

JENNINGS DRILLING COMPANY

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Oil and Gas Production

December 16, 1982

GEOLOGIC REPORT

Jennings Drilling Company #1 Miller
C SE SW 7-12S-21E
Leavenworth County, Kansas

Drilling Commenced: 12-9-82
Drilling Completed: 12-14-82

Service Companies:

Drilling Contractor: McGown Drilling Company
E-Logs: Cornish Wireline Services, Inc.
Cement: Consolidated
Gas Detector: Gould's Logging

Formation Tops:

<u>Formation</u>		<u>Structural Relation to #1 Irick</u>
Haskel	47 (+899)	-13
Lansing	158 (+788)	-4
B. Kansas City	500 (+446)	-13
Knobtown SS	513 (+433)	*
Altamont	Absent	-
Cherokee	727 (+219)	-1
T. Squirrel SS	746 (+200)	+4
B. Squirrel SS	842 (+104)	-4
Ardmore	849 (+97)	-2
TD	865 (+81)	

* Knobtown in #1 Miller is a different sand than that in #1 Irick.

Shows:

512-518 Knobtown Sandstone
Sandstone, light green, fine grained, micaceous, slight show of gas (few bubbles), 3 unit gas kick.

746-842 Squirrel Sandstone

The Squirrel Sandstone gross sand interval was 96 feet having approximately 85 feet of net sand. Lithology and shows were very similar to the three Irick wells with the first tightly cemented sand streak at 757, thirty feet below the top of the Cherokee shale. Above that were three feet having porosity, 754-57. Here, as in other wells, the sand was very fine to fine grained, well sorted, tan oil stain, slight show free oil, good fluorescence and cut. There was no gas kick. Below the hard streak, there were shows of oil throughout, and oil saturation increases were noted beneath discontinuities such as hard streaks of shale breaks. No gas kicks were observed. (See mud log for more detailed description)

Log Analysis:

<u>Depth</u>	<u>Ø</u>	<u>Rt</u>	<u>Sw</u>	<u>Remarks</u>
Knobtown SS				
512-14	13	6	96	3 unit gas kick
514-16	15	6	84	"
516-18	12	6	100	"
Squirrel SS				
754-57	22.5	7.5	52	No gas kick
766-68	19.5	5	73	"
768-70	19	4	83	"
770-72	21	3.2	85	"
772-74	16	3.5	100	"
774-76	16.5	3.5	100	"
776-78	19	3	93	"
778-80	16.5	3.3	100	"
780-82	16.5	3.3	100	"
782-84	21	3	77	"
784-86	21	2.8	83	"
786-88	22	2.8	76	"
788-90	24	3	61	"

Note: Porosities above are different than those on the E-Log. E-Log densities average .03 g/cc too low. Porosities used in calculations reflect this adjustment. Rw is .14 and m used was 1.8.

Recommendations:

It was recommended that the #1 Miller be plugged and abandoned because it was felt the well would not be capable of producing commercial quantities of gas.

In the Squirrel section there were three feet of probable pay, from 754-757. Despite not having a gas kick, this zone had sufficient resistivity to indicate the presence of gas. Since this well only

had three feet of potential pay in this zone, as compared to seven feet in the #2 Irick and nine feet in the #3 Irick, it was felt it would be noncommercial.

Other zones offered little hope for commercial gas production. Since this well was low with respect to the #2 and #3 Irick wells, there was no potential for gas production below the hard streak found at 757-760 in the #1 Miller. Testing below the hard streak in the #2 and #3 Irick has yielded only saltwater with a show of gas. The Knobtown sandstone in the #1 Miller had a 3 unit gas kick, however, logs indicate it was tight, having only 12-15% porosity, and wet, having 84-100% water saturation. The sand in the #1 Miller is a different sand than that producing in the #1 Irick.

The #1 Miller well was relatively low with respect to the three Irick wells and was without sufficient sand development in the pay zones to merit testing through pipe. The well appears to define the southern limits of the Irick Pool.

Martin K. O'Brien