST TO LOG.						
2³⁰	2⁴⁵	RIG UP TO LOG				15		
2⁴⁵	4⁰⁰	LOGGING W/ SCHLUMBERGER.			1	15		
4⁰⁰	9	LOGGING W/ SCHLUMBERGER			5	00		
9.	9.¹⁵	LAY DOWN LOGGING EQUIPMENT				15		
9¹⁵	10⁴⁵	RUN IN HOLE WITH BIT TO CIRC						
10⁴⁵	11.¹⁵	~~BREAK~~ CIRC. REAM 15FT TO BOTTOM.						
11.¹⁵	12	CIRC HOLE CLEAN						
		BOTTER 24 hr.						

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	3400	2⅛°		

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	14	00	10	00		
DAY WORK PER 24 HOUR DAY						

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP No.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
9.	12¼	OSC-1G	57906	3329	IN	26	1½	60	25.	1350	1	68	6¾	5-7¾ 12-6¾
9	12¼	OSC-1G	57901	3324	3400	76	5¼	60	25	1350	1	70	7¾	2

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
12⁰⁰	9.2	193	4.6	2/32	9.0	
10AM	9.2	150	4.0	2/32	9.0	
1200	92	148	4.0	2/32	9.0	

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 3350 DEPTH END SECOND TOUR: 3400 DEPTH END THIRD TOUR: 3400

W. Hanke — DRILLER OR WATCHMAN

C. Markenna — DRILLER OR WATCHMAN

N. Ballard — DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt — CONTRACTOR'S REPRESENTATIVE

W. E. Schneider — BRITISH AMERICAN REPRESENTATIVE

Richard Lock — BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-95B

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE FEB 6 19 63 WELL NO. B-76 LEASE B.A. TEXACO ARROWHEAD.

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE R.G #2.

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
1200	2245	REAMING 8 3/4 - 12 1/4					
2245	300	SER. R.G + B.P's.					
300	800	REAMING 8 3/4 - 12 1/4.					
800	815	R.G SER. + CHECK BOPS					
815	1145	REAMING 8 3/4" HOLE TO 12 1/4					
1145	130	HOIST FOR BIT + STRAP PIPE	1330				
130	200	BREAK DOWN REAMER + CUT OFF BIT			30		
200	215	MAKE UP BIT + CHECK BLIND RAMS.			15		
215	330	RUN IN W/ 12 1/4" BIT					
330	400	CLEAN 30' TO BOTTOM.					
400	415	check BOPS OK					
415	500	DRlg 12 1/4 Hole					
500	530	CIRC.					
530	545	START OFF bottom Tight					
545	615	put Kelly back on + CIRC.					
615	715	Hoist 10 stands WAIT 1/2 hr.					
715	745	Run back in.					
745	1015	REAM 33 FT to bottom. Mix mud					
1015	1115	Hoist 10 STANDS wait 1 hr - Tight 8# stand					
1115	12	Run in REAM LAST 10 FT. CIRC					
		Boiler 24 hrs					

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	23	15		45		
DAY WORK PER 24 HOUR DAY	1440		1368			

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
6	8 3/4	OSC-3	17157											
8	12 1/4	Button Pilot R.	120R	2967	RUN	263	29 1/2	60	20	1350	1	70	7 3/4	5-7 3/4" 13 6 1/4"
6	8 3/4	OSC-3	17157	V	3324	[illegible]	55 1/2							
8	12 1/4	Button Pilot R.	120R	2967	3324	357	33	60	20	1350	1	V	V	V
9	12 1/4	OSC-1G	57906	3324			3 1/2	70	25	1200	1	65	V	V

MUD RECORD:

TIME	WEIGHT	VIS-COSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
6 AM	9.2	85	4.0	2/32	9.5	
10 AM	9.1	90	4.8	2/32	9.0	
10 PM	9.2	190	4.6	2/32	9.0	

MUD ADDITIVES:

AMOUNT	TYPE	TIME
200	CAUSTIC	8-10 PM
1400 #	Q-BROXIN	10 PM
200	DEXTRID	
5700	Gel	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 3324

W. Zlatkuk
DRILLER OR WATCHMAN

DEPTH END SECOND TOUR: 3324

C. Zlatkuk
DRILLER OR WATCHMAN

DEPTH END THIRD TOUR: 3335

DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

T. Ewart
BRITISH AMERICAN'S REPRESENTATIVE

W. G. Thomson
BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

Robert E. Lock
BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-05B

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE FEB. 5 19 63 WELL NO. B-76 LEASE B.A. TEXACO ARROWHEAD.

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE RIG #2.

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12⁰⁰	1³⁰	CLEAN FILL FROM 2927 - 2967						
1³⁰	1⁴⁵	SER RIG & BOPs.						
1⁴⁵	8⁰⁰	REAMING 8 3/4 - 12 1/4 2967 - 3003.						
8⁰⁰	8¹⁵	RIG SER. & CHECK BOPS						
8¹⁵	4⁰⁰	REAMING 8 3/4" HOLE TO 12 1/4" 3003-3083.						
4⁰⁰	11¹⁵	CHECK BOPs OK,						
11¹⁵	12	REAMING 8 3/4 - 12 1/4 HOLE, 3083 TO 3150						
		BOILER 2 HRS						

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	24	00				
DAY WORK PER 24 HOUR DAY	1440					

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
6	8 3/4	OSC-3	17157											
8.	12 1/4	Button Protect.	120R.	2967	RUN.	36	6 1/4	60	10-20	1300	1	72	7 3/4	5-7" 13-6 3/4
6	"	"	"										7 3/8	
8	"	"	"	"	"	183	21 3/4	"	20	"	"	68	"	" "

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
6⁰⁰ AM	9.1	90	5.0	2/32	9.5	
2 P.M	9.0	80	5.0	2/32	9.0	
8 PM	9.2	84	5.	2/32	9.0	

MUD ADDITIVES:

AMOUNT	TYPE	TIME
Q-BROXIN	200 #	
1.000 #	GEL.	
100 #	DEXTRID	
100 #	CAUSTIC	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR 3324 DEPTH END SECOND TOUR: 3324 DEPTH END THIRD TOUR: 3324

W. Zakaluk. C. Markunas. W. Laidlaw
DRILLER OR WATCHMAN DRILLER OR WATCHMAN DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt W.H. Schomaker Robert L. Locke
CONTRACTOR'S REPRESENTATIVE BRITISH AMERICAN'S REPRESENTATIVE BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE FEB. 4 19 64 WELL NO. B-76 LEASE B.A. TEXACO ARROWHEAD.

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE DRLG. R.G #2.

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
1200	1215	SERVICE R.G & B.Ps.					
1215	145.	REAM 8¾ - 12¼. - 2945' - 2953					
145	215	WORK PIPE STUCK @ 2953.					
215	645	REAM 8¾ - 12¼ - 2953 - 2967					
645	800	HOIST.					
		ROY YORK 2 HRS OVERTIME WELDING BIT ON PILOT REAMER					
800	815	R.G SERVICE & CHECK BLIND RAMS					
815	845	PICK UP REAMER & WELD ON BIT					
845	10.00	MAGNA-FLUX 9" COLLARS & SUBS.					
1000	1130	LAY DOWN 9" COLLARS & SUBS			3	30	
1130	400	PICKUP 6¾ BOTTOM HOLE & RUNNING					
		IN COLLARS & MAGNA-FLUXING SAME					
400	730	Run in & MAGNAFLUX 6½" DRILL COLLARS					
730	800	Run in 11 stand DRI pipe. Hit BRidge					
800	830	Ream 30 ft.					
834	930	Run in 4 stands & REAM					
930	1130	Put Rubbers on 10 stands AS Running In					
1130	1700	REAMing to Bottom					
		BOILER 24 hrs					
		Using Stock Sub & Jars in String					
			HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
		TOTAL TIME CHARGEABLE TO B.A.	20	30	3	30		
		DAY WORK PER 24 HOUR DAY	1440		1368			

DEVIATION RECORD

DEPTH	SURVEY	DEPTH	SURVEY
3282	1¾		

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED BETWEEN	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP No.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
6	8¾	OSC-3	17157											
7	12¼	Pilot R	999R.	2903.	2917	64	12½	110	13	1100	1	72	7¾	3-9" 6-6¾
6	8¾	OSC-3	17157											
8	12¼	Button Pilot	R. 120R	2967										

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
24hrs	8.9.	85.	6.0	2/32	9.5	

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 3324. DEPTH END SECOND TOUR: 3324 DEPTH END THIRD TOUR: 3324

W. Hamblett. DRILLER OR WATCHMAN

C. Markuna. DRILLER OR WATCHMAN

N Calloch DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

T. Arnott CONTRACTOR'S REPRESENTATIVE

W.G. Schroeder BRITISH AMERICAN'S REPRESENTATIVE

Robert G. Lock BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE FEB. 3. 19 64 WELL NO. B-76 LEASE B.A. ARROWHEAD

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE RIG #2.

