N A T I O N A L P E T R O L E U M R E S E R V E I N A L A S K A

HISTORY
OF
DRILLING OPERATIONS

EAST SIMPSON TEST WELL NO. 1

HUSKY OIL NPR OPERATIONS, INC.
Edited by: S. L. Hewitt and Gordon W. Legg

For the

U. S. GEOLOGICAL SURVEY
Office of the National Petroleum Reserve in Alaska
Department of the Interior
JANUARY 1983

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EAST SIMPSON TEST WELL NO. 1

INTRODUCTION

East Simpson Test Well No. 1 is located in the National Petroleum Reserve in Alaska, formerly designated Naval Petroleum Reserve No. 4 (Figure 1). The well is located 1,031 feet from the north line and 1,170 feet from the west line of protracted Section 18, Township 18 North, Range 10 West, Umiat Meridian (Latitude: 70°55'04.01" North; Longitude: 154°37'04.75" West). Alaska State Plane Coordinates are X = 425,996.27 and Y = 6,185,783.53, Zone 5. The elevations are 13.5' ground level and 30' Kelly bushing. Rig-up began on February 7, 1979, and the well was spudded on February 19, 1979. At the conclusion of drilling operations, the well was plugged and the rig was released at 2400 hours on April 10, 1979.

The well was drilled to a total depth of 7,739 feet. The objective of the well was to test a structural/stratigraphic trap in Triassic to Permian age rocks. The primary zones of interest were the Sag River Sandstone and the Sadlerochit Group.

Husky Oil NPR Operations, Inc. supervised and directed the drilling and support operations as prime contractor to the Department of the Interior, U. S. Geological Survey/ONPRA. Nabors Alaska Drilling was the drilling contractor; Nabors Rig 1, an Emsco A800, was used.

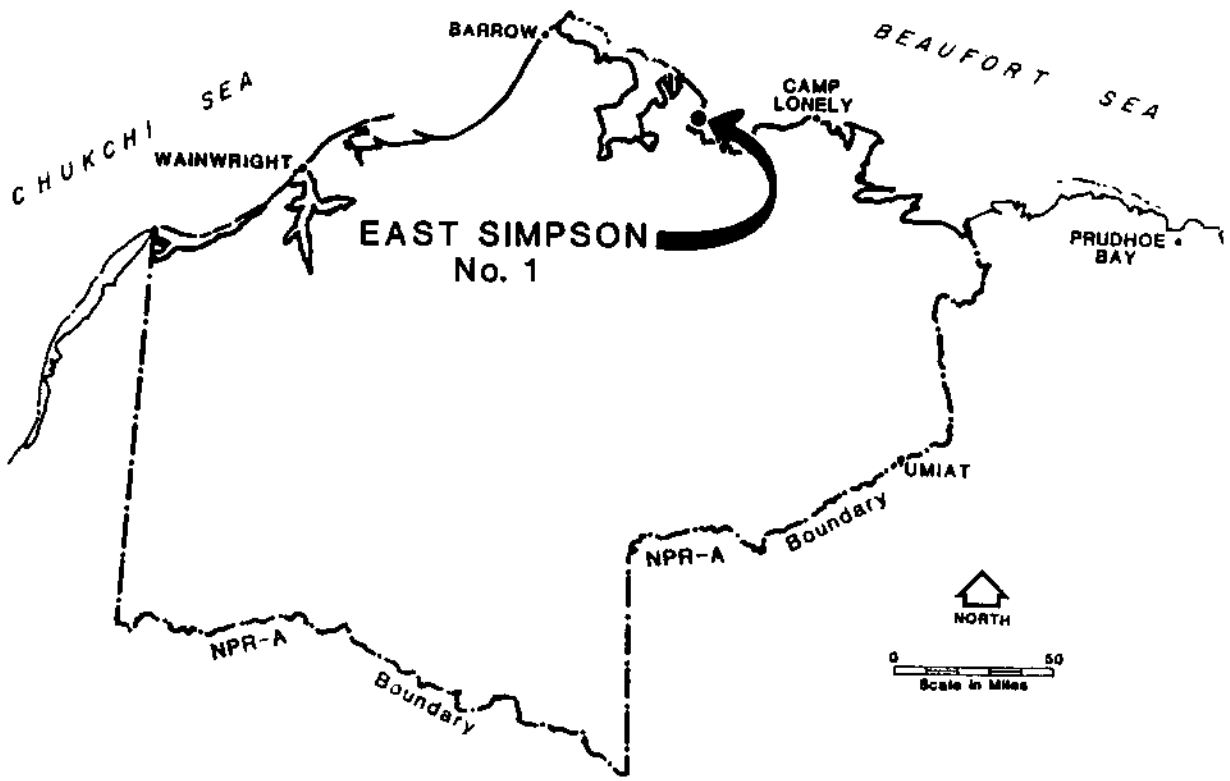

FIGURE 1 - WELL LOCATION MAP - EAST SIMPSON NO. 1

4

DRILLING SUMMARY

Field operations at the East Simpson Test Well No. 1 location commenced on January 3, 1979, with the mobilization of construction crews and equipment required to build the drilling pad and an ice airstrip to accommodate C-130 Hercules aircraft. Construction work was completed on January 22, 1979, and the crews and equipment were moved to another location.

The rig move from South Meade Test Well No. 1 was completed with 89 Herc loads, 2 Magnum loads, and 23 Rolligon loads. Rig move-in operations began January 28, 1979. Rig up began February 7, 1979, and was completed in 13 days. The well was spudded February 19, 1979, at 8:00 a.m.

During rig up, a 20" conductor was set at 90' and cemented with ArcticSet II cement. A 17-1/2" hole was drilled out below the 20" conductor to 2670'. The hole was logged with the Dual Induction Laterolog and the Bore Hole Compensated Sonic/Gamma Ray Log from 2670' to the 20" conductor. Thirteen and three-eighths inch casing was run to 2661' and cemented with 3,168 sacks ArcticSet II.

A National 13-5/8" split unihead and a 13-5/8", 5,000 psi blowout-preventer stack (SRRA arrangement) were installed. A 5,000 psi choke manifold and kill line were also installed. The 13-3/8" casing was tested to 2,500 psi. The shoe was drilled out with a 12-1/4" bit. The formation was tested to a 0.624 psi/ft. gradient. A 12-1/4" hole was drilled from 2661' to 7186'. Nondispersed fresh-water mud was used. No significant problems were encountered down to 5500'. Tight hole was encountered 5150' to 5325' on a bit trip. Drilling continued to 5699' with mud weight 10.8 ppg to 10.6 ppg where lost circulation occurred. Lost-circulation problems continued to 6270'. Minor bridges were found below 6500' during trips, but no further drilling problems occurred. Six cores were cut, with Nos. 2 and 3 having no recovery (see Well Completion Report). The 12-1/4" hole was logged with Dual Induction Laterolog/Gamma Ray/Spontaneous Potential, Compensated Neutron Log/ Formation Density Log/Gamma Ray/Caliper Log, Borehole Compensated Sonic/Gamma Ray and Dipmeter. Forty-five sidewall cores were shot with 41 recovered. During the conditioning trip, bridges were encountered at 6560' to 7186'. Seventy barrels of mud were lost while circulating on bottom. Nine and five-eighths inch casing was run to 7167'. Two FO cementers were run in the string at 2140' and 2334' for use if Arctic Pack procedures should become necessary.

The 9-5/8" casing was cemented with 1,000 sacks Class "G" cement. The cement contained turbulence inducer and retarder. The 9-5/8" casing was landed with mandrel hanger and packoff assembly, which was tested to 5,000 psi. Three hundred sacks of ArcticSet II were squeezed through the lower FO at 2334' and out the 9-5/8" x 13-3/8" lap.

The 9-5/8" casing was cleaned out to 7081'. A Cement Bond/Variable Density/Gamma Ray Log was run. The shoe and 10 feet of formation were drilled. The formation was tested to 0.62 psi/ft.

equivalent gradient. An 8-1/2" hole was drilled to 7739' total depth. During drilling of this interval, no drilling problems were encountered. Four cores were taken, with the second one being an oriented core (see Well Completion Report). The 8-1/2" hole was logged from 7167' to 7739', as follows: Borehole Compensated Sonic/Gamma Ray; Temperature Log, Dual Induction Lateral Log; Compensated Neutron/ Formation Density/Gamma Ray/Caliper Log; Dipmeter; Velocity Survey; and a second Temperature Survey.

All logs were recorded on magnetic tape. Single shot directional surveys were conducted from conductor to total depth in 17-1/2", 12-1/4", and 8-1/2" hole. The hole remained essentially straight with maximum deviation of 3-3/4° at 3739' and 7047'. The bottom-hole location is 123 feet south and 22.5 feet west of the surface-hole location.

At the conclusion of the log evaluation, the well was plugged back and abandoned. Cement plugs were placed across selected intervals in the 8-1/2" open hole as follows: Plug No. 1 was set from 7543' to 7323' with 100 sacks Class "G" cement; Plug No. 2 was set from 7266' to 6937' with 100 sacks Class "G" cement. A cement retainer was set at 6808' in 9-5/8" casing, and Plug No. 3 set from 6808' to 6694' with 50 sacks Class "G" cement. The 9-5/8" x 13-3/8" lap was pressure tested and resqueezed through the lower FO at 2334' with 500 sacks ArcticSet II. The 9-5/8" casing was cut at 2200' and recovered. A 13-3/8" retainer was set at 2153', and Plug No. 4 set from 2153' to 2039' with 100 sacks ArcticSet II cement. The mud was reversed out to water, then to diesel from 2039' to the surface to allow the well to be used in the USGS's North Slope geothermal measurements program. The abandonment marker was set and the rig released April 10, 1979, at 12:00 midnight. The rig was rigged down and moved by truck and Rolligon to the J. W. Dalton location.

Detailed drilling information in the form of bit records, drilling mud record, time analysis, and casing and cementing reports is included in the body of the history.

Form 9-331 C
(May 1963)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1425.

RECEIVED
JAN 19
CONSERVATION DIST. OFFICE

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

NOTICE OF INTENT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK
DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL
OIL WELL [X] GAS WELL [ ] OTHER SINGLE ZONE [ ] MULTIPLE ZONE [ ]

2. NAME OF OPERATOR
National Petroleum Reserve in Alaska
(through Husky Oil NPR Operations, Inc.)

3. ADDRESS OF OPERATOR
2525 C Street, Suite 400, Anchorage, AK 99503

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface
1031' FNL; 1170' FWL
At proposed prod. zone
Same (straight hole)

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
Forty-seven miles east-southeast of Barrow, Alaska

5. LEASE DESIGNATION AND SERIAL NO.
N/A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
N/A

7. UNIT AGREEMENT NAME
N/A

8. FARM OR LEASE NAME
National Petroleum Reserve in AK

9. WELL NO.
East Simpson Test Well No.1

10. FIELD AND POOL, OR WILDCAT
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec 18, T18N, R10W, UM

12. COUNTY OR PARISH
North Slope

13. STATE
Alaska

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)
1,000'

16. NO. OF ACRES IN LEASE
23,680,000

17. NO. OF ACRES ASSIGNED TO THIS WELL
N/A

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.
63,360

19. PROPOSED DEPTH
7,400'

20. ROTARY OR CABLE TOOLS
Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
Pad = 13.5'; KB = 30' (estimated)

22. APPROX. DATE WORK WILL START*
January 25, 1979

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
26"	20" Conductor	133# (K-55)	± 100' KB	SEE DRILLING
17 1/2"	13 3/8"	72# (S-95)	± 2600'	PROGRAM
12 1/4"	9 5/8"	53.5# (S-95)	± 6700'	FOR DETAILS
8 1/2"	7" Liner	32# (N-80)	± 6400' to TD	AND AMOUNTS

BOP Program

From Conductor to ± 2600'
20", 2000 psi, SA Diverter Assembly

From ± 2600' to T.D.
13 5/8", 5000 psi, SRRA BOP Assembly
w/5000 psi Choke Manifold and Kill Lines

See Drilling Program for Details.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.
SIGNED Max Brewer TITLE Chief of Operations DATE 18 Jan 79

(This space for Federal or State office use)

NO.
APPROVAL DATE
APPROVED BY CONDITIONS, IF ANY: John James Weber TITLE DISTRICT SUPERVISOR DATE 2/15/79

*See Instructions On Reverse Side

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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

FEB 22 1979

COMMISSION
U.S. GEOLOGICAL SURVEY
ANCHORAGE, ALASKA

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9–331–C for such proposals.)

1. oil well [X] gas well [ ] other

2. NAME OF OPERATOR National Petroleum Reserve in Alaska (through Husky Oil NPR Operations, Inc.)

3. ADDRESS OF OPERATOR
2525 C Street, Suite 400, Anchorage, AK 99503

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
AT SURFACE: 1031' FNL; 1170' FWL
AT TOP PROD. INTERVAL:
AT TOTAL DEPTH: Same (straight hole)

5. LEASE
N/A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
N/A

7. UNIT AGREEMENT NAME
N/A

8. FARM OR LEASE NAME National Petroleum Reserve in Alaska

9. WELL NO.
East Simpson Test Well No. 1

10. FIELD OR WILDCAT NAME
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec 18, T18N, R10W, UM

12. COUNTY OR PARISH: North Slope
13. STATE: Alaska

14. API NO.

15. ELEVATIONS (SHOW DF, KDB, AND WD)
13.5' Pad; 30' KB

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF	[ ]		[ ]
FRACTURE TREAT	[ ]		[ ]
SHOOT OR ACIDIZE	[ ]		[ ]
REPAIR WELL	[ ]		[ ]
PULL OR ALTER CASING	[ ]		[ ]
MULTIPLE COMPLETE	[ ]		[ ]
CHANGE ZONES	[ ]		[ ]
ABANDON*	[ ]		[ ]
(other) Subsequent Report of Spud			

(NOTE: Report results of multiple completion or zone change on Form 9–330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

This well spudded at 8:00 AM, February 19, 1979. Hole size at spud: 17 1/2".

Subsurface Safety Valve: Manu. and Type _____ Set @ _____ Ft.

18. I hereby certify that the foregoing is true and correct

SIGNED James F. Stovall acting TITLE Chief of Operations DATE Feb. 21, 1979

(This space for Federal or State office use)

Conforms with pertinent provisions of 30 CFR 221.

APPROVED BY [illegible] TITLE DISTRICT SUPERVISOR ACTING DATE 2/26/79

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UNITED STATES
DEPARTMENT OF THE INTERIOR
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U.S. GEOLOGICAL SURVEY
ANCHORAGE, ALASKA

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)

1. oil well ☒ gas well ☐ other

2. NAME OF OPERATOR National Petroleum Reserve in Alaska (through Husky Oil NPR Operations, Inc.)

3. ADDRESS OF OPERATOR
2525 C Street, Suite 400, Anchorage, AK 99503

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
AT SURFACE: 1031' FNL; 1170' FWL
AT TOP PROD. INTERVAL:
AT TOTAL DEPTH: Same (straight hole)

5. LEASE
N/A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
N/A

7. UNIT AGREEMENT NAME
N/A

8. FARM OR LEASE NAME National Petroleum Reserve in Alaska

9. WELL NO.
E. Simpson Test Well No. 1

10. FIELD OR WILDCAT NAME
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec 18, T18N, R10W, UM

12. COUNTY OR PARISH: North Slope
13. STATE: Alaska

14. API NO.

15. ELEVATIONS (SHOW DF, KDB, AND WD)
13.5' Pad; 30' KB

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF	☐		☐
FRACTURE TREAT	☐		☐
SHOOT OR ACIDIZE	☐		☐
REPAIR WELL	☐		☐
PULL OR ALTER CASING	☐		☐
MULTIPLE COMPLETE	☐		☐
CHANGE ZONES	☐		☐
ABANDON*	☐		☐

(other) Subsequent Notice of Running and Cementing 13 3/8" Surface Casing

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

A 17 1/2" hole was drilled to 2670' and logged. Ran 65 joints of 13 3/8", 72 lb/ft, S-95 Buttress casing and landed with the float shoe at 2661' and the duplex float collar at 2578'. Cemented with 3168 sacks of Arctic Set II cement at 14.5 to 15.1 ppg. Full returns throughout job with 14.5 ppg returns. CIP at 12:05 PM, 2/23/79. Cut off 13 3/8" casing, installed and tested National packoff to 2000 psi. Installed National wellhead and nipplad up 13 5/8", 5000 psi BOP stack. Tested BOPs to 5000 psi, Hydril to 2500 psi, casing to 2500 psi. Drilled out cement, float collar, floar shoe, and formation. Tested formation to 0.70 psi/ft gradient with no observed leak off.

Subsurface Safety Valve: Manu. and Type _____ Set @ _____ Ft.

18. I hereby certify that the foregoing is true and correct

SIGNED J. Max Brewer TITLE Chief of Operations DATE 5 April 79

(This space for Federal or State office use)

Conforms with pertinent provisions of 30 CFR 221.

APPROVED BY _____ TITLE DISTRICT SUPERVISOR DATE 4/6/79

*See Instructions on Reverse Side

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UNITED STATES
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SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9–331–C for such proposals.)

