

ATLANTIC N. CIRCLE RIVER

NO. 1 - A-37

Drilling Authority No.

Data Issued

WELL NAME Atlantic I. Circle River No. 1 H 37

FIELD Atlantic

Area: Port Hope

LOCATION: Unit H

Section 37

Grid 54 22 107 11

Latitude 42° 57' N.

Longitude 77° 15' W.

From Established Reference Marker

Rig Release Date: 12-1-1

Status 12-1-1

Information Release Date 12-1-1

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. Approval to Commingle Production before Measurement. Application to Amend Approval No to Commingle Production before Measurement. Application for M.P.R.—Oil. New Oil Well Report. New Gas Well Report. Well Inspection Report. Rig Inspection Report. Battery Inspection Report. Field Abandonment Programme and Approval. Well Card. Well Visit. Daily Drilling Reports.

DEPARTMENT OF NORTHERN AFFAIRS AND NATIONAL RESOURCES

NORTHERN ADMINISTRATION BRANCH

RESOURCES DIVISION

For the period from 12-21-60 . . .
to 12-23-61 . . .

REPORT of ~~EXPLORATION~~
~~REWORK~~
~~RECOMPLETION~~
~~SUSPENSION~~
ABANDONMENT of a Well

Permit No. 1297.

Name of well . . . Atlantic N. Circle River No. 1 Lease No.
Registered owner . . . The Atlantic Refining Company Drilling Company Tri-City Drilling Co. Ltd.
Location 66° 26' 09.5" N. Lat. 129° 35' 53" W. Long.
Survey description, if available . (see back of this page)
Elevation: Ground . . 487 . . . Last previous depth . 2,266'
Kelly bushing . . 494.8 . . . Present depth . 2,266'
Spudded . . . Dec. 21, 1960 Finished drilling 1-20-61 Rig Released
1-23-61
Deviations from vertical 213' - 1/2°, 381' - 3/4°, 700' - 1°, 1040' - 1°, . . .
1428' - 1°, 1760' - 3/4°, 2070' - 3/4°, 2260' - 1°

CASING RECORD

Date	Size O.D.	Weight lbs/ft	Grade	Set at feet	Sacks Cement	Top of Cement
1 12-21-60	9-5/8"	36	J-55	68	40 + 1/2 CaCl ₂	Surface
2 12-23-61	7"	20	J-55	208'	44 + 1/2 CaCl ₂	Surface
3						
4						

TUBING RECORD

Size	Wt. Lbs/foot	Grade	Amount	Landed Depth	Remarks
.					
.					
Wellhead		(Manufacturer)		(Size)	(Series)

Survey description: 91,520.66' W., 11,281.19' S from Triangulation Station "LOON"
68° 28' 00.5" N. Lat., 128° 58' 20.1" W. Long. and
132,916.81' W., 72,586.01' N. from Triangulation Station "PAUL"
66° 14' 15.3" N. Lat., 125° 41' 51.1" W. Long.

Status of well on completion of drilling

Producing Zone and formation

Injection Zone

Cord intervals

.

.

.

.

.

Ind.-

Interval logged: E-log . 2259 - 208' . . . Other logs Gamma Sonic 2262' - 208'.

R-log Temp. Survey. 2262. - 50'.

M-log - Cal.. 2264 - .208'

Velocity log 2262 - 208'.

The above logs ^(are)
(will be) submitted in accordance with Section 45 of the Regulations.

DRILL STEM TESTS

<u>Test No.</u>	<u>Date</u>	<u>Interval Tested</u>	<u>Duration</u>	<u>Results</u>
. 1 . . .	12-28-60	. 1230 - 1280' . .	1 hour. .	. 15' mud.
.				
.				
.				
.				
.				
.				
.				
.				
.				
.				
.				
.				
.				
.				

(If space insufficient, attach further sheet)

(Strike out the non-applicable) (Completion) (Rework) (Recompletion)

Perforations Bullet.

.

Shootings

Hydraulic fracturing

Chemical treatment

Date initial production tests

Initial production data

Pumping or flowing
Plug back
Other
.
.
.
.

CEMENT PLUGS SET

<u>Date</u>	<u>Plug set at</u>	<u>Sacks cement</u>	<u>Method</u>	<u>Top found at</u>
.	2,260'	30 sax . .	Disp. . . .	2,166' . . .
.	454'	70 sax + 4% CaCl ₂	Disp. . . .	155' . . .
.				
.				
.				

Washed well samples ~~have been~~ sent to Geological Survey of Canada, Calgary
will be

Cores will be stored at
Core analysis (was made) of the Intervals
(to be made)
Oil analysis (was made) of the Intervals.
(to be made)
Gas analysis (was made) of the Intervals.
(to be made)
Water analysis (was made) of the Intervals.
(to be made)
The above analyses (are)
(will be) submitted in accordance with Section 70(2) of
the Regulations.

ADDITIONAL DETAILS AND COMMENTS

Cut off surface casing below ground level. Plugged top and welded on plate.
Welded to casing 2" pipe projecting 4" above ground with electric weld marking
"Atlantic N. Circle River No. 1".
.
.
.

Signed. *[Signature]* Address 11802 - 124th Street, Edmonton
Date 1-25-61 Alberta

(To be submitted in triplicate in accordance with Sections
68, 69, 70 and 71, of the ~~Oil and Gas~~ Oil and Gas Regulations
to the Oil Conservation Engineer at Calgary, Alberta.)

FORM "A"

C A N A D A

DEPARTMENT OF NORTHERN AFFAIRS AND NATIONAL RESOURCES

NORTHERN ADMINISTRATION BRANCH

RESOURCES RESOURCES

NOTICE OF INTENTION TO BEGIN DRILLING OPERATIONS

or

TO CARRY OUT A STRUCTURE TEST PROGRAM

57

Canada

In accordance with Section ~~25~~ of the ~~Territorial~~ Oil and Gas Regulations, notice is hereby given of our intention to begin drilling a well on Oil and Gas Permit No. 1297 . . . registered in the name of Lease No.

. . . The Atlantic Refining Company. . . .

TYPE OF WELL:

Wildcat . . . X

Development

Expected total depth . . 2,000 feet, in the . Bear Rock formation of . . Devonian Age age.

The well will be located at 66° 26' 09" N. Lat 129° 35' 53" W. Long.

. (N. of S. boundary) (Permit No.)
 (S. of N. boundary) of (Lease No.)
 (W. of E. boundary) of (Permit No.)
 (E. of W. boundary) (Lease No.)

Survey description of Location, if known

.

Approximate surface elevation of . . 487 feet above sea level.

Name of well . Atlantic N. Circle River No. 1

Type of drilling rig . Rotary - Failing 2500

Expected date of commencement . . December 10, 1960

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

Size O.D. Inches	Weight lbs/ft	Grade	Brand	New or Used	Estimated Depth	Sacks of Cement
1. .9-5/8"	32.3 . .	H-40	Mannesman	New . .	. . . 60'	40. sx + 4% CaCl ₂
2. .7" . .	20	J-55	Nat. Tube	New . .	. . . 200'	50. sax + 4% CaCl ₂
3. .4-1/2"	9.5	J-55	Page Hersey	New . .	. . . 2,000'	170. sx + 4% Gel 100. ax Neat

Expected depth of water, gas and oil horizons and method of control:

All horizons to be controlled with drilling mud of adequate weight.

BOPs, 1-8" Series 600 Hydril and 1 - 8" Series 600 Double Outberson

Ram-type with 3 1/2" + C.S.O. Rams.

will will
An electric log be run Other logs be run
~~will not~~ ~~will not~~

STRUCTURE TEST PROGRAM

Proposed number of holes Maximum well depth
enclosed within an area bounded by

. N. Latitudes

. W. Longitudes

will will
An electric log be run Other logs be run
will not will not

Name and address of drilling contractor . Tri City Drilling Company Ltd.
11903 Kingsway
Edmonton, Alberta.

Responsible agents of permittee or lessee in charge of operation:

At well W. K. Walters Postal address #204 11802 - 121st Street,
Edmonton, Alta.

At registered R. O. Simonton Postal address #204 11802 - 121st Street,
office Edmonton, Alberta.

It is understood that if changes in this Notice of Intention become necessary we will promptly notify you.

Dated at Edmonton this 18th day of November 19 60

Signed by *[Signature]*

This program is approved subject to the following provisions (if any):

Because of the delays which will be caused by the remoteness of your . . .
operation in furnishing the daily drilling reports each week to my office,
oral, or if preferred, written reports on the progress of the well are to
be sent based on the daily reports you receive by radio.

22 NOVEMBER, 1960.
Date

[Signature]
Oil Conservation Engineer.

(To be submitted in triplicate to the Oil Conservation Engineer at least 15 days prior to the commencement of drilling)

CANADA

DEPARTMENT OF NORTHERN AFFAIRS AND NATIONAL RESOURCES

NORTHERN ADMINISTRATION BRANCH

RESOURCE DIVISION

ABANDON

NOTICE OF INTENTION TO

or

a Well

~~STRIKE OUT OPERATION~~

(Strike out operation which does not apply)

In accordance with Sections 48 & 49 of the ~~Territorial~~ Oil and Gas Regulations, notice is hereby given of our intention to

Abandon the well named Atlantic N. Circle River No. 1 on Oil

Permit No. 1297.

and Gas

Registered in the name of The Atlantic Refining Company

Lease No.

Depth 2,266 feet. Elevation above sea level: Ground surface 487 ft. Kelly bushing 494.8 ft.

Location 66° 26' 09.5" N. Lat. 129° 35' 53" W. Long.

(N. of S. boundary) (Permit No.)
(S. of N. boundary) of (Lease No.)
(W. of E. boundary) of (Permit No.)
(E. of W. boundary) (Lease No.)

Stn. "100N" Survey description, if available 91,520.66' W., 11,281.19' S. from Triangulation Station 66° 28' 00.5" N. Lat., 128° 58' 20.1" W. Long. and 132,916.81' W, 72,586.01' N. from Triangulation Station "PEEL" 66° 14' 15.3" N. Lat., 128° 41' 51.1" W. Long.

CASING RECORD

Size O.D. inches	Weight lbs/ft	Grade	Amount feet	Set at feet	Sacks cement	Method	to be withdrawn
1 2-5/8"	36	J-55	59.09	68	40 + 4%	CaCl ₂ Plug	No
2 7"	20	J-55	199.73	208	44 + 4%	CaCl ₂ Plug	No
3							
4							

OIL, GAS AND WATER

Oil fromfeet tofeet Fromfeet tofeet with
sacks cement

Oil fromfeet tofeet Fromfeet tofeet with
sacks cement

Gas from feet to feet From . . . feet to feet with
sacks of cement.

Gas from feet to feet From . . . feet to feet with
sacks of cement.

Water from feet to feet From feet to feet with
sacks cement.

Water from feet to feet From feet to feet with
sacks cement.

Surface and bottom plugs:

1. from . 2266 .feet to . 2166 .feet with . 40 .sacks cement.
2. from . 415 .feet to . 158 .feet with . 75 .sacks cement. + 2% CaCl₂
3. from feet to feet withsacks cement.

Date of last operation . . . January. 22, 1961 Total depth . . 2,262' . . .

Nature of liquid left in well . . Mud Level from surface . . 0'
on suspension or abandonment

The following logs ~~will be~~ run . Inspection. S., 2,259' - 208', Omega Sonic
have been

2,262' - 208', Microlog Caliper 2,264 - 208', Temperature Survey 2,262' - 50' . . .

Produced from zone and
on abandonment of a well which has been on production.

Present condition of well in addition to above
.
.

On abandonment or suspension of drilling we shall comply with Sections 68, 69 and
70 of the Regulations.

Program of operation not included above . Peel for Plug #2 after 8 hours and bring
. up if necessary. . Opt. off, surface casing below ground level, plug top and weld .
. on plate. Weld on 2" pipe projecting 4' above ground to mark well location. . .
. Permanently mark well name on marker pipe.

Responsible agents of permittee or lessee in charge of operation:

At well . . W. K. Walters Postal address . 11802 - 124th St., Edmonton

At registered office R. G. Simpson Postal address . 444 - 7th Avenue W., Calgary

It is understood that if changes in this Notice of Intention become
necessary we will promptly notify you.

dated at . . Edmonton, Alta. this . . 24th . . day of . . January 19. 61

Signed by *[Signature]*

- 1 -

This program is approved subject to the following provisions

..... Consenting to (Approval to Abandon.....
..... given by telephone 30th January.....
.....
.....

30th January 1961..

Date

..... B.H. Thomas.....
Oil Conservation Engineer

(To be submitted in triplicate to the Oil Conservation
Engineer at Calgary, Alberta.)



File No.
Drilling Authority No. 90

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT

OIL AND MINERAL DIVISION

WELL-SITE INSPECTION REPORT

FROM: Field Office or Area Norman Wells Date 11th July 1971

TO: The Oil Conservation Engineer

RE: Atlantic N. Circle River #1

Location: 66°26'9.5" N., 129°35'53" W. Status D & A January 1961

This location was inspected by the undersigned on 11th July 1971

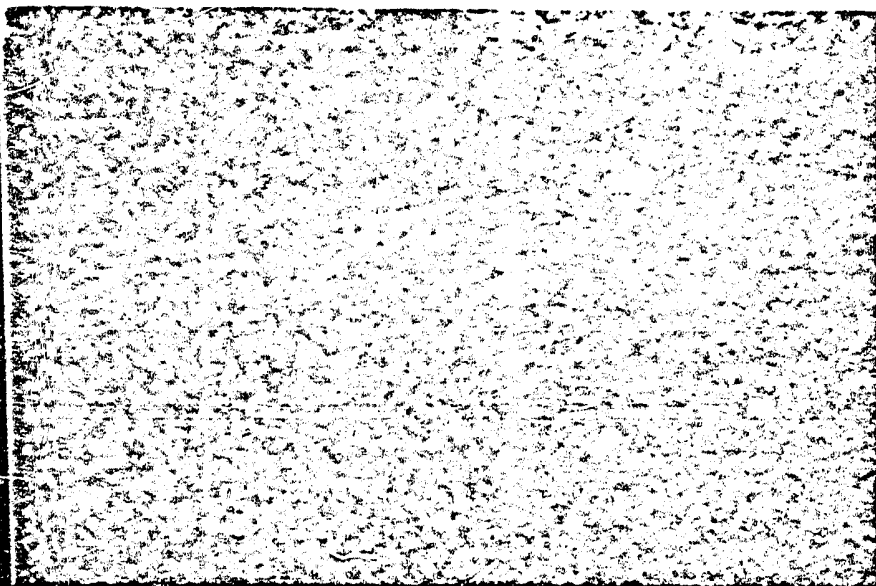
The location is in satisfactory ☐ unsatisfactory ☐ condition. T.D. 2266'

The following items require attention

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Other comments and recommendations (Include Map, if necessary for clarity)

Unable to locate lease. If known, provide description of terrain and condition of lease to aid in locating same during next inspection trip.



Inspected by M. D. Thomas

Original to Oil Conservation Engineer, Dept of IA & ND, Duplicate to Field Office or Inspecting Engineer. M. D. Thomas
TAND 52-00-14 (0.60) District 2

North Circle R. #1

CORE ANALYSIS REPORT
FOR
THE ATLANTIC REFINING COMPANY
NORTH CIRCLE RIVER CORE TEST
NORTH CIRCLE RIVER AREA
NORTH WEST TERRITORIES

CORE LABORATORIES - Canada Ltd.

Petroleum Reservoir Engineering

CALGARY, CANADA

CORE LABORATORIES-CANADA LTD.
CALGARY ALBERTA.

Company - THE ATLANTIC REFINING COMPANY
 Well - NORTH CIRCLE RIVER CORE TEST
 (ATLANTIC NORTH CIRCLE RIVER NO. 1)
 Field - NORTH CIRCLE RIVER AREA, N.W.T.
 Location - 1/3 Mile SSW of 66°-26'-9 1/2" N Lat.-129°35'53"W Long.

Date Report - FEBRUARY 20, 1961 Page - 1 of 1
 Formation - BASAL CRETACEOUS File - CNP-4-1061
 D. Fluid - WATER BASE MUD Analysts - DR.
 Analysis - PARTIAL CONVENTIONAL Remarks -

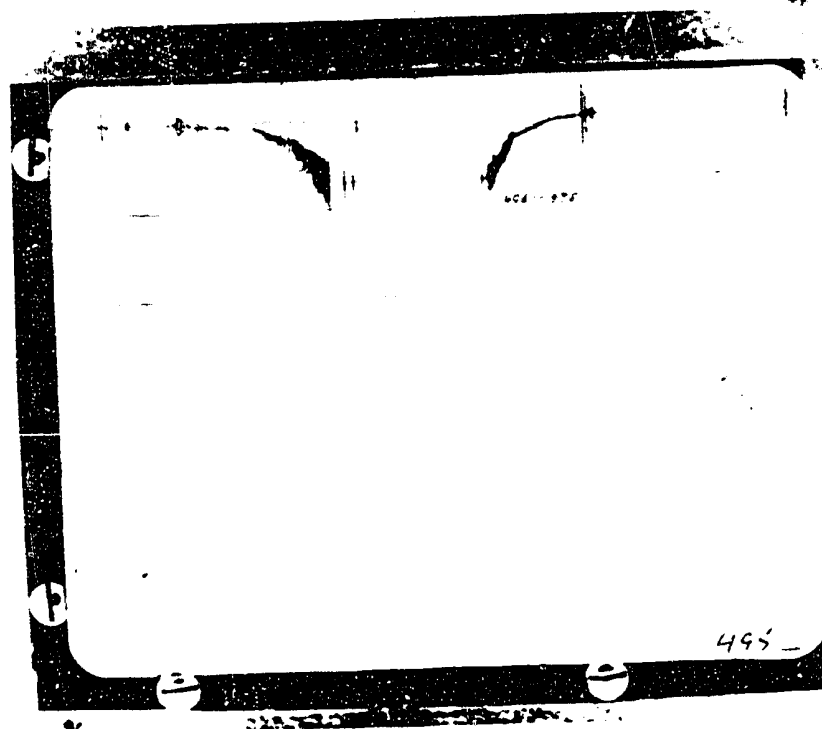
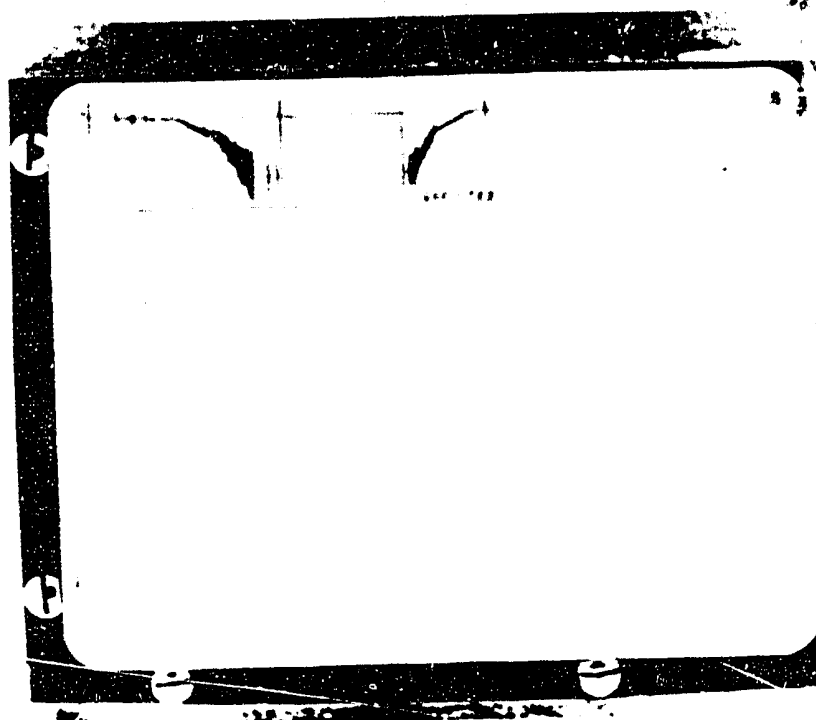
SAMPLE NUMBER	DEPTH REPRESENTED FEET	PERMEABILITY MILLIDARCYS	POROSITY PER CENT	VISUAL EXAMINATION
1	117'	21.	19.9	Fine sand, shaly
2	120'	242.	18.2	Medium sand
3	124'	240.	19.8	Conglomerate
4 A	130'	337.	22.1	Medium sand
4 B	130'	999.	24.3	Conglomerate
5	142'	383.	23.8	Medium sand
6	143'	633.	24.2	Medium sand
7	145'	407.	22.8	Medium sand
8	146'	387.	23.3	Medium sand
9	149'	792.	26.6	Medium sand

Note: Analysis performed as requested.

