Gulf Energy & Minerals Co.-U.S.
Rose Parke #1-13
Trego County, Kansas

13-14-25W

WILDCAT WELL REPORT

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December, 1976

Approved: _____ _____
District Geologist Date

_____ _____
Regional Geologist Date

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WILDCAT WELL REPORT

PROSPECT NAME:	Hackberry Creek Prospect
WELL NAME:	Gulf Energy & Minerals Co.-U.S. Rose Parke #1-13
SURFACE LOCATION:	NW NE S13-14S-25W Trego County, Kansas 15 miles southwest of Wakeeny, Kansas
ELEVATION:	2266 K.B. 2256 G.L.
SPUD DATE:	10-29-76
COMPLETION DATE:	11-9-76
TD:	4260' (Driller) 4259' (Logger)
INITIAL PRODUCTION:	D&A
CONTRACTOR:	Rains & Williamson Oil Company, Inc. Rig #2
GULF INTEREST:	100%
AFE NO:	84077

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GEOLOGIC SECTION

Reasons for Drilling

This Prospect was based on subsurface geological isopach and structural mapping which indicated the possibility of a structurally high anomally. Seismic data in the area, purchased from Central Exploration Company, Inc., and the above geologic data were used to select the drillsite. The relatively shallow total depth (4,500') and the availability of nearby pipelines were favorable economic factors which enhanced the prospect.

The closest offset wells were:

Okmar #1 Kline D&A TD 4305'	NE NE S19-14S-24W
Bennet Roberts #1 Kline D&A TD 4515'	NW SE S19-14S-24W
Sinclair #1 Peter Parks D&A TD 4515'	SE NW S18-14S-24W

Legal clearance was obtained and AFE No. 84077 was approved as part of the 1976 Drilling Program. Drilling commenced on 10-29-76 and the well was completed on 11-9-76. The well reached a final depth of 4259' (Miss) and was plugged and abandoned on 10-29-76 due to unfavorable results of sample shows, log calculations,and drill stem tests.

Structural Summary

This prospect was located on the western flank of the Central Kansas Uplift. Accumulation of hydrocarbons in this area appears to be associated with small structural

closures. Structures with more than 20 feet of closure are considered to be legitimate drillable features. Geologic structure contour mapping on top of the Lansing Formation (Figure 1) showed the possibility of a high structure which was similiar to producing features located to the southwest and northeast of this drillsite.

Stratigraphic Summary

The major stratigraphic objectives were limestone reserviors in the Topeka Limestone (Shawnee Group, Penn); Lansing - Kansas City Groups (Penn); Marmaton Group (Penn); and the Mississippian.

Hydrocarbon Detection Results

Cuttings: Well cuttings were taken at 10 foot intervals. At 4125' (Ft. Scott Fm, Marmaton Group, Penn.) a slight show of oil with fluorescence and slow cut was encountered. Another slight show of dead oil staining was found at 4240' (Miss.). No other shows were seen in the sample cuttings and therefore strong evidence of hydrocarbons was lacking.

Portable Gas Detector: The gas detector, supplied by Universal Well Logging Inc., indicated two small background gas peaks at 3493' and 3606'. These peaks were not correlative with oil shows and were interpreted to be "shale gas" (Well File Enclosure 1).

Drill Stem Tests:

All drill stem tests were done by Halliburton (Table 1 and Well File Enclosure 2). DST #1 tested the interval 3624'-3931' (Ln-Kc) and was opened for a total of 3 hours. It recovered 3130 feet of muddy saltwater with no shows. DST #2