1. oil well ☐ gas well ☐ other

2. NAME OF OPERATOR National Petroleum Reserve in Alaska (through Husky Oil NPR Operations, Inc.)

3. ADDRESS OF OPERATOR
2525 C Street, Suite 400, Anchorage, AK 99503

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
AT SURFACE:
AT TOP PROD. INTERVAL:
AT TOTAL DEPTH:

5. LEASE
N/A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
N/A

7. UNIT AGREEMENT NAME
N/A

8. FARM OR LEASE NAME National Petroleum Reserve in Alaska

9. WELL NO.
East Simpson Test Well No. 1

10. FIELD OR WILDCAT NAME
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec 18, T 18 N, R 10 W, UM

12. COUNTY OR PARISH: North Slope | 13. STATE: Alaska

14. API NO.

15. ELEVATIONS (SHOW DF, KDB, AND WD)
13.5' Pad; 30'KB

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF	☐		☐
FRACTURE TREAT	☐		☐
SHOOT OR ACIDIZE	☐		☐
REPAIR WELL	☐		☐
PULL OR ALTER CASING	☐		☐
MULTIPLE COMPLETE	☐		☐
CHANGE ZONES	☐		☐
ABANDON*	☐		☐

(NOTE: Report results of multiple completion or zone change on Form 9–330.)

(other) Subsequent Report of Running and Cementing 9 5/8" Casing

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)* A 12 1/4" hole was drilled to 7186' KB and logged. Ran 178 joints of 9 5/8", 53.5 lb/ft., S-95, Buttress csg & lande with float shoe at 7167.79'. Float collar at 7081.48' FO cementing sleeves were located at 2334' and 2140'. Sixteen centralizers were run on the bottom primary cement job and fifteen centralizers were run from the FO cementers to surface. Attempted to circulate and condition mud for cementing, no returns. Cemented first stage with 1000 sacks of Class 'G' cement containing 0.2% CFR2 and 0.75% D65, 182 bbls cmt slurry at 15.6 to 16 ppg Displaced cmt with 493 bbls mud/water at 4BPM, bumped plug w/3000 psi. Had no returns during cement job. CIP at 8:05 a.m., 3/24/79. Removed landing joint, set mandrel hanger packoff and tested to 5000 psi. Down squeezed second stage through FO at 2334' with 300 sacks of Arctic set II cement at 14.9 ppg. Broke down formation with 750 psi. Maximum squeeze pressure 750 psi. CIP at 6:25 a.m., 3/25/79. Closed FO and tested to 3000 psi. Pulled out of hole tested BOP and choke manifold. Ran CBL/GR log to 7081', found primary cement job OK. Picked up the bottom hole assembly and drilled out the cement. Tested the formation at the shoe to the equivalent gradient of 0.62 psi/ft. with no leak off.

Subsurface Safety Valve: Manu. and Type _____ Set @ _____ Ft.

Resumed drilling.

18. I hereby certify that the foregoing is true and correct

SIGNED Max Brewer TITLE Chief of Operations DATE 2 April 1979

(This space for Federal or State office use)

Conforms with pertinent provisions of 30 CFR 221.

TITLE DISTRICT SUPERVISOR DATE 4/6/79

*See Instructions on Reverse Side

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SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)

1. oil well ☒ gas well ☐ other

2. NAME OF OPERATOR National Petroleum Reserve in Alaska (through Husky Oil NPR Operations, Inc.)

3. ADDRESS OF OPERATOR
2525 C Street, Suite 400, Anchorage, AK 99503

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
AT SURFACE: 1031' FNL; 1170' FWL
AT TOP PROD. INTERVAL:
AT TOTAL DEPTH: Same (straight hole)

5. LEASE
N/A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
N/A

7. UNIT AGREEMENT NAME
N/A

8. FARM OR LEASE NAME National Petroleum Reserve in Alaska

9. WELL NO.
East Simpson Test Well No. 1

10. FIELD OR WILDCAT NAME
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec 18, T18N, R10W, UM

12. COUNTY OR PARISH North Slope. 13. STATE Alaska

14. API NO.

15. ELEVATIONS (SHOW DF, KDB, AND WD)
13.5' Pad; 30' KB

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF	☐		☐
FRACTURE TREAT	☐		☐
SHOOT OR ACIDIZE	☐		☐
REPAIR WELL	☐		☐
PULL OR ALTER CASING	☐		☐
MULTIPLE COMPLETE	☐		☐
CHANGE ZONES	☐		☐
ABANDON*	☐		☐
(other) Change Plans			

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

The original Notice of Intent to Drill indicated the proposed TD to be 7400'. Due to thickened upper geologic sequences, the objective TD is expected to be deeper. The operator plans to continue drilling. It is expected that final TD will be at or near 7800'.

Subsurface Safety Valve: Manu. and Type _____ Set @ _____ Ft.

18. I hereby certify that the foregoing is true and correct

SIGNED [signature] TITLE Chief of Operations DATE 4 April 79

Conforms with pertinent provisions of 30 CFR 221.

(This space for Federal or State office use)

APPROVED BY _____ TITLE DISTRICT SUPERVISOR DATE _____

*See Instructions on Reverse Side

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9–331–C for such proposals.)

1. oil well ☒ gas well ☐ other

2. NAME OF OPERATOR National Petroleum Reserve in Alaska (through Husky Oil NPR Operations, Inc.)

3. ADDRESS OF OPERATOR
2525 C Street, Suite 400, Anchorage, AK 99503

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
AT SURFACE: 1031' FNL; 1170' FWL
AT TOP PROD. INTERVAL:
AT TOTAL DEPTH: Same

5. LEASE
N/A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
N/A

7. UNIT AGREEMENT NAME
N/A

8. FARM OR LEASE NAME National Petroleum Reserve in Alaska

9. WELL NO.
E. Simpson Test Well No. 1

10. FIELD OR WILDCAT NAME
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec 18, T18N, R10W, UM

12. COUNTY OR PARISH: North Slope | 13. STATE: Alaska

14. API NO.
Pad 13.5; KB 30'

15. ELEVATIONS (SHOW DF, KDB, AND WD)

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF	☐		☐
FRACTURE TREAT	☐		☐
SHOOT OR ACIDIZE	☐		☐
REPAIR WELL	☐		☐
PULL OR ALTER CASING	☐		☐
MULTIPLE COMPLETE	☐		☐
CHANGE ZONES	☐		☐
ABANDON*	☒		☐
(other)			

(NOTE: Report results of multiple completion or zone change on Form 9–330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

This is a confirming notice to abandon East Simpson well. The plan was discussed with Jim Weber on April 5, 1979. The well was drilled to a total depth of 7739' and logged. As a result of the evaluation, plans were developed to abandon the well. The abandonment procedure is attached.

RECEIVED
ONSHORE DIST. OFFICE

APR 10 1979

CONSERVATION DIVISION
U.S. GEOLOGICAL SURVEY
ANCHORAGE, ALASKA

Subsurface Safety Valve: Manu. and Type _____ Set @ _____ Ft.

18. I hereby certify that the foregoing is true and correct

SIGNED Orex S/Owen TITLE Chief of Operations DATE 10 April 79

(This space for Federal or State office use)

Conforms with pertinent provisions of 30 CFR 221.

Robert A. Lee DISTRICT SUPERVISOR DATE 4/11/79

*See Instructions on Reverse Side

EAST SIMPSON TEST WELL NO. 1
ABANDONMENT PROCEDURE

1. Trip in with open ended drill pipe to 7550'.

2. Condition mud to uniform weight and viscosity for plugging.

3. Spot Plug No. 1, a 100 sack, Class "G" plug, with 0.75% D65 and 0.2% D13R, mixed at 15.8 ppg. This is a +200' plug in 9 5/8" in this section of the hole from the caliper log. Spot a balanced plug with 10 bbls water ahead and 3 bbls water behind the cement.

4. Pull up to 7270' and lay down drill pipe. Condition mud for 4 hours to allow Plug No. 1 to set.

5. Spot Plug No. 2, a 100 sack, Class "G" plug, with 0.75% D65 and 0.2% D13R mixed at 15.8 ppg. This is a +200 plug (100' in open hole 11" avg and +100' in 9 5/8" casing) from the caliper log. Spot a balanced plug with 8 bbls water ahead and 3 bbls water behind cement.

6. Pull up to ± 7000' and condition mud.

7. Trip out and pick up a Halliburton 9 5/8", 53.5# scraper. Clean out to ± 7000'. Trip out and pick up 9 5/8", 53.5# retainer. Trip in and set retainer at 6808'. Condition mud.

8. Spot a 50 sack, Class "G" cement plug on top of retainer (to contain 0.75% D65 and 0.2% D13R) mixed at 15.8 ppg. The plug was set from 6808-6694'. Spot a balanced plug with 8 bbls water ahead and 3 bbls water behind cement.

9. Pull out of cement 10 stands and condition mud. Trip out laying down drill pipe. Keep ± 2400' of drill pipe for cutting casing and reversing out. Lay down drill collars.

10. Pick up FO shifting assembly as follows:

    a. FO cementer closing fingers.
    b. 9 5/8", 53.5#, RTTS packer. (Be sure volume tube is in place.)
    c. 1 joint 5" DP.
    d. FO cementer opening fingers.
    e. 5" DP to surface.

11. Trip in and open FO at 2140'. Set RTTS packer and condition mud in 9 5/8" X 13 3/8" annulus.

12. Close 9 5/8" X 13 3/8" annulus valve. Test 9 5/8" X 13 3/8" lap to 1500 psi. If lap tests, go to Step 21.

13. If lap fails test, condition mud back to 9.6 ppg. Close FO and test to 3000 psi.

14. Trip in to lower FO at 2334'. Attempt to open and break circulation in 9 5/8" X 13 3/8" annulus. If FO opens and circulation established, then

condition mud system all back to 9.6 ppg and perform lap squeeze through lower FO. If circulation not possible, be sure lower FO closed and pull up to upper FO to squeeze.

15. Set RTTS packer with closing fingers above FO. Close 9 5/8" X 13 3/8" annulus valve and establish injection rate. Limit annulus pressure to 1500 psi. Attempt to establish 4 BPM rate.

16. Pump 10 bbls water ahead of cement and mix and pump 500 sacks of Arctic Set II cement at 15.2 ppg. Limit annulus pressure to 1500 psi. Displace cement with two bbls water and mud. Leave ± three bbls cement in drill pipe. Mix and displace cement at the rate established above. Shut down and record pressures on the drill pipe and annulus until stable.

17. If the 9 5/8" X 13 3/8" annulus pressure bleeds to zero, release the RTTS packer. If the annulus pressure does not bleed to zero, close the Hydril. Take a small strain on the packer. If the packer does not release, pressure the 9 5/8" X 5" drill pipe annulus slowly. The packer should release when the differential across the packer is zero. Slack off and close the FO. Bleed off pressure below the Hydril. Open the Hydril.

18. Position the RTTS below the FO (be sure the opening fingers stay above the FO) and reverse out the excess cement.

19. POH to upper FO. (If squeeze done through upper FO, POH and go to Step 21.) Open FO and close Hydril. Circulate 9 5/8" X 13 3/8" annulus and report any cement contamination. Limit pump pressure to 300 psi.

20. Close FO and set RTTS ± 10' below FO. Test to 500 psi. POH.

21. Pick up Tristate 9 5/8" casing cutters. Trip in and cut casing at 2200' (60' below top FO).

    Note: If squeeze done through top FO, then cut will be made above FO.

22. After cutting the casing, open the 9 5/8" X 13 3/8" annulus and equalize any differential pressure.

23. Pick up TriState spear, packoff, and stop plate. Loosen the 9 5/8" pack-off and anchor screws. Pick up 9 5/8" casing. The 9 5/8" string weight at 2200' in 9.6 ppg mud is ± 98,600#.

24. Strip casing up through BOP and set rotary slips. Lay down 9 5/8" casing.

25. Box and return the 9 5/8" mandrel hanger and short landing joint to Anchorage.

26. Trip in with 12 1/4" bit and 13 3/8", 72# scraper to 2160'. Circulate and condition mud, removing any cuttings or junk in the hole.

27. Pick up Halliburton 13 3/8", 72# cement retainer on drill pipe. Set retainer at 2153'.

28. Spot a 100-sack Arctic Set II cement plug on top of the retainer mixed at 15.2 ppg. This is a 1144' plug inside 13 3/8" casing. Spot a balanced plug with ± 14 bbl water ahead and 2 bbl water behind.

29. Pick up slowly out of the cement plug to ± 1700. Circulate and condition mud.

30. Reverse out mud with water. Reverse out water with diesel. The appropriate capacity of the 13 3/8" from 2039' to ±25' from surface is 296 bbls. Trip out layin down drill pipe. Do not fill casing to surface. Leave ± 25' of 13 3/8" casing empty.

31. Nipple down BOP and wellheads to the 20" head.

32. Rig up the 4" line pipe 20" head cover and dry hole marker. Set the 4" line pipe ± 10' below the surface. Put a flared wire line entry guide on the bottom of the 4".

33. Release rig and rig down for movement to J. W. Dalton Test Well No. 1. Clean location.

Information for well marker identification:

USGS - ONPRA
East Simpson Test Well No. 1
1031' FNL; 1170' FWL
Sec 18, T18N, R10W, UM

D. L. Reid
Drilling Engineer
April 5, 1979

J M Mcgarthy
4/6/79

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)*

1. oil well [X] gas well [ ] other

2. NAME OF OPERATOR National Petroleum Reserve in Alaska (through Husky Oil NPR Operations, Inc.)

3. ADDRESS OF OPERATOR
2525 C Street, Suite 400, Anchorage, AK 99503

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
AT SURFACE: 1031' FNL; 1170' FWL
AT TOP PROD. INTERVAL:
AT TOTAL DEPTH: Same

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

	NOTICE OF INTENT TO:	SUBSEQUENT REPORT OF:
TEST WATER SHUT-OFF	[ ]	[ ]
FRACTURE TREAT	[ ]	[ ]
SHOOT OR ACIDIZE	[ ]	[ ]
REPAIR WELL	[ ]	[ ]
PULL OR ALTER CASING	[ ]	[ ]
MULTIPLE COMPLETE	[ ]	[ ]
CHANGE ZONES	[ ]	[ ]
ABANDON*	[ ]	[X]
(other)		

5. LEASE
N/A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
N/A

7. UNIT AGREEMENT NAME
N/A

8. FARM OR LEASE NAME
N/A

9. WELL NO. East Simpson Test Well No. 1

10. FIELD OR WILDCAT NAME
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec 18, T18N, R10W, UM

12. COUNTY OR PARISH North Slope

13. STATE Alaska

14. API NO.

15. ELEVATIONS (SHOW DF, KDB, AND WD)
13.5' Pad; 30' KB

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

This well has been plugged and abandoned. The well was drilled to a total depth of 7739' and logged. After logs were evaluated, the well was plugged and abandoned as follows: Trip in open ended to 7543'. Circulate and condition mud. Spotted Plug No. 1, 100 sacks Class "G" cement at 15.8 ppg w/0.75% D65 and 0.2% D13R from 7543' to 7323' in open hole. CIP 4/6/79 at 12:45 AM. Picked up to 7266'. Circulate and condition mud. Spotted Plug No. 2, 100 sacks Class "G" at 15.8 ppg with 0.75% D65 and 0.2% D13R from 7266' to 9 5/8" shoe at 7167' to 7017' in casing. Picked up to 6937', circulate and condition mud. Trip out, picked up bit and casing scraper. Cleaned out to 6953'. Trip out. Picked up Howco EZ Drill retainer. Set same at 6808'. Circulate and condition mud. Spotted Plug No. 3, 50 sacks Class "G" cement at 15.8 ppg with 0.75% D65 and 0.2% D13R from 6808' to 6694' in casing. Picked up FO shifting assembly. Trip in. Open upper FO. Condition mud. Test 9 5/8" X 13 3/8" lap. Broke down at 1300 psi. Condition mud back to 9.6 ppg.
See Attached

Subsurface Safety Valve: Manu. and Type ______ Set @ ______ Ft.

18. I hereby certify that the foregoing is true and correct

SIGNED [signature] TITLE Chief of Operations DATE 12 Apr. / 79

(This space for Federal or State office use)

Conforms with pertinent provisions of 30 CFR 221.

[signature] DISTRICT SUPERVISOR DATE 4/13/79

AREA FILE

*See Instructions on Reverse Side

Close upper FO. Open FO at 2334'. Condition mud. Close 9 5/8" X 13 3/8" annulus. Squeeze lap with 500 sacks Arctic Set II. Close FO. Trip out. Pick up casing cutters. Cut casing at 2200'. Lay down 9 5/8" casing. Run 12 1/4" bit and 13 3/8" scraper to 2165'. Run Howco E-Z Drill 13 3/8", 72# retainer and set at 2153'. Condition mud and spot Plug No. 4, 100 sacks Arctic Set II cement at 15.2 ppg from 2153' to 2039'. Pull up to 1900'. Circulate and condition mud. Displace mud to water. Displace water to diesel. Trip out laying down drill pipe. Nipple down BOP stack. Nipple up abandonment head. Rig released 4/10/79 at 12:00 PM.

