

November 4, 1966

Perry R. Bass  
Box 1178  
Monahans, Texas 78756

Re: Sun-Tex Federal No.1  
in unit N, 27-19-31,  
Lusk Strawn Pool

Gentlemen:

Enclosed please find Form C-127 which was filed October 21, 1966, for the subject well. The form is being returned because the allowable requested, thereon, exceeds that amount produced on the latest Gas-Oil Ratio Test. Before we may assign this well a higher allowable, Form C-116 must be filed showing new test results.

Very truly yours,

Oil Conservation Commission

R. L. Stamets

RLS/jw

## 1. Introduction

The purpose of this paper is to study the properties of the function  $f(x)$  defined by the equation

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

for all real numbers  $x$ .

It is well known that the function  $f(x)$  is increasing and concave down. We shall prove that  $f(x)$  is also bounded. To do this, we shall first show that  $f(x)$  is bounded above. Let  $x > 0$ . Then

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

$$= \left[ -\frac{1}{t} \right]_0^x = -\frac{1}{x} < 0$$

for all  $x > 0$ .

Thus,  $f(x)$  is bounded above by 0.