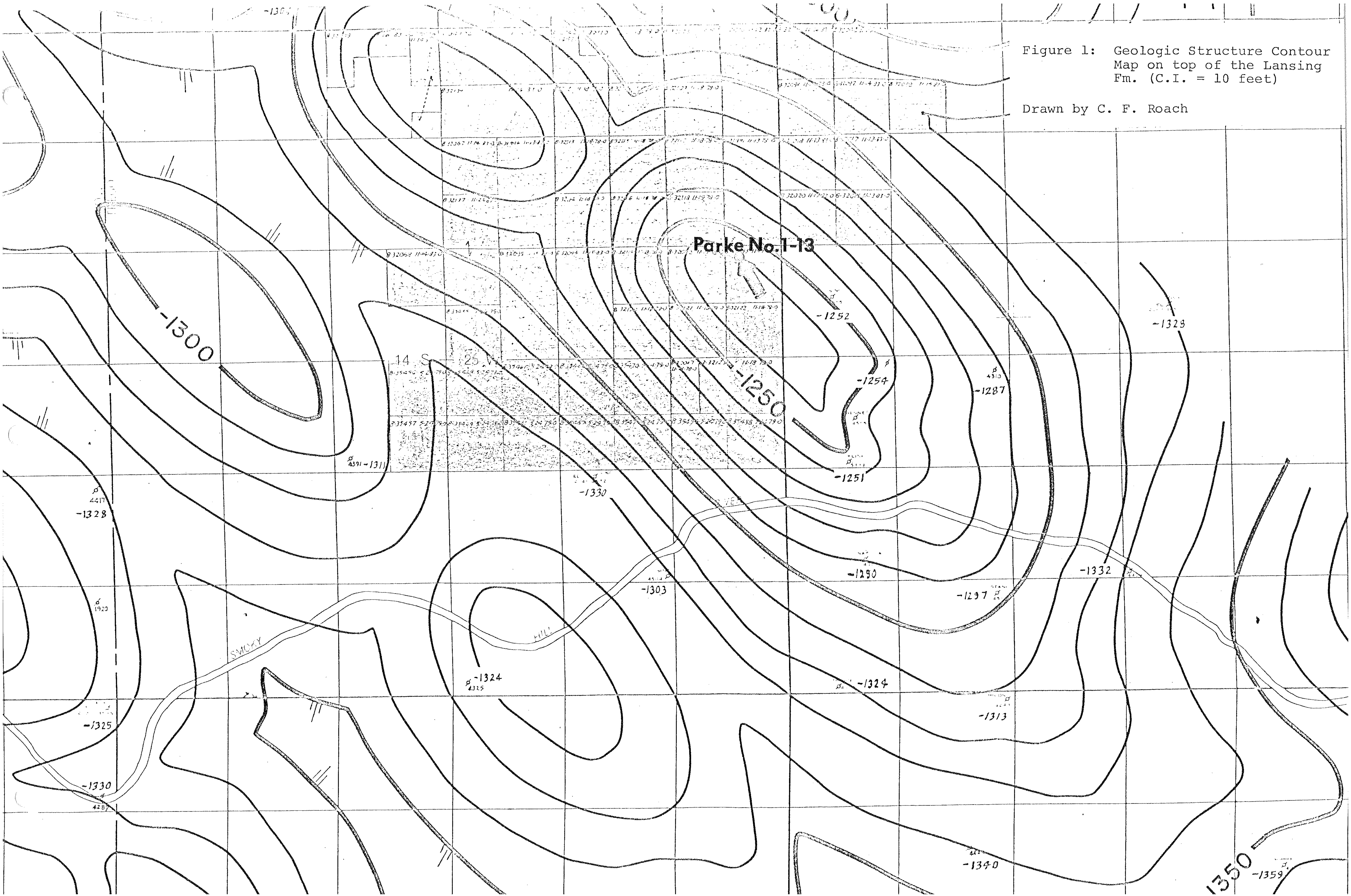

Figure 1: Geologic Structure Contour Map on top of the Lansing Fm. (C.I. = 10 feet)

Drawn by C. F. Roach

Table 1

D.S.T. Results

D.S.T.#	Test Interval	Procedure	Results
1.	3624'-3931' Lansing-Kansas City	Op 60 min. SI 60 min. Op 120 min. SI 120 min.	IHIP 1966 IFP 515-1397 ISIP 1441 FFP 1392-1443 FSIP 1447 FHP 1896 Recovered 3130' muddy saltwater. No shows.
2.	4110'-4156' Ft. Scott	Op 30 min. SI 60 min. Op 45 min. SI 60 min.	IHP 2109 IFP 43-43 ISIP 599 FFP 51-45 FSIP 165 FHP 2094 Recovered 10' of mud with a few specks of oil.
3.	4486'-4260' Miss.	Op 30 min. SI 60 min. Op 60 min. SI 60 min.	IHP 2121 IFP 67-237 ISIP 1296 FFP 250-443 FSIP 1269 FHP 2116 Recovered 960' muddy saltwater. No shows.

tested the interval 4110'-4156' (Ft. Scott), was opened for 1¼ hours and recovered 10 feet of mud with a few specks of oil. The third DST tested the interval 4186'-4260' (Miss.), was opened for 1½ hours, and recovered 960 feet of saltwater with no shows.

