Submit to Appropriate District Office State Lease - 6 copies Fee Lease - 5 copies DISTRICT I

State of New Mexico Energy, Minerals and Natural Resources Department

Form C-105 Revised 1-1-89

OIL CONSERVATION DIVISION P.O. Box 1980, Hobbs, NM 88240

2040 Pacheco St. Santa Fe. NM WELL API NO. 30-025-26278

DISTRICT II 5. Indicate Type of Lease 87505 P.O. Drawer DD, Artesia, NM 88210 STATE X FEE 6. State Oil & Gas Lease No. DISTRICT III 1000 Rio Brazos Rd, Aztec, NM 87410 WELL COMPLETION OR RECOMPLETION REPORT AND LOG 1a. Type of Well: 7. Lease Name or Unit Agreement Name OIL WELL X GAS WELL DRY OTHER b. Type of Completion: PLUG BACK DIFF RESVR OTHER WELL X DEEPEN Arnott Ramsay "NCT-B" 2. Name of Operator 8. Well No. Doyle Hartman 3. Address of Operator 9. Pool name or Wildcat 500 N. Main St., Midland, TX 79701, (432) 684-4011 Jalmat (T-Y-7R) Oil 4. Well Location 1980' 1990' South _ Feet From The _ Line and _ Feet From The Line 255 Range 37F NMDM County 10. Date Spudded 11. Date T.D. Reached 12. Date Compl. (Ready to Prod.) 13. Elevations (DF & RKB, RT, GR, etc.) 14. Elev. Casinghead 04/06/1979 04/12/1979 08/22/2001 2984' GR 15. Total Depth 17. If Multiple Compl. How Many Zones? 16. Plug Back T.D. 18. Intervals Rotary Tools Cable Tools Drilled By 3315 0' - 3600' 19. Producing Interval(s), of this completion - Top, Bottom, Name 20. Was Directional Survey Made 2655' - 3178' (Y-7R) 21. Type Electric and Other Logs Run 22. Was Well Cored DS-CNL-GR-CCL, VDCBL-GR-CCL No CASING RECORD (Report all strings set in well) **CASING SIZE** WEIGHT LB/FT. **DEPTH SET HOLE SIZE CEMENTING RECORD** AMOUNT PULLED 8 5/8" 24 #/ft 349' 12 1/4" 255 sx Circ. 5 1/2" 15.5 #/ft 3600' 7 7/8" 910 sx Circ. LINER RECORD 24. **TUBING RECORD** SIZE TOP BOTTOM SACKS CEMENT SCREEN SIZE **DEPTH SET** PACKER SET 2 3/8" 3252 26. Perforation record (interval, size, and number) 27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC. 2655' - 3178' w/ (30) 0.38" x 17" Holes AMOUNT AND KIND MATERIAL USED DEPTH INTERVAL 2655' - 3178' A/ 8600 Gal. 2655' - 3178' SWF/ 209,279 Gal. & 368,150 # **PRODUCTION** Well-Status (Prod. or Shut-in) Date First Production Production Method (Flowing, gas lift, pumping - Size and type pump) 08/22/2001 Flowing / Pumping (7.5 x 64 x 1 1/4) **Date of Test** Prod'n For Hours Tested Choke Size Oil - Bbl. Gas - MCF Oil Ratio **Test Period** 08/31/2001 24 Hrs 34/128 313 78 A MCF/BBL Flow Tubing Press. Casing Pressure Calculated 24 Gas - MCF Oil - BbL Water Hour Rate 41 psig 4 313 29. Disposition of Gas (Sold, used for fuel, vented, etc.) 30. List Attachments 31. I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief Printed Name Steve Hartman

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INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled or deepened well. It shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all specific tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, Items 25 through 29 shall be reported for each zone. The form is to be filed in quintuplicate except on state land, where six copies are required. See Rule 1105.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

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Dovle Hartman Arnott Ramsay "NCT-B" No. 6 (J) 32-25S-37E Lea County, New Mexico API No.: 30-025-26278 Page 2 of 7

Details of Completed Operations

<u>7-16-01</u>

Moved in and rigged up well service unit. Pulled and laid down 2" x 1-1/4" x 16' pump and (127) 3/4" x 25' rods.

Lowered 2-3/8" O.D. tubing 9' before tagging up. Pulled and laid down 104 its of original 2-3/8" O.D. tubing. PBTD at 3263.18' RKB, with 7' of original 2-3/8" O.D. mud anchor still in bottom of well.

<u>7-17-01</u>

Ran 94 joints of **new** 2-3/8" O.D. tubing and 178.38' bottom-hole drilling assembly. Hooked up air unit. Unloaded fluid to blowdown tank.

Cleaned out to 3268'. Circulated hole clean. Loaded hole with 72 bbls of 2% KCl water.

