

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTSUBMIT IN DUPLICATE \*  
(See other in-  
structions on  
reverse side)FORM APPROVED  
OMB NO. 1004-0137  
Expires: February 28, 1995

|  |  |  |  |   |  |  |  |
|--|--|--|--|---|--|--|--|
| <b>WELL COMPLETION OR RECOMPLETION REPORT AND LOG *</b>  |  |  |  |   |  | 5. LEASE DESIGNATION AND SERIAL NO.<br>SF-078194   |  |
| 1a. TYPE OF WELL<br>OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>  |  |  |  |   |  | 6. IF INDIAN, ALLOTTEE OR TRIBE NAME   |  |
| b. TYPE OF COMPLETION:<br>NEW WORK DEEP- DIFF. RESVR. OTHER<br>WELL <input checked="" type="checkbox"/> OVER <input type="checkbox"/> EN <input type="checkbox"/> RESVR. <input type="checkbox"/> OTHER <input type="checkbox"/> |  |  |  |   |  | 7. UNIT AGREEMENT NAME<br>LUDWICK LS   |  |
| 2. NAME OF OPERATOR<br>CONOCO INC.   |  |  |  |   |  | 8. FARM OR LEASE NAME, WELL NO.<br>LUDWICK LS #18M   |  |
| 3. ADDRESS OF OPERATOR<br>10 Desta Drive, Ste. 100W Midland, Texas 79705-4500 (915) 686-5424   |  |  |  |   |  | 9. API WELL NO.<br>30-045-29563  |  |
| 4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements) *<br>At surface 1450' FNL - 1505' FWL, UNIT LETTER 'F'<br>At top prod. Interval reported below<br>At total depth                     |  |  |  |   |  | 10. FIELD AND POOL, OR WILDCAT<br>BLANCO MESA VERDE  |  |
| 14. PERMIT NO.   |  |  |  |   |  | 11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA<br>SEC 6, T29N-R10W  |  |
| DATE ISSUED  |  |  |  |   |  | 12. COUNTY OR PARISH<br>San Juan County  |  |
| 15. DATE SPUDDED<br>5/17/98  |  |  |  |   |  | 13. STATE<br>NM  |  |
| 16. DATE T.D. REACHED<br>5/26/98   |  |  |  |   |  | 18. ELEV. (DF, RKB, RT, GR, ETC) *<br>5933'  |  |
| 17. DATE COMPL. (Ready to prod.)<br>6-20-98 6/9/98   |  |  |  |   |  | 19. ELEV. CASINGHEAD   |  |
| 20. TOTAL DEPTH, MD & TVD<br>6861'   |  |  |  |   |  | 21. PLUG, BACK T.D. MD. & TVD<br>6606'   |  |
| 22. IF MULTIPLE COMPL. HOW MANY *<br>2 (MV/DK)   |  |  |  |   |  | 23. INTERVALS DRILLED BY<br>ROTARY CABLE<br>TOOLS <input checked="" type="checkbox"/> TOOLS <input type="checkbox"/> |  |
| 24. PRODUCING INTERVAL(S) OF THIS COMPLETION - TOP, BOTTOM, NAME (MD AND TVD) *<br>4276' - 4893' BLANCO MESA VERDE   |  |  |  |   |  | 25. WAS DIRECTIONAL SURVEY MADE  |  |
| 26. TYPE ELECTRIC AND OTHER LOGS RUN<br>DUAL BURST THERMAL DECAY TIME LOG  |  |  |  |   |  | 27. WAS WELL CORED   |  |
