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CONSULTING GEOLOGIST
805 WICHITA PLAZA
WICHITA, KANSAS 67202

August 30, 1968

GEOLOGICAL WELL REPORT

William Gruenerwald & Associates, Inc.
#1 Wainner, C NE/4 NE/4 Section
2-T28S-R.13W., Rolingson
Area, Pratt County, Kansas.
Contractor: Garvey Drilling Co.
Spud: August 18, 1968
13" Surface casing @ 184'.
5½" Production casing @ 4380'.
T. D. 4377' (Rotary) 4380' (E.Log)

T. G. WRIGHT DONATION

1995

Wm. Gruenerwald & Associates, Inc.
P. O. Box 909
Colorado Springs, Colorado 80901

Gentlemen:

Listed below are the pertinent geological tops and an evaluation of the porosities encountered. No drill stem tests were taken. The hole was cored from 4305' to 4359' rotary measurement, lithology described below. The hole was logged electrically before being cased, electric log data included herein.

I arrived at the location at a depth of 4240', after having checked upper markers previously, and witnessed the drilling from 4240' to 4377'. Samples were examined from 3850-4377' T.D.

Enclosed herewith is a copy of the plotted drilling time from 3500-4377' T.D. which also includes lithology, geological tops and other pertinent data.

ELECTRIC LOG TOPS

ELEVATION	1865 KB
HEEBNER SHALE	3554 (-1689)
BROWN LIME	3738 (-1873)
LANSING-KANSAS CITY	3756 (-1891)

3922-27 Limestone, tan, finely oolitic, good porosity, no show.

BASE OF KANSAS CITY 4109 (-2244)

Note: A zone 4158-70 within the Marmaton is recognized on the electric log indicating possible favorable reservoir conditions. This zone is not recognized in sample analysis but should be tested before abandonment of this hole.

MISSISSIPPIAN CHERT	4217	(-2352)	
VIOLA CHERT	4267	(-2402)	
SIMPSON	4313	(-2448)	
Dolomite	4325	(-2460)	
Sand (See core description)	4340	(-2475)	
TOTAL DEPTH	4377	(rotary)	4380 (E. Log)

DIAMOND CORE #1

4305-25 Recovery 100%

4305-06	Limestone, tan, very coarsely crystalline.
4306-08	Limestone, light gray, coarsely crystalline, included rounded sand grains and green shaley inclusions.
4308-09	Bright green, compact, shale - thin lenses of rounded white, tightly cemented sandstone.
4309-18	Dark green compact shale, pyritic zones.
4318-19	Green shale, bottom 3 inches, hard, compact, gray quartzitic sandstone.
4319-21	Compact green shale, thin streaks of tightly cemented gray sandstone.
4321-22	Gray, dirty, sandy, dolomite.
4322-25	Hard, brown, medium crystalline dolomite, fractured vertically and minor scattered vugs. Fractures bleeding little oil and minor "shows of oil" in vugs.

DIAMOND CORE #2

4325-59

Recovery 100%

- 4325-29 Dolomite, brown, hard, dense.
- 4329-30½ Shale, dark gray to dark green compact, thin sandy zones.
- 4330½-31 Sandstone, fine dark gray, compact to quartzitic, dirty, in part gilsonitic.
- 4334-35 Dark green, sandy shale.
- 4335-37 Sandstone, medium fine, clean, very compact and hard, appears tight but completely oil saturated. Visible vertical fractures from 4342-59 T.D.
- 4337-51 Sandstone as above except coarser and becoming friable and more porous. Completely oil saturated.
- 4351-52 Sandstone, finer and tighter than above but completely saturated with oil.
- 4352-53 Sandstone as directly above with thin gray shale partings.
- 4353-57 Sandstone, medium fine, clean compact, less porosity than sands above, stained with oil but lighter color.
- 4357-59 Sandstone as directly above but white, hard almost quartzitic, no show of oil except in vertical fractures which is minor.

Note: Discrepancy in measurement between rotary and electric log lowers the above depths by five feet when referred to the electric log.