ATLANTA, GEORGIA, 1961

Document 100-100000

Page 100



Initial Closed In Time		Minutes		Date	
Tool Open Flow Period		Minutes		Ticket No.	
Final Closed In Time		Minutes		HOWCO DISTRICT	
Depth Top Gauge		Blanked Off	Kind of Job		
BT P.R.D. No.		Hr. Clock	CONTRACTOR		
Pressure Readings		Field	Office Corrected		
Initial Hydro Mud Pressure			HOLE & TOOL DATA		
Initial Closed in Pres.			Elevation	Top Packer Depth	
Initial Flow Pres.			Total Depth	Bottom Packer Depth	
Final Flow Pres.			Casing or Hole Size	Size & Type Well Packer	
Final Closed in Pres.			Liner or Pothole Size	Size Bottom Choke	
Final Hydro Mud Pressure			Casing Perforations	Top Bottom	Size Surface Choke
			Interval Tested	ID & Length Air Chamber	
Depth Center Gauge		Blanked Off	Formation Tested	ID & Length Drill Collars	
BT P.R.D. No.		Hr. Clock	Est Gauge Depth Temp	Size Drill Pipe	
Pressure Readings		Field	MUD DATA		
Initial Hydro Mud Pressure			Weight	Viscosity	
Initial Closed in Pres.			All depths measured from	No. Paddles Reproduced	
Initial Flow Pres.			REMARKS		
Final Flow Pres.			1. 10' to 12' in 1.5' P. in pres. with very		
Final Closed in Pres.			2. 12' to 14' in 1.5' P. in pres. with very		
Final Hydro Mud Pressure			3. 14' to 16' in 1.5' P. in pres. with very		
Depth Bottom Gauge		Blanked Off			
BT P.R.D. No.		Hr. Clock			
Pressure Readings		Field	Office Corrected		
Initial Hydro Mud Pressure					
Initial Closed in Pres.			Recovered	Feet of	In 1.5' in mud
Initial Flow Pres.			Recovered	Feet of	
Final Flow Pres.			Recovered	Feet of	
Final Closed in Pres.			Recovered	Feet of	
Final Hydro Mud Pressure			Witnessed By W. Walters		
Amount Type of Casing		nil	Tester U. Roberts		

LOCATION
WELL NO.
TEST NO.
COUNTY
STATE
OWNER'S DISTRICT

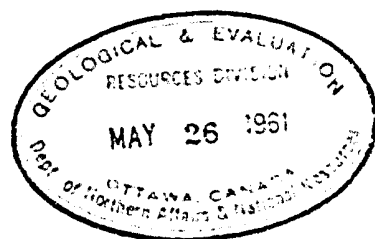
VELOCITY DETERMINATION REPORT

ON

THE ATLANTIC REFINING COMPANY

NORTH CIRCLE RIVER NO. 1

NORTHWEST TERRITORIES, CANADA



BY

THE ATLANTIC REFINING COMPANY

1961

C O N T E N T S

General Information	Page 1
Geophysical Technique	Page 1
Computation	Page 1
Discussion of Results	Page 2

Enclosures:

Geophysical Log

- 1 Sonic Log
2. Index Map
- 3 Shooting Plan
- 4 Up-Hole Time Curves
5. Velocity Determination
- 6 Time-Depth and Velocity Curves
7. Velocity Records
8. Reflection Records

GENERAL INFORMATION

Electronic Logging and Velocity Co., Ltd. shot a velocity survey on January 19 and Schlumberger ran a sonic log January 20, 1961 in The Atlantic Refining Company, North Circle River No. 1 well, located $66^{\circ}26'9''$ north latitude and $129^{\circ}35'53''$ west longitude, Northwest Territories, Canada.

Kelly block elevation was 495 feet above sea level. The well was drilled to a total depth of 2266 feet.

Observations were made at detector levels ranging from 375 feet to 2266 feet below the Kelly block.

GEOPHYSICAL TECHNIQUE

Shots were located 140 feet north of the well. Depths and charges are indicated on the velocity records included with the geophysical log.

Trace arrangement on the velocity records was as follows:

- 1st trace - - - Time Break
- 2nd trace - - Up-Hole Seismometer
- 3rd trace - - Well Seismometer (High Sensitivity)
- 4th trace - - Well Seismometer (Medium Sensitivity)
- 5th trace - - Well Seismometer (Low Sensitivity)
- 6th trace - - Seismometer on Cable at Kelly Block
- 7th trace - Reference Seismometer

The check-fork signal appears on the bottom of the records.

COMPUTATION

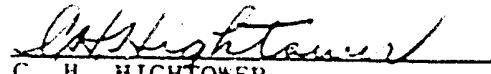
The method of computation is described by a diagram on the velocity determination sheet. Seismic times are referred to a datum plane of 300 feet above sea level using an elevation correctional velocity of 8500 feet per second.

DISCUSSION OF RESULTS

A graphical representation of the results, showing vertical time, average velocity, and interval velocity plotted against depth below the datum plane, is included in the geophysical log. The interval velocities obtained in the conventional velocity survey were converted to interval transit time in microseconds and plotted on the sonic log for comparison.

All measurements are considered reliable

THE ATLANTIC REFINING COMPANY


C. H. HIGHTOWER
Chief Geophysicist

R. E. Whitmore
District Geophysicist

Compiled by
C. A. Petersen

(Place "X" in proper space above. After TD is reached, if well is plugged back carry TD and Plugged Back Depth, each tour

UNIT or LEASE Atlantic N. Gulf River TRACT N.P.T. WELL NO. 1 DATE 1/23/61
Name to be same as shown in permit to drill Designation
FIELD Gladys Project CONTRACTOR The City Drilling Co.
SIZE HOLE 6 1/2" REDUCED AT 503' KIND OF TOOLS CT-114
KIND OF FUEL Diesel FURNISHED BY Taxco FROM Storage NO. OF HOURS 36
WATER FURNISHED BY Taxco FROM Bank NO. OF HOURS 24

TOUR NO.	DEPTH		FORMATION OR CORE CORE INTERPRETATION MUST BE SIGNED	DATA AT END OF TOUR			
	FROM	TO		TOUR 1	TOUR 2	TOUR 3	
I	5561	5566	T.D. Harting on OILS	DRILL PIPE IN USE: SIZE LENGTH DRILL COLLARS LENGTH DRILL PIPE KELLY DOWN TOTAL IN HOLE			
II	5566	5566	T.D. PED 5166 WIA W/UPCE to 1920' white N.E.C. Received telegram to abandon at 11:00 A.M. Tipped in to 5566' w/UPCE, K.U. Haltburton and spelled abandonment plug from 5560' to 5166' with 30 SA Haltburton Island Cement. Plug in place at 11:05 A.M. PCH to 654' and spelled abandonment Plug of 70 SA Haltburton Island Cement plus 4% Collo. Plug in place at 12:35 P.M. N.E. Plug	DRILL BIT: SERIAL NO. DRILL BIT: NUMBER MAKE TYPE CORE BARREL: KIND SIZE CORE BIT: SERIAL NO. CORE BIT: NUMBER KIND SIZE STRAIGHT HOLE TEST AT DEGREES OFF MUD MATERIAL: KIND 1. 2. 3. CHEMICAL: KIND 1. 2. 3. 4. MUD TYPE MUD WEIGHT VISCOSITY: 1500 cc IN 1 quart OUT PH WATER LOSS, cc FILTER CAKE	AMOUNT <		

Concise explanation of all delays and reasons therefor SHALL be indicated by each driller and verified by Company representative. Time chargeable to Company on day rate basis SHALL be fully explained.

TOUR No. 1 FROM 12:00 P.M. TO 1:00 P.M. DRILLING _____ HRS. TRIPPING _____ HRS. REPAIRS _____ HRS. OTHER 8

SIGNED *L. Hitler* DRILLER

TOUR No. 2 FROM 8:00 P.M. TO 10:00 P.M.	DRILLING	HRS.	TRIPPING	HRS.	REPAIRS	HRS.	OTHER
8:00-10:00 P.M. in open and 9:30-10:00 P.M. wait on order							
10:00-11:00 P.M. and run plug No. 1. 11:00-12:00 P.M. cut 12:00-12:30							
Run plug No. 2 12:30-1:00 P.M. wait on plug							
SIGNED K. W. McE...							DRAWER

TOUR No. 3 FROM 12:00 M TO 12:27 M DRILLING _____ HRS. TRIPPING _____ HRS. REPAIRS _____ HRS. OTHER: .5
2'00-3'32 - 1 1/2" Plug, 8' 2" 3.0" Tag plug at 15' and
Pull out. 15' Reamed at 9.00 min.

SIGNED *G. H. ...* DRILLER

COMPANY REPRESENTATIVE: Accuracy and completeness are your responsibility.

SIGNED

Tabulate drilling time, when taken, on Form 3E-744 and mail with this form. Note depth each time bit pulled and reason for pulling and depth sharp bit run. INDICATE DATE AND HOUR PIC RELEASED AND MARK LAST REPORT "FINAL"

THE ATLANTIC REFINING COMPANY

LOG: DRILLING WELL ☒ WORKOVER ☐

(Place "X" in proper space above. After TD is reached, if well is plugged back carry TD and Plugged Back Depth, each tour)

UNIT or LEASE Atlantic N. Gulf River TRACT WELL NO. 1 DATE 1/25/61
 Name to be same as shown in permit to drill Designation
 FIELD Glacier Project CONTRACTOR Tra City Drilling Co.
 SIZE HOLE 6 1/4" REDUCED AT 208 KIND OF TOOLS Rotary
 KIND OF FUEL Diesel FURNISHED BY TAHCO FROM Storage NO. OF HOURS 24
 WATER FURNISHED BY TAHCO FROM LOVE NO. OF HOURS 24

TOUR NO.	DEPTH		FORMATION OR CORE CORE INTERPRETATION MUST BE SIGNED	DATA AT END OF TOUR			
	FROM	TO		TOUR 1	TOUR 2	TOUR 3	
I	556.1	556.6	T.D. Working on Orders	DRILL PIPE IN USE: SIZE			
				LENGTH DRILL COLLARS			
				LENGTH DRILL PIPE			
				KELLY DOWN			
				TOTAL IN HOLE			
II	556.6	556.6	T.D. Working on Orders	DRILL BIT: SERIAL NO.			
				DRILL BIT: NUMBER			
				MAKE			
				TYPE			
III	556.6	556.6	T.D. Working on Orders	CORE BARREL: KIND			
				SIZE			
				CORE BIT: SERIAL NO.			
				CORE BIT: NUMBER			
				KIND			
				SIZE			
				STRAIGHT HOLE TEST AT			
				DEGREES OFF			
				MUD MATERIAL: KIND	AMOUNT	AMOUNT	AMOUNT
				1.			
				2.			
				3.			
				CHEMICAL: KIND	AMOUNT	AMOUNT	AMOUNT
				1.			
				2.			
				3.			
				4.			
				MUD TYPE			
				MUD WEIGHT			
				VISCOSITY: 1500 cc IN 1 quart OUT			
				PH			
				WATER LOSS: cc			
				FILTER CAKE	/32"	/32"	/32"
FOR COMPANY REPRESENTATIVE ONLY							
TIME ANALYSIS CO. TIME	DRILLING						
	CORING						
	DST. OPEN HOLE						
	LOGGING						
	CASING & WOC						
	DOWNTIME						
	COMPLETING	8	8	8			
	LOSS CIRCULATION						
	FISHING						
	CO. TIME w DP	8	8	8			
	CO. TIME w o DP						

Concise explanation of all delays and reasons therefor SHALL be indicated by each driller and verified by Company representative. Time chargeable to Company on day rate basis SHALL be fully explained.

TOUR No. 1 FROM 12:00 P.M. TO 8:00 P.M. DRILLING 8 HRS. TRIPPING 0 HRS. REPAIRS 0 HRS. OTHER: 0
12:00 - 8:00 P.M. Work on Orders

SIGNED L. Miller DRILLER

TOUR No. 2 FROM 8:00 P.M. TO 4:00 P.M. DRILLING 0 HRS. TRIPPING 0 HRS. REPAIRS 0 HRS. OTHER: 0
8:00 - 4:00 P.M. Work on Orders

SIGNED R. Miller DRILLER

TOUR No. 3 FROM 4:00 P.M. TO 12:00 P.M. DRILLING 0 HRS. TRIPPING 0 HRS. REPAIRS 0 HRS. OTHER: 0
4:00 - 12:00 P.M. Work on Orders

SIGNED G. Peterson DRILLER

COMPANY REPRESENTATIVE: Accuracy and Completeness are your responsibility.

SIGNED L. Miller

Tabulate drilling time, when taken, on Form 3B-744 and mail with this form. Note depth each time bit pulled and depth sharp bit run.

THE ATLANTIC REFINING COMPANY

LOG: DRILLING WELL ☒ WORKOVER ☐

(Place "X" in proper space above. After TD is reached, if well is plugged back carry TD and Plugged Back Depth, each tour)

UNIT OF LEASE Atlantic N. Circle River TRACT N.W.T. WELL NO. 1 DATE 1/21/61
 FIELD Glacier Project Name to be same as shown in permit to drill Designation Tri-City Drilling Ltd.
 SIZE HOLE 6 1/2" REDUCED AT 208' KIND OF TOOLS Rotary
 KIND OF FUEL Diesel FURNISHED BY TAKCO FROM Storage NO. OF HOURS 24
 WATER FURNISHED BY TAKCO FROM Lake NO. OF HOURS 24

TOUR NO.	DEPTH		FORMATION OR CORE CORE INTERPRETATION MUST BE SIGNED	DATA AT END OF TOUR	TOUR 1	TOUR 2	TOUR 3
	FROM	TO					
<u>I</u>	<u>2266</u>	<u>2266</u>	<u>T.D. Working on Logging equipment</u>	DRILL PIPE IN USE: SIZE LENGTH DRILL COLLARS LENGTH DRILL PIPE KELLY DOWN TOTAL IN HOLE			
<u>II</u>	<u>2266</u>	<u>2266</u>	<u>T.D. Working on Logging Equipment</u>	DRILL BIT: SERIAL NO. DRILL BIT: NUMBER MAKE TYPE			
			<u>Schlumberger ran Temperature Survey from T.D. to 50'</u>	CORE BARREL: KIND SIZE CORE BIT: SERIAL NO. CORE BIT: NUMBER KIND SIZE			
<u>III</u>	<u>2266</u>	<u>2266</u>	<u>T.D. Logging equipment arrived at 4:00 P.M. Schlumberger R.U. & Ron I-E Logging operation complete.</u>	STRAIGHT HOLE TEST AT DEGREES OFF MUD MATERIAL: KIND			
			<u>Log: Scale Depth</u>	1. 2. 3.	AMOUNT	AMOUNT	AMOUNT
			<u>11150-Galper 5" 2264 to 207</u>	CHEMICAL: KIND	AMOUNT	AMOUNT	AMOUNT
			<u>Seine-Galper 2" x 5" 2262 to 100</u>	1. 2. 3.			
			<u>Induction Elect 2" x 5" 2254 to 207</u>	MUD TYPE MUD WEIGHT VISCOSITY: 1500 cc IN 1 quart OUT			
			<u>Temperature 2" 2262 to 50</u>	PH WATER LOSS: cc FILTER CAKE			
					/32"	/32"	/32"
FOR COMPANY REPRESENTATIVE ONLY							
				DRILLING			
				CORING			
				DST. OPEN HOLE			
				LOGGING	<u>8</u>	<u>8</u>	<u>2 1/2</u>
				CASING & WOC			
				DOWNTIME			
				COMPLETION			<u>3 1/2</u>
				LOSS CIRCULATION			
				FISHING			
				CO. TIME w DP	<u>8</u>	<u>8</u>	<u>8</u>
				CO. TIME w o DP			

Concise explanation of all delays and reasons therefor SHALL be indicated by each driller and verified by Company representative. Time chargeable to Company on day rate basis SHALL be fully explained.

TOUR No. 1 FROM 12:00 P.M. TO 12:00 P.M. DRILLING 8 HRS. TRIPPING 8 HRS. REPAIRS 8 HRS. OTHER 8
12:00 P.M. Working on Logging Tool

SIGNED E. Heiber DRILLER

TOUR No. 2 FROM 1:00 P.M. TO 2:00 P.M. DRILLING 8 HRS. TRIPPING 8 HRS. REPAIRS 8 HRS. OTHER 8
1:00-11:30 A.M. Temperature Survey; 11:30-2:00 P.M. Logging Tool

SIGNED R. Morris DRILLER

TOUR No. 3 FROM 2:00 P.M. TO 12:00 P.M. DRILLING 8 HRS. TRIPPING 8 HRS. REPAIRS 8 HRS. OTHER 8
2:00-6:00 Working on Logging Tool & R.U.; 6:00-8:20 Logging 8:30-12:00 Working on Orders

SIGNED G. Thompson DRILLER

COMPANY REPRESENTATIVE: Accuracy and Completeness are your responsibility.

SIGNED [Signature]

Tabulate drilling time, when taken, on Form 3B-744 and mail with this form. Note depth each time bit pulled and reason for pulling and depth sharp bit run.

THE ATLANTIC REFINING COMPANY
LOG: DRILLING WELL ☒ WORKOVER ☐

(Place "X" in proper space above. After TD is reached, if well is plugged back carry TD and Plugged Back Depth, each tour)

UNIT or LEASE Atlantic N. Creek River TRACT N.W.T. WELL NO. 1 DATE 1/20/61
Name to be same as shown in permit to drill Designation
FIELD Glacier Project CONTRACTOR Tri-City Drilling Ltd.
SIZE HOLE 6 1/4" REDUCED AT 208' KIND OF TOOLS Rotary
KIND OF FUEL Diesel FURNISHED BY TAKCO FROM Storage NO. OF HOURS 24
WATER FURNISHED BY TAKCO FROM lake NO. OF HOURS 24

TOUR NO.	DEPTH		FORMATION OR CORE CORE INTERPRETATION MUST BE SIGNED	DATA AT END OF TOUR	TOUR 1	TOUR 2	TOUR 3
	FROM	TO					
I	2566	2566	T.D. Logging	DRILL PIPE IN USE: SIZE LENGTH DRILL COLLARS LENGTH DRILL PIPE KELLY DOWN TOTAL IN HOLE DRILL BIT: SERIAL NO. DRILL BIT: NUMBER MAKE TYPE CORE BARREL: KIND SIZE CORE BIT: SERIAL NO. CORE BIT: NUMBER KIND SIZE STRAIGHT HOLE TEST AT DEGREES OFF MUD MATERIAL: KIND 1. 2. 3. CHEMICAL: KIND 1. 2. 3. 4. MUD TYPE MUD WEIGHT VISCOSITY: 1500 cc IN 1 quart OUT PH WATER LOSS: cc FILTER CAKE / 32" / 32" / 32" FOR COMPANY REPRESENTATIVE ONLY TIME ANALYSIS CO. TIME DRILLING CORING DST. OPEN HOLE LOGGING CASING & WOC DOWNTIME COMPLETING LOSS CIRCULATION FISHING CO. TIME w DP CO. TIME w o DP			
II	2566	2566	T.D. Logging Schlumberger I-ES set up was not logging properly so the engineer ordered OUT-ES Scinder, sand, and cartridge from Edmonton on S.S. and Radio Schedule Took Velocity Survey				
III	2566	2566	T.D. Logging Waiting for replace mud equipment				

Concise explanation of all delays and reasons therefor SHALL be indicated by each driller and verified by Company representative. Time chargeable to Company on day rate basis SHALL be fully explained.

