

**Titan Directional Services, Inc.**

Titan Directional Drilling LLC
20302 Park Row Suite 1200
Katy, TX 77449

Shull 7-25-9-60**Scale 1":100' - MD****1/23/2015 5:17 AM****Oper. Company:** Carrizo Oil & Gas, Inc.**Well:** Shull 7-25-9-60**Field:** Niobrara CONZ83**Rig:** Xtreme 19**Well ID:** 05-123-40495-00**Job Number:** TL15007**State:** Colorado**County:** Weld**Country:** USA**Location:** Keota**Start Date:** 01/18/2015 17:00:00**End Date:** 01/23/2015 04:34:00**Latitude:** 40.7146861111111**Longitude:** -104.03605**Elev KB:** 17**Elev DF:** 5004**Elev GL:** 4887**Operator 1:** Skylar Thompson**Operator 2:**

Tool Run Data	Run #1	Run #2	Run #3	Run #4	Run #5
Tool S/N	N/A	N/A	6160	6160	
Bit Size	12 1/4	8 3/4	8 3/4	6 1/8	
Cal Factor	N/A	N/A	5.37	2.37	
Survey Offset:	53.00	50.00	50.00	52.00	
Gamma Offset	0.00	0.00	41.00	43.00	
Resistivity Offset	0.00	0.00	0.00	0.00	
Start Depth	0.00	1484.00	5452.00	6308.00	
StartDate	1/14/2015	1/16/2015	1/18/2015	1/20/2015	
StartTime	05:30	16:00	13:00	20:30	
EndDepth	1484.00	5452.00	6308.00	10796.00	
EndDate	1/14/2015	1/18/2015	1/19/2015	1/23/2015	
EndTime	23:59	11:30	12:15	04:33	
Mud Type	WBM	WBM	WBM	WBM	
Temperature	84	120	133	178	
Hole Data			Casing Data		
Size	From	To	Size	From	To
12 1/4"	0.00	1484.00	9 5/8"	0.00	1461.00
8 3/4"	1484.00	6308.00	7"	0.00	6288.00
6 1/8"	6308.00	10796.00			

All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not except in the case of gross or willful negligence on our part, be liable or responsible for any loss, cost damages or expenses incurred or sustained by anyone resulting from interpretation made by any of our officers, agents, or employees.











