

August 13, 1957



Oil Conservation Commission
State of New Mexico
P. O. Box 871
Santa Fe, New Mexico

Re: Application for Dual Gas Completion
of Northwest Production Corporation
"E" Well No. 7-28, Located in Section
28, T26N, R3W, Rio Arriba County, New
Mexico

Attention: Mr. A. L. Porter

Gentlemen:

In accordance with Rule 112 (c) of the Commission Rules and Regulations, Northwest Production Corporation requests final approval for the dual completion of "E" Well No. 7-28 in the Pictured Cliffs and Mesaverde formations. Tentative approval of the plan for drilling and equipping the well was received from Mr. Emery C. Arnold on June 19, 1957.

Following is a resume of the work performed on "E" Well No. 7-28 which is located 990' FNL and 1650' FKL in the NW/4 of the NE/4 of Section 28, T26N, R3W, Rio Arriba County, New Mexico:

1. The 7-5/8" OD intermediate casing was set at 4125.07'.
2. A 6-3/4" hole was drilled to 6277' and a 5 1/2" OD liner was cemented at total depth with a Baash-Ross liner hanger at 4020'.
3. The 5 1/2" liner was perforated from 6038 to 6190' and the lower Mesaverde fractured using water and sand.
4. A temporary bridge plug was set at 5980', the 5 1/2" liner was perforated from 5640 to 5932' and the upper Mesaverde was fractured with water and sand.
5. A temporary bridge plug was set at 4143' and the 7-5/8" casing was perforated from 3898 to 3938'. The Pictured Cliffs formation was fractured using water and sand.
6. The bridge plugs were retrieved and 2-3/8" OD tubing was hung at 6277.08' with a Baker "EGJ" production packer set at 5478.73' and an Otis side-door choke at 5477.65' to produce the Mesaverde formation.



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7. Inside the 2-3/8" tubing by 7-5/8" casing annulus, 1 1/4" OD tubing was hung at 3870.41' to produce the Pictured Cliffs formation.

The three hour absolute open flow from the Pictured Cliffs completion was 2,943 MCF taken on July 15, 1957. The Masaverde was tested on August 9, 1957, with an absolute open flow of 2,242 MCF.

Attached for your information is a diagrammatic sketch of the dual with pertinent data of the completion. Copies of production tests, packer leakage test and packer setting affidavit are also attached.

Northwest Production Corporation is the owner and operator of all leases offsetting the "E" Well No. 7-28.

Should you desire additional information before a final order is issued approving this dual gas completion, please advise.

Yours very truly,

NORTHWEST PRODUCTION CORPORATION

ORIGINAL SIGNED BY
W. R. JOHNSTON

W. R. Johnston, Manager
Production Operations

RP/nw

In duplicate

cc: N.M. Oil Conservation Commission, Aztec
U. S. Geological Survey, Farmington

1. The first part of the paper is devoted to the study of the properties of the function $f(x)$ defined by the equation

$$f(x) = \int_0^x \frac{1}{1+t^2} dt$$

It is shown that the function $f(x)$ is increasing and concave down on the interval $(-\infty, \infty)$. Moreover, the function $f(x)$ is bounded on the interval $(-\infty, \infty)$.

2. In the second part of the paper, we study the properties of the function $g(x)$ defined by the equation

$$g(x) = \int_0^x \frac{1}{1+t^2} dt$$

It is shown that the function $g(x)$ is increasing and concave down on the interval $(-\infty, \infty)$. Moreover, the function $g(x)$ is bounded on the interval $(-\infty, \infty)$.

3. Finally, we study the properties of the function $h(x)$ defined by the equation

$$h(x) = \int_0^x \frac{1}{1+t^2} dt$$

It is shown that the function $h(x)$ is increasing and concave down on the interval $(-\infty, \infty)$. Moreover, the function $h(x)$ is bounded on the interval $(-\infty, \infty)$.

4. Finally, we study the properties of the function $i(x)$ defined by the equation

$$i(x) = \int_0^x \frac{1}{1+t^2} dt$$

It is shown that the function $i(x)$ is increasing and concave down on the interval $(-\infty, \infty)$. Moreover, the function $i(x)$ is bounded on the interval $(-\infty, \infty)$.

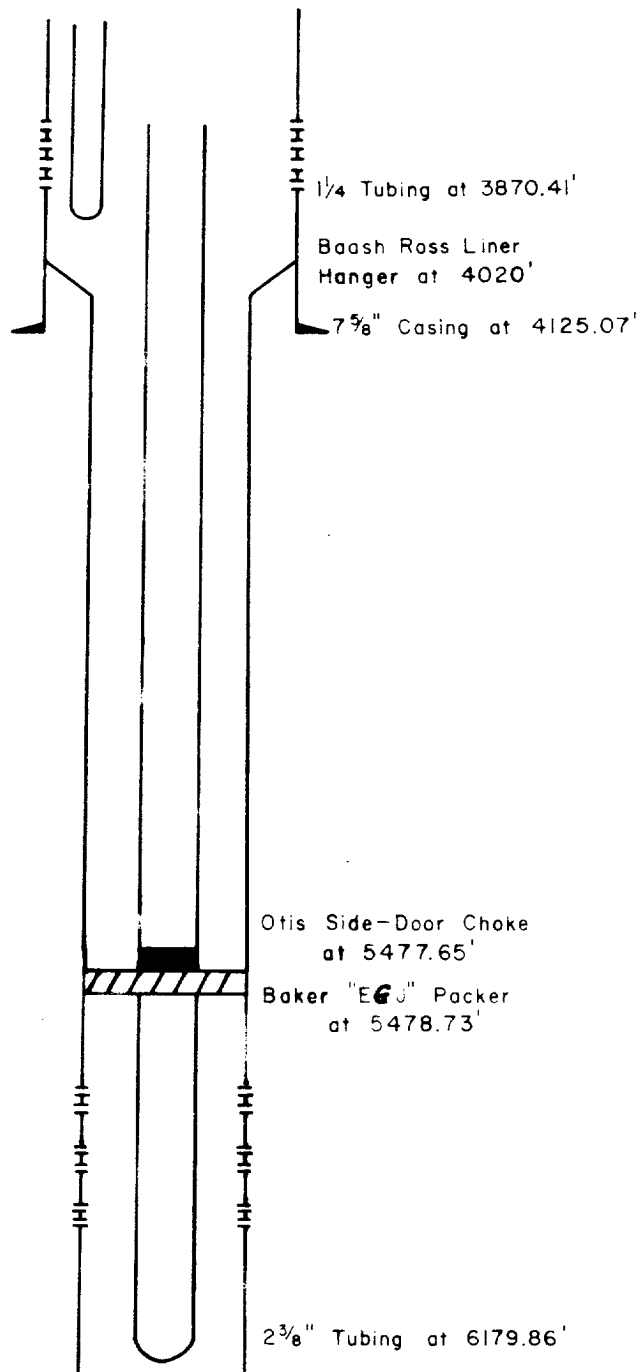
5. Finally, we study the properties of the function $j(x)$ defined by the equation

PICTURED CLIFFS DATA

TOP OF PICTURED CLIFFS: 3890'

BOTTOM OF PICTURED CLIFFS: 3987'

PERFORATIONS: 3898-3902', 3928-3958'



MESAVERDE DATA

TOP OF MESAVERDE: 5590'

BOTTOM OF MESAVERDE: 6197'

PERFORATIONS: 5640-5650',

5654-5664', 5668-5672',

5704-5710', 5718-5722',

5924-5932', 6038-6104',

6110-6134', 6142-6150',

6156-6174', 6182-6190',