Form 9-331
(Rev. 5-63)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE (See other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R355.5.

RECEIVED
ONSHORE DIST. OFFICE

MAY 11 1979

CONSERVATION DIVISION
U.S. GEOLOGICAL SURVEY
ANCHORAGE, ALASKA

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

1a. TYPE OF WELL: OIL WELL [X] GAS WELL [ ] DRY [X] Other Wildcat

b. TYPE OF COMPLETION: NEW WELL [ ] WORK OVER [ ] DEEP-EN [ ] PLUG BACK [ ] DIFF. RESVR. [ ] Other

2. NAME OF OPERATOR: National Petroleum Reserve in Alaska (through Husky Oil NPR Operations, Inc.)

3. ADDRESS OF OPERATOR: 2525 C Street, Suite 400, Anchorage, AK 99503

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*
At surface: 1031' FNL; 1170' FWL
At top prod. interval reported below
At total depth: Same

5. LEASE DESIGNATION AND SERIAL NO.: N/A
6. IF INDIAN, ALLOTTEE OR TRIBE NAME: N/A
7. UNIT AGREEMENT NAME: N/A
8. FARM OR LEASE NAME: National Petroleum Reserve in AK
9. WELL NO.: East Simpson Test Well No.1
10. FIELD AND POOL, OR WILDCAT: Wildcat
11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: Sec 18, T18N, R10W, UM
12. COUNTY OR PARISH: North Slope
13. STATE: Alaska

14. PERMIT NO.: N/A
DATE ISSUED: N/A

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (Ready to prod.)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
2/19/79	4/4/79	N/A	30' RKB	12'

20. TOTAL DEPTH, MD & TVD	21. PLUG, BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
7739'	2039'	N/A	→	All	None

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*
N/A

25. WAS DIRECTIONAL SURVEY MADE: Yes

26. TYPE ELECTRIC AND OTHER LOGS RUN
DIL/SP, BHC-Sonic/GR, FDC/CNL/GR, HRD, Velocity Survey, Temperature Survey

27. WAS WELL CORED: Yes

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
20"	133	90'	26"	175 Sks Arc.Set II @ 15.2	N/A
13 3/8"	72	2661'	17 1/2"	3168 Sks Arc.Set II @ 15.2	N/A
9 5/8"	53.5	7167'	12 1/4"	1000 Sks Class "G" @ 15.8 w/0.753 D65 & 0.2% D13R	2200

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)
N/A				

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
N/A		

31. PERFORATION RECORD (Interval, size and number)
N/A

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
N/A	

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)	WELL STATUS (Producing or shut-in)
N/A		

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD →	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE →	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)
N/A

TEST WITNESSED BY

35. LIST OF ATTACHMENTS
Wellbore Schematic

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED Max C Brewer TITLE Chief of Operations, ONPRA DATE 11 May 79

*(See Instructions and Spaces for Additional Data on Reverse Side)

AREA FILE

INSTRUCTIONS

General: This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 33, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

Items 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

Item 29: "Sacks Cement": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

37. SUMMARY OF POROUS ZONES: SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES			
FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.
Zones of Porosity:			
Sag River	6868'	7024'	Ss: grey, fine-v. fine grain, well cemented w/silica, v. poor sample show of oil, log calculation indicates average water saturation of 94%. Core and log analyses indicate average porosity 19%, maximum porosity 27%. Permeability from core analysis = maximum of 0.6 millidarcys.
Sadlerochit	7454'	7592' (Gross)	Ss & conglomeratic Ss, slight oil stain in upper part of unit, occasional cut & cut fluor. Core & log analyses indicate maximum residual oil saturation of 14% w/ corresponding water saturation of 78.5%. Average porosity = 9% with maximum of 13.9 %. Average core permeability = 1.0 millidarcys with maximum permeability of 353 millidarcys at 7472'.

38. GEOLOGIC MARKERS		
NAME	TOP: MEAS. DEPTH	TOP: TRUE VERT. DEPTH
Torok	2396'	
GR/Pebble Shale	6365'	
Sag River SS	6868'	
Shublik	7024'	
Sadlerochit	7454'	
Pre Lisburne	7592'	
Argillite	7625'	
TD (Driller)	7739	

CONTINUED ON PAGE 3

U.S. GOVERNMENT PRINTING OFFICE: 1963—O-683636

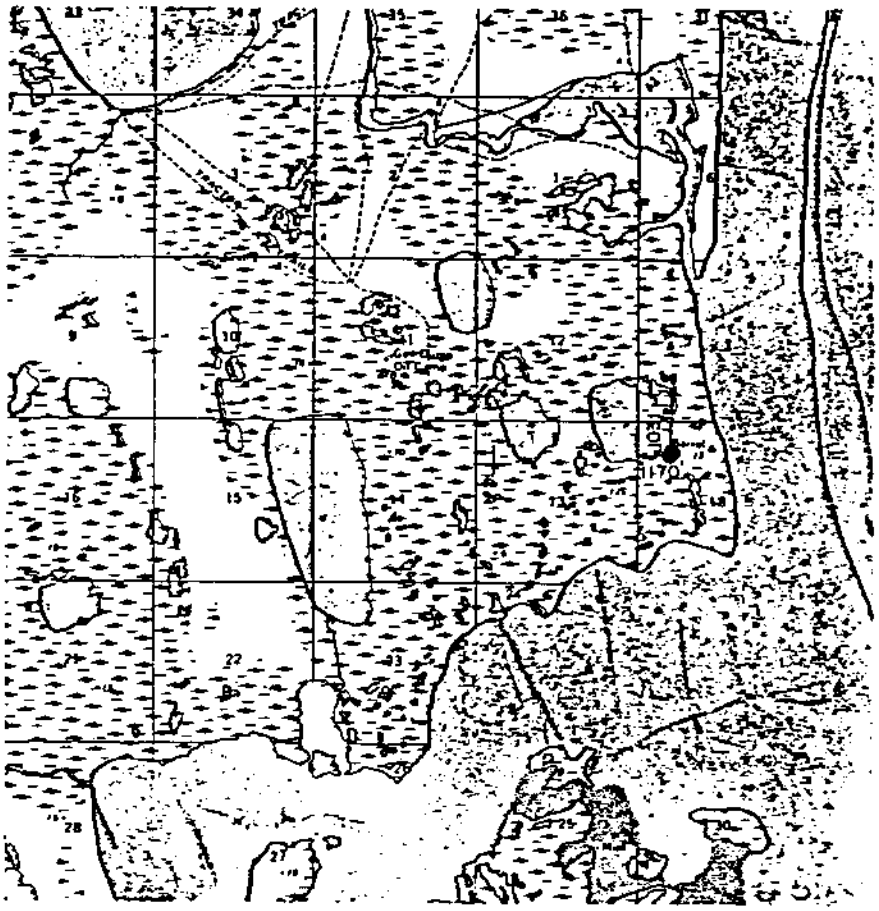
871-233

AREA FILE

Summary of Cores:

Formation	Top	Bottom	Description, Contents, Etc.
No. 1, Torok	2674.5'	2685'	Sh, grey, silty; siltstone.
No. 2, Torok	3739'	3749'	No recovery.
No. 3, Torok	3749'	3759'	No recovery.
No. 4, Torok	5120'	5130'	Shale, dark grey; w/1.5' Ss: grey, silty, NIL porosity.
No. 5, Kingak/ Sag River	6810'	6870'	Interbedded Sh, Siltstone, SS: grey, argillaceous, NIL porosity; Ss (6868'-6870'): grey, fine grained, no porosity, no shows of hydrocarbon.
No. 6, Sag River	6898'	6922'	SS: grey, fine-v. fine grained, patchy stain, no cut.
No. 7, Shublik	7426'	7436'	Limestone, nil porosity, weak oil stain.
No. 8, Sadlerochit	7463'	7523'	SS & Conglomerate, nil-fair porosity, occasional oil stain in upper part. See porosity zones description on previous page.
No. 9, Sadlerochit/ Pre-Lisburne	7564'	7593'	Ss: light grey, v. fine-medium grained, nil-v. poor porosity, v. weak oil stain; Quartzite (7589.5'-7593'; siliceous and Dolomitic cement, dipping at 75°.
No. 10, Pre-Devonian	7729'	7739'	Argillite.

AREA FILE



0 1/2 1 2
SCALE IN MILES

CERTIFICATE OF SURVEYOR

I hereby certify that I am properly registered and licensed to practice land surveying in the State of Alaska and that this plat represents a location survey made by me or under my supervision, and that all dimensions and other details are correct.

JANUARY 4, 1979

STATE OF ALASKA
No. 953-S

EAST SIMPSON

LAT. = 70° 55' 04.01" N
LONG. = 154° 37' 04.75" W
Y = 6,185,783.53
X = 425,996.27
ZONE 5

AS STAKED

EAST SIMPSON

1/4 PROTRACTED SEC. 18 T18 N, R 10 W, UMIAT MERIDIAN, AK.

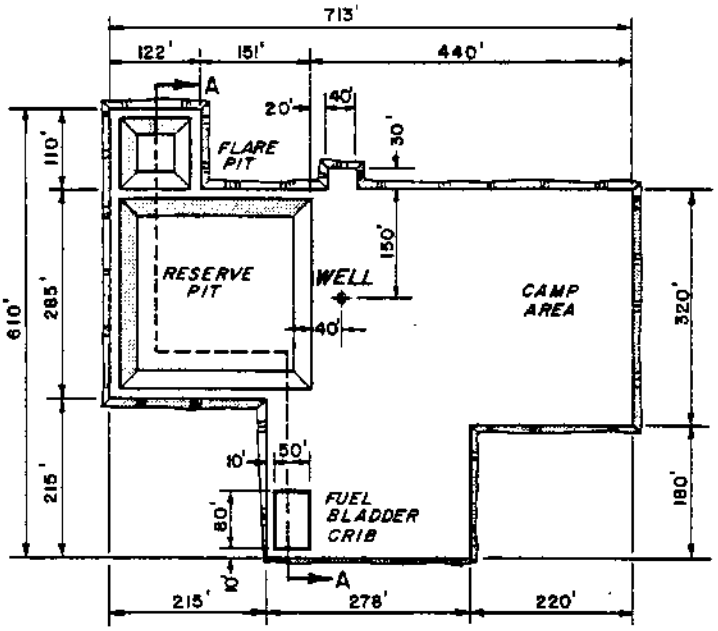
Surveyed for

HUSKY OIL
N. P. R. OPERATIONS INC.

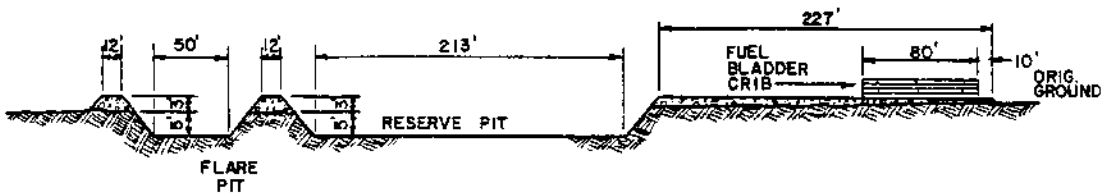
Surveyed by

Bell, Herring and Associates
ENGINEERS AND LAND SURVEYORS
801 West Fireweed, Suite 102
ANCHORAGE, ALASKA 99503

EAST SIMPSON DRILLSITE



PLAN VIEW



SECTION A-A

OPERATIONS HISTORY

DATE AND FOOTAGE DRILLED AS OF 6:00 A.M.	ACTIVITY
2/2/79	Rigged up fuel bladder; laid mats; rigged up camp units. Worked on mud pits and subbases.
2/3/79	Set camp units. Put top on sewer plant. Rigged up pits. Put spreaders in sub. Worked on derrick. Set draw works.
2/4/79	Finished derrick. Continued setting up camp.
2/5/79	Continued with rig up and getting camp ready.
2/6/79	Finished putting rig motors on sub. Laid mats for mud pits. Spotted mud pumps. Finished derrick. Set derrick on rig floor. Rigged up hot air heater; worked on hallway in camp. Raised A frame on derrick. Installed cover on shaker pits.
2/7/79	Continued working on derrick. Put on crown run-around; welded on monkey board parts; put up dog house supports; put pump belts on; put bridle line on blocks; put shed on volume pit. Rigged up line and blocks.
2/8/79	Installed pump belt guards. Set settling pit; spotted suction pit; laid mats; put liner down to set rig fuel tank on. Hooked up lines between pits; set shaft on No. 2 motor on motor skid.
2/9/79	Plumbed in fuel, water, and steam lines. Put up scaffolding and tarp. Cleaned steam lines. Worked on derrick.
2/10/79	Continued working on fuel, water, and steam lines. Hooked up mud pits. Worked on boilers; worked on draw works motors.
2/11/79	Strung up lines in derrick. Put in draw works tie downs. Raised derrick. Put in floor braces and plates. Pinned derrick to A frame.
2/12/79	Put up wind walls; worked on heaters.
2/13/79	Fired boilers; worked on heaters, boilers, and water lines.

2/14/79	Installed rotary chain guard; took bridle line out of derrick. Spotted logging unit and choke house. Set catwalk and ran hot air duct. Began plumbing steam and water lines.
2/15/79	Hooked up mud pits. Cut off 160 foot drilling line. Hooked up desander.
2/16/79	Cut off conductor and welded on Braden head. Hooked up flow line; strung sand line; set rathole; fixed steam leaks. Fixed gates on mud pits; worked on floor plates. Picked up deflector spool; picked up Hydril; worked on suctions for cement.
2/17/79	Nippled up 20" Hydril. Worked on drilling nipple and diverter lines; filled pits with water; fixed all leaks; mixed mud.
2/18/79	Built volume and mixed mud; cleaned up staging area; strung Totco wire. Worked on rotary guard and diverter lines.
2/19/79	Continued with rig up. Built diverter lines. Picked up bottom hole assembly. Tested Hydril to 250 psi. Set 20" conductor at 90'.
	Spudded well February 19, 1979, at 8:00 a.m.
2/20/79 1080'	Total Depth: 1080'; Mud Weight: 9.5; Viscosity: 36. Drilled ahead. Made short trip, picked up six drill collars, reamed to bottom, no fill.
2/21/79 895'	TD: 1975'; MW: 10.2; Vis: 36. Drilled, surveyed, drilled, surveyed. Pulled out of hole, checked low drum clutch. Ran in hole; drilled, surveyed, drilled. Thawed pump clutch lines. Drilled ahead.
2/22/79 695'	TD: 2670'; MW: 10.1; Vis: 33. Drilled, circulated, steel line measured. Pulled out of hole; corrected tally 29 feet. Ran in hole; drilled; circulated for logs.
2/23/79 0'	TD: 2670'; MW: 9.9; Vis: 33. Circulated to log; surveyed; pulled out of hole. Rigged up and ran DIL and BHC-Sonic logs. Ran in hole, circulated to run casing. Pulled out of hole. Ran 65 joints of 13-3/8", 72#, S-95 casing. Ran centralizers per program. Ran in hole with stab-in cementing tool.
2/24/79 0'	TD: 2670'; MW: 9.1; Vis: 33. Landed 13-3/8" casing at 2661' KB. Ran in hole with 5" drill pipe; rigged up and circulated casing. Cemented with 3,168

	sacks of ArcticSet II, weighing 14.5 to 15.1 ppg. Had full returns weighing 14.5 ppg. Displaced cement with 44 barrels. Cement in place 2/23/79 at 12:05 p.m. Pulled out of hole with five stands, nippled down Hydril and set 13-3/8" slips with 20,000 pounds on slips. Pulled out of hole with drill pipe. Waited on cement.
2/25/79 0'	TD: 2670'; MW: 9.1; Vis: 30. Waited on cement. Cut off 13-3/8" casing; installed National packoff and tested to 2,000 psi. Picked up blowout preventer equipment and nippled up.
2/26/79 0'	TD: 2670'; MW: 9.1; Vis: 30. Nippled up blowout preventers and choke manifold and tested same. Installed wear bushing.
2/27/79 0'	TD: 2670'; MW: 9.1; Vis: 30. Tested surface equipment to 5,000 psi. Installed wear bushing. Laid down 17-1/2" bottom hole assembly; picked up and dressed 12-1/4" bottom hole assembly. Repaired rig generators. Hooked up and thawed water and steam lines. Ran in hole.
2/28/79 208'	TD: 2878'; MW: 9.3; Vis: 37. Drilled cement 2560' to 2568'. Tested casing to 2,500 psi. Drilled float collar at 2581'; drilled cement and shoe at 2661'. Circulated, formation tested to 0.624 gradient. Pulled out of hole, picked up core barrel. Ran in hole. Cut Core No. 1: 2674.5' to 2685'. Pulled out of hole; recovered 10 feet of core. Ran in hole and drilled ahead.
3/1/79 861'	TD: 3739'. Drilled; repaired; drilled; repaired; drilled; circulated; surveyed. Pulled out of hole 10 stands; tight. Changed kelly bushing. Picked up core barrel. Ran in hole.
3/2/79 20'	TD: 3759'; MW: 9.7; Vis: 39. Cut Core No. 2: 3739' to 3749'. Pulled out of hole. No recovery Core No. 2. Tripped in with core barrel. Cut Core No. 3: 3749' to 3759'. No recovery Core No. 3.
3/3/79 702'	TD: 4461'; MW: 10.2; Vis: 41. Ran in hole with bit; drilled to 4461'. Drilled ahead.
3/4/79 449'	TD: 4910'; MW: 10.2; Vis: 38. Drilled to 4661'; tripped for bit. Drilled ahead.
3/5/79 220'	TD: 5130'; MW: 10.3; Vis: 41. Drilled to 5106'; circulated; surveyed. Drilled to 5119', circulated samples. Pulled out of hole, picked up core

barrel and ran in hole. Cut Core No. 4: 5120' to 5130'. Pulled out of hole. Recovered 10 foot core. Tested blowout preventer equipment.

