

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

45F  
F. 15

JUN 20 1983

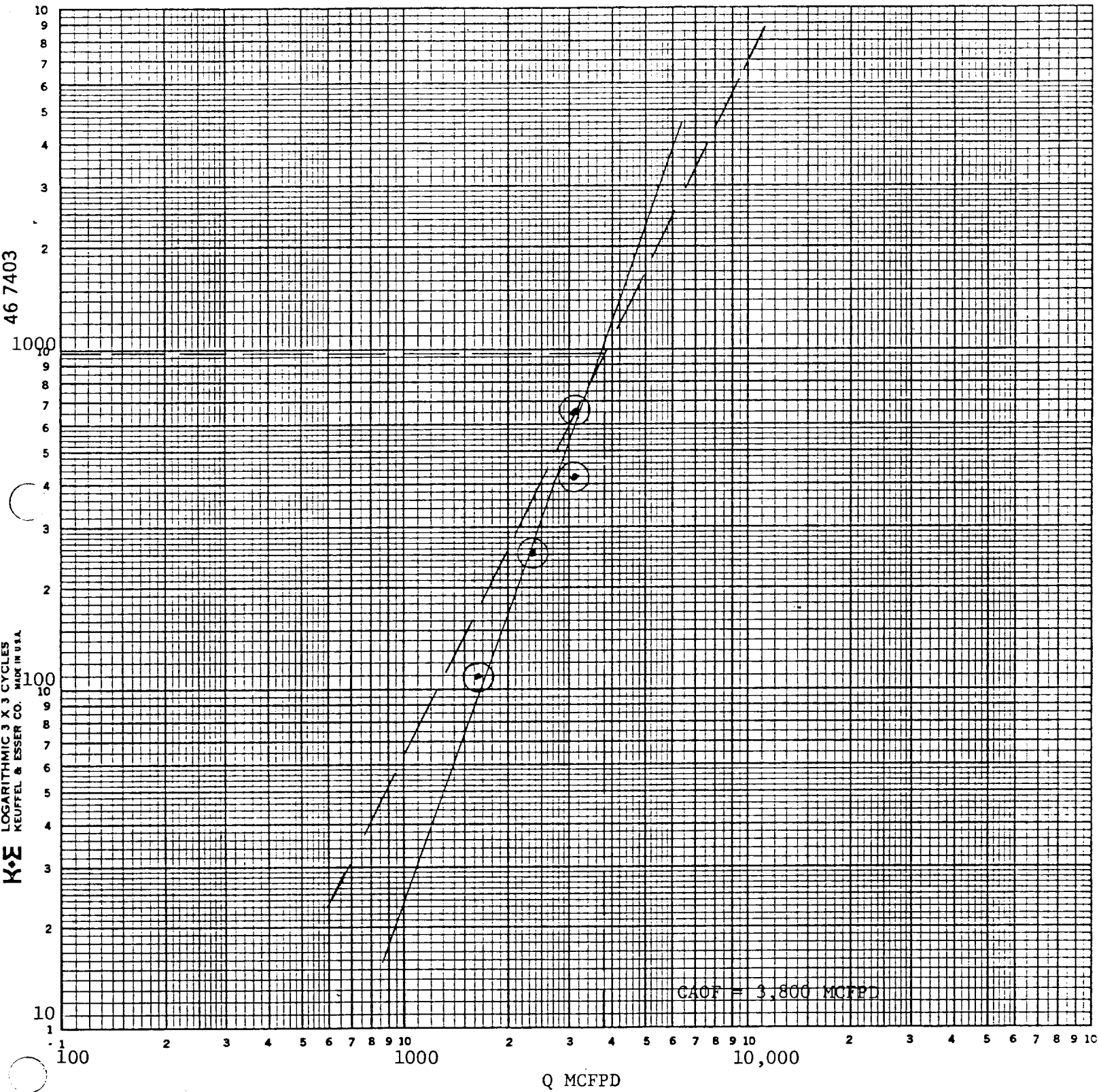
O. C. D.

