

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

NOTICE OF INTENT TO DRILL, DEEPEN, OR PLUG BACK

1A. TYPE OF WORK
 DRILL DEEPEN PLUG BACK

B. TYPE OF WELL
 OIL WELL 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
 1600' FEL and 1980' FNL
 At proposed prod. zone
 Same (straight hole)

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
 9.8 Miles Southeast of Barrow, Alaska

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 10,000

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. 3,300'

19. PROPOSED DEPTH ± 2300'

20. ROTARY OR CABLE TOOLS Rotary

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. So. Barrow Well No. 20 (East Area)

10. FIELD AND POOL, OR WILDCAT
South Barrow Gas Field

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec 26, T22N, R17W, UM

12. COUNTY OR PARISH
North Slope Borough, AK

13. STATE

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
 Ground = 7'; Pad = 12'; KB = 30'

22. APPROX. DATE WORK WILL START*
 April 5, 1980

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	13 3/8" (Cond)	72# (S-95)	110' KB	± 100 Sx Permafrost to Surface
12 1/4"	9 5/8"	53.5# (S-95)	1500'	± 1000 Sx Permafrost to Surface
8 1/2"	7"	38# (S-95)	2100'	± 80 Sx Class "G" w/additives from TD to ± 1600'.

Blowout Preventer Program:

From ± 110' KB to ± 1500'
 12", 3000 psi, SA Diverter Assembly

From ± 1500' to TD:
 12", 3000 psi, SRRA BOP Assembly
 w/3000 psi Choke Manifold and Kill Line

Second stage: Down squeeze through FO @ ± 1300' with ± 60 sx Permafrost. Arctic Pack 9 5/8" X 7" annulus through FO at 1220' with ± 60 barrels Arctic Pack.

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 3 April 80

(This space for Federal or State office use)

NO. _____ DATE _____

BY _____ TITLE _____ DATE _____

CONDITIONS IF ANY:

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: 1600' FEL; 1980' FNL
AT TOP PROD. INTERVAL: Same (straight hole)
AT TOTAL DEPTH:

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

NOTICE OF INTENT TO:		SUBSEQUENT REPORT OF:
TEST WATER SHUT-OFF	<input type="checkbox"/>	<input type="checkbox"/>
FRACTURE TREAT	<input type="checkbox"/>	<input type="checkbox"/>
SHOOT OR ACIDIZE	<input type="checkbox"/>	<input type="checkbox"/>
REPAIR WELL	<input type="checkbox"/>	<input type="checkbox"/>
PULL OR ALTER CASING	<input type="checkbox"/>	<input type="checkbox"/>
MULTIPLE COMPLETE	<input type="checkbox"/>	<input type="checkbox"/>
CHANGE ZONES	<input type="checkbox"/>	<input type="checkbox"/>
ABANDON*	<input type="checkbox"/>	<input type="checkbox"/>
(other) <u>Oil Well Completion Report</u>		

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.
So. Barrow Well No. 20 (East Area)

10. FIELD OR WILDCAT NAME
South Barrow Gas Field

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec 26, T22N, R17W, UM

12. COUNTY OR PARISH | 13. STATE
North Slope Borough, Alaska

14. API NO.

15. ELEVATIONS (SHOW DF, KDB, AND WD)
Ground = 7'; Pad = 12'; KB = 30'

(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 final procedure describes the completion of South Barrow Well No. 20 as an oil well. Zones 1556'-1574' and 1629'-1639' were tested and found to produce hydrocarbons.

- After pulling drill pipe, RIH with 55 joints of 2 7/8" tubing and landed at 1644.7' (with 4' mule shoe included).
- Ten centralizers were run on tubing at 1640', 1609', 1580', 1551', 1520', 1429', 1128', 830', 525', and 226'.
- All connections were broken, cleaned, redoped, and retorqued when running. Make-up torque was 2300 ft-lbs.
- Rig down BOPE and nipple up Xmas tree. Test Xmas tree to 3000 psi.
- Run BPV; secure wellhead.