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.
1200	1245	WORK TIGHT HOLE @ 2500
1245	100	HOIST 85 STDS. SLOW.
100	145	PUMP 250 BBLS. MUD IN HOLE
145	230	FINISH HOISTING
230	600	DISMANTLE ROTATING HEAD & H.C TO CIR W/ MUD MIXING MUD.
600	645	MAKE UP PILOT REAMER WELD ON NEW BIT
645	700	SLIP 10' DRLG. LINE
700	800	RUN IN HOLE.
800	830	RUN IN 14 STANDS OFF BOTTOM.
830	845	BREAK CIRC. W/ MUD.
845	900	RIG SER. + CHECK BOPS
900	400	CLEANING TO BOTTOM.
400	445	CHECK BOPS
445	530	CLEANING TO BOTTOM
530	1200	REAMING 8¾ TO 12¼ HOLE
		REAMED FROM 2903 TO 2945
		BOILER 24 HRS

TIME CHARGEABLE TO BRITISH AMERICAN	WITH DRILL PIPE HRS.	WITH DRILL PIPE MIN.	WITHOUT DRILL PIPE HRS.	WITHOUT DRILL PIPE MIN.	OTHER HRS.	OTHER MIN.
			4	30		
TOTAL TIME CHARGEABLE TO B.A.	19	30	4	30		
DAY WORK PER 24 HOUR DAY	1440		1368			

DEVIATION RECORD

DEPTH	SURVEY	DEPTH	SURVEY

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
6	8¾	OSC-3	17157	2903.										
7	12¼	PILOT REAMER	999R	2903.				85						
✓	✓	✓	✓	✓				85	15	950	1	70	7¾	3-9" 6-7"
✓	✓	✓	✓	✓		42	6½							

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
2PM	8.8	80	5.6	2/32	9.5	
8PM	8.8	57	5.6	2/32	9.5	
10PM	8.8	69				

MUD ADDITIVES:

AMOUNT	TYPE	TIME
½ stream	water	
3600	Gel	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 3324. DEPTH END SECOND TOUR: 3324 DEPTH END THIRD TOUR: 3324

W. Zaharko — DRILLER OR WATCHMAN

C. Markuness — DRILLER OR WATCHMAN

N. Ballantyne — DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt — CONTRACTOR'S REPRESENTATIVE

W. G. Schroeder — BRITISH AMERICAN'S REPRESENTATIVE

Robert G. Lock — BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-9RB

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE FEB 2 1969 WELL NO. B-76 LEASE B.A. TEXACO ARROWHEAD.

SEC. T. R. PROVINCE N.W.T CONTRACTOR CASCADE RIG #2.

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12 00	1 00	REAM 8 3/4 TO 12 1/4						
1 00	1 15	SER RIG + B.O.P.S.						
1 15	8 00	REAM 8 3/4 TO 12 1/4" HOLE						
		REAM 2362-2599.						
8 00	8 15	RIG SER. & CHECK BOPS						
8 15	3 30	REAMING 8 3/4" HOLE TO 12 1/4"						
3 30	4 00	BLOWING HOLE CLEAN						
"	"	REAM 2594-2842.						
4 00	4 30	Blow Hole clean Check BOPS						
4 30	4 45	REAming 8 3/4 to 12 1/4 Hole						
4 45	5 15	Blow Hole clean						
5 15	5 45	REAming						
5 45	7 00	WORK pipe CAN't get BACK To Bottom						
7 00	8 00	REAming						
8 00	10 30	Blow Hole clean						
10 30	11 30	Hoist 2 stand and pump in 150 BBl mud						
11 30	12 00	pull out to Finish pumping mud						
		Tight Hole						
		REAMED From 2842 To 2907						
	2							
	1	BOILER 24 HRS.						

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	24	00				
DAY WORK PER 24 HOUR DAY	$ 1440					

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE (Air)	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
3.	8 3/4	W7	22092				53 3/4							
5	12 1/4	Button Piolet REAMER	1617.	IN		967	[illegible]	60	12	230				3-9" 6-9"
3	"	"	"	"						230				" "
5	"	"	"	"		1276	52		14	"	1			" "

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
10PM	8.7	207				

MUD ADDITIVES:

AMOUNT	TYPE	TIME
32 Gal	Soap	
40#	Lime	
500#	DEXTRID	
400#	CELEX	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR 3324 DEPTH END SECOND TOUR: 3324 DEPTH END THIRD TOUR: 3324

W. Markus. C. Markunas, N. Lallier

DRILLER OR WATCHMAN DRILLER OR WATCHMAN DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

U. Arndt W.G. Thomasen Robert G. Lock

CONTR. BRITISH AMERICAN'S REPRESENTATIVE BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

THE BRITISH AMERICAN OIL COMPANY LIMITED

GC-95B

DATE ~~JAN~~ FEB. 1 19 64 WELL NO. B-76 LEASE ARROW HEAD

SEC. _____ T. _____ R. _____ PROVINCE N.W.T. CONTRACTOR CASCADE DRIG CO

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12⁰⁰	1³⁰	REAM 8¾" - 12¼" HOLE. 2095-2158					
1³⁰	2³⁰	TRY BREAK CIR					
2³⁰	2⁴⁵	SER. R.G + B.O.P.S					
2⁴⁵	3³⁰	HOIST B.I.T					
3³⁰	6⁰⁰	CLEAN OUT REAMER + B.I.T			2	30	
6⁰⁰	6⁴⁵	RUN IN HOLE W. REAMER.					
6⁴⁵	8⁰⁰	BLOWING HOLE CLEAN					
8⁰⁰	8¹⁵	CHECK BOPS + SER. RIG.					
8¹⁵	9⁴⁵	REAMING 8¾" HOLE TO 12¼"					
9⁴⁵	12³⁰	BLOWING HOLE CLEAN CANT GET TO BOTTOM AFTER CONNECTION					
12³⁰	2⁴⁵	REAMING					
2⁴⁵	4⁰⁰	BLOWING HOLE CLEAN WORKING TO BOTTOM					
4⁰⁰	4¹⁵	CHECK BOPS					
4¹⁵	12	REAMING 8¾ to 12¼ HOLE REAMED FROM 2253 TO 2362					
		43 GAL SOAP					
		93# LIME					
		BOILER 29 HRS.					
		TOTAL TIME CHARGEABLE TO B.A.	21	30	2	30	
		DAY WORK PER 24 HOUR DAY $	1440		1368		

DEVIATION RECORD

DEPTH	SURVEY	DEPTH	SURVEY

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.F.M.	BIT WEIGHT	PUMP PRESSURE (AIR)	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
3	8¾	W7	22092											
5	12¼	Reed Hard Formation Reamer	102R	1617	1¼	531	15½	60	15	200				5-8" 6-6¼"
3	"	"	"	"			3¼							
5	"	"	"	"	"	735	[illegible]	46	"	"				" "

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
2PM	8.9	80	8.8	2/32	8.5	
6PM	87	80				

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 3324. DEPTH END SECOND TOUR: 3324 DEPTH END THIRD TOUR: 3324

W. Lenchuk. C. Markuman N. Gallagher

DRILLER OR WATCHMAN DRILLER OR WATCHMAN DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt W. G. Schroeder Robert G. Lock

CONTRACTOR'S REPRESENTATIVE BRITISH AMERICAN'S REPRESENTATIVE BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE JAN 31 19 64 WELL NO. B-76 LEASE B.A. TEXACO ARROWHEAD.

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE R.G #2.

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOU ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUS OR OTHER REPRESENTATIVE OF CONTRACTOR. SHOW ON THE RIGHT ALL TIME CHARGE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHC N THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
1200	1215	SERVICE RIG & BOPS.								
1215	1230	INSTAL ROTATING HEAD.								
1230	100	RUN IN HOLE								
100	115	BREAK CIR								
115	800	REAM FROM 8 3/4 TO 12 1/4 FROM. 1617-1770								
800	813	REAMING 8 3/4" HOLE TO 12 1/4"								
813	830	CHECK BOPS + KELLY COCK								
830	145	REAMING								
145	285	WORK TIGHT HOLE ON CONNECTION								
285	400	REAMING.								
		REAMED 1770 TO 1993								
400	415	REAMING 8 3/4 HOLE TO 12 1/4 HOLE								
415	430	CHECK BOPS O.K.								
430	12	REAMING								
		BOILER 24 HRS								
		TOTAL TIME CHARGEABLE TO B.A.	24	00						
		DAY WORK PER 24 HOUR DAY	14	00						

DEVIATION RECORD

DEPTH	SURVEY	DEPTH	SURVEY

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED REAMED	HRS. RUN	R.P.M.	BIT WEIGHT	AIR PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
3.	12 3/4	W7	22092.	956.	IN.									
4.5	12 1/4	Bottom Reamer.	102R.	1617	RUN.	153	6 3/4	60	15	200				3-9" 6-7"
5	12 1/4	BOTTOM REAMER	102R	1617	IN	381	14	60	15	200				↓
↓	↓	↓	↓	↓	IN	478	21 3/4	↓	10	↓				↓

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
6AM	8.6	55				
2PM	8.9	80	8.8	1/32	8.5	
8PM	8.9	76	7.2	1/32	8.5	

MUD ADDITIVES:

AMOUNT	TYPE	TIME
2000#	Gel	
28 Gal.	Soap	
55#	Lime	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 3324 DEPTH END SECOND TOUR: ~~1993~~ 3324 DEPTH END THIRD TOUR: 3324

Walter Hackett
DRILLER OR WATCHMAN

C. Markunas.
DRILLER OR WATCHMAN

N Ballard
DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arnett
CONTRACTOR'S REPRESENTATIVE

W. C. Schumacher
BRITISH AMERICAN'S REPRESENTATIVE

BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

THE BRITISH AMERICAN OIL COMPANY LIMITED

GC-958

DATE Jan 30 19 69 WELL NO B-76 LEASE B.A. Texaco Arrowhead.

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR Cascade Rig #2.