ARTESIA, OFFICE

|                                                                                                                           |                       |                                    |                         |                                                          |                                                                |                                         |                      |                                                             |
|---------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------|-------------------------|----------------------------------------------------------|----------------------------------------------------------------|-----------------------------------------|----------------------|-------------------------------------------------------------|
| Type Test<br><input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |                       |                                    |                         | Test Date<br>6-15-83                                     |                                                                |                                         |                      |                                                             |
| Company<br>Mesa Petroleum Co. ✓                                                                                           |                       |                                    |                         | Connection<br>Unconnected                                |                                                                |                                         |                      |                                                             |
| Pool<br>West Pecos Slope ABO                                                                                              |                       |                                    |                         | Formation<br>ABO                                         |                                                                | Unit<br>ARTESIA, OFFICE                 |                      |                                                             |
| Completion Date<br>6-10-83                                                                                                |                       | Total Depth<br>3200'               |                         | Plug Back TD<br>3155'                                    |                                                                | Elevation<br>4025' GR                   |                      |                                                             |
| Casing Size<br>4 1/2                                                                                                      |                       | Wt.<br>10.5#                       |                         | Set At<br>3200'                                          |                                                                | Perforations:<br>From 2791' To 2937'    |                      |                                                             |
| Thg. Size<br>2 3/8                                                                                                        |                       | Wt.<br>4.7#                        |                         | Set At<br>2941'                                          |                                                                | Perforations:<br>From Open ended To     |                      |                                                             |
| Type Well - Single - Bradenhead - G.C. or G.O. Multiple<br>Single                                                         |                       |                                    |                         | Packer Set At<br>None                                    |                                                                | County<br>Chaves                        |                      |                                                             |
| Producing Thru<br>Tubing                                                                                                  |                       | Reservoir Temp. °F<br>100° @ 3200' |                         | Mean Annual Temp. °F<br>60                               |                                                                | Baro. Press. - P <sub>g</sub><br>13.2   |                      |                                                             |
| L                                                                                                                         |                       | H                                  |                         | G <sub>g</sub><br>.65                                    |                                                                | % CO <sub>2</sub><br>1                  |                      |                                                             |
|                                                                                                                           |                       |                                    |                         | % N <sub>2</sub><br>1                                    |                                                                | % H <sub>2</sub> S                      |                      |                                                             |
|                                                                                                                           |                       |                                    |                         |                                                          |                                                                | Prover<br>2" Critical Flow Prover       |                      |                                                             |
| FLOW DATA                                                                                                                 |                       |                                    |                         | TUBING DATA                                              |                                                                | CASING DATA                             |                      |                                                             |
| NO.                                                                                                                       | Prover Line Size      | Orifice Size                       | Press. p.s.i.g.         | Diff. h <sub>w</sub>                                     | Temp. °F                                                       | Press. p.s.i.g.                         | Temp. °F             |                                                             |
| SI                                                                                                                        |                       |                                    |                         |                                                          |                                                                | 977                                     |                      |                                                             |
| 1.                                                                                                                        | 2" X 1"               |                                    | 63                      |                                                          | 40                                                             | 900                                     | 79                   |                                                             |
| 2.                                                                                                                        | 2" X 1"               |                                    | 94                      |                                                          | 40                                                             | 805                                     | 81                   |                                                             |
| 3.                                                                                                                        | 2" X 1"               |                                    | 133                     |                                                          | 47                                                             | 630                                     | 82                   |                                                             |
| 4.                                                                                                                        | 2" X 1"               |                                    | 135                     |                                                          | 56                                                             | 460                                     | 82                   |                                                             |
| 5.                                                                                                                        |                       |                                    |                         |                                                          |                                                                |                                         |                      |                                                             |
| RATE OF FLOW CALCULATIONS                                                                                                 |                       |                                    |                         |                                                          |                                                                |                                         |                      |                                                             |
| NO.                                                                                                                       | Coefficient (24 Hour) | $\sqrt{h_w P_m}$                   | Pressure P <sub>m</sub> | Flow Temp. Factor Ft.                                    | Gravity Factor F <sub>g</sub>                                  | Super Compress. Factor, F <sub>pv</sub> | Rate of Flow Q, Mc/d |                                                             |