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

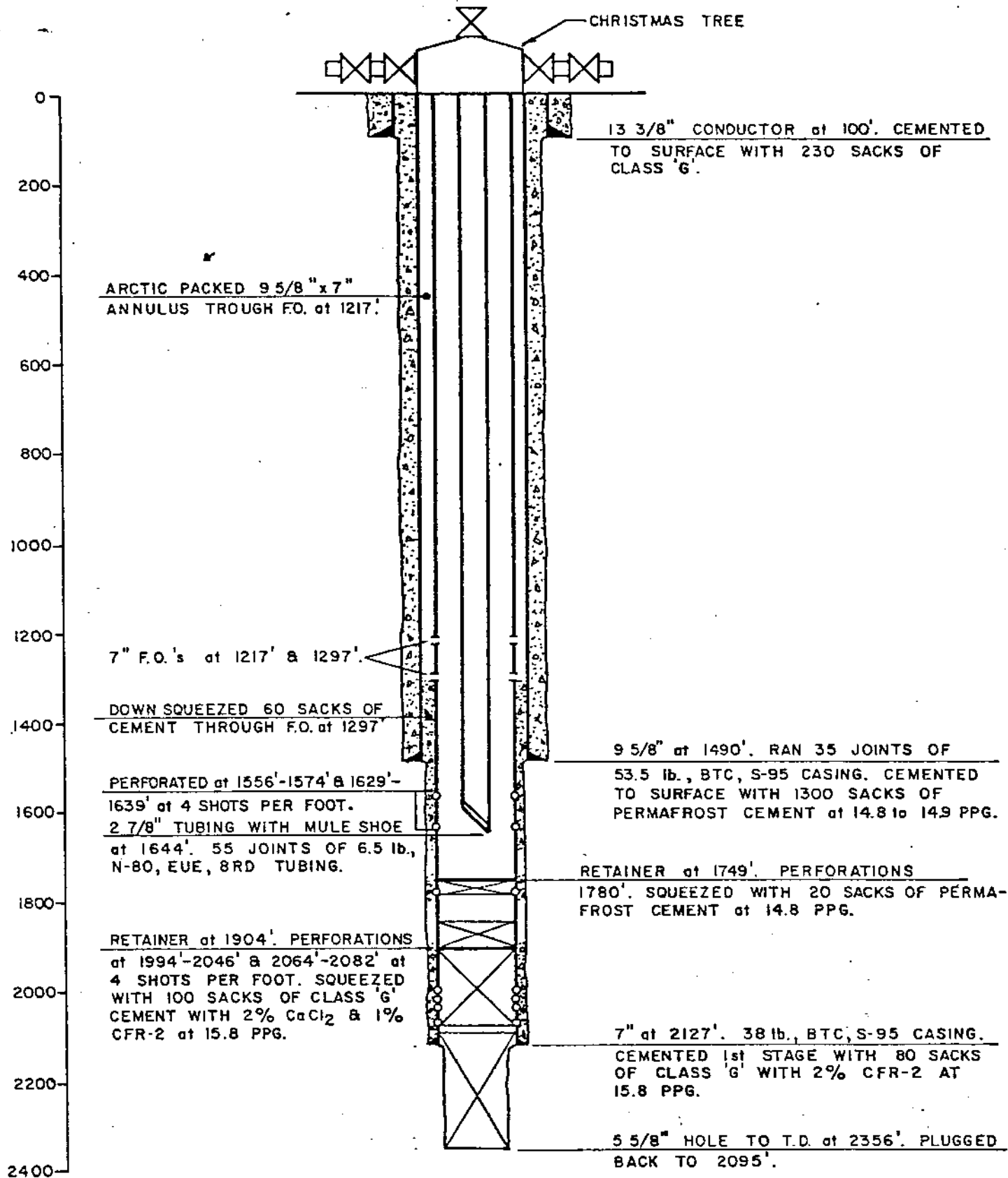
18. I hereby certify that the foregoing is true and correct

SIGNED Max Brewer TITLE Chief of Operations DATE 20 May 80

(This space for Federal or State office use)

Conforms with pertinent provisions of 30 CFR 221.

_____ TITLE _____ DATE _____



SOUTH BARROW No. 20

1600' FEL and 1980' FNL
Sec. 26, T.22N., R.17W., U.M.