3/6/79
235'

TD: 5365'; MW: 10.6; Vis: 39. Tested blowout preventer equipment. Ran in hole, repaired; washed and reamed 45 feet to 5130'. Drilled to 5146'; repaired engine throttles. Drilled to 5350'; repaired stand pipe. Drilled ahead.

3/7/79
334'

TD: 5699'; MW: 10.8; Vis: 43. Drilled to 5543'; circulated, surveyed. Pulled out of hole; tight hole 5450' to 4800'. Ran in hole to shoe. Cut drilling line, cleaned sand trap. Ran in hole; tight hole 5150' to 5325'. Washed 30 feet to bottom. Drilled to 5574'; circulated and surveyed. Drilled to 5699'; lost circulation. Mixed lost circulation material.

3/8/79
83'

TD: 5782'; MW: 10.8; Vis: 46. Mixed 100-barrel lost circulation material pill; spotted pill. Pulled out of hole five stands; hole standing full. Pulled out of hole to shoe and built mud volume. Ran in hole; broke circulation at 4800' and 5400'; bridge at 5565'. Washed and reamed to 5699'. Drilled to 5782'; lost partial returns. Circulated and mixed 100-barrel lost circulation material pill. Spotted pill; pulled seven stands. Built mud volume.

3/9/79
163'

TD: 5945'; MW: 10.7; Vis: 42. Built mud volume and mixed lost circulation material pill. Ran in hole, repaired, spotted pill. Pulled out of hole to shoe, circulated and built mud weight. Ran in hole, broke circulation at 4850', 5300', and 5600'. Reamed 40 feet of fill. Drilled to 5945'; lost partial returns. Pulled out of hole to 5000'. Mixed lost circulation material pill. Ran in hole and spotted pill.

3/10/79
186'

TD: 6131'; MW: 10.6; Vis: 40. Plugged bit while spotting lost circulation material pill. Pulled out of hole. Laid down bottom stabilizer. Tripped in, broke circulation at 800', 5350', and 5625'. Reamed 40 feet to bottom with 20 feet of fill. Drilled to 6037'. Repaired compound oiler. Drilled ahead.

3/11/79
104'

TD: 6235'; MW: 10.7; Vis: 41. Pulled out of hole to shoe. Repaired low drum clutch. Ran in hole. Reamed bridge at 5950'; washed and reamed 30 feet to bottom. Drilled ahead.

3/12/79
35'

TD: 6270'; MW: 10.4; Vis: 40. Drilled to 6270'; lost circulation. Spotted two 100-barrel lost circulation material pills; with partial returns on

30

	second pill. Pulled out of hole to shoe; cleaned sand trap and shale pit; built volume. Ran in hole; broke circulation at 5060' and 5800'. Reamed 40 feet to bottom with 25 feet of fill. Circulated.
3/13/79 90'	TD: 6360'; MW: 10.5; Vis: 42. Circulated bottoms up at 6270'. Drilled to 6360', circulated samples, surveyed. Pulled out of hole, tested blowout preventer equipment. Ran in hole.
3/14/79 230'	TD: 6590'; MW: 10.5; Vis: 42. Ran in hole, broke circulation at shoe, 5050', and 6014'. Washed and reamed 50 feet to bottom with 30 feet of fill. Drilled to 6434', circulated samples; drilled to 6555', circulated samples. Drilled ahead.
3/15/79 110'	TD: 6700'; MW: 10.6; Vis: 44. Drilled 6590' to 6640'; circulated, surveyed. Pulled out of hole, repaired. Ran in hole; washed and reamed 50 feet to bottom with 2 feet of fill. Drilled ahead.
3/16/79 110'	TD: 6810'; MW: 10.6; Vis: 48. Drilled to 6776'; circulated samples. Drilled to 6810'; circulated samples. Surveyed; pulled out of hole; steel line measured; repaired; pulled out of hole. Picked up core barrel. Ran in hole to shoe, cut drilling line and packed swivel. Ran in hole; washed and reamed to bottom.
3/17/79 60'	TD: 6870'; MW: 10.6; Vis: 45. Washed and reamed 40 feet to bottom. Cut Core No. 5: 6810' to 6870'. Pulled out of hole, full recovery. Ran in hole with bit; reamed core hole.
3/18/79 49'	TD: 6919'; MW: 10.6; Vis: 48. Reamed 6810' to 6870'; drilled 6870' to 6897'; circulated samples. Pulled out of hole for core barrel. Ran in hole, reamed bridges at 6597' to 6897'. Cut Core No. 6: 6898' to 6919'. Pulled out of hole; recovered 22 feet of core.
3/19/79 186'	TD: 7105'; MW: 10.7; Vis: 57. Ran in hole; reamed 6895' to 6819'. Drilled to 7047', circulated samples. Pulled out of hole for bit. Ran in hole; drilled ahead.
3/20/79 81'	TD: 7186'; MW: 10.6; Vis: 59. Drilled, repaired, circulated. Made short trip. Circulated, steel line measured, pulled out of hole, chained out.
3/21/79 0'	TD: 7186'; MW: 10.6; Vis: 45. Pulled out of hole, steel line measured. Ran GR/DIL, GR/FDC/CNL, GR/CAL/BHC, and Dipmeter 7186' to 2660'. Ran sidewall cores.

3/22/79 0'	TD: 7186'; MW: 10.7; Vis: 50. Ran sidewall cores. Shot 45; recovered 41. Rigged down Schlumberger. Ran in hole to 4500'; circulated 1/2 hour. Ran in hole to bridge at 6560'. Reamed.
3/23/79 0'	TD: 7186'; MW: 10.7; Vis: 58. Reamed bridges 6560' to 7186', circulated. Made 10-stand trip. Reamed 6570' to 7186', circulated. Made short trip. Ran in hole; had eleven feet of fill; circulated; chained out. Casing tight at 3914' and 3550'. Ran in hole, had 20 feet of fill. Circulated, lost 70 barrels of mud. Mixed lost circulation material pill and pumped around. Pulled out of hole.
3/24/79 0'	TD: 7186'; MW: 10.7; Vis: 55. Changed rams to 9-5/8" pulled wear bushing. Rigged up to run casing. Ran 178 joints of 9-5/8", 53.5#, S-95 Buttress casing. Landed at 7167'. Top FO at 2140', bottom FO at 2334'. Rigged down casing tools. Rigged to circulate. Attempted to circulate, no returns. Hole full. Rigged to cement. Tested cement lines to 4,000 psi. Mixed 1,000 sacks Class "G" with 0.75% D-65, 0.2% CFR-2 at 15.6 to 16 ppg slurry. Displaced cement with water.
3/25/79 0'	TD: 7186'; MW: 10.6; Vis: 43. Displaced cement with 493 barrels mud/water; bumped plug with 3,000 psi. Pulled landing joint, set packoff assembly and tested to 5,000 psi. Changed 9-5/8" rams to 5", picked up Howco RTTS and shifting fingers. Ran in hole to 2395'; circulated and conditioned mud. Pulled out of hole to 2100'; checked casing and FOs as per program. Rigged up and cemented through lower FO.
3/26/79 0'	TD: 7186'; MW: 10.6; Vis: 42. Displaced cement through lower FO; cement in place at 6:25 a.m. Bled pressure to 0; closed FO and reversed out. Tested FO to 3,000 psi. Pulled to upper FO. Opened and circulated, no cement. Closed and tested to 3,000 psi. Chained out and laid down Howco equipment. Tested blowout preventer equipment. Laid down 7-3/4" bottom hole assembly. Picked up 6-1/4" bottom hole assembly. Ran in hole; tagged plug at 7084'. Circulated and conditioned mud.
3/27/79 10'	TD: 7196'; MW: 10.5; Vis: 39. Circulated and conditioned mud; pulled out of hole. Rigged up Schlumberger and ran CBL/GR log. Schlumberger T.D. (top of plug) 7081'. Picked up and logged 3000' to 2300'. No cement. Ran in hole, drilled plug 7081', drilled cement 7157'. Tested casing to 3,000 psi; drilled out shoe. Drilled 7186' to 7196'.

3/28/79 122'	TD: 7318'; MW: 10.5; Vis: 40. Tested formation to 525 psi; no leak off. Drilled to 7208'. Pulled out of hole, picked up 14 drill collars. Repaired air valve; ran in hole. Laid down 13 joints of drill pipe. Washed and reamed 7189' to 7208'.
3/29/79 118'	TD: 7436'; MW: 10.5; Vis: 45. Drilled; pulled out of hole to core. Ran in hole with core barrel, reamed 7350' to 7426'. Circulated; dropped ball. Cut Core No. 7: 7426' to 7436'.
3/30/79 27'	TD: 7463'; MW: 10.6; Vis: 48. Pulled out of hole with core; recovered 10 feet. Laid down core barrel. Ran in hole with bit; washed 50 feet to bottom. Drilled to 7463'; circulated samples; pulled out of hole. Picked up 60 foot core barrel and oriented. Ran in hole, circulated and washed to bottom.
3/31/79 55'	TD: 7518'; MW: 10.5; Vis: 50. Circulated and washed to bottom. Began cutting Core No. 8: 7463' to 7523'.
4/1/79 48'	TD: 7564'; MW: 10.5; Vis: 46. Pulled out of hole and laid down core. Recovered 58.2 feet of core. Ran in hole and reamed core hole. Drilled to 7564'. Circulated samples.
4/2/79 51'	TD: 7615'; MW: 10.5; Vis: 44. Pulled out of hole. Ran in hole with core barrel; reamed 7523' to 7564'. Cut Core No. 9: 7564' to 7593'. Pulled out of hole; recovered 28 feet of core. Ran in hole, washed and reamed 7563' to 7593'.
4/3/79 114'	TD: 7729'; MW: 10.5; Vis: 47. Drilled, circulated samples; surveyed. Pulled out of hole.
4/4/79 10'	TD: 7739'; MW: 10.6; Vis: 50. Pulled out of hole, picked up core barrel. Ran in hole to shoe; slipped and cut drilling line. Reamed 7633' to 7729'. Cut Core No. 10: 7729' to 7739'. Pulled out of hole; recovered 8 feet of core. Changed bottom hole assembly. Ran in hole; washed 45 feet to bottom with 2 feet of fill. Circulated and conditioned mud. Surveyed; pulled out of hole. Rigged up to log.
4/5/79 0'	TD: 7739'; MW: 10.6; Vis: 50. Ran Temperature Survey to 7737', DIL to 7737', BHC-Sonic to 7743', SNL/FDC to 7743', Dipmeter to 7740'.
4/6/79 0'	TD: 7739'; MW: 10.6; Vis: 38. Rigged down Schlumberger. Ran in hole, washed 50 feet to bottom; had 6 feet of fill. Circulated and conditioned mud. Pulled out of hole; laid down 14 drill collars.

Ran in hole open ended to 7543'; circulated and conditioned mud. Cement Plug No. 1: pumped 10 barrels of water, 100 sacks Class "G" with 0.75% D-65 and 0.2% D-13R. Pulled out of hole to 7266'; circulated and conditioned mud. Cement Plug No. 2: pumped 8 barrels of water, 100 sacks Class "G" cement with 0.75% D-65 and 0.2% D-13R at 15.8 ppg slurry, 3 barrels of water, and 120 barrels of mud. Pulled out of hole to 6937'; circulated and conditioned mud.

4/7/79
0'

TD: 7739'; MW: 10; Vis: 39. Circulated and conditioned mud. Pulled out of hole. Ran in hole with 9-5/8" casing scraper to 6953'; circulated and conditioned mud. Pulled out of hole. Picked up Howco E-Z drill cement retainer and ran in hole. Set retainer at 6808'. Circulated and conditioned mud. Set Plug No. 3: 8 barrels of water, 50 sacks of Class "G" with 0.75% D-65 and 0.2% D-13R at 15 ppg, followed with 3 barrels water and 114 barrels mud. Pulled out of hole to 5870'; circulated and conditioned mud. Pulled out of hole, laying down excess drill pipe.

4/8/79
0'

TD: 7739'; MW: 9.6; Vis: 30. Pulled out of hole, laid down Howco tools. Ran in hole with drill collars and excess drill pipe and laid down same. Picked up Halliburton RTTS and shifting fingers. Ran in hole; opened upper FO; circulated and conditioned mud. Closed annulus and tested. Lap broke down at 1,300 psi. Circulated and conditioned mud to 9.6 ppg. Closed FO and tested to 3,000 psi. Ran in hole and opened lower FO.

4/9/79
0'

TD: 7739'. Set packer at 2324'; circulated and conditioned mud through lower FO. Established injection rate 4 BPM at 800 psi; pumped 10 barrels water and 500 sacks ArcticSet II at 15.2 ppg; followed with 2 barrels of water and 37 barrels of mud. Cement in place 4/8/79 at 10:10 a.m. Injection pressure 800 psi at 3 BPM; final 650 psi at 1/2 BPM. Stabilized with 400 psi; closed FO; reversed out cement. Pulled out of hole to upper FO and opened same. Circulated and waited on cement. Closed FO and tested to 500 psi. Pulled out of hole, picked up 9-5/8" casing cutter. Ran in hole. Cut casing at 2200'; pulled out of hole. Pulled bore protector; changed rams. Picked up 9-5/8" spear and pulled casing. Laid down 9-5/8" casing.

4/10/79
0'

TD: 7739'. Laid down 53 joints of 9-5/8" casing. Cut off FO and changed rams. Ran in hole to 2165' with bit and scraper; circulated. Pulled out of hole; picked up 13-3/8" Halliburton E-Z drill cement

retainer. Ran in hole and set at 2153'; circulated; rigged up Dowell. Pumped 14 barrels of water, 100 sacks of ArcticSet II at 15.2 ppg, followed with 2 barrels of water and 34 barrels of mud. Pulled out of hole to 1900'; circulated. Had slight amount of contamination. Displaced mud to water and water to diesel.

4/11/79 Laid down drill pipe; nippled down blowout preventer. Installed dry hole marker; cleaned mud pits. Released rig April 10, 1979, at 12:00 midnight. Began rigging down.

