

NEW MEXICO OIL CONSERVATION COMMISSION  
WELL COMPLETION OR RECOMPLETION REPORT AND LOG

|   |                              |
|---|------------------------------|
| 5a. Indicate Type of Lease                |                              |
| State <input checked="" type="checkbox"/> | Fee <input type="checkbox"/> |
| 5. State Oil & Gas Lease No.<br>EZ-877-5  |                              |

|                        |   |
|------------------------|---|
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|   |   |
|---|---|
| 1a. TYPE OF WELL  |   |
| OIL WELL <input type="checkbox"/>   | GAS WELL <input checked="" type="checkbox"/> DRY <input type="checkbox"/> OTHER <input type="checkbox"/>                                |
| b. TYPE OF COMPLETION   |   |
| NEW WELL <input checked="" type="checkbox"/> WORK OVER <input type="checkbox"/> | DEEPEN <input type="checkbox"/> PLUG BACK <input type="checkbox"/> DIFF. RESVR. <input type="checkbox"/> OTHER <input type="checkbox"/> |
| 2. Name of Operator<br>Astin Corporation  |   |
| 3. Address of Operator<br>2639 Walnut Hill Lane, Suite 129, Dallas, Texas 75229 |   |
| 4. Location of Well   |   |
| UNIT LETTER <u>J</u>  | LOCATED <u>1505</u> FEET FROM THE <u>South</u> LINE AND <u>1620</u> FEET FROM   |

|  |
|--|
| 7. Unit Agreement Name                               |
| 8. Farm or Lease Name<br>Harvey                      |
| 9. Well No.<br>2                                     |
| 10. Field and Pool, or Wildcat<br>Ballard P. C. Ext. |

|  |                                  |   |  |  |
|--|----------------------------------|---|--|--|
| 11. County<br>Rio Arriba   | 12. County                       |   |  |  |
| 15. Date Spudded<br>6-2-77   | 16. Date T.D. Reached<br>6-18-77 | 17. Date Compl. (Ready to Prod.)<br>7-11-77 | 18. Elevations (DF, RKB, RT, GR, etc.)<br>6332 GR  | 19. Elev. Casinghead<br>6332           |
| 20. Total Depth<br>2440  | 21. Plug Back T.D.<br>2390       | 22. If Multiple Compl., How Many            | 23. Intervals Drilled By<br>Rotary Tools<br>0-2440 | Cable Tools                            |
| 24. Producing Interval(s), of this completion - Top, Bottom, Name<br>2306' - 2336' Pictured Cliffs |                                  |   |  | 25. Was Directional Survey Made<br>Yes |
| 26. Type Electric and Other Logs Run<br>IES, FDC/CNL w/ GR & Caliper                               |                                  |   |  | 27. Was Well Cored<br>NO               |

| 28. 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             | 130       | 12 1/4"   | 125 sk cl. B + 2% CaCl <sub>2</sub> | None          |
| 4 1/2"   | 10.5           | 2417      | 6 3/4"    | 150 sk 65/35 Poz +12% gel           | None          |
|  |                |           |           | 150 sk cl. B Cmt.                   |               |

| 29. LINER RECORD |     |        |              | 30. TUBING RECORD |           |            |
|------------------|-----|--------|--------------|-------------------|-----------|------------|
| SIZE             | TOP | BOTTOM | SACKS CEMENT | SIZE              | DEPTH SET | PACKER SET |
| N/A              |     |        |              | 2 3/8             | 2309      | None       |

|  |  |  |   |
|--|--|--|---|
| 31. Perforation Record (Interval, size and number) |  | 32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC. |   |
| 2306 - 2312 .4" I.D. 2 shots / ft.                 |  | DEPTH INTERVAL                                 | AMOUNT AND KIND MATERIAL USED                           |
| 2324 - 2336 .4" I.D. 2 shots / ft.                 |  | 2306-2336                                      | fracture w/21,000 #20-40 in 13,000 gal. 70 quality foam |

