

OIL CONSERVATION COMMISSION  
1000 Rio Brazos Rd.  
Aztec, New Mexico

OIL CONSERVATION COMMISSION  
BOX 871  
SANTA FE, NEW MEXICO

DATE 9-11-61

RE: Proposed NSP \_\_\_\_\_

Proposed NSL \_\_\_\_\_

Proposed NFO \_\_\_\_\_

Proposed DC ✓

Gentlemen:

I have examined the application dated 9-1-61  
for the EPNG CO Mudge 13 G-20-31N-11W  
Operator Lease and Well No. S-T-R

and my recommendations are as follows:

Approved  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Yours very truly,

George C. Arnold  
OIL CONSERVATION COMMISSION

## NEW MEXICO OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO

7-3-58

## APPLICATION FOR DUAL COMPLETION

Field Name <b>Blanco Mesa Verde &amp; Basin Dakota</b>		County <b>San Juan</b>	Date <b>September 1, 1961</b>
Operator <b>El Paso Natural Gas Co.</b>		Lease <b>Mudge No. 13 (MD)</b>	Well No. <b>13 (MD)</b>
Location of Well <b>C</b>	Unit <b>20</b>	Section <b>31N</b>	Range <b>11W</b>

1. Has the New Mexico Oil Conservation Commission heretofore authorized the dual completion of a well in these same pools or in the same zones within one mile of the subject well? YES \_\_\_\_\_ NO X
2. If answer is yes, identify one such instance: Order No. \_\_\_\_\_ ; Operator, Lease, and Well No.:

3. The following facts are submitted:	Upper Zone	Lower Zone
a. Name of reservoir	<b>Mesa Verde</b>	<b>Dakota</b>
b. Top and Bottom of Pay Section (Perforations)	<b>4992-5126</b>	<b>7146-7246</b>
c. Type of production (Oil or Gas)	<b>Gas</b>	<b>Gas</b>
d. Method of Production (Flowing or Artificial Lift)	<b>Flowing</b>	<b>Flowing</b>

4. The following are attached. (Please mark YES or NO)

- Yes a. Diagrammatic Sketch of the Dual Completion, showing all casing strings, including size and setting, top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.
- Yes b. Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.
- No c. Waivers consenting to such dual completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.\*
- No d. Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed, it shall be submitted as provided by Rule 112-A.)

5. List all offset operators to the lease on which this well is located together with their correct mailing address.

Southern Union Gas Company, Burt Building, Dallas, Texas



6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES X NO \_\_\_\_ . If answer is yes, give date of such notification September 1, 1961 .

CERTIFICATE: I, the undersigned, state that I am the Division Petroleum Engr. of the El Paso Natural Gas Co. (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

ORIGINAL SIGNED E. S. OBERLY

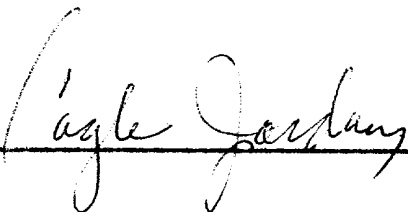
Signature

- \* Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.
- NOTE: If the proposed dual completion will result in an unorthodox well location and/or a non-standard proration unit in either or both of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.


STATE OF NEW MEXICO     )  
                                  )  
COUNTY OF SAN JUAN     )

I, Cagle Jordan, being first duly sworn upon my  
oath depose and say as follows:

I am an employee of El Paso Natural Gas Company,  
and that on June 24, 1961, I was called to the location of the  
El Paso Natural Gas Company Mudge No. 13 (MD) Well located in the  
SWNE/4 of Section 20, Township 31 North, Range 11 West, N.M.P.M.,  
for advisory service in connection with installation of a production  
packer. In my presence, a Baker Model "N" Production Packer was set  
in this well at 5148' in accordance with the usual practices and  
customs of the industry.