DRILLING TIME ANALYSIS

EAST SIMPSON TEST WELL NO. 1

NABORS ALASKA DRILLING, INC., RIG 1

Spud 2/19/79; Rig Released 4/10/79

Total Depth: 7,739 Feet

DRILLING TIME ANALYSIS (HOURS) - HUSKY NPR OPERATIONS, INC. EAST SIMPSON TEST WELL NO. 1 Page 1 of 5

DATE	RIG UP/RIG DOWN	DRILLING	REAMING	TRIP	DEV. SURVEY	RIG MAINT.	RIG REPAIR	CIRC. & COND. MUD	LOGGING	CASING & CEMENT	W O C	NIPPLE UP/DOWN BOP	TEST BOP	CHANGE BHA	LOST CIRC.	FISHING	CORING	DST	PLUG BACK	SQUEEZE CEMENT	DIR. WORK	W O MAT./EQUIP.	OTHER	Operations at 6:00 a.m.	Comments
2-2	24																								Began Rigging Up
2-3	24																								Rigging Up
2-4	24																								Rigging Up
2-5	24																								Rigging Up
2-6	24																								Rigging Up
2-7	24																								Rigging Up
2-8	24																								Rigging Up
2-9	24																								Rigging Up
2-10	24																								Rigging Up
2-11	24																								Rigging Up
2-12	24																								Rigging Up
2-13	24																								Rigging Up
2-14	24																								Rigging Up
2-14	24																								Rigging Up
2-15	24																								Rigging Up

DRILLING TIME ANALYSIS (HOURS) - HUSKY NPR OPERATIONS, INC. EAST SIMPSON TEST WELL NO. 1 Page 2 of 5

DATE	RIG UP/RIG DOWN	DRILLING	REAMING	TRIP	DEV. SURVEY	RIG MAINT.	RIG REPAIR	CIRC. & COND. MUD	LOGGING	CASING & CEMENT	W O C	NIPPLE UP/DOWN BOP	TEST BOP	CHANGE BHA	LOST CIRC.	FISHING	CORING	DST	PLUG BACK	SQUEEZE CEMENT	DIR. WORK	W O MAT./EQUIP.	OTHER	Operations at 6:00 a.m.	Comments
2-17	24																								Rigging Up
2-18	17				¼			2¾															4	Rigging Up	
2-19	7¾	11½	¼		¾		2						¼										2	Building Diverter line	Spud well at 8:00 a.m., 2/19/79
2-20		17½		4	1		1	½																Drilling	
2-21		21			1		1	1																Drilling	
2-22		½		10	½			2½	6½	4														Circulating	Ran Schlumberger Logs
2-23				4				3		7½	4	5½												Tripping	Ran 13-3/8" casing to 2661' K.B.
2-24											12	12												Waiting on Cement	
2-25												20	4											Nipple up BOP	
2-26				7			8						9											Testing BOPE	
2-27		4¼		9¼			6¾	1½									2							Tripping	Core No. 1: 2674.5' - 2685'
2-28		21½		1			1	½																Drilling	
3-1				16½	½		1½	3									2						½	Tripping	Core No. 2: 3739' - 3749'
3-2		13½		6½	1 ¾			½									2							Tripping	Core No. 3: 3749' - 3759'
3-3		15½		5½			2½	½																Drilling	

DRILLING TIME ANALYSIS (HOURS) - HUSKY NPR OPERATIONS, INC. EAST SIMPSON TEST WELL NO. 1 Page 3 of 5

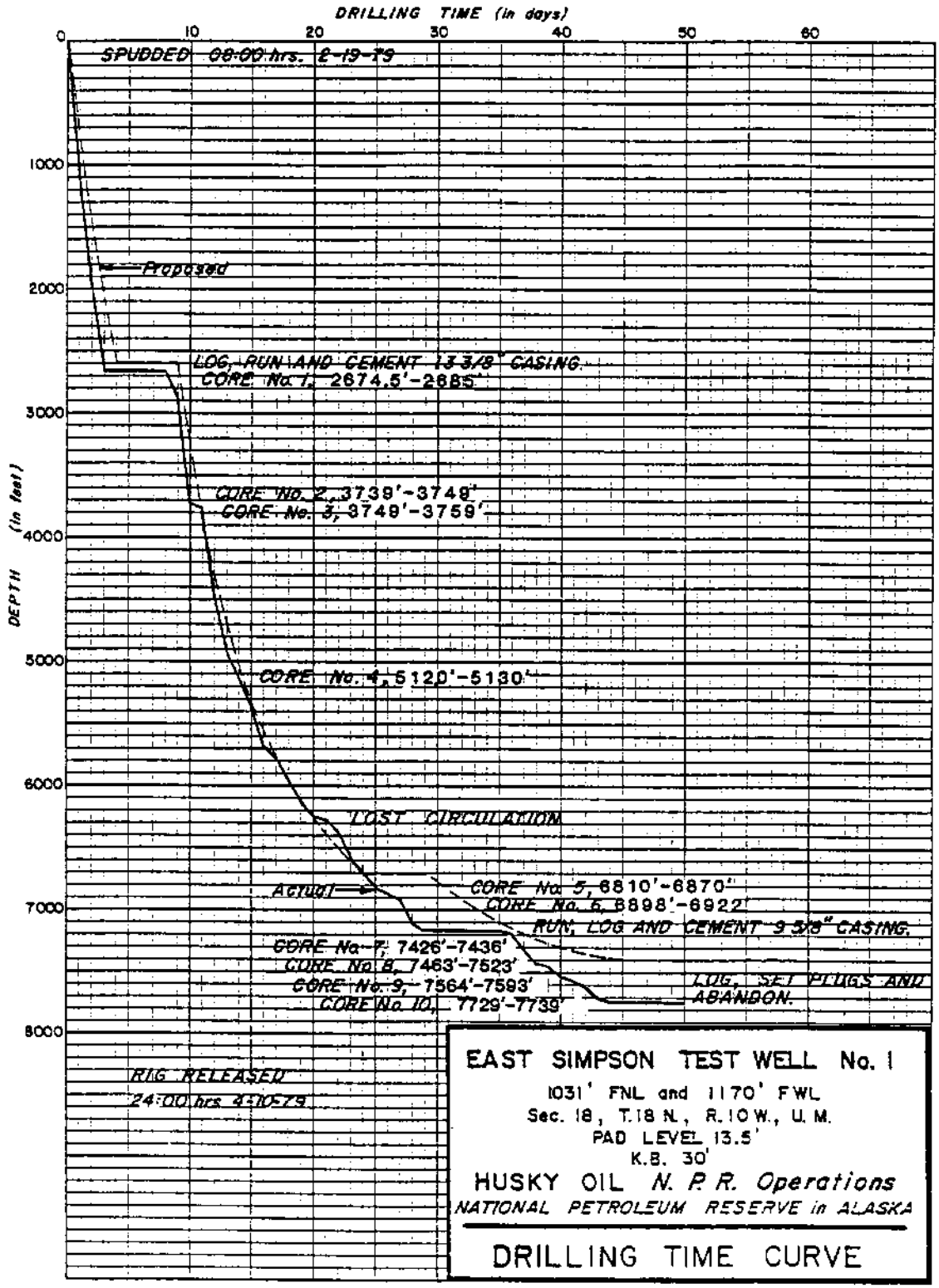
DATE	RIG UP/RIG DOWN	DRILLING	REAMING	TRIP	DEV. SURVEY	RIG MAINT.	RIG REPAIR	CIRC. & COND. MUD	LOGGING	CASING & CEMENT	W O C	NIPPLE UP/DOWN BOP	TEST BOP	CHANGE BHA	LOST CIRC.	FISHING	CORING	DST	PLUG BACK	SQUEEZE CEMENT	DIR. WORK	W O MAT./EQUIP.	OTHER	Operations at 6:00 a.m.	Comments
3-4		13¼		5¾	1	¼	1	¾									2							Drilling	Core No. 4: 5120' - 5130'
3-5		8	1	5¼			1¼						7½				1							Testing BOP	
3-6		13½		6			1½	1¼															1½	Drilling	
3-7		4¼	2½	3½	1			8½															4¼	Building Volume	
3-8		6½	½	5			½	3½															8	Building Volume	
3-9		8½	½	10½			1½																3	Tripping	
3-10		8½		3	½		12																	Drilling	
3-11		3¼	¼	5¾			2¾	10															2	Drilling	
3-12		10		5½				7¼					1¼											Tripping	
3-13		13		5½				1½					4											Tripping	
3-14		12½		6¼			3	2½																Drilling	
3-15		13¼		6¾			1	3																Drilling	
3-16				8½													14						1½	Tripping	Core No. 5: 6810' - 6870'
3-17		1	8	12½				2½																Reaming	
3-18		4½	2	14	½			1½									1½							Tripping	Core No. 6: 6898' - 6922'

DRILLING TIME ANALYSIS (HOURS) - HUSKY NPR OPERATIONS, INC. EAST SIMPSON TEST WELL NO. 1 Page 4 of 5

DATE	RIG UP/RIG DOWN	DRILLING	REAMING	TRIP	DEV. SURVEY	RIG MAINT.	RIG REPAIR	CIRC. & COND. MUD	LOGGING	CASING & CEMENT	W O C	NIPPLE UP/DOWN BOP	TEST BOP	CHANGE BHA	LOST CIRC.	FISHING	CORING	DST	PLUG BACK	SQUEEZE CEMENT	DIR. WORK	W O MAT./EQUIP.	OTHER	Operations at 6:00 a.m.	Comments
3-19		19		2½			½	2																Drilling	
3-20				4¾				2¼	16½															Tripping	Ran Schlumberger Logs
3-21				3½			10½		10															Logging	
3-22				17				7																Tripping	
3-23			½	4¾			2	3½		13½														Tripping	
3-24				2				6½		11½			4											Running Casing	Ran 9-5/8" casing to 7167' K.B.
3-25				11½			2	2		6½			2											Cementing	
3-26				9½			1	8¼	3½														1¼	Repairing Rig	Ran CBL Logs
3-27		8	¼	10¼			¾																3¾	Drilling	
3-28		14½		6½	½		2½																	Drilling	
3-29		2¼	1½	15½			¾	2¼									2							Tripping	
3-30			¼	5				¼									17½							Reaming	Core No. 7: 7426' - 7436'
3-31			1¼	6¼									4¾				11¾							Coring	Core No. 8: 7463' - 7523'
4-1		5½	¼	10¾				1¼									5¼							Circulating	Core No. 9: 7564' - 7593'
4-2		20¾		2½																				Drilling	

DRILLING TIME ANALYSIS (HOURS) - HUSKY NPR OPERATIONS, INC. EAST SIMPSON TEST WELL NO. 1 Page 5 of 5

DATE	RIG UP/RIG DOWN	DRILLING	REAMING	TRIP	DEV. SURVEY	RIG MAINT.	RIG REPAIR	CIRC. & COND. MUD	LOGGING	CASING & CEMENT	W O C	NIPPLE UP/DOWN BOP	TEST BOP	CHANGE BHA	LOST CIRC.	FISHING	CORING	DST	PLUG BACK	SQUEEZE CEMENT	DIR. WORK	W O MAT./EQUIP.	OTHER	Operations at 6:00 a.m.	Comments
4-3		2½	1½	13½				1½									3¾						1¼	Tripping	Core No. 10: 7729' - 7739'
4-4				3	¼			2¼	18½															Preparing to Log	Ran Schlumberger Logs
4-5				12				3¾	7										1¼					Logging	
4-6				13				9¼		1¾														Circulating	
4-7				16				7½		½														Tripping	
4-8				7				13½		3													½	Circulating	
4-9				7½				6		½													10	Laying Down Casing	
4-10				5				5				14												Tripping	Rig Released at 12:00 Midnight
4-11	20											4												Rigging Down	
4-12	24																							Rigging Down	
4-13	24																							Rigging Down	
4-14	24																							Rigging Down	
	500¾	22 ¾		9		68¼		62		16		36		-0-		64¾		1¼		-0-		43½			
TOTAL HOURS		297½		357½	¼			143¾		48½		55½	-0-		-0-		-0-		-0-		-0-				


DRILLING TIME (in days)
0
10
20
30
40
50
60
DEPTH (in feet)
1000
2000
3000
4000
5000
6000
7000
8000
SPUDDED 08:00 hrs. 2-19-79
Proposed
LOG, RUN AND CEMENT 13 3/8" CASING
CORE No. 1, 2674.5'-2685'
CORE No. 2, 3739'-3749'
CORE No. 3, 3749'-3759'
CORE No. 4, 5120'-5130'
LOST CIRCULATION
Actual
CORE No. 5, 6810'-6870'
CORE No. 6, 6898'-6922'
RUN, LOG AND CEMENT 9 5/8" CASING.
CORE No. 7, 7426'-7436'
CORE No. 8, 7463'-7523'
CORE No. 9, 7564'-7593'
CORE No. 10, 7729'-7739'
LOG, SET PLUGS AND ABANDON.
RIG RELEASED
24:00 hrs 4-10-79
EAST SIMPSON TEST WELL No. 1
1031' FNL and 1170' FWL
Sec. 18, T. 18 N., R. 10 W., U. M.
PAD LEVEL 13.5'
K.B. 30'
HUSKY OIL N. P. R. Operations
NATIONAL PETROLEUM RESERVE in ALASKA
DRILLING TIME CURVE

47

DRILLING MUD RECORD

ARCTIC DRILLING SERVICES

3139 Denali Street

COMPANY Husky Oil NPR Operations, Inc. STATE Alaska

WELL East Simpson Test Well No. 1 COUNTY North Slope

CONTRACTOR Nabors Alaska Drilling LOCATION NPRA SEC 18 TWP 18N RNG 10W

STOCKPOINT _____ DATE _____ ENGINEER Jim Lary/Lee Dewees

CASING PROGRAM: 20 inch at 90 ft.
13 3/8 inch at 2661 ft.
9 5/8 inch at 7167 ft.

TOTAL DEPTH 7739 ft.

DATE	DEPTH	WEIGHT	VISCOSITY		Yp	GELS	pH	FILTRATION			FILTRATE ANALYSIS				SAND	RETORT			CEC	REMARKS AND TREATMENT
1979	feet	lb/gal	Sec API @ °F	PV @ °F		10 sec/ 10 min	Strip D Meter D	ml API	HTHP @ °F	Cake 32nds	Pm	Pf/Mf	Cl ppm	Ca ppm	%	Solids %	Oil %	Water %	Mud, me/ml	
2/20	873	9.5	36	12	9	3/15	8.0	27		3			600	Tr	4	9	0	91		Spudded well on 2/19/79
2/20	1543	9.8	35	9	5	1/12	8.0	13+		2			1900	Tr	2.5	11	0	89		Trip for bit no. 2
2/21	1880	10.2	36	12	8	2/20	8.0	12		2			1900	Tr	3	14	0	86		
2/21	2500	10.2	35	10	4	1/11	8.0	11		3			1900	80	2	14	0	86		
2/22	2670	10.1	33	8	3	1/7	8.0	12		3			1900	80	2	13	0	87		Raise viscosity to 70 for loggin
2/23	2670	9.9	33	7	3	1/5	8.0	13		2			1600	80	1	12	0	88		Logged. Ran 13 3/8" casing
2/23	2661	9.1	30	6	2	1/2	8.0	+30		3			1000	Tr	3/4	6	0	94		WOC
2/24	2661	9.1	30	6	2	1/2	8.0	+30		3			1000	Tr	3/4	6	0	94		WOC
2/25	2661	9.1	30	6	2	1/2	8.0	+30		3			1000	Tr	3/4	6	0	94		Nipple up on 13 3/8" casing
2/26	2661	9.1	30	6	2	1/2	8.0	+30		3			1000	Tr	3/4	6	0	94		Test BOPs. GIH with bit no. 3
2/27	2670	9.1	30	6	2	1/2	8.0	+30		3			1000	Tr	3/4	6	0	94		
2/27	2675	9.1	30	6	2	1/2	8.0	+30		3			1000	Tr	3/4	6	0	94		Test formation to .624 psi grad.
2/28	2852	9.3	37	8	8	3/12	8.0	18		2			1300	40	1/2	7	0	93		Cut core 2674.5-2685'
2/28	3540	9.7	42	10	17	8/22	8.5	12		2			1300	Tr	Tr	10	0	90		
3/1	3739	9.7	38	7	10	2/12	8.5	10		2			1300	Tr	Tr	10	0	90		Circ bottoms up. Cut Core No. 2, 3739-3749', no recovery.
3/1	3749	9.7	38	7	10	2/12	8.5	10		2			1300	Tr	Tr	10	0	90		
3/2	3759	9.7	39	7	11	3/12	8.5	10		2			1300	Tr	Tr	10	0	90		Cut core No.3, 3749-3759', no recovery
3/2	4025	9.9	39	7	12	4/17	8.0	10		2			1300	Tr	Tr	12	0	88		GIH with bit no. 4
3/3	4410	10.2	41	8	14	4/19	8.0	10		2			1300	Tr	Tr	13	0	87		
3/3	4461	10.5	40	8	14	3/16	8.0	10		2			1300	Tr	Tr	14	0	86		Trip for bit no. 5. Tight hole
3/4	4830	10.2	38	7	12	2/14	8.0	10		2			1300	Tr	Tr	13	0	86		
3/4	5119	10.3	41	9	12	3/14	8.0	8.0		2			1300	Tr	Tr	14	0	86		Drilling to 5119'. Core to 5130
3/5	5130	10.3	41	9	12	3/14	8.0	8.0		2			1300	Tr	Tr	14	0	86		GIH with bit no. 6
3/5	5170	10.4	40	9	12	3/14	8.0	8.0		2			1300	Tr	Tr	14	0	86		
3/6	5355	10.6	39	10	10	3/14	8.0	8.5		2			1300	Tr	Tr	15	0	85		Pressured shale at 5250'
3/7	5699	10.8	43	12	13	3/12	8.0	7.5		2			1200	Tr	Tr	16	0	84		Lost returns at 5699'. Mixed LCM
3/7	5689	10.5	44	10	14	2/14	8.0	6.0		2			1100	Tr	Tr	16	0	84		Rgnd rtns. Built 300 bbls mud
3/8	5782	10.8	46	18	24	6/18	8.0	2.0		2			1100	Tr	Tr	18	0	82		Lost returns
3/8	5795	10.5	40	11	6	2/4	8.0	8.0		2			1200	Tr	Tr	15	0	85		Built 300 bbls mud
3/9	5945	10.7	42	11	4	1/4	8.0	6.0		2			1200	Tr	Tr	17	0	83		Lost partial returns at 5945'
3/9	6039	10.6	38	10	7	1/10	8.0	8.0		2			1000	Tr	2	17	0	83		Plugged bit. Placed 60' LCM pill
3/10	6110	10.6	40	12	10	1/8	8.0	7.0		2			1000	Tr	2	17	0	83		POH. RIH with bit no. 8
3/10	6194	10.7	41	12	10	2/8	8.0	7.0		2			1000	Tr	2	17	0	83		Drilling to 6194'. POH to shoe
3/11	6194	10.7	41	12	10	2/8	8.0	7.0		2			1000	Tr	2	17	0	83		Rig down for repairs
3/11	6270	9.2	34	10	10	1/5	8.0	14		2			800	Tr	Tr	5	0	95		Lost returns. Rebuilt volume

DRILLING MUD RECORD

ARCTIC DRILLING SERVICES

3139 Denali Street

COMPANY Husky Oil NPR Operations, Inc. STATE Alaska

WELL East Simpson Test Well No. 1 COUNTY NOrth Slope

CONTRACTOR Nabors Alaska Drilling LOCATION NPRA SEC 18 TWP 18N RNG 10W

STOCKPOINT _____ DATE _____ ENGINEER Jim Lary/Lee Dewees TOTAL DEPTH 7739 ft.

