



Frederick #1  
SE/4 SE/4 Section 15-16S-11W  
Barton County, Kansas  
Phillips Petroleum Company, et al

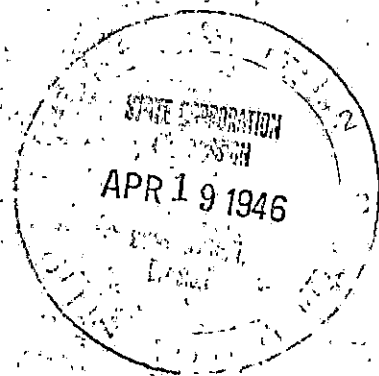
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Commenced: February 10, 1944  
 Completed: March 2, 1944

Surface clay and rock	0	70	Lime	3148	3165
Shale	70	90	Porous or soft lime	3165	3174
Shale and shells	90	130	Lime	3174	3176
Shale and few shells	130	195	Hard lime	3176	3192
Shale and shells	195	250	Lime	3192	3242
Red rock and shale	250	275	Porous or soft lime	3242	3252
Sandy streaks and shells	275	340	Lime	3252	3274
Shale	340	360	Hard lime	3274	3322
Lime and shale	360	377	Lime, chert	3322	3364
Shale and shells	377	435	Sand	3364	3365
Sandy shale	435	470	Conglomerate and chert	3365	3430
Sticky shale	470	515	Lime and chert	3430	3438
Sand	515	540	Arbuckle lime and chert	3438	3470
Anhydrite and red bed	540	600			
Red shale	600	680	TOTAL DEPTH	3470	
Red bed and shale	680	730			
Anhydrite lime	730	770			
Shale and shells	770	805			
Shale, shells and lime	805	980			
Shale and shells	980	1240			
Salt	1240	1410			
Shale and lime	1410	1475			
Shale and shells	1475	1585			
Anhydrite and lime	1585	1645			
Lime and shale	1645	1975			
Broken lime	1975	2060			
Lime	2060	2130			
Shale and lime	2130	2245			
Shale and shells	2245	2300			
Shale and lime shells	2300	2450			
Shale and lime	2450	2490			
Lime	2490	2525			
Lime and shale	2525	2660			
Lime	2660	2690			
Broken lime and shale	2690	2707			
Shale and lime	2707	2735			
Sandy lime	2735	2745			
Lime	2745	2767			
Hard lime	2767	2855			
Lime and shale	2855	2880			
Lime and chert, hard	2880	2920			
Lime	2920	2953			
Shale and lime	2953	3033			
Shale, sticky	3033	3082			
Lime	3082	3142			
Porous lime	3142	3148			

CASING RECORD

10-3/4" Casing set at 331' and cemented with 200 sacks of cement.



STATE OF OKLAHOMA)  
 COUNTY OF TULSA )

15 16 11W  
 110 15

I hereby affirm that the above and foregoing is a true and correct copy of the log of your Frederick Well #1, located in the Southeast Quarter of the Southeast Quarter of Section 15, Township 16 South, Range 11 West, Barton County, Kansas.

HELMERICH & PAYNE, INC.

By *H. H. Guffen*  
 Secretary

Subscribed and sworn to before me, a Notary Public, this 10th day of March, 1944.

*Que Guffen*  
 Notary Public

My commission expires July 22, 1947.