



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

**Minckley #1A**

Anderson Co., KS  
3-23S-19E  
API: 003-26536

<b>Spud Date:</b>	9/12/2016	<b>Surface Bit:</b>	9.875"
<b>Surface Casing:</b>	7.0"	<b>Drill Bit:</b>	5.875"
<b>Surface Length:</b>	22.4'	<b>Longstring:</b>	750.4'
<b>Surface Cement:</b>	5 sx	<b>Longstring Date:</b>	9/13/2016
<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	12	Sand Stone	
12	17	Shale	
17	24	Sandy Shale	
24	121	Shale	
121	156	Lime	
156	182	Shale	
182	188	Lime	Shaley
188	196	Lime	
196	220	Shale	
220	292	Lime	
292	297	Shale	
297	330	Lime	
330	370	Shale	
370	381	Sandy Shale	
381	473	Shale	
473	483	Lime	
483	506	Shale	
506	526	Lime	
526	530	Shale	
530	540	Lime	
540	543	Bl. Shale	
543	601	Shale	
601	603	Coal	

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603	613	Shale	
613	617	Lime	
617	631	Shale	
631	634	Lime	
634	635	Coal	
635	653	Shale	
653	668	Lime	
668	677	Shale	
677	692	Lime	
692	696	Bl. Shale	
696	704	Lime	
704	705	Coal	
705	708	Shale	Muddy
708	718	Sand	See below, good oil show
718	720	Shale	w/some sand, poor show
720	762	Shale	
<b>762</b>		<b>TD</b>	

**Sand Detail**

708-712	Dark sand, good free oil, some shale, good bleed
712-715	Good sand, very well saturated with free oil, good odor
715-718	Some shale w/the sand, sand is good quality, good free oil
718-720	Mostly shale, some sand, sand has free oil, weaker odor