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

**WELL COMPLETION
SCHEMATIC**

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: 1600' FEL; 1980' FNL
AT TOP PROD. INTERVAL: Same
AT TOTAL DEPTH: Same

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

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.
South Barrow Well No. 20

10. FIELD OR WILDCAT NAME
South Barrow Gas Field

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec 26, T22N, R17W, UM

12. COUNTY OR PARISH | 13. STATE
North Slope Borough, Alaska

14. API NO.

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

NOTICE OF INTENT TO:		SUBSEQUENT REPORT OF:
TEST WATER SHUT-OFF	<input type="checkbox"/>	<input type="checkbox"/>
FRACTURE TREAT	<input type="checkbox"/>	<input type="checkbox"/>
SHOOT OR ACIDIZE	<input type="checkbox"/>	<input type="checkbox"/>
REPAIR WELL	<input type="checkbox"/>	<input type="checkbox"/>
PULL OR ALTER CASING	<input type="checkbox"/>	<input type="checkbox"/>
MULTIPLE COMPLETE	<input type="checkbox"/>	<input type="checkbox"/>
CHANGE ZONES	<input type="checkbox"/>	<input type="checkbox"/>
ABANDON*	<input type="checkbox"/>	<input type="checkbox"/>
(other) Complete as an Oil Well		

(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.)*

Operation: Reenter and clean up well, install production tubing. See attached completion procedure for details.

Starting Date: May 9, 1980

Husky has been directed by USGS/ONPRA, through Mr. George Gryc, to complete this well. Mr. Jim Weber, USGS Conservation Division, has verbally discussed and approved the attached completion procedure on May 9, 1980.

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

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

SIGNED Max Brewer TITLE Chief of Operations DATE 15 May 80

Conforms with pertinent provisions of 30 CFR 221. (This space for Federal or State office use)

TITLE _____ DATE _____

*See Instructions on Reverse Side

COMPLETION PROCEDURE
SOUTH BARROW WELL NO. 20

1. Run 2 7/8" tubing and land at \pm 2000'.
2. Rig down BOP and nipple up Xmas tree; pressure test to 3000 psi.
3. Secure wellhead.

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: 1600' FEL; 1980' FNL
AT TOP PROD. INTERVAL:
AT TOTAL DEPTH:

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

NOTICE OF INTENT TO:

TEST WATER SHUT-OFF
FRACTURE TREAT
SHOOT OR ACIDIZE
REPAIR WELL
PULL OR ALTER CASING
MULTIPLE COMPLETE
CHANGE ZONES
ABANDON*

SUBSEQUENT REPORT OF:

(other) Subsequent Report of Running 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.)*

Drilled a 12 1/4" hole to 1500'. Logged with DIL/GR and BHC-Sonic/GR. Ran 35 joints of 9 5/8", 53.5#/ft, BTC, S-95 casing. Shoe at 1490'. Pumped 20 bbls of water ahead of 1300 sacks of Permafrost cement. Slurry weight at 14.9 ppg. Had good returns. Displaced with 9.5 bbls of water. CIP at 12:30 PM, 4/9/80. Nipped up BOPE and tested to 3000 psi. OK. Tested casing to 1500 psi. OK. Drilled out shoe and 10 feet of formation. Tested formation to 0.61 psi/ft equivalent gradient. Drilling ahead with 8 1/2" bit.

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

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

SIGNED Max Brewer TITLE Chief of Operations DATE 21 April 80

(This space for Federal or State office use)

onforms with
ertinent
rovisions of
0 CFR 221.

TITLE _____ DATE _____

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.	So. Barrow Well No. 20 (East Area)
10. FIELD OR WILDCAT NAME	South Barrow Gas Field
11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA	Sec 26, T22N, R17W, UM
12. COUNTY OR PARISH	13. STATE:
North Slope Borough, Alaska	
14. API NO.	
15. ELEVATIONS (SHOW DF, KDB, AND WD)	GL 7'; Pad 12'; KB 30'

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

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: 1600' FEL; 1980' FNL
AT TOP PROD. INTERVAL:
AT TOTAL DEPTH:

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

NOTICE OF INTENT TO:		SUBSEQUENT REPORT OF:
TEST WATER SHUT-OFF	<input type="checkbox"/>	<input type="checkbox"/>
FRACTURE TREAT	<input type="checkbox"/>	<input type="checkbox"/>
SHOOT OR ACIDIZE	<input type="checkbox"/>	<input type="checkbox"/>
REPAIR WELL	<input type="checkbox"/>	<input type="checkbox"/>
PULL OR ALTER CASING	<input type="checkbox"/>	<input type="checkbox"/>
MULTIPLE COMPLETE	<input type="checkbox"/>	<input type="checkbox"/>
CHANGE ZONES	<input type="checkbox"/>	<input type="checkbox"/>
ABANDON*	<input type="checkbox"/>	<input type="checkbox"/>

(other) Subsequent Report of Running 7" Casing

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.
So. Barrow Well No. 20 (East Area)

10. FIELD OR WILDCAT NAME
South Barrow Gas Field

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec 26, T22N, R17W, UM

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

14. API NO.

15. ELEVATIONS (SHOW DF, KDB, AND WD)
GL 7'; Pad 12'; KB 30'

(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.)*

Drilled an 8 1/2" hole to 2140'. Logged with MSFL/GR, BHC-Sonic/GR, FDC/CNL/GR. Ran 55 joints of 38 lb/ft, S-95, BTC casing. Landed shoe at 2127'. FOs at 1217' and 1297'. Pumped a 25 bbl water spacer with 2% Cla Sta. Cemented with 80 sx Class "G" cement with 2% CaCl₂ and 2% CFR-2 at 15.8 ppg. Had returns. CIP at 7:30 AM, 4/15/80. Nippled up and tested BOPE to 3000 psi. OK. Opened FO at 1297' and cemented with 60 sacks of Permafrost cement at 15.0 ppg. Tested FO to 2000 psi OK. Arctic Packed 7"X9 5/8" annulus. Drilled out shoe and 10 feet of formation. Tested formation to 0.61 psi/ft equivalent gradient. Drilling ahead with 5 5/8" bit.

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

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

SIGNED Max Brewer TITLE Chief of Operations DATE 24 April 80

(This space for Federal or State office use)

Conforms with
pertinent
provisions of
30 CFR 221.

_____ TITLE _____ DATE _____

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: 1600' FEL; 1980' FNL
AT TOP PROD. INTERVAL:
AT TOTAL DEPTH:

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

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.
So. Barrow Well No. 20 (East Area)

10. FIELD OR WILDCAT NAME
South Barrow Gas Field

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec 26, T22N, R17W, UM

12. COUNTY OR PARISH | 13. STATE
North Slope Borough, Alaska

14. API NO.

15. ELEVATIONS (SHOW DE, KOB, AND WD)
GL 7'; Pad 12'; KB 30'

NOTICE OF INTENT TO:		SUBSEQUENT REPORT OF:
TEST WATER SHUT-OFF	<input type="checkbox"/>	<input type="checkbox"/>
FRACTURE TREAT	<input type="checkbox"/>	<input type="checkbox"/>
SHOOT OR ACIDIZE	<input type="checkbox"/>	<input type="checkbox"/>
REPAIR WELL	<input type="checkbox"/>	<input type="checkbox"/>
PULL OR ALTER CASING	<input type="checkbox"/>	<input type="checkbox"/>
MULTIPLE COMPLETE	<input type="checkbox"/>	<input type="checkbox"/>
CHANGE ZONES	<input type="checkbox"/>	<input type="checkbox"/>
ABANDON*	<input type="checkbox"/>	<input type="checkbox"/>
(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 was spudded April 7, 1980, at 6:00 AM. Hole size at spud was 12 1/4". A 13 3/8" conductor pipe was cemented in place with 230 sacks of Class "G" cement at 100' previous to spud.

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

18. I hereby certify that the foregoing is true and correct
SIGNED Max Brewer TITLE Chief of Operations DATE 16 April 80

(This space for Federal or State office use)

TITLE _____ DATE _____

conforms with pertinent provisions of 30 CFR 221.

