## UNITED STATES 5. LEASE ONPRA DEPARTMENT OF THE INTERIOR N/A 6. IF INDIAN, ALLOTTEE GEOLOGICAL SURVEY SUNDRY NOTICES AND REPORTS ON WELLS 7. UNIT AGREEMENT NAME (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.) N/A 8. FARM OR LEASE NAME National Petroleum Reserve in Alaska gas other well 9. WELL NO. 2. NAME OF OPERATOR National Petroleum Reserve in Tunalik Test Well No. 1 Alaska (through Husky Oil NPR Operations, Inc.) 10. FIELD OR WILDCAT NAME 3. ADDRESS OF OPERATOR - -Wildcat 2525 C Street, Suite 400, Anchorage, AK 99503 11. SEC., T., R., M., OR BLK. AND SURVEY OR 4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 AREA Sec 20, T10N, R36W, UM AT SURFACE: 2403' FSL, 1488' FEL 12. COUNTY OR PARISH 13. STATE: AT TOP PROD. INTERVAL North Slope AT TOTAL DEPTH: Same Alaska 14. API NO. 16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE. REPORT, OR OTHER DATA 15. ELEVATIONS (SHOW DF, KDB, AND WD) NOTICE OF INTENT TO: SUBSEQUENT REPORT OF: TEST WATER SHUT-OFF FRACTURE TREAT SHOOT OR ACIDIZE (NOTE: Report results of multiple completion or zone PULL OR ALTER CASING change on Form 9-330.). MULTIPLE COMPLETE CHANGE ZONES (other) Subsequent Notice of Running and Cementing 7 5/8" Casing 17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all partinent details, and give partinent 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.)\* An 8 1/2" hole was drilled to 14,726' and logged with the DIL/GR/SP, FDC/CNL/GR/CAL, BHCS/GR/TTI, Dipmeter, and Velocity Survey. Ran 63 joints (2690.13') of 7 5/8" casing to 14,719.24'. Top of liner at 12,029'. Dropped ball and sheared seat at 2900 psi. Circulated and conditioned hole. Mixed 12 bbls of SAM V spacer at 18.5 ppg. Cemented with 258 sacks of Class "G" cement with 1% CFR-2, 0.5% Halad 22-A, .4% LWL, 35% silica flour, sixteen #/sack of High Dense II, and 0.5% No Foam Powder with a slurry weight of 18.5 ppg. Displaced with 276 bbls mud at 3 1/2 to 4 BPM. Bumped plug with 3000 psi. CIP 8/3/79 at 11:00 AM. Had full returns throughout the whole job. Waited on cement. Tested liner lap to 3000 psi. OK. Tested BOPE to 10,000 psi. OK. Picked up Howco DST test tools. Ran a negative flow lap test to 2500 psi differential. Good test. Ran a CBL/VDL/GR from 12,010' to 14,640'

with satisfactory results. Drilled landing collar and cement from 14,629' to 14,726'. Drilled 10' of formation to 14,736'. Tested formation to 19.2 ppg equivalent gradient. No observed leak off. Drilling ahead. Subsurface Safety Valve: Manu. and Type \_\_\_\_\_ 18. I hereby certify that the faregoing is true and correct SIGNED [ TITLE Chief of OperationsATE (This space for Federal or State office use) ns with ≥nt

