

SPUD DATE: 4 Dec 14  
 FINISH DATE: 8 Dec 14  
 LEASE: Harra  
 LEASE OPERATOR: KREO  
 WELL: KR 23  
 API: 15-121-30760  
 SEC: TWP: RNG:  
 COUNTY: Miami  
 DRILLERS NAME: Ronnie Howard  
 RIG #: 1



2394 UTAH ROAD  
 RANTOUL, KS 66079

SURFACE: SIZE BIT 9 7/8 LENGTH 22'6" SIZE 7" CEMENT 5 Bags  
 DRILL BIT SIZE 5 7/8 LENGTH 492.80 SIZE 2 7/8 BAFFLE 31.90  
 TD 642 CORED 422-442

FORMATIONS	THICKNESS	FROM	TO	FORMATION	THICKNESS	FROM	TO
Clay	15	0	15	Lime	8	462	470
Shale	57	15	72	Shale	2	470	472
Lime	20	72	92	Coal	4	472	476
Shale	10	92	102	Shale	5	476	481
Coal	2	102	104	Lime	5	481	486
Shale	12	104	116	Shale	16	486	502
Lime	6	116	122	Lime	4	502	506
Shale	29	122	151	Shale	4	506	510
Lime	14	151	165	Coal	8	510	518
Shale	13	165	178	Lime	4	518	522
Lime	26	178	204	Shale	20	522	542
Coal	2	204	206	Lime	5	542	547
Shale	4	206	210	Shale	17	547	564
Lime	22	210	232	Coal	4	564	568
Coal	3	232	235	Shale	40	568	608
Lime	18	235	253	Broken Sand <sup>80% No show</sup>	30	608	638
Coal	2	253	255	Coal	2	638	640
Shale	125	255	380	Shale TD	2	640	642
Coal	2	380	382				
Shale	3	382	385				
Red Sec	4	385	389				
Shale	17	389	406				
Limey Sand <sup>No show</sup>	16	406	422				
oil Sand	3	422	425				
Lime	1	425	426				
Limey Sand	1	426	427				
oil Sand	2	427	429				
Broken Sand	5	429	434				
Shale	14	434	448				
Lime	7	448	455				
Shale	7	455	462				

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