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
1200	1230	CIR Blow Hole.					
1230	100	Survey @ 3282					
100	330	Lay down 70 Joints Drill Pipe					
330	400	Finish out of Hole					
400	700	Pick up Shock Sub. Calliper Same					
		make up Pilot Reamer & weld on B.H.					
700	800	Deice 9" & 7" Drill Collars &			400		
		make up Float.					
800	830	Finish Run in w/ Reamer					
830	900	Install Rotating Head & Check BOPs.					
900	115	Reaming. 8 3/4" Hole 12 1/4"					
115	200	Pick up Pump Clutch w/ Sandline & Set					
		~~Skidding~~ off Truck & Set in Place					
200	400	Reaming. Reamed 955' To 1375					
400	415	Check Bops OK					
415	915	Ream 8 3/4 Hole To 12 1/4					
915	10	Hoisting Reamer					
10	1115	cut bit of Reamer and weld same on new Reamer			115		
		close Blind Rams ok					
1107	12	Run in DP collars & work on Rotating Head					
		Reamed 8 3/4 To 12 1/4 - 1375' To 1617					
		Boiler ~~24~~ hrs					

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	3282	1 3/4°		

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	18	45	5	15		
DAY WORK PER 24 HOUR DAY	1440		1368			

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
2.	8 3/4	H&J	735019	2230	3324	1094	47 1/2							
3	8 3/4	W1	~~12092~~	956										
4	12 1/4	Pilot	~~7796~~	956.										
4	12 1/4	L	~~HOOK~~	955	1617	662	64	60	15	200 AIR				3-9"+6-7"
4	12 1/4	L	107R	1617										

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
10AM	89	66	102	3/32	9.0	
10PM	8.8	66				

MUD ADDITIVES:

AMOUNT	TYPE	TIME
14 1/2	Gals Soap	
31 #	Lime	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 3329 DEPTH END SECOND TOUR: 3329 DEPTH END THIRD TOUR: 3324

W. Hodd — DRILLER OR WATCHMAN

C. Markunas. — DRILLER OR WATCHMAN

N. Ballof — DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arnott — CONTRACTOR'S REPRESENTATIVE

(illegible) — BRITISH AMERICAN'S REPRESENTATIVE

Robert G Lock — BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE JAN 29 19 64 WELL NO. B-10 LEASE B.A. TEXACO ARROWHEAD.

SEC. T. R. PROVINCE N.W.T. CONTRACTOR CASCADE RIG #2.

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME. WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
1200	115	CIR Blow Hole CLEAN.						
115	130	CHECK BOPS & Kelly cock.						
130	200	DRLG. 8 3/4" HOLE						
200	215	CIR Blow Hole CLEAN						
215	300	DRLG. 8 3/4" HOLE						
300	330	CIR Blow Hole CLEAN.						
330	630	DRLG. 8 3/4" HOLE.						
630	645	~~DRLG.~~ CIR Blow Hole CLEAN						
645	715	DRLG 8 3/4" HOLE						
715	745	CIR Blow Hole CLEAN.						
745	800	RUNNING SURVEY.						
800	815	HOIST SURVEY @ 3044-1 1/4						
815	830	CHECK BOPS.				15		
830	1145	DRILL 3 3/4" HOLE						
~~1145~~	1215	MACCOBAR WORKING ON COMPRESSORS						
~~1215~~	330	DRILL						
330	400	SURVEY @ 3230 MISRUN.						
~~400~~	430	DRLG 8 3/4 HOLE						
430	445	CHECK BOPS + KELLY COCK. O.K.						
445	530	DRLG						
530	12	CIRC TO DRY HOLE						
		1 bag MICRO CEL E. Added						
		BOILER 24 HRS.						

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	3044	1 1/4°		

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	23	45		15		
DAY WORK PER 24 HOUR DAY	1440		1368			

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
2	8 3/4	H8J	735074	3230	IN	774	40 3/4	60	25	200				1-8 3/4 1-6 3/4
〃	〃	〃	〃	〃	〃	982	46 3/4	60	25	220				〃
〃	〃	〃	〃	〃			16:04 1/2			220 AIR				〃

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
6 a.m.	8.8	70				
10 a.m.	8.8	6.5				
10 p.m.	98	65				

MUD ADDITIVES:

AMOUNT	TYPE	TIME
100	Costic	
400	Chrom	
4000	Gel	
WATER		

SWAB CUPS:

NUMBER	SIZE	TYPE
42 GALS.		SOAP
78 #		LIME
1 SK.		MICRO-CEL E

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 2079 DEPTH END SECOND TOUR: 3262 DEPTH END THIRD TOUR: 3324

Walter Hoult. C. Markunas. N. Gallant.

DRILLER OR WATCHMAN DRILLER OR WATCHMAN DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt W. A. Schomaker Robert G. Lock

CONTRACTOR'S REPRESENTATIVE BRITISH AMERICAN'S REPRESENTATIVE BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

THE BRITISH AMERICAN OIL COMPANY LIMITED

GC-958

DATE JAN 28 19 64 WELL NO. B-76 LEASE B.A. TEXACO ARROWHEAD.

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE DRLG. RIG #2.

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
1200	1230	SURVEY @ 2380								
1230	400	DRLG 8 3/4" HOLE								
400	445	BLOW HOLE WORK P.P.								
445	800	DRLG. 8 3/4" HOLE								
800	830	DRLG 8 3/4" HOLE								
830	845	CHECK BOPS + KELLY COCK								
845	1245	DRILL								
1245	115	SURVEY @ 2640 - 1 1/2°								
115	145	DRILL								
145	230	MACCOBAR WORKING ON COMPRESSORS.								
230	400	DRILL.								
400	415	Check BOPs and Kelly cock. o.k.								
415	530	DRilling 8 3/4 Hole								
530	545	Con. CIRC Hole clean								
545	700	DRilling								
700	715	CIRC For Con.								
715	800	DRilling								
800	815	CIRC FOR con								
815	900	DRilling								
900	930	CIRC FOR con								
930	10	DRilling								
930	10	Circ Light Hole FOR SURVEY @ 2800 - D								

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	2380	1°		
	2610	1 1/2°	2800	1 1/2°

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	SEE	PAGER				
DAY WORK PER 24 HOUR DAY						

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP No.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
2	8 3/4	H8J	935029	2230	11	305	22	60	25	200	AIR			1-8 3/4 19-6 3/4
〃	〃	〃	〃	〃	〃	470	28 1/2	60	20	200	AIR			〃
〃	〃	〃	〃	〃	〃	648	35	〃	〃	〃	〃			〃

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	pH	SAND CONTENT
6AM	8.8	85	10.0	2/32	9.0	(STAND BY)
2PM.	8.8	70	10.	2/32	9.0	
8PM.	8.8	62	10	2/32	9.	

MUD ADDITIVES:

AMOUNT	TYPE	TIME
21 gal	Soap	
45 lb	Lime	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 2535. DEPTH END SECOND TOUR: 2700. DEPTH END THIRD TOUR: ____

Walter Kaduk. C. Markunas. N. LaBlanc.

DRILLER OR WATCHMAN DRILLER OR WATCHMAN DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arnett W.C. Schomaker Richard G. Lock

CONTRACTOR'S REPRESENTATIVE BRITISH AMERICAN'S REPRESENTATIVE BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT (page 2)

GC-95B

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE Jan 28 (page 2) 1964 WELL NO. B 76 LEASE B.A. TEXACO ARROW HEAD

SEC. _____ T. _____ R. _____ PROVINCE N W T CONTRACTOR CASCADE DRlg CO

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE REPORT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
		Page 2							
10 45	11 45	DRilling							
11 45	12	CIRC HOLE FOR CSG							
		Boiler 24 hrs							SEE PAGE 1

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	24	00				
DAY WORK PER 24 HOUR DAY	14	50				

BIT RECORD:

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

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: _____ DRILLER OR WATCHMAN

DEPTH END SECOND TOUR: _____ DRILLER OR WATCHMAN

DEPTH END THIRD TOUR: 2888 N. Ballon DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arnett — CONTRACTOR'S REPRESENTATIVE

W.C. Schroeder — BRITISH AMERICAN'S REPRESENTATIVE

Robert S. Lock — BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE JAN. 23 19 64 WELL NO. B-76 LEASE B.A. TERACO ARROWHEAD.

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE DRLG. R.G #2.

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12⁰⁰	4⁰⁰	WORK ON PIPE RAMS.					4	00
4⁰⁰	5⁰⁰	RUN IN HOLE						Docm.
5⁰⁰	8⁰⁰	BREAK CIR CLEAN 60' TO BOTTOM.						
8⁰⁰	10 30	DRLG 8 3/4" HOLE						
10 30	10 45	CHECK BOPS + KELLY COCK						
1045	400	DRILL						
400	6 30	DRILL 8 3/4						
6 30	6 45	con Check BOPS and KELLY cock						
6 45	11 45	DRILL						
11 45	12	Circ. Tight Hole for connection						
		BOILER 24 hrs.						

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	2380	1/4		

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	20	00			4	00
DAY WORK PER 24 HOUR DAY	1440				Docm.	

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
2.	8 3/4	HBJ	735074	2230.										1-8 1/2, 4-6 3/4
"	"	"	"	"		101	7 3/4	60	20	200 AIR				"
"	"	"	"	"		193	5 1/2	60	20	" "				"

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
400	8.8	85	10.0	2/32	9.0	
8						
8	8.8	85				

MUD ADDITIVES:

AMOUNT	TYPE	TIME
2 gal	Soap	
45 lb	lime	
displacing 12 BBL gel		

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR 2230. DEPTH END SECOND TOUR: 2331 DEPTH END THIRD TOUR: 2380

W. Hawbrook — DRILLER OR WATCHMAN

C. Markunas, — DRILLER OR WATCHMAN

N. Ballad — DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arnott — CONTRACTOR'S REPRESENTATIVE

W. C. Schomaker — BRITISH AMERICAN'S REPRESENTATIVE

Robert G. Lock — BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-35B

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE JAN 26 19 64 WELL NO. B-76 LEASE B.A. TEXACO ARROWHEAD.

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE DRLG. RIG #2.

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME. WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.
12 00	2 15.	DRLG. 8 3/4" HOLE
2 15	2 45	SURVEY @ 1884 - 1 1/8°
2 45	8 00	DRLG. 8 3/4" HOLE
8 00	9 30	DRLG 8 3/4" HOLE
9 30	9 45	CON. & CHECK BOPS.
9 45	12 15	DRILL
12 15	12 45	SURVEY @ 2070 - 1 1/2°
12 45	4 00	DRILL
4 00	5 00	DRILLING
5 00	5 15	CHECK BOP.
5 15	7	DRILLING
7 -	8 -	WAIT ON AIR COMPRESOR TO CLEAN HOLE
8 00	8 30	SURVEY - 1 1/4
8 30	9 30	HOISTING FOR BIT CHANGE
9 30	12	WORK ON PIPE RAMS
		2 30 Down. continues.
		BOILER 24 hrs

TIME CHARGEABLE TO BRITISH AMERICAN	WITH DRILL PIPE HRS.	WITH DRILL PIPE MIN.	WITHOUT DRILL PIPE HRS.	WITHOUT DRILL PIPE MIN.	OTHER HRS.	OTHER MIN.
			2	30	Down.	
					continues.	

