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JUL 12 1979  
MESA-PBD

SF File ✓  
C122

7-6-79

☒ Initial ☐ Annual ☐ Special

Company: MESA PETROLEUM CO. ✓  
Field: *Runyon Ranch morrow*  
UNDESIGNATED

Connection: AIR  
Formation: *MOOREN morrow*

Completion Date: 6-29-79  
Total Length: 7700  
Flow back To: 7656  
Elevation: 4041

Perforations: From 7592 To 7611

Well No. # 1  
Unit: I  
Sec. 7 Twp. 19 Rge. 23

County: EDDY  
State: NEW MEXICO

Type well - Sample - Production - G.G. or G.O. Multiple  
Factor Set At 7548

Producing thru TRG.  
Reservoir Temp. °F 150 @ 7554  
Mean Annual Temp. °F 60  
Baro. Press. - P<sub>a</sub> 13.2

L 7554 H 7554 Gg .611 % CO<sub>2</sub> .70 % N<sub>2</sub> 2.70 % H<sub>2</sub>S  
Prover Meter Run 4" Temp. FLG.

| 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 |                  |
| 51        |                  |   |              |                 |                      |          | 2220            |          |                 |          | 72 HRS.          |
| 1.        | 4                | X | 1.375        | 500             | 2.0                  | 109      | 2095            |          |                 |          | 1 HR.            |
| 2.        | 4                | X | 1.375        | 500             | 4.0                  | 94       | 1990            |          |                 |          | 1 HR.            |
| 3.        | 4                | X | 1.375        | 500             | 8.5                  | 81       | 1770            |          |                 |          | 1 HR.            |
| 4.        | 4                | X | 1.375        | 500             | 16.0                 | 80       | 1470            |          |                 |          | 1 HR.            |
| 5.        |                  |   |              |                 |                      |          |                 |          |                 |          |                  |

RATE OF FLOW CALCULATIONS

| NO. | Coefficient (24 Hour) | $\sqrt{h_w P_m}$ | Pressure P <sub>m</sub> | Flow Temp. Factor F <sub>t</sub> | Gravity Factor F <sub>g</sub> | Super Compens. Factor, F <sub>sp</sub> | Rate of Flow Q, Mgd |
|-----|-----------------------|------------------|-------------------------|----------------------------------|-------------------------------|----------------------------------------|---------------------|
| 1   | 9.071                 | 32.04            | 513.2                   | .9560                            | 1.279                         | 1.034                                  | 367                 |
| 2   | 9.071                 | 45.31            | 513.2                   | .9688                            | 1.279                         | 1.038                                  | 529                 |
| 3   | 9.071                 | 66.05            | 513.2                   | .9804                            | 1.279                         | 1.041                                  | 782                 |
| 4   | 9.071                 | 90.62            | 513.2                   | .9813                            | 1.279                         | 1.041                                  | 1074                |
| 5.  |                       |                  |                         |                                  |                               |                                        |                     |

| NO. | P <sub>r</sub> | Temp. °R | T <sub>r</sub> | Z    | Gas Liquid Hydrocarbon Ratio          | Met/Sol. |
|-----|----------------|----------|----------------|------|---------------------------------------|----------|
| 1   | .76            | 569      | 1.57           | .936 | DRY                                   |          |
| 2.  | .76            | 554      | 1.53           | .929 | A.P.I. Gravity of Liquid Hydrocarbons | Deg.     |
| 3.  | .76            | 541      | 1.49           | .922 | Specific Gravity Separator Gas .611   | XXXXXXX  |
| 4.  | .76            | 540      | 1.49           | .922 | Specific Gravity Flowing Fluid XXXXX  |          |
| 5.  |                |          |                |      | Critical Pressure 671 P.S.I.A.        | P.S.I.A. |
|     |                |          |                |      | Critical Temperature 362 °R           | °R       |

|                       |                                                                                                             |                                                                |                                                            |
|-----------------------|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------|
| P <sub>c</sub> 2233.2 | P <sub>c</sub> <sup>2</sup> 4987.2                                                                          | (1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.806$                      | (2) $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.499$ |
| NO. 1                 | P <sub>r</sub> 2108.9 P <sub>w</sub> 4447.5 P <sub>c</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup> 539.7 | ADP = Q $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.609$ |                                                            |
| 2                     | 2004.7 4019.0 968.2                                                                                         |                                                                |                                                            |
| 3                     | 1787.0 3193.5 1793.7                                                                                        |                                                                |                                                            |
| 4                     | 1492.1 2226.4 2760.8                                                                                        |                                                                |                                                            |
| 5                     |                                                                                                             |                                                                |                                                            |