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## 5. LEASE DEPARTMENT OF THE INTERIOR N/A 6. IF INDIAN, ALLOTTEE OR TRIBE NAME GEOLOGICAL SURVEY 7. UNIT AGREEMENT NAME SUNDRY NOTICES AND REPORTS ON WELLS N/A (Do not use this form for proposals to drift or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.) B. FARM OR LEASE NAME National Petroleum Reserve in Alaska 1. oil gas well X other well 9. WELL NO. 2. NAME OF OPERATOR National Petroleum Reserve in Tunalik Test Well No. 1 Alaska (through Husky Oil NPR Operations, Inc.) 10. FIELD OR WILDCAT NAME 3. ADDRESS OF OPERATOR Wildcat 2525 C Street, Suite 400, Anchorage, AK 99503 11. SEC., T., R., M., OR BLK. AND SURVEY OR 4. LOCATION OF WELL (REPORT LOCATION CLEARLY, See space 17 AREA Sec 20, T10N, R36W, UM AT SURFACE: 2403' FSL; 1488' FEL 12. COUNTY OR PARISH 13. STATE AT TOP PROD. INTERVAL: North Slope Alaska AT TOTAL DEPTH: 14. API NO. 16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE REPORT, OR OTHER DATA 15. ELEVATIONS (SHOW DE KDS, AND WD) $GR = 80^{\circ}$ ; $Pad = 85^{\circ}$ ; $KB = 110^{\circ}$ NOTICE OF INTENT TO: SUBSEQUENT REPORT OF: TEST WATER SHUT-OFF FRACTURE TREAT SHOOT OR ACIDIZE REPAIR WELL (NOTE: Report results of multiple completion or zone PULL OR ALTER CASING change on Form 9-330.). MULTIPLE COMPLETE CHANGE ZONES ABANDON\* . (other) 17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all partinent 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 Tunalik Test Well No. 1. The plan was discussed with Mr. Jim Webber on 12/21/79. This well was drilled to 20,335' and logged. An earlier set of logs at 18,295' were also used in the evaluation and decision to abandon the well. The abandonment procedure is attached. Subsurface Safety Valve: Manu. and Type \_\_\_\_\_ Set @ \_ 18. I hereby certify that the foregoing is true and correct SIGNED TITLE Chief of Operation SATE /3 es with (This space for Federal or State office use) ent .. DATE \_\_ ions of 221.

UNITED STATES

## TUNALIK TEST WELL NO. 1 ABANDONMENT PROCEDURE

- 1. Trip in with open ended drill pipe to ± 18,450'.
- 2. Condition mud to a uniform weight and viscosity for plugging.
- 3. Spot Plug No. 1, a 120-sack Class "G" plug, with 40% Silicia Flour, 0.6% Halad 22A, 1% CFR-2, 2.2% HR 12, 1.1% HR 20, mixed @ 17ppg. Mix water 4.77 gal/sack, yield 1.35 ft<sup>3</sup>/sack. This is a 750' plug (top ± 17,700') in 6 1/4" hole. Spot a balanced plug with 5 bbls water ahead and 1 bbl water behind the cement.
- 4. Pull up to ± 17,200'. Condition mud at least one hole volume.
- 5. Spot Plug No. 2, a 156-sack, Class "G" plug, with 40% Silicia Flour, 0.6% Halad 22A, 1% CFR-2, 2.2% HR 12, 1.1% HR 20, mixed @ 17 ppg. Mix water 4.77 gal/sack, yield 1.35 ft<sup>3</sup>/sack. This is a 990' plug (top ± 16,210') in 6 1/4" hole. Spot a balanced plug with 5 bbls water ahead and 1 bbl water behind cement.
- 6. Pull up to  $\pm$  15,700 and condition mud at least one hole volume.
- 7. Spot Plug No. 3, a 243-sack Class "G" plug, with 1% CFR-2, 0.5% Halad 22A, 35% Silicia Flour, 27% High Dense III, mixed @ 18.9 ppg. Mix water 4.09 gallon/sack, yield 1.33 ft<sup>3</sup>/sack. This is ± 980' of 6 1/4" hole and ± 100' in 7 5/8" liner. Spot a balanced plug with 10 bbls water ahead and 2 bbls water behind cement.
- 8. Pull up to ± 14,250°. Condition at least one hole volume.
- 9. Trip out and pick up a 6 1/4" bit and 7 5/8", 39# scraper. Clean out to ± 14,100'. Circulate bottoms up. Trip out and pick up Howco E-Z Drill 7 5/8", 39# retainer on DP. Trip in and set retainer @ ± 14,000'.
- 10. Pull up to + 12,200'. Condition mud.
- 11. Spot Plug No. 4, a 200 sack Class "G" plug, with 1% CFR-2, 0.2% HR-7, 0.75% Halad 22A, mixed at 17.0 ppg. Mix water 3.5 gal/sack, yield 1.0 ft<sup>3</sup>/sack. This is 175' in 7 5/8" casing and 400' in 8 1/2" casing (top ± 11,625'). Spot a balanced plug with 10 bbls water ahead and 1 bbl water behind cement.
- 12. Pull up to  $\pm$  11,500°. Condition mud at least one hole volume.
- 13. Trip out and pick up 8 1/2" bit and 9 5/8", 53.5# scraper. Clean out to ± 11,250'. Circulate bottoms up and until conditioned.
- 14. Trip out and pick up Howco EZ Drill 9 5/8", 53.5# retainer on DP. Trip in and set retainer @ + 11,200'.

