

20-26S-12W

AMSTUTZ AND YATES, INC.

Petroleum Engineers and Geologists

406 KFH BUILDING

WICHITA 2, KANSAS

December 26, 1951

Transit Corporation
National Cooperative Refinery Association
Wichita, Kansas

Re: Geological Report
Transit-N.C.R.A. - Hoeme No. 2
SW SE SE Sec. 20-T26S-R12W
Pratt County, Kansas

Gentlemen:

Herein is a geological report of the subject well. Samples and drilling time were examined from 3400 feet to 4314 feet, the rotary total depth. All tops and depths are with reference to Kelly bushing measurements. Following are the formation tops as determined from sample analysis.

OWLL

Sample Tops

Elevation	1919	Kelly Bushing
Heebner	3489	(-1570)
Brown Lime	3663	(-1744)
Lansing-Kansas City	3688	(-1769)
Mississippian	4049	(-2130)
Viola	4069	(-2150)
Simpson	4191	(-2272)
Arbuckle	4311	(-2392)
Rotary Total Depth	4314	(-2395)

The following are zones of interest as determined from sample analysis.

LANSING-KANSAS CITY

3790-3800 Buff and tan mottled semichalky and semisucrosic limestone. Slight spotted staining.

Drill Stem Test No. 1 3785-97 - Open 2 hours, fair to light blow for 30 minutes, intermittent blow for 1½ hrs. Shut in for bottom hole pressure 15 minutes. Recovered 90 feet muddy salt water, slightly oil and gas cut, 900 psi bottom hole pressure.

-2-

3850-59 Buff and tan mottled limestone with oolitic and vugular porosity, pieces show stain.

3864-75 Buff and tan mottled limestone with oolitic porosity, pieces show fair staining.

Drill Stem Test No. 2 3845-75 - Open 1 hour 15 minutes, strong blow throughout, gas to surface in 10 minutes, slight oil spray in 30 minutes. Shut in for bottom hole pressure 15 minutes. Recovered 60 feet heavily oil cut mud and 255 feet free oil. Bottom hole pressure 860 psi.

3918-38 Buff finely nodular limestone finely oolitic and finely vugular in part, fair staining.

Drill Stem Test No. 3 3908-26 - Open 1 hour 35 minutes, very strong blow throughout, gas to surface in 5 minutes - estimated 500,000 cfg. Shut in for bottom hole pressure 20 minutes. Recovered 345 feet of oil, slightly mud cut. Bottom hole pressure 1350 psi.

VIOLA

4067-4110 White chert, white tripolitic chert and white semi-chalky limestone.

Drill Stem Test No. 4 4067-4110 - Open 2 hours, fair to strong blow throughout. Gas to surface 50 minutes. Shut in for bottom hole pressure 15 minutes. Recovered 155 feet heavily gas cut mud. Bottom hole pressure 420 psi.

4110-65 White milky chert with fragments gray earthy limestone, some gray-green and red shale

Drill Stem Test No. 5 4110-4165 - Open 2 hours, weak steady blow for 50 minutes, intermittent blow 1 hour 10 minutes. Shut in 15 minutes for bottom hole pressure. Recovered 300 feet gas and 35 feet gas cut mud. No bottom hole pressure.

4168-90 White chert and white tripolitic chert, good saturation and odor. Good florescence.

Drill Stem Test No. 6 4168-90 - Open 2 hours,
weak blow throughout. Shut in 15 minutes for
bottom hole pressure. Recovered 420 feet gas
and 35 feet slightly gas cut mud. No bottom
hole pressure.

SIMPSON

Diamond Core 4217-54 - Recovered 5 feet - 4 inches
dark green shale, 4 feet 8 inches sandy and dense
brown limestone, sandy medium crystalline brown
dolomite, streaks clean sand. Spotted bleeding
on the core. Samples of core sent to Core Labora-
tories.

ARBUCKLE

4311-13 Cream tan and gray dense dolomite.
RTD

As Compared With

Transit-N.C.R.A. - No. 1 Hoeme

Transit-NCRA - No. 1 Hoeme	Transit-NCRA - No. 2 Hoeme
Lansing-Kansas City 3686 -1771	Lansing-Kansas City 3688 -1769
Arbuckle 4297 -1382	Arbuckle 4311 -1392

Recommendation was made to cement casing at 4312½ feet in the
Arbuckle with sufficient cement to protect the oil zones in the
Lansing-Kansas City.

Very truly yours,

AMSTUTZ AND YATES, INC.

Fred S. Lillibridge
Fred S. Lillibridge

FSL:mk