

NEW MEXICO OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
MISCELLANEOUS NOTICES

FEB 13 1948
RECEIVED
HOBBS OFFICE

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 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	9 - 5/8"	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			

Hobbs, New Mexico
Place

February 13, 1948
Date

OIL CONSERVATION COMMISSION,
 Santa Fe, New Mexico.

Gentlemen:

Following is a notice of intention to do certain work as described below at the

Gulf Oil Corporation W. T. McCormack Well No. 12 in Box NW NE
 Company or Operator Lease
 of Sec. 32, T. 21S, R. 37E, N. M. P. M., McCormack Field.
Lea. County.

FULL DETAILS OF PROPOSED PLAN OF WORK

FOLLOW INSTRUCTIONS IN THE RULES AND REGULATIONS OF THE COMMISSION

On February 12, 1948 ran 91 jts. of new 9-5/8" OD 36#, 8-rd.thd. J-55 and H-40 Casing. (From bottom up, 59 jts. J-55 long T&C, 5 jts. J&L H-40 Short T&C, 27 jts. J-55 short T&C. Tallies 2837', set at 2850'. H-13'. Cemented by Halliburton w/1200 sacks 2% and 100 sacks neat bulk cement. Plug at 2816'. Job started 11:30 AM and completed 6:30PM.

Propose to drill plug and test shut-off at 6:30 PM on February 14, 1948.

Approved FEB 16 1948, 19____
 except as follows:

Gulf Oil Corporation
 Company or Operator
 By E. J. Gallagher
 Position District Sup't.
 Send communications regarding well to
 Name E. J. Gallagher
 Address Box 1667, Hobbs, New Mexico

OIL CONSERVATION COMMISSION,
 By R. C. [Signature]
 Title Oil & Gas Inspector

1. The first part of the paper is devoted to the study of the

properties of the function

$$f(x) = \sum_{n=0}^{\infty} \frac{a_n}{n!} x^n$$

where a_n are the coefficients of the power series. It is shown that the function $f(x)$ is analytic in the whole plane and that it satisfies the differential equation

$$f'(x) = f(x) + x f''(x)$$

which is a special case of the more general equation

$$f'(x) = f(x) + x f''(x) + \dots + x^n f^{(n+1)}(x)$$

where n is a natural number. The function $f(x)$ is called the

generalized exponential function

and is denoted by

$$E_n(x) = \sum_{n=0}^{\infty} \frac{x^n}{n!}$$

It is shown that the function $E_n(x)$ has the following properties:

(1) $E_n(x) > 0$ for all x ;

(2) $E_n(x) \rightarrow \infty$ as $x \rightarrow \infty$;

(3) $E_n(x) \rightarrow 1$ as $x \rightarrow 0$;

(4) $E_n(x) = E_n(-x) + x E_n'(x)$ for all x and n ;

(5) $E_n(x) = E_n(x) + x E_n'(x) + \dots + x^n E_n^{(n+1)}(x)$ for all x and n ;

(6) $E_n(x) = E_n(x) + x E_n'(x) + \dots + x^n E_n^{(n+1)}(x)$ for all x and n ;

(7) $E_n(x) = E_n(x) + x E_n'(x) + \dots + x^n E_n^{(n+1)}(x)$ for all x and n ;

It is also shown that the function $E_n(x)$ is the unique solution of the differential equation

$$f'(x) = f(x) + x f''(x)$$

which satisfies the initial conditions

$$f(0) = 1, f'(0) = 1$$

and the boundary conditions

$$f(x) \rightarrow 0, f'(x) \rightarrow 0 \text{ as } x \rightarrow -\infty$$

It is also shown that the function $E_n(x)$ is the unique solution of the differential equation

$$f'(x) = f(x) + x f''(x) + \dots + x^n f^{(n+1)}(x)$$