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: 1600' FEL; 1980' FNL
AT TOP PROD. INTERVAL:
AT TOTAL DEPTH:

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

NOTICE OF INTENT TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF	<input type="checkbox"/>		<input type="checkbox"/>
FRACTURE TREAT	<input type="checkbox"/>		<input type="checkbox"/>
SHOOT OR ACIDIZE	<input type="checkbox"/>		<input type="checkbox"/>
REPAIR WELL	<input type="checkbox"/>		<input type="checkbox"/>
PULL OR ALTER CASING	<input type="checkbox"/>		<input type="checkbox"/>
MULTIPLE COMPLETE	<input type="checkbox"/>		<input type="checkbox"/>
CHANGE ZONES	<input type="checkbox"/>		<input type="checkbox"/>
ABANDON*	<input type="checkbox"/>		<input type="checkbox"/>
(other) Confirming Notice to Plug Back			

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 plug back South Barrow Well No. 20. This well was drilled to a total depth of 2356', logged, and tested. As a result of the evaluation, plans were developed to plug back the well to evaluate and complete the Barrow Sands. The plug back procedure is attached.

This plan has been discussed with and verbally approved by Mr. Weber on 4/23/80.

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

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

SIGNED Max Brewer TITLE Chief of Operations DATE 29 April 80

(This space for Federal or State office use)

conforms with
pertinent
provisions of
CFR 221.

TITLE _____ DATE _____

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.	So. Barrow Well No. 20 (East Area)
10. FIELD OR WILDCAT NAME	South Barrow Gas Field
11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA	Sec 26, T22N, R17W, UM
12. COUNTY OR PARISH	13. STATE:
North Slope Borough, Alaska	
14. API NO.	
15. ELEVATIONS (SHOW DF, KDS, AND WD)	GL 7'; Pad 12'; KB 30

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

SOUTH BARROW WELL NO. 20
PLUG-BACK CEMENTING PROCEDURE

1. Trip in with open-ended drill pipe to TD (2356'). Spot a 50-sack plug. (This is a 216' plug in open hole and 102' inside 7" casing.) Pump \pm 10-bbl water spacers ahead and 3 bbl behind the slurry. Adjust spacers to balance the plug. Slurry weight to be 15.8 ppg. Add 2% calcium chloride to the Class "G" cement. The thickening time is \pm four hours.
2. Pick up slowly out of the slurry plug. Pull up into the casing and reverse out DP. Trip out.
3. Pick up 5 5/8" bit and 4 3/4" drill collars. Trip in to three stands above the 7" casing shoe. Circulate and WOC 12 hours.
4. Trip in and tag cement plug. Polish plug as required to allow 10-15' of open hole below the bottom perf interval (\pm 2100').
5. Run cement retainer on drill pipe. Set retainer at 2090' \pm 10' below the base of the Barrow Sand. Do not set retainer in a casing collar. Test casing to 1500 psi.
6. Proceed with completion of Barrow Sands.

**UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY**

SUBMIT IN DUPLICATE*

(See other instructions on reverse side)

Form approved
Budget Bureau No. 42-R355.2.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

1a. TYPE OF WELL: OIL WELL GAS WELL DRY Other _____

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

2. NAME OF OPERATOR
USGS 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 1600' FEL; 1980' FNL
At top prod. interval reported below Same (straight hole)
At total depth _____

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

15. DATE SPUNDED 4/7/80 16. DATE T.D. REACHED 4/23/80 17. DATE COMPL. (Ready to prod.) 5/10/80

18. ELEVATIONS (DF, RKB, RT, GR, ETC.): GL 7'; Pad 12'; KB 30'
19. ELEV. CASINGHEAD 12'

20. TOTAL DEPTH, MD & TVD 2356' MD & TVD 21. PLUG, BACK T.D., MD & TVD 1749'
22. IF MULTIPLE COMPL., HOW MANY? N/A

23. INTERVALS DRILLED BY Rotary
24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*
1556'-1574' and 1629'-1639' MD & TVD - Pebble Shale Sands

25. WAS DIRECTIONAL SURVEY MADE No
26. TYPE ELECTRIC AND OTHER LOGS RDN DIL/GR, FDC/CNL/GR, Micro Laterolog, CBL, MSFL, GR, BHC/GR, DLL
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
13 3/8"	72# (S-95)	100' KB	17 1/2"	230 Sx Class G to Surface	None
9 5/8"	53.5# (S-95)	1490' KB	12 1/4"	1300 Sx Pmfst to Surface	None
7"	38# (S-95)	2127' KB	8 1/2"	80 Sx Class G w/2% CFR-2	None
				60 Sx Downsqueeze 2nd Stg	None