Tunalik Test Well No. 1 Abandonment Procedure Page 2

- 15. Trip out, laying down 3 1/2" DP and 4 3/4" DCs and excess 4 1/2" DP.
  Pick up Howco 9 5/8", 53.5# E-Z Drill retainer on 4 1/2" DP. Trip in to

  ± 2100' (above FO at 2149') and set retainer. Pull out of retainer.
- 16. Reverse mud to water.
- 17. Spot Plug No. 5, a 100-sack Permafrost Cement plug, mixed at 14.9 ppg. Mix water 3.5 gal/sack, yield 0.95 ft<sup>3</sup>/sack. This is a 240' plug in 9 5/8" casing. Spot a balanced plug. Displace with water.
- 18. Pull up to ± 1850'. Reverse out drill pipe.
- 19. Reverse out water with diesel. The approximate volume of 1850' of 9 5/8" casing with 4 1/2" DP in place is approximately 120 bbls. Trip out, laying down DP. DO NOT fill casing to surface. Leave ± 25' of 9 5/8" casing empty.
- 20. Nipple down BOP stack.
- 21. Rig up 4" line pipe and ll", 10,000 psi head cover and dry hole marker. Set the 4" pipe ± 10' below the surface. Put a flared wire line entry guide on the bottom of the 4".
- 22. Clean mud pits and release rig. Rig down for movement to Awuna Test Well No. 1. Clean location.

Information for wellhead marker:

USGS - ONPRA Tunalik Test Well No. 1 2403' FSL, 1488' FEL SE 1/4, SEC 20, T10N, R36W, UM

## UNITED STATES 5. LEASE DEPARTMENT OF THE INTERIOR N/A 6. IF INDIAN, ALLOTTEE OR TRIBE NAME GEOLOGICAL SURVEY 7. UNIT AGREEMENT NAME SUNDRY NOTICES AND REPORTS ON WELLS N/A (Do not use this form for proposals to driff or to deepen or plug back to a different reservoir. Use Form 9~331—C for such proposals.) 8. FARM OR LEASE NAME National Petroleum Reserve in Alaska 1. oil gas $\boxtimes$ well other well 9. WELL NO. 2. NAME OF OPERATOR National Petroleum Reserve in Tunalik Test Well No. 1 Alaska (through Husky Oil NPR Operations, Inc.) 10. FIELD OR WILDCAT NAME 3. ADDRESS OF OPERATOR Wildcat 2525 C Street, Suite 400, Anchorage, AK 99503 11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA 4. LOCATION OF WELL (REPORT LOCATION CLEARLY, See space 17 Sec 20, TION, R36W, UM AT SURFACE: 2403' FSL: 1488' FEL 12. COUNTY OR PARISH 13. STATE : AT TOP PROD! INTERVAL: North Slope AT TOTAL DEPTH: 14. API NO. 16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA 15. ELEVATIONS (SHOW DE KOB, AND WD) GR 80'; Pad 85'; KB 110' NOTICE OF INTENT TO: SUBSEQUENT REPORT OF: TEST WATER SHUT-OFF FRACTURE TREAT SHOOT OR ACIDIZE REPAIR WELL (NOTE: Report results of multiple completion or zone PULL OR ALTER CASING change on Form 9-330,)... MULTIPLE COMPLETE CHANGE ZONES ABANDON\* . (other) 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.)\* Trip in with open ended drill pipe to 18,46?'. Condition mud to a uniform weight and viscosity for plugging. Spot Plug No. 1, a 120-sack Class "G" plug, with 40% Silicia Flour, 0.6% Halad 22A, 1% CFR-2, 2.2% HR 12, 1.1% HR 20, mixed at 17 ppg. Mix water 4.77 gal/sack, yield 1.35 ft<sup>3</sup>/sack. This is a 750' plug (top 17,696') in 6 1/4" hole. Spot a balanced plug with 5 bbls water ahead and 1 bbl water behind the cement. CIP 11:30 PM, 12/29/79. Pull up to 17,217'. Condition mud. Start Plug No. 2. Trouble getting cement. Reverse DP and start over. Spot Plug No. 2, a 156-sack, Class "G" plug, with 40% Silicia Flour, 0.6% Halad 22A, 1% CFR-2, 2.2% HR 12, 1.1% HR 20, mixed at 17 ppg. Mix water 4.77 gal/sack, yield 1.35 ft<sup>3</sup>/sack. This is a 990' plug (top 16,227') in 6 1/4" hole. Spot a balanced plug with 5 bbls water ahead and 1 bbl water behind cement. CIP 8:00 AM, 12/30/79. Pull up to 15,727' and condition mud. Spot Plug No. 3, a 243-sack Class "G" plug, with 1% CFR-2, 0.5% Halad 22A, 35% Silicia Flour, 27% High Dense III, mixed at 18.9 Subsurface Safety Valve: Manu. and Type \_\_\_\_ \_\_ Set @ \_\_` 18. I hereby certify that the follegoing is true and correct TITLE Chief of Operations ATE /6 January

