

**GEOLOGICAL DEPARTMENT  
SOUTHWESTERN GAS COMPANY**

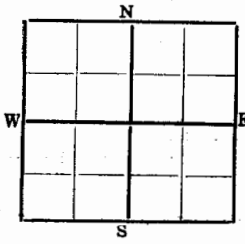
INDEPENDENCE, KANSAS

**LOG OF WELL**

Company C. E. Roth Farm Hanna Well No. #1  
 State ..... County ..... S. 13 T. 29 R. 8  
 Commenced Drilling ..... Completed ..... Elev. 8  
 Shot ..... Qts. from ..... to ..... I. P. ..... R. P. ....  
 Casing: ..... Casing: ..... Casing: .....  
 Casing: ..... Casing: ..... Casing: .....  
 Tubing ..... Caged at ..... Packer at .....  
 Contractor .....

lime rock	20	slate	1050
slate	30	little water	
red rock	40	lime	1060
lime	50	lime	1065
slate	110	sandy lime	1080
lime	140	slate	1110
slate	150	lime	1115
lime	170	slate	1120
slate	190	lime	1130
lime	205	slate	1135
slate	225	lime	1155
lime	260	slate	1175
slate	290	red rock	1187
lime	330	red rock	1210
slate	345	slate	1340
lime	400	lime	1345
slate	410	slate	1365-water
lime	430	sandy lime	1385
slate	455	slate	1480
lime	510	lime	1515
slate	525	slate	1525
lime	560	sandy slate	1545
slate	580	lime	1565
lime	635	slate	1585
slate	650	sandy slate	1620
lime	705	lime	1640
sandy slate	740	water lime	1715
lime	810	sandy slate	1735
slate	815	lime	1745
lime sandy	855	sandy slate	1810
slate	865	lime	1820
lime	880	slate	1840
red rock	890	lime	1845
lime	910	hole caving at 900'	
slate	915	slate	1875
lime	920	lime	1900
slate	935	lime	1915
lime	960	slate	2005
slate	970		

(over)



LOCATION

.....Ft. from North Line of qr. sec.

.....Ft. from South Line of qr. sec.

.....Ft. from East Line of qr. sec.

.....Ft. from West Line of qr. sec.

.....Ft. from North Line of qr. sec.

TEST

Through	Pitot Tube Test of ..... 192.....			..... 192.....
	Used	Mercury	Water	
In Tubing	Reading			Open Gauge Test Shows
In Casing	Vol. Cu. Ft.			.....Lbs.

lime shell	2008	dark lime	2850
sandy lime	2020	water sand	2880
lime	2035	pink lime	2890
shale	2050	brown lime	2895
lime	2058	lime	2930
Porter sand	2088	lime	2940
slate	2100	slate	2948
slate	2115	lime	2953
sand	2120	slate	2970
slate	2130	shell lime	2974
slate	2200	slate	3002
lime	2205	lime	3003
sand	2230	lime	3005
slate	2280	lime	3012
lime	2315	Oil sand	3018-show oil
slate	2328		
lime	2345		
slate	2350		
lime	2360		
slate	2368		
lime	2375		
slate	2425		
lime shell	2428		
broken sand lime	2450		
slate	2460		
slate	2480		
lime shell	2483		
sand	2495		
slate	2505		
pink rock	2525		
slate-	2530		
slate	2545		
pink rock	2555		
slate	2560		
slate	2620		
lime sany	2700		
lime	2800		
lime	2820		
dark sandy lime	2840		