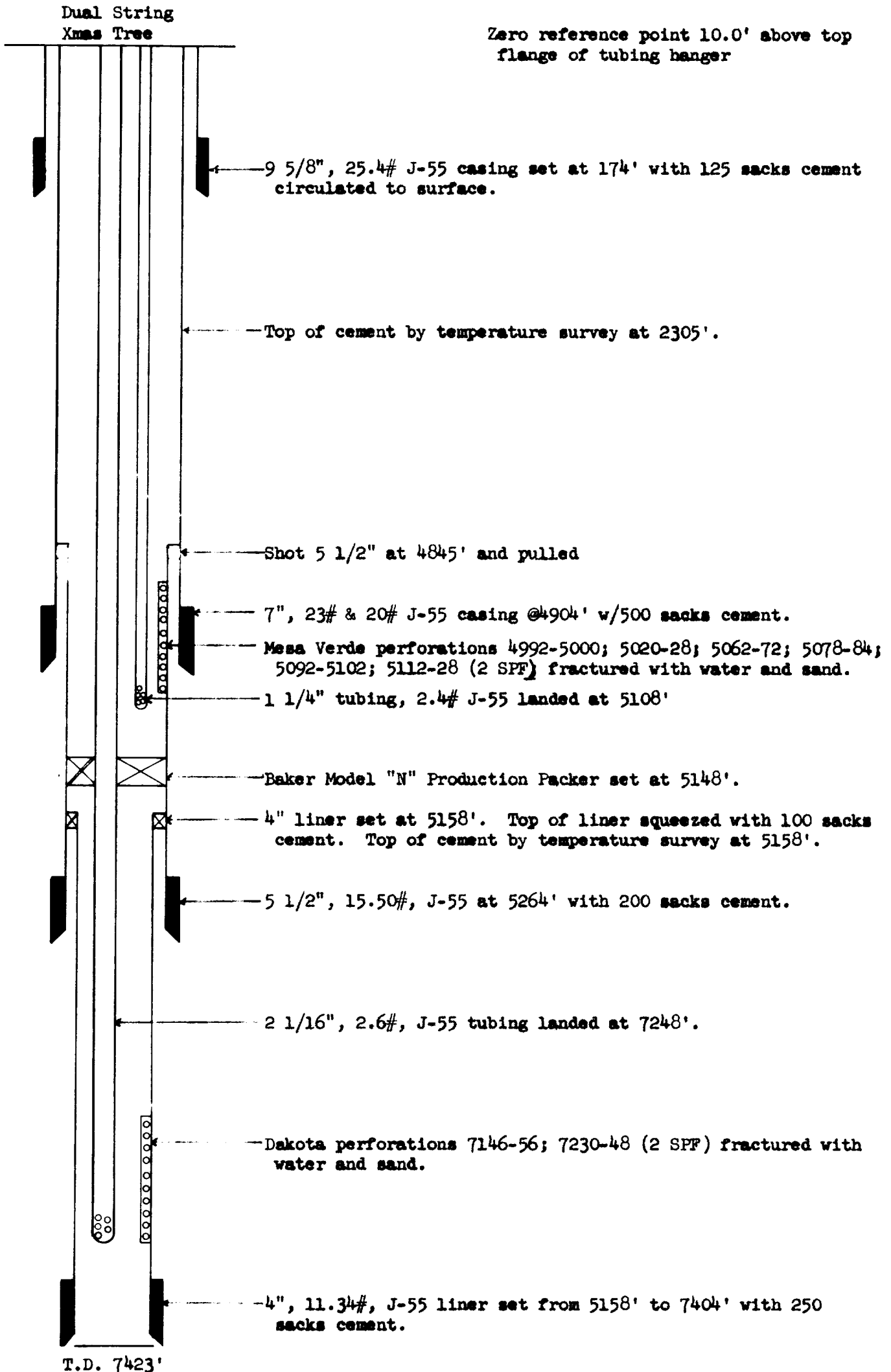
  
\_\_\_\_\_

Subscribed and sworn to before me, a Notary Public in  
and for San Juan County, New Mexico, the 4th day of September, 1961.

  
\_\_\_\_\_  
Notary Public in and for San Juan County,  
New Mexico

My commission expires October 5, 1964.

**SCHEMATIC DIAGRAM OF DUAL COMPLETION**  
**El Paso Natural Gas Co. Mudge No. 13 (MD)**  
**E/2 Sec. 20, T-31-N, R-11-W**  
**San Juan County, New Mexico**



PLAT SHOWING LOCATION OF DUALY COMPLETED  
El Paso Natural Gas Co. Mudge No. 13 (MD)  
and Offset Acreage

T-31-N

R-11-W

Sec. 17

Sec. 16

Southern  
Union

Southern Union

06

Grenier

Sec. 29

Sec. 28

EL PASO NATURAL GAS COMPANY  
OPEN FLOW TEST DATA

DATE August 6, 1961

Operator <b>El Paso Natural Gas Company</b>		Lease <b>Mudge No. 13 (OWDD) (MV)</b>	
Location <b>1500'N, 1775'E, Sec. 20-31N-11W</b>		County <b>San Juan</b>	State <b>New Mexico</b>
Formation <b>Mesa Verde</b>		Pool <b>Blanco</b>	
Casing Diameter <b>7"</b>	Set At Feet <b>4904</b>	Tubing Diameter <b>1-1/4" O.D.</b>	Set At Feet <b>5108</b>
Pay Zone Feet <b>4992</b>	To <b>5128</b>	Total Depth <b>7423 c/o 7380</b>	Shut In <b>6-26-61</b>
Stimulation Method <b>Sand/Water Frac.</b>		Flow Through Casing <b>X</b>	Flow Through Tubing

