

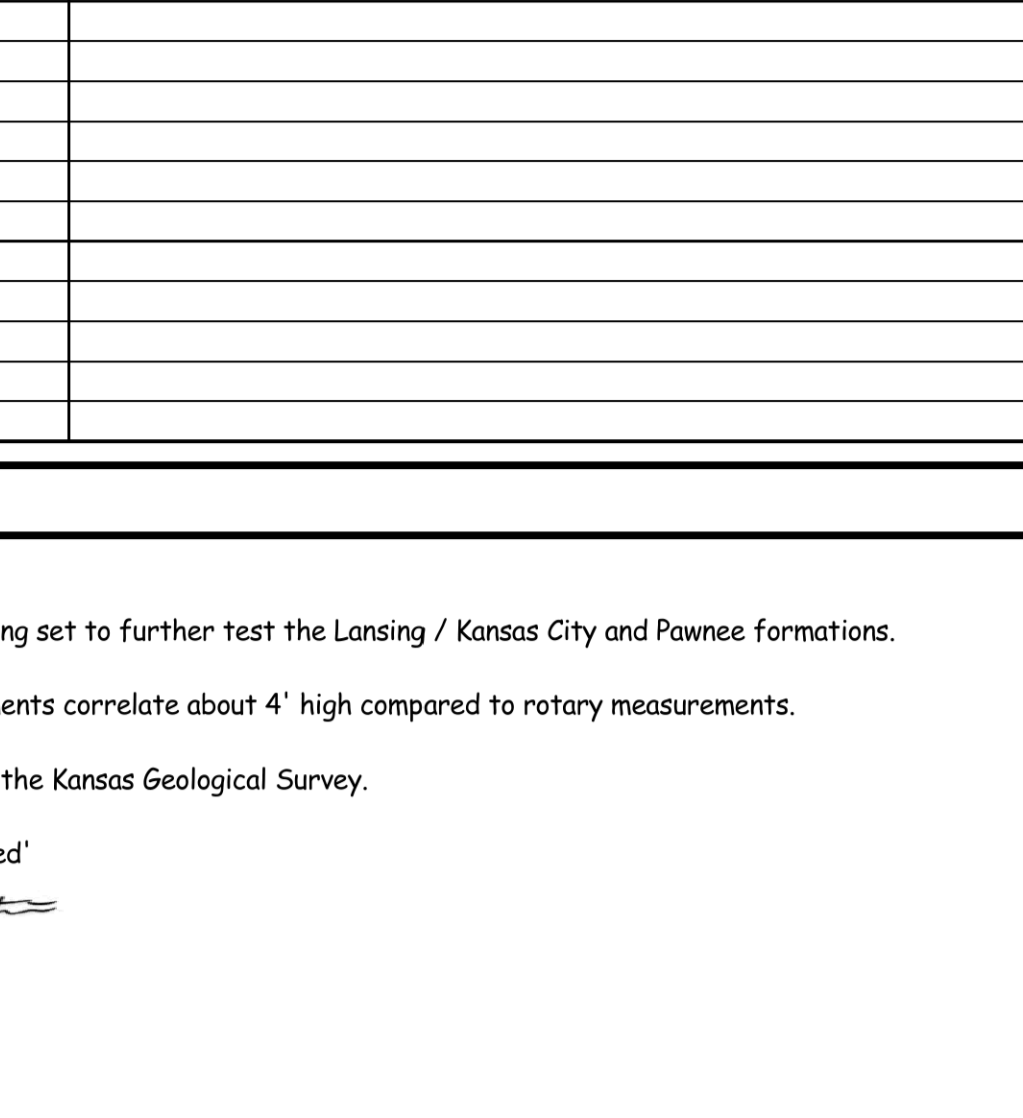
# Jeff Christian

PETROLEUM GEOLOGIST  
Wichita, Kansas

## GEOLOGISTS' REPORT

DRILLING TIME AND SAMPLE LOG

OPERATOR <b>MURKIN DRILLING COMPANY</b>		DRILLING TIME AND SAMPLE LOG	
LEASER <b>CULWELL, C. # 1-10</b>		ELEVATIONS <b>KB 3150'</b> <b>GL 3140'</b>	
LOCATION <b>2190' FSL &amp; 1690' FWL</b>		MISCELLANEOUS	
SEC. <b>10</b>	TWP. <b>1 S</b>	RNG. <b>37 W</b>	RESUBMITTERS FORM #3
COUNTY <b>CHEYENNE</b>	STATE <b>KANSAS</b>	CASING RECORD Casing NONE	
API <b>JONES CANNON SE</b>			
Apl <b>15-023-21367</b>			
CONTRACTOR <b>COMPLANT TOOLS</b>		RIG NO. <b>14</b>	
DRILLING STARTED <b>5/24/2013</b>		COMPLETED <b>06/03/2013</b>	
MUD DISPLACED <b>3269'</b>		MUD TYPE <b>CHEMICAL</b>	
DRILLING TIME KEPT FROM <b>3490'</b>		TO RTD	
SAMPLERS SAVED FROM <b>3490'</b>		TO RTD	
SAMPLERS EXAMINED FROM <b>3490'</b>		TO RTD	
GEOLOGICAL SUPERVISION FROM <b>3095'</b>		TO RTD	
FORMATION NAME LOG TOP DATUM SAMPLE (DST) DATE			
ANHYDRITE	3094' (-464)	3095' (-458)	(-458)
NEVA	3545' (-395)	3546' (-396)	(-396)
FORAKER	3667' (-307)	3661' (-311)	(-311)
TOPEKA	3876' (-226)	3882' (-232)	(-232)
LANSING	4092' (-94)	4100' (-90)	(-90)
STARK	4308' (1158)	4312' (-1162)	(-1162)
BKC	4365' (-1215)	4368' (-1218)	(-1218)
PAWNEE	4478' (-1328)	4482' (-1332)	(-1332)
CHEROKEE	4572' (-1422)	4575' (-1425)	(-1425)
TOTAL DEPTH	4648' (-1488)	4650' (-1500)	(-1500)



DATE	7:00 AM DEPTH	REMARKS
5/24/13	MIRT	SPUD 7:00 pm
5/25/13	223'	WOC dev. 1/2 deg
5/26/13	2965'	DRLG.
5/27/13	3185'	DRLG.
5/28/13	3672'	Short Trip prior to DST # 1 dev. 1 deg.
5/29/13	3850'	DRLG.
5/30/13	4030'	TIH after DST # 2
5/31/13	4170'	TIH after DST # 3
6/1/13	4286'	DRLG.
6/2/13	4430'	DRLG dev. 1 deg. @ 4326'
6/3/13	4580'	DRLG. RTD 4650' @ 9:45 am dev. 1 3/4 deg. Finish logging @ 11:00 pm (3 hr. down time)

**Remarks**  
 5 1/2" production casing set to further test the Lansing / Kansas City and Pawnee formations.  
 Electric log measurements correlate about 4' high compared to rotary measurements.  
 Samples deposited at the Kansas Geological Survey.  
 Respectfully Submitted'  
*Jeff Christian*  
 Jeff Christian