TOUR No. 1 FROM 12:00 A.M. TO 12:00 P.M. DRILLING 8 HRS. TRIPPING 8 HRS. REPAIRS 8 HRS. OTHER 8
12:00 - 1:00 - Logging

SIGNED B. Miller DRILLER

TOUR No. 2 FROM 1:00 P.M. TO 4:00 P.M. DRILLING 8 HRS. TRIPPING 8 HRS. REPAIRS 8 HRS. OTHER 8
1:00 - 4:00 - Working on logging equipment

SIGNED R. Macie DRILLER

TOUR No. 3 FROM 4:00 P.M. TO 12:00 A.M. DRILLING 8 HRS. TRIPPING 8 HRS. REPAIRS 8 HRS. OTHER 8
4:00 - 12:00 P.M. logging equipment & work on rig and light plant

SIGNED G. Pearson DRILLER

COMPANY REPRESENTATIVE: Accuracy and Completeness are your responsibility.

SIGNED A. J. Hall

Tabulate drilling time, when taken, on Form 3B-744 and mail with this form. Note depth each time bit pulled and reason for pulling and depth sharp bit run. INDICATE DATE AND HOUR RIG RELEASED AND MARK LAST REPORT "FINAL"

IMPORTANT: ALL APPLICABLE SPACES MUST BE FILLED BEFORE MAILING. REPORT TO BE MAILED EACH DAY

THE ATLANTIC REFINING COMPANY
LOG: DRILLING WELL ☒ WORKOVER ☐

(Place "X" in proper space above. After TD is reached, if well is plugged back carry TD and Plugged Back Depth, each tour)

UNIT or LEASE Atlantic N. Circle River TRACT N.W.T. WELL NO. 1 DATE 11/19/61
Name to be same as shown in permit to drill Designation
FIELD Glacier Project CONTRACTOR Tec City Lbr. Ltd.
SIZE HOLE 6 7/8 REDUCED AT 208' KIND OF TOOLS Rotary
KIND OF FUEL Diesel FURNISHED BY TARCO FROM Storage NO. OF HOURS 24
WATER FURNISHED BY TARCO FROM Lake NO. OF HOURS 24

TOUR NO.	DEPTH		FORMATION OR CORE CORE INTERPRETATION MUST BE SIGNED	DATA AT END OF TOUR			TOUR 1	TOUR 2	TOUR 3
	FROM	TO		DRILL PIPE IN USE, SIZE	LENGTH DRILL COLLARS	LENGTH DRILL PIPE			
I	2216	2246	-30' - Drilling		264.1	1950.0	251F	251F	
II	2246	2266	-20' - Drilling T.D. at 3.15 PM	WELLY DOWN	32.0	2206.0	264.0	1952.0	
III	2266	2266	-T.D. - Logging MCH: 5LH 2265.70 = DHI - 2266.40	TOTAL IN HOLE	2246.0	2266.0	77290	77290	
				DRILL BIT: SERIAL NO.	33	33	H7C	H7C	
				DRILL BIT: NUMBER	65C	65C			
				MAKE					
				TYPE					
				CORE BARREL: KIND					
				SIZE					
				CORE BIT: SERIAL NO.					
				CORE BIT: NUMBER					
				KIND					
				SIZE					
				STRAIGHT HOLE TEST AT					2260
				DEGREES OFF					1
				MUD MATERIAL: KIND	AMOUNT	AMOUNT	AMOUNT	AMOUNT	AMOUNT
				1.					
				2.					
				3.					
				CHEMICAL: KIND	AMOUNT	AMOUNT	AMOUNT	AMOUNT	AMOUNT
				1.					
				2.					
				3.					
				4.					
				MUD TYPE	11H/White; FV Gel				
				MUD WEIGHT	9.6	9.7			
				VISCOSITY: 1500 cc IN 1 quart OUT	37	37			
				PH	12	11			
				WATER LOSS: cc	12	12			
				FILTER CAKE	2/32"	2/32"			1/32"
FOR COMPANY REPRESENTATIVE ONLY									
TIME ANALYSIS CO. TIME	DRILLING	8	8	2					
	CORING								
	DST. OPEN HOLE								
	LOGGING			6					
	CASING & WOC								
	DOWNTIME								
	COMPLETING								
	LOSS CIRCULATION								
	FISHING								
	CO. TIME w. DP	8	8	2					
	CO. TIME w. a. DP			6					

Concise explanation of all delays and reasons therefor SHALL be indicated by each driller and verified by Company representative. Time chargeable to Company on day rate basis SHALL be fully explained.

TOUR No. 1 FROM 12:00 PM TO 8:00 PM DRILLING 7 3/4 HRS. TRIPPING 1 1/4 HRS. REPAIRS 1 1/4 HRS. OTHER: 4 1/2
12:00 - 12:30 Drilling; 12:30 - 12:45 Set up Rig; 12:45 - 8:00 Drilling

SIGNED B. Miller DRILLER

TOUR No. 2 FROM 8:00 PM TO 4:00 PM DRILLING 6 3/4 HRS. TRIPPING 1 1/4 HRS. REPAIRS 1 1/4 HRS. OTHER: 1 1/4
8:00 - 8:30 Set up Rig & H2O up Hydro 1 to 100 psi; 8:30 - 2:15 Drilling; 2:15 - 2:45 Circulating; 2:45 - 4:00 Run Survey

SIGNED R. Moore DRILLER

TOUR No. 3 FROM 4:00 PM TO 12:00 AM DRILLING 1 1/4 HRS. TRIPPING 1 1/4 HRS. REPAIRS 1 1/4 HRS. OTHER: 6 1/4
4:00 - 4:15 Survey; 4:15 - 6:00 MCH; 6:00 - 12:00 Logging

SIGNED G. Harrison DRILLER

COMPANY REPRESENTATIVE: Accuracy and Completeness are your responsibility.

SIGNED A. R. R. R.

Tabulate drilling time, when taken, on Form 3B-744 and mail with this form. Note depth each time bit pulled and reason for pulling and depth sharp bit run. INDICATE DATE AND HOUR RIG RELEASED AND MARK LAST REPORT "FINAL".

IMPORTANT: ALL APPLICABLE SPACES MUST BE FILLED BEFORE MAILING. REPORT TO BE MAILED EACH DAY

THE ATLANTIC REFINING COMPANY
LOG: DRILLING WELL ☒ WORKOVER ☐

(Place "X" in proper space above. After TD is reached, if well is plugged back carry TD and Plugged Back Depth, each tour)

UNIT or LEASE Atlantic N. Circle River TRACT N. 1/4 WELL NO. 1 DATE 11/18/61
Name to be same as shown in permit to drill Designation
FIELD Glacier Project CONTRACTOR Tri-City Drilling Co.
SIZE HOLE 6 1/2 REDUCED AT 208' KIND OF TOOLS EC-1014
KIND OF FUEL Diesel FURNISHED BY TAKCO FROM Storage NO. OF HOURS 24
WATER FURNISHED BY TAKCO FROM Local NO. OF HOURS 24

TOUR NO.	DEPTH		FORMATION OR CORE CORE INTERPRETATION MUST BE SIGNED	DATA AT END OF TOUR			
	FROM	TO		TOUR 1	TOUR 2	TOUR 3	
I	2137	2156	19'- Drilling	DRILL PIPE IN USE: SIZE	3 1/2 IF	3 1/2 IF	3 1/2 IF
				LENGTH DRILL COLLARS	264.0	264.0	264.0
				LENGTH DRILL PIPE	1857.0	1858.0	1919.0
				KELLY DOWN	35.0	30.0	33.0
				TOTAL IN HOLE	2136.0	2132.0	2216.0
II	2156	2182	26'- Drilling	DRILL BIT: SERIAL NO.	77279	77290	77290
				DRILL BIT: NUMBER	32	23	23
				MAKE	HTC	HTC	HTC
				TYPE	QSC	QSC	QSC
				CORE BARREL: KIND			
				SIZE			
				CORE BIT: SERIAL NO.			
				CORE BIT: NUMBER			
				KIND			
				SIZE			
				STRAIGHT HOLE TEST AT			
				DEGREES OFF			
				MUD MATERIAL: KIND	AMOUNT	AMOUNT	AMOUNT
				1.			
				2.			
				3.			
				CHEMICAL: KIND	AMOUNT	AMOUNT	AMOUNT
				1.			
				2.			
				3.			
				4.			
				MUD TYPE	White: FW Gel		
				MUD WEIGHT	9.5	9.6	9.7
				VISCOSITY: 1500 cc IN. 1 quart OUT	36	36	38
				PH	11	11.0	11.
				WATER LOSS: cc	11	11.5	11.5
				FILTER CAKE	2 1/2"	2 1/2"	2 1/2"
				FOR COMPANY REPRESENTATIVE ONLY			
				DRILLING	8	8	8
				CORING			
				DST. OPEN HOLE			
				LOGGING			
				CASING & WOC			
				DOWNTIME			
				COMPLETING			
				LOSS CIRCULATION			
				FISHING			
				CO. TIME w. DP	8	8	8
				CO. TIME w.o. DP			

Concise explanation of all delays and reasons therefor SHALL be indicated by each driller and verified by Company representative. Time chargeable to Company on day rate basis SHALL be fully explained.

TOUR No. 1 FROM 12:00 A.M. TO 8:00 A.M. DRILLING 6 1/2 HRS. TRIPPING 1 1/2 HRS. REPAIRS 0 HRS. OTHER: 0
12:00-12:15 Drilling; 12:15-12:30 Ser. Rtg; 12:30-6:45 Drilling; 6:45-8:00 Tripping

SIGNED B. Miller

DRILLER

TOUR No. 2 FROM 8:00 A.M. TO 4:00 P.M. DRILLING 5 1/2 HRS. TRIPPING 2 1/2 HRS. REPAIRS 0 HRS. OTHER: 0
8:00-8:30 Ser. Rtg & Press up Hydril BOP to 1000 psi; 8:30-10:45-GRIND/REPAIR; 10:45-12:00 Drilling

SIGNED R. H. Hore

DRILLER

TOUR No. 3 FROM 4:00 P.M. TO 12:00 A.M. DRILLING 7 1/2 HRS. TRIPPING 0 HRS. REPAIRS 0 HRS. OTHER: 0
4:00-5:30 Drilling; 5:30-5:45 Ser. Rtg; 5:45-12:00 Drilling

SIGNED G. H. Hore

DRILLER

COMPANY REPRESENTATIVE: Accuracy and Completeness are your responsibility.

SIGNED H. K. Hore

Tabulate drilling time, when taken, on Form 3B-744 and mail with this form. Note depth each time bit pulled and reason for pulling and depth sharp bit run. INDICATE DATE AND HOUR RIG RELEASED AND MARK LAST REPORT "FINAL".

IMPORTANT: ALL APPLICABLE SPACES MUST BE FILLED BEFORE MAILING. REPORT TO BE MAILED EACH DAY

THE ATLANTIC REFINING COMPANY
LOG: DRILLING WELL ☒ WORKOVER ☐

(Place "X" in proper space above. After TD is reached, if well is plugged back carry TD and Plugged Back Depth, each tour)

UNIT or LEASE Atlantic N. Circle River TRACT N.W.T. WELL NO. 1 DATE 11/17/61
Name to be same as shown in permit to drill Designation
FIELD Clayton Project CONTRACTOR The City Drilling Co
SIZE HOLE 6 1/2 REDUCED AT 208 KIND OF TOOLS Kelly
KIND OF FUEL Diesel FURNISHED BY TAKCO FROM Storage NO. OF HOURS 34
WATER FURNISHED BY TAKCO FROM LOKE NO. OF HOURS 34

TOUR NO.	DEPTH		FORMATION OR CORE CORE INTERPRETATION MUST BE SIGNED	DATA AT END OF TOUR		
	FROM	TO		TOUR 1	TOUR 2	TOUR 3
I	2075	2093	-18'-Drilling	DRILL PIPE IN USE: SIZE <u>3 1/2 IF</u>	<u>3 1/2 IF</u>	<u>3 1/2 IF</u>
				LENGTH DRILL COLLARS <u>2640</u>	<u>2640</u>	<u>2640</u>
				LENGTH DRILL PIPE <u>17950</u>	<u>18270</u>	<u>18570</u>
				KELLY DOWN <u>340</u>	<u>220</u>	<u>160</u>
				TOTAL IN HOLE <u>20930</u>	<u>21130</u>	<u>21270</u>
II	2093	2113	-20'-Drilling	DRILL BIT: SERIAL NO. <u>77279</u>	<u>77279</u>	<u>77279</u>
				DRILL BIT: NUMBER <u>22</u>	<u>22</u>	<u>22</u>
				MAKE <u>HTC</u>	<u>HTC</u>	<u>HTC</u>
				TYPE <u>CSC</u>	<u>CSC</u>	<u>CSC</u>
III	2113	2137	-24'-Drilling	CORE BARREL: KIND		
				SIZE		
				CORE BIT: SERIAL NO.		
				CORE BIT: NUMBER		
				KIND		
				SIZE		
				STRAIGHT HOLE TEST AT DEGREES OFF		
				MUD MATERIAL: KIND	AMOUNT	AMOUNT
				1.		
				2.		
				3.		
				CHEMICAL: KIND	AMOUNT	AMOUNT
				1.		
				2.		
				3.		
				4.		
				MUD TYPE <u>White: FW Gel</u>		
				MUD WEIGHT <u>9.4</u>	<u>9.5</u>	<u>9.5</u>
				VISCOSITY: 1500 cc IN 1 quart OUT <u>37</u>	<u>37</u>	<u>38</u>
				PH <u>11</u>	<u>11</u>	<u>11</u>
				WATER LOSS: cc <u>11</u>	<u>11</u>	<u>11.5</u>
				FILTER CAKE <u>2/32"</u>	<u>2/32"</u>	<u>2/32"</u>
				FOR COMPANY REPRESENTATIVE ONLY		
				DRILLING	<u>8</u>	<u>8</u>
				CORING		
				DST. OPEN HOLE		
				LOGGING		
				CASING & WOC		
				DOWNTIME		
				COMPLETING		
				LOSS CIRCULATION		
				FISHING		
				CO. TIME w DP	<u>8</u>	<u>8</u>
				CO. TIME w o DP		

Concise explanation of all delays and reasons therefor SHALL be indicated by each driller and verified by Company representative. Time chargeable to Company on day rate basis SHALL be fully explained.

TOUR No. 1 FROM 12:00 P.M. TO 8:00 P.M. DRILLING 5 1/2 HRS. TRIPPING 2 1/2 HRS. REPAIRS _____ HRS. OTHER 1/2
12:00 - 1:00 P.M. & 1:00 down cut. DC; 1:00 - 2:30 Run in bit, 4 ft; 2:30 - 2:45 Ser. Rig; 2:45 - 8:00 Drilling
SIGNED P. H. Miller DRILLER
TOUR No. 2 FROM 8:00 P.M. TO 4:00 P.M. DRILLING 7 1/2 HRS. TRIPPING _____ HRS. REPAIRS _____ HRS. OTHER 1/2
8:00 - 8:30 Drilling; 8:30 - 9:00 Ser. Rig & press. Hydro. 200 ft 1000 psi; 9:00 - 4:00 Drilling
SIGNED E. H. Moore DRILLER
TOUR No. 3 FROM 4:00 P.M. TO 12:00 P.M. DRILLING 7 1/2 HRS. TRIPPING _____ HRS. REPAIRS _____ HRS. OTHER 1/2
4:00 - 4:15 Ser. Rig; 4:15 - 12:00 Drilling

SIGNED G. H. H. H. DRILLER

COMPANY REPRESENTATIVE: Accuracy and Completeness are your responsibility.

SIGNED G. H. H. H.
Tabulate drilling time, when taken, on Form 3B-744 and mail with this form. Note depth each time bit pulled and reason for pulling and depth sharp bit run.

INDICATE DATE AND HOUR RIG RELEASED AND MARK LAST REPORT "FINAL".
IMPORTANT: ALL APPLICABLE SPACES MUST BE FILLED BEFORE MAILING. REPORT TO BE MAILED EACH DAY

THE ATLANTIC REFINING COMPANY
LOG: DRILLING WELL ☒ WORKOVER ☐

(Place "X" in proper space above. After TD is reached, if well is plugged back carry TD and Plugged Back Depth, each tour)

UNIT or LEASE Atlantic N. Circle River TRACT N. N. T. WELL NO. 1 DATE 11/16/61
Name to be same as shown in permit to drill Designation
FIELD Glacier Project CONTRACTOR T. G. D. Co.
SIZE HOLE 6 1/2 REDUCED AT 208' KIND OF TOOLS Kelly
KIND OF FUEL Diesel FURNISHED BY TAKECO FROM Storage NO. OF HOURS 24
WATER FURNISHED BY TAKECO FROM Lake NO. OF HOURS 24

TOUR NO.	DEPTH		FORMATION OR CORE CORE INTERPRETATION MUST BE SIGNED	DATA AT END OF TOUR			
	FROM	TO		TOUR 1	TOUR 2	TOUR 3	
I	2011	2037	26' - Drilling	DRILL PIPE IN USE: SIZE	3 1/2 IF	3 1/2 IF	3 1/2 IF
				LENGTH DRILL COLLARS	291.0	291.0	291.0
				LENGTH DRILL PIPE	1733.0	1733.0	1763.0
				KELLY DOWN	13.0	31.0	21.0
				TOTAL IN HOLE	2037.0	2058.0	2075.0
II	2037	2055	18' - Drilling	DRILL BIT: SERIAL NO.	72563	72563	72563
				DRILL BIT: NUMBER	21	21	21
				MAKE	HTC	HTC	HTC
				TYPE	CSC	CSC	CSC
III	2055	2075	20' - Drilling	CORE BARREL: KIND			
				SIZE			
				CORE BIT: SERIAL NO.			
				CORE BIT: NUMBER			
				KIND			
				SIZE			
				STRAIGHT HOLE TEST AT			2070
				DEGREES OFF			3/4
				MUD MATERIAL: KIND	AMOUNT	AMOUNT	AMOUNT
				1.			
				2.			
				3.			
				CHEMICAL: KIND	AMOUNT	AMOUNT	AMOUNT
				1. Caustic	25#		
				2. Lignoc	50#		
				3.			
				4.			
				MUD TYPE	White Fk Gel		
				MUD WEIGHT	9.6	9.5	9.5
				VISCOSITY: 1500 cc IN 1 quart OUT	37	37	37
				PH	11	11	11
				WATER LOSS: cc	10.5	10.5	11
				FILTER CAKE	2/32"	2/32"	2/32"
				FOR COMPANY REPRESENTATIVE ONLY			
				DRILLING	8	8	8
				CORING			
				DST. OPEN HOLE			
				LOGGING			
				CASING & WOC			
				DOWNTIME			
				COMPLETING			
				LOSS CIRCULATION			
				FISHING			
				CO. TIME w DP	8	8	8
				CO. TIME w o DP			

Concise explanation of all delays and reasons therefor SHALL be indicated by each driller and verified by Company representative. Time chargeable to Company on day rate basis SHALL be fully explained.

TOUR No. 1 FROM 12:00 AM TO 8:00 AM DRILLING 1 1/2 HRS. TRIPPING 1 HRS. REPAIRS 1/2 HRS. OTHER 1/2
12:00-1:00 Run in hole; 1:00-1:15 Set Rig; 1:15-5:00 Drilling

SIGNED B. Huber DRILLER

TOUR No. 2 FROM 8:00 AM TO 4:00 PM DRILLING 7 1/2 HRS. TRIPPING 1 HRS. REPAIRS 1 HRS. OTHER 1/2
8:00-8:30 Set. Rig & Hoses; 8:30-11:00 Drilling

SIGNED R. Moore DRILLER

TOUR No. 3 FROM 4:00 PM TO 12:00 AM DRILLING 6 1/2 HRS. TRIPPING 1 HRS. REPAIRS 1 HRS. OTHER 1/2
4:00-5:30 Drilling; 5:30-5:45 Set. Rig; 5:45-10:45 Drilling; 10:45-11:00 Survey
11:00-12:00 Trip out for Bit

SIGNED G. Pearson DRILLER

COMPANY REPRESENTATIVE: Accuracy and Completeness are your responsibility.

SIGNED J. H. H. H.

Tabulate drilling time, when taken, on Form 3B-744 and mail with this form. Note depth each time bit pulled and reason for pulling and depth sharp bit run.
INDICATE DATE AND HOUR RIG RELEASED AND MARK LAST REPORT "FINAL"
IMPORTANT: ALL APPLICABLE SPACES MUST BE FILLED BEFORE MAILING. REPORT TO BE MAILED EACH DAY

(Place "X" in proper space above. After TD is reached, if well is plugged back carry TD and Plugged Back Depth, each tour)

Concise explanation of all delays and reasons therefor SHALL be indicated by each driller and verified by Company representative. Time chargeable to Company on day rate basis SHALL be fully explained.

