15-151-20077

36-27s-13w

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WICHITA, KANSAS 67202

July 15, 1968

GEOLOGICAL WELL REPORT
William Gruenerwald & Associates, Inc.
#6 Gibbons, C SE NW Section
36-T.27S.-R.13W, Rolingson
Pool, Pratt County, Kansas.
Contractor: Garvey Drilling Co.
Spud: June 26, 1968
13 3/8" Surface casing @ 180'
5 1/2" Production casing @ 4387'
Rotary Completion: July 9, 1968
Total Depth 4387' (Rotary & E. Log)

William 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, and a description of the diamond cores taken. No drill stem tests were made. The hole was logged electrically before being cased, which data is included herein.

I arrived at the location at a depth of 4187' and witnessed the drilling from that depth to T.D. 4387'. Samples were examined from 3700 - 4387' T.D.

Enclosed herewith is a copy of the plotted drilling time which also includes lithology, tops, and other pertinent data.

ELECTRIC LOG TOPS

ELEVATION:	1870	(Est.)
HEEBNER SHALE:	3548	(-1678)
BROWN LIME	3729	(-1859)

LANSING-KANSAS CITY	3751	(-1881)
3912-16 Limestone, tank to buff, finely oolicastic, fair, porosity, no show.		
BASE OF KANSAS CITY	4093	(-2223)
MISSISSIPPIAN CHERT	4187	(-2317)
VIOLA CHERT	4242	(-2372)
SIMPSON	4300	(-2430)
Dolomite	4314	(-2444)
Sand	4330	(-2460)
(See core description below for lithology)		
TOTAL DEPTH:	4387'	(Rotary & E. Log)

Conclusions and Recommendations

At the top of the Simpson Sand, the subject well is 2 feet lower than the #2 Gibbons one location south which is considered slightly lower than normal. The Simpson section was cored and visually, electrically, and under core analysis the sand body at the #6 does no appear to carry as good porosities as in the wells to the south on the Gibbons lease. The sand is well developed however and carried good staining and fracturing. Of particular note is a coarse cavernous zone 4315 - 17 in the dolomite section which is not, due to its cavernous nature, so apparent on the electric log. This zone should be remembered and considered in future testing although the recommendation at this time is to test the Simpson Sand 4332 -40, which is considered to be of primary interest.

It was recommended that the hole be cased to test the Simpson Sand.

Yours very truly,

T. G. Wright

TGW:wlr

DIAMOND CORE #1

4275-93 Recovery 18'/18'

4275-84	Dolomitic Limestone, tan to light gray, hard, finely crystalline siliceous zones and massive chert concretions tan to gray vitreous, thin light gray-green compact shale seams.
4284-86	Limestone - chert breccia with gray green shale fill, some coarsely crystalline, clear calcite veining.
4286-90	Limestone, pinkish to gray, coarsely crystalline, brecciatted with gray green shale zones of very coarsely crystalline calcite veining, some dead oil in veins and fractures.
4290-93	Limestone, coarsely crystalline, pinkish.

DIAMOND CORE #2

4293-4343 Recovery 50'/50'

4293-94	Limestone, tan to pinkish, coarsely crystalline
4294-95	Limestone, buff, coarsely crystalline
4295-96	Limestone, buff to tan coarsely crystalline, included coarse sand grains.
4296-97	Limestone as above, thin pale green shale inclusions
4297-99	Limestone buff dense very sandy, medium, rounded grains
4299-4300	Bright green shale, partly fractured with fine sand in fractures
4300-10	shale olive green, compact, hard, pyritic streaks
4310-11	Dolomite, finely crystalline, hard, somewhat sucrosic with inclusions of asphaltic residue, streaks sandy and green shale partings
4311-12	Dolomite, greenish, finely crystalline to sucrosic, poor porosity, streaked oil staining, some dark oil bleeding
4312-13	As above with thin bright green shale partings
4313-14	Limestone, tan to greenish finely crystalline, thin green shale
4314-15	Dolomite tan, finely crystalline, thin white sandstone lenses, some dark residue included
4315-16	Dolomite, tan to buff, hard, finely crystalline, sandy streaks non-porous, except for several large caverns lined with dolomite rhombs, believed to carry live oil.

4316-17	Dark brown very dense limestone
4317-18	Dark brown fine crystalline dolomite
4318-19	Dolomite, buff, finely crystalline, hard and tight
4319-20	Limestone, brown, dense with inclusions of brown crystalline dolomite.
4320-21	Sandstone, hard, tight fine grained with thin dark gray shale partings
4321-23	Sandstone, white, fine grained, tight, almost filled with asphaltic residue.
4323-25	Sandstone as above with black carbonaceous shale interbedded. Shale has brown streak like Chattanooga shale.
4325-26	Fine asphaltic sandstone as above
4326-30	Sandstone medium to fine grained, fairly friable, rather dirty, poor porosity, oil stained little bleeding, very shaley in bottom foot
4330-32	Sandstone, white, fine, compact, vertically fractured, streaks of live oil stain and bleeding. Fractures carrying live oil.
4332-41	Sandstone, medium fine, hard, compact, clean, completely oil stained, fractured vertically. Appears to have low porosity, bleeding oil in spots. Appears to improve porosity 4336-40
4341-42	Sandstone as above except white streaks in sandstone
4342-43	Dolomitic streak carrying large vugs, black residual oil in vugs. Perhaps a water zone.

