

# B. & R. SERVICE, INC.

## TEMPERATURE SURVEY

COMPANY EL PASO NATURAL GAS COMPANY  
WELL SAN JUAN 28-4 #27 FIELD   
COUNTY RIO ARriba STATE NEW MEXICO  
SEC. 19 TWP. 28 RGE. 4

APPROX. TOP CEMENT 3200'

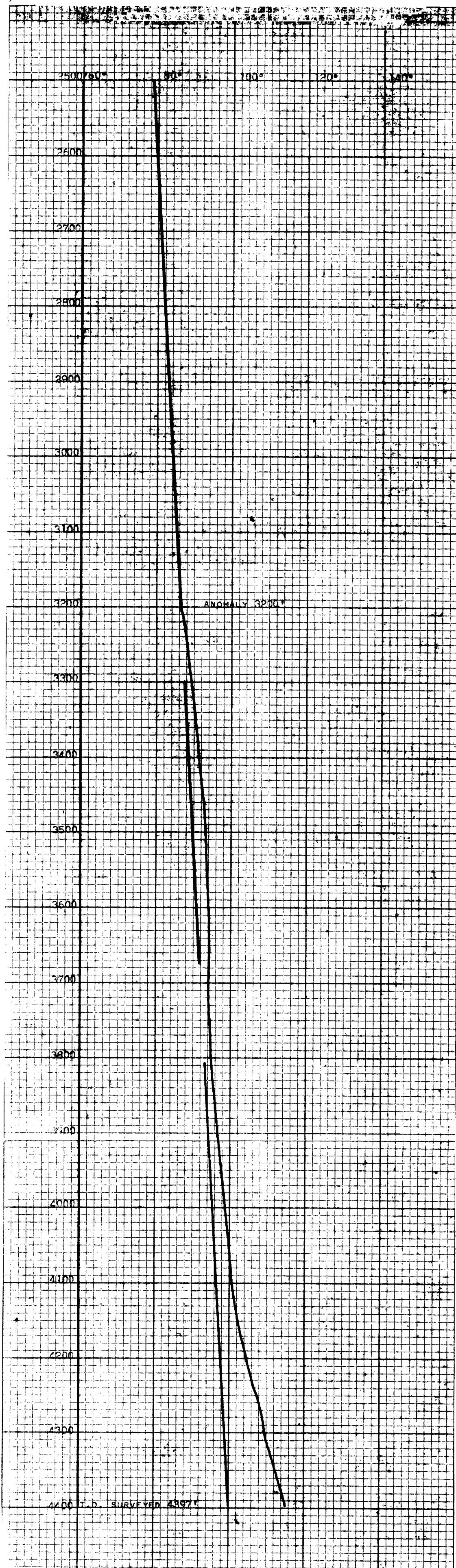
Survey Begins at 2500' Ft. Ends at 4397' Ft.  
Approx. Fill-Up  Max. Temp. 115° F  
Log Measured From R.I. Run No. 1

| Casing Size | Casing Depth | Diam of Hole | Depth |
|-------------|--------------|--------------|-------|
| 7" from     | to 4448'     | 8 1/2" from  | to    |
| from        | to           | from         | to    |

Date of Cementing 9-14-61 Time 4:30 AM  
Date of Survey 9-14-61 Time 2:00 PM  
Amount of Cement 130 SACKS Type REGULAR  
Amount of Admix 4% GEL, 1 CU. FT. STRATACRETE "6" Type  
Recorded by GOSNELL Witnessed by DRILLER

### REMARKS OR OTHER DATA

### TEMPERATURE IN DEGREES FAHRENHEIT





EL PASO NATURAL GAS COMPANY  
OPEN FLOW TEST DATA

DATE **October 19, 1961**

|                                                          |                                                                   |
|----------------------------------------------------------|-------------------------------------------------------------------|
| Operator<br><b>El Paso Natural Gas Company</b>           | Lease<br><b>San Juan 28-4 No. 27</b>                              |
| Location<br><b>990'S, 1690'W 19-28N-4W</b>               | County<br><b>Rio Arriba</b> State<br><b>New Mexico</b>            |
| Formation<br><b>Mesa Verde</b>                           | Pool<br><b>Blanco</b>                                             |
| Casing Diameter<br><b>7"</b> Set At: Feet<br><b>4195</b> | Tubing Diameter<br><b>2 3/8" O.D.</b> Set At: Feet<br><b>6605</b> |
| Pay Zone From<br><b>6476</b> To<br><b>6616</b>           | Total Depth<br><b>6662 C/O</b> Shut In<br><b>9-23-61</b>          |
| Stimulation Method<br><b>Sand Water Frac.</b>            | Flow Through Casing<br><b>X</b> Flow Through Tubing<br><b>X</b>   |