CASING PROGRAM: 20 inch at 90 ft.
13-3/8 inch at 2661 ft.
9-5/8 inch at 7167 ft.

DATE	DEPTH	WEIGHT	VISCOSITY		Yp	GELS	pH	FILTRATION			FILTRATE ANALYSIS				SAND	RETORT			CEC	REMARKS AND TREATMENT
1979	feet	lb/gal	Sec API @ °F	PV @ °F		10 sec/10 min	Strip ☐ Meter ☐	ml API	HTHP @ °F	Cake 32nds	Pm	Pf/Mf	Cl ppm	Ca ppm	%	Solids %	Oil %	Water %	Mud, me/ml	
3/12	6270	10.3	40	12	14	2/6	8.0	8.0		2			800	Tr	Tr	10	0	90		GIH.
3/12	6380	10.5	42	10	10	1/7	8.0	7.5		2			800	Tr	2.5	14	0	86		Regained full returns. POH
3/13	6380	10.5	42	10	10	1/7	8.0	7.5		2			800	Tr	2.5	14	0	86		Sand due to LCM. GIH w/bit no.9
3/13	6405	10.5	44	15	16	3/12	8.0	7.5		2			900	Tr	2.5	15	0	85		Drilling ahead
3/14	6585	10.5	42	14	12	2/10	8.0	8.0		2			900	Tr	3.0	16	0	84		Drilling ahead
3/14	6635	10.6	45	15	17	3/12	8.0	8.0		2			900	80	3.0	16	0	84		Trip for bit no. 10
3/15	6690	10.6	44	16	17	4/10	8.0	8.3		2			900	80	3.0	16	0	84		Drilling ahead
3/15	6810	10.6	49	18	19	4/14	8.3	7.5		2			900	80	2.5	15	0	85		Drill to 6810'
3/16	6810	10.6	48	17	18	4/14	8.3	7.5		2			950	80	2.0	14	0	86		POH to core
3/17	6850	10.6	44	16	12	4/12	8.3	7.5		2			900	100	2.0	13	0	87		Cutting core no. 5
3/17	6859	10.6	45	15	17	4/12	8.3	7.5		2			900	100	2.0	13	0	87		Cut 60 foot core
3/17	6897	10.6	45	15	16	4/12	8.3	7.5		2			900	100	1.0	13	0	87		Drilling to 6897
3/18	6919	10.6	48	17	18	4/13	8.3	7.5		2			900	100	1.5	13	0	87		Cut core no. 6 to 6922'. POH
3/18	7047	10.6	60	24	24	4/20	8.5	7.5		2			1000	80	1.0	13	0	87		GIH with RR no. 11. Ream. POH
3/19	7090	10.7	57	18	25	4/18	8.5	7.5		2			1000	80	1.0	13	0	87		Trip for bit no. 12.
3/19	7170	10.7	47	15	19	4/14	9.0	7.5		2			1000	80	1.0	14	0	86		Drilling.
3/20	7186	10.6	59	20	24	4/20	9.0	7.5		2			950	80	3/4	13	0	87		Drill to 7186'. Prep to run logs
3/21	7186	10.6	45	14	16	4/12	9.0	7.5		2			900	80	3/4	13	0	87		Logging
3/21	7186	10.7	45	14	16	4/12	9.0	7.5		2			900	80	3/4	13	0	87		Logging
3/22	7186	10.7	50	17	19	4/20	8.5	7.5		2			1000	80	3/4	13	0	87		Trip in w/RR no. 10. Bridge @ 6566'
3/22	7186	10.7	50	17	19	4/20	8.5	7.5		2			1000	80	3/4	13	0	87		Short trip. Circulate. Short trip
3/22	7186	10.8	62	24	24	4/22	8.5	7.5		2			1000	80	3/4	14	0	86		Pulled tight at 3800'
3/23	7186	10.7	58	18	26	4/20	8.5	7.5		2			1000	80	3/4	13	0	87		Lost 70 bbls mud. Added mica
3/24	7186	10.7	55	17	20	4/20	8.5	7.5		2			900	80	3/4	13	0	87		Ran 9 5/8" casing. Lost mud
3/25	7186	10.6	43	10	15	4/12	9.0	15		2			1050	80	0	10	0	90		Preparing to cement
3/25	7167	10.6	42	11	16	4/14	9.0	15		2			1050	100	Tr	11	0	89		Cement upper stage. POH
3/26	7167	10.6	42	11	16	4/14	9.0	15		2			1050	100	Tr	11	0	89		Test BOP. RIH to 7080'
3/27	7167	10.5	38	12	8	3/7	9.5	15		2			1150	100	Tr	11	0	89		Circ and condition mud
3/27	7167	10.5	39	9	9	3/8	9.5	9.0		2			1150	120	Tr	11	0	89		Treat cement contaminated mud
3/27	7230	10.5	37	9	7	0/1	11.0	8.0		2			1350	100	Tr	9	0	91		Drilled 10'. Tested formation
3/28	7300	10.5	40	12	10	2/7	10.5	6.0		1			1400	100	Tr	9	0	91		Drilling ahead.
3/28	7426	10.5	44	13	10	2/7	10.5	6.0		2			1400	100	Tr	10	0	90		Drilling to 7426'. POH to core.
3/29	7428	10.5	45	17	17	2/7	10.5	6.5		2			1400	100	Tr	10	0	90		Core No. 7, 7426-7436'
3/29	7463	10.6	48	17	20	2/9	10.5	5.0		2			1400	100	Tr	11	0	89		Drill to 7463'. POH.
3/30	7463	10.6	48	17	20	2/9	10.5	5.0		2			1400	100	Tr	11	0	89		Pick up core, bit & bbl. RIH.

DRILLING MUD RECORD

ARCTIC DRILLING SERVICES

3139 Denali Street

COMPANY Husky Oil NPR Operations, Inc. STATE Alaska

WELL East Simpson Test Well No. 1 COUNTY North Slope

CONTRACTOR Nabors Alaska Drilling LOCATION NPRA SEC 18 TWP 18N RNG 10W

STOCKPOINT _____ DATE _____ ENGINEER Jim Lary/Lee Dewees TOTAL DEPTH _____ ft.

CASING PROGRAM: 20 inch at 90 ft.
13-3/8 inch at 2661 ft.
9-5/8 inch at 7167 ft.

DATE	DEPTH	WEIGHT	VISCOSITY		Yp	GELS	pH	FILTRATION			FILTRATE ANALYSIS				SAND	RETORT			CEC	REMARKS AND TREATMENT
1979	feet	lb/gal	Sec API @ °F	PV @ °F		10 sec/10 min	Strip □ Meter □	ml API	HTHP @ °F	Cake 32nds	Pm	Pf/Mf	Cl ppm	Ca ppm	%	Solids %	Oil %	Water %	Mud, ms/ml	
3/30	7495	10.5	47	17	18	2/5	10.0	5.0		2			1400	100	Tr	11	0	89		Coring.
3/31	7514	10.5	50	18	18	2/8	10.0	5.0		2			1400	100	Tr	11	0	89		Coring.
3/31	7523	10.5	47	18	18	2/7	10.0	5.0		2			1400	100	Tr	11	0	89		Core No. 8 from 7463-7523'
4/1	7556	10.5	46	19	15	3/5	10.0	5.0		2			1400	100	Tr	11	0	89		Trip for bit no. 16.
4/1	7582	10.5	43	16	12	2/4	10.0	5.0		2			1400	100	Tr	11	0	89		Drilling to 7564'. Core to 7593'
4/2	7593	10.5	44	16	14	2/6	10.0	5.0		2			1400	100	Tr	11	0	89		POH. Pick up bit no. 17. RIH.
4/2	7697	10.6	47	17	18	2/8	9.5	5.0		2			1400	100	Tr	11	0	89		Drill ahead.
4/3	7729	10.5	47	16	18	2/7	9.5	5.0		2			1400	100	Tr	11	0	89		Drill to 7729'. Prepare to core.
4/3	7739	10.6	50	17	16	2/8	9.5	5.0		2			1400	100	Tr	11	0	89		Core No. 9 from 7729-7739'. POH
4/4	7739	10.6	50	17	16	2/8	9.5	5.0		2			1400	100	Tr	11	0	89		RIH. Circulate. Prepare to log.
4/4	7739	10.6	50	17	16	2/8	9.5	5.0		2			1400	100	Tr	11	0	89		Logging.
4/5	7739	10.6	50	17	16	2/8	9.5	5.0		2			1400	100	Tr	11	0	89		Logging.
4/6	7739	10.6	38	15	10	1/3	11.0	4.0		2			1600	140	Tr	11	0	89		Setting cement plugs.
4/7	-	10.6	39	17	8	1/3	10.0	6.0		2			1600	100	Tr	10	0	90		Plugged and abandoned.

BIT RECORD

COMPANY	CONTRACTOR	COUNTY	STATE
Husky Oil NPR Operations	Nabors Alaska Drilling	North Slope	Alaska

LEASE	WELL NO	SEC	TOWNSHIP	RANGE	BLOCK	FIELD
	East Simpson TW No. 1	18	T18N	R10W		NPRA

TOOL PUSHER	DRILL PIPE				DRAW WORKS		
DAY DRILLER	TOOL JOINT	MAKE	SIZE	TYPE	POWER	H P	UNDER SURF
EVENING DRILLER	DRILL COLLAR	NO	O D	I D	LENGTH	PUMP NO 1 MAKE	MODEL	STROKE	INT DATE
MORNING DRILLER	DRILL COLLAR	NO	O D	I D	LENGTH	PUMP NO 2 MAKE	MODEL	STROKE	T D DATE

BIT NO	BIT SIZE	BIT MFGR	BIT TYPE	SERIAL NO OF BIT	JET SIZE 1	2	3	DEPTH OUT	FTGE	HOURS RUN	ACC HOURS	FT/HR	WEIGHT 1000 LBS	ROTARY R P M	VERT DEV	PUMP PRESS	PUMPS No	Liner	SPM	MUD Wt	Vis	DULL CODE I	B	G	REMARKS FORMATION CIRC FLUID, ETC	DATE
1	17½	HTC	OSC 3AJ	PR829	14	14	14	1540	1450	25	25	58	40	80	3/4	1750	2	5½	43	10+	36	5	4	I	Clay/sand/shale	2/20
2	17½	HTC	OSC 3AJ	PR982	15	15	14	2670	1130	25+	50	44.3	45	130	1/2	1300	1	6½	60	10+	33	6	4	I	" " "	2/22
3	12¼	HTC	OSC 3AJ	AA866	13	12	12	2675	5	4+	54+		15	50	1/2	1500	1	6½	50	9+	30	I	N	C	Drill cement float, shoe & 5' formation	2/27
CH 1 C #1	8½	CDP	MC201	8W1603				2685	10	1	55+	10	20	70	1/2	750	1	6½	35	9+	30	G	O	O	D Received 10' core.	2/27
3RR	12¼	HTC	OSC 3AT	AA866	13	12	12	3739	1054	26+	82+	39.7	55	110	3/4	2300	1	6½	60	9+	38	5	7	I	Reamed 10 ft core. Drilling shale.	2/28
CH 1 C #2	8½	CDP	MC201	8W1603				3749	10	1+	83+	6.6	28	80	-	1100	1	6½	34	9+	38	G	O	O	D No recovery.	3/1
4	12¼	HTC	OSC 3AJ	22367	13	12	12	3749																	Ream core hole.	3/1
CH 1 C #3	8½	CDP	MC201	8W1603				3759	10	2+	86+	4	20	65	1/2	900	1	6½	36	9+	39	G	O	O	D No recovery.	3/2
4RR	12¼	HTC	OSC 3AJ	22367	13	12	12	4661	902	26+	112+	34	55	120	1/2	2300	1	6½	60	10+	38	3	7	I		3/3
5	12¼	HTC	OSC 3AJ	AA871	13	12	12	5119	458	15+	127+	30.5	60	120	1/2	2300	1	6½	60	10+	41	3	7	I		3/4
CH 1 C #4	8½	CDP	MC201	8W1603				5130	11	2+	130+	4.4	15	50	1/2	800	1	6½	35	10+	43	G	O	O	D Received 10' core.	3/5
6	12¼	HTC	OSC 3AJ	2X966	13	12	12	5543	413	20+	150+	20.1	55	115	1/4	2300	1	6½	60	10+	39	4	7	I	Shale	3/6
7	12¼	HTC	X3A	PM788	13	13	12	5945	402	15+	166+	25.9	55	110	1/4	1950	1	6½	56	10+	42	5	4	I	Lost circulation. Sand and shale.	3/9
8	12¼	HTC	X3A	PM 731	15	15	16	6360	415	26+	193	15.5	50	110	1/2	1300	1	6½	55	10+	41	5	4	1 8	Lost circulation. Sand and shale.	3/12
9	12¼	HTC	X3A	PM848	15	15	16	6640	280	25+	218+	11.1	55	110	1/4	1800	1	6½	50	10+	44	6	7			
10	12¼	HTC	X16	PM231	15	15	16	6810	170	13+	231+	12.8	55	100	1/2	1850	1	6½	50	10+	48	3	3	1/8	Sand and shale.	3/15
CH 1 C #5	8½	CDP	MC201	8W1603				6870	60	14	245+	4.3	20	50	1/2	900	1	6½	35	10+	45	G	O	O	D Received 60' core.	3/17
11	12¼	HTC	X16	PM227	12	13	13	6897	27	1	246+	27	55	100	1/2	1800	1	6½	50	10+	48	2	2	1/16	Pull for core.	3/17
CH 1 C #6	8½	CDP	MC201	8W1603				6922	22	1+	248	14.6	20	50		1000	1	6½	35	10+	48	G	O	O	D Received 22' core.	3/18
11RR	12¼	HTC	X16	PM227	12	13	13	7047	132	4+	252+	29.3	55	100	3/4	1800	1	6½	50	10+	57	5	5	1/8	Sand and shale.	3/18
12	12¼	HTC	X16	PM226	12	13	13	7186	139	19	271+	7.3	55	100	3/4	1750	1	6½	50	10+	45	6	4	1/8	Sand and shale.	3/19

SMITH REPRESENTATIVE _____ PHONE _____

BIT RECORD

COMPANY	CONTRACTOR	COUNTY	STATE
Husky Oil NPR Operations, Inc.	Nabors Alaska Drilling	North Slope	Alaska

LEASE	WELL NO	SEC	TOWNSHIP	RANGE	BLOCK	FIELD
	East Simpson Test Well No. 1	18	18N	10W		

TOOL PUSHER	DRILL PIPE	DRAW WORKS	
DAY DRILLER	TOOL JOINT MAKE / SIZE / TYPE	POWER H P	UNDER SURF
EVENING DRILLER	DRILL COLLAR NO / O D / I D / LENGTH	PUMP NO 1 MAKE / MODEL / STROKE	INT DATE
MORNING DRILLER	DRILL COLLAR NO / O D / I D / LENGTH	PUMP NO 2 MAKE / MODEL / STROKE	T D DATE

BIT NO	BIT SIZE	BIT MFGR	BIT TYPE	SERIAL NO OF BIT	JET SIZE 1	2	3	DEPTH OUT	FTGE	HOURS RUN	ACC HOURS	FT/HR	WEIGHT 1000 LBS	ROTARY R P M	VERT DEV	PUMP PRESS	PUMPS No	Liner	SPM	MUD Wt	Vis	DULL CODE T	B	G	REMARKS FORMATION CIRC FLUID, ETC	DATE
13	8½	HTC	OSC1G	ND070	10	10	10	7208	22	3+	275+	5.8	15/18	90		1700	1	5½	52	10+	39	4	4	I	Drilling	3/27
14	8½	HTC	X1G	RN236	9	9	10	7426	218	19+	295	11	45	80		2400	1	5½	44	10+	38	5	5	I	Sand and shale.	3/28
CH 1 C #7	8½	CDP	MC201	8W1603				7436	10	2	297	5	20	60	3/4	800	1	5½	40	10+	45	G	O	O	D Received 10' core.	3/29
15	8½	HTC	X1G	PH718	9	9	10	7463	27	2+	299+	12	40	85		1600	1	5½	45	10+	48	I	I	I	Pull for core.	3/29
CH 1 C #8	8½	CDP	MC201	8W1603				7523	60	27+	327	2.1	30	60		800	1	5½	44	10+	46	G	O	O	D Received 58.2' core.	3/31
16	8½	HTC	J-22	VK474	9	9	10	7564	41	5+	332	7.4	45	45		1500	1	5½	44	10+	44	3	I	I		4/1
CH 1 C #9	8½	CDP	MC201	8W1603				7593	29	4+	337+	6.1	30	60		1100	1	5½	50	10+	44	F	A	I	R Received 28' core.	4/1
17	8½	Smith	F-3	AH881	9	9	9	7729	136'	23+	360+	5.8	45	45		1700	1	5½	44	10+	47	4	4	I		4/3
CH 1 C #10	8½	CDP	MC201	8W1603				7739	10	2+	363	4	30	60		1000	1	5½	50	10+	50	F	A	I	R Received 8' core.	4/3
17RR																									Clean out for logs.	