DRILLING PROGRESS

6-26	Spud
6-28	1985
6-29	2665
6-30	3645
7-1	Lost Cir. 2937
7-2	3850
7-3	3962
7-4	4160
7-5	4275
7-6	4293 coring
7-7	4334
7-8	4387 T.D.
7-9	4387 T.D. WOC (5½" 4387')

BIT RECORD

Hughes	OSC3J	180-1840
Hughes	C1C	1840-2293
Hughes	C1C	2293-2903
Hughes	C1C	2903-3295
Hughes	C1C	3295-3754
Hughes	C1C	3754-3962
Hughes	OWV	3962-4160
Hughes	W7	4160-4275
Hughes	W_7R2J	4275-4387 T.D.

Log Analysis

SCHLUMBERGER

COMPANY	WELL
WM. GRUENERWALD AND ASSOC.	GIBBONS #6
FIELD	**COUNTY**
ROLINGSON	PRATT

Rw: See Data

Vm OR P_g: →

PLOT NO.	DEPTH	LOG DATA: ~~ΔT OR P_B~~	LOG DATA: RESISTIVITY ~~(RT)~~ R_W	LOG DATA: RESISTIVITY ~~(R_{xo})~~ R_t	FORMATION OR RESERVOIR DATA: POROSITY (φ)	FORMATION OR RESERVOIR DATA: WATER SATURATION (S_W)	REMARKS
	3913-16	2.0	.05	2.71	17	35	POROSITY FROM DENSITY
	16-18				13	50	
	4194-97				10	42	
	47-48				11	45	
	48-51				13	40	
	51-53				10	60	
	53-55				10	65	
	55-58				12	75	
	4290-92				13	65	
	92-94				13	60	
	94-96				17	50	
	96-4300				13	50	
	4297-52				13	75	
	52-54				18	65	
	54-58				13	80	
	58-62				17	60	
	62-66				21	50	
	66-69	↓	↓	↓	14	65	
	4324-26	H	.06		10	62	POROSITY FROM DENSITY-NEUTRON CROSSPLOT
	26-28				11	67	
	28-30				10	95	
	30-32				8	95	
	32-35				8	70	
	35-39				10	70	
	39-42				8	80	
	42-49	↓	↓		6	95	↓

