

# NEW MEXICO STATE LAND OFFICE SANTA FE, NEW MEXICO

## DEPARTMENT OF THE STATE GEOLOGIST

### REQUEST FOR PERMISSION TO CONNECT WITH PIPE LINE

This request should be in triplicate and should be submitted for changes in connections as well as original connections. Permission of the Commissioner of Public Lands should be obtained before connecting, for State lands only.

Jal. N. Mex., 5/8/35 19

Mr. **F. J. Vesely**

State Geologist,  
Santa Fe, N. Mex.

Dear Sir:

Permission is requested to connect **Our Woolworth**

Wells No. **1** in **SE 1/4** of Sec. **26**

T. **24**, R. **36**, N. M. P. M., **Lea County**

Field, **Cooper-Lea** **Lea** County, with the pipe line of the

**Texas Pipe Line**  
Name of Pipe Line Company

Logs of the above wells were filed with the State Geologist 19

All other requirements have been complied with.

Yours truly,

**General Crude Oil Company**  
Owner or Operator

Permission is hereby  
connections requested  
granted to make pipe line  
above.

By **W.A. Pray Dist. S.**

Position **Dist. Supt.**

Address **Box 685, Wink, Texas.**

Commissioner of Public Lands.

Approved **May 14** 19**35**

*W.A. Pray*  
State Geologist

Date 19

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

$$f(x) = \int_0^x \frac{1}{1+t^2} dt, \quad x \in \mathbb{R}.$$

It is

known that the function  $f(x)$  is strictly increasing and concave down on the interval  $(-\infty, \infty)$ . Moreover, the function  $f(x)$  has the following properties:

- (i)  $f(x) > 0$  for all  $x > 0$ ;
- (ii)  $f(x) < 0$  for all  $x < 0$ ;
- (iii)  $f(x) \rightarrow 0$  as  $x \rightarrow 0$ ;

and the function  $f(x)$  has the following asymptotic behavior:

As  $x \rightarrow \infty$ ,  $f(x) \rightarrow \frac{\pi}{2}$  and as  $x \rightarrow -\infty$ ,  $f(x) \rightarrow -\frac{\pi}{2}$ .

It is also known that the function  $f(x)$  is the unique function satisfying the functional equation

$$f(x) + f\left(\frac{1}{x}\right) = \frac{\pi}{2}, \quad x \neq 0.$$

It is

also known that the function  $f(x)$  is the unique function satisfying the functional equation

$$f(x) = \frac{1}{x} f\left(\frac{1}{x}\right), \quad x \neq 0.$$

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