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	1884	1 1/8		
	2070	1 1/2	2195	1 3/4

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	21	30	2	30	2	30
DAY WORK PER 24 HOUR DAY	19	00	13	30	Down continues	

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
1	8 3/4	YC4G	E14057	956	IN	1062	49	60	20	200	AIR			1-8 5/16 15-6 3/4
1	8 3/4	YC4G	E14057	956	IN	1230	49	60	15-20	200	AIR			1-8 5/16 15-6 3/4
1	8 3/4	YC4G	E14057	956	2230	1274	50 3/4	60	15-20	200	AIR			1-8 5/16 15-6 3/4

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
6:00	8.8	95	10.2	1/32		
5:00	9.8	80	10.2	2/32	9.0	

MUD ADDITIVES:

AMOUNT	TYPE	TIME
3000#	Gel	
60#	Lime	
33	Soap	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 2017

W. Skaluk.

DRILLER OR WATCHMAN

DEPTH END SECOND TOUR: 2185

C. Markunas.

DRILLER OR WATCHMAN

DEPTH END THIRD TOUR: 2230

N. Gallop

DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt — CONTRACTOR'S REPRESENTATIVE

W. L. Thomsett — BRITISH AMERICAN'S REPRESENTATIVE

Robert G. Cock — BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-95B

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE JAN 25 19 69 WELL NO B-76 LEASE B.A. TEXACO ARROWHEAD.

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE DRLG. RIG #2.

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.
12⁰⁰	12³⁰	DRILL
12³⁰	2⁰⁰	BLOWING HOLE WORK PIPE
2⁰⁰	2¹⁵	DRILL
2¹⁵	5¹⁵	BLOWING HOLE TRY TO DRY UP.
5¹⁵	5³⁰	DRILL
5³⁰	6³⁰	BLOW HOLE WORK PIPE
6³⁰	7⁰⁰	SURVEY @ 1461 - 1/2°
7⁰⁰	8⁰⁰	DRLG.
8⁰⁰	8³⁰	DRLG. 8 3/4" HOLE
8³⁰	8⁴⁵	CHECK BOPS
8⁴⁵	3³⁰	DRILL
3³⁰	4⁰⁰	SURVEY @ 1674 - 1 1/8°
4⁰⁰	12⁰⁰	DRLG. 8 3/4" HOLE
		BOILER DOWN.

TIME CHARGEABLE TO BRITISH AMERICAN	WITH DRILL PIPE HRS.	WITH DRILL PIPE MIN.	WITHOUT DRILL PIPE HRS.	WITHOUT DRILL PIPE MIN.	OTHER HRS.	OTHER MIN.

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	1461	1/2		
	1674	1 1/8°		

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	24	00				
DAY WORK PER 24 HOUR DAY	10	40				

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP No.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
1	8 3/4	YC-4G	E14057	936	IN	566	20	65	18	290	AIR			1-8 7/16 6 3/4
1	8 3/4	YC4G	E14057	956	IN	751	27 1/4	60	18-20	210	AIR			1-8 7/16 4 6 3/4
1	8 3/4	YC4G	E14057	956	IN	877	33 1/4	60	20	200	AIR			1-8 7/16 14-6 3/4

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
1300 hrs.	8.7	40				

MUD ADDITIVES:

AMOUNT	TYPE	TIME
1000#	GEL	1080
475	CAUSTIC SOAP	
26#	LIME	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 1521

DEPTH END SECOND TOUR: 1706

DEPTH END THIRD TOUR: 1832

Walter Hardwick
DRILLER OR WATCHMAN

C. Markunas
DRILLER OR WATCHMAN

N. Callaghan
DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt
CONTRACTOR'S REPRESENTATIVE

W. C. Schomaker
BRITISH AMERICAN'S REPRESENTATIVE

Robert G. Lock
BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-95B

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE JAN 24 19 64 WELL NO. B 76 LEASE S.A. TEXACO ARROW HEAD

SEC. ____ T. ____ R. ____ PROVINCE N W T CONTRACTOR Cascade Drlg Co

TIME BY DRILLERS FROM	TIME BY DRILLERS TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.
12	3 45	DRlg 8 3/4 Hole
3 45	4 30	Con. Survey Misc Runs
4 30	5 15	DRlg
5 15	5 45	Con Survey AT 1086 ½
5 45	8	DRlling
9 00	10 00	DRLG. 8 3/4" Hole
10 00	3 15	Blowing Hole (WATER COMMING IN)
3 15	4 00	mist DRLG.
4 00	4 30	DRLG 8 3/4" HOLE
4 30	5 00	SURVEY @ 1231- ⅛°
5 00	10 30	DRILL
10 30	11 00	SURVEY @ 1398- 1°
11 00	12 00	DRILL
		Boiler 24 HRS.

TIME CHARGEABLE TO BRITISH AMERICAN	WITH DRILL PIPE HRS.	WITH DRILL PIPE MIN.	WITHOUT DRILL PIPE HRS.	WITHOUT DRILL PIPE MIN.	OTHER HRS.	OTHER MIN.

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	1086	½	1398	1°
	1231	⅛°		

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	24	00				
DAY WORK PER 24 HOUR DAY	19	00				

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
1	8 3/4	YC46	EN4057	915		209	8¼	55	15	AIR 65				15 6 3/4
1	8 3/4	YC46	EN4057	956.	R.IN.	265	11	60	15	80.				15-6 3/4.
1	8 3/4	YC46	EN4057	956	RUN	500	18	60	20	240				15-6 3/4

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT

MUD ADDITIVES:

AMOUNT	TYPE	TIME
100#	MACROCELL-E	
40#	LIME	
25 GAL	SOAP	
3000#	GELL	

SWAB CUPS:

NUMBER	SIZE	TYPE
100#		CAUSTIC
200#		Q-BROKIN

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 1155'

DEPTH END SECOND TOUR: 12.20

DEPTH END THIRD TOUR: 1455

N. LaBoss
DRILLER OR WATCHMAN

Walter Sabik.
DRILLER OR WATCHMAN

C. Markunas.
DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt.
CONTRACTOR'S REPRESENTATIVE

W. C. Clements
BRITISH AMERICAN'S REPRESENTATIVE

Robert Block
BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE Jan 27 19 64 WELL No. B 76 LEASE B.A. TEXACO ARROWHEAD

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE DRLG CO

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12	12.15	Check Automatic shut off on MOTER. O.K.				15	
12.15	12-30	Pick up single and Run in To DRL out plug					
		Hit plug AT 920.73					
12 30	6 30	DRLg out plug Float and shoe					
6 30	7.15	Hoisting	7	00			
7.15	8	Pick up DRL collar To DRL mouse Hole					
8 00	11 00	DRILL MOUSE HOLE	3	45			
11 00	12 00	Pick up Square DRILL collar & make up Bit.			1	00	
12 00	2 00	Picking up 6 3/4" DRILL COLLARS.			2	00	
2 00	4 00	WORK ON #2 PUMP DRIVE.			(2	00) - Repair
4 00	7 00	TEAR OUT PUMP DRIVE			(3	00) - Repair
7 00	8 00	FINISH PICK UP 6 3/4" D.C. & CALIPER SAME			1	00
8 00	8 30	SLIP 25' DRLG LINE				30
8 30	8 45	INSTALL ROTATING HEAD.				15
8 45	9 15	DISPLACE WATER IN HOLE w/ AIR. Run In		30			
9 15	10 30	WELDER WORKING ON BLOOEY LINE			(1	15)
10 30	12 00	DRLG 8 3/4" HOLE	1	30		
		Boiler 24 hrs				

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	938	1/2		

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	12	45	6	15	5	00
DAY WORK PER 24 HOUR DAY	14	40	13	68	Down	

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
Bit Run	12 1/4	YT3	LN3277											
1	8 3/4	YC46	EN4059	956		Nil								
1	8 3/4	YC46	EN4057	956		14	1 1/2	50	5M.	60 LBS	AIR.			15-6 3/4

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
	Mud					
	AIR.					

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 956

DEPTH END SECOND TOUR: 956.