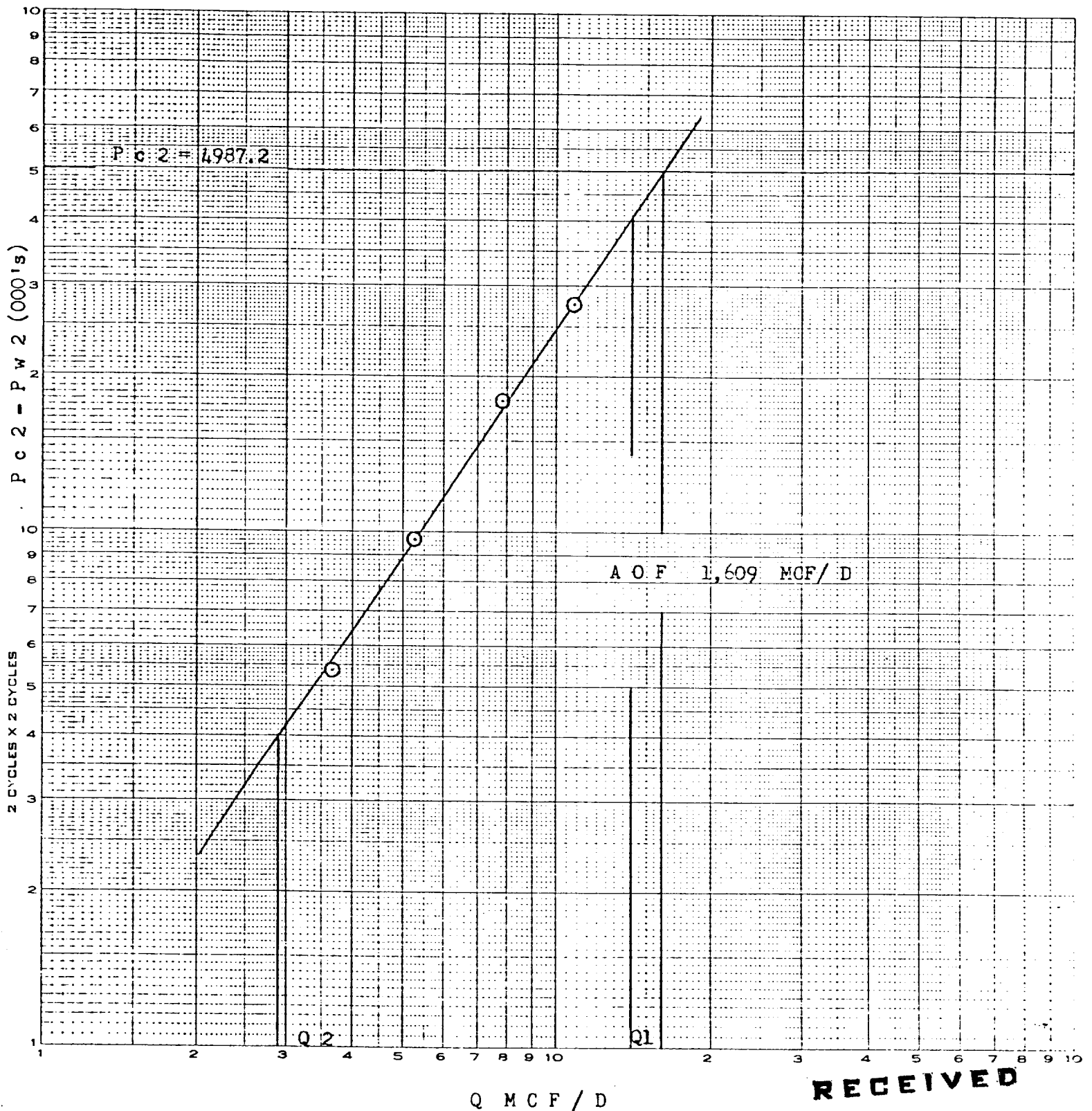
Absolute Open Flow 1,609 Mcf @ 15.025 Angle of Slope α 55.5° Slope, n .684

Remarks:

Approved By: Conductor By: JOHN R. DAVIS Calculated By: LARRY C. DAVIS Checked By:

XC: MPH, TLS, LC, FILE, MEC, D4m, ROCK 7-13-79 Northern Natural 7/16

LEASE : FARM STATE  
 WELL NO. : # 1  
 UNIT : I 7/19/23  
 COUNTY : EDDY  
 STATE : NEW MEXICO  
 DATE : JULY 6, 1979



Q 1 = 1400; LOG OF Q 1 = 3.146128  
 Q 2 = 290; LOG OF Q 2 = 2.462398

N = .684

RECEIVED

JUL 19 1979

O. C. C.  
 ARTERIA, OFFICE