H. DEANE JIRRELS
Petroleum Geologist
1015 CENTRAL BUILDING
WICHITA, KANSAS
RESIDENCE TE 8-6968
OFFICE AM 5-5086

Beardmore Drilling Company
700 One Twenty Building
Wichita, Kansas

Re: Beardmore Drilling Company
Bates "A" #2
S/2 SW NW 31-30S-1W
Sumner County, Kansas
Elev. 1299 K.B.

GEOLOGICAL REPORT

Gentlemen: BEARDMORE DRILLING COMPANY

The captioned test was drilled and cored to a rotary total depth of 3732 (-2433), 19' into the Mississippian and 5½ casing was cemented 8' off bottom at 3724 after penetrating 10' of well saturated dolomite.

BATES "A" #2

Sec. 31, Twp. 30S, Rge. 1W
S/2 SW NW

The writer was present during drilling operations from 3480 to R.T.D. and has examined all samples and cores from 2900' to R.T.D. A copy of the writers strip log with sample descriptions is enclosed.

SUMNER COUNTY, KANSAS

Following is a comparison of subsurface markers with the Bates A#1 and the Bates #2.

	Bates A#1 [illegible]		Bates A#1 Elev. [illegible]	Bates #2 Elev. 1299 KB
Base Fidrance	[illegible]	[illegible]	+ 419	+ 413
Elmont	[illegible]	[illegible]	- 426	- 427
Topeka	[illegible]	- 721	- 721	- 722
Kansas City	[illegible]	-1759	-1761	-1764
Base K.C.	[illegible]	-2010	-2012	-2014
Cherokee	[illegible]	-2254	-2259	-2255
Mississippian Chert	3713	-2414	-2419	-2415
Mississippian Dolo.	3722	-2423	-2428	-2420
R.T.D.	3732	-2433	-2436	-2500
Pipe Point	3724	-2[illegible]	-2431	-2499

BY

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PETROLEUM GEOLOGIST

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Gentlemen:

The captioned test was drilled and cored to a rotary total depth of 3732 (-2433), 19' into the Mississippian and 5½ casing was cemented 8' off bottom at 3724 after penetrating 10' of well saturated dolomite.

The writer was present during drilling operations from 3480 to R.T.D. and has examined all samples and cores from 2900' to R.T.D. A copy of the writers strip log with sample descriptions is enclosed.

Following is a comparison of subsurface markers with the Bates A#1 and the Bates #2:

	Bates A#2 Elev.1299KB		Bates A#1 Elev.1304KB	Bates #2 Elev.1298 KB
Base Florence	885	+ 414	+ 419	+ 413
Elmont	1730	- 431	- 426	- 427
Topeka	2020	- 721	- 721	- 722
Kansas City	3058	-1759	-1767	-1764
Base K.C.	3309	-2010	-2017	-2014
Cherokee	3553	-2254	-2259	-2255
Mississippian Chert	3713	-2414	-2419	-2415
Mississippian Dolo.	3722	-2423	-2428	-2420
R.T.D.	3732	-2433	-2436	-2500
Pipe Point	3724	-2425	-2431	-2499

Zones of porosity and shows of oil were encountered and observed as follows:

Kansas City 3058 (-1759)

3073-77	Mottled fossiliferous pseudo oolitic gray-white limestone. Trace oolitic and vugular porosity. No shows.
3084-3105	Fossiliferous sucrosic leeched porous cherty white limestone. No shows.
3138-45	Fine mealy slightly leeched gray limestone, fair mealy porosity. No shows.
3197-3212	Fine dense tan and gray mottled limestone with streaks of fine oolicastic porous cream limestone. No shows.

Mississippian Chert 3713 (-2414)

3713-22	Leeched white and gray chert grade to leeched to fresh white chert at base. Very slight trace of solution porosity. No shows.

Mississippian Dolomite 3722 (-2423)

3722-23	Crystalline fossiliferous porous dolomitic cream limestone, fair oil taste and fluorescence.

Core #1 3723-32 Rec. 8½'

3723-24	Partly coarse crystalline dolomitic limestone to sucrosic fossiliferous well saturated porous limey dolomite, fair sucrosic porosity and scattered fine vuggy porosity.
3724-25	Partly crystalline to sucrosic well saturated limey dolomite. Good fossiliferous porosity.
3725-26	Crystalline fossiliferous dolomitic limestone. Good even saturation but with slight decrease in porosity from foot above.

3726-27	Fine crystalline dense matrix dolomite with very excellent fossil cast porosity (worm eater). Good even saturation - one 6" vertical fracture at base.
3727-28	Fine crystalline to sucrosic dense matrix dolomite. Very excellent worm eaten porosity as above. Some scattered calcite crystals. Good even saturation.
3728-29	Fine crystalline to sucrosic dense matrix well saturated dolomite. Excellent fine vugular and worm eaten porosity. 2" band at base of fine crystalline dense tight glazed dolomite with light even stain and fluorescence too tight for the passage of fluid.
3729-30	Partly crystalline to sucrosic well saturated dolomitic limestone. Fair to good fossiliferous and fine vugular porosity.
3730-31	Partly crystalline to sucrosic fossiliferous porous well saturated limey dolomite, good fossiliferous and sucrosic porosity.
3731-31½	Partly crystalline to sucrosic well saturated fossiliferous dolomitic limestone, fair to good fossiliferous and sucrosic porosity.
3731½-32	Not recovered

In view of the excellent saturation, porosity and permeability of the Mississippian Core, 5½ casing was cemented 8' off bottom at 3724, preparatory to further testing with cable tools.

Yours very truly,

H. Deane Jirrels

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Petroleum Geologist

BATES A-2

RTD 3732 (-2433)
CTTD 3742 (-2443)

3732-3736 Dolomite, lt brown, fxln to med xln, muck fine sucrosic, partly limey, Good porosity, Well stained & saturated.

3736-3739 Predominantly as above, w/inc med xln & some to Co xln, Sli foss limey dolo (calcite xls included). w/abun. wht-grey opaque, foss, & mottled chert. Good stain & sat in dolo.

3739-3742 Predominantly lt brown limey dolo as above, part sucrosic, w/Gd por, stain & sat. Medium to Coarse size calcite xls included thru out. Excellent por in pieces large enough to retain same; this interval looks best of any of the new hole.

July 27 1966
Frederick W Stump