| 33. PRODUCTION                  |                       |  |  |                  |                     |   |  |
|---------------------------------|-----------------------|--|--|------------------|---------------------|---|--|
| Date First Production<br>7-9-77 |                       | Production Method (Flowing, gas lift, pumping - Size and type pump)<br>Flowing |  |                  |                     | Well Status (Prod. or Shut-in)<br>Shut-in |  |
| Date of Test<br>7-25-77         | Hours Tested<br>3     | Choke Size<br>3/4  | Prod'n. For Test Period<br>Oil - Bbl.<br>-0- | Gas - MCF<br>-0- | Water - Bbl.<br>-0- | Gas - Oil Ratio                           |  |
| Flow Tubing Press.<br>10        | Casing Pressure<br>25 | Calculated 24-Hour Rate<br>→   | Oil - Bbl.                                   | Gas - MCF<br>317 | Water - Bbl.        | Oil Gravity - API (Corr.)                 |  |

|  |                                     |
|--|-------------------------------------|
| 34. Disposition of Gas (Sold, used for fuel, vented, etc.)<br>Vented | Test Witnessed By<br>John Alexander |
|--|-------------------------------------|

35. List of Attachments

|   |                    |                    |
|---|--------------------|--------------------|
| 36. 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. |                    |                    |
| SIGNED <u>John Alexander</u>  | TITLE <u>Agent</u> | DATE <u>8-8-77</u> |

## INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Commission 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 special 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 30 through 34 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**

### Southeastern New Mexico

### Northwestern New Mexico

|                          |                        |                             |                        |
|--------------------------|------------------------|-----------------------------|------------------------|
| T. Anhy _____            | T. Canyon _____        | T. Ojo Alamo _____          | T. Penn. "B" _____     |
| T. Salt _____            | T. Strawn _____        | T. Kirtland-Fruitland _____ | T. Penn. "C" _____     |
| B. Salt _____            | T. Atoka _____         | T. Pictured Cliffs _____    | T. Penn. "D" _____     |
| T. Yates _____           | T. Miss _____          | T. Cliff House _____        | T. Leadville _____     |
| T. 7 Rivers _____        | T. Devonian _____      | T. Menefee _____            | T. Madison _____       |
| T. Queen _____           | T. Silurian _____      | T. Point Lookout _____      | T. Elbert _____        |
| T. Grayburg _____        | T. Montoya _____       | T. Mancos _____             | T. McCracken _____     |
| T. San Andres _____      | T. Simpson _____       | T. Gallup _____             | T. Ignacio Qtzte _____ |
| T. Glorieta _____        | T. McKee _____         | Base Greenhorn _____        | T. Granite _____       |
| T. Paddock _____         | T. Ellenburger _____   | T. Dakota _____             | T. _____               |
| T. Blinbry _____         | T. Gr. Wash _____      | T. Morrison _____           | T. _____               |
| T. Tubb _____            | T. Granite _____       | T. Todilto _____            | T. _____               |
| T. Drinkard _____        | T. Delaware Sand _____ | T. Entrada _____            | T. _____               |
| T. Abo _____             | T. Bone Springs _____  | T. Wingate _____            | T. _____               |
| T. Wolfcamp _____        | T. _____               | T. Chinle _____             | T. _____               |
| T. Penn. _____           | T. _____               | T. Permian _____            | T. _____               |
| T. Cisco (Bough C) _____ | T. _____               | T. Penn. "A" _____          | T. _____               |

## OIL OR GAS SANDS OR ZONES

No. 1, from ..... to ..... No. 4, from ..... to .....  
No. 2, from ..... to ..... No. 5, from ..... to .....  
No. 3, from ..... to ..... No. 6, from ..... to .....

## IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from ..... to ..... feet. ....

No. 2, from ..... to ..... feet. ....

No. 3, from ..... to ..... feet. ....

No. 4, from ..... to ..... feet. ....

FORMATION RECORD (Attach additional sheets if necessary)

| From | To | Thickness<br>in Feet | Formation | From | To | Thickness<br>in Feet | Formation |
|------|----|----------------------|-----------|------|----|----------------------|-----------|
|      |    |                      |           |      |    |                      |           |

NEW MEXICO OIL CONSERVATION COMMISSION  
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form O-122  
Revised 9-1-65