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Sundry Notices and Reports on Wells Tunalik Test Well No. 1 Subsequent Report of Abandonment Page 2

ppg. Mix water 4.09 gallon/sack, yield 1.33 ft<sup>3</sup>/sack. This is ± 980' of 6 1/4" hole and ± 100' in 7 5/8" liner. Spot a balanced plug with 10 bbls water ahead and 2 bbls water behind cement. Top of plug 14,647'. CIP at 2:00 PM, 12/30/79. Pull up to 14,170'. Condition mud. Trip out and pick up a 6 1/4" bit and 7 5/8", 39# scraper. Clean out to 14,076'. Circulate bottoms up. Trip out and pick up Howco E-Z Drill 7 5/8", 39# retainer on DP. Trip in and set retainer at 14,000'. Pull up to 12,206'. Condition mud. Spot Plug No. 4, a 200 sack Class "G" plug, with 1% CFR-2, 0.2% HR-7, 0.75% Halad 22A, mixed at 17.0 ppg. Mix water 3.5 gal/ sack, yield 1.0 ft<sup>3</sup>/sack. This is 175' in 7 5/8" casing and 400' in 8 1/2" casing (top 11,230'). Spot a balanced plug with 10 bbls water ahead and 1 bbl water behind cement. CIP at 1:30 AM, 1/1/80. Pull up to 11,500'. Condition mud. Trip out and pick up 8 1/2" bit and 9 5/8", 53.5# scraper. Clean out to 11,276'. Circulate bottoms up until conditioned. Trip out and pick up Howco EZ Drill 9 5/8", 53.5# retainer on DP. Trip in and set retainer 11,200'. Trip out, laying down 3 1/2" DP and 4 3/4" DCs and excess 4 1/2" DP. Pick up Howco 9 5/8", 53.5# E-Z Drill retainer on 4 1/2" DP. Trip in to 2065' (above FO at 2149') and set retainer. Pull out of retainer. Reverse mud to water. Spot Plug No. 5, a 100-sack Permafrost Cement plug, mixed at 14.9 ppg. Mix water 3.5 gal/sack, yield 0.95 ft3/ sack. This is a 240' plug in 9 5/8" casing. Spot a balanced plug. Displace with water. Top at 1825'. CIP at 12:30 PM, 1/3/80. Pull up to 1800'. Reverse out drill pipe. Reverse out water with diesel. Trip out, laying down DP. Nipple down BOP stack. Rig up 4" line pipe and 11", 10,000 psi head cover and dry hole marker. Set the 4" pipe  $\pm$  10' below the surface. Put a flared wire line entry guide on the bottom of the 4". Clean mud pits and release rig at 6:00 AM, 1/7/80. Rig down for movement to Awuna Test Well No. 1. Clean location.