| 1                                                                                                                         | 17.09                 | Flow Prover                        | 76                      | 1.020                                                    | 1.24                                                           |                                         | 1642                 |                                                             |
| 2                                                                                                                         | 17.09                 | Flow Prover                        | 107                     | 1.020                                                    | 1.24                                                           |                                         | 2312                 |                                                             |
| 3                                                                                                                         | 17.09                 | Flow Prover                        | 146                     | 1.013                                                    | 1.24                                                           |                                         | 3134                 |                                                             |
| 4                                                                                                                         | 17.09                 | Flow Prover                        | 148                     | 1.004                                                    | 1.24                                                           |                                         | 3149                 |                                                             |
| 5                                                                                                                         |                       |                                    |                         |                                                          |                                                                |                                         |                      |                                                             |
| NO.                                                                                                                       | R <sub>1</sub>        | Temp. °R                           | T <sub>1</sub>          | Z                                                        | Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.                    |                                         |                      |                                                             |
| 1                                                                                                                         |                       |                                    |                         |                                                          | A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.               |                                         |                      |                                                             |
| 2                                                                                                                         |                       |                                    |                         |                                                          | Specific Gravity Separator Gas _____ X X X X X X X X           |                                         |                      |                                                             |
| 3                                                                                                                         |                       |                                    |                         |                                                          | Specific Gravity Flowing Fluid _____ X X X X X                 |                                         |                      |                                                             |
| 4                                                                                                                         |                       |                                    |                         |                                                          | Critical Pressure _____ P.S.I.A. _____ P.S.I.A.                |                                         |                      |                                                             |
| 5                                                                                                                         |                       |                                    |                         |                                                          | Critical Temperature _____ R _____ R                           |                                         |                      |                                                             |
| $P_c = 990$ $P_c^2 = 980$                                                                                                 |                       |                                    |                         |                                                          |                                                                |                                         |                      |                                                             |
| NO.                                                                                                                       | $P_t^2$               | $P_w^2$                            | $P_c^2$                 | $P_c^2 - P_w^2$                                          | $(1) \frac{P_c^2}{P_c^2 - P_w^2} = 1.5031$                     |                                         |                      | $(2) \left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.2260$ |
| 1                                                                                                                         |                       | 933                                | 870                     | 110                                                      | $AOF = Q \left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 3.800$ |                                         |                      |                                                             |
| 2                                                                                                                         |                       | 853                                | 728                     | 252                                                      |                                                                |                                         |                      |                                                             |
| 3                                                                                                                         |                       | 743                                | 552                     | 428                                                      |                                                                |                                         |                      |                                                             |
| 4                                                                                                                         |                       | 573                                | 328                     | 652                                                      |                                                                |                                         |                      |                                                             |
| 5                                                                                                                         |                       |                                    |                         |                                                          |                                                                |                                         |                      |                                                             |
| Absolute Open Flow 3,800                                                                                                  |                       |                                    |                         | Mc/d @ 15.025                                            |                                                                | Angle of Slope @ 63.5°                  |                      |                                                             |
| Slope, n .5                                                                                                               |                       |                                    |                         |                                                          |                                                                |                                         |                      |                                                             |
| Remarks: Plot of $P_c^2 - P_w^2$ vs. Q yielded a straight line with a $\theta$ greater than 63.5°.                        |                       |                                    |                         |                                                          |                                                                |                                         |                      |                                                             |
| Drew 63.5° line through the highest point.                                                                                |                       |                                    |                         |                                                          |                                                                |                                         |                      |                                                             |
| Approved By Division                                                                                                      |                       | Conducted By:<br>James Craig       |                         | Calculated By: <i>Sub 6-17-83</i><br>E. L. Buttross, Jr. |                                                                | Checked By:                             |                      |                                                             |

Post ID-2  
6-24-83  
Comp & BK

Mesa Petroleum Co.  
 Macho Fed No. 5  
 Chaves Co., NM  
 6-15-83



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.