3B-10B-4-57

(Place "X" in proper space above. After TD is reached, if well is plugged back carry TD and Plugged Back Depth, each tour)

FIELD Glacier Project CONTRACTOR Fidelity Oil Co.

KIND OF FUEL Diesel FURNISHED BY TAKCO FROM 301000 NO. OF HOURS 24

TOUR	DEPTH	FORMATION OR CORE	DATA AT END OF TOUR	TOUR 1	TOUR 2	TOUR 3
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Concise explanation of all delays and reasons therefor SHALL be indicated by each driller and verified by Company representative. Time chargeable to Company on day rate basis SHALL be fully explained.

Tabulate drilling time, when taken, on Form 3B-744 and mail with this form. Note depth each time bit pulled and reason for pulling and depth sharp bit run. INDICATE DATE AND HOUR RIG RELEASED AND MARK LAST REPORT "FINAL". **IMPORTANT: ALL APPLICABLE SPACES MUST BE FILLED BEFORE MAILING. REPORT TO BE MAILED EACH DAY**

(Place "X" in proper space above. After TD is reached, if well is plugged back carry TD and Plugged Back Depth, each tour)

FIELD Glacier Project CONTRACTOR Tri City Drilling Co.

KIND OF TOOL: DISC 1
 KIND OF WHEEL: DISC 24
 FURNISHED BY: TRUCK
 FROM: 1996

WATER FURNISHED BY <u>LARCO</u>		FROM <u>NIKE</u>		NO. OF HOURS <u>20</u>	
DEPTH					

Concise explanation of all delays and reasons therefor SHALL be indicated by each driller and verified by Company representative. Time chargeable to Company on day rate basis SHALL be fully explained.

COMPANY REPRESENTATIVE: Accuracy and Completeness are your responsibility. SIGNED [Signature]
 Tabulate drilling time, when taken, on Form 3B-744 and mail with this form. Note depth each time bit pulled and reason for pulling and depth sharp bit run.
 INDICATE DATE AND HOUR PIC RELEASED AND MAKE LAST REPORT ORIGINALLY.

THE ATLANTIC REFINING COMPANY

LOG: DRILLING WELL ☒ WORKOVER ☐

(Place "X" in proper space above. After TD is reached, if well is plugged back carry TD and Plugged Back Depth, each tour)

UNIT or LEASE Atlantic N. Circle River TRACT NWT WELL NO. 1 DATE 4/21/68
 Name to be same as shown in permit to drill Designation
 FIELD Glacier Project CONTRACTOR Tri-City Drilling Co.
 SIZE HOLE 6 1/4 REDUCED AT 208' KIND OF TOOLS Kelly
 KIND OF FUEL Diesel FURNISHED BY TAKCO FROM Storage NO. OF HOURS 24
 WATER FURNISHED BY TAKCO FROM Lake NO. OF HOURS 24

TOUR NO.	DEPTH		FORMATION OR CORE CORE INTERPRETATION MUST BE SIGNED	DATA AT END OF TOUR		
	FROM	TO		TOUR 1	TOUR 2	TOUR 3
I	1858	1875	- 17' Drilling	DRILL PIPE IN USE: SIZE 150.0	3 1/2 IF	3 1/2 IF
				LENGTH DRILL COLLARS 1715.0	150.0	150.0
				LENGTH DRILL PIPE 10.0	1715.0	1735.0
II	1875	1880	- 5' Drilling; cleared mud tanks & mud lines mud.	KELLY DOWN 1575.0	15.0	15.0
				TOTAL IN HOLE 72667	1880.0	1900.0
				DRILL BIT: SERIAL NO. 18	72667	72667
				DRILL BIT: NUMBER MAKE TYPE	18 HTC CSL	18 HTC CSL
III	1880	1900	- 20' Drilling	CORE BARREL: KIND SIZE		
				CORE BIT: SERIAL NO.		
				CORE BIT: NUMBER		
				KIND		
				SIZE		
				STRAIGHT HOLE TEST AT DEGREES OFF		
				MUD MATERIAL: KIND	AMOUNT	AMOUNT
				1. <u>Supercol</u>		AMOUNT 35 gal
				2.		
				3.		
				CHEMICAL: KIND	AMOUNT	AMOUNT
				1. <u>Caustic</u>		AMOUNT 50#
				2. <u>Kayflo</u>		AMOUNT 50#
				3.		
				4.		
				MUD TYPE <u>White: FW Gel</u>		
				MUD WEIGHT 9.5		8.6
				VISCOSITY: 1500 cc IN 1 quart OUT 35		40
				PH 8		10
				WATER LOSS: cc 12		11
				FILTER CAKE 2/32"	1/32"	2/32"
FOR COMPANY REPRESENTATIVE ONLY						
				DRILLING		
				CORING		
				DST. OPEN HOLE		
				LOGGING		
				CASING & WOC		
				DOWNTIME		
				COMPLETING		
				LOSS CIRCULATION		
				FISHING		
				CO. TIME w DP		
				CO. TIME w o DP		

Concise explanation of all delays and reasons therefor SHALL be indicated by each driller and verified by Company representative. Time chargeable to Company on day rate basis SHALL be fully explained.

TOUR No. 1 FROM 12:00 PM TO 8:00 AM DRILLING 7 1/4 HRS. TRIPPING HRS. REPAIRS HRS. OTHER 4 1/2
12:00-12:15 Drilling; 12:15-12:30 Service Rig; 12:30-5:00 Drilling.

SIGNED B. Miller DRILLER

TOUR No. 2 FROM 8:00 PM TO 4:00 PM DRILLING 2 HRS. TRIPPING HRS. REPAIRS HRS. OTHER 6
8:00-8:30 Serv. Rig & Press up Huddell; 8:30-10:30 Drilling; 10:30-4:00 Cleaning mud tanks & mix mud

SIGNED K. Wilson DRILLER

TOUR No. 3 FROM 4:00 PM TO 12:00 AM DRILLING 7 HRS. TRIPPING HRS. REPAIRS HRS. OTHER 1
4:00-4:30 Condition mud & Service Rig; 4:30-5:00 Run to bottom; 5:00-12:00 Drilling.

SIGNED G. Hansen DRILLER

COMPANY REPRESENTATIVE: Accuracy and Completeness are your responsibility.

SIGNED J. K. Holter

Tabulate drilling time, when taken, on Form 3B-744 and mail with this form. Note depth each time bit pulled and reason for pulling and depth sharp bit run. INDICATE DATE AND HOUR RIG RELEASED AND MARK LAST REPORT "FINAL".

IMPORTANT: ALL APPLICABLE SPACES MUST BE FILLED BEFORE MAILING. REPORT TO BE MAILED EACH DAY

THE ATLANTIC REFINING COMPANY

LOG: DRILLING WELL ☒ WORKOVER ☐

(Place "X" in proper space above. After TD is reached, if well is plugged back carry TD and Plugged Back Depth, each tour)

UNIT or LEASE Atlantic N. Circle River TRACT NAT WELL NO. 1 DATE 11/11/60
 Name to be same as shown in permit to drill Designation
 FIELD Glacier Project CONTRACTOR Tri-City Drilling Co.
 SIZE HOLE 6 1/4 REDUCED AT 208' KIND OF TOOLS Rotary
 KIND OF FUEL Diesel FURNISHED BY TAKCO FROM Storage NO. OF HOURS 24
 WATER FURNISHED BY TAKCO FROM Lake NO. OF HOURS 24

TOUR NO.	DEPTH		FORMATION OR CORE CORE INTERPRETATION MUST BE SIGNED	DATA AT END OF TOUR			
	FROM	TO		TOUR 1	TOUR 2	TOUR 3	
I	1820	1835	15' - Drilling	DRILL PIPE IN USE: SIZE <u>3 1/2 IF</u>	<u>3 1/2 IF</u>	<u>3 1/2 IF</u>	
				LENGTH DRILL COLLARS <u>156.0</u>	<u>150.0</u>	<u>150.0</u>	
				LENGTH DRILL PIPE <u>1670.0</u>	<u>1675.0</u>	<u>1675.0</u>	
				KELLY DOWN <u>9.0</u>	<u>23.0</u>	<u>33.0</u>	
				TOTAL IN HOLE <u>1835.0</u>	<u>1848.0</u>	<u>1858.0</u>	
II	1835	1848	13' - Drilling	DRILL BIT: SERIAL NO. <u>61541</u>	<u>61541</u>	<u>72667</u>	
				DRILL BIT: NUMBER <u>17</u>	<u>17</u>	<u>18</u>	
				MAKE <u>HTC</u>	<u>HTC</u>	<u>HTC</u>	
				TYPE <u>CSC</u>	<u>CSC</u>	<u>CSC</u>	
				CORE BARREL: KIND			
				SIZE			
				CORE BIT: SERIAL NO.			
				CORE BIT: NUMBER			
				KIND			
				SIZE			
				STRAIGHT HOLE TEST AT			<u>1855'</u>
				DEGREES OFF			<u>3 1/2</u>
				MUD MATERIAL: KIND	AMOUNT	AMOUNT	AMOUNT
				1			
				2			
				3			
				CHEMICAL: KIND	AMOUNT	AMOUNT	AMOUNT
				1			
				2			
				3			
				4			
				MUD TYPE <u>White: FW Gel</u>			
				MUD WEIGHT <u>9.4</u>	<u>9.4</u>	<u>9.4</u>	
				VISCOSITY: 1500 cc IN <u>36</u>	<u>37</u>	<u>38</u>	
				1 quart OUT			
				PH <u>9</u>	<u>9</u>	<u>9</u>	
				WATER LOSS: cc <u>10</u>	<u>10</u>	<u>10</u>	
				FILTER CAKE <u>2/32"</u>	<u>2/32"</u>	<u>2/32"</u>	
FOR COMPANY REPRESENTATIVE ONLY							
TIME ANALYSIS CO. TIME	DRILLING			<u>8</u>	<u>8</u>	<u>7 1/4</u>	
	CORING						
	DST. OPEN HOLE						
	LOGGING						
	CASING & WOC						
	DOWNTIME					<u>3/4</u>	
	COMPLETING						
	LOSS CIRCULATION						
	FISHING						
	CO. TIME w DP			<u>8</u>	<u>8</u>	<u>8</u>	
	CO. TIME w o DP						

Concise explanation of all delays and reasons therefor SHALL be indicated by each driller and verified by Company representative. Time chargeable to Company on day rate basis SHALL be fully explained.

TOUR No. 1 FROM 12:00 AM TO 2:00 AM DRILLING 7 1/4 HRS. TRIPPING HRS. REPAIRS HRS. OTHER 0
12:00-12:15 Drilling; 12:15-12:30 Service Rig; 12:30-8:00 Drilling

SIGNED B. Miller DRILLER

TOUR No. 2 FROM 8:00 PM TO 12:00 AM DRILLING 7 1/2 HRS. TRIPPING HRS. REPAIRS HRS. OTHER 0
8:00-8:30 Service Rig & Pass up Hydril to 1000 ft; 8:30-11:00 Drilling

SIGNED K. Moore DRILLER

TOUR No. 3 FROM 11:00 PM TO 12:00 AM DRILLING 4 1/4 HRS. TRIPPING 2 1/2 HRS. REPAIRS 3 1/4 HRS. OTHER 0
11:00-11:15 Spiv. Rig; 11:15-11:30 Drilling; 11:30-11:45 Service; 11:45-12:00 Work on pump motor - fuel; 8:30-11:00 Trip for Bit; 11:00-12:00 Drilling

SIGNED G. Polsson DRILLER

COMPANY REPRESENTATIVE: Accuracy and Completeness are your responsibility.
 Tabulate drilling time, when taken, on Form 4B-741 and mail with this form. Note depth each time bit pulled and reason for pulling and depth sharp bit run.
 INDICATE DATE AND HOUR RIG RELEASED AND MARK LAST REPORT "FINAL".
 IMPORTANT: ALL APPLICABLE SPACES MUST BE FILLED BEFORE MAILING. REPORT TO BE MAILED EACH DAY

(Place "X" in proper space above. After TD is reached, if well is plugged back carry TD and Plugged Back Depth, each tour)

NAME OF VESSEL	FURNISHED BY	FROM	NO. OF HOURS
WATER FURNISHED BY	THRO	FROM	NO. OF HOURS

Concise explanation of all delays and reasons therefor SHALL be indicated by each driller and verified by Company representative. Time chargeable to Company on day rate basis SHALL be fully explained.

Tabulate drilling time, when taken, on Form 3B-744 and mail with this form. Note depth each time bit pulled and reason for pulling and depth sharp bit run. INDICATE DATE AND HOUR RIG RELEASED AND MARK LAST REPORT "FINAL". **IMPORTANT:** ALL APPLICABLE SPACES MUST BE FILLED BEFORE MAILING. REPORTS TO BE MAILED EACH DAY.

THE ATLANTIC REFINING COMPANY
LOG: DRILLING WELL ☐ WORKOVER ☐

(Place "X" in proper space above. After TD is reached, if well is plugged back carry TD and Plugged Back Depth, each tour)

UNIT OF LEASE Atlantic N. Circle River TRACT NW 1/4 WELL NO. 1 DATE 1/9/61
Name to be same as shown in permit to drill Designation
FIELD Glauber Project CONTRACTOR Tri-City Drilling Co.
SIZE HOLE 6 1/4 REDUCED AT 205' KIND OF TOOLS Rotary
KIND OF FUEL Diesel FURNISHED BY TAECO FROM Storage NO. OF HOURS 24
WATER FURNISHED BY TAECO FROM Lake NO. OF HOURS 24

TOUR NO.	DEPTH		FORMATION OR CORE CORE INTERPRETATION MUST BE SIGNED	DATA AT END OF TOUR			
	FROM	TO		TOUR 1	TOUR 2	TOUR 3	
<u>I</u>	<u>1747</u>	<u>1760</u>	<u>-13'-Drilling</u>	DRILL PIPE IN USE: SIZE <u>3 1/2 IF</u>	<u>3 1/2 IF</u>	<u>3 1/2 IF</u>	
				LENGTH DRILL COLLARS <u>156.0</u>	<u>156.0</u>	<u>156.0</u>	
				LENGTH DRILL PIPE <u>1576.0</u>	<u>1609.0</u>	<u>1608.0</u>	
				KELLY DOWN <u>28.0</u>	<u>12.0</u>	<u>28.0</u>	
				TOTAL IN HOLE <u>1760.0</u>	<u>1777.0</u>	<u>1792.0</u>	
<u>II</u>	<u>1760</u>	<u>1777</u>	<u>-17'-Drilling</u>	DRILL BIT: SERIAL NO. <u>67792</u>	<u>23614</u>	<u>23614</u>	
				DRILL BIT: NUMBER <u>15</u>	<u>16</u>	<u>16</u>	
				MAKE <u>HTC</u>	<u>HTC</u>	<u>HTC</u>	
				TYPE <u>DMV</u>	<u>DMV</u>	<u>DMV</u>	
				CORE BARREL: KIND			
				SIZE			
				CORE BIT: SERIAL NO.			
				CORE BIT: NUMBER			
				KIND			
				SIZE			
				STRAIGHT HOLE TEST AT			
				DEGREES OFF			
				MUD MATERIAL: KIND	AMOUNT	AMOUNT	AMOUNT
				1.			
				2.			
				3.			
				CHEMICAL: KIND	AMOUNT	AMOUNT	AMOUNT
				1.			
				2.			
				3.			
				4.			
				MUD TYPE <u>Water soluble: F11 Gel</u>			
				MUD WEIGHT <u>9.1</u>	<u>9.2</u>	<u>9.3</u>	
				VISCOSITY: 500 cc 30" 1 quart OUT <u>37</u>	<u>37</u>	<u>38</u>	
				PH <u>8</u>	<u>8</u>	<u>8</u>	
				WATER LOSS: cc <u>11</u>	<u>11</u>	<u>11</u>	
				FILTER CAKE <u>2/32"</u>	<u>2/32"</u>	<u>2/32"</u>	
				FOR COMPANY REPRESENTATIVE ONLY			
				DRILLING	<u>8</u>	<u>8</u>	<u>8</u>
				CORING			
				DST. OPEN HOLE			
				LOGGING			
				CASING & WOC			
				DOWNTIME			
				COMPLETING			
				LOSS CIRCULATION			
				FISHING			
				CO. TIME w DP <u>8</u>	<u>8</u>	<u>8</u>	
				CO. TIME w o DP			

Concise explanation of all delays and reasons therefor SHALL be indicated by each driller and verified by Company representative. Time chargeable to Company on day rate basis SHALL be fully explained.

TOUR No. 1 FROM 12:00 A.M. TO 8:00 A.M. DRILLING 4 1/4 HRS. TRIPPING 3 HRS. REPAIRS 3/4 HRS. OTHER: 3/4
12:00-12:15 Service Rig; 12:15-4:30 Drilling; 4:30-5:00 Run Survey; 5:00-5:15 Trip for bit

SIGNED B. Huber DRILLER

TOUR No. 2 FROM 8:00 A.M. TO 4:00 P.M. DRILLING 7 1/4 HRS. TRIPPING 1 HRS. REPAIRS 1/2 HRS. OTHER: 1/2
8:00-8:30 Service Rig & Press Hydrul BOP to 1000 psi; 8:30-8:45 Repair Rig; 8:45-4:00 Drilling

SIGNED R. H. H. H. DRILLER

TOUR No. 3 FROM 4:00 P.M. TO 12:00 A.M. DRILLING 7 1/4 HRS. TRIPPING 1 HRS. REPAIRS 1/2 HRS. OTHER: 1/2
4:00-8:15 Drilling; 8:15-8:30 Service Rig; 8:30-12:00 Drilling

SIGNED G. H. H. H. DRILLER

COMPANY REPRESENTATIVE: Accuracy and Completeness are your responsibility.
SIGNED J. H. H. H.
Tabulate drilling time when taken, on Form 3B-744 and mail with this form. Note depth each time bit pulled and reason for pulling and depth sharp bit run.
INDICATE DATE AND HOUR RIG RELEASED AND MARK LAST REPORT "FINAL".
IMPORTANT: ALL APPLICABLE SPACES MUST BE FILLED BEFORE MAILING. REPORT TO BE MAILED EACH DAY

THE ATLANTIC REFINING COMPANY

LOG: DRILLING WELL ☒ WORKOVER ☐

(Place "X" in proper space above. After TD is reached, if well is plugged back carry TD and Plugged Back Depth, each tour)

UNIT or LEASE Atlantic N. Circle River TRAC NINT WELL NO. 1 DATE 1/8/68
 Name to be same as shown in permit to drill
 FIELD Glozier Project Designation
 CONTRACTOR Tu City Drilling Co.
 SIZE HOLE 6 1/2 REDUCED AT 208 KIND OF TOOLS Rotary
 KIND OF FUEL Diesel FURNISHED BY TAKCO FROM Storage NO. OF HOURS 24
 WATER FURNISHED BY TAKCO FROM Lake NO. OF HOURS 24

TOUR NO.	DEPTH		FORMATION OR CORE CORE INTERPRETATION MUST BE SIGNED	DATA AT END OF TOUR		
	FROM	TO		TOUR 1	TOUR 2	TOUR 3
I	1691	1709	-18'- Drilling	DRILL PIPE IN USE: SIZE <u>3 1/2 IF</u>	<u>3 1/2 IF</u>	<u>3 1/2 IF</u>
				LENGTH DRILL COLLARS <u>156.0</u>	<u>156.0</u>	<u>152.0</u>
				LENGTH DRILL PIPE <u>1545.0</u>	<u>1545.0</u>	<u>1576.0</u>
				KELLY DOWN <u>8.0</u>	<u>27.0</u>	<u>15.0</u>
				TOTAL IN HOLE <u>1709.0</u>	<u>1728.0</u>	<u>1737.0</u>
II	1709	1728	-19'- Drilling	DRILL BIT: SERIAL NO. <u>73141</u>	<u>67792</u>	<u>67792</u>
				DRILL BIT: NUMBER <u>14</u>	<u>15</u>	<u>15</u>
				MAKE <u>HTC</u>	<u>HTC</u>	<u>HTC</u>
				TYPE <u>ONV</u>	<u>ONV</u>	<u>ONV</u>
III	1728	1747	-19'- Drilling	CORE BARREL KIND		
				SIZE		
				CORE BIT: SERIAL NO.		
				CORE BIT: NUMBER		
				KIND		
				SIZE		
				STRAIGHT HOLE TEST AT		
				DEGREES OFF		
				MUD MATERIAL: KIND	AMOUNT	AMOUNT
				1. <u>Supercol</u>	<u>5301</u>	<u>10501</u>
				2.		
				3.		
				CHEMICAL: KIND	AMOUNT	AMOUNT
				1. <u>Caustic</u>	<u>10th</u>	<u>10th</u>
				2. <u>Liquid</u>	<u>25th</u>	
				3. <u>Layflo</u>		<u>50th</u>
				4.		
				MUD TYPE <u>White: FW Gel</u>		
				MUD WEIGHT <u>9.0</u>	<u>9.1</u>	<u>9.1</u>
				VISCOSITY: 1500 cc IN 1 quart OUT <u>43.0</u>	<u>35</u>	<u>37</u>
				PH <u>10.0</u>	<u>8</u>	<u>8</u>
				WATER LOSS: cc <u>11.0</u>	<u>10.5</u>	<u>10.5</u>
				FILTER CAKE <u>2 1/32"</u>	<u>2 1/32"</u>	<u>2 1/32"</u>
FOR COMPANY REPRESENTATIVE ONLY						
TIME ANALYSIS CO. TIME	DRILLING	<u>8</u>	<u>8</u>	<u>8</u>		
	CORING					
	DST. OPEN HOLE					
	LOGGING					
	CASING & WOC					
	DOWNTIME					
	COMPLETING					
	LOSS CIRCULATION					
	FISHING					
	CO. TIME w DP	<u>8</u>	<u>8</u>	<u>8</u>		
	CO. TIME w o DP					

Concise explanation of all delays and reasons therefor SHALL be indicated by each driller and verified by Company representative. Time chargeable to Company on day rate basis SHALL be fully explained.

