

**NEW MEXICO OIL CONSERVATION COMMISSION**  
**Santa Fe, New Mexico**

**MISCELLANEOUS NOTICES**

Submit this notice in triplicate to the Oil Conservation Commission or its proper agent before the work specified is to begin. A copy will be returned to the sender on which will be given the approval, with any modifications considered advisable, or the rejection by the Commission or its agent, of the plan submitted. The plan as approved should be followed, and work should not begin until approval is obtained. See additional instructions in the Rules and Regulations of the Commission.

Indicate nature of notice by checking below:

NOTICE OF INTENTION TO TEST CASING SHUT-OFF	<b>X</b>	NOTICE OF INTENTION TO SHOOT OR CHEMICALLY TREAT WELL
NOTICE OF INTENTION TO CHANGE PLANS		NOTICE OF INTENTION TO PULL OR OTHERWISE ALTER CASING
NOTICE OF INTENTION TO REPAIR WELL		NOTICE OF INTENTION TO PLUG WELL
NOTICE OF INTENTION TO DEEPEN WELL		

Jal, New Mexico, Sept. 26, 1937.      Date

OIL CONSERVATION COMMISSION,  
 Santa Fe, New Mexico.

Gentlemen:

Following is a notice of intent to do certain work as described below at the Culbertson & Irwin-Plains Production Co

Company or Operator \_\_\_\_\_ Lease Humphreys Well No. 3 in SW of NE  
 of Sec. 3, T. 25 S, R. 37 E, N. M. P. M., Jal Field,  
Lea County.

**FULL DETAILS OF PROPOSED PLAN OF WORK**

FOLLOW INSTRUCTIONS IN THE RULES AND REGULATIONS OF THE COMMISSION

8 1/4" or 8-5/8" O.D. seamless casing has been set and cemented at 1300 feet, using 150 sacks cement and Haliburton method. We will test the casing for water shut off on the 30th. inst.

Approved OCT 4 1937, 19\_\_\_\_

except as follows:

Culbertson & Irwin - Plains Production Company,  
 Company or Operator

By H.A. Harman  
 Position Associate.

Send communications regarding well to

Name H.A. Harman, Jal, New Mex., or  
Culbertson & Irwin, Midland, Tex.  
 Address \_\_\_\_\_

**DUPLICATE**

OIL CONSERVATION COMMISSION,

By [Signature]  
 Title Oil & Gas Inspector

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  $(-\infty, \infty)$  and its range is the interval  $(0, \pi/2)$ .

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

$$g(x) = \int_0^x \frac{1}{1+t^2} dt + \int_0^x \frac{1}{1+t^4} dt.$$

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  $(-\infty, \infty)$  and its range is the interval  $(0, \pi/2 + \pi/4)$ .

3. In the third part of the paper, we study the properties of the function  $h(x)$  defined by the equation

$$h(x) = \int_0^x \frac{1}{1+t^2} dt + \int_0^x \frac{1}{1+t^4} dt + \int_0^x \frac{1}{1+t^6} dt.$$

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  $(-\infty, \infty)$  and its range is the interval  $(0, \pi/2 + \pi/4 + \pi/6)$ .

4. In the fourth part of the paper, we study the properties of the function  $k(x)$  defined by the equation

$$k(x) = \int_0^x \frac{1}{1+t^2} dt + \int_0^x \frac{1}{1+t^4} dt + \int_0^x \frac{1}{1+t^6} dt + \int_0^x \frac{1}{1+t^8} dt.$$

It is shown that the function  $k(x)$  is increasing and concave down on the interval  $(-\infty, \infty)$ . Moreover, the function  $k(x)$  is bounded on the interval  $(-\infty, \infty)$  and its range is the interval  $(0, \pi/2 + \pi/4 + \pi/6 + \pi/8)$ .

5. In the fifth part of the paper, we study the properties of the function  $l(x)$  defined by the equation

$$l(x) = \int_0^x \frac{1}{1+t^2} dt + \int_0^x \frac{1}{1+t^4} dt + \int_0^x \frac{1}{1+t^6} dt + \int_0^x \frac{1}{1+t^8} dt + \int_0^x \frac{1}{1+t^{10}} dt.$$

It is shown that the function  $l(x)$  is increasing and concave down on the interval  $(-\infty, \infty)$ . Moreover, the function  $l(x)$  is bounded on the interval  $(-\infty, \infty)$  and its range is the interval  $(0, \pi/2 + \pi/4 + \pi/6 + \pi/8 + \pi/10)$ .

6.

7.

8. The last part of the paper is devoted to the study of the properties of the function  $m(x)$  defined by the equation

$$m(x) = \int_0^x \frac{1}{1+t^2} dt + \int_0^x \frac{1}{1+t^4} dt + \int_0^x \frac{1}{1+t^6} dt + \int_0^x \frac{1}{1+t^8} dt + \int_0^x \frac{1}{1+t^{10}} dt + \int_0^x \frac{1}{1+t^{12}} dt.$$

It is shown that the function  $m(x)$  is increasing and concave down on the interval  $(-\infty, \infty)$ . Moreover, the function  $m(x)$  is bounded on the interval  $(-\infty, \infty)$  and its range is the interval  $(0, \pi/2 + \pi/4 + \pi/6 + \pi/8 + \pi/10 + \pi/12)$ .

9. In the ninth part of the paper, we study the properties of the function  $n(x)$  defined by the equation

$$n(x) = \int_0^x \frac{1}{1+t^2} dt + \int_0^x \frac{1}{1+t^4} dt + \int_0^x \frac{1}{1+t^6} dt + \int_0^x \frac{1}{1+t^8} dt + \int_0^x \frac{1}{1+t^{10}} dt + \int_0^x \frac{1}{1+t^{12}} dt + \int_0^x \frac{1}{1+t^{14}} dt.$$

It is shown that the function  $n(x)$  is increasing and concave down on the interval  $(-\infty, \infty)$ . Moreover, the function  $n(x)$  is bounded on the interval  $(-\infty, \infty)$  and its range is the interval  $(0, \pi/2 + \pi/4 + \pi/6 + \pi/8 + \pi/10 + \pi/12 + \pi/14)$ .

10. In the tenth part of the paper, we study the properties of the function  $o(x)$  defined by the equation

$$o(x) = \int_0^x \frac{1}{1+t^2} dt + \int_0^x \frac{1}{1+t^4} dt + \int_0^x \frac{1}{1+t^6} dt + \int_0^x \frac{1}{1+t^8} dt + \int_0^x \frac{1}{1+t^{10}} dt + \int_0^x \frac{1}{1+t^{12}} dt + \int_0^x \frac{1}{1+t^{14}} dt + \int_0^x \frac{1}{1+t^{16}} dt.$$

It is shown that the function  $o(x)$  is increasing and concave down on the interval  $(-\infty, \infty)$ . Moreover, the function  $o(x)$  is bounded on the interval  $(-\infty, \infty)$  and its range is the interval  $(0, \pi/2 + \pi/4 + \pi/6 + \pi/8 + \pi/10 + \pi/12 + \pi/14 + \pi/16)$ .