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(SUBMIT IN TRIPLICATE)

U. S. Land Office **Las Cruces**

Lease or permit No. **030174 (b)**

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....	SUBSEQUENT REPORT OF WATER SHUT-OFF.....	X
NOTICE OF INTENTION TO CHANGE PLANS.....	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF.....	SUBSEQUENT REPORT OF ALTERING CASING.....	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL.....	SUBSEQUENT REPORT OF REDRILLING OR REPAIR.....	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE.....	SUBSEQUENT REPORT OF ABANDONMENT.....	
NOTICE OF INTENTION TO PULL OR ALTER CASING.....	SUPPLEMENTARY WELL HISTORY.....	
NOTICE OF INTENTION TO ABANDON WELL.....		

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

Midland, Texas, January 10, 1945

W. H. Rhodes (b)

Well No. **10** is located **660** ft. from **S** line and **1980** ft. from **W** line of sec. **26**

SW1 SW1 Sec-26 26-9 37-E N.M.P.M.
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)

Rhodes

(Field)

Lea

(County or Subdivision)

New Mexico

(State or Territory)

The elevation of the derrick floor above sea level is **3001'** ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

Total Depth 3125' - Line

Set and cemented 3107' of 5-1/2" casing at 3118' with 300 sacks.
Completed at 4:30 P.M., 1-6-45.

Drilled plug at 4:30 P.M., 1-9-45 and tested casing by pressure method using 1000#. Tested O.K.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company **The Texas Company**

Address **Box 1270**

Midland, Texas

By

[Signature]

Title **Drlg. & Prod. Foreman.**

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

$$f(x) = \sum_{n=0}^{\infty} \frac{a_n}{n!} x^n$$
 where a_n are the coefficients of the power series.

2. In the second part, we consider the case where the coefficients a_n are given by the recurrence relation

$$a_{n+1} = \frac{1}{n+1} (a_n + a_{n-1})$$
 with initial conditions $a_0 = 1$ and $a_1 = 0$. It is shown that the function $f(x)$ satisfies the differential equation

$$x f'(x) = f(x) - 1$$
 and that the function $f(x)$ is the generating function of the sequence of numbers a_n .

3. In the third part, we study the properties of the function $f(x)$ for $x > 0$. It is shown that the function $f(x)$ is increasing and concave down for $x > 0$. Moreover, the function $f(x)$ has a horizontal asymptote at $y = 1$ as $x \rightarrow \infty$.

4. Finally, we consider the case where the coefficients a_n are given by the recurrence relation

$$a_{n+1} = \frac{1}{n+1} (a_n + a_{n-1} + a_{n-2})$$
 with initial conditions $a_0 = 1$, $a_1 = 0$, and $a_2 = 0$. It is shown that the function $f(x)$ satisfies the differential equation

$$x^2 f''(x) + x f'(x) = f(x) - 1$$
 and that the function $f(x)$ is the generating function of the sequence of numbers a_n .

5. In the last part, we study the properties of the function $f(x)$ for $x > 0$. It is shown that the function $f(x)$ is increasing and concave down for $x > 0$. Moreover, the function $f(x)$ has a horizontal asymptote at $y = 1$ as $x \rightarrow \infty$.