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)
NONE				

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)

31. PERFORATION RECORD (Interval, size and number)

1556'-1574' and 1629'-1639'
4" Hyperjet II; 4-Shots per-Foot
1994'-2046' - Perforations Squeezed
1780' - Perforations Squeezed

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

DEPTH INTERVAL (MD)	AMOUNT, AND KIND OF MATERIAL USED
2095'-2343' MD	50 Sx Cl G w/20% CaCl ₂ and 0.5% CFR-II - Open Hole Plug
1994'-2046' MD	100 Sx Cl G w/2% CaCl ₂ , 1% CFR2
1780'	20 Sx Permafrost Cmt @ 14.8 ppb

33. PRODUCTION

DATE FIRST PRODUCTION _____ PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) Gas Lift

WELL STATUS (Producing or shut-in) Shut In

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
5/7 - 5/8/80	33	1 1/2"	→	5	-	5	
FLOW, TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)	
		→	20-25 (Est)		25 Estimated		

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) _____ TEST WITNESSED BY Henry Peterson

35. LIST OF ATTACHMENTS
N/A

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

SIGNED Max Brewer TITLE Chief of Operations, ONPRA DATE 9 June 80

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

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 RECOVERY

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	DIL LOG TOP	
					MEAS. DEPTH	TRUE VERT. DEPTH
				GR/Pebble Sh.	1313'	
				Kingak	1787'	
				Barrow Sand	1988'	
				Sag River	2230'	
				Argillite	2307'	

Well Completion Report
 National Petroleum Reserve in Alaska
 South Barrow Well No. 20

SUMMARY OF CORED INTERVALS

<u>CORE NO.</u>	<u>FORMATION</u>	<u>INTERVAL</u>	<u>CORE DESCRIPTION</u>
1	Sag River	2247-2269' (Rec 20')	<u>Sandstone</u> : very fine grained, argillaceous grades to siltstone, fair to nil porosity, bleed heavy dark brown oil. Analysis indicates nil to fair permeability.
2	Sag River	2269-2299' (Rec 29')	<u>Sandstone</u> : very fine grained, argillaceous, partly silty and galuconitic, poor to fair porosity, nil to fair permeability, bleed heavy residual oil from pores and fractures.
3	Sag River/ Argillite	2299-2314' (Rec 15')	<u>Sandstone</u> : very fine to coarse grained, calcareous, argillaceous, poor to fair porosity, thin zones of fair to good permeability, generally bleeding very heavy residual dead oil from thin zones. Argillite (1.2') at base of core.