DEPTH END THIRD TOUR: 970.00

N. Callaghan
DRILLER OR WATCHMAN

W. Hankuk
DRILLER OR WATCHMAN

C. Markman
DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt
CONTRACTOR'S REPRESENTATIVE

W. C. Thomas
REPRESENTATIVE

Robert G. Lock
BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE JAN 22 19 60 WELL NO. B-76 LEASE B.A. TEXACO ARROWHEAD

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE DRlg Co

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12	5 00	Nipple up					
5 00	8 00	REMOVE ROTATING RUBBER HEAD, CHECK B.O.P's & WORK ON ACCUMULATOR LINES.					
8 00	12 00	WORK ON ACCUMILATOR LINES & REPAIR NORDSTORM VALVE TO PIPE RAMS.					
12 00	2 00	Rig To PRESSURE UP BLIND RAMS.			14 00		
2 00	4 00	WORK ON #1 MOTOR.			2 00 — Down.		
4 00	5 00	WORK ON No. 1 MOTOR.			Down	1	00
5 10	5 30	PRESSURE BLIND RAMS LEAKED					
5 30	6 00	TIGHTEN BOLTS ON CSG. BOWL.					
6 00	6 30	PRESSURE BLIND RAMS TO 1000 P.S.I FOR 15 MIN. OK			1 30		
6 30	7 45	MAKE UP BIT & RUN IN	1	15			
7 45	8 15	PRESSURE PIPE RAMS TO 1000 PSI. - 15 MIN OK		30			
8 15	8 45	PRESSURE ALL VALVES & LINES ON BOPS TO 1000 P.S.I. FOR 15 MIN OK.		30			
8 45	9 45	INSTALL NEW INSERTS ON 4" VALVE			Down	1	00
9 45	10 15	PRESSURE HYDRIL TO 1000 P.S.I - 15 MIN OK		30			
10 15	12 00	PRESSURE KELLY COCK OK & REPAIR LEAK 4" UNION. BOILER 24 HRS.			Down	1	45

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	2	45	15	30	5	45
DAY WORK PER 24 HOUR DAY	1440				Down	

Repairs -

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP No.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
RERUN #6	12¼	YT3	EN3299											

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: ____ DEPTH END SECOND TOUR: 955. DEPTH END THIRD TOUR: ____

N. Callaghan — DRILLER OR WATCHMAN

Walt. Hanke — DRILLER OR WATCHMAN

C. Markunas — DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt — CONTRACTOR'S REPRESENTATIVE

W. E. Schroeder — BRITISH AMERICAN'S REPRESENTATIVE

Robert E. Lock — BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-95B

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE Jan 21 19 64 WELL NO. B 76 LEASE BA Terrace ARROW HEAD

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE DRLG CO

TIME BY DRILLERS FROM	TIME BY DRILLERS TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	WITH DRILL PIPE MIN.	WITHOUT DRILL PIPE HRS.	WITHOUT DRILL PIPE MIN.	OTHER HRS.	OTHER MIN.
12	8	NIPPLE UP						
		3 MEN 4 HRS OVER FOR BA.						
800	400	NIPPLE UP.						
		2 MEN 4 AND 2 MEN 6 HRS OVER FOR BA.						
400	1200	NIPPLE UP						
		4 MEN WORKED OVER AT B.A. REQUEST. 3 HRS.						
		BOILER 20 hrs						

DEVIATION RECORD

DEPTH	SURVEY	DEPTH	SURVEY

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.			24	00		
DAY WORK PER 24 HOUR DAY			136	8		

BIT RECORD:

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

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: /

DEPTH END SECOND TOUR: 955

DEPTH END THIRD TOUR: 955.

N. Ballantyne
DRILLER OR WATCHMAN

W. Kabut
DRILLER OR WATCHMAN

E. Markuggat
FOR DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt
CONTRACTOR'S REPRESENTATIVE

W. A. Schomaker
BRITISH AMERICAN'S REPRESENTATIVE

BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE JAN 20 19 64 WELL NO. B 76 LEASE B.A. Texaco Arctic et Norlo

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE DRLG CO

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME. WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT. INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12	8	W.O.C. 4 MEN OVER FOR B.A. 4 HRS						
800	1200	cut CASING & WELD CASING BWL.						
1200	400	N. PPLE UP w/ BOPS.						
		5 MEN 4 HRS OVERTIME N. PPLE UP.						
		B.A. Request.						
400	1200	NIPPLE UP BOP						
4		W.O.C. 4 men worked over						
		NIPPLE UP B.A. ORDERS.			24	00		

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.			24	00		
DAY WORK PER 24 HOUR DAY			136	8		

BIT RECORD:

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

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: ____ DEPTH END SECOND TOUR: 955' T.D. SURFACE. DEPTH END THIRD TOUR: ____

N. Callahan
DRILLER OR WATCHMAN

W. Hurlock.
DRILLER OR WATCHMAN

D. Laurent
DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt
CONTRACTOR'S REPRESENTATIVE

W. W. Schumacher
BRITISH AMERICAN'S REPRESENTATIVE

BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE JAN 19 19 64 WELL NO. B76 LEASE B.A. TEXACO ARROW HEAD

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE DRLG CO

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12	4:15	DRlg 17½ Hole								
4:15	5:00	Circulate Hole Clean								
5	8	Jacking Derrick								
8:00	10:00	Jacking Sub.								
10:00	11:00	Hoist To Run Casing Break Bit (Bit Tight)	11	00						
11:00	12:00	Rig To Run Casing.								
12:00	4:00	Running 13 3/8" Casing.								
4:00	8:00	Run Casing								
8:00	9:15	Cir Casing Run Same.								
9:30	10:30	Mix Cement								
10:30	11:00	Pump Plug Down								
11:00	12:00	W.O.C.					13	00		

RAN 30 JTS - 13 3/8" O.D 48# - 8RD THD H40 RCEZ. 55 CSC SET @ 953' DIS FH DIST FROM KB TO GROUND 16.3' TOTAL 938.70 CEMENTED BY HALCO W900 SKS CANADA PTAND JACK CEMENT W/ 2% CACL2 M 1951 500 SKS. PUMPED PLUG TO 921. CEMENT CIRCULATED 25 BBLS. PLUG DOWN @ 10:55 PM. 1-19-64 WITNESSED BY ARNDT & LOCK. RAN 6 SCRATCHERS ON BOTTOM 3 JTS 5 CENTRALIZERS ON BOTTOM 3 JTS. SURPLUS 2 JTS & 1 CUT OFF PIECE ON RACK.

Below 24 hrs.

DEVIATION RECORD DEPTH	SURVEY	DEPTH	SURVEY
938	½		

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	11	00	13	00		
DAY WORK PER 24 HOUR DAY	1440		1368			

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
RR3A	17½	OSC 3	6U474	940	955	15	5¾	100	20	650	1	70	7¾	29 6-7"

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
12		75				
4		75				

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR 955' DEPTH END SECOND TOUR: 955.00 DEPTH END THIRD TOUR: 955

N Ballagh — DRILLER OR WATCHMAN | Walter Hardwick — DRILLER OR WATCHMAN | J. D. Hunt — DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt — CONTRACTOR'S REPRESENTATIVE | W. A. Dehnemeker — BRITISH AMERICAN'S REPRESENTATIVE | BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE JAN 15 19 64 WELL NO B-76 LEASE B.A. TEXACO ARROWHEAD

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE DRLG CO

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12	6 15	REAMING 12¼ TO 17½ HOLE						
6 15	6 30	CIRCULATE HOLE CLEAN						
6 30	7 00	PULL OUT OF HOLE WITH REAMER						
7 00	7 45	CLEAN OUT REAMER				45		
7 45	8 00	RUN IN WITH SOME BIT AND REAMER						
8 00	8 15	RUN IN HOLE						
8 15	3 00	REAM FROM 12¼ TO 17½.						
3 00	4 00	CHANGE UNION ON SHOCK HOSE.						
4		+ PULL WASHED SEAT IN C-700						
4 00	4 15	RIG SER.						
4 15	8 30	REAM 12¼-17½.						
8 30	9 30	HOIST & MEASURE.						
9 30	9 45	BREAK REAMER & 12¼ BIT.						
9 45	10 00	MAKE UP BIT				30		
10 00	10 30	RUN IN HOLE.						
10 30	12 00	DRILL 17½" HOLE.	24	00				
		ONE MAN WORKED 3 HRS OVERTIME FOR B.A. ON JAN 17/64						
		BOILER 2 HRS						
		3 MEN WORKED 4 HRS OVERTIME MAKING BREAK LINE FOR B.A.						

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	938	½°		

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	~~24~~	~~00~~	1	15		
DAY WORK PER 24 HOUR DAY	22	45	1	15		

1 hr D.T. → B11H90

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP No.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
5A	17½	R. REAMER	R11H	651	RUN	214	28½ REAMED	100	12	1000	1-2	CU	7¾ 7¾ 2	3-9 67
6A	12¼ & 17½	HYT3	EN3211	726	RUN	139	17½	100						
7RA	17½	OSC3	39466	940			1½	100	15	400	1	72	7¾	

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
12		75				
4		76				

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR 865.95 DEPTH END SECOND TOUR: 912 DEPTH END THIRD TOUR: 946.

N. Stallard — DRILLER OR WATCHMAN

Walt. Hackett. — DRILLER OR WATCHMAN

J. D. Hamm. — DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

W. C. Schumacher

BRITISH AMERICAN'S REPRESENTATIVE — BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE JAN 17 19 69 WELL NO B-76 LEASE B.A. TEXACO ARROW HEAD

SEC. ____ T. ____ R. ____ PROVINCE N.W.T. CONTRACTOR CASCADE Drlg Co Rig #2

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12	8	Reaming					
8	9	Reaming 12¼ To 17½ Hole					
9	9:30	Pull Out @ 726'	9	30			
9:30	11:30	Clear Bal Dwp Reamer Weld New 12¼ Cut Same					
11:30	12	Run in Hole			2	00	
12	4:00	Reaming					
4:00	4:15	Riser					
4:15	7:30	Ream 12¼ - 17½					
7:30	8:00	Cir w/ Both Pumps To Wash Bit					
8:00	12:00	Ream 12¼ - 17½ Casing Both Pumps.	12	30			
		Boiler 24 hrs.					

