



**Operator:**  
lantha Resources, LLC  
Garnett, KS

**Minckley #1 Inj.**

Anderson Co., KS  
3-23S-19E  
API: 003-26540

<b>Spud Date:</b>	9/22/2016	<b>Surface Bit:</b>	9.875"
<b>Surface Casing:</b>	7.0"	<b>Drill Bit:</b>	5.875"
<b>Surface Length:</b>	22.3'	<b>Longstring:</b>	750.0'
<b>Surface Cement:</b>	6 sx	<b>Longstring Date:</b>	9/23/2016
<b>Longstring:</b>	2 7/8 EUE API		

**Driller's Log**

<b>Top</b>	<b>Bottom</b>	<b>Formation</b>	<b>Comments</b>
0	2	Soil	
2	13	Clay	
13	18	Sand	Hard
18	58	Shale	
58	60	Lime	
60	113	Shale	
113	150	Lime	
150	175	Shale	
175	178	Bl. Shale	
178	189	Lime	
189	216	Shale	
216	276	Lime	
276	282	Bl. Shale	
282	301	Lime	
301	307	Bl. Shale	
307	325	Lime	
325	497	Shale	
497	507	Lime	
507	518	Shale	
518	533	Lime	
533	541	Shale	
541	545	Lime	
545	571	Shale	
571	594	Sandy Shale	

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594	596	Coal	
596	603	Shale	Muddy
603	613	Lime	
613	625	Shale	
625	630	Lime	
630	634	Bl. Shale	
634	645	Shale	
645	678	Lime	
678	682	Shale	
682	685	Shale	
685	690	Bl. Shale	
690	696	Lime	
696	698	Coal	
698	701	Shale	Muddy
701	711	Sand	Good oil show, see below
711	720	Sandy Shale	No show
720	762	Shale	
<b>762</b>		<b>TD</b>	

**Sand Detail**

701-705	Sand w/sandy shale, fair oil saturation, fair odor
705-711	Good sand with good oil saturation, good bleed and odor
711-720	Sandy shale w/some sand, poor saturation in top, no show past 711