## WELL COMPLETION OR RECOMPLETION REPORT AND LOG \*

|                                                                                                                                   |  |                                                                      |                                              |                                    |                                    |                                          |       |                                    |  |                                                |  |                                  |  |                 |  |
|-----------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------|----------------------------------------------|------------------------------------|------------------------------------|------------------------------------------|-------|------------------------------------|--|------------------------------------------------|--|----------------------------------|--|-----------------|--|
| 1a. TYPE OF WELL:                                                                                                                 |  | OIL WELL <input type="checkbox"/>                                    | GAS WELL <input checked="" type="checkbox"/> | DRY <input type="checkbox"/>       | Other                              |                                          |       |                                    |  |                                                |  |                                  |  |                 |  |
| b. TYPE OF COMPLETION:                                                                                                            |  | NEW WELL <input checked="" type="checkbox"/>                         | WORK OVER <input type="checkbox"/>           | DEEP-EN <input type="checkbox"/>   | PLUG BACK <input type="checkbox"/> | DIFF. RESVR. <input type="checkbox"/>    | Other |                                    |  |                                                |  |                                  |  |                 |  |
| 2. NAME OF OPERATOR                                                                                                               |  | Mesa Petroleum Co. ✓                                                 |                                              |                                    |                                    |                                          |       |                                    |  |                                                |  |                                  |  |                 |  |
| 3. ADDRESS OF OPERATOR                                                                                                            |  | P. O. Box 2009 / Amarillo, Texas 79189                               |                                              |                                    |                                    |                                          |       |                                    |  |                                                |  |                                  |  |                 |  |
| 4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)                                       |  | At surface 660' FSL & 1980' FEL                                      |                                              |                                    |                                    |                                          |       |                                    |  |                                                |  |                                  |  |                 |  |
| At top prod. interval reported below                                                                                              |  | same                                                                 |                                              |                                    |                                    |                                          |       |                                    |  |                                                |  |                                  |  |                 |  |
| At total depth                                                                                                                    |  | same                                                                 |                                              |                                    |                                    |                                          |       |                                    |  |                                                |  |                                  |  |                 |  |
| 14. PERMIT NO.                                                                                                                    |  | DATE ISSUED                                                          |                                              |                                    |                                    |                                          |       |                                    |  |                                                |  |                                  |  |                 |  |
|                                                                                                                                   |  | 5-4-83                                                               |                                              |                                    |                                    |                                          |       |                                    |  |                                                |  |                                  |  |                 |  |
| 15. DATE SPUDDED                                                                                                                  |  | 16. DATE T.D. REACHED                                                |                                              | 17. DATE COMPL. (Ready to prod.)   |                                    | 18. ELEVATIONS (OF, REB, RT, GR, ETC.) * |       | 19. ELEV. CASINGHEAD               |  |                                                |  |                                  |  |                 |  |
| 5-18-83                                                                                                                           |  | 5-24-83                                                              |                                              | 6-10-83                            |                                    | 4025' GR                                 |       | 4025'                              |  |                                                |  |                                  |  |                 |  |
| 20. TOTAL DEPTH, MD & TVD                                                                                                         |  | 21. PLUG, BACK T.D., MD & TVD                                        |                                              | 22. IF MULTIPLE COMPL., HOW MANY * |                                    | 23. INTERVALS DRILLED BY                 |       | ROTARY TOOLS                       |  |                                                |  |                                  |  |                 |  |
| 3200'                                                                                                                             |  | 3155'                                                                |                                              |                                    |                                    | →                                        |       | All                                |  |                                                |  |                                  |  |                 |  |
| 24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD) *                                                    |  |                                                                      |                                              |                                    |                                    |                                          |       | 25. WAS DIRECTIONAL SURVEY MADE    |  |                                                |  |                                  |  |                 |  |
| 2791' -- 2937', ABO                                                                                                               |  |                                                                      |                                              |                                    |                                    |                                          |       | No                                 |  |                                                |  |                                  |  |                 |  |
| 26. TYPE ELECTRIC AND OTHER LOGS RUN                                                                                              |  |                                                                      |                                              |                                    |                                    |                                          |       | 27. WAS WELL CORED                 |  |                                                |  |                                  |  |                 |  |
| GR-CNL-FDC / GR-CLL                                                                                                               |  |                                                                      |                                              |                                    |                                    |                                          |       | No                                 |  |                                                |  |                                  |  |                 |  |
| 28. CASING RECORD (Report all strings set in well)                                                                                |  |                                                                      |                                              |                                    |                                    |                                          |       |                                    |  |                                                |  |                                  |  |                 |  |
| CASINO SIZE                                                                                                                       |  | WEIGHT, LB./FT.                                                      |                                              | DEPTH SET (MD)                     |                                    | HOLE SIZE                                |       | CEMENTING RECORD                   |  | AMOUNT PULLED                                  |  |                                  |  |                 |  |
