

NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

REQUEST FOR PERMISSION TO CONNECT WITH PIPE LINE

This request should be SUBMITTED IN TRIPLICATE. See instructions in the Rules and Regulations of the Commission.

Tulsa, Oklahoma

August 25, 1936

Place

Date

AUG 31 1936 AM

OIL CONSERVATION COMMISSION,
 Santa Fe, New Mexico.

Gentlemen:

Permission is requested to connect Gulf Oil Corporation Aubrey F. Houston
 Wells No. 5 in SW SE of Sec. 7, T. 21S, R. 36E, N. M. P. M.
Lea Field, Lea County, with the pipe line of the
Shell Pipe Line Company St. Louis, Mo.
 Pipe Line Co. Address
 Status of land (State, Government or privately owned) -
 Location of tank battery ?
 Description of tanks 2 - 16' x 10' Need
 Logs of the above wells were filed with the Oil Conservation Commission August 24, 19 36

All other requirements of the Commission have ~~have not~~ been complied with. (Cross out incorrect words.)

Additional information:

Yours truly,

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

OIL CONSERVATION COMMISSION

By Grant Vaseth

Title Sec

Date 9/2/36

Gulf Oil Corporation

Owner or Operator

By [Signature]

Position General Superintendent

Address Tulsa, Oklahoma

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 $(-\infty, \infty)$.

$$f'(x) = \frac{1}{1+x^2}$$

It is also shown that the function $f(x)$ has a horizontal asymptote at $y = \frac{\pi}{2}$ as $x \rightarrow \pm\infty$.

2. The second part of the paper is devoted to the study of the properties of the function $g(x)$ defined by the equation

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

It is shown that the function $g(x)$ is an odd function and is increasing on the interval $(-\infty, \infty)$.

$$g'(x) = \frac{x}{1+x^2}$$

It is also shown that the function $g(x)$ has a horizontal asymptote at $y = \frac{\pi}{2}$ as $x \rightarrow \pm\infty$.

$$g(x) = \frac{1}{2} \ln(1+x^2)$$

3. The third part of the paper is devoted to the study of the properties of the function $h(x)$ defined by the equation

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

It is shown that the function $h(x)$ is increasing and concave down on the interval $(-\infty, \infty)$.