|                                               |                                         |                                               |
|-----------------------------------------------|-----------------------------------------|-----------------------------------------------|
| Choke Size, Inches<br><b>0.750</b>            | Choke Constant: C<br><b>12.365</b>      | 4 1/2" O.D. Liner<br><b>4418 to 6662</b>      |
| Shut-In Pressure, Casing, PSIG<br><b>1146</b> | 12 - PSIA Days Shut-In<br><b>26</b>     | Shut-In Pressure, Tubing, PSIG<br><b>1156</b> |
| Flowing Pressure: P, PSIG<br><b>296</b>       | 12 - PSIA<br><b>308</b>                 | Working Pressure: Pw, PSIG<br><b>802</b>      |
| Temperature, F<br><b>64</b>                   | F <sub>t</sub> .9962 F <sub>s</sub> .75 | F <sub>pv</sub> (From Tables)<br><b>1.035</b> |
|                                               |                                         | Gravity<br><b>690</b> F <sub>g</sub> .9325    |

CHOKE VOLUME  $Q = C \times P_c \times F_t \times F_g \times F_{pv}$

$$Q = (12.365)(308)(.9962)(.9325)(1.035)$$

3662

MCF/D

OPEN FLOW Aof  $Q \left( \frac{P_c^2}{P_c^2 - P_w^2} \right)^n$

$$Aof \left( \frac{1,340,964}{678,368} \right)^n = (1.9767)^{.75} (3662) = (1.6670)(3662)$$

