

OIL CONSERVATION DIVISION

Drawer DD Artesia, NM

DISTRICT OFFICE #2

June thru August, 1980

NO. 2104 N

SUPPLEMENT TO THE OIL PRORATION SCHEDULE

DATE June 17, 1980

PURPOSE ALLOWABLE ASSIGNMENT NEW WELL (H-S)

Effective June 1, 1980, an allowable of 30 barrels of oil per day is hereby assigned to the Collier Energy, Inc. St. B-1969 Tr. 3, #20-X, 22-17-28, in the E. Empire Y-SR Pool.

This well is on the same unit with well #18

June Total - 900 bbls. Total Unit Allowable for June - 2400 bbls.  
July Total - 930 bbls. Total Unit Allowable for July - 2480 bbls.  
Aug. Total - 930 bbls. Total Unit Allowable for Aug. - 2480 bbls.

WAG:ar

Collier Energy, Inc.

HCO

P -- None

OIL CONSERVATION DIVISION

[Signature]  
DISTRICT SUPERVISOR

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  $(-\infty, \infty)$ .

2. In the second part of the paper, we consider 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  $(-\infty, \infty)$ .

3. In the third part of the paper, we consider 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  $(-\infty, \infty)$ .

4. In the fourth part of the paper, we consider 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  $(-\infty, \infty)$ .

5. In the fifth part of the paper, we consider 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  $(-\infty, \infty)$ .

6. In the sixth part of the paper, we consider 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  $(-\infty, \infty)$ .

7. In the seventh part of the paper, we consider the function  $n(x)$  defined by the equation