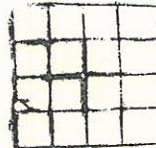


WELL LOG BUREAU - KANSAS GEOLOGICAL SOCIETY.  
412 Union National Bank Bldg, Wichita, Kansas.

Empire Oil & Refining Co.  
Crawford No. 5

SEC. 2 T. 14 R. 15W.  
SW NW SW  
996' S. 330' E. w $\frac{1}{2}$  cor.  
County Russell.

Total Depth. 3297  
Comm. 5-11-36 Comp. 7-28-36  
Shot or Treated.  
Contractor. Horman Trapp.  
Issued. 11-14-36



CASING.

20" 19'9"  
15 $\frac{1}{2}$ " 418' UR 582' Pulled  
12 $\frac{1}{2}$ " 895'  
10" 2050' UR 2492' Pulled  
8 $\frac{5}{8}$ " 3039' SLM Cem. Pulled 2823-8"  
7" 3270' UR to 3290 SLM

Elevation.

Production. Pot. 1098 B.  
No. wtr

Figures Indicate Bottom of Formations.

cellar	10	shale grey	1985	shale	3105
clay yellow	20	lime	2000	lime	3135
slate blue	150	shale grey	2020	P.B. with cement to	3082
slate grey	160	lime	2075	lime	3165
shale grey	185	red rock	2080	shale blue	3170
sand grey	200	lime	2090	lime	3208
shale grey	220	shale grey	2100	red rock	3213
shale white	230	lime	2135	lime	3235
sand grey	250	red rock	2155	lime	3240
red rock	270	lime	2170	shale	3265
sand grey	305	red rock	2180	lime	3269
sand	320	lime	2185	shale blue	3270
slate blue	360	shale grey	2200	lime	3273
lime hole caving	370	red rock	2220	slate blue	3276
shale blue	395	lime	2230	lime	3286
slate blue	410	red rock	2245	lime and shale	3288
sand	418	shale grey	2250	lime	3292
slate blue	450	lime	2270	Gorham sand S.O.	3292
sand	455	shale	2275	SLM corr. 3292 equals	3297
slate grey	470	shale and shells	2335	sand	3297
sand	520	lime	2345	filled up 1900' in 3Hrs.	
red rock	565	shale	2355	40 Min.	
sand	577	shells and shale	2415		
red rock	889	lime	2430	Gorham sand 3292-3297	
lime	935	shale	2445		
red rock	1080	lime	2450	2957 fill up at T.D.	
shale blue	1120	shale	2465		
red rock	1180	shale blue	2488	<u>WATER RECORD.</u>	
shale blue	1260	lime	2515		
slate blue	1270	shale and shells	2535	4 BWP/HR 185-200	
salt	1525	shale	2540	12 BW 230-250	
shale and shells	1575	lime	2550	HFV 275'	
shale	1625	shale blue	2560	Too much to bail 460-55	
lime	1635	shale	2570	2 BW 695	
shells and shale	1665	lime	2590	6 BW 750'	
red rock	1690	lime and shale	2675	water 2970'	
lime	1695	shale and shells	2715		
shale blue	1700	lime	2740		
lime	1715	shale	2748		
shale brown	1730	show oil 2815			
lime	1740	lime	2975		
shale grey	1750	shale	2980		
lime	1770	lime	2984		
shale grey	1775	shale	2995		
red rock	1800	lime	3010		
shale grey	1815	red rock	3020		
lime	1840	shale blue	3030		
shale grey	1850	lime Oswald	3033		
lime	1925	lime	3058		
shale blue	1930	(S.S.O. 3042-45)			
red rock	1945	SLM corr. 3058 equals	3064		
lime	1975	Oswald lime	3082		
		lime	3100		