

Cities Service Oil Company #1 Stone 'A' Sec. 20-T12S-R26E Chaves Co., New Mexico

DST #1, 1210-1295 (85') no bottom choke x 1" top choke, no water blanket, tool open $1\frac{1}{2}$ hours, weak blow throughout test. Recovered 330' (3 bbls) drilling mud. No show of oil or gas. 1 hour ISIP 532 psi; IF 29 psi; FF 101 psi; 1 hour FSIP 464 psi; IMCP & FMCP 571 psi.

DST #2, 5645-80 (35) Tool open 2 hrs. Weak blow increased to fair blow in 10 min. Decreased to very weak blow. Recovered 60' of drilling mud. No show. IFP 64#; FFP 64#; ISIP 686# (1 hr); FSIP 554# (1 hr). Bottom hole temperature 128°.

Core #1 5753-5763 (10') Recovered 7' Conglomeritic Chert with traces of black shale, thin streaks of gray sandstone, and a trace of pyrite.

DST #3 (Devonian) 5785-5840 (55'), $\frac{3}{4}$ " bottom choke, $\frac{1}{4}$ " top choke, no water cushion, tool open 2 hours, very weak blow decreasing to zero in 105 minutes. Rec. 220' slightly gas cut drilling mud, no show oil. 1 hour ISIP 369 psi; IFP 115 psi; FFP 138 psi; 1 hour FSIP 184 psi; MCP 2949 psi; BHT 134° F.

Core #2 5840-5858, cut 18', Recovered 17 $\frac{1}{2}$ '. Dolomite with frequent scattered chert nodules. Excellent fluorescence, numerous fractures, scattered vugs, bleeding oil and gas. Good oil and gas show in bottom 10'.

DST #4, 5835-5858 (23') $\frac{3}{4}$ " bottom choke, $\frac{1}{4}$ " top choke, no water cushion, tool open 2 hours. Opened with fair blow decreasing to very weak blow in 10 minutes. Recovered 50' drlg. mud. No show of oil or gas. 1 hour ISIP 185 psi; IF 23 psi; FF 23 psi; 1 hour FSIP 139 psi; MCP 2949 psi; temp. 134° F.

Core #3 5858-5871 cut 13', recovered 13'. 5858-68 Shaley dolomite, dark gray; 5868-70 Dense dolomite; 5870-71 Shaley dolomite with very slight oil stain at 5871.

Core #4 5871-5917 Cut 46', recovered 46'. 5871-5895 Shaley, gray, tite Dolomite with occasional scattered stain; 5895-5917 Gray dense Dolomite, no porosity. No show.

Core #5 6007-6014, cut 7', recovered 7', Quartz, Sand, and Granite. No show.

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

properties of the function $f(x)$ defined by the equation

which is satisfied by the function $f(x)$ for all x in the interval $(0, 1)$.

It is shown that the function $f(x)$ is continuous and

differentiable in the interval $(0, 1)$ and that the derivative

is given by the formula

where $\phi(x)$ is a function which is continuous and

differentiable in the interval $(0, 1)$ and which satisfies

the equation

for all x in the interval $(0, 1)$.