SMITH REPRESENTATIVE _____ PHONE _____

Compliments of SMITH TOOL

P O BOX 4549 · COMPTON CALIF 90224
DIVISION OF SMITH INTERNATIONAL, INC.

INTRODUCTION

After the 1976 drilling season, casing requirements were reviewed and design of casing strings standardized. Every effort was made to minimize weight and grade changes for simplicity, cost effectiveness, and to reduce chances of error during handling and running operations. Casing sizes were selected to accommodate designs for wells from 2,000' to 20,000'. Steel grade selection was the controlling factor on design with low hardness (Rockwell C24-28) steel being selected for Arctic application and possible H_2S environment. Below is listed casing sizes and design criteria required by Husky:

SIZE[1]	WEIGHT	YIELD STRENGTH (PSI) MIN.	YIELD STRENGTH (PSI) MAX.	MINIMUM PRESSURE REQUIREMENT (PSI) COLLAPSE	MINIMUM PRESSURE REQUIREMENT (PSI) BURST	CONNECTION
20"	133#/ft.	55,000	80,000	1,500	3,050	STC
13-3/8"[2]	72#/ft.	95,000	110,000	3,450	5,350	BTC
9-5/8"[3]	53.5#/ft.	95,000	110,000	8,850	7,900	BTC
9-3/4"[3]	59.2#/ft.	95,000	110,000	9,750	8,540	BTC
7"	38#/ft.	95,000	110,000	12,600	9,200	BTC

(1) OD tolerance to be within API requirements unless adjustment absolutely necessary to meet ID requirements.

(2) Special drift to 12.25".

(3) Special drift to 8.50".

The following are additional requirements primarily to assure that the steel exhibits the metallurgical properties for Arctic applications and resistance to hydrogen embrittlement.

1. All pipe that is 13-3/8" OD and smaller to be quenched and tempered.

2. Run Charpy "V" notch tests on two random samples per 50 tons per heat. Minimum acceptance of 15 ft.-lb.@-50°F. Furnish test reports with order.

3. Perform all testing normally required for API approved pipe.

4. Furnish test reports for ladle analysis, quantitative analysis, and all check tests as per API requirements.

In addition, the following handling requirements were made:

1. Collars must be of same steel grade as pipe body.

2. Apply an API modified thread compound on mill-installed collar before bucking on.

3. Inspect at mill using Tuboscope's Amalog IV or equivalent on 9-3/4" and smaller, and at least magnetic particle on 13-3/8" and 20". All pipe to have special and area inspection together with full length API drifting. (Note special drifting requirements.)

4. Apply Arctic grade grease on all connections before installing thread protectors.

5. Install closed-end type thread protectors. Plastic plugs can be used to secure wrench openings in protectors.

6. Buck up thread protectors with impact wrench. Both mill and third party inspection personnel should observe the installation of thread protectors.

7. Palletize or containerize the tubulars, if possible, prior to shipment from mill. Do not haul pipe like cordwood in gondola railroad cars.

8. All pipe to be Range 3.

9. No "V" notching or metal stenciling on pipe body or collars.

The proposed casing program for East Simpson No. 1 was as follows: 20" conductor at ±100'; 13-3/8" casing 2600'; 9-5/8" casing at 6700'; and 7" liner to a total depth of 7400' if needed for evaluation of hydrocarbon bearing zones. Actual casing run in the well was 20" conductor at 90'; 13-3/8" casing at 2661'; and 8-5/8" casing at 7167'. The 7" liner was not needed. The 9-5/8" casing was cut at 2200' and recovered back to the surface prior to plugging and abandoning the well.

The top of the shallowest plug in the well was at 2039' in the 13-3/8" casing. The wellbore was left full of diesel from 2039' to within ±25 feet from the surface. This was to allow down hole temperature measurements to be taken by U. S. Geological Survey personnel after the well was abandoned.

CASING TALLY
SUMMARY SHEET

DATE: February 23, 1979

FIELD National Petroleum Reserve in AK LEASE & WELL NO. East Simpson Test Well No. 1 TALLY FOR 13 3/8" CASING

SUMMARY OF PAGE MEASUREMENTS

	NO. OF JOINTS	FEET	00'S
PAGE 1	50	1987	75
PAGE 2	27	1078	08
PAGE 3			
PAGE 4			
PAGE 5			
PAGE 6			
PAGE 7			
PAGE 8			
PAGE 9			
TOTAL			

SUMMARY OF DEPTH CALCULATIONS

		NO. OF JOINTS	FOOTAGE FEET	FOOTAGE 00'S
1	TOTAL CASING ON RACKS	77	3065	83
2	LESS CASING OUT (JTS NOS.	10	402	76
3	TOTAL (1 – 2)		2663	07
4	SHOE LENGTH		1	80
5	FLOAT LENGTH		1	56
6	MISCELLANEOUS EQUIPMENT LENGTH		-	-
7	TOTAL CASING AND EQUIPMENT FROM CEMENT HEAD (3 + 4 + 5 + 6)		2663	07
8	LESS WELL DEPTH (KB REFERENCE)		17	00
9	"UP" ON LANDING JOINT		1	65

Weight indicator before cementing: 180,000 ; after slack-off: _____ ; inches slacked off _____

SUMMARY OF STRING AS RUN

WEIGHT	GRADE	THREAD	MANUFACTURER	CONDITION NEW-USED	LOCATION IN STRING	NO. OF JOINTS	FOOTAGE	INTERVAL
72	S-95	Buttress	Armco	New	JT NO. 1 THRU NO. 65	65	2663.07	2661.42 ' – Surface-KB
					JT NO. THRU NO.			' – '
					JT NO. THRU NO.			' – '
					JT NO. THRU NO.			' – '
					JT NO. THRU NO.			' – '
					JT NO. THRU NO.			' – '
					JT NO. THRU NO.			' – '

PAGE 1 OF 2 CASING TALLY DATE: February 23, 1979

FIELD NPRA LEASE & WELL NO. East Simpson TW No. 1 TALLY FOR 13 3/8 " CASING

JOINT NO.	FIRST MEASUREMENT FEET	FIRST MEASUREMENT .00'S	CHECK MEASUREMENT FEET	CHECK MEASUREMENT .00'S	WT GR.
1	1	80			
2	39	10			
3	40	79			
4	1	56			
5	43	15			
6	38	85			
7	41	93			
8	41	47			
9	40	05			
0	43	25			
TOTAL A	331	95			

JOINT NO.	FIRST MEASUREMENT FEET	FIRST MEASUREMENT .00'S	CHECK MEASUREMENT FEET	CHECK MEASUREMENT .00'S	WT GR.
1	41	17			
2	38	08			
3	41	11			
4	41	30			
5	44	00			
6	41	12			
7	42	56			
8	41	75			
9	41	36			
0	38	47			
TOTAL D	410	92			

1	42	86			
2	41	47			
3	43	26			
4	41	56			
5	42	49			
6	42	55			
7	42	20			
8	41	93			
9	40	66			
0	39	72			
TOTAL B	418	70			

1	40	94			
2	39	72			
3	40	67			
4	40	31			
5	42	53			
6	42	66			
7	43	24			
8	40	97			
9	39	30			
0	41	46			
TOTAL E	411	80			

1	37	29			
2	41	68			
3	42	45			
4	43	00			
5	42	98			
6	39	88			
7	41	94			
8	40	74			
9	42	33			
0	42	09			
TOTAL C	414	38			

TOTAL A	331	95		
TOTAL B	418	70		
TOTAL C	414	38		
TOTAL D	410	92		
TOTAL E	411	80		
TOTAL PAGE	1987	75		

PAGE 2 OF 2

CASING TALLY

DATE: February 23, 1979

FIELD NPRA LEASE & WELL NO. East Simpson TW No. 1 TALLY FOR 13 3/8 " CASING

JOINT NO.	FIRST MEASUREMENT FEET	FIRST MEASUREMENT .00'S	CHECK MEASUREMENT FEET	CHECK MEASUREMENT .00'S	WT GR.
1	38	18			
2	41	27			
3	41	81			
4	41	88			
5	35	50			
6	41	00			
7	41	78			
8	39	81			
9	37	62			
0	42	12			
TOTAL A	400	97			

JOINT NO.	FIRST MEASUREMENT FEET	FIRST MEASUREMENT .00'S	CHECK MEASUREMENT FEET	CHECK MEASUREMENT .00'S	WT GR.
1	41	39			
2	41	40			
3	37	59			
4	42	39			
5	42	76			
6	38	32			
7	42	67			
8	37	67			
9	37	87			
0	40	70			
TOTAL D	402	76			

1	41	28			
2	40	49			
3	39	54			
4	40	92			
5	38	38			
6	38	66			
7	35	08			
8					
9					
0					
TOTAL B	274	35			

1					
2					
3					
4					
5					
6					
7					
8					
9					
0					
TOTAL E					

1					
2					
3					
4					
5					
6					
7					
8					
9					
0					
TOTAL C					

TOTAL A	400	97		
TOTAL B	274	35		
TOTAL C				
TOTAL D				
TOTAL E				
TOTAL PAGE	675	32		

PAGE 1 1987 75

TOTAL 2663 07

CASING OR LINER CEMENT JOB

Lease National Petroleum Reserve Well E. Simpson TW No. 1 Date February 23, 1979

Size Casing 13 3/8" Setting Depth 2661.42 Top (liner hanger) 20

Hole Size 17 1/2 " Mud Gradient 9.9 Viscosity 33

Casing Equipment

Dowell shoe. Dowell float located 83.25 feet

above shoe. 2661.42 (DV, FO) collars located at - feet

and - feet

Nine centralizers located one 10' above shoe, one on first joint collar, one each on third, fourth, and fifth collars, and one on collars 7, 9, 11, & 13.

- scratchers located -

Liner hanger and pack off (describe)

Miscellaneous (baskets, etc.)

Cement (around shoe)

	No. Sacks	Brand	Type	Additives	Slurry Weight	Slurry Volume
(1)	3168	Dowell	Arctic Set II		14.5/15.1	527 Bbls
(2)						

Cement through ~~(DV, FO)~~ Collar at 2578.17 feet

	No. Sacks	Brand	Type	Additives	Slurry Weight	Slurry Volume
(3)						
(4)						

Cementing Procedure (around shoe) (cross out where necessary)

Circulated 800 bbls @ 12.5 BPM, pumped in 20 ~~(cu. ft.)~~, (barrels) _____

_____ prewash, used bottom plug ~~(yes,~~ no), mixed cement (1) above 105

minutes, cement (2) above _____ minutes, top plug ~~(yes,~~ no) displaced with

44 (cu. ft.), (barrels) in 7 minutes at rate of 6.3 BPM, CFM,

(Bumped plug) (Did not bump plug). Final Pressure 1000 psi. Reciprocated

pipe 0 feet while (mixing) or (displacing) cement. Displacing time 7

minutes. Had full circulation (full, partial,

none, etc.). Completed job at 12:05 ~~a.m.~~, p.m.

Cementing Procedure (through (DV, FO) at _____ feet) (cross out where necessary)

Opened (DV, FO) at _____ a.m., p.m., circulated _____ bbls @ _____ BPM, pumped in

_____ (cu. ft.), (barrels) _____ prewash, mixed cement (3) above

_____ minutes, cement (4) above _____ minutes, dropped closing plug, dis-

placed with _____ (cu. ft.), (barrels) in _____ minutes at rate of _____

_____ BPM, CFM. (Bumped plug) (Did not bump plug). Final Pressure _____

Displacing time _____ minutes. Had _____ circulation

(full, partial, none, etc.)

Remarks (Third Stage Job, etc.)

Used Dowell's Model "MM" stage in unit for cementing and displacing.

B. L. Clanton

Foreman

CASING TALLY
SUMMARY SHEET

DATE: March 24, 1979

FIELD National Petroleum Reserve in AK LEASE & WELL NO. East Simpson Test Well No. 1 TALLY FOR 9 5/8" CASING

SUMMARY OF PAGE MEASUREMENTS

	NO OF JOINTS	FEET	00'S
PAGE 1	48	1950	21
PAGE 2	50	2030	86
PAGE 3	48	1939	08
PAGE 4	32	1264	31
PAGE 5			
PAGE 6			
PAGE 7			
PAGE 8			
PAGE 9			
TOTAL	178	7184	46

SUMMARY OF DEPTH CALCULATIONS

		NO OF JOINTS	FOOTAGE FEET	FOOTAGE 00'S
1	TOTAL CASING ON RACKS	178	7173	20
2	LESS CASING OUT (JTS NOS	-	-	-
3	TOTAL (1 - 2)	178	7173	20
4	SHOE LENGTH		1	85
5	FLOAT LENGTH		1	60
6	MISCELLANEOUS EQUIPMENT LENGTH Howco FOs	2	7	81
7	TOTAL CASING AND EQUIPMENT FROM CEMENT HEAD (3 + 4 + 5 + 6)		7184	46
8	LESS WELL DEPTH (KB REFERENCE)		20	00
9	"UP" ON LANDING JOINT		18	02

Weight indicator before cementing: 375,000 ; after slack-off: 0 ; inches slacked off 0

SUMMARY OF STRING AS RUN

WEIGHT	GRADE	THREAD	MANUFACTURER	CONDITION NEW USED	LOCATION IN STRING	NO OF JOINTS	FOOTAGE	INTERVAL
53.5	S-95	Buttress	Armco	New	JT NO 1 THRU NO. 178	178	7184.46 *	KB - 7167 '79
					JT NO THRU NO			-
					JT NO THRU NO			-
					JT NO THRU NO			-
					JT NO THRU NO			-
					JT NO THRU NO			-
					JT NO THRU NO			-

* NOTE: Casing cut off at surface after setting at 7167'.

PAGE 1 OF 4 **CASING TALLY** DATE: March 24, 1979

FIELD NPRA LEASE & WELL NO. East Simpson TW No. 1 TALLY FOR 9 5/8 " CASING

JOINT NO	FIRST MEASUREMENT FEET	.00'S	CHECK MEASUREMENT FEET	.00'S	WT GR.
1	1	85			
2	42	74			
3	40	12			
4	1	60			
5	43	68			
6	43	87			
7	40	85			
8	42	23			
9	38	27			
0	38	76			
TOTAL A	333	97			

JOINT NO	FIRST MEASUREMENT FEET	.00'S	CHECK MEASUREMENT FEET	.00'S	WT GR
1	37	54			
2	38	83			
3	41	53			
4	37	71			
5	39	08			
6	40	60			
7	40	35			
8	41	85			
9	43	71			
0	39	92			
TOTAL D	401	12			

1	41	90			
2	41	54			
3	35	57			
4	44	10			
5	40	27			
6	39	44			
7	36	38			
8	38	25			
9	40	97			
0	42	02			
TOTAL B	400	44			

1	38	18			
2	41	85			
3	41	43			
4	38	60			
5	39	63			
6	43	22			
7	39	47			
8	41	83			
9	39	20			
0	42	25			
TOTAL E	405	66			

1	40	91			
2	38	44			
3	44	06			
4	41	11			
5	40	46			
6	41	76			
7	37	82			
8	40	05			
9	43	23			
0	41	18			
TOTAL C	409	02			

TOTAL A	333	97		
TOTAL B	400	44		
TOTAL C	409	02		
TOTAL D	401	12		
TOTAL E	405	66		
TOTAL PAGE	1950	21		

PAGE 2 OF 4 **CASING TALLY** DATE: March 24, 1979

FIELD NPRA LEASE & WELL NO. East Simpson TW No. 1 TALLY FOR 9 5/8 " CASING

JOINT NO.	FIRST MEASUREMENT FEET	FIRST MEASUREMENT .00'S	CHECK MEASUREMENT FEET	CHECK MEASUREMENT .00'S	WT GR.
1	39	99			
2	39	17			
3	37	43			
4	38	16			
5	41	85			
6	38	40			
7	41	78			
8	42	95			
9	42	78			
0	42	27			
TOTAL A	404	78			

JOINT NO.	FIRST MEASUREMENT FEET	FIRST MEASUREMENT .00'S	CHECK MEASUREMENT FEET	CHECK MEASUREMENT .00'S	WT GR.
1	43	01			
2	42	26			
3	40	84			
4	36	60			
5	41	72			
6	43	35			
7	42	91			
8	40	41			
9	42	88			
0	40	30			
TOTAL D	414	28			

1	41	56			
2	41	93			
3	42	88			
4	42	76			
5	39	34			
6	40	97			
7	42	11			
8	43	05			
9	41	96			
0	37	54			
TOTAL B	414	40			

1	34	36			
2	38	05			
3	42	64			
4	38	29			
5	43	53			
6	37	40			
7	39	18			
8	42	60			
9	37	53			
0	39	38			
TOTAL E	392	96			

1	40	62			
2	41	18			
3	37	95			
4	43	03			
5	42	95			
6	40	23			
7	42	18			
8	39	15			
9	40	00			
0	37	15			
TOTAL C	404	44			