7-18-01

Rigged up Schlumberger. Logged well with DS-CNL-GR-CCL log and VDCBL-GR-CCL log.

7-19-01

Ran 2-3/8" O.D. tubing and 5-1/2" Model "C" packer. Set packer at 3077'.

Squeezed perfs with 500 sx (112 bbls) of API Class "C" cement slurry. Staged to a final squeeze pressure of 4500 psi.

Raised 5-1/2" Model "C" packer 4 joints. Pressured 2-3/8" O.D. tubing to 40 one hour.

Pulled and laid down 5-1/2" Model "C" packer.

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Ran 178.38' bottom-hole drilling assembly. Hooked up reverse drilling system. Drilled green cement from 3132' to 3200'. Circulated hole clean. Raised tubing 1 joint. Pressured 5-1/2" O.D. casing to 800 psi. Shut down for night.

7-20-01

Drilled 68' of **hard** cement in 2.75 hours (24.7 ft/hr). Tagged steel at 3268'.

Pulled 178.38' bottom-hole drilling assembly.

Ran 95 jts of 2-3/8" O.D. tubing and 193.38' wash-pipe assembly consisting of 4-3/4" x 4-1/2" x 4.11' shoe, 1 jt of 4-1/2" O.D. x 11.15' wash pipe, and (6) 3-1/2" O.D. drill collars. Circulated out frac sand until tagging hard cement at 3281'.

Pulled wash-pipe assembly.

Pressure tested 5-1/2" O.D. casing to 1500 psi (0'-3281'). Pressure held okay.

<u>7-21-01</u>

Ran 178.38' bottom-hole drilling assembly. Hooked up reverse unit. Drilled on steel and cement, between 3279' to 3286' (2.0 ft/hr). At 3286', returns contained no steel slivers.

Pulled 178.38' bottom-hole drilling assembly. Removed worn 4-3/8" cone bit.

Ran bottom-hole drilling assembly equipped with 4-3/4" blade bit. Drilled 29' of cement, from 3286' to 3315', in 5.47 hours. Circulated hole clean. New PBTD at 3315'.

7-22-01

Ran 2-3/8" O.D. tubing to 3187'. Hooked up air unit. Unloaded water 20 bl

Pulled 2-3/8" O.D. tubing.

Rigged up wireline truck. Perforated 5-1/2" O.D. casing, with 3-18" O.I. (30) 0.38" x 19" holes, with one shot each, at:

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2655	2685	2732	2895	2927	3151
2663	2703	2750	2900	2975	3158
2669	2719	2755	2909	2980	3171
2678	2722	2758	2916	3122	3174
2681	2729	2763	2921	3125	3178

Spotted acid across and above perfs, from 2895' to 3178', by pumping 400 gallons of 15% MCA acid, followed by 0.5 bbls of 2% KCl water. Allowed acid to fall and equalize.

Raised and set 5-1/2" Model "C" packer at 2856'. Pumped an additional 100 gal of 15% MCA acid down 2-3/8" O.D. tubing. Allowed acid to soak for 20 minutes.

Acidized perfs, from 2895' to 3178' (15 holes), with an additional 2525 gal of 15% MCA acid and 21 ball sealers, at an average treating rate of 4.4 BPM and average treating pressure of 1478 psi. Flushed acid with 18.7 bbls of 2% KCl water. ISIP = 266 psi.

Raised and set 5-1/2" Model "C" RBP, at 2860'. Spotted acid across and above perfs, from 2655' to 2763' (15 holes), by pumping 200 gal of 15% MCA acid followed by 0.5 bbls of 2% KCl water. Allowed acid to fall and equalize.

Raised and set 5-1/2" Model "C" packer at 2597'. Pumped an additional 100 gal of 15% MCA acid down 2-3/8" O.D. tubing. Let acid soak for 20 minutes.

Acidized perfs, from 2655' to 2763' (15 holes), with an additional 2675 gal of 15% MCA acid and 22 ball sealers, at an average treating rate of 4.5 BPM and average treating pressure of 845 psi. ISIP = 72 psi. 1-min SIP = 0 psi.

Lowered and reset 5-1/2" Model "C" packer, at 2856' (4' above 5-1/2" Model "C" RBP RBP would not hold pressure

Tested 5-1/2" Model "C" RBP. RBP would not hold pressure.

Pulled 5-1/2" Model "C" packer and 5-1/2" Model "C" RBP. Found be collapsed. Laid down inoperable RBP.

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Ran 2-3/8" O.D. tubing equipped with 5-1/2" Model "C" packer and replacement 5-1/2" Model "C" RBP. Set 5-1/2" Model "C" RBP at 2805' and 5-1/2" Model "C" packer at 2791'. Pressure tested 5-1/2" Model "C" RBP to 3000 psi. Pressure held okay.

