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805 WICHITA PLAZA
WICHITA, KANSAS 67202

December 28, 1966

GEOLOGICAL WELL REPORT
William Gruenerwald & Associates, Inc., #1 H. G. Adams, 150' NE of C SE NE Section 4-T35S-R30W, Adams Ranch Area, Meade County, Kansas.
Contractor: Garvey Drilling Co.
Spud: December 1, 1966
8 5/8" surface casing @ 1361'
2 7/8" production casing @ 6328'
Rotary Completion: December 18, 1966
Total Depth: 6340' (Rotary)
6334' (E. Log)

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

Gentlemen:

Listed below are the pertinent geological tops, an evaluation of the porosities encountered and a record of all tests made at the captioned well.

I arrived at the location at a depth of 6000 feet and witnessed the operation to TD 6340'. Samples were examined from 5700-TD. The hole was logged electrically before being cased, electric log data included herein.

This well is located 150 feet northeast of an abandoned hole which was drilled in 1953 and followed an unsuccessful attempt to re-enter the old dry hole. The new well was completed 300 feet deeper than the abandoned hole.

Enclosed herewith is a copy of the plotted drilling time log from 5200-6340TD which also includes lithology, tests, and other pertinent data.

Electric Log Tops

ELEVATION:	2526 K.B.
COUNCIL GROVE	2980 (-454)
MORROW SHALE	5716 (-3190)
MISSISSIPPIAN CHESTER	5871 (-3345)
BASAL CHESTER SANDSTONE	6033 (-3507)
STE. GENEVIEVE	6090 (-3564)
ST. LOUIS	6175 (-3649)
"A" Zone	6240 (-3714)

6240-60 Limestone, white, chalky to tan crystalline, and oolitic, no apparent porosity or staining.

TOTAL DEPTH 6340 (Rotary) 6334 (E. Log)

Drill Stem Test #1

6190-6340 10 min. pre-flow, fair blow, shut in 30 mins. Open 2 hrs., fair, steady blow, no gas to surface, shut in 1 hour. Recovered 680 feet of fluid including 30 feet of mud, 470 feet of gas cut mud, and 180 feet of oil and gas cut mud, no water. IFP 187#, FFP 288#, IBHP 2288#/30 mins., FBHP 2102#/60 mins.

Wireline Test #1

6035-37½ Initial pressure less than explosion pressure in 10 mins., flow pressure less than 100#. Tool open 1 hour, shut in 15 mins. Recovered .32 cu.ft. of gas, no oil and no water.

Wireline Test #2

Attempted 3112-14½, failed, no packer seat. (Council Grove)

Conclusions and Recommendations

The subject well when compared structurally to production ½ mile and more eastward compares favorably on the St. Louis "A" Zone being flat to not more than 12 feet lower than production. The well is 12 feet lower on the "A" Zone than your #1 Fox about 1 mile Southeast. At the top of the Morrow the subject well is over 40 feet higher than your #1 Fox, but due to thickening in the Chester and Ste. Genevieve this relative structural advantage is lost at the St. Louis.

On the basis of sample examination the St. Louis reservoir is not encouraging and even on electric log calculations porosities appear low. However due to the favorable structural position and the "show of oil" in the drill stem test it seemed advisable to case the hole to test the St. Louis. Casing was landed at (4328') 6328 ? Recommended perforations should cover the zone 6246-60.

Yours very truly,

T. G. Wright

TGW:gld

BIT RECORD

Reed	YT3J	0-1361
Reed	YT3J	1361-2215
Reed	YS1	2215-2524
Reed	YM	2524-2804
Reed	YMG	2804-3094
Reed	YM	3094-3452
Reed	YS1J	3452-3980
Reed	YS1J	3980-4424
Reed	YM	4424-4679
Reed	YMG	4679-4888
Reed	YMG	4888-5158
Reed	YMG	5158-5355
Reed	YMG	5355-5555
Reed	YMG	5555-5800
Reed	YHG	5800-5998
Reed	YMG	5988-6106
Reed	YMG	6106-6219
Reed	YHG	6219-6294
Reed	YHG	6294-6340 TD