TOTAL A	404	78		
TOTAL B	414	40		
TOTAL C	404	44		
TOTAL D	414	28		
TOTAL E	392	96		
TOTAL PAGE	2030	86		

PAGE 3 OF 4 **CASING TALLY** DATE: March 24, 1979

FIELD NPRA LEASE & WELL NO. East Simpson TW No. 1 TALLY FOR 9 5/8 " CASING

JOINT NO.	FIRST MEASUREMENT FEET	FIRST MEASUREMENT .00'S	CHECK MEASUREMENT FEET	CHECK MEASUREMENT .00'S	WT GR.
1	39	80			
2	43	58			
3	42	31			
4	39	70			
5	41	11			
6	38	38			
7	42	55			
8	40	52			
9	39	54			
0	37	45			
TOTAL A	404	34			

JOINT NO	FIRST MEASUREMENT FEET	FIRST MEASUREMENT .00'S	CHECK MEASUREMENT FEET	CHECK MEASUREMENT .00'S	WT GR.
1	40	61			
2	38	63			
3	40	75			
4	42	48			
5	38	58			
6	39	99			
7	41	65			
8	40	45			
9	42	95			
0	42	52			
TOTAL D	408	61			

1	41	17			
2	40	61			
3	40	35			
4	38	62			
5	41	47			
6	37	80			
7	41	20			
8	42	61			
9	40	47			
0	39	38			
TOTAL B	403	68			

1	39	96			
2	39	82			
3	39	37			
4	39	82			
5	41	23			
6	41	08			
7	40	10			
8	42	51			
9	40	61			
0	38	30			
TOTAL E	402	80			

1	39	33			
2	3	87			
3	38	32			
4	40	95			
5	35	10			
6	35	84			
7	39	92			
8	3	94			
9	43	07			
0	39	31			
TOTAL C	319	65			

TOTAL A	404	34		
TOTAL B	403	68		
TOTAL C	319	65		
TOTAL D	408	61		
TOTAL E	402	80		
TOTAL PAGE	1939	08		

PAGE 4 OF 4

CASING TALLY

DATE: March 24, 1979

FIELD NPRA LEASE & WELL NO. East Simpson TW No. 1 TALLY FOR 9 5/8 " CASING

JOINT NO.	FIRST MEASUREMENT FEET	FIRST MEASUREMENT .00'S	CHECK MEASUREMENT FEET	CHECK MEASUREMENT .00'S	WT GR.
1	39	95			
2	42	54			
3	38	41			
4	37	26			
5	37	48			
6	42	00			
7	42	90			
8	42	52			
9	40	41			
0	41	90			
TOTAL A	405	37			

JOINT NO.	FIRST MEASUREMENT FEET	FIRST MEASUREMENT .00'S	CHECK MEASUREMENT FEET	CHECK MEASUREMENT .00'S	WT GR.
1	19	44			
2	38	02			
3					
4					
5					
6					
7					
8					
9					
0					
TOTAL D	57	46			

1	42	80			
2	36	87			
3	36	63			
4	43	58			
5	41	35			
6	42	18			
7	39	29			
8	43	26			
9	41	45			
0	40	90			
TOTAL B	408	31			

1					
2					
3					
4					
5					
6					
7					
8					
9					
0					
TOTAL E					

1	42	44			
2	35	82			
3	41	61			
4	41	00			
5	41	42			
6	35	31			
7	37	08			
8	39	30			
9	35	83			
0	43	36			
TOTAL C	393	17			

TOTAL A	405	37		
TOTAL B	408	31		
TOTAL C	393	17		
TOTAL D	57	46		
TOTAL E				
TOTAL PAGE	1264	31		

PAGE 1	1950	21
PAGE 2	2030	86
PAGE 3	1939	08
PAGE 4	1264	31
TOTAL	7184	46

CASING OR LINER CEMENT JOB

Lease National Petroleum Reserve Well E. Simpson TW No. 1 Date March 24, 1979

Size Casing 9 5/8" Setting Depth 7167.79 Top (liner hanger) _____

Hole Size 12 1/4 " Mud Gradient 10.7 Viscosity 55

Casing Equipment

1.85 shoe, 1.60 float located 86.31 feet

above shoe, 7167.79 (DV, FO) collars located at 2140.08 feet

and 2334.15 feet.

Twenty-seven centralizers located 1, 2, & 3 jts 10' above bottom end and on collars 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 117, 118, 120, 121, 122, 123, 125, 126, 128, 130, 132, 134, 136, 138, and 140.

Liner hanger and pack off (describe) -

Miscellaneous (baskets, etc.) _____

Cement (around shoe)

	No. Sacks	Brand	Type	Additives	Slurry Weight	Slurry Volume
(1)	1000	Dowell	Class "G"	0.75% D65 & 0.2% D13R	15.6-16.0	182.8bls
(2)						

Cement through (~~DV, FO~~) Collar at 7081.48 feet

	No Sacks	Brand	Type	Additives	Slurry Weight	Slurry Volume
(3)	300	Dowell	Arctic Set II	-	14.9-15.3	92
(4)						

Cementing Procedure (around shoe) (cross out where necessary)

Circulated ± 225 bbls @ 5 - 6 BPM, pumped in 50 ~~(cu. ft.)~~, (barrels) _____ _____ prewash, used bottom plug (yes, ~~no~~), mixed cement (1) above 65 minutes, cement (2) above _____ minutes, top plug (yes, ~~no~~) displaced with 493 (cu. ft.), (barrels) in 125 minutes at rate of 3.94 BPM, ~~GPM~~, (Bumped plug) ~~(Did not bump plug)~~. Final Pressure 3000. Reciprocated pipe 0 feet while (mixing) and (displacing) cement. Displacing time 125 minutes. Had no circulation (full, partial, none, etc.). Completed job at 8:05 a.m., ~~p.m.~~

Cementing Procedure (through (DV, ~~FO~~) at 2334 feet) (cross out where necessary)

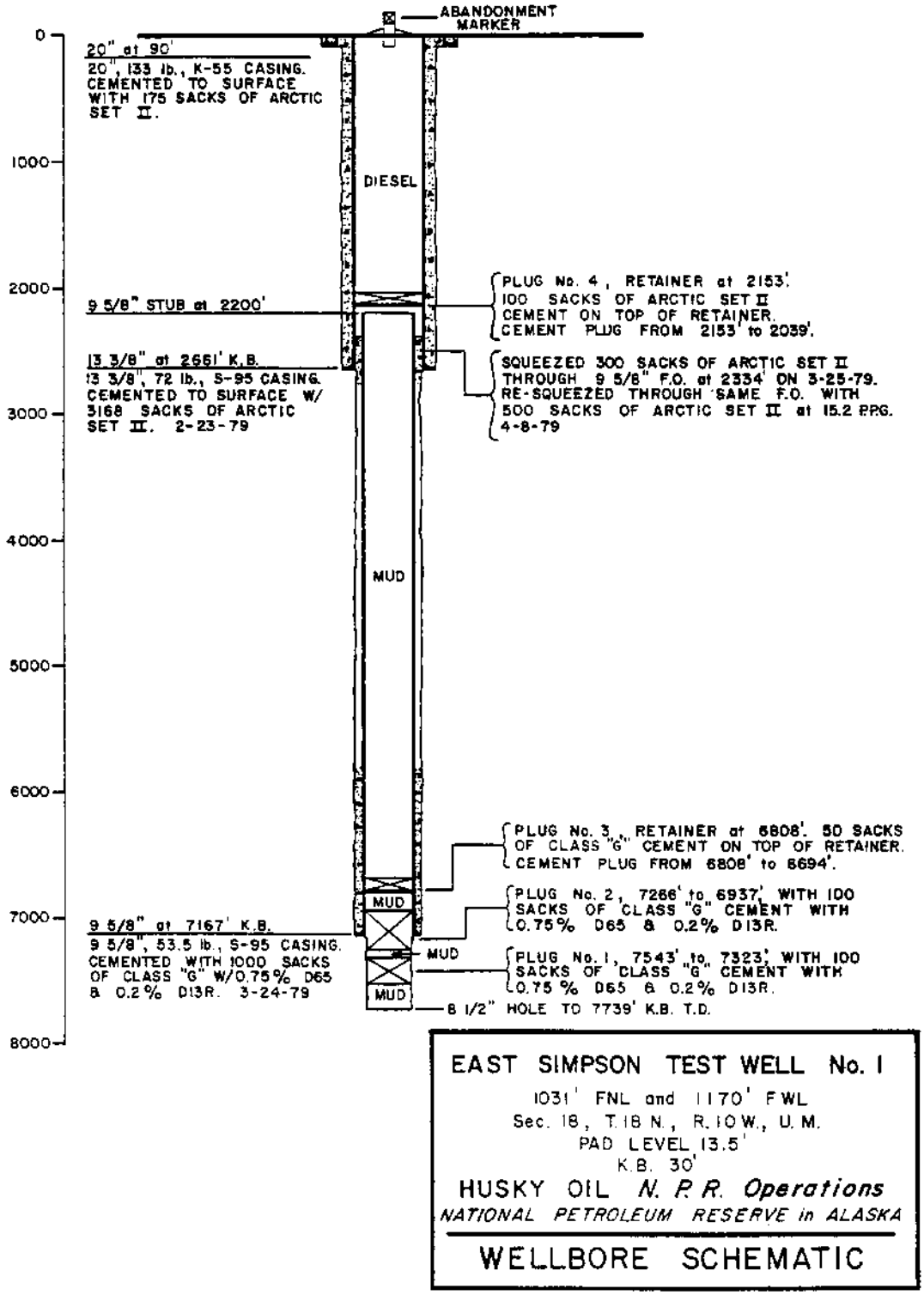
Opened (DV, ~~FO~~) at 1:45 a.m., ~~p.m.~~, circulated 135 bbls @ 6 BPM, pumped in 10 ~~(cu. ft.)~~, (barrels) water prewash, mixed cement (3) above 30 minutes, cement (4) above - minutes, ~~dropped closing plug~~, displaced with 38.5 (cu. ft.), (barrels) in 8 minutes at rate of 4.75 _____ BPM, ~~CFM~~. (Bumped plug) (Did not bump plug). Final Pressure 750 psi. Displacing time 8 minutes. Had full circulation (full, partial, none, etc.)

Remarks (Third Stage Job, etc.)

Cut mix water 120°, bumped plug with 3000 psi. Bled off 5 1/4 bbls. Float and shoe holding OK.

B. L. Clanton

Foreman

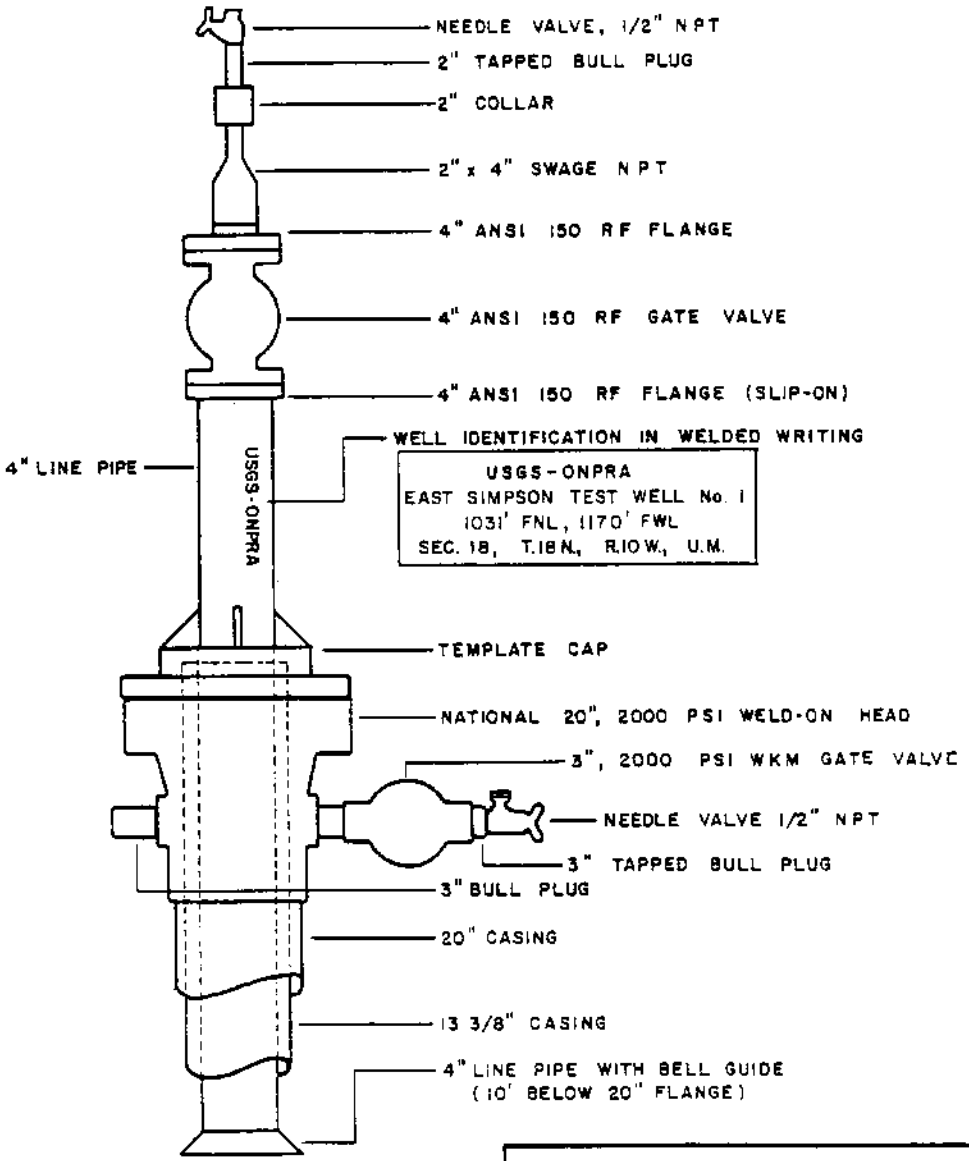


EAST SIMPSON TEST WELL No. 1

1031' FNL and 1170' FWL
Sec. 18, T.18 N., R.10 W., U. M.
PAD LEVEL 13.5'
K.B. 30'

HUSKY OIL *N. P. R. Operations*
NATIONAL PETROLEUM RESERVE in ALASKA

WELLBORE SCHEMATIC



EAST SIMPSON TEST WELL No. 1

1031' FNL and 1170' FWL
Sec. 18, T.18N., R.10W., U.M.

HUSKY OIL *N.P.R. Operations*
NATIONAL PETROLEUM RESERVE in ALASKA

ABANDONMENT HEAD

RIG INVENTORY

Draw Works

Emsco A 800, Serial No. 11, grooved for 1-1/4" line. Equipped with 46" Parkersburg hydromatic brake, sand line drum, and Emsco air operated catheads.

Rig Drive

Emsco A 83 sectional compound; Serial No. 11.

Engines

Three Caterpillars, D379, turbocharged diesel engines, Serial Nos. 68B 1724, 68B 1725, and 68B 1726.

Pumps

Oilwell A1000P, Serial No. P-117-34.

National C 350 with National forged steel fluid end.

Substructure

Lee C. Moore Corporation, 15' high, 23' wide, 52' long.

Mast

Lee C. Moore Corporation 136', Serial No. T3119. Equipped with Lee C. Moore kit. Hook load with 12 lines, 600,000 lbs.

Blocks

Emsco RA-44-5, Serial No. 45.

Swivel

Emsco L 400, Serial No. 14T.

Rotary Table

26" Oilwell.

Tongs

BJ, Type OB.

Accumulator

Koomey, Model T-201603S, 3,000 lb. w.p.

Blowout Preventers

One - 13-5/8", 5,000 lb. Hydril, Serial No. 3588.

One - 13-5/8", 5,000 lb. Shaffer LWS double.

Boilers

Two Kewanee, 100 HP, Scotch Marine boilers with Kewanee oil burners.

Mud Tanks

No. 1: 35' long, 9' 6" wide, 6' 10" high, mud tank complete with insulated cover.

No. 2: 38' 10" long, 9' 6" wide, 6' 10" high, mud tank with insulated cover.

No. 3: 32' long, 9' 6" wide, 6' 10" high, mud tank with insulated cover.

Degasser

Clark Gas Hog.

Desander

Pioneer, 10 cone.

Desilter

Swaco, 8 cone.

Overshots

One 10-5/8" Bowen, maximum catch 9".

One 8" Bowen, maximum catch 6-3/4".

Water-Fuel Tanks

One combination water/fuel tank; capacity 400 lbs. water, 8,000 gallons fuel.

Two upright water tanks; capacity 400 lbs.

Drill Collars

Twenty-one 7-3/4" O.D., 2-7/8" I.D. drill collars, 6-5/8" H90 connections.

Twenty-one 6-1/4" O.D., 2-7/8" I.D. drill collars, 4-1/2" H90 connections.

Drill Pipe

Ninety joints 5", 19.5 lb., Grade G; 5", 19.5 lb., Grade E as needed.

Air Heater

One Tioga, 4,200,000 BTU air heater.

Generator

Two Caterpillars, D353, 200 KW generator sets and required distribution system.