Choke Size, inches <b>0.750</b>		Choke Constant, C <b>12.365</b>		<b>4", 11.34 lbs. Hydril-Liner 5158 to 7407</b>	
Shut-In Pressure, Casing, PSIG <b>641 (MV)</b>		PSIA <b>653</b>	Days Shut-In <b>41</b>	Shut-In Pressure, Tubing, PSIG <b>641 (MV)</b>	
Flowing Pressure, P, PSIG <b>193</b>		PSIA <b>205</b>		Working Pressure, Pw, PSIG <b>219</b>	
Temperature <b>64</b>	F <sub>r</sub> .9962	F <sub>w</sub> .75		F <sub>pv</sub> (From Tables) <b>1.023</b>	Gravity <b>.699</b> F <sub>g</sub> .9292

Initial SIPT (DK) = 1945 psig

Final SIPT (DK) = 1957 psig

CHOKE VOLUME  $Q = C \times P_r \times F_r \times F_g \times F_{pv}$

$$Q = (12.365)(205)(.9962)(.9292)(1.023)$$

2400

MCF/D

$$\text{OPEN FLOW } A_{of} = Q \left( \frac{D_c^4}{P_c^2 - P_w^2} \right)^n$$

$$A_{of} = \left( \frac{426,409}{373,048} \right)^n (1.1430)^{.75} (2400) = (1.1055)(2400)$$

A<sub>of</sub>

2653

MCF/D

By **Dannie Roberts**

Witnessed by

Calculated by: W. D. Dawson

*Lewis D. Galloway*  
L. D. Galloway

EL PASO NATURAL GAS COMPANY  
OPEN FLOW TEST DATA

DUAL COMPLETION

DATE July 24, 1961

Operator <b>El Paso Natural Gas Company</b>		Lease <b>Mudge No. 13 (OWDD) (DK)</b>	
Location <b>1500'N, 1775'E, Sec. 20-31N-11W</b>		County <b>San Juan</b>	State <b>New Mexico</b>
Formation <b>Dakota</b>		Pool <b>Basin</b>	
Casing: Diameter <b>7" O.D.</b>	Set At: Feet <b>4904</b>	Tubing: Diameter <b>2-1/16" O.D. Textube</b>	Set At: Feet <b>7249</b>
Pay Zone: inches <b>7146</b>	To <b>7248</b>	Total Depth: <b>7423 c/o 7380</b>	Shut In <b>6-27-61</b>
Stimulation Method <b>Sand/Water Frac.</b>		Flow Through Casing	Flow Through Tubing <b>X</b>

Choke Size, Inches <b>.750</b>		Choke Constant: C <b>12.365</b>		4", 11.34 lbs., Hydril Liner from 5158 to 7407 Prod. Pkr. at 5148.	
Shut-In Pressure, Casing, <b>612 (MV)</b>	PSIG - 12 - PSIA	Days Shut-In <b>27</b>	Shut-In Pressure, Tubing <b>1927 (DK)</b>	PSIG - 12 - PSIA	<b>1939</b>
Flowing Pressure: P <b>153</b>	PSIG - 12 - PSIA		Working Pressure: Pw <b>Calc. working press.</b>	PSIG - 12 - PSIA	<b>474</b>
Temperature <b>68</b>	F <sub>r</sub> .9924		Fpv (From Tables) <b>1.015</b>	Gravity <b>.650</b>	F <sub>g</sub> .9608

Initial SIPT (MV) 612 psig

Final SIPC (MV) 614 psig

CHOKE VOLUME Q C x P<sub>r</sub> x F<sub>r</sub> x F<sub>g</sub> x F<sub>pv</sub>

$$Q = (12.365)(165)(.9924)(.9608)(1.015)$$

1975

MCF/D

$$\text{OPEN FLOW } A_{of} = Q \left( \frac{P_c^2}{P_c^2 - P_w^2} \right)^n$$

$$A_{of} = \left( \frac{3,759,721}{3,535,045} \right)^n (1.0635)^{.75} (1975) = (1.0473)(1975)$$

A<sub>of</sub> 2068

MCF/D

TESTED BY **R. F. Headrick**

WITNESSED BY

Checked by: Tom B. Grant

*Lewis D. Galloway*  
L. D. Galloway