Logs:

Logging was done on 11-7-76 by Schlumberger from 634' to 4257'. A simultaneous Dual Laterlog (Gamma Ray, SP, Caliper, shallow and deep Resistivity, Microspherical Focus) and a simultaneous compensated Neutron-Formation Density Log (Caliper, Gamma Ray, compensated Neutron Porosity, Bulk Density, Formation Factor) were run (Well File Enclosures 3 & 4). Tops were picked (Table 2) and Log calculations of promising zones were made (Table 3).

Table 2

FORMATION TOPS FROM LOGS

Age	Unit	Depth	Subsea
Perm	Stone Corral Fm.	1756'	+ 510'
Perm	Hutchinson Salt	2102'	+ 164'
Penn	Topeka L.S.	3338'	-1072'
Penn	Heebner Sh	3588'	-1322'
Penn	Toronto L.S.	3606'	-1340'
Penn	Lansing Gr.	3626'	-1360'
Penn	Base Kansas City Gr.	3910'	-1644'
Penn	Pawnee L.S.	4050'	-1784'
Penn	Fort Scott L.S.	4116	-1850'
Penn	Cherokee Gr.	4142'	-1876'
Penn	Basal Conglomerate	4170'	-1904'
Miss	Mississippian L.S.	4210'	-1944'

K.B. Elev. = 2266'

Table 3 - Log Calculations

Depth	Rw	Rmf	Rxo	Rt	SW Ratio	Lith	ϕN	ϕd	Por. %	H_2O %
1810-18	.04	.112	6.8	5	63	Ss.	9	18	14	60
1818-22	.04	.112	4.2	4	55	Ss.	12	17	14	66
2874-78	.055	.10	3-10	2.5-6	90	Ls-Dol	25	22	23.5	40-65
2878-82	"	"	3	1.8	100	Ls-Dol	22	19	20.5	84
3370-76	"	.095	3.5	2.2	95	Ls-Dol	29	25	27	59
3382-84	"	"	9.0	4.0	100	Ls-Dol	16	13	14	46
3386-90	"	"	5.0	3.0	100	Ls-Dol	20	19	19	65
3390-92	"	"	4.5	2.5	100	Ls-Dol	21	15	18	80
3734-36	.057	.09	15	15	78	Ls-Dol	19	19	19	32
3736-38	"	"	12	12	78	Ls-Dol	27	22	24	29
3738-40	"	"	10	8.5	85	Ls-Dol	19	17	18	46
3740-44	"	"	11-20	9-15	85	Ls-Dol	18	18	18	35-42
3750-56	"	"	9	6	100	Ls-Dol	16	14	15	66
4054-96	.08			4-5		Ls-Dol	15	9	12.5	100
4054-96	.04			4-5		Ls-Dol	15	9	12.5	73
4187-92	.10			20-25		Ls-Dol	13	8	10	68
4192-94	.10			18		Ls-Dol	21	11	16	50
4194-97	.10			15		Dol.	22	9	16	53

Conclusions and Recommendations

All possible pay zones were evaluated to be non-commercial by the portable gas detector, cuttings, logs and their calculations, and D.S.T.'s. This well was structurally lower than any drilled in the immediate area to date and no evidence for the occurrence of economic hydrocarbons was found. All parties concerned recommended that the hole be plugged.

NON-GEOLOGIC SECTION

Drilling Time

A drilling time log with sample descriptions is enclosed with the well file (Well File Enclosure 5).

Drilling Mud

A salt-gel base mud was used and supplied by Total Mud Service Company. The following mud program was adhered to:

0' - 600'	Spud Mud
600' -4000'	Gel-Lime Slurry
4000' -4257'	Gel-Lime Slurry with water loss of 15 cc or less.

Casing Program - As Run

Surface: 0' - 648' of 8-5/8" OD, 24#, K-55, ST&C in 12 1/4" hole cmt. w/Halliburton w/250 sx. 60-40 Pozmix, Class "A" cmt. Tailed w/100 sx. Class "A" cmt.

Plugging Program

The following plugs were set by Halliburton on 11-9-76:

Surface - 10 sx. plug
206' - 300' w/0 sx. cmt.
322' - 650' w/70 sx. cmt.

Estimated Expeditures

The estimated total expeditures carried on the daily drill report on 1-9-76 was $63,181.