

**Precision Directional Services, Inc.**27610 Commerce Oaks Drive  
Oak Ridge North, TX 77385  
713-435-6250**Castor 7-36-9-59****Scale 5":100' - TVD****12/16/2013 1:39 AM****Oper. Company:** Carrizo Oil & Gas, Inc.**Well:** Castor 7-36-9-59**Field:** Niobrara CONZ'83**Rig:** Xtreme 19**Well ID:** 05-123-38577-00**Job Number:** DL1984**Notes:****State:** Colorado**County:** Weld**Country:** USA**Start Date:** 12/12/2013 02:00:00**End Date:** 12/16/2013 01:30:00**Latitude:** 40.7135555555556**Longitude:** -103.919063888889**Elev KB:** 4907'**Elev DF:** 17'**Elev GL:** 4890'**Notes:****Operator 1:** Neil LaRubbio**Operator 2:** Paul Brown**Notes:**

Tool Run Data	Run #1	Run #2	Run #3	Run #4	Run #5
Tool S/N	G2108	G2108			
Bit Size	8 3/4	6 1/8			
Cal Factor	3.54	1.58			
Gamma Offset	42.00	42.00			
Resistivity Offset	0.00	0.00			
Start Depth	5383.00	6075.00			
StartDate	12/11/2013	12/13/2013			
StartTime	4:00 PM	10:30 AM			
EndDepth	6075.00	10358.00			
EndDate	12/12/2013	12/16/2013			
EndTime	10:30 PM	1:30 AM			
Mud Type	WBM	WBM			
Mud Weight	8.4 - 9.6	9.6			
Funnel Viscosity	43 - 45	41 - 45			
Plastic Viscosity	9 - 11	13			
Yield Point	9	13			
Gel Strength	3, 9, 15	3, 10, 20			
Solids Content	3	2.6			
Sand Content	0.25	0.25			
Mud Alkalinity	1	1.1			
Filtrate Alkalinity	1.2	0.9			
Chlorides	300	200			
Mud RM	N/A	N/A			
Mud RMF	N/A	N/A			
Mud RMC	N/A	N/A			
Mud RM at BHT	N/A	N/A			
Hole Data			Casing Data		
Size	From	To	Size	From	To
12 1/4	0.00	1400.00	9 5/8	0.00	1400.00
8 3/4	1400.00	6808.00	7	0.00	6808.00
6 1/8	6808.00	10358.00	4.5	6808.00	10358.00

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 an interpretation made by any of our officers, agents, or employees.