Aof **6105**

MCF/D

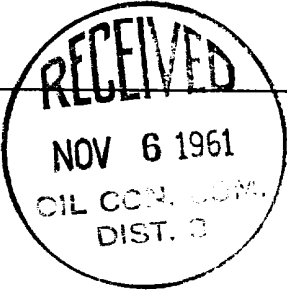


By **Dennie R. Roberts**

WITNESSED BY

Calculated by: W. D. Dawson

*Lewis D. Galloway*  
L. D. Galloway

|                                                                                                                                                                                                                                                                                                                                   |                      |                                                                                                                                                                    |                                                                          |                                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|----------------------------------|
| NUMBER OF COPIES RECEIVED<br>DISTRIBUTION<br>SANTA FE<br>FILE<br>U.S.G.I.<br>LAND OFFICE<br>TRANSPORTER OIL<br>GAS<br>PRORATION OFFICE<br>OPERATOR                                                                                                                                                                                |                      | NEW MEXICO OIL CONSERVATION COMMISSION<br>SANTA FE, NEW MEXICO<br><b>CERTIFICATE OF COMPLIANCE AND AUTHORIZATION<br/>         TO TRANSPORT OIL AND NATURAL GAS</b> |                                                                          | <b>FORM C-110</b><br>(Rev. 7-60) |
| FILE THE ORIGINAL AND 4 COPIES WITH THE APPROPRIATE OFFICE                                                                                                                                                                                                                                                                        |                      |                                                                                                                                                                    |                                                                          |                                  |
| Company or Operator<br><b>El Paso Natural Gas Company</b>                                                                                                                                                                                                                                                                         |                      |                                                                                                                                                                    | Lease<br><b>San Juan 28-4 Unit</b>                                       | Well No.<br><b>27</b>            |
| Unit Letter<br><b>N</b>                                                                                                                                                                                                                                                                                                           | Section<br><b>19</b> | Township<br><b>28-N</b>                                                                                                                                            | Range<br><b>4-W</b>                                                      | County<br><b>Rio Arriba</b>      |
| Pool<br><b>Blanco Mesa Verde</b>                                                                                                                                                                                                                                                                                                  |                      |                                                                                                                                                                    | Kind of Lease (State, Fed, Fee)<br><b>Federal</b>                        |                                  |
| If well produces oil or condensate<br>give location of tanks                                                                                                                                                                                                                                                                      |                      | Unit Letter                                                                                                                                                        | Section                                                                  | Township                         |
| Range                                                                                                                                                                                                                                                                                                                             |                      |                                                                                                                                                                    |                                                                          |                                  |
| Authorized transporter of oil <input type="checkbox"/> or condensate <input checked="" type="checkbox"/>                                                                                                                                                                                                                          |                      |                                                                                                                                                                    | Address (give address to which approved copy of this form is to be sent) |                                  |
| <b>El Paso Natural Gas Products Company</b>                                                                                                                                                                                                                                                                                       |                      |                                                                                                                                                                    |                                                                          |                                  |
| Is Gas Actually Connected? Yes _____ No <b>X</b> _____                                                                                                                                                                                                                                                                            |                      |                                                                                                                                                                    |                                                                          |                                  |
| Authorized transporter of casing head gas <input type="checkbox"/> or dry gas <input checked="" type="checkbox"/>                                                                                                                                                                                                                 |                      | Date Connected                                                                                                                                                     | Address (give address to which approved copy of this form is to be sent) |                                  |
| <b>El Paso Natural Gas Company</b>                                                                                                                                                                                                                                                                                                |                      |                                                                                                                                                                    | <b>Box 990, Farmington, New Mexico</b>                                   |                                  |
| If gas is not being sold, give reasons and also explain its present disposition:                                                                                                                                                                                                                                                  |                      |                                                                                                                                                                    |                                                                          |                                  |
|                                                                                                                                                                                                                                                                                                                                   |                      |                                                                                                                                                                    |                                                                          |                                  |
| REASON(S) FOR FILING (please check proper box)                                                                                                                                                                                                                                                                                    |                      |                                                                                                                                                                    |                                                                          |                                  |
| New Well ..... <input checked="" type="checkbox"/> Change in Ownership ..... <input type="checkbox"/><br>Change in Transporter (check one) Other (explain below)<br>Oil ..... <input type="checkbox"/> Dry Gas ..... <input type="checkbox"/><br>Casing head gas . <input type="checkbox"/> Condensate . <input type="checkbox"/> |                      |                                                                                                                                                                    |                                                                          |                                  |
| Remarks                                                                                                                                                                                                                                                                                                                           |                      |                                                                                                                                                                    |                                                                          |                                  |
|                                                                                                                                                                                                                                              |                      |                                                                                                                                                                    |                                                                          |                                  |
| The undersigned certifies that the Rules and Regulations of the Oil Conservation Commission have been complied with.                                                                                                                                                                                                              |                      |                                                                                                                                                                    |                                                                          |                                  |
| Executed this the <u>31</u> day of <u>October</u> , 19 <u>61</u>                                                                                                                                                                                                                                                                  |                      |                                                                                                                                                                    |                                                                          |                                  |
| OIL CONSERVATION COMMISSION                                                                                                                                                                                                                                                                                                       |                      |                                                                                                                                                                    | By                                                                       |                                  |
| Approved by                                                                                                                                                                                                                                                                                                                       |                      |                                                                                                                                                                    | ORIGINAL SIGNED A.M. SMITH                                               |                                  |
| (Original Signed Emery C. Arnold)                                                                                                                                                                                                                                                                                                 |                      |                                                                                                                                                                    | Title                                                                    |                                  |
| Title                                                                                                                                                                                                                                                                                                                             |                      |                                                                                                                                                                    | Company                                                                  |                                  |
| Supervisor Dist. # 3                                                                                                                                                                                                                                                                                                              |                      |                                                                                                                                                                    | El Paso Natural Gas Company                                              |                                  |
| Date                                                                                                                                                                                                                                                                                                                              |                      |                                                                                                                                                                    | Address                                                                  |                                  |
| NOV 6 1961                                                                                                                                                                                                                                                                                                                        |                      |                                                                                                                                                                    | Box 990, Farmington, New Mexico                                          |                                  |

STATE OF NEW MEXICO

OIL CONSERVATION COMMISSION

ALBUQUERQUE DISTRICT OFFICE

NUMBER OF COPIES RECEIVED

6

BY CERTIFICATION

SUBMIT TO

FILE

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TRANSPORTER

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GAS

PRODUCTION OFFICE

OPERATOR