Conclusions and Recommendations

At the top of the Simpson Sand, the objective, the subject well is 12 feet lower than your #3 Gibbons the nearest producing well, almost 1/2 mile northeast. Upper markers check relatively the same. This is considered a normal regional relationship, and expected. The important thing is the obvious excellent reservoir and oil saturation as demonstrated by the cores and electric log in spite of the structural difference.

It was recommended that the hole be cased to bottom to test the Simpson Sand. Perforations should not be made above 4340' nor below 4348', possibly 4342-46 to safely test this reservoir.

Yours very truly,

T. G. Wright

TGW:wlr

BIT RECORD

Hughes	OSC3AJ	184-1984
Hughes	C1C	1984-2392
Hughes	C1C	2392-2990
Hughes	C1CJ	2990-3390
Hughes	C1CJ	3390-3776
Hughes	OWV	3776-3933
Hughes	OWV	3933-4135
Hughes	OWV	4135-4240
Hughes	W7	4240-4305
Hughes	Coring	4305-4360
Hughes	W7R2	4360-4369
Hughes	W7J	4369-4377

DRILLING PROGRESS

8-18	Spud	
8-19	965	
8-20	2305	
8-21	2990	
8-22	3505	
8-23	3860	
8-24	4090	
8-25	4300	
8-26	4325	
8-27	4357	
8-28	4377'	TD Logging
8-29	WOC	5½" Casing.

Log Analysis



COMPANY *Wm. Cronerwald* WELL *Wainner #1*
 FIELD *Rollinson* COUNTY *Pratt* STATE *KANSAS*

DEPTH	% POROSITY	% OIL	% GAS	% WATER	R _t /R _w	R _t	Δ _t	ρ _B	H Ind	N cps	V _m or ρ _g	R _w	REMARKS
<i>4340-43</i>	<i>11</i>	<i>3</i>		<i>50</i>							<i>2.68</i>	<i>.06</i>	<i>Simpson Sl</i>
<i>4343-48</i>	<i>15</i>			<i>45/60</i>							<i>"</i>	<i>"</i>	<i>"</i>
<i>4348-52</i>	<i>13</i>			<i>80</i>							<i>"</i>	<i>"</i>	<i>"</i>
<i>4354-56</i>	<i>11</i>			<i>85</i>							<i>"</i>	<i>"</i>	<i>"</i>
<i>3924-26</i>	<i>14</i>			<i>50</i>							<i>2.71</i>	<i>.04</i>	<i>L-KC</i>
<i>3926-28</i>	<i>10</i>			<i>50</i>							<i>"</i>	<i>"</i>	
<i>3971-76</i>	<i>13</i>			<i>45/60</i>							<i>"</i>	<i>"</i>	
<i>3976-79</i>	<i>9/10</i>			<i>90/100</i>							<i>"</i>	<i>"</i>	
<i>37947</i>	<i>4/10</i>			<i>100</i>							<i>2.71</i>	<i>.04</i>	<i>"</i>
<i>3803</i>													
<i>4158-62</i>	<i>8 1/2</i>			<i>45</i>							<i>2.71</i>	<i>.04</i>	<i>WARM</i>
<i>4162-65</i>	<i>12</i>			<i>40/50</i>							<i>"</i>	<i>"</i>	<i>"</i>
<i>4166-68</i>	<i>9 1/2</i>			<i>70</i>							<i>"</i>	<i>"</i>	<i>"</i>
<i>4168-70</i>	<i>11</i>			<i>72</i>							<i>"</i>	<i>"</i>	<i>"</i>

"This interpretation represents our best judgment. Nevertheless, since all interpretations are opinions based solely on inferences from electrical or other measurements, we cannot and do not guarantee the accuracy or correctness of any interpretations and shall not, except in the case of willful negligence on our part, be liable or responsible for any loss, damages, or expenses that may be incurred or sustained resulting from this or any other interpretations."

DATE *8-28-68* LOCATION *Wichita* ENGINEER *W.E. Faulk*