



Operator:
lantha Resources, LLC
Garnett, KS

Minckley #4 Inj.

Anderson Co., KS
3-23S-19E
API: 003-26544

Spud Date:	9/28/2016	Surface Bit:	9.875"
Surface Casing:	7.0"	Drill Bit:	5.875"
Surface Length:	22.3'	Longstring:	749.45'
Surface Cement:	6 sx	Longstring Date:	9/30/2016
Longstring:	2 7/8 EUE API		

Driller's Log

Top	Bottom	Formation	Comments
0	2	Soil	
2	12	Clay	
12	15	Shale	
15	59	Sandy Shale	
59	61	Lime	
61	114	Shale	
114	152	Lime	
152	167	Shale	
167	178	Sandy Shale	
178	179	Coal	
179	185	Shale	
185	193	Lime	
193	224	Shale	
224	285	Lime	
285	290	Bl. Shale	
290	297	Shale	
297	311	Lime	
311	316	Bl. Shale	
316	336	Lime	
336	339	Shale	
339	343	Lime	
343	509	Shale	
509	519	Lime	
519	530	Shale	

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530	541	Lime	
541	579	Shale	
579	590	Sand	Grey
590	608	Shale	
608	622	Lime	
622	632	Shale	
632	636	Lime	
636	638	Coal	
638	656	Bl. Shale	
656	664	Lime	
664	684	Shale	
684	688	Lime	
688	699	Bl. Shale	
699	702	Lime	
702	706	Bl. Shale	
706	708	Coal	
708	712	Shale	Muddy
712	720	Sand	Broken, good odor
720	762	Sandy Shale	
762		TD	

Sand Detail

712-714	Sand w/shale, good odor, broken sand, fair show in samples
714-718	Broken sand, quite a bit of shale, fair to good show & odor
718-720	Dark sand w/some shale, less odor, not as much show
720-722	Mostly shale, scattered sand pieces, no odor