| 28. CASING RECORD (Report all strings set in well)   |  |  |  |   |  |  |  |
| CASING SIZE/GRADE  |  | WEIGHT, LB/FT  |  | DEPTH SET (MD)  |  | HOLE SIZE  |  |
| 9-5/8"   |  | 36#  |  | 288'  |  | 12-1/4"  |  |
| 7"   |  | 23#  |  | 2623'   |  | 8-1/4"   |  |
| 4-1/2"   |  | 9.5/10.5#  |  | 6861'   |  | 6-1/4"   |  |
| 29. LINER RECORD   |  | 30. TUBING RECORD  |  |   |  |  |  |
| SIZE   |  | TOP (MD)   |  | BOTTOM (MD)   |  | SACKS CEMENT *   |  |
|  |  |  |  |   |  | SCREEN (MD)  |  |
|  |  |  |  |   |  | SIZE   |  |
|  |  |  |  |   |  | DEPTH SET (MD)   |  |
|  |  |  |  |   |  | PACKER SET (MD)  |  |
| 31. PERFORATION RECORD (Interval, size and number)<br>4276' - 4893' Blanco Mesa Verde  |  |  |  | 32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.<br>DEPTH INTERVAL (MD) |  |  |  |
|  |  |  |  | AMOUNT AND KIND OF MATERIAL USED                                      |  |  |  |
|  |  |  |  |   |  |  |  |
|  |  |  |  |   |  |  |  |
| 33. * PRODUCTION   |  |  |  |   |  |  |  |
| DATE FIRST PRODUCTION<br>6/9/98  |  | PRODUCTION METHOD (Flowing, gas lift, pumping - size, and type of pump)<br>F |  |   |  | WELL STATUS (Producing or shut-in)<br>P  |  |
| DATE OF TEST<br>6/12/98  |  | HOURS TESTED<br>24 HRS   |  | CHOKE SIZE<br>1/2"  |  | PROD'N FOR TEST PERIOD   |  |
|  |  |  |  |   |  | OIL - BBL<br>0   |  |
|  |  |  |  |   |  | GAS - MCF<br>1760 MCFD   |  |
|  |  |  |  |   |  | WATER - BBL<br>1   |  |
|  |  |  |  |   |  | GAS - OIL RATIO  |  |
| FLOW TUBING PRESS<br>280#  |  | CASING PRESSURE<br>550#  |  | CALCULATED 24 - HR RATE<br>→  |  | OIL - BBL<br>0   |  |
|  |  |  |  |   |  | GAS - MCF<br>1760 MCFD   |  |
|  |  |  |  |   |  | WATER - BBL<br>1   |  |
|  |  |  |  |   |  | OIL GRAVITY - API (CORR)   |  |
| 34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)<br>V  |  |  |  |   |  | TEST WITNESSED BY<br>Efrian Molina / W. Herrera w/ Big A Well  |  |
| 35. LIST OF ATTACHMENTS<br>PERF AND FRAC SUMMARY   |  |  |  |   |  | ACCEPTED FOR RECORD  |  |
| 36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records  |  |  |  |   |  |  |  |
| SIGNED <i>Debra Bemenderfer</i>  |  |  |  | TITLE DEBRA BEMENDERFER As Agent for Conoco Inc. OFFICE               |  |  |  |
|  |  |  |  | JUL 06 1998   |  |  |  |
|  |  |  |  | FARMINGTON DISTRICT OFFICE  |  |  |  |
|  |  |  |  | BY <i>[Signature]</i>   |  |  |  |

