



**GEOLOGICAL REPORT
BENSON 1-4
SE/4 NW/4 SECTION 4 – T35S – R14W
BARBER COUNTY, KANSAS**

SUMMARY

The above captioned well was drilled to a total depth of 5,000 feet on June 17, 2002. A one-man mud-logging unit was on location from 3,500 feet to TD, with samples being analyzed from 3,800 feet to TD. The well was under the geological supervision of the undersigned from approximately 4,600 feet to TD. At TD, Reeves electric logs were run that consisted of Dual induction, Compensated Neutron – density and Micro-log. From data collected while drilling and analyzing, hydrocarbon shows were encountered in the Kansas City aged Hertha Limestone and the Mississippian Dolomite zones. The decision was made to set production casing and complete the well in the above mentioned zones.

HERTHA LIMESTONE

The Hertha Limestone was cut at 4,644 (-3100) feet. Samples were described as off-white to cream buff, very fine to fine crystalline, slightly sucrosic limestone, with a trace of intercrystalline, pinpoint and vugular porosity. A bright yellow fluorescence was observed along with a slow to good streaming cut and faint odor. A 140-unit gas kick was recorded on the gas chromatograph through a three-foot drilling break. Electric logs indicate a two-foot zone of 13% cross-plot porosity with 6 ohms of resistivity and two feet of positive micro-log separation. This zone should produce hydrocarbons and should be tested before the well is plugged and abandoned.

MISSISSIPPIAN

The Mississippian Detrital was encountered at 4,822 (-3278) feet. This zone was approximately 3-feet thick and very shaley with a slight show recorded on the gas chromatograph. Samples were described as cherts, reworked dolomites and limestones, with some consolidated sandstone, in a multicolored shale matrix. This zone is probably not worth completing at this time.

The top of the Mississippian Unconformity was topped at 4,834 (-3290) feet. Samples were described as off-white to cream tan, very fine to fine crystalline dolomite, with intercrystalline porosity. A 272-unit gas kick was recorded through an eight-foot drilling break. A fourteen-foot break was recorded below the above mentioned zone. Samples were described as tan to light brown fine crystalline, sucrosic dolomite with some pinpoint and vugular porosity being observed. A dull yellow fluorescence, good streaming cut, live oil staining and very good odor was observed. Electric logs indicate three porosity zones with the upper zone consisting of 14-feet of 18% porosity and 8 feet of positive micro-log separation. The middle porosity zone averages 13% porosity through 14 feet.

A lower dolomite zone was encountered at 4,874 and was approximately ten-foot thick with scattered micro-log separation through an average porosity of 12%.

ELECTRIC LOG TOPS

	JACK BENSON 1-4 SE NW NW 4-T35S-R14W	JACK BENSON 1-3 SW SW 3-T35S-R14W	CITIES SERVICE EWB RANCH B-1 NE NW SW 4-T35S-R14W
CHASE (subsea)	2075 (-531)	2063 (-528)	2024 (542)
TOP PENN. (subsea)	3025 (-1481)	3012 (-1477)	2974 (-1492)
BS. HEEBNER (subsea)	3996 (-2452)	3978 (-2443)	3946 (-2464)
LANSING (subsea)	4172 (-2628)	4156 (-2621)	4122 (-2640)
STARK SHALE (subsea)	4598 (-3054)	4670 (-3073)	4553 (-3071)
CHEROKEE SH. (subsea)	4800 (-3256)	4800 (-3265)	4753 (-3271)
MISS DETRITAL (subsea)	4822 (-3278)	ABSENT -----	4786 (-3304)
MISS UNCONFORM. (subsea)	4834 (-3290)	4828 (-3294)	4797 (-3315)

CONCLUSION

The Benson 1-4 was drilled as a northwest off-set to established production in the Hertha Limestone, Mississippian Detrital, and Mississippian Dolomites. Electric logs indicate 38 feet of potential pay in the Mississippian Dolomites, which should be highly productive after treatment.

The Hertha Limestone also should make commercial quantities of hydrocarbons and should be tested prior to abandonment of the well.

After all data was analyzed, the decision was made to set pipe and attempt completion in the above mentioned zones. I recommend perforating the Mississippian Dolomite from 4,836 – 4,864 & 4,874 – 4,884.

Respectfully submitted

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Petroleum Geologist
6/19/02