TOUR No. 1 FROM 12:00 AM TO 8:00 AM DRILLING 5 1/2 HRS. TRIPPING 2 1/4 HRS. REPAIRS _____ HRS. OTHER _____
12:00-12:15-Drilg; 12:15-2:30 Trip for Bit 230-8:00 Drilg

SIGNED B. Heiber DRILLER

TOUR No. 2 FROM 8:00 AM TO 4:00 PM DRILLING 7 1/2 HRS. TRIPPING _____ HRS. REPAIRS _____ HRS. OTHER 1 1/2
8:00-8:30 Service 1198 press Hydraulic for 10 1000 psi; 8:30-4:30 Drilg-

SIGNED R. Moore DRILLER

TOUR No. 3 FROM 4:00 PM TO 12:00 AM DRILLING 7 1/2 HRS. TRIPPING _____ HRS. REPAIRS _____ HRS. OTHER 1 1/2
4:00-4:15-Service Rig; 4:15-12:00 Drilg.

SIGNED G. Russell DRILLER

COMPANY REPRESENTATIVE: Accuracy and Completeness are your responsibility.

SIGNED J. K. Walker

Tabulate drilling time, when taken, on Form 3B-744 and mail with this form. Note depth each time bit pulled and reason for pulling and depth sharp bit run. INDICATE DATE AND HOUR RIG RELEASED AND MARK LAST REPORT "FINAL".

IMPORTANT: ALL APPLICABLE SPACES MUST BE FILLED BEFORE MAILING. REPORT TO BE MAILED EACH DAY

THE ATLANTIC REFINING COMPANY
LOG: DRILLING WELL ☒ WORKOVER ☐

(Place "X" in proper space above. After TD is reached, if well is plugged back carry TD and Plugged Back Depth, each tour)

UNIT OF LEASE Atlantic N. Circle River TRACT N.W.T. WELL NO. 1 DATE 1/7/68
Name to be same as shown in permit to drill Designation
FIELD Glacier Project CONTRACTOR Tn-City Drilg. Co.
SIZE HOLE 6 1/4 REDUCED AT 208' KIND OF TOOLS Rotary
KIND OF FUEL Diesel FURNISHED BY TAKLO FROM Storage NO. OF HOURS 24
WATER FURNISHED BY TAKLO FROM Lake NO. OF HOURS 24

TOUR NO.	DEPTH		FORMATION OR CORE CORE INTERPRETATION MUST BE SIGNED	DATA AT END OF TOUR			TOUR 1	TOUR 2	TOUR 3
	FROM	TO		DRILL PIPE IN USE: SIZE	LENGTH DRILL COLLARS	LENGTH DRILL PIPE			
I.	1636	1653	-17'- Drilling		156.0	1483.0	3 1/2 IF	3 1/2 IF	3 1/2 IF
II	1653	1671	-18'- Drilling		16.0	16.0	156.0	156.0	156.0
III	1671	1691	-20'- Drilling		16.0	16.0	1483.0	1483.0	1574.0
				KELLY DOWN	16.0	32.0	21.0		
				TOTAL IN HOLE	1653.0	1671.0	1691.0		
				DRILL BIT: SERIAL NO.	73141	73141	73141		
				DRILL BIT: NUMBER	14	14	14		
				MAKE	HTC	HTC	HTC		
				TYPE	OWV	OWV	OWV		
				CORE BARREL: KIND					
				SIZE					
				CORE BIT: SERIAL NO.					
				CORE BIT: NUMBER					
				KIND					
				SIZE					
				STRAIGHT HOLE TEST AT					
				DEGREES OFF					
				MUD MATERIAL: KIND	AMOUNT	AMOUNT	AMOUNT		
				1.					
				2.					
				3.					
				CHEMICAL: KIND	AMOUNT	AMOUNT	AMOUNT		
				1.					
				2.					
				3.					
				4.					
				MUD TYPE	White: Flu Gel				
				MUD WEIGHT	8.9	8.9	9.0		
				VISCOSITY: 1500 cc IN 1 quart OUT	37	35	37		
				PH	11	8	8		
				WATER LOSS: cc	10	10	10		
				FILTER CAKE	2 1/32"	2 1/32"	2 1/32"		
				FOR COMPANY REPRESENTATIVE ONLY					
				TIME ANALYSIS CO. TIME	DRILLING	8	8	8	
					CORING				
					DST. OPEN HOLE				
					LOGGING				
					CASING & WOC				
					DOWNTIME				
					COMPLETING				
					LOSS CIRCULATION				
					FISHING				
					CO. TIME w/ DP	8	8	8	
					CO. TIME w/o DP				

Concise explanation of all delays and reasons therefor SHALL be indicated by each driller and verified by Company representative. Time chargeable to Company on day rate basis SHALL be fully explained.

TOUR No. 1 FROM 12:00 AM TO 8:00 PM DRILLING 7 1/4 HRS. TRIPPING HRS. REPAIRS HRS. OTHER: 14
12:00-12:30 Drilg; 2:30-3:15 Work on pump; 3:15-8:00 Drilg

SIGNED B. Huber DRILLER

TOUR No. 2 FROM 8:00 AM TO 4:00 PM DRILLING 7 1/2 HRS. TRIPPING HRS. REPAIRS HRS. OTHER: 12
8:00-8:30 Service Rig & press. Hydrol 80' to 1000 psi; 8:30-4:00 Drilg

SIGNED K. Moore DRILLER

TOUR No. 3 FROM 4:00 PM TO 12:00 AM DRILLING 7 1/4 HRS. TRIPPING HRS. REPAIRS HRS. OTHER: 14
Lia. 4:00 Service Rig; 4:15-12:00 Drilg

SIGNED G. Harrison DRILLER

COMPANY REPRESENTATIVE: Accuracy and Completeness are your responsibility.

SIGNED A. J. KILGORE

Tabulate drilling time, when taken, on Form 3B-744 and mail with this form. Note depth each time bit pulled and reason for pulling and depth sharp bit run.

INDICATE DATE AND HOUR RIG RELEASED AND MARK LAST REPORT "FINAL".

IMPORTANT: ALL APPLICABLE SPACES MUST BE FILLED BEFORE MAILING. REPORT TO BE MAILED EACH DAY

THE ATLANTIC REFINING COMPANY

LOG: DRILLING WELL ☒ WORKOVER ☐

(Place "X" in proper space above. After TD is reached, if well is plugged back carry TD and Plugged Back Depth, each tour)

UNIT or LEASE Atlantic N. Circle Ref. N.W.T. WELL NO. 1 DATE 1/6/61
 FIELD Glacier Project CONTRACTOR Tri-City Drilling Co.
 SIZE HOLE 6 1/2 REDUCED AT 208' KIND OF TOOLS Rotary-Falings 250
 KIND OF FUEL Diesel FURNISHED BY TARCO FROM Storage NO. OF HOURS 24
 WATER FURNISHED BY TARCO FROM Lake NO. OF HOURS 24

TOUR NO.	DEPTH		FORMATION OR CORE CORE INTERPRETATION MUST BE SIGNED	DATA AT END OF TOUR			TOUR 1	TOUR 2	TOUR 3
	FROM	TO		DRILL PIPE IN USE: SIZE	LENGTH DRILL COLLARS	LENGTH DRILL PIPE			
I	1587	1607	-20'- Keenwell hole and drilled ahead PCH w/ Bit No. 13, 100' magnet on wire line with no recovery, WCH w/ Bit No. 13	3 1/2 IF	97.0	1452.0	3 1/2 IF	3 1/2 IF	3 1/2 IF
				KELLY DOWN	28.0	20.0	30.0		
				TOTAL IN HOLE	1607.0	1621.0	1636.0		
				DRILL BIT: SERIAL NO.	60365	73141			
				DRILL BIT: NUMBER	12	13	14		
				MAKE	HTC	HTC	HTC		
				TYPE	OSL	CSG-16	ONV		
II	1607	1621	-14'- drilling	CORE BARREL: KIND					
				SIZE					
III	1621	1636	-15'- drilling	CORE BIT: SERIAL NO.					
				CORE BIT: NUMBER					
				IND					
				SIZE					
				STRAIGHT HOLE TEST AT					
				DEGREES OFF					
				MUD MATERIAL: KIND	SSOL				
				AMOUNT					
				2					
				3					
				CHEMICAL: KIND	Caustic				
				AMOUNT	20#				
				2					
				3					
				4					
				MUD TYPE	White: FV Gel				
				MUD WEIGHT	8.6	8.7	8.9		
				VISCOSITY: 1500 cc IN 1 quart OUT	37	35	34		
				PH	10	10	10		
				WATER LOSS: cc	10.5	10.5	10.9		
				FILTER CAKE	2/32"	2/32"	2/32"		
FOR COMPANY REPRESENTATIVE ONLY									
TIME ANALYSIS CO. TIME	DRILLING	8	8	8					
	CORING								
	DST. OPEN HOLE								
	LOGGING								
	CASING & WOC								
	DOWNTIME								
	COMPLETING								
	LOSS CIRCULATION								
	FISHING								
	CO. TIME w DP	8	8	8					
CO. TIME w o DP									

Concise explanation of all delays and reasons therefor SHALL be indicated by each driller and verified by Company representative. Time chargeable to Company on day rate basis SHALL be fully explained.

TOUR No. 1 FROM 12:00 A.M. TO 8:00 A.M. DRILLING 5 HRS. TRIPPING 1 1/2 HRS. REPAIRS 1 1/2 HRS. OTHER 1 1/2
12:00-12:30-Work on pump & service rig; 12:30-12:45-Keenwell; 12:45-2:30 Drilg; 2:30-3:15 PCH; 3:15-3:30 run magnet on wire line; 3:30-4:45 CCH; 4:45-8:00 Drilg
 SIGNED B. Huber DRILLER

TOUR No. 2 FROM 8:00 A.M. TO 4:00 P.M. DRILLING 7 1/2 HRS. TRIPPING 1 HRS. REPAIRS 1 HRS. OTHER 1
8:00-8:30-Service Rig & press Hydrol to 1000 psi; 8:30-4:00 Drilg
 SIGNED K. Moore DRILLER

TOUR No. 3 FROM 4:00 P.M. TO 12:00 A.M. DRILLING 5 1/2 HRS. TRIPPING 2 1/4 HRS. REPAIRS 1 HRS. OTHER 1
4:00-4:15 Service Rig; 4:15-8:15 Drilg; 8:15-10:30 Trip for Bit; 10:30-12:00 Drilg
 SIGNED G. Poisson DRILLER

COMPANY REPRESENTATIVE: Accuracy and Completeness are your responsibility.

SIGNED J. B. Walter

Tabulate drilling time, when taken, on Form 3B-744 and mail with this form. Note depth each time bit pulled and reason for pulling and depth sharp bit run. INDICATE DATE AND HOUR RIG RELEASED AND MARK LAST REPORT "FINAL".

IMPORTANT: ALL APPLICABLE SPACES MUST BE FILLED BEFORE MAILING. REPORT TO BE MAILED EACH DAY

(Place "X" in proper space above. After TD is reached, if well is plugged back carry TD and Plugged Back Depth, each tour)

UNIT or
LEASE

UNIT or LEASE Atlantic No. 1 Circle River
Name to be same as shown in permit to drill

TRACT N.V.T. WELL NO. _____

DATE Mar. 5, 1961

FIELD Glacier Project

CONTRACTOR Tri-City Landfilling Co.

SIZE: HOLE 6/4 REDUCED AT 208

KIND OF TOOLS *Ketaru; Pulpa 2500*

KIND OF FUEL Diesel FURNISHED BY TAKCO

FROM Home NO. OF HOURS 24

WATER FURNISHED BY THACO

FROM Lake

NO. OF HOURS 22

Concise explanation of all delays and reasons therefor SHALL be indicated by each driller and verified by Company representative. Time chargeable to Company on day rate basis SHALL be fully explained.

TOUR No. 1 FROM 12:00 P.M. TO 8:00 A.M. DRILLING _____ HRS. TRIPPING _____ HRS. REPAIRS _____ HRS. OTHER: 3
 12:00-1:00 PCH 1:00-2:00 NTH w/ J. Edgecraft; 2:00-4:00 drilling off cliffs; 4:00-5:00
 PCH w/ J. E. 5:00-5:30 KUN HADGET ON S.K.; 5:30-6:30 NTH w/ J. E.; 6:30-7:15 reaching
 7:15-8:00 PCH w/ J. E.
 SIGNED: J. E. HULLER DRILLER

SIGNED E. Huber

DRILLER

TOUR No. 2 FROM 3:00 P.M. TO 4:00 P.M. DRILLING _____ HRS. TRIPPING _____ HRS. REPAIRS _____ HRS. OTHER: 8
 3:00-3:20 P.M.; 3:20-4:00 Run magnet on S.H. 4:00-4:15 Service Log; 4:15-10:45 (W.H.)
 Magnet; 10:45-11:30 P.M.; 11:30-12:00 Run magnet on S.H.; 12:00-2:30 W.H. w/ C.C.
 Miller; 2:30-4:00 Planning & equipment for tomorrow. SIGNED L. Miller
 DRILLER

SIGNED *E. J. Connelley*

DRILLER

TOUR No. 3 FROM	TO	DRILLING	HRS.	TRIPPING	HRS.	REPAIRS	HRS.	OTHER
4:00	5:00	W/Bit	5:00	5:30	100	100	5:30	6:00
6:00	7:30	W/Bit	7:30	9:45	100	100	9:45	10:05
10:05	12:00	W/Bit	12:00	12:15	100	100	12:15	12:30

SIGNED

DRILLER

COMPANY REPRESENTATIVE: Accuracy and Completeness are your responsibility.

SIGNEI

Tabulate drilling time, when taken, on Form JB-74* and mail with this form. Note depth each time bit pulled and reason for pulling and depth sharp bit run.

INDICATE DATE AND HOUR RIG RELEASED AND MARK LAST REPORT "FINAL"
IMPORTANT: ALL APPLICABLE SPACES MUST BE FILLED BEFORE MAILING. REPORT TO BE MAILED EACH DAY

(Place "X" in proper space above. After TD is reached, if well is plugged back carry TD and Plugged Back Depth, each four

TOUR	DEPTH	FORMATION OR CORE	DATA AT END OF TOUR	TOUR 1	TOUR 2	TOUR 3
1	10	10	10	10	10	10
2	20	20	20	20	20	20
3	30	30	30	30	30	30
4	40	40	40	40	40	40
5	50	50	50	50	50	50
6	60	60	60	60	60	60
7	70	70	70	70	70	70
8	80	80	80	80	80	80
9	90	90	90	90	90	90
10	100	100	100	100	100	100

Concise explanation of all delays and reasons therefor SHALL be indicated by each driller and verified by Company representative. Time chargeable to Company on day rate basis SHALL be fully explained.

TOUR No. 3 FROM 4:00 PM TO 12:00 AM DRILLING _____ HRS. TRIPPING _____ HRS. REPAIRS _____ HRS. OTHER 8

1:00-4:30 D.I. 14 up 1.8; 4:30-5:30 top 1.8; 5:30-6:00 Run magnetic on 5.1; 6:00-8:00 magnet on 5.1; 8:00-9:00 Run up special bit; 9:00-10:00 G.I.H.; 10:00-11:00 Work on 5.1; 11:00-11:30 G.I.H.; 11:30-12:00 P.H.

SIGNED G. H. HISSON DRILLER

COMPANY REPRESENTATIVE: Accuracy and Completeness are your responsibility.

SIGNED _____

Tabulate drilling time, when taken, on Form 3B-744 and mail with this form. Note depth each time bit pulled and reason for pulling and depth sharp bit run

INDICATE DATE AND HOUR RIG RELEASED AND MARK LAST REPORT "FINAL"
IMPORTANT: ALL APPLICABLE SPACES MUST BE FILLED BEFORE MAILING. REPORT TO BE MAILED EACH DAY

PIPE TALLY

[illegible]

THE ATLANTIC REFINING COMPANY

LOG: DRILLING WELL ☒ WORKOVER ☐

(Place "X" in proper space above. After TD is reached, if well is plugged back carry TD and Plugged Back Depth, each tour)

UNIT or LEASE Atlantic No. Circle River TRACT N.W.T. WELL NO. 1 DATE 1/3/61
 Name to be same as shown in permit to drill Designation
 FIELD Glacier Project CONTRACTOR Tri-City Drilling Co.
 SIZE HOLE 6 7/8 REDUCED AT 208' KIND OF TOOLS Kelly: Fishing 2500
 KIND OF FUEL Diesel FURNISHED BY THECO FROM Storage NO. OF HOURS 24
 WATER FURNISHED BY THECO FROM Lake NO. OF HOURS 24

TOUR NO.	DEPTH		FORMATION OR CORE CORE INTERPRETATION MUST BE SIGNED	DATA AT END OF TOUR			
	FROM	TO		TOUR 1	TOUR 2	TOUR 3	
I	1580	1580	- O'- Fishing. Worked stuck fish at 2 D.C.s & bit with 65-70,000 pull. Tap pulled out of fish at 4:45 A.M. PCH w/ tap & PU 2 1/2 wash pipe, Howco jars and 2 collars.	DRILL PIPE I: USE: SIZE 3 1/2 IF	3 1/2 IF	3 1/2 IF	
				LENGTH DRILL COLLARS 61.0	61.0	61.0	
				LENGTH DRILL PIPE 1442.0	1442.0	1442.0	
				KELLY DOWN 14.0	14.0	14.0	
				TOTAL IN HOLE 1517.0	1517.0	1517.0	
				DRILL BIT: SERIAL NO.			
				DRILL BIT: NUMBER			
				MAKE			
				TYPE			
				CORE BARREL: KIND			
				SIZE			
				CORE BIT: SERIAL NO.			
				CORE BIT: NUMBER			
				KIND			
				SIZE			
				STRAIGHT HOLE TEST AT DEGREES OFF			
				MUD MATERIAL: KIND	AMOUNT	AMOUNT	AMOUNT
				Supercol		43.5	
				2.			
				3.			
				CHEMICAL: KIND	AMOUNT	AMOUNT	AMOUNT
				1.			
				2.			
				3.			
				4.			
				MUD TYPE	White; E.M. Gel		
				MUD WEIGHT	8.5	8.6	8.5
				VISCOSITY: 1500 cc IN 1 quart OUT	38	42	42
				PH	10	10	9
				WATER LOSS: cc	10.2	10	10
				FILTER CAKE	2 1/2"	2 1/2"	2 1/2"
				FOR COMPANY REPRESENTATIVE ONLY			
				DRILLING			
				CORING			
				DST. OPEN HOLE			
				LOGGING			
				CASING & WOC			
				DOWNTIME	1/4		2
				COMPLETING			
				LOSS CIRCULATION			
				FISHING	7 3/4	8	6
				CO. TIME w/DP	8	8	8
				CO. TIME w/o /DP			

Concise explanation of all delays and reasons therefor SHALL be indicated by each driller and verified by Company representative. Time chargeable to Company on day rate basis SHALL be fully explained.