DEVIATION RECORD DEPTH	SURVEY	DEPTH	SURVEY
938	½		

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A	22	30	2	00		
DAY WORK PER 24 HOUR DAY	1440		1368			

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP No.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
	12¼	FyT3	EN3297	651	Run	70	10	120	10 15	550	1	72	7¾	8 - 5"
	12¼	FyT3	EN3299	726										

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
12 PM		85				
6 PM		75				

MUD ADDITIVES:

AMOUNT	TYPE	TIME
1500#	Gel	4-12

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR 721.23 DEPTH END SECOND TOUR ~~724~~ 816.88 DEPTH END THIRD TOUR: 816.88

N Callaghan
DRILLER OR WATCHMAN

Walt Hahnke
DRILLER OR WATCHMAN

J. D. Grant
DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt
CONTRACTOR'S REPRESENTATIVE

W. G. Dickenmaker
BRITISH AMERICAN'S REPRESENTATIVE

BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE JAN 16 19 64 WELL NO. _____ LEASE ARROW HEAD

SEC. _____ T. _____ R. _____ PROVINCE N.W.T. CONTRACTOR CASCADE Drilling

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.
12	12 05	Drlng 12¼ Hole
12 05	1	Survey AT 751 ¼
1	3 15	Drlng
3 15	3 30	Survey at 782 ¾
3 30	7 15	Drlng 12¼ Hole
7 15	7 45	Survey at 813 ½
7 45	8 00	DRLG.
8 00	10 00	DRLG.
10 00	10 15	Survey @ 845 - 3/4°
10 15	10 30	Service R.C
10 30	12 00	DRLG
12 00	12 15	Survey @ 875 - 1/16°
12 15	2 30	DRLG
2 30	2 45	Survey @ 906 - ¾°
2 45	4 00	DRLG.
4 00	5 15	DRLG
5 15	5 30	Survey @ 938 - ½°
5 30	5 45	Service R.C
5 45	6 30	DRLG.
6 30	8 00	TRIP FOR 17½" REAMER.
8 00	10 00	CLEAN OUT FROM 520 - 651
10 00	12 00	REAM 12¼" HOLE TO 17½" FROM 651 - 665
		K.B. TO GROUND LEVEL 16.20

TIME CHARGEABLE TO BRITISH AMERICAN	WITH DRILL PIPE HRS.	WITH DRILL PIPE MIN.	WITHOUT DRILL PIPE HRS.	WITHOUT DRILL PIPE MIN.	OTHER HRS.	OTHER MIN.
TOTAL TIME CHARGEABLE TO B.A.						
DAY WORK PER 24 HOUR DAY						

DEVIATION RECORD

DEPTH	SURVEY	DEPTH	SURVEY
751	¼	875	1/16
813	½		

BIT RECORD: BOILER 24 HRS.

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
4A	12¼	OSC 3	6UU74	651	Run	164		150	15	600	1	70	7¾	3-9" 6-7"
4-A	12¼	OSC-3	64974	651	Run	254	17¾	150	20	700	1	72	7¾	3-9" 6-7"
4 A	12¼	OSC-3	64974	651	947	296	19¾	150	20	700	1	72	7¾	3-9" 6-7"
5A.	17½	R. REAMER	R114	651	Run	14	2	120	10	500	1	72	7¾	3-9" 6-7"

MUD RECORD:

TIME	WEIGHT	VIS-COSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
12		80				
6		75				
12		76				
4.		72				

MUD ADDITIVES:

AMOUNT	TYPE	TIME
	NIL	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR 815

N. Callaghan
DRILLER OR WATCHMAN

DEPTH END SECOND TOUR: 925

W. Skaluk.
DRILLER OR WATCHMAN

DEPTH END THIRD TOUR: 947

W. Skaluk.
DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt
CONTRACTOR'S REPRESENTATIVE

W. W. Schumacher
BRITISH AMERICAN'S REPRESENTATIVE

BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-95B

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE JAN 15 19 64 WELL NO. _____ LEASE ARROW HEAD

SEC. _____ T. _____ R. _____ PROVINCE N. W. T. CONTRACTOR CASCADE DRILLING

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.
12	245	DRLing 17½ Hole
245	3	SURVEY AT 532 ⅞ °
3	645	DRLing 17½ Hole
645	7	SURVEY @ 563 ¼
7	8	DRLing
800	1000	DRLG
1000	1015	SURVEY @ 594 - ⅜°
1015	1030	SERVICE RIG
1030	230	DRLG.
230	295	SURVEY @ 625 - ⅜°
295	400	DRLG.
400	615	DRLG.
615	630	SER. RIG
630	745	TRIP FOR BIT.
745	1600	DRLG. 12¼" HOLE.
1600	1615	SURVEY @ 690 - 1/16°
1615	1115	DRLG.
1115	1130	SURVEY @ 721 - ⅜°
1130	1200	DRLG.
		6 MEN 4 hrs OVER TIME UNLOADING MUD. 24 00
		FOR B.A.
		BOILER 24 HRS

TIME CHARGEABLE TO BRITISH AMERICAN

WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.

DEVIATION RECORD

DEPTH	SURVEY	DEPTH	SURVEY
532	⅜	625	⅜
563	¼	721	⅜

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	24	00				
DAY WORK PER 24 HOUR DAY	19	40				

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
3A	17½	OSC3	39666	476		[illegible]	11¼	150	7	1100	1	72	7¾	3-9" 6-7"
3A	17½	OSC-3	39666	476	651	175	20¾	150	15	900	1	72	7¾	3-9" 6-7"
4-A	12¼	OSC-3	64474	651		74	3¾	150	15	600	1	72	7¾	3-9" 6-7"

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	pH	SAND CONTENT
12	[illegible]	70				
4	[illegible]	70				
12		50				

MUD ADDITIVES:

AMOUNT	TYPE	TIME
Gel		
1500#	Gel	400

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 506. DEPTH END SECOND TOUR: 637 DEPTH END THIRD TOUR: 725.

N. Callaghan — DRILLER OR WATCHMAN

Walt. Hawluk — DRILLER OR WATCHMAN

Walt. Hawluk. — DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arnold — CONTRACTOR'S REPRESENTATIVE

W. C. Schomaker — BRITISH AMERICAN'S REPRESENTATIVE

BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE JAN 14 19 64 WELL NO _____ LEASE ARROWHEAD

SEC. _____ T. _____ R. _____ PROVINCE NWT CONTRACTOR CASCADE DRlg 2

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12	12 14	Drill 17½ Hole								
12 14	12 30	Survey AT 342 ⅞								
12 30	5 15	Drlng								
5 15	5 45	String SAND LINE								
5 45	6	Survey AT 774 ½								
6	8	DRlng								
8 00	9 00	DRLG.								
9 00	9 15	Survey @ 906 1/8°								
9 15	9 45	DRLG.								
9 45	10 45	MIX MUD & Loss CIR MAT.								
10 45	12 30	DRLG.								
12 30	12 45	Survey @ 937 - ¾°								
12 45	4 00	DRLG.								
4:00	4:15	DRLG								
4:15	4:45	Rig Service Run Survey @ 469								
4:45	6:00	DRLG								
6:00	8:00	TRIP FOR BIT.								
8:00	11:30	Drlg								
11:30	11:45	Survey @ 501 - 3/4°								
11:45	12:00	Drlg.	24	00						
		BOILER 24 HRS.								

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	342	⅞	378	1/8
	469	3/4	501	3/4

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	24	00				
DAY WORK PER 24 HOUR DAY	24	00				

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP NO.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
2A	17½	OSC 3	RETip	220	Run	175	17½	150	7	400	2	60	7¾	3-9" 6-7¾"
2A	17½	OSC-3	Re-tip	220	Run.	~~256~~ 279		150	8	400	1	60	7¾	1-6½" 3-9"
2A	17½	OSC-3	RETIP	220	476	256	25½	150	8	400	1	60	7¾	6-9" 3"
3A	17½	OSC-3	39666	476	IN	30	3¾	150	8	400	1	60	7¾	3-9" 6-7"

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	pH	SAND CONTENT
12	60					
3	75					
2.	~~78~~	85.				
1500		75				

MUD ADDITIVES:

AMOUNT	TYPE	TIME
1500 lb	Bell	
~~Gel~~		
3500	Gel.	1400
7 SKS.	FIBERTEX.	
SAWDUST. 20 SKS.		

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR 395 DEPTH END SECOND TOUR: 465 DEPTH END THIRD TOUR: 506

N. Callaghan — DRILLER OR WATCHMAN

W. Skaluh. — DRILLER OR WATCHMAN

KILBORN — DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arnett — CONTRACTOR'S REPRESENTATIVE

W. E. Schumacher — BRITISH AMERICAN'S REPRESENTATIVE

BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

OC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE JAN 13 19 64 WELL NO _____ LEASE ARROWHEAD

SEC. _____ T. _____ R. _____ PROVINCE NWT CONTRACTOR CASCADE DRLG "2"

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
12 00	12 30	Rig Serv. + Survey						
12 30	2 45	Drlg						
2 45	3 15	w/o Pump						
3 15	7 15	Drlg						
7 15	7 30	w/o Pump						
7 30	8 00	Drlg						
8 00	8 15	Survey @ 220 - 1/8°						
8 15	9 30	Trip for B.H.						
9 30	9 45	Service Rig				15		
9 45	12 15	Drlg.						
12 15	12 30	Survey @ 250 1/8°						
12 30	2 00	Drlg.						
2 00	2 15	Survey @ 280 1/4°						
2 15	4 00	Drlg.						
4 00	4 15	Service Rig						
4 15	6 00	Drlg						
6 00	6 45	Survey @ 310 3/8°						
6 45		Hole Stuffed in, Work Stuck Pipe.						
	9 30	Mix Mud, Clean Hole Free of Gravel.						
9 30	12 00	Drlg.	~~24 hrs~~					
		Down 3/4 hr.						
		6 Men Worked 4 Hrs Over Time To Unload Mud.						
		Boiler 24 Hrs	23 45					

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY
	190	1/4		
	310	3/8		

	WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.	~~24 hrs~~			15		
DAY WORK PER 24 HOUR DAY	1440		1368			

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP No.	S.P.M.	LINER SIZE	No. AND SIZE DRILL COLLARS
1A	17½	OSC 3	Retip	0	220	220	17¼	150	10	250	1	60	7¾	3-9" 3 7"
2A	17½	OSC-3	Retip	220		75	6	90-120	10-15	500	2	60	7¾	3-9 6 7"
2A	17½	OSC-3	Retip	220	IN	122	15¼	90	10M	500	2	60	7¾	3-7" 1-6¾

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
12	50					
4	48					
10:00	~~48~~	57				
6	48	57				

MUD ADDITIVES:

AMOUNT	TYPE	TIME
BELL	4000	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: 120 DEPTH END SECOND TOUR: 295 DEPTH END THIRD TOUR: 347

HOOKSTRA — DRILLER OR WATCHMAN | Walt. Hamlet — DRILLER OR WATCHMAN | KILBORN — DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arnett — CONTRACTOR'S REPRESENTATIVE | W. A. Simonsen — BRITISH AMERICAN'S REPRESENTATIVE | BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE JAN 12 19 64 WELL NO. _____ LEASE ARROW HEAD

SEC. _____ T. _____ R. _____ PROVINCE N.W.T CONTRACTOR CASCADE DRLG

TIME BY DRILLERS FROM	TIME BY DRILLERS TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	WITH DRILL PIPE MIN.	WITHOUT DRILL PIPE HRS.	WITHOUT DRILL PIPE MIN.	OTHER HRS.	OTHER MIN.
		Spud 7:00 AM 1-12-64								
12:00	7:00	Rig To Spud								
7:00	8:00	DRLG. 17½" Hole								
8:00	8:15	Ser. Rig								
8:15	10:00	DRLG.								
10:00	10:15	Survey @ 72' - ⅛°								
10:15	1:15	DRLG.								
1:15	1:30	Survey @ 100' - ¼°								
1:30	4:00	DRLG.								
4:00	4:30	Rig Service & Survey				30				
4:30	9:30	Drlg 17½ Hole		5						
9:30	9:45	Survey @ 160'				15				
9:45	12:00	Drlg 17½ Hole								
		Boiler & Pmps. (1700)								
			TOTAL TIME CHARGEABLE TO B.A.							
			DAY WORK PER 24 HOUR DAY	1440						

DEVIATION RECORD

DEPTH	SURVEY	DEPTH	SURVEY
128	⅛		
160	¼		

BIT RECORD:

BIT NUMBER	SIZE	TYPE	SERIAL NUMBER	DEPTH IN	DEPTH OUT	FOOTAGE DRILLED	HRS. RUN	R.P.M.	BIT WEIGHT	PUMP PRESSURE	PUMP No.	S.P.M.	LINER SIZE	NO. AND SIZE DRILL COLLARS
1A	17½	OSC-3	RETip	0		186	15½		10M	350	1		7¾	

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
8:00						
6:00		45				

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: _____ DEPTH END SECOND TOUR: 128 DEPTH END THIRD TOUR: 186

N. Lafferty — DRILLER OR WATCHMAN

W. Zakaluk — DRILLER OR WATCHMAN

KILBORN — DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Audette — CONTRACTOR'S REPRESENTATIVE

W. C. Schumacher — BRITISH AMERICAN'S REPRESENTATIVE

BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-952

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE JAN 11 1964 WELL NO. _____ LEASE ARROW HEAD

SEC. _____ T. _____ R. _____ PROVINCE N.W.T. CONTRACTOR CASCADE DRILLING

DRILLED BY FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME. WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN					
			WITH DRILL PIPE		WITHOUT DRILL PIPE		OTHER	
			HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
9:00	10:00	MIXING Mud						
10:00	12:00	Rig To Spud					6	
							2	
		BOILER 2 hrs.						

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.						
DAY WORK PER 24 HOUR DAY						

DAY 13

BIT RECORD:

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

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT
10:00		40				

MUD ADDITIVES:

AMOUNT	TYPE	TIME
4000	Gell	
100	Caustic	

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: _____

DRILLER OR WATCHMAN

DEPTH END SECOND TOUR: _____

DRILLER OR WATCHMAN

DEPTH END THIRD TOUR: _____

AL. KILBORN

DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt

CONTRACTOR'S REPRESENTATIVE

W. A. Schomaker

BRITISH AMERICAN'S REPRESENTATIVE

BRITISH AMERICAN FOREMAN, OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE JAN 10 19 64 WELL NO. _____ LEASE ARROW HEAD

SEC. _____ T. _____ R. _____ PROVINCE N.W.T. CONTRACTOR CASCADE DRlg Co RIG 2

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.
		Rigging up
		1 DERRICK 1 MOTTORA 4 FLOOR HAND 4 HRS OVER Unloading BAROID For B.A.
		3 DRILLERS
		3 DERRICK MEN
		3 MOTOR MEN
		6 FLOOR MEN
		1 BOILER MAN
		BOILER 24 HRS

TIME CHARGEABLE TO BRITISH AMERICAN	WITH DRILL PIPE HRS.	WITH DRILL PIPE MIN.	WITHOUT DRILL PIPE HRS.	WITHOUT DRILL PIPE MIN.	OTHER HRS.	OTHER MIN.
					8	

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.						
DAY WORK PER 24 HOUR DAY						

DAY 12

BIT RECORD:

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

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: _____ DRILLER OR WATCHMAN

DEPTH END SECOND TOUR: _____ DRILLER OR WATCHMAN

DEPTH END THIRD TOUR: _____ DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

[illegible] BRITISH AMERICAN'S REPRESENTATIVE

W. A. Schroeder BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-95B

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE JAN 9 19 64 WELL NO. _____ LEASE ARROW HEAD

SEC. _____ T. _____ R. _____ PROVINCE N W T. CONTRACTOR CASCADE Drlg Co RIG 2

TIME BY DRILLERS FROM	TIME BY DRILLERS TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	WITH DRILL PIPE MIN.	WITHOUT DRILL PIPE HRS.	WITHOUT DRILL PIPE MIN.	OTHER HRS.	OTHER MIN.
		Rigging up					8
		3 DRILLERS 3 DERRICK MEN 3 MOTOR MEN 6 FLOOR MEN 1 BOILER MAN 6 MEN WORKED 4 HRS OVERTIME UNLOADING MUD MATERIAL					
		BOILER 24 HRS					

DEVIATION RECORD

DEPTH	SURVEY	DEPTH	SURVEY

TOTAL TIME CHARGEABLE TO B.A. — HRS. — MIN. — HRS. — MIN. — HRS. — MIN.

DAY WORK PER 24 HOUR DAY

DAY 11

BIT RECORD

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

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: _____ DRILLER OR WATCHMAN

DEPTH END SECOND TOUR: _____ DRILLER OR WATCHMAN

DEPTH END THIRD TOUR: _____ DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

D. Cardt — CONTRACTOR'S REPRESENTATIVE

W. G. Schumacher — BRITISH AMERICAN'S REPRESENTATIVE

BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE Jan 8 19 64 WELL NO. _____ LEASE ARROW HEAD

SEC. _____ T. _____ R. _____ PROVINCE N.W.T. CONTRACTOR CASCADE DRlg Co Rig #2

TIME BY DRILLERS FROM	TIME BY DRILLERS TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.
		Rigging Up
		3 DRILLERS
		3 DERRICK MEN
		3 MOTOR MEN
		4 FLOOR MEN
		1 BOILER MAN
		3 FLOOR MEN unloading cement FOR B.A.
		BOILER 24 HRS

TIME CHARGEABLE TO BRITISH AMERICAN	WITH DRILL PIPE HRS.	WITH DRILL PIPE MIN.	WITHOUT DRILL PIPE HRS.	WITHOUT DRILL PIPE MIN.	OTHER HRS.	OTHER MIN.
					8	

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.						
DAY WORK PER 24 HOUR DAY						

10th Day — DAY 10 — RURT.

BIT RECORD:

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

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBEERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: _____ DRILLER OR WATCHMAN

DEPTH END SECOND TOUR: _____ DRILLER OR WATCHMAN

DEPTH END THIRD TOUR: _____ DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arnett — CONTRACTOR'S REPRESENTATIVE

W. L. Schumacher — BRITISH AMERICAN'S REPRESENTATIVE

BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE JAN 7 19 64 WELL NO. _____ LEASE ARROW HEAD

SEC. _____ T. _____ R. _____ PROVINCE N.W.T. CONTRACTOR CASCADE DRLG CO. RIG #2

TIME BY DRILLERS FROM	TIME BY DRILLERS TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	WITH DRILL PIPE MIN.	WITHOUT DRILL PIPE HRS.	WITHOUT DRILL PIPE MIN.	OTHER HRS.	OTHER MIN.
		Rigging up					8
		3 DRILLERS 3 DERRICK 2 MOTOR MEN 4 FLOOR HANDS 1 FIVE MAN					
		OVER 24 HRS					

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.						
DAY WORK PER 24 HOUR DAY						

RURT. Drlg

BIT RECORD:

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

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: _____ DRILLER OR WATCHMAN

DEPTH END SECOND TOUR: _____ DRILLER OR WATCHMAN

DEPTH END THIRD TOUR: _____ DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

D. Arnett REPRESENTATIVE

W. W. Schumacher BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE JAN. 6 19 64 WELL NO. _____ LEASE ARROW HEAD

SEC. _____ T. _____ R. _____ PROVINCE N.W.T. CONTRACTOR CASCADE DRLG CO RIG 2

TIME BY DRILLERS FROM	TIME BY DRILLERS TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLER'S ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.
		Rigging up
		3 DRILLERS
		3 DERRICK MEN
		2 MOTOR MEN
		4 FOOR HANDS
		1 FIRE MAN.
		BOILER 24 HRS.