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| 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) |     |        |                             | 38. GEOLOGIC MARKERS |             |                  |
|--|-----|--------|-----------------------------|----------------------|-------------|------------------|
| FORMATION  | TOP | BOTTOM | DESCRIPTION, CONTENTS, ETC. | NAME                 | TOP         |                  |
|  |     |        |                             |                      | MEAS. DEPTH | TRUE VERT. DEPTH |
|  |     |        |                             | CLIFFHOUSE           | 3906'       |                  |
|  |     |        |                             | CLIFFHOUSE(Massive)  | 3972'       |                  |
|  |     |        |                             | MENEFEE              | 4016'       |                  |
|  |     |        |                             | POINT LOOKOUT        | 4610'       |                  |
|  |     |        |                             | GALLUP               | 5819'       |                  |
|  |     |        |                             | GREENHORN            | 6566'       |                  |
|  |     |        |                             | GRANEROS             | 6616'       |                  |
|  |     |        |                             | DAKOTA               | 6682'       |                  |

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CONOCO, INC.  
LUDWICK LS #18M  
API# 30-045-29563  
SEC. 6, T29N-R10W UNIT LETTER 'F'  
1450' FNL & 1505' FWL

- 6/2/98 MIRU, ND tree NU BOP.
- 6/3/98 Tag up @ 6388. Break circulation & drill out cement & wiper plug from 4388' to 6444'. Plugged bit. POOH wet. LD & cleaned out same. Circulation & drill out cement from 6444' to 4850' KB. Circulate well clean. POOH to 6509'. Pressure test casing to 3000 psi in 500 psi increments, all OK. Release test pressure.
- 6/4/98 Continue POOH. Displace wellbore w/clean 1% KCL water. RU Blue Jet & PIH w/CBL-VDL-GR-CCL logging tool. Log from 6844' to 2000' w/0 psi. Relog from 4650' to 3800' w/1000 psi (Good bond w/pressure). POOH & RD Blue Jet. RU Schlumberger & RIH w/TDT. Log from 6835' to 2700'. Both logs faxed to Midland.
- 6/8/98 NU frac valve RU BJ Services. Pressure test casing, wellhead, BOP, frac valve, frac-Y & lines to 4000 OK. RU Select-fire, 1 JSPF perforating gun. Lost signal. Found bad seal & water in gun. Change out gun sections w/water, RIH perf @ 6798', 96', 77', 75', 70', 68', 66', 62', 59', 57', 55', 53', 51', 49', 47', 45', 26', 24', 19', 17', 6698', 95', 89', 87', 85' & 83' (Total: 26 perfs) Pressure test frac-Y cap to 4000 psi, OK. Attempt to breakdown perfs w/4000 psi max numerous times, no success. RU Blue Jet & RIH w/dump bailer. Dump 15% HCL from 6752' to 6772'. POOH & RD Blue Jet. Pressure test frac-Y cap to 4000 psi, Perfs w/2450 psi, formation broke. Continue breaking down Dakota perfs as follows: pump 36 BBLs. 1% KCL water, pump 12 BBLs. 15% HCL (Releasing 47 frac balls in stages) & pump 175 bbls. 1% DCL water. Good breakdown & ball action. Did not ball off. ISIP: 700 psi. Bled off SI pressure. RU Blue Jet & RIH w/junk basket to 6938'. Work same to recover frac balls. POOH & recovered 47 BPM/2885 psi, pump 299 BBLs. Low-Gel 20# 1% KCL water @ 41 BPM/2885 psi, pump 299 BBLs. Low-Gel. 20# 1% KCL water w/1.0 ppg 20/40 sand @ 41 BPM/2725 psi, & pump 175 BBLs. Low-Gel 20# 1% KCL water w/2.0 ppg 20/40 sand @ 41-25 BPM/2725-3800 psi. Terminate mixing sand due to X-Link mixing problems. Flush w/130 bbls. Low-Gel 20# 1% DCL water. Shut down. Found mixing metering system problems. Attempt to resume Dakota frac w/400 psi max surface pressure numerous times, could not pump in. RU Blue Jet & RIH w/junk basket. Tag fill @ 6680' (all perfs covered) RD tag fill @ 6680'. Clean out from 6680' to 6850'. Pressure test frac-Y & lines to 4000 psi, OK. Refrac Dakota as follows: pump 238 Low-Gel 20# 1% KCL water @ 32 BPM/3700 psi, 357 BBLs. Low-Gel 20# 1% KCL water w/1.0 ppg 20/40 sand @ 35 BPM/3590 psi, pump 263 BBLs. Low-Gel 20# 1% KCL water w/2.0 ppg 20/40 sand @ 37 BPM/3475 psi, 244 BBLs. Low-Gel 20# 1% KCL water w/4.0 ppg 20/40 sand @ 35 BPM/3460 psi & pump 107 BBLs. Low-Gel 20# 1% KCL water @ 35 - 0 BPM/3460 - 1600 psi. ISIP: 1600 psi, 5 Min: 1320 psi, 10 Min: 10Min: 960 psi & 15 Min: 635 psi. Avg: 37 BPM/2800 psi RU Blue Jet & RIH under pressure w/4 1/2" HOWCO Fas- Drill bridge plug. Set same @ 4975'.
- 6/9/98 Pressure test frac lines, w/4000 psi, OK. RU Blue Jet & RIH w/decentralized 3 1/8", select-fire, 1 JSPF perforating gun. Tagged up @ 4839' (Fill covering 54' of proposed perfs). Tagged up @ 4839'. Break circulation, Co from 4839' to 4970' & reverse circulate. RIH w/decentralized 3 1/8", select-fire, 1 JSPF PERFORATING GUN. Perforate @ 4893', 73', 65', 63', 39', 17', 4787', 85', 73', 67', 65', 58', 28', 10', 4697', 90', 78', 72', 70', 68', 66', 62', 55', 50', 48', 45', 43', 41' & 27' (Total: 29 perfs). Perforate in two runs, gun lost ground after 16 perfs on 1<sup>st</sup> run. POOH & RD Blue Jet. Breakdown Point Lookout perfs as follows: pump 38 BBLs. 1% KCL water (Formation broke @ 3800 psi, pump 12 BBLs. 15% HCL (release 50 frac balls in stages) & displace w/101 BBLs. 1% KCL water. Good breakdown & ball action. Achieve ball-off. Work basket on top of BP @ 4975'.