DATE	SCHLUMBERGER LOCATION	ENGINEER
7-8-68	GREAT BEND	JIM HALL

CORE ANALYSIS RESULTS

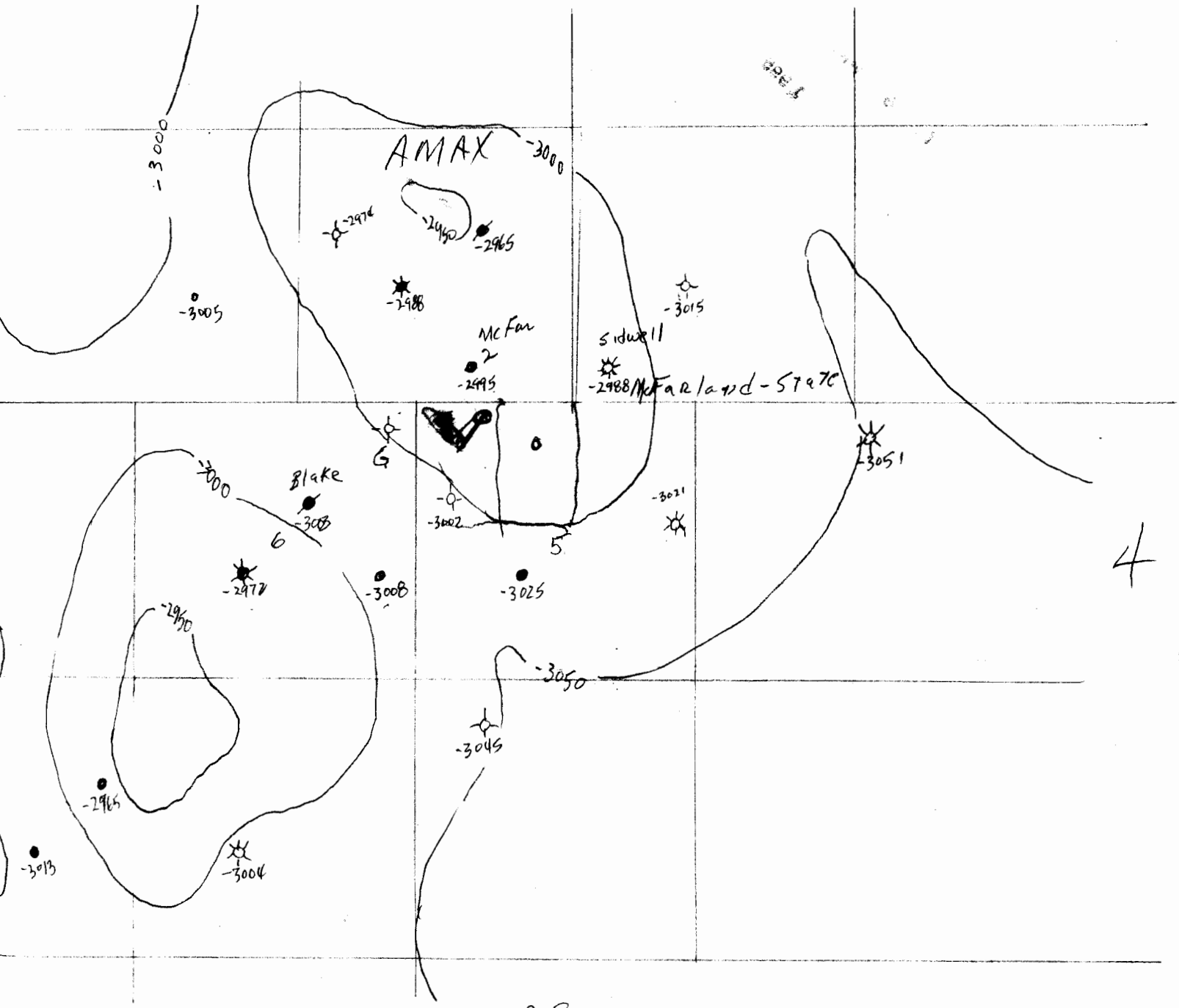
Company WILLIAM GRUENERWALD AND ASSOCIATES Formation SIMPSON File CP-1-6679
Well GIBBONS NO. 6 Core Type DIAMOND Date Report 7-8-68
Field ROLINGSON Drilling Fluid WATER BASE MUD Analysts BOYLE
County PRATT State KANSAS Elev. 1870'KB Location C SE NW SECTION 36-27S-13W

Lithological Abbreviations

SAND-SD, SHALE-SH, LIME-LM, DOLOMITE-DOL, CHERT-CH, GYPSUM-GYP, ANHYDRITE-ANHY, CONGLOMERATE-CONG, FOSSILIFEROUS-FOSS, SANDY-SDY, SHALY-SHY, LIMY-LMY, FINE-FN, MEDIUM-MED, COARSE-CSE, CRYSTALLINE-XLN, GRAIN-GRN, GRANULAR-GRNL, BROWN-BRN, GRAY-GY, VUGGY-VGY, FRACTURED-FRAC, LAMINATION-LAM, STYLOLITIC-STY, SLIGHTLY-SL/, VERY-V/, WITH-W/

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYS PERM. MAX.	PERM. 90°	POROSITY PER CENT	RESIDUAL SATURATION PER CENT PORE OIL	TOTAL WATER	SAMPLE DESCRIPTION AND REMARKS
	CONVENTIONAL ANALYSIS						
	4293-4314						Not submitted
1	4314-15	0.3		5.3	Tr	71.2	Dol, vgy
2	15-16	<0.1		5.0	5.6	66.6	Dol, vgy
	16-26						Not submitted
3	26-27	4.5		13.2	9.9	34.7	Sd, silty
4	27-28	1.0		12.1	8.0	50.0	Sd, shy
5	28-29	0.2		8.0	12.7	66.9	Sd, shy
6	29-30	0.6		10.1	8.9	48.8	Sd, shy
7	30-31	3.7		10.8	13.5	31.5	Sd, dol
8	31-32	0.8		8.0	12.5	31.2	Sd, sl/dol
9	32-33	1.3		10.6	16.0	29.7	Sd, sl/dol
10	33-34	14		7.7	16.2	16.2	Sd, sl/dol
11	34-35	11		11.7	14.2	20.4	Sd, sl/dol
12	35-36	16		10.1	14.6	26.7	Sd, sl/dol
13	36-37	5.9		9.4	15.7	13.1	Sd, vert frac, sl/dol
14	37-38	18		9.7	20.3	20.3	Sd, sl/dol
15	38-39	3.9		9.8	17.3	12.4	Sd, sl/dol
16	39-40	12		7.9	18.9	22.0	Sd, sl/dol
17	40-41	0.8		11.6	12.8	25.6	Sd, sl/shy, sl/dol
18	41-42	2.0		10.9	15.5	22.2	Sd, sl/dol
19	4342-43	0.1		6.1	16.6	29.0	Sd, sl/dol, qtz

THIS IS A PRELIMINARY REPORT.



23

Marmaton Str.

5548
23-93
30 05