TOUR No. 1 FROM 12:00 A.M. TO 8:00 A.M. DRILLING _____ HRS. TRIPPING _____ HRS. REPAIRS _____ HRS. OTHER: 8
12:00-4:45 Work stuck fish; 4:45-7:00 Free from fish PCH; 7:00-7:15 work on pump motor fuel lines; 7:15-8:00 break down jars to run in with wash pipe
 SIGNED B. Huber DRILLER

TOUR No. 2 FROM 8:00 A.M. TO 4:00 P.M. DRILLING _____ HRS. TRIPPING _____ HRS. REPAIRS _____ HRS. OTHER: 8
8:00-8:15 Service Rig; 8:15-12:00 running washover pipe; 12:00-4:00 washing over pipe
 SIGNED K. Moore DRILLER

TOUR No. 3 FROM 4:00 P.M. TO 12:00 A.M. DRILLING _____ HRS. TRIPPING _____ HRS. REPAIRS _____ HRS. OTHER: 8
4:00-5:00 Drilling washover 30'; 5:00-6:30 PCH w/ washover pipe; 6:30-8:30 run in w/ overshot; 8:30-9:15 Work on stuck fish; 9:15-11:15 work on pump motor; 11:15-12:00 Work fish - pulled loose w/ 85,000 pull at 11:20 - PCH w/ fish
 SIGNED G. P. 135011 DRILLER

COMPANY REPRESENTATIVE: Accuracy and Completeness are your responsibility. SIGNED J. H. Hatter
 Tabulate drilling time, when taken, on Form 3B-744 and mail with this form. Note depth each time bit pulled and reason for pulling and depth sharp bit run.
 INDICATE DATE AND HOUR RIG RELEASED AND MARK LAST REPORT "FINAL".
 IMPORTANT: ALL APPLICABLE SPACES MUST BE FILLED BEFORE MAILING. REPORT TO BE MAILED EACH DAY

(Place "X" in proper space above. After TD is reached, if well is plugged back carry TD and Plugged Back Depth, each four)

[illegible]

Concise explanation of all delays and reasons therefor SHALL be indicated by each driller and verified by Company representative. Time chargeable to Company on day rate basis SHALL be fully explained.

SIGNED B. Huber DRILLER

SIGNED E. Moore DRILLER

SIGNED G. J. J. J. J. DRILLER

COMPANY REPRESENTATIVE: Accuracy and Completeness are your responsibility.

SIGNED

Tabulate drilling time, when taken, on Form 3B-744 and mail with this form. Note depth each time bit pulled and reason for pulling and depth sharp bit run.

INDICATE DATE AND HOUR RIG RELEASED AND MARK LAST REPORT "FINAL"
IMPORTANT: ALL APPLICABLE SPACES MUST BE FILLED BEFORE MAILING. REPORT TO BE MAILED EACH DAY

THE ATLANTIC REFINING COMPANY

LOG: DRILLING WELL ☒ WORKOVER ☐

(Place "X" in proper space above. After TD is reached, if well is plugged back carry TD and Plugged Back Depth, each tour)

UNIT or LEASE Atlantic No. Circle River TRAC N.W.T. WELL NO. 1 DATE Jan. 1, 1961
 Name to be same as shown in permit to drill Designation
 FIELD Glacier Project CONTRACTOR Tri-City Drilling Co.
 SIZE HOLE 6 3/4 REDUCED AT 208' KIND OF TOOLS Rotary Fishing 250's
 KIND OF FUEL Diesel FURNISHED BY TAKCO FROM Storage NO. OF HOURS 24
 WATER FURNISHED BY TAKCO FROM Lake NO. OF HOURS 24

TOUR NO.	DEPTH		FORMATION OR CORE CORE INTERPRETATION MUST BE SIGNED	DATA AT END OF TOUR		
	FROM	TO		TOUR 1	TOUR 2	TOUR 3
I	1580	1580	- O' - Fishing. Howco spotted 4 bbl diesel fuel w/ 2 barrels in annulus and 2 bbl in P.P. Let diesel soak for 2 hours. Worked pipe w/ 50,000 pull indicated W.T. Tap pulled out of fish at 7:30 AM POH to inspect tap.	DRILL PIPE IN USE: SIZE <u>3 1/2 IF</u>	<u>3 1/2 IF</u>	<u>3 1/2 IF</u>
				LENGTH DRILL COLLARS <u>61.0</u>	<u>61.0</u>	<u>61.0</u>
				LENGTH DRILL PIPE <u>1442.0</u>	<u>1442.0</u>	<u>1442.0</u>
				KELLY DOWN <u>14.0</u>	<u>14.0</u>	<u>14.0</u>
				TOTAL IN HOLE <u>1517.0</u>	<u>1517.0</u>	<u>1517.0</u>
				DRILL BIT: SERIAL NO.		
				DRILL BIT: NUMBER		
				MAKE		
				TYPE		
				CORE BARREL: KIND		
				SIZE		
				CORE BIT: SERIAL NO.		
				CORE BIT: NUMBER		
				KIND		
				SIZE		
				STRAIGHT HOLE TEST AT		
				DEGREES OFF		
				MUD MATERIAL: KIND	AMOUNT	AMOUNT
				1		
				2		
				3		
				CHEMICAL: KIND	AMOUNT	AMOUNT
				1		
				2		
				3		
				4		
II	1580	1580	- O' - Fishing. Tap found to be OK. WITH JOP, 2-4 3/4 collars and tap, caught fish & worked w/ 60,000 indicated w/ - no movement of fish.	MUD TYPE <u>Water base: F.W. Gel</u>		
				MUD WEIGHT <u>8.5</u>	<u>8.4</u>	<u>8.4</u>
				VISCOSITY: 1500 cc IN 1 quart OUT <u>44</u>	<u>43</u>	<u>42</u>
				PH <u>11</u>	<u>11</u>	<u>10</u>
				WATER LOSS: cc <u>10</u>	<u>10.3</u>	<u>10.5</u>
				FILTER CAKE <u>2 1/32"</u>	<u>2 1/32"</u>	<u>2 1/32"</u>
				FOR COMPANY REPRESENTATIVE ONLY		
				DRILLING		
				CORING		
				DST. OPEN HOLE		
				LOGGING		
				CASING & WOC		
				DOWNTIME	<u>2 1/2</u>	<u>2</u>
				COMPLETING		
				LOSS CIRCULATION		
				FISHING	<u>5 1/2</u>	<u>8</u>
				CO. TIME w/ LP	<u>8</u>	<u>8</u>
				CO. TIME w/o /DP		
III	1580	1580	- O' - Worked stuck fish w/ 60-65,000 pull. Having engine trouble due to freezing fuel filters. Worked stuck fish w/ no results. Circulating freely at 200 psi PP Temp. - 50 moved to bbl diesel every 30 minutes			

Concise explanation of all delays and reasons therefor SHALL be indicated by each driller and verified by Company representative. Time chargeable to Company on day rate basis SHALL be fully explained.

TOUR No. 1 FROM 12:00 A M TO 2:00 P M DRILLING 2 1/2 HRS. TRIPPING 2 1/2 HRS. REPAIRS 2 1/2 HRS. OTHER: 8 5/4
12:00-12:30 Spotted diesel fuel; 12:30-4:45 Working stuck pipe; 4:45-7:00 Work on air lines; 7:00-7:30 Work fish; 7:30-8:00 P.O.H
 SIGNED B. Huber DRILLER

TOUR No. 2 FROM 8:00 A M TO 4:00 P M DRILLING 2 HRS. TRIPPING 2 HRS. REPAIRS 2 HRS. OTHER: 6
8:00-9:30 P.O.H; 9:30-9:45 Service Rig; 9:45-12:10 Running in to fish; 12:00-4:00 Working stuck pipe
 SIGNED R. Moore DRILLER

TOUR No. 3 FROM 4:00 P M TO 12:00 A M DRILLING 2 HRS. TRIPPING 2 HRS. REPAIRS 2 HRS. OTHER: 6
4:00-6:00 Work on meters fuel freezing off; 6:00-12:00 Work stuck pipe & circulate fish
 SIGNED B. Huber DRILLER

COMPANY REPRESENTATIVE: Accuracy and Completeness are your responsibility.

SIGNED H. B. Witter

Tabulate drilling time when taken, on Form JB-744 and nail with this form. Note depth each time bit pulled and reason for pulling and depth sharp bit run. INDICATE 1. AND HOUR RIG RELEASED AND MARK LAST REPORT "FINAL". IMPORTANT: APPLICABLE SPACES MUST BE FILLED BEFORE MAILING. REPORT TO BE MAILED EACH DAY

(Place "X" in proper space above. After TD is reached, if well is plugged back carry TD and Plugged Back Depth, each tour

OUR NO.	DEPTH		FORMATION OR CORE CORE INTERPRETATION MUST BE SIGNED	DATA AT END OF TOUR			
	FROM	TO		TOUR 1	TOUR 2	TOUR 3	
I 1578	1580	-2'- Drilled 15 mins. Driller noted decrease in string wt. w/oli & found pm of No. 8 of 8 collars put twisted off at 3rd. Thread from shoulder. PU 2-1/4 collars and tapered top & WITH & rec'd fish of 5 collars & found pm of No. 3 collar twisted off as above. Layed down Nos. 8, 7, & 3 collars	DRILL PIPE IN USE: SIZE 3 1/2" IF	3 1/2" IF	3 1/2" IF		
			LENGTH DRILL COLLARS 236.0	61.0	61.0		
			LENGTH DRILL PIPE 1329.0	1442.0	1442.0		
			KELLY DOWN 15.0	14.0	12.0		
			TOTAL IN HOLE 1584.0	1517.0	1517.0		
			DRILL BIT: SERIAL NO.				
			DRILL BIT: NUMBER				
			MAKE				
			TYPE				
			CORE BARREL: KIND				
			SIZE				
			CORE BIT: SERIAL NO.				
			CORE BIT: NUMBER				
			KIND				
			SIZE				
			STRAIGHT HOLE TEST AT DEGREES OFF				
			MUD MATERIAL: KIND	AMOUNT	AMOUNT		
			1. Supercol		268.0		
			2.				
			3.				
			CHEMICAL: KIND	AMOUNT	AMOUNT		
			1. Rayflo		25.0		
			2. Caustic		20.0		
			3. Liqlo		50.0		
			4.				
			MUD TYPE	White: F.W. Gel			
			MUD WEIGHT	9.4	9.2		
			VISCOSITY: 1500 cc IN 1 quart OUT	48	46		
			PH	10	10		
			WATER LOSS: cc	10.5	10.8		
			FILTER CAKE	2 1/2"	2 1/2"		
			FOR COMPANY REPRESENTATIVE ONLY				
			DRILLING	4 1/2			
			CORING				
			DST. OPEN HOLE				
			LOGGING				
			CASING & WOC				
			DOWNTIME				
			COMPLETING				
			LOSS CIRCULATION				
			FISHING	7 1/2	8		
			CO. TIME w/DP	8	8		
			CO. TIME w/o /DP		8		
II 1580	1580	-0'- fishing. WITH w/ DP, 2 collars, and tapered top to rec'd fish of 2 collars & bit w/ top fish at 1517. String wt: 20,000. Caught fish and worked WITH pull of 50,000, indicator. Top pulled out of fish at 11:00 AM, tripped to inspect top - found to be O.K. WITH & caught fish second time. Working WITH 50,000 pull & circulating freely					
III 1580	1580	-0'- working fish. Cleared mud tank, made new and prepared to spot drill fluid					

Concise explanation of all delays and reasons therefor SHALL be indicated by each driller and verified by Company representative. Time chargeable to Company on day rate basis SHALL be fully explained.

SIGNED B. Huber DRILLER

SIGNED K. Miller DRILLER

SIGNED G. P. Vasson DRILLER

COMPANY REPRESENTATIVE: Accuracy and Completeness are your responsibility.

SIGNED W. B. Halton
 The bit pulled and reason for pulling and depth sharp bit run

Tabulate drilling time, when taken, on Form 38-744 and mail with this form. Note depth each time bit pulled and reason for pulling and depth sharp bit run. INDICATE DATE AND HOUR RIG RELEASED AND MARK LAST REPORT "FINAL".

IMPORTANT: ALL APPLICABLE SPACES MUST BE FILLED BEFORE MAILING. REPORT TO BE MAILED EACH DAY

THE ATLANTIC REFINING COMPANY

LOG: DRILLING WELL ☒ WORKOVER ☐

(Place "X" in proper space above. After TD is reached, if well is plugged back carry TD and Plugged Back Depth, each tour)

UNIT or LEASE N. Circle River TRACT N.W.T. WELL NO. 1 DATE 12/30/60
 Name to be same as shown in permit to drill Designation
 FIELD Glacier Project CONTRACTOR The City Drilling Co.
 SIZE HOLE 6 1/2 REDUCED AT 208' KIND OF TOOLS Rotary Drilling
 KIND OF FUEL Diesel FURNISHED BY TAKCO FROM Storage NO. OF HOURS 24
 WATER FURNISHED BY TAKCO FROM Lake NO. OF HOURS 24

TOUR NO.	DEPTH		FORMATION OR CORE CORE INTERPRETATION MUST BE SIGNED	DATA AT END OF TOUR			TOUR 1	TOUR 2	TOUR 3
	FROM	TO		DRILL PIPE IN USE: SIZE	LENGTH DRILL COLLARS	LENGTH DRILL PIPE			
I	1498	1512	14'- Drilling Brown shale. Pin of No. 10 D.C. twisted off at 1:15 A.M. at 1238' while drilling 3000 ft. 1 1/4". There were 12-4 3/4" D.C.s with 12,000 lbs. Bit Weight. PCH and WITH with tapered top & recovered fish of 9-4 3/4" D.C.s plus bit. Pin broke 3 threads below collar shoulder.	3 1/2 IF	357.0	1155.0	3 1/2 IF	297.0	1128.0
				KELLY DOWN					
				TOTAL IN HOLE					
				DRILL BIT: SERIAL NO.					
				DRILL BIT: NUMBER					
				MAKE					
				TYPE					
				CORE BARREL: KIND					
				SIZE					
				CORE BIT: SERIAL NO.					
				CORE BIT: NUMBER					
				KIND					
				SIZE					
				STRAIGHT HOLE TEST AT					
				GREENS OFF					
				MUD MATERIAL: KIND	AMOUNT	AMOUNT	AMOUNT	AMOUNT	AMOUNT
				1.					
				2.					
				3.					
				CHEMICAL: KIND	AMOUNT	AMOUNT	AMOUNT	AMOUNT	AMOUNT
				1.					
				2.					
				3.					
				4.					
II	1512	1535	23'- Drilled in Brown shale from 10:00 A.M. to 11:30 A.M. when pin of No. 10 collar of 102H twisted off with top fish of 1261'. PCH & WITH w/ tapered tapered top & recovered fish of 9-4 3/4" D.C.s and bit. Pin twisted off same as above.	MUD TYPE <u>Mud Integ. FW Gel</u>					
				MUD WEIGHT					
				VISCOSITY: 1500 cc IN 1 quart OUT					
				PH					
				WATER LOSS: cc					
				FILTER CAKE					
				FOR COMPANY REPRESENTATIVE ONLY					
				DRILLING					
				CORING					
				DST. OPEN HOLE					
				LOGGING					
				CASING & WOC					
				DOWNTIME					
				COMPLETING					
				LOSS CIRCULATION					
				FISHING					
				CO. TIME w/ DP					
				CO. TIME w/o / DP					
III	1535	1578	43'- Drilled brown shale to 1555 and shale & lines to 1555 to 1578						

Concise explanation of all delays and reasons therefor SHALL be indicated by each driller and verified by Company representative. Time chargeable to Company on day rate basis SHALL be fully explained.

TOUR No. 1 FROM 12:00 P.M. TO 8:00 P.M. DRILLING 1 1/2 HRS. TRIPPING 1 HRS. REPAIRS 1 HRS. OTHER: 5 1/2
12:00-1:15 Drilg - twisted off; 1:15-6:00 PCH to run tapered top; 6:00-7:00 Nail fangs; 7:00-7:30 PCH w/ D.C.s to check bit; 7:30-8:00 GTH w/ Bit -
 SIGNED B. Huber DRILLER
 TOUR No. 2 FROM 8:00 A.M. TO 4:00 P.M. DRILLING 1 1/2 HRS. TRIPPING 1 HRS. REPAIRS 1 HRS. OTHER: 6 1/2
8:00-9:30 GTH w/ Bit; 9:30-10:00 Ser. Rtg & Dress Hydral to 1000 psi - OK
10:00-11:30 Drilg; 11:30-12:30 PCH to fish; 12:30-4:00 Run in hole to fish & recover fish.
 SIGN D. K. Miller DRILLER
 TOUR No. 3 FROM 4:00 P.M. TO 12:00 P.M. DRILLING 6 1/2 HRS. TRIPPING 1 1/2 HRS. REPAIRS 1 HRS. OTHER: 1
4:00-5:30 Run in hole; 5:30-12:00 - Drilg.

SIGNED G. Pearson DRILLER
 SIGNED H. H. Miller

COMPANY REPRESENTATIVE: Accuracy and Completeness are your responsibility.
 Tabulate drilling time; when taken, on Form 3B-74 and mail with this form. Note depth each time bit pulled and reason for pulling and depth sharp bit run.
 INDICATE DATE AND HOUR RIG RELEASED AND MARK LAST REPORT "FINAL".
 IMPORTANT: ALL APPLICABLE SPACES MUST BE FILLED BEFORE MAILING. REPORT TO BE MAILED EACH DAY

THE ATLANTIC REFINING COMPANY

LOG: DRILLING WELL ☒ WORKOVER ☐

(Place "X" in proper space above. After TD is reached, if well is plugged back carry TD and Plugged Back Depth, each tour)

UNIT OF LEASE Atlantic Creek River TRACT N. 1/4 T. 1 WELL NO. 1 DATE 12/29/60
 Name to be same as shown in permit to drill Designation
 FIELD Glacier Project CONTRACTOR The City Drilling Co.
 SIZE HOLE 6 1/2" REDUCED AT 208' KIND OF TOOLS Rotary; Fulmer 500
 KIND OF FUEL Diesel FURNISHED BY TAKCO FROM Storage NO. OF HOURS 24
 WATER FURNISHED BY TAKCO FROM LAKE NO. OF HOURS 24

TOUR NO.	DEPTH		FORMATION OR CORE CORE INTERPRETATION MUST BE SIGNED	DATA AT END OF TOUR			
	FROM	TO		TOUR 1	TOUR 2	TOUR 3	
I	1329	1396	67'-Drilling	DRILL PIPE IN USE: SIZE	3 1/2 IF	3 1/2 IF	3 1/2 IF
				LENGTH DRILL COLLARS	357.0	357.0	357.0
				LENGTH DRILL PIPE	1022.0	1053.0	1116.0
				KELLY DOWN	17.0	18.0	357.0
				TOTAL IN HOLE	1396.0	1428.0	1498.0
II	1396	1428	32'-Drilling & Trip	DRILL BIT: SERIAL NO.	37224	37224	70192
				DRILL BIT: NUMBER	9	9	10
				MAKE	HTC	HTC	HTC
				TYPE	CWV	CWV	CWV
				CORE BARREL: KIND			
				SIZE			
				CORE BIT: SERIAL NO.			
				CORE BIT: NUMBER			
				KIND			
				SIZE			
				STRAIGHT HOLE TEST AT		1428	
				DEGREES OFF		1	
				MUD MATERIAL: KIND	AMOUNT	AMOUNT	AMOUNT
				1. Super 100		22.50	10.50
				2.			
				3.			
				CHEMICAL: KIND	AMOUNT	AMOUNT	AMOUNT
				1. Kalylo		75	
				2. Caustic		10	
				3.			
				4.			
				MUD TYPE	Mudwhite: Gel		
				MUD WEIGHT	10.3	8.4	8.9
				VISCOSITY: 1500 cc IN 1 quart OUT	40.0	55	34
				PH	9.0	9	5
				WATER LOSS: cc	10.3	10.5	10.0
				FILTER CAKE	2 1/32"	2 1/32"	2 1/32"
				FOR COMPANY REPRESENTATIVE ONLY			
				DRILLING	8	8	8
				CORING			
				DST. OPEN HOLE			
				LOGGING			
				CASING & WOC			
				DOWNTIME			
				COMPLETING			
				LOSS CIRCULATION			
				FISHING			
				CO. TIME w/DP	8	8	8
				CO. TIME w/o /DP			

Concise explanation of all delays and reasons therefor SHALL be indicated by each driller and verified by Company representative. Time chargeable to Company on day rate basis SHALL be fully explained.