Raised and set 5-1/2" Model "C" packer at 2597'. Re-acidized perfs, from 2655' to 2763', with an additional 2600 gal of 15% MCA acid and 25 ball sealers, at an average treating rate of 4.0 BPM and average treating pressure of 1935 psi. Flushed with 14 bbls of 2% KCl water. ISIP = 56 psi. 10-sec SIP = 0 psi. Balled out 3 times.

Raised and set 5-1/2" Model "C" RBP at 2606' (above all perfs). Left 5-1/2" Model "C" packer hanging, at 2597'.

Shut down for remainder of night.

7-23-01

Attempted to pull out of hole with 5-1/2" Model "C" packer and 5-1/2" Model "C" RBP. 5-1/2" Model "C" RBP would not move in upward direction.

Pulled 2-3/8" O.D. tubing. Laid down 5-1/2" Model "C" packer.

Ran 2-3/8" O.D. tubing equipped with retrieving head. Worked with 5-1/2" Model "C" RBP until retrieving neck came free.

Pulled 2-3/8" O.D. tubing. Recovered RBP control bar and portion of 5-1/2" Model "C" RBP above top packing element.

7-24-01 and 7-25-01

Unsuccessfully fished for remainder of 5-1/2" Model "C" RBP.

Ran cone-buster mill, oil jars, and (6) 3-1/2" O.D. drill collars. Hooked up all circulatine equipment. Commenced pumping foam and cleaning out at 3230' (95 its and 1951).

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out to prior PBTD of 3315', with remainder of RBP still below mill. Circulated hole clean. Blew hole dry.

Pumped 4 bbls of 2% KCl water down tubing, to protect squeezed perfs (3248' to 3250'). Pulled bottom-hole assembly. Shut down for night.

7-27-01

Ran and landed bottom of 2-3/8" O.D. tubing, at 3252' RKB (100 jts @ 32.25 ft/jt + 1.1' SN + 18' MA - 1' AGL + 10' KBC = 3252.10'). Ran 2" x 1-1/4" x 12' RHAC top hold-down insert pump and 3/4" API Class "KD" rod string consisting of (128) 3/4" x 25' rods, (2) 3/4" x 8' subs, (1) 3/4" x 6' sub, and 1-1/4" x 16' polish rod.

Commenced pump testing well.

8-6-01

Moved in and rigged up well service unit.

Pulled rods and tubing. Covered squeeze perfs (3248'-3250') with 15 sx of 20/40 frac sand.

Ran 2-3/8" O.D. tubing. Tagged top of frac sand, at 3195' RKB (98 jts@ 32.25 ft/jt + 7' of 99th jt + 1.1' SN + 18' MA - 2' AGL + 10' KBC = 3194.6').

Raised bottom of tubing to 2641' (81 jts@ 32.25 ft/jt + 1.1' SN + 18' MA + 2' CBJ - 2' AGL + 10' KBC = 2641.35').

Installed 3-1/2" heavy-duty frac valves.

8-7-01

Rigged up Halliburton. Performed CO₂ foam frac down casing-tubing annulus, utilizing 209,279 gal of gelled water and CO₂ (54.5% CO₂₎ and 368,150 lbs of frac sand \$\frac{12}{3}\$ (32) (40, 19% 10/20, 69% 8/16), at an average treating rate of 41 BPM and average wellhead treating pressure of 2369 psi. While pumping 8/16 frac sand, Halliburton lost all pumps. After repairing pumps and resuming frac, Halliburton ran out of CO₂

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> ISIP = 910 psi 5-min SIP = 26 psi 10-min SIP = 717 psi 15-min SIP = 866 psi

Left well shut in for 89 minutes. Cleaned up well to blowdown tank, for 14.25 hours.

<u>8-8-01</u>

Hooked up air cleanout equipment. Cleaned out frac sand to PBTD of 3315'. Circulated hole clean and dry.

Raised bottom of mud anchor to 2725'. Installed pressure recorder. Left well flowing overnight to blowdown tank.

8-9-01

Lowered 2-3/8" O.D. tubing. Tagged up 3308' (7' of fill).

Hooked up air equipment. Cleaned out additional 7' of fill.

Raised and landed bottom of tubing at 3252' (100 jts @ 32.25 ft/jt + 1.1' SN + 18' MA - 2' AGL + 10' KBC). Made up wellhead.

Ran 2" x 1-1/4" x 12' RHAC top hold-down insert pump and 3/4" rod string consisting of (128) 3/4" x 25' Axelson S-87 API Class "KD" rods, (2) 3/4" x 8' rod subs, (1) 3/4" x 2' rod sub, and 1-1/4" x 16' polish rod. Commenced pumping and cleaning up well, at 12:15 P.M., 8-9-01, at 7.5 Spm x 64" x 1-1/4".

8-31-01

P/313 MCFPD + 4 BOPD + 4 BWPD; CP = 41 psi.