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Recovered 37 frac balls, 20 hits in two runs. RD Blue Jet. Pressure test lines & frac-Y cap to 4000 psi, OK. Frac Point Lookout perfs as follows: pump 238 BBls. slick 1% KCL water @ 46 BPM/1385 psi, 243 BBls. slick 1% KCL water w/0.5 ppg 20/40 sand @ 50 BPM/1610 psi, 572 BBls. slick 1% KCL water w/1.0 ppg 20/40 @ 50 BPM/1620psi, 509 BBls. slick 1% KCL water w/1.5 ppg 20/40 sand @ 53 BPM/2590 psi, 440 BBls. slick 1% KCL water w/2.0 ppg 20/40 sand @ 53 BPM/2200 psi & 73 Bbls. slick 1% KCL water @ 53 0 BPM/2200 - 140 psi, ISIP: 140 psi, 5 Min: 0 psi. Avg: 51 BPM/2000 psi. Set BP @ 4530'. Pressure test BP w/4000 psi, OK. RIH w/decentralized 3 1/8", select-fire, 1 JSPF perforating gun & perf Menefee @ 4471', 69', 67', 65', 63', 55', 27', 25', 23', 21', 10', 08', 06', 03', 4338', 36', 08', 06', 4291', 89', 87', 85', 83', 81' & 76' (Total: 25 perfs) Pressure test lines & frac-Y w/4000 psi. Attempt to break down perfs w/4000 psi max several times, no success. RU Blue Jet & RIH w/dump bailer. Dump 28% HCL from 4405' to 4425'. POOH & RD Blue Jet. Pressure test frac-Y cap & lines to 4000 psi, OK. Pressure up on Menefee perfs, formation broke @ 3400 psi. Break down Menefee perfs as follows: pump 24 BBls. 1% KCL water, pump 12 BBls. 15% HCL (releasing 50 frac balls in stages) & pump 100 BBls. 1%KCL water. ISIP: 1240 psi. Good breakdown & ball action. Achieved ball off. Surge balls off & bleed off SI pressure. RU Blue Jet & RIH w/junk basket to 4530' Work same to recover frac balls. POOH, recovered 50 frac balls, 27 hits. Pressure test. 4000psi, OK. Frac Menefee perfs as follows: pump 238 BBls. slick 1% KCL water @ 53 BPM/2715 psi, pump 243 BBls. slick 1% KCL water w/0.5 ppg 20/40 sand @ 53 BPM/2800 psi, pump 448 BBls. slick 1% KCL water w/1.9 ppg 20/40 sand @ 53 BPM/2545 psi, pump 356 BBls. slick 1% KCL water w/1.5 ppg 20/40 sand 56 BPM/3070 psi & pump 67 BBls. slick 1% KCL water @ 567-0 BPM/3070 psi - 1350 psi. ISIP: 1350 psi, 5 Min: 1205 psi, 10 Min: 1165 psi & 15 Min: 1165 psi. Avg: 51 BPM/2850 psi, RD BJ.

- 6/10/98 RD frac valve. Unload well @ 1500' & 4200' w/Weatherford Foam Unit. Tag fill @ 4458'. CO from 4458' to 4530'. Circulate well clean. Drill on Fas-Drill bridge plug @ 4530'. Tubing pressure increased from 500 psi to 1500 psi while drilling on BP. Bleed off pressure on tubing. Attempt to circulate w/Weatherford Foam Unit. Tubing pressured up to 1500 psi. Bleed off pressure. POOH to 1000'. Break circulation w/Weatherford Foam Unit. Unload water & sand from well. Unload water, sand & gas.
- 6/11/98 Tagged up @ 4525'. Clean out from 4525' to 4530' (BP). Drill up remainder of BP @ 4530'. Clean out from 4813' to 4975'. Circulate wellbore clean. Land EOT @ 4278'.
- 6/12/98 Obtain Mesa Verde stabilized flow test: 1760 MCFGPD, 0 BO & 1 BWPD @ FTP/SICP of 280 psi/555 psi thru 1/2" bean choke & 2" flowline to atmosphere. Witnessed by Wesely Herrera/Efrian Molina - Big A Well Service.
- 6/15/98 RD Flow-Tee. Tagged up @ 4970". CO from 4970' to 4975'. Drill up HOWCO Fas-Drill bridge plug @ 4975'. RIH to 5925'.
- 6/16/98 Tag up @ 6790'. Unload well. CO from 6790' to 6850'. Circulate well clean. RIH w/4 1/2" Retrieomatic. Set packer @ 6536'.
- 6/17/98 Well continues to unload water and oil. Drywatch.
- 6/18/98 Made three swab runs. Down hole valve verified open.

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- 6/19/98 Dakota stabilized flow test: 65 mcf/gpd, 2 bbls oil, 1 bbls water, 45# psi FTP, casing pressure N/A (open to MV above), 1/2" bean choke, POOH packer, circ well clean.
- 6/20/98 TAG FILL AT 6810', co FROM 6810' TO 6850'. Circ clean. Land production tubing (shoe) at 6693'. NDBOP, NUWH, RDMO. Well released to production. Producing MV and DK per order DHC # 1913.