TOUR No. 1 FROM 2:00 PM TO 8:00 PM DRILLING 8 HRS. TRIPPING 0 HRS. REPAIRS 0 HRS. OTHER: 0

12:00 - 8:00 Drilling

SIGNED B. Hinder DRILLER

TOUR No. 2 FROM 8:00 AM TO 4:00 PM DRILLING 4 1/2 HRS. TRIPPING 3 1/2 HRS. REPAIRS 0 HRS. OTHER: 1

8:00-8:15. Set Rq; 8:15-8:20 Hrs. to 9:40 Hrs. 8:30-1:00 Drilling; 1:00-1:30-Set Rq; 1:30-4:00 Trip for Bit

SIGNED K. W. Moore DRILLER

TOUR No. 3 FROM 4:00 PM TO 12:00 AM DRILLING 3 1/2 HRS. TRIPPING 0 HRS. REPAIRS 0 HRS. OTHER: 4 1/2

4:00-8:00 mixing mud; 8:00-8:15-Set Rq; 8:15-8:20 Displace 1 1/2 c; 8:30-12:00 Drilling

SIGNED B. Hinder DRILLER

COMPANY REPRESENTATIVE: Accuracy and Completeness are your responsibility.

SIGNED B. Hinder

Tabulate drilling time, when taken, on Form 3B-744 and mail with this form. Note depth each time bit pulled and reason for pulling and depth sharp bit run. INDICATE DATE AND HOUR RIG RELEASED AND MARK LAST REPORT "FINAL". IMPORTANT: ALL APPLICABLE SPACES MUST BE FILLED BEFORE MAILING. REPORT TO BE MAILED EACH DAY

THE ATLANTIC REFINING COMPANY
LOG: DRILLING WELL ☒ WORKOVER ☐

(Place "X" in proper space above. After TD is reached, if well is plugged back carry TD and Plugged Back Depth, each tour)

UNIT or LEASE Atlantic N. Circle River TRACT N.W.T. WELL NO. 1 DATE 12/28/60
Name to be same as shown in permit to drill Designation
FIELD Elmer Project CONTRACTOR T. C. Dwyer Co
SIZE HOLE 6 1/2 REDUCED AT 305 KIND OF TOOLS Rotary Fishing 2500
KIND OF FUEL Diesel FURNISHED BY TARCO FROM Bridge NO. OF HOURS 24
WATER FURNISHED BY TARCO FROM Lake NO. OF HOURS 24

TOUR NO.	DEPTH		FORMATION OR CORE CORE INTERPRETATION MUST BE SIGNED	DATA AT END OF TOUR			TOUR 1	TOUR 2	TOUR 3
	FROM	TO		DRILL PIPE IN USE: SIZE	LENGTH DRILL COLLARS	LENGTH DRILL PIPE			
I	1251	1280	- 29' - Drilling	KELLY DOWN	357.0	899.0	357.0	357.0	357.0
II	1280	1280	- 0' - DST No. 1	TOTAL IN HOLE	24.0	24.0	1250.0	1280	1329.0
III	1280	1329	- 49' - Drilling	DRILL BIT: SERIAL NO.	37232	37234	37232	37234	37234
				DRILL BIT: NUMBER	8	9	8	9	9
				MAKE	HTC	HTC	HTC	HTC	HTC
				TYPE	OWN	OWN	OWN	OWN	OWN
				CORE BARREL: KIND					
				SIZE					
				CORE BIT: SERIAL NO.					
				CORE BIT: NUMBER					
				KIND					
				SIZE					
				STRAIGHT HOLE TEST AT					
				DEGREES OFF					
				MUD MATERIAL: KIND	AMOUNT	AMOUNT	AMOUNT	AMOUNT	AMOUNT
				1.					
				2.					
				3.					
				CHEMICAL: KIND	AMOUNT	AMOUNT	AMOUNT	AMOUNT	AMOUNT
				1.					
				2.					
				3.					
				4.					
				MUD TYPE	Willamette: #1				
				MUD WEIGHT	10.5		10.5		10.2
				VISCOSITY: 1500 cc IN 1 quart OUT	42.0		35.0		35.0
				PH	9.5		9.5		9.5
				WATER LOSS: cc	9.1		10.2		10.2
				FILTER CAKE	2 1/32"	1/32"	2 1/32"		2 1/32"
				FOR COMPANY REPRESENTATIVE ONLY					
				DRILLING	6				8
				CORING					
				DST. OPEN HOLE	2	5			
				LOGGING					
				CASING & WOC					
				DOWNTIME					
				COMPLETING					
				LOSS CIRCULATION					
				FISHING					
				CO. TIME w/DP	8	5			8
				CO. TIME w/o /DP					

Concise explanation of all delays and reasons therefor SHALL be indicated by each driller and verified by Company representative. Time chargeable to Company on day rate basis SHALL be fully explained.

TOUR No. 1 FROM 12:00 A.M. to 8:00 A.M. DRILLING 6 HRS. TRIPPING 1 HRS. REPAIRS HRS. OTHER: 1
12:00 - 6:00 Drilling 6:00 - 6:15 Circulate 6:15 - 7:15 H.M.T. w/ Test
7:15 - 8:00 WOC up to 10' foot

SIGNED P. Huber DRILLER

TOUR No. 2 FROM 8:00 A.M. to 4:00 P.M. DRILLING HRS. TRIPPING HRS. REPAIRS HRS. OTHER: 8
8:00 - 8:15 Circulate 8:15 - 8:45 H.M.T. up to 10' to 11:00 P.M. 8:45 - 11:00 C.M.H
To Test 10:00 - 12:45 Testing 12:45 - 3:00 P.M. 1:00 - 1:30 P.M. 2:00 - 4:00 C.M.H
w/ T.T.

SIGNED R. Moore DRILLER

TOUR No. 3 FROM 4:00 P.M. to 12:00 A.M. DRILLING 7 1/2 HRS. TRIPPING HRS. REPAIRS HRS. OTHER: 1 1/2
4:00 - 4:30 Running up 4:30 - 8:45 Drilling 8:45 - 9:00 50' H.M.T. Rig
9:00 - 12:00 Drilling

SIGNED P. Huber DRILLER

COMPANY REPRESENTATIVE: Accuracy and Completeness are your responsibility. SIGNED P. Huber
Tabulate drilling time, when taken, on Form 3B-744 and mail with this form. Note depth each time bit pulled and reason for pulling and depth sharp bit run.
INDICATE DATE AND HOUR RIG RELEASED AND MARK LAST REPORT "FINAL".
IMPORTANT: ALL APPLICABLE SPACES MUST BE FILLED BEFORE MAILING. REPORT TO BE MAILED EACH DAY

(Place "X" in proper space above. After TD is reached, if well is plugged back carry TD and Plugged Back Depth, each tour)

TOUR NO.	DEPTH		FORMATION OR CORE CORE INTERPRETATION MUST BE SIGNED	NO. OF HOURS			
	FROM	TO		DATA AT END OF TOUR			
				TOUR 1	TOUR 2	TOUR 3	
I	1029	1126	- 97' Drilg. Ls.	DRILL PIPE IN USE: SIZE	3 1/2 IF	3 1/2 IF	3 1/2 IF
				LENGTH DRILL COLLARS	257.0	257.0	257.0
				LENGTH DRILL PIPE	743.0	867.0	867.0
				KELLY DOWN	26.0	9.0	27.0
				TOTAL IN HOLE	1126.0	1233.0	1251.0
II	1126	1233	- 107' DiHo	DRILL BIT: SERIAL NO.	72736	77284	37222
				DRILL BIT: NUMBER	6	7	8
				MAKE	HTC	HTC	HTC
				TYPE	CSC	CSC	ONV
				CORE BARREL: KIND			
				SIZE			
				CORE BIT: SERIAL NO.			
				CORE BIT: NUMBER			
				KIND			
				SIZE			
				STRAIGHT HOLE TEST AT DEGREES OFF	1040		1242
					1		1
				MUD MATERIAL: KIND	AMOUNT	AMOUNT	AMOUNT
				1.			
				2.			
				3.			
				CHEMICAL: KIND	AMOUNT	AMOUNT	AMOUNT
				1.			
				2.			
				3.			
				4.			
				MUD TYPE	Mud	Water	Gel
				MUD WEIGHT	10.3	10.4	10.5
				VISCOSITY: 1500 cc IN 1 quart OUT	41.0	38.0	42.0
				PH	10.0	9.0	9.0
				WATER LOSS: cc	10.2	9.0	9.1
				FILTER CAKE	2/32"	2/32"	2/32"
				FOR COMPANY REPRESENTATIVE ONLY			
				DRILLING	8	8	8
				CORING			
				DST. OPEN HOLE			
				LOGGING			
				CASING & WOC			
				DOWNTIME			
				COMPLETING			
				LOSS CIRCULATION			
				FISHING			
				CO. TIME w/DP	8	8	8
				CO. TIME w/o DP			

Concise explanation of all delays and reasons therefor SHALL be indicated by each driller and verified by Company representative. Time chargeable to Company on day rate basis SHALL be fully explained.

TOUR No. 2 FROM 8:00 A.M. TO 4:00 P.M. DRILLING 7 1/2 HRS. TRIPPING _____ HRS. REPAIRS _____ HRS. OTHER: 1/2
8:00-8:15 Service Log, 8:15-8:30 Ho-sure up L.P. to MCC - OK, 8:30-4:00 Drilling

COMPANY REPRESENTATIVE: Accuracy and Completeness are your responsibility.
 Tabulate drilling time, when taken, on Form 3B-744 and mail with this form. Note depth each time.
 INDICATE DATE AND HOUR RIG RELEASED AND MARK LAST REPORT "FINAL".
IMPORTANT: ALL APPLICABLE SPACES MUST BE FILLED BEFORE MAILING. REPORTS DUE EVERY DAY.

THE ATLANTIC REFINING COMPANY

LOG: DRILLING WELL ☒ WORKOVER ☐

(Place "X" in proper space above. After TD is reached, if well is plugged back carry TD and Plugged Back Depth, each tour)

UNIT or LEASE Atlantic N. Circle River TRACT N.W.T. WELL NO. 1 DATE 12/15/60
 Name to be same as shown in permit to drill Designation
 FIELD Glacier Project CONTRACTOR T. City Drilling Co.
 SIZE HOLE 6 1/4 REDUCED AT 313' KIND OF TOOLS Relay Paving 2500
 KIND OF FUEL Diesel FURNISHED BY TAKCO FROM Storage NO. OF HOURS 24
 WATER FURNISHED BY TAKCO FROM Lake NO. OF HOURS 24

TOUR NO.	DEPTH		FORMATION OR CORE CORE INTERPRETATION MUST BE SIGNED	DATA AT END OF TOUR			TOUR 1	TOUR 2	TOUR 3
	FROM	TO		DRILL PIPE IN USE: SIZE	LENGTH DRILL COLLARS	LENGTH DRILL PIPE			
<u>I</u>	<u>626</u>	<u>819</u>	<u>-193'-Drilling</u>		<u>357.0</u>	<u>437.0</u>	<u>32</u>	<u>32</u>	<u>32</u>
				KELLY DOWN	<u>25.0</u>	<u>25.0</u>			
				TOTAL IN HOLE	<u>819.0</u>	<u>945.0</u>			
<u>II</u>	<u>819</u>	<u>945</u>	<u>-126'-Drilling</u>	DRILL BIT: SERIAL NO.	<u>61539</u>	<u>72736</u>			
				DRILL BIT: NUMBER	<u>5</u>	<u>6</u>			
				MAKE	<u>HTC</u>	<u>HTC</u>			
				TYPE	<u>CSC</u>	<u>CSC</u>			
<u>III</u>	<u>945</u>	<u>1029</u>	<u>-84'-Drilling</u>	CORE BARREL: KIND					
				SIZE					
				CORE BIT: SERIAL NO.					
				CORE BIT: NUMBER					
				KIND					
				SIZE					
				STRAIGHT HOLE TEST AT	<u>700</u>				
				DEGREES OFF	<u>1</u>				
				MUD MATERIAL: KIND	<u>Supercol</u>				
				AMOUNT		<u>8500</u>			
				CHEMICAL: KIND	<u>Kayfilc</u>				
				AMOUNT		<u>50</u>			
				MUD TYPE	<u>White Gel</u>				
				MUD WEIGHT	<u>9.6</u>	<u>10</u>			
				VISCOSITY: 1500 cc IN 1 quart OUT	<u>35</u>	<u>38</u>			
				PH	<u>11</u>	<u>11</u>			
				WATER LOSS: cc	<u>12</u>	<u>10</u>			
				FILTER CAKE	<u>2/32"</u>	<u>2/32"</u>			
				FOR COMPANY REPRESENTATIVE ONLY					
				DRILLING	<u>8</u>	<u>8</u>			
				CORING					
				DST. OPEN HOLE					
				LOGGING					
				CASING & WOC					
				DOWNTIME					
				COMPLETING					
				LOSS CIRCULATION					
				FISHING					
				CO. TIME w/DP	<u>8</u>	<u>8</u>			
				CO. TIME w/o /DP					

Concise explanation of all delays and reasons therefor SHALL be indicated by each driller and verified by Company representative. Time chargeable to Company on day rate basis SHALL be fully explained.

TOUR No. 1 FROM 12:00 AM TO 8:00 AM DRILLING 5 3/4 HRS. TRIPPING 1 3/4 HRS. REPAIRS 0 HRS. OTHER: V2
12:00-12:45 Drilling; 12:45-1:00 Set Rig; 1:00-3:15 Drilling; 3:15-3:30 Run Survey; 3:30-5:15 Trip for Bit; 5:15-8:00 Drilling.

SIGNED B. Muller DRILLER
 TOUR No. 2 FROM 8:00 PM TO 4:00 PM DRILLING 6 HRS. TRIPPING 0 HRS. REPAIRS 1 1/4 HRS. OTHER: V2
8:00-8:15 Set Rig; 8:15-8:30 Hoss up 402-OK; 8:30-10:15 Drilling; 10:15-11:45 Work on 402-1st 11:45 OK-11:55 mud; 11:55-2:00 Drilling

SIGNED R. Muller DRILLER
 TOUR No. 3 FROM 4:00 PM TO 12:00 AM DRILLING 2 1/4 HRS. TRIPPING 0 HRS. REPAIRS 0 HRS. OTHER: V2
4:00-7:30 Drilling; 7:30-8:30 Jack up rig; 8:30-8:45 Set Rig; 8:45-12:00 Drilling

SIGNED B. Muller DRILLER

COMPANY REPRESENTATIVE: Accuracy and Completeness are your responsibility.

SIGNED B. Muller

Tabulate drilling time, when taken, on Form 3B-744 and mail with this form. Note depth each time bit pulled and reason for pulling and depth sharp bit run.

INDICATE DATE AND HOUR RIG RELEASED AND MARK LAST REPORT "FINAL"

IMPORTANT: ALL APPLICABLE SPACES MUST BE FILLED BEFORE MAILING. REPORT TO BE MAILED EACH DAY

THE ATLANTIC REFINING COMPANY

LOG: DRILLING WELL ☒ WORKOVER ☐

(Place "X" in proper space above. After TD is reached, if well is plugged back carry TD and Plugged Back Depth, each tour)

UNIT or LEASE Atlantic N. Creek River TRACT N.W.T. WELL NO. 1 DATE 12/25/60
 Name to be same as shown in permit to drill Designation
 FIELD Glacier Project CONTRACTOR The City Drilling Co.
 SIZE HOLE 6 1/2 REDUCED AT 213' KIND OF TOOLS Rotary Drilling 2500
 KIND OF FUEL Diesel FURNISHED BY TAKCO FROM Storage NO. OF HOURS 24
 WATER FURNISHED BY TAKCO FROM Lake NO. OF HOURS 24

TOUR NO.	DEPTH		FORMATION OR CORE CORE INTERPRETATION MUST BE SIGNED	DATA AT END OF TOUR			TOUR 1	TOUR 2	TOUR 3
	FROM	TO		DRILL PIPE IN USE: SIZE	LENGTH DRILL COLLARS	LENGTH DRILL PIPE			
<u>I</u>	<u>334</u>	<u>381</u>	<u>-47' - Drilling</u>		<u>357.0</u>	<u>3.0</u>	<u>3 1/2</u>	<u>357.0</u>	<u>253.0</u>
				KELLY DOWN	<u>21.0</u>	<u>14.0</u>		<u>16.0</u>	
				TOTAL IN HOLE	<u>381.0</u>	<u>436.0</u>		<u>626.0</u>	
				DRILL BIT: SERIAL NO.	<u>37238</u>	<u>61539</u>		<u>61539</u>	
				DRILL BIT: NUMBER	<u>4</u>	<u>5</u>		<u>5</u>	
				MAKE	<u>HTC</u>	<u>HTC</u>		<u>HTC</u>	
				TYPE	<u>QWV</u>	<u>QSC</u>		<u>QSC</u>	
				CORE BARREL: KIND					
				SIZE					
				CORE BIT: SERIAL NO.					
				CORE BIT: NUMBER					
				KIND					
				SIZE					
				STRAIGHT HOLE TEST AT DEGREES OFF		<u>381</u>		<u>3/4</u>	
				MUD MATERIAL: KIND	AMOUNT	AMOUNT		AMOUNT	
				1. <u>Supercut</u>	<u>3.50</u>				
				2.					
				3.					
				CHEMICAL: KIND	AMOUNT	AMOUNT		AMOUNT	
				1. <u>Kay 110</u>	<u>50.0</u>				
				2. <u>Lige</u>	<u>15.0</u>				
				3. <u>Caustic</u>	<u>25.0</u>				
				4.					
				MUD TYPE	<u>White Gel</u>				
				MUD WEIGHT	<u>9</u>	<u>8.7</u>		<u>8.7</u>	
				VISCOSITY: 1500 cc IN 1 quart OUT	<u>53</u>	<u>42</u>		<u>32</u>	
				PH	<u>11</u>	<u>11</u>		<u>11</u>	
				WATER LOSS: cc	<u>12</u>	<u>12</u>		<u>12</u>	
				FILTER CAKE	<u>2/32"</u>	<u>2/32"</u>		<u>2/32"</u>	
FOR COMPANY REPRESENTATIVE ONLY									
TIME ANALYSIS CO. TIME	DRILLING	<u>8</u>	<u>8</u>	<u>8</u>					
	CORING								
	DST. OPEN HOLE								
	LOGGING								
	CASING & WOC								
	DOWNTIME								
	COMPLETING								
	LOSS CIRCULATION								
	FISHING								
	CO. TIME w/ DP	<u>8</u>	<u>8</u>	<u>8</u>					
	CO. TIME w/o DP								

Concise explanation of all delays and reasons therefor SHALL be indicated by each driller and verified by Company representative. Time chargeable to Company on day rate basis SHALL be fully explained.