| 8 5/8"                                                                                                                            |  | 24#                                                                  |                                              | 1212'                              |                                    | 12"                                      |       | 650 "C"/1325 "C"                   |  | -                                              |  |                                  |  |                 |  |
| 4 1/2"                                                                                                                            |  | 10.5#                                                                |                                              | 3200'                              |                                    | 7 7/8"                                   |       | 430 "C"                            |  | -                                              |  |                                  |  |                 |  |
| 29. LINER RECORD                                                                                                                  |  |                                                                      |                                              |                                    |                                    |                                          |       |                                    |  | 30. TUBING RECORD                              |  |                                  |  |                 |  |
| SIZE                                                                                                                              |  | TOP (MD)                                                             |                                              | BOTTOM (MD)                        |                                    | SACKS CEMENT *                           |       | SCREEN (MD)                        |  | SIZE                                           |  | DEPTH SET (MD)                   |  | PACKER SET (MD) |  |
|                                                                                                                                   |  |                                                                      |                                              |                                    |                                    |                                          |       |                                    |  | 2 3/8"                                         |  | 2941'                            |  | -               |  |
| 31. PERFORATION RECORD (Interval, size and number)                                                                                |  |                                                                      |                                              |                                    |                                    |                                          |       |                                    |  | 32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC. |  |                                  |  |                 |  |
| 2791', 93', 95', 97', 99', 2801', 03', 17', 19', 2909', 11', 13', 14', 15', 17', 29', 31', 33', 35', 37'; .48" entry              |  |                                                                      |                                              |                                    |                                    |                                          |       |                                    |  | DEPTH INTERVAL (MD)                            |  | AMOUNT AND KIND OF MATERIAL USED |  |                 |  |
| Total of 20 holes                                                                                                                 |  |                                                                      |                                              |                                    |                                    |                                          |       |                                    |  | 2791' - 2937'                                  |  | A/3000 gal 7 1/2% HCl + 50 BS    |  |                 |  |
| 33.* PRODUCTION                                                                                                                   |  |                                                                      |                                              |                                    |                                    |                                          |       |                                    |  |                                                |  |                                  |  |                 |  |
| DATE FIRST PRODUCTION                                                                                                             |  | PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) |                                              |                                    |                                    |                                          |       | WELL STATUS (Producing or shut-in) |  |                                                |  |                                  |  |                 |  |
| WOPLC                                                                                                                             |  | Flowing                                                              |                                              |                                    |                                    |                                          |       | Shut-in                            |  |                                                |  |                                  |  |                 |  |
| DATE OF TEST                                                                                                                      |  | HOURS TESTED                                                         |                                              | CHOKE SIZE                         |                                    | PROD'N. FOR TEST PERIOD                  |       | OIL—BBL.                           |  | GAS—MCF.                                       |  | WATER—BBL.                       |  | GAS-OIL RATIO   |  |
| 6-15-83                                                                                                                           |  | 4                                                                    |                                              | -                                  |                                    | →                                        |       | -                                  |  | 427                                            |  | -                                |  | -               |  |
| FLOW. TUBING PRESS.                                                                                                               |  | CASING PRESSURE                                                      |                                              | CALCULATED 24-HOUR RATE            |                                    | OIL—BBL.                                 |       | GAS—MCF.                           |  | WATER—BBL.                                     |  | OIL GRAVITY-API (CORR.)          |  |                 |  |
| 699                                                                                                                               |  | 763                                                                  |                                              | →                                  |                                    | -                                        |       | -                                  |  | -                                              |  | -                                |  |                 |  |
| 34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)                                                                        |  |                                                                      |                                              |                                    |                                    |                                          |       |                                    |  | TEST WITNESSED BY                              |  |                                  |  |                 |  |
| Vented                                                                                                                            |  |                                                                      |                                              |                                    |                                    |                                          |       |                                    |  | E. L. Buttross, Jr.                            |  |                                  |  |                 |  |
| 35. LIST OF ATTACHMENTS                                                                                                           |  |                                                                      |                                              |                                    |                                    |                                          |       |                                    |  | JUN 28 1983                                    |  |                                  |  |                 |  |
| C122, Record of Inclination                                                                                                       |  |                                                                      |                                              |                                    |                                    |                                          |       |                                    |  |                                                |  |                                  |  |                 |  |
| 36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records |  |                                                                      |                                              |                                    |                                    |                                          |       |                                    |  |                                                |  |                                  |  |                 |  |
| SIGNED                                                                                                                            |  | R. E. Markel                                                         |                                              | TITLE                              |                                    | REGULATORY COORDINATOR                   |       | DATE                               |  | 6-17-83                                        |  |                                  |  |                 |  |