TIME CHARGEABLE TO BRITISH AMERICAN	WITH DRILL PIPE HRS.	WITH DRILL PIPE MIN.	WITHOUT DRILL PIPE HRS.	WITHOUT DRILL PIPE MIN.	OTHER HRS.	OTHER MIN.
					8	
TOTAL TIME CHARGEABLE TO B.A.					8	
DAY WORK PER 24 HOUR DAY					8	

DEVIATION RECORD

DEPTH	SURVEY	DEPTH	SURVEY

BIT RECORD:

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

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR _____ DRILLER OR WATCHMAN

DEPTH END SECOND TOUR: _____ DRILLER OR WATCHMAN

DEPTH END THIRD TOUR: _____ DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt
CONTRACTOR'S REPRESENTATIVE

W. W. Schomaker
BRITISH AMERICAN'S REPRESENTATIVE

BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE JAN 5 19 64 WELL NO. _____ LEASE ARROW HEAD

SEC. _____ T. _____ R. _____ PROVINCE N.W.T. CONTRACTOR CASCADE Drlg Co Rig 2

TIME BY DRILLERS FROM	TIME BY DRILLERS TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME. WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	WITH DRILL PIPE MIN.	WITHOUT DRILL PIPE HRS.	WITHOUT DRILL PIPE MIN.	OTHER HRS.	OTHER MIN.
		Rigging up and Raise Derrick					8
		3 Drillers 3 Derrick men 2 Motor men 5 Floor men 1 Fire man					
		Started Boiler at 10:00 A.M					
		Boiler 14 HRS.					

DEVIATION RECORD

DEPTH	SURVEY	DEPTH	SURVEY

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.						
DAY WORK PER 24 HOUR DAY						

KART

DA-17

BIT RECORD:

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

MUD RECORD:

TIME	WEIGHT	VIS-COSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: _____ DRILLER OR WATCHMAN

DEPTH END SECOND TOUR: _____ DRILLER OR WATCHMAN

DEPTH END THIRD TOUR: _____ DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt
CONTRACTOR'S REPRESENTATIVE

W. H. Schomaker
BRITISH AMERICAN'S REPRESENTATIVE

BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE JAN. 4 19 64 WELL NO. _____ LEASE ARROW HEAD

SEC. _____ T. _____ R. _____ PROVINCE N.W.T. CONTRACTOR CASCADE DRLG CORP.

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.
		Rigging up
		3 Drillers
		3 Derrick men
		2 Motor men
		5 Floor men
		1 Boiler man

TIME CHARGEABLE TO BRITISH AMERICAN	WITH DRILL PIPE		WITHOUT DRILL PIPE		OTHER	
	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
					8	

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.						
DAY WORK PER 24 HOUR DAY					RUN	

DAY 6

BIT RECORD:

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

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: _____ DRILLER OR WATCHMAN

DEPTH END SECOND TOUR: _____ DRILLER OR WATCHMAN

DEPTH END THIRD TOUR: _____ DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt
CONTRACTOR'S REPRESENTATIVE

W. E. DeSmedt
BRITISH AMERICAN'S REPRESENTATIVE

BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-95B

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE JAN 3 19 64 WELL NO. _____ LEASE ARROW HEAD

SEC. _____ T. _____ R. _____ PROVINCE N.W.T. CONTRACTOR CASCADE Drlg Co Rig 2

TIME BY DRILLERS FROM	TIME BY DRILLERS TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.
		Rigging up
		3 DRILLERS
		3 DERRICK MEN
		2 MOTOR MEN
		5 FLOOR MEN
		1 BOILER MAN

TIME CHARGEABLE TO BRITISH AMERICAN	WITH DRILL PIPE HRS.	WITH DRILL PIPE MIN.	WITHOUT DRILL PIPE HRS.	WITHOUT DRILL PIPE MIN.	OTHER HRS.	OTHER MIN.
					8	

DEVIATION RECORD

DEPTH	SURVEY	DEPTH	SURVEY

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.						
DAY WORK PER 24 HOUR DAY						

BIT RECORD:

RUN

No. 5

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

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	pH	SAND CONTENT

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: _____ DRILLER OR WATCHMAN

DEPTH END SECOND TOUR: _____ DRILLER OR WATCHMAN

DEPTH END THIRD TOUR: _____ DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt
CONTRACTOR'S REPRESENTATIVE

W. G. Schomaker
BRITISH AMERICAN'S REPRESENTATIVE

BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-952

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE JAN 2 19 64 WELL NO. _____ LEASE ARROW HEAD

SEC. _____ T. _____ R. _____ PROVINCE N.W.T CONTRACTOR CASCADE DRLG CO #102

TIME BY DRILLERS FROM	TIME BY DRILLERS TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.
		Rigging up
		CEMENTED CONDUCTOR PIPE W/145 SKS OF CEMENT
		3 DRILLERS
		3 DERRICK MEN
		2 MOTOR MEN
		5 FLOOR MEN
		1 BOILER MAN

TIME CHARGEABLE TO BRITISH AMERICAN	WITH DRILL PIPE HRS.	WITH DRILL PIPE MIN.	WITHOUT DRILL PIPE HRS.	WITHOUT DRILL PIPE MIN.	OTHER HRS.	OTHER MIN.
					8	

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.						
DAY WORK PER 24 HOUR DAY						

DAY 4

BIT RECORD:

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

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR _____ DRILLER OR WATCHMAN

DEPTH END SECOND TOUR: _____ DRILLER OR WATCHMAN

DEPTH END THIRD TOUR: _____ DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt
CONTRACTOR'S REPRESENTATIVE

W. H. Schumacher
BRITISH AMERICAN'S REPRESENTATIVE

BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-95B

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE JAN 1 19 64 WELL NO. _____ LEASE ARROW HEAD

SEC. _____ T. _____ R. _____ PROVINCE N.W.T. CONTRACTOR CASCADE Drlg Co RIG #2

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
		Rigging up AND Lay MATTing					9				
		3 DRILLERS									
		3 DERRICK MEN									
		3 MOTOR MEN									
		5 FLOOR MEN									
		1 BOILER MAN									

DEVIATION RECORD

DEPTH	SURVEY	DEPTH	SURVEY

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.						
DAY WORK PER 24 HOUR DAY						

RIG

D#3

BIT RECORD:

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

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: _____ DRILLER OR WATCHMAN

DEPTH END SECOND TOUR: _____ DRILLER OR WATCHMAN

DEPTH END THIRD TOUR: _____ DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V Arndt — CONTRACTOR'S REPRESENTATIVE

W. C. McDonald — BRITISH AMERICAN'S REPRESENTATIVE

BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE Dec 31 19 67 WELL NO. _____ LEASE ARROW HEAD

SEC. _____ T. _____ R. _____ PROVINCE N.W.T CONTRACTOR KASCADE DRIG Co. Rig 2

TIME BY DRILLERS FROM	TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.	TIME CHARGEABLE TO BRITISH AMERICAN: WITH DRILL PIPE HRS.	MIN.	WITHOUT DRILL PIPE HRS.	MIN.	OTHER HRS.	MIN.
		Rigging up Camp Digging CELLAR and Ditches					9	
		3 DRILLERS						
		3 DERRICK men						
		3 MOTOR men						
		5 FLOOR MEN						
		1 BOILER MAN						

DEVIATION RECORD	DEPTH	SURVEY	DEPTH	SURVEY

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.						
DAY WORK PER 24 HOUR DAY					RURT	

BIT RECORD:

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

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: _____ DRILLER OR WATCHMAN

DEPTH END SECOND TOUR: _____ DRILLER OR WATCHMAN

DEPTH END THIRD TOUR: _____ DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arnett — CONTRACTOR'S REPRESENTATIVE

W. C. Schomaker — BRITISH AMERICAN'S REPRESENTATIVE

BRITISH AMERICAN FOREMAN OR SUPERINTENDENT

DRILLING CONTRACTOR'S DAILY REPORT

GC-958

THE BRITISH AMERICAN OIL COMPANY LIMITED

DATE DEC 30 19 63 WELL NO. _____ LEASE ARROW HEAD

SEC. _____ T. _____ R. _____ PROVINCE N.W.T. RIG #2 CONTRACTOR CASCADE DRLG CO

TIME BY DRILLERS FROM	TIME BY DRILLERS TO	SHOW COMPLETE CASING, CORING AND SLOPE TEST RECORDS AND ALL DELAYS OR LOST TIME, WITH REASONS. DRILLERS ACCOUNT FOR FULL 24 HOURS ON THE LEFT, INDICATING CLEARLY EACH CHANGE IN DRILLING OPERATIONS. TOOL PUSHER, OR OTHER REPRESENTATIVE OF CONTRACTOR, SHOW ON THE RIGHT ALL TIME CHARGEABLE TO BRITISH AMERICAN ON A DAY WORK BASIS. INVOICE MUST CHECK WITH TIME SHOWN ON THE RIGHT.
9 00	5 00	RIGGING UP CAMP. DIGGING CELLAR & DITCHES

TIME CHARGEABLE TO BRITISH AMERICAN

WITH DRILL PIPE HRS.	WITH DRILL PIPE MIN.	WITHOUT DRILL PIPE HRS.	WITHOUT DRILL PIPE MIN.	OTHER HRS.	OTHER MIN.
				8	

3 DRILLERS
3 DERRICKMEN
3 MOTORMEN
5 FLOORMEN
1 BOILER MAN

DEVIATION RECORD

DEPTH	SURVEY	DEPTH	SURVEY

	HRS.	MIN.	HRS.	MIN.	HRS.	MIN.
TOTAL TIME CHARGEABLE TO B.A.						
DAY WORK PER 24 HOUR DAY						

BIT RECORD:

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

MUD RECORD:

TIME	WEIGHT	VISCOSITY	WATER LOSS	FILTER CAKE	PH	SAND CONTENT

MUD ADDITIVES:

AMOUNT	TYPE	TIME

SWAB CUPS:

NUMBER	SIZE	TYPE

OIL SAVER RUBBERS:

NUMBER	SIZE	TYPE

DEPTH END FIRST TOUR: _____ DRILLER OR WATCHMAN

DEPTH END SECOND TOUR: _____ DRILLER OR WATCHMAN

DEPTH END THIRD TOUR: _____ DRILLER OR WATCHMAN

TIME CHARGEABLE TO BRITISH AMERICAN IS APPROVED:

V. Arndt — CONTRACTOR'S REPRESENTATIVE

W. A. Schonewille — BRITISH AMERICAN'S REPRESENTATIVE

BRITISH AMERICAN FOREMAN OR SUPERINTENDENT