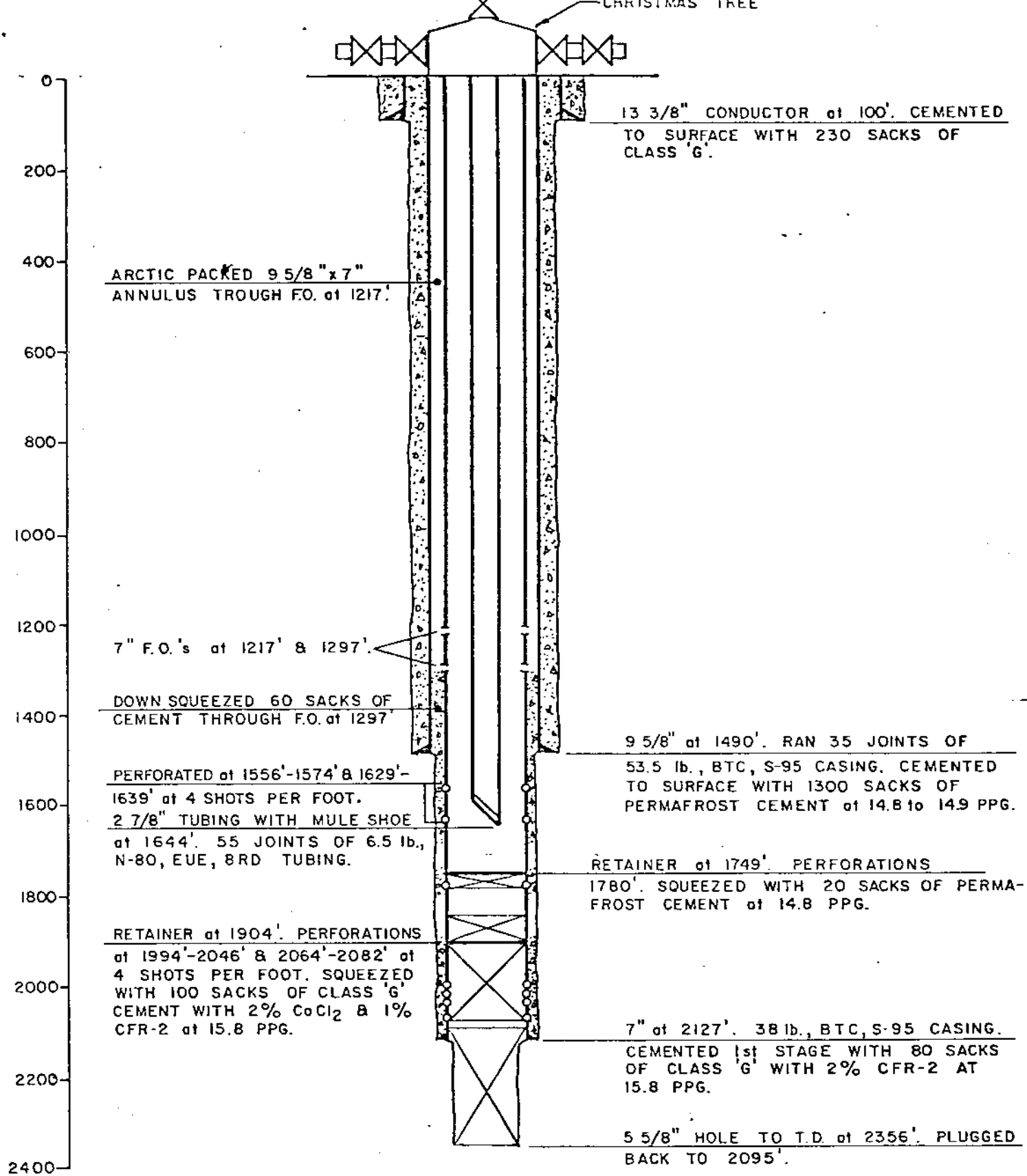
SUMMARY OF DRILL STEM TESTS AND PRODUCTION TESTS

DST No. 1	Sag River	2117-2313'	Open Hole DST with packer set in shoe of 7" casing. No cushion above test tool. 1st FP (120 minutes): IHP 1163 psi, opened tool with strong blow decreasing to weak blow in 20 minutes, GTS TSTM in 60 minutes, 1st FP pressure 88-181 psi, shut in for 240 minutes, ISIP 909 psi. 2nd FP (480 minutes): Opened tool with strong blow on 1" choke, choked down to 1/16" with 15 psi FWHP after 5 hours. Changed to 1/8" choke with 19.5 psi FWHP, 2nd FP pressure 206-289 psi, shut in well for 900 minutes, FSIP 958 psi, recovered 2.6 bbls slightly oil and gas cut mud.
-----------	-----------	------------	---

Well Completion Report
National Petroleum Reserve in Alaska
South Barrow Well No. 20
Summary of Drill Stem Tests and Production Tests

Test Interval No. 2 Upper & Lower Barrow Sd Perforations: 1994-2046' 2064-2082' Production Test: Perforated with 4 shots/ft. Well flowed at maximum rate of 1.3 MMCFPD with 1 bbl water/minimum on 1.5" choke and FTP of 30 psi. Shut in well for 8 hours with maximum bottom hole SIP of 786 psi.

Test Interval No. 3 "Pebble Sh" Sands Perforations: 1558-1574' 1629-1639' Production Test: Perforated with 4 shots/ft. Opened well with no fluid to surface. Maximum surface tubing pressure 170 psi, declining to 0 psi. Unloaded well four (4) times in 24 hours with gas from Well No. 19. Recovered approximately 20 bbls fluid consisting of gas cut oil with mud. Bottom hole shut in pressure: 192.5 psi.



SOUTH BARROW No. 20

1600' FEL and 1980' FNL
Sec. 26, T.22N., R.17W., U.M.

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

**WELL COMPLETION
SCHEMATIC**