Drilling Progress

12-1	Spud
12-2	1000
12-3	1361
12-4	2375
12-5	2794
12-6	3230
12-7	3915
12-8	4500
12-9	4679
12-10	5100
12-11	5355
12-12	5595
12-13	5927
12-14	6122
12-15	6294
12-16	6340 TD Logging
12-17	6340 Testing
12-18	Running Casing 6340 TD

Log Analysis

SCHLUMBERGER

COMPANY	WELL
Wm GRUENERWALD & ASSOC	ADAMS #1

FIELD	COUNTY	Rw	Vm OR ρ_g
SO. PLAINS	MEADE		

PLOT NO.	DEPTH	LOG DATA: ρ ~~OR ρ_g~~	LOG DATA: m	LOG DATA: RESISTIVITY (R_t)	LOG DATA: RESISTIVITY R_w (OR R_{FORMT})	FORMATION OR RESERVOIR DATA: POROSITY (ϕ)	FORMATION OR RESERVOIR DATA: WATER SATURATION (S_w)	REMARKS
C. G.	3097-00	2.71	2.0	7	.035	13	52	
"	3232-36	"	"	7	"	12	56	
"	3112-22	"	2.8	13→12	"	32-25	25→34	
LANS	4328-32	"	2.0	3→5	.04	18→14	59	
~~[illegible]~~ K.C.	5048-52	"	"	2.9	"	20	55	
MORR.	5728-31	2.65 ~~[illegible]~~	H	50	.035	9-7	41	
"	5808-12	"	"	9→6	"	7→9	90→100	
CHEST	6034-41	"	"	28-22	"	11-13	28-31	
"	41-44	"	"	33	"	5	64	
"	6075-78	"	"	7	"	9	76	
ST. LOU.	6246-50	2.71	2.0	45-30	"	4-5	58-69	
"	50-60	"	"	30-25	"	4-5	69-77	

"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 interpretation 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	SCHLUMBERGER LOCATION	ENGINEER
DEC. 16, 1966	LIBERAL, KANS.	D.W. PATTERSON

SWSC-1229-A

SCHLUMBERGER WELL SURVEYING CORP.

INITIAL FIELD REPORT

on results from the

Wire Line Formation Tester

COMPANY WM. GRUENERWALD WELL NAME ADAMS #1

LOCATION SEC 4 -35 S - 30 W COUNTY MEADE STATE KAN

Test Depth 6035-37 1/2 Formation CHESTER Test No. 1 Date 12-17-66

PRESSURES AND TIMES

Maximum Initial Shut In Pressure LEXPLOSION In 10 Min. Sec. Total Initial Shut In Time 10 Min

Tool Open 60 Min. Sampling Pressure 2100 PSI Hydrostatic Pressure 3020

Maximum Final Shut In Pressure 2100 In 15 Min. Sec. Total Final Shut In Time 15 Min

Recoveries

	SEC	12 GAL
Gas	0	1.47 cu. ft.
Dist.	0	0 c.c.
Oil	0	0 c.c.
Wtr.	0	0 c.c.
Mud	0	0 c.c.
Sand	0	0 c.c.

% Wtr. Cut

	SEC	12 GAL
Rrf	—	— @ 100° F
Rmf	.53	@ 100° F
% Cut with Formation Wtr.	—	—
Rw Value Used	.044	C 100° F

Shot Gas	1.15 cu. ft
Solution Gas	0 cu. ft
Free Gas	.32 cu. ft
Total Gas	1.47 cu. ft

GOR. GRAVITY API. C 60° F

TYPE TOOL SAMPLE CHAMBER 12 GAL/SEC SHOT 1 1/8" SC CHOKE NONE

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 INTERPRETATION AND SHALL NOT BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COST, DAMAGE OR EXPENSES THAT MAY BE INCURRED OR SUSTAINED RESULTING FROM THIS OR ANY OTHER INTERPRETATION.

3785 c. c. Equals One Gallon

Water Saturation 28 %

Log Analysis Results VERY LOW PERMEABILITY AT THIS INTERVAL

Porosity 13 %

Signed Emil Lynch SWSC