TOUR No. 1 FROM 12:00 PM to 8:00 AM DRILLING 6 1/2 HRS. TRIPPING 1 1/2 HRS. REPAIRS HRS. OTHER:
12:00-1:15 Trip for bit; 1:15-5:00 Drilling
1

SIGNED B. Huber DRILLER

TOUR No. 2 FROM 8:00 AM to 4:00 PM DRILLING 6 HRS. TRIPPING 2 HRS. REPAIRS HRS. OTHER:
8:00-8:15 Service Rig; 8:15-8:45 Survey; 8:45-10:45 Trip for bit; 10:45-11:30 Drilling
11:30-3:15 Drilling; 3:15-3:30 Reversing; 3:30-4:00 Drilling

SIGNED R. H. H. H. DRILLER

TOUR No. 3 FROM 4:00 PM to 12:00 AM DRILLING 8 HRS. TRIPPING HRS. REPAIRS HRS. OTHER:
4:00-12:00 Drilling

SIGNED B. Huber DRILLER

COMPANY REPRESENTATIVE: Accuracy and Completeness are your responsibility. SIGNED W. K. W. W.
 Tabulate drilling time, when taken, on Form 3B-744 and mail with this form. Note depth each time bit pulled and reason for pulling and depth sharp bit run. INDICATE DATE AND HOUR RIG RELEASED AND MARK LAST REPORT "FINAL".
IMPORTANT: ALL APPLICABLE SPACES MUST BE FILLED BEFORE MAILING. REPORT TO BE MAILED EACH DAY

THE ATLANTIC REFINING COMPANY
LOG: DRILLING WELL ☒ WORKOVER ☐

(Place "X" in proper space above. After TD is reached, if well is plugged back carry TD and Plugged Back Depth, each tour)

UNIT or LEASE Atlantic N. Circle River TRACT N.W.T. WELL NO. 1 DATE 12/24/60
Name to be same as shown in permit to drill Designation
FIELD Glauco Project CONTRACTOR T. City Drilling Co.
SIZE HOLE 6 1/4 REDUCED AT 213' KIND OF TOOLS Rotary Fishing 2500
KIND OF FUEL Diesel FURNISHED BY TAHCO FROM Storage NO. OF HOURS 24
WATER FURNISHED BY TAHCO FROM Lake NO. OF HOURS 24

TOUR NO.	DEPTH		FORMATION OR CORE CORE INTERPRETATION MUST BE SIGNED	DATA AT END OF TOUR	TOUR 1	TOUR 2	TOUR 3
	FROM	TO					
I	213	213	-0'- Slack off on casing at 500 ft. & Nipple up	DRILL PIPE IN USE: SIZE LENGTH DRILL COLLARS LENGTH DRILL PIPE KELLY DOWN TOTAL IN HOLE			3 1/2 298.0 3.0 33.0 334.0
II	213	213	-0'- Nipple up & install Shalter & Hydril Bore, tested Bore & casing at 1500 pounds for 15 minutes - hold OK.	DRILL BIT: SERIAL NO. DRILL BIT: NUMBER MAKE TYPE CORE BARREL: KIND SIZE CORE BIT: SERIAL NO. CORE BIT: NUMBER KIND SIZE			47285 3 HTC CSC
III	213	334	-121'- Drilled out shoe Drilling in shale	STRAIGHT HOLE TEST AT DEGREES OFF MUD MATERIAL: KIND 2. 3. CHEMICAL: KIND 1. Kaylo 2. Ligeo 3. Caustic 4.	AMOUNT	AMOUNT	AMOUNT 215.0 20.0 20.0 10.0
			210-280 grey shale 280- 6' brown shale 2 = hole	MUD TYPE MUD WEIGHT VISCOSITY: 1500 cc IN 1 quart OUT PH WATER LOSS: cc FILTER CAKE			Mudate: Gel 8.7 50 11 12 2/32"
				FOR COMPANY REPRESENTATIVE ONLY			
				DRILLING			8
				CORING			
				DST. OPEN HOLE			
				LOGGING			
				CASING & WOC	8	8	
				DOWNTIME			
				COMPLETING			
				LOSS CIRCULATION			
				FISHING			
				CO. TIME w/ DP			2
				CO. TIME w/o DP	8	8	2

Concise explanation of all delays & reasons therefor SHALL be indicated by each tour and verified by Company representative. Time chargeable to Company on day rate basis SHALL be fully explained.

TOUR No. 1 FROM 12:00 A.M. TO 8:00 A.M. DRILLING 8 HRS. TRIPPING 8 HRS. REPAIRS 8 HRS. OTHER: 8
12:00-5:00 No. 1, 500 ft. Slack off & lead up

SIGNED B. Huber DRILLER

TOUR No. 2 FROM 8:00 A.M. TO 4:00 P.M. DRILLING 8 HRS. TRIPPING 8 HRS. REPAIRS 8 HRS. OTHER: 8
8:00-2:00 N.W.T. casing, 2:00-3:00 Run in hole & then Kelly 3:00-3:45 Clean mud tank; 3:45-4:00 Press. up BOP

SIGNED R. Wierse DRILLER

TOUR No. 3 FROM 4:00 P.M. TO 12:00 A.M. DRILLING 4 HRS. TRIPPING 4 HRS. REPAIRS 4 HRS. OTHER: 4
4:00-5:45 Drilling out shoe, 5:45-8:00 Clean mud tank & run mud; 8:00-12:00 Drilling

SIGNED Z. Huber DRILLER

COMPANY REPRESENTATIVE: Accuracy and Completeness are your responsibility.

SIGNED W. K. Walters

Tabulate drilling time, when taken, on Form 3B-744 and mail with this form. Note depth each time bit pulled and reason for pulling and depth sharp bit run. INDICATE DATE AND HOUR RIG RELEASED AND MARK LAST REPORT "FINAL". IMPORTANT: ALL APPLICABLE SPACES MUST BE FILLED BEFORE MAILING. REPORT TO BE MAILED EACH DAY

(Place "X" in proper space above. After TD is reached, i' well is plugged back carry TD and Plugged Back Depth, each tour)

TOUR	DEPTH	FORMATION OR CORE	DATA AT END OF TOUR	TOUR 1	TOUR 2	TOUR 3
------	-------	-------------------	---------------------	--------	--------	--------

Concise explanation of all delays and reasons therefor SHALL be indicated by each driller and verified by Company representative. Time chargeable to Company on day rate basis SHALL be fully explained.

SIGNED *P. Huber* DRILLER

SIGNED *H. Sand* DRILLER

SIGNED R. H. Lee

3B-10E--4-57

SIZE: 7 (TOP TO BOTTOM)

[illegible]

SETTING DATA

XMAS TREE:

SHOE:	Guide, Half Luted	100
SET JT.		33 51
COLLAR	- Inset Float	
	5 JTS PIPE	165 22
TOTAL		199 73
RKS TO BHF		3 50
DEPTH SET		205 23

PICKUP JT.:
PACKER:

PIPE TALLY

	QTY	UNIT PRICE	TOTAL
100	100	100	100
200	200	200	200
300	300	300	300
400	400	400	400
500	500	500	500
600	600	600	600
700	700	700	700
800	800	800	800
900	900	900	900
1000	1000	1000	1000
SUB TOTALS			

[illegible]

THE ATLANTIC REFINING COMPANY

LOG: DRILLING WELL ☒ WORKOVER ☐

(Place "X" in proper space above. After TD is reached, if well is plugged back carry TD and Plugged Back Depth, each tour.)

UNIT or LEASE N. Circle River No. 1 TRACT N.W.T. WELL NO. 1 DATE 12/23/60
 Name to be same as shown in permit to drill Designation
 FIELD Glauco Project CONTRACTOR Tri-City Drilling Co.
 SIZE HOLE 13 3/4 REDUCED AT Surface KIND OF TOOLS Rotary: Forcing 2500
 KIND OF FUEL Diesel FURNISHED BY TAKCO FROM Storage NO. OF HOURS 24
 WATER FURNISHED BY TAKCO FROM Lake NO. OF HOURS 24

TOUR NO.	DEPTH		FORMATION OR CORE CORE INTERPRETATION MUST BE SIGNED	DATA AT END OF TOUR			
	FROM	TO		TOUR 1	TOUR 2	TOUR 3	
<u>I</u>	<u>72</u>	<u>72</u>	<u>0' - W.C.C.</u>	DRILL PIPE IN USE: SIZE			
				LENGTH DRILL COLLARS			
				LENGTH DRILL PIPE			
				KELLY DOWN			
				TOTAL IN HOLE			
<u>II</u>	<u>72</u>	<u>72</u>	<u>0' - W.C.C.; Slacked off on casing at 8:45</u>	DRILL BIT: SERIAL NO.			
				DRILL BIT: NUMBER			
				MAKE			
				TYPE			
<u>III</u>	<u>72</u>	<u>72</u>	<u>0' - Rotabrig; Installed BCP & tested to 1000 psi for 15 mins - OK Drilled out shoe Dumped and cleaned mud tank</u>	CORE BARREL: KIND			
				SIZE			
				CORE BIT: SERIAL NO.			
				CORE BIT: NUMBER			
				KIND			
				SIZE			
				STR' GHT HOLE TEST AT DEGREES OFF			
				MUD MATERIAL: KIND	AMOUNT	AMOUNT	AMOUNT
				1.			
				2.			
				3.			
				CHEMICAL: KIND	AMOUNT	AMOUNT	AMOUNT
				1.			
				2.			
				3.			
				4.			
				MUD TYPE <u>Milwhite</u>			<u>Spud</u>
				MUD WEIGHT			
				VISCOSITY: 1500 cc IN 1 quart OUT			
				PH			
				WATER LOSS: cc			
				FILTER CAKE	/32"	/32"	/32"
FOR COMPANY REPRESENTATIVE ONLY							
TIME ANALYSIS CO. TIME	DRILLING						<u>8</u>
	CORING						
	DST. OPEN HOLE						
	LOGGING						
	CASING & WOC			<u>8</u>	<u>8</u>		
	DOWNTIME						
	COMPLETING						
	LOSS CIRCULATION						
	FISHING						
	CO. TIME w/ DP						<u>1</u>
	CO. TIME w/o DP			<u>8</u>	<u>8</u>		<u>7</u>

Concise explanation of all delays and reasons therefor SHALL be indicated by each driller and verified by Company representative. Time chargeable to Company on day rate basis SHALL be fully explained.

TOUR No. 1 FROM 12:00 AM TO 8:00 AM DRILLING _____ HRS. TRIPPING _____ HRS. REPAIRS _____ HRS. OTHER: 8
12:00 - 8:00 W.C.C.

SIGNED B. Huber DRILLER

TOUR No. 2 FROM 8:00 AM TO 4:00 PM DRILLING _____ HRS. TRIPPING _____ HRS. REPAIRS _____ HRS. OTHER: 8
8:00 - 8:45 W.C.C. 8:45 - 4:00 Slack off & headup.

SIGNED _____ DRILLER

TOUR No. 3 FROM 4:00 PM TO 8:00 AM DRILLING _____ HRS. TRIPPING _____ HRS. REPAIRS _____ HRS. OTHER: 8
4:00 - 8:00 Headup (Close in Cig); 8:00 - 10:45 headup; 11:00 - 11:30 Drilled out shoe; 11:30 - 12:00 Dump Mud tank.

SIGNED B. Huber DRILLER

COMPANY REPRESENTATIVE: Accuracy and Completeness are your responsibility.

SIGNED W. K. Walter DRILLER

Tabulate drilling time, when taken, on Form 3B-744 and mail with this form. Note depth each time bit pulled and reason for pulling and depth sharp bit run. INDICATE DATE AND HOUR RIG RELEASED AND MARK LAST REPORT "FINAL".

IMPORTANT: ALL APPLICABLE SPACES MUST BE FILLED BEFORE MAILING. REPORT TO BE MAILED EACH DAY

THE ATLANTIC REFINING COMPANY
LOG: DRILLING WELL ☒ WORKOVER ☐

(Place "X" in proper space above. After TD is reached, if well is plugged back carry TD and Plugged Back Depth, each tour)

UNIT or LEASE N. Circle River TRACT N.W.T. WELL NO. 1 DATE 12/21/60
Name to be same as shown in permit to drill Designation
FIELD Glacier Project CONTRACTOR Tri-City Drilling Co.
SIZE HOLE 13 3/4 REDUCED AT surface KIND OF TOOLS Rotary, Kelly 250'
KIND OF FUEL Diesel FURNISHED BY TAKCO FROM Storage NO. OF HOURS 24
WATER FURNISHED BY TAKCO FROM Lake NO. OF HOURS 24

TOUR NO.	DEPTH		FORMATION OR CORE CORE INTERPRETATION MUST BE SIGNED	DATA AT END OF TOUR	TOUR 1	TOUR 2	TOUR 3
	FROM	TO					
I	0	0	Rigging up & drill cathole - consisting able to drill from bearing sand.	DRILL PIPE IN USE: SIZE LENGTH DRILL COLLARS LENGTH DRILL PIPE KELLY DOWN TOTAL IN HOLE DRILL BIT: SERIAL NO. DRILL BIT: NUMBER MAKE TYPE CORE BARREL: KIND SIZE CORE BIT: SERIAL NO. CORE BIT: NUMBER KIND SIZE STRAIGHT HOLE TEST AT DEGREES OFF MUD MATERIAL: KIND 1. <u>Superior</u> 2. 3. CHEMICAL: KIND 1. 2. 3. 4. MUD TYPE <u>Mud Int. Spud</u> MUD WEIGHT VISCOSITY: 1500 cc IN 1 quart OUT PH WATER LOSS: cc FILTER CAKE FOR COMPANY REPRESENTATIVE ONLY DRILLING CORING DST. OPEN HOLE LOGGING CASING & WOC DOWNTIME COMPLETING LOSS CIRCULATION FISHING CO. TIME w/ DP CO. TIME w/o DP			
II	0	72	-72' Well-plugged at 10:55 A.M.				
III	72	72	Run 3 Hs 97' - 36 Hs J-55-8K-LTCL Logging as follows: 2 Hs 97' - J-36 - 59.09 1 H. KKE to CNE 8.50 Total Hs 67.59' Hamburton cemented with 4050s Tulsid Hamburton Cement. Circulated 1 1/2 bbls. Plug down 8:40 AM. KKE to Gbk. 7.80' Ground Elev. 457.0' Temp - 15°F. Light Sun.				

Concise explanation of all delays and reasons therefor SHALL be indicated by each driller and verified by Company representative. Time chargeable to Company on day rate basis SHALL be fully explained.

TOUR No. 1 FROM 12:00 AM TO 8:00 AM DRILLING 8 HRS. TRIPPING 8 HRS. REPAIRS 8 HRS. OTHER 8
12:00 - 12:15 R.C.H. 12:15 - 8:00 Logging Cathole

SIGNED B. Huber DRILLER

TOUR No. 2 FROM 8:00 AM TO 4:00 PM DRILLING 3 1/2 HRS. TRIPPING 3 1/2 HRS. REPAIRS 3 1/2 HRS. OTHER 3 1/2

8:00 - 9:00 Drilling Cathole, 9:00 - 10:00 wire mud; 10:00 - 10:30 Put in Rot Hole to 10:30
10:45 Drilling 10:45 - 11:00 Work on Pump 11:00 - 11:45 Drilling 11:45 - 12:00 Work on Pump
12:00 - 2:45 Drilling 2:45 - 3:00 Cathole; 3:00 - 3:15 Drilling 3:15 - 4:00 Logging casing
SIGNED B. Huber DRILLER

TOUR No. 3 FROM 4:00 PM TO 12:00 AM DRILLING 8 HRS. TRIPPING 8 HRS. REPAIRS 8 HRS. OTHER 8

4:00 - 4:45 Run Casing; 4:45 - 8:00 Circulate casing; 8:00 - 8:40 Circulating
Plug down at 8:40; 8:40 - 12:00 WCC

SIGNED B. Huber DRILLER

COMPANY REPRESENTATIVE: Accuracy and Completeness are your responsibility.

SIGNED A. H. Hatter DRILLER

Tabulate drilling time, when taken, on Form 3B-744 and mail with this form. Note depth each time bit pulled and reason for pulling and depth sharp bit run. INDICATE DATE AND HOUR RIG RELEASED AND MARK LAST REPORT "FINAL".

IMPORTANT: ALL APPLICABLE SPACES MUST BE FILLED BEFORE MAILING. REPORT TO BE MAILED EACH DAY

SIZE: 9 1/2 (TOP TO BOTTOM)

JTS	FEET	WT.	GRADE	TH.	CL	CMTD. W/SLURRY CONSISTING OF
2	59 09	36	155	L	L	40 SX In. Hard House
						CMT. PLUS 4% Collar
						SCRATCHERS:
						CENTRALIZERS: 9-1/2" House 5-3 of 62'
						TIME PLUG DOWN: 8.20 TOP CMT. PLUG: 50'
						CSG. HD.:
						TBG. HD.:

SCRATCHERS:

CENTRALIZERS: 9-7/2 Hw. 53 St 62

TIME PLUG DOWN: 2.40 TOP CMT. PLUG: 50

CSG, H.D.:

TBG. HD.:

SETTING DATA

XMAS TREE:

SHOE: <i>Guide, Hower</i>	<i>100</i>
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SET JT.

COLLAR

2 JTS PIPE	5903
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TOTAL	60	97
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RKS TO BHF	8	15
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DEPTH SET	65	57
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PICKUP JT.:

PACKER:

PIPE TALLY

SUB TOTALS	
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98	98
99	99
100	100

THE TABLE												
FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET
1	2	3	4	5	6	7	8	9	10	11	12	13
14	15	16	17	18	19	20	21	22	23	24	25	26
27	28	29	30	31	32	33	34	35	36	37	38	39
40	41	42	43	44	45	46	47	48	49	50	51	52
53	54	55	56	57	58	59	60	61	62	63	64	65
66	67	68	69	70	71	72	73	74	75	76	77	78
79	80	81	82	83	84	85	86	87	88	89	90	91
92	93	94	95	96	97	98	99	100	101	102	103	104
105	106	107	108	109	110	111	112	113	114	115	116	117
118	119	120	121	122	123	124	125	126	127	128	129	130
131	132	133	134	135	136	137	138	139	140	141	142	143
144	145	146	147	148	149	150	151	152	153	154	155	156
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170	171	172	173	174	175	176	177	178	179	180	181	182
183	184	185	186	187	188	189	190	191	192	193	194	195
196	197	198	199	200	201	202	203	204	205	206	207	208
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222	223	224	225	226	227	228	229	230	231	232	233	234
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274	275	276	277	278	279	280	281	282	283	284	285	286
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3053

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246-11-6-17

VELOCITY DETERMINATION REPORT

ON

THE ATLANTIC REFINING COMPANY

NORTH CIRCLE RIVER NO. 1

NORTHWEST TERRITORIES, CANADA

BY

THE ATLANTIC REFINING COMPANY

1961



C O N T E N T S

General Information - - - - -	Page 1
Geophysical Technique - - - - -	Page 1
Computation - - - - -	Page 1
Discussion of Results - - - - -	Page 2

Enclosures:

Geophysical Log

1. Sonic Log
2. Index Map
3. Shooting Plan
4. Up-Hole Time Curves
5. Velocity Determination
6. Time-Depth and Velocity Curves
7. Velocity Records
8. Reflection Records

GENERAL INFORMATION

Electronic Logging and Velocity Co., Ltd. shot a velocity survey on January 19 and Schlumberger ran a sonic log January 20, 1961 in The Atlantic Refining Company, North Circle River No. 1 well, located $66^{\circ}26'9''$ north latitude and $129^{\circ}35'53''$ west longitude, Northwest Territories, Canada.

Kelly block elevation was 495 feet above sea level. The well was drilled to a total depth of 2266 feet.

Observations were made at detector levels ranging from 375 feet to 2266 feet below the kelly block.

GEOPHYSICAL TECHNIQUE

Shots were located 140 feet north of the well. Depths and charges are indicated on the velocity records included with the geophysical log.

Trace arrangement on the velocity records was as follows:

- 1st trace - - - Time Break
- 2nd trace - - - Up-Hole Seismometer
- 3rd trace - - - Well Seismometer (High Sensitivity)
- 4th trace - - - Well Seismometer (Medium Sensitivity)
- 5th trace - - - Well Seismometer (Low Sensitivity)
- 6th trace - - - Seismometer on Cable at Kelly Block
- 7th trace - - - Reference Seismometer

The check-fork signal appears on the bottom of the records.

COMPUTATION

The method of computation is described by a diagram on the velocity determination sheet. Seismic times are referred to a datum plane of 300 feet above sea level using an elevation correctional velocity of 8500 feet per second.

DISCUSSION OF RESULTS

A graphical representation of the results, showing vertical time, average velocity, and interval velocity plotted against depth below the datum plane, is included in the geophysical log. The interval velocities obtained in the conventional velocity survey were converted to interval transit time in microseconds and plotted on the sonic log for comparison.

All measurements are considered reliable.

THE ATLANTIC REFINING COMPANY


C. H. HIGHTOWER
Chief Geophysicist

R. E. Whitmore
District Geophysicist

Compiled by
C. A. Petersen