|   |             |                         |                                       |   |                      |
|---|-------------|-------------------------|---------------------------------------|---|----------------------|
| Type Test<br><input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |             |                         |                                       | Test Date<br>7-25-77                          |                      |
| Company<br>Astin Corporation  |             |                         | Connection<br>none                    |   |                      |
| Pool<br>Ballard   |             |                         | Formation<br>Pictured Cliff Extension |   | Unit<br>-            |
| Completion Date<br>7-25-77  |             | Total Depth<br>2440'    |                                       | Plug Back TD<br>2364'                         | Elevation<br>6332 GL |
| Farm or Lease Name<br>Harvey  |             | Well No.<br>2           |                                       |   |                      |
| Csg. Size<br>4 1/2  | Wt.<br>10.5 | d                       | Set At<br>2417'                       | Perforations: 2324-2336<br>From 2306' To 2312 |                      |
| Tbg. Size<br>2 3/8  | Wt.<br>4.7  | d                       | Set At<br>2384'                       | Perforations: open ended<br>From To           |                      |
| Type Well - Single - Bradenhead - G.G. or G.O. Multiple<br>single   |             |                         |                                       | Packer Set At<br>none                         |                      |
| Producing Thru<br>tubing  |             | Reservoir Temp. °F<br>@ |                                       | Mean Annual Temp. °F                          |                      |
| Baro. Press. - P <sub>a</sub>   |             | County<br>Rio Arriba    |                                       |   |                      |
| State<br>New Mexico   |             |                         |                                       |   |                      |
| L   | H           | Gg<br>.62               | % CO <sub>2</sub>                     | % N <sub>2</sub>                              | % H <sub>2</sub> S   |
| Prover  |             | Meter Run               |                                       | Taps  |                      |

  

| FLOW DATA |                  |   |              |                 |                      |          | TUBING DATA     |          | CASING DATA     |          | Duration of Flow |
|-----------|------------------|---|--------------|-----------------|----------------------|----------|-----------------|----------|-----------------|----------|------------------|
| NO.       | Prover Line Size | X | Orifice Size | Press. p.s.i.g. | Diff. h <sub>w</sub> | Temp. °F | Press. p.s.i.g. | Temp. °F | Press. p.s.i.g. | Temp. °F |                  |
| 1.        | 2x6x.75          |   |              | 10              |                      | 53°      | 703             |          | 742             |          | 3 Hrs.           |
| 2.        |                  |   |              |                 |                      |          | 10              | 53°      | 25              |          |                  |
| 3.        |                  |   |              |                 |                      |          |                 |          |                 |          |                  |
| 4.        |                  |   |              |                 |                      |          |                 |          |                 |          |                  |
| 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, Mcfd |
| 1.                        | 11                    |                  | 22                      | 1.007                 | 1.270                         | 1.0214                                  | 316                  |
| 2.                        |                       |                  |                         |                       |                               |   |                      |
| 3.                        |                       |                  |                         |                       |                               |   |                      |
| 4.                        |                       |                  |                         |                       |                               |   |                      |
| 5.                        |                       |                  |                         |                       |                               |   |                      |

  

|     |                |          |                |       |  |
|-----|----------------|----------|----------------|-------|--|
| NO. | P <sub>t</sub> | Temp. °R | T <sub>f</sub> | Z     | Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.      |
| 1.  | .033           | 513      | 1.41           | .9586 | A.P.I. Gravity of Liquid Hydrocarbons _____ Deg. |
| 2.  |                |          |                |       | Specific Gravity Separator Gas _____ XXXXXXXXXX  |
| 3.  |                |          |                |       | Specific Gravity Flowing Fluid _____ XXXXXX      |
| 4.  |                |          |                |       | Critical Pressure _____ P.S.I.A. _____ P.S.I.A.  |
| 5.  |                |          |                |       | Critical Temperature _____ R _____ R             |

  

|                    |                                    |  |   |   |
|--------------------|------------------------------------|--|---|---|
| P <sub>c</sub> 754 | P <sub>c</sub> <sup>2</sup> 568516 | (1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.0024$ | (2) $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.0021$ |   |
| NO.                | P <sub>t</sub> <sup>2</sup>        | P <sub>w</sub>                             | P <sub>w</sub> <sup>2</sup>                                 | P <sub>c</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup> |
| 1.                 |                                    | 37   | 1369  | 567147  |
| 2.                 |                                    |  |   |   |
| 3.                 |                                    |  |   |   |
| 4.                 |                                    |  |   |   |
| 5.                 |                                    |  |   |   |

  

|                                      |  |                           |                |
|--------------------------------------|--|---------------------------|----------------|
| Absolute Open Flow 317 Mcfd @ 15.025 |  | Angle of Slope $\theta$   | Slope, n = .85 |
| Remarks:                             |  |                           |                |
| Approved By Commission:              |  |                           |                |
| Conducted By:                        |  | Calculated By: K. Jenkins |                |
| Checked By:                          |  |                           |                |