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

XC: BLM-R (0+6), CEN RCDS, ACTG, MAT CONT, RES ENG, GAS CONT W/LOG, PROD, OPS(FILE), MIDLAND  
ROSWELL, PARTNERS, D&M

# 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:

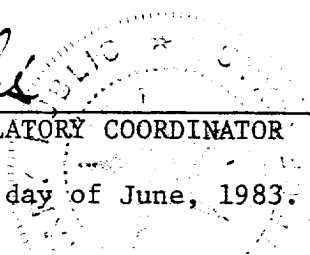
SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES

| FORMATION  | TOP                                                                              | BOTTOM | DESCRIPTION, CONTENTS, ETC. | 38. GEOLOGIC MARKERS |             |                  |
|------------|----------------------------------------------------------------------------------|--------|-----------------------------|----------------------|-------------|------------------|
|            |                                                                                  |        |                             | NAME                 | MEAS. DEPTH | TRUE VERT. DEPTH |
| NOT LOGGED | JUN 20 11 11 AM '83<br>RECEIVED<br>BUREAU OF LAND MANAGEMENT<br>ROSWELL DISTRICT |        |                             | Yeso                 | 656         |                  |
|            |                                                                                  |        |                             | Tubb                 | 2076        |                  |
|            |                                                                                  |        |                             | Abo                  | 2750        |                  |

MESA PETROLEUM CO.  
MACHO FEDERAL #5  
660' FSL & 1980' FEL, SEC 6, T7S, R23E  
CHAVES COUNTY, NEW MEXICO

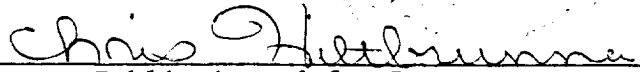
RECORD OF INCLINATION

| <u>DEPTH</u> | <u>DEVIATIONS</u> |
|--------------|-------------------|
| 503'         | 1/2°              |
| 1105'        | 1/4°              |
| 1811'        | 1/2°              |
| 2312'        | 1/2°              |
| 2869'        | 1/2°              |
| 3200'        | 3/4°              |



R. E. MATHIS, REGULATORY COORDINATOR

Subscribed and sworn to before me this 17th day of June, 1983.



Notary Public in and for Potter County, TX

Commission Expires: 1-26-87