

**Precision Directional Services, Inc.**27610 Commerce Oaks Drive
Oak Ridge North, TX 77385
713-435-6250**Hemberger 3-25-8-60****Scale 2":100' - MD****7/6/2014 1:31 PM****Oper. Company:** Carrizo Oil & Gas, Inc.**Well:** Hemberger 3-25-8-60**Field:** Niobrara CONZ'83**Rig:** Xtreme 19**Well ID:** 05-123-39443-00**Job Number:** DL2274**State:** Colorado**County:** Weld**Country:** USA**Location:** Briggsdale**Start Date:** 07/01/2014 09:00:00**End Date:** 07/06/2014 13:01:00**Latitude:** 40.627138888889**Longitude:** -104.04638055555**Elev KB:** 17'**Elev DF:** 4925'**Elev GL:** 4908'**Operator 1:** Neil LaRubbio**Operator 2:** Michael Bowman

Tool Run Data	Run #1	Run #2	Run #3	Run #4	Run #5
Tool S/N	G2199	G2199	G2199		
Bit Size	8 3/4	6 1/8	6 1/8		
Cal Factor	3.57	1.59	1.59		
Gamma Offset	42.00	42.00	42.00		
Resistivity Offset	0.00	0.00	0.00		
Start Depth	5512.00	6376.00	9776.00		
StartDate	7/1/2014	7/2/2014	7/5/2014		
StartTime	4:00 AM	7:00 PM	5:30 PM		
EndDepth	6376.00	9776.00	10456.00		
EndDate	7/2/2014	7/5/2014	7/6/2014		
EndTime	3:00 AM	5:00 PM	1:01 PM		
Mud Type	WBM	WBM	WBM		
Mud Weight	9.6	9.5 - 9.6	9.5 - 9.6		
Funnel Viscosity	47-49	44 - 50	44 - 50		
Plastic Viscosity	9-14	13 - 15	12 - 15		
Yield Point	18	15 - 18	15 - 18		
Gel Strength	8-10	5 - 8	5 - 8		
Solids Content	6.2 - 6.4	6 - 6.5	6 - 6.5		
Sand Content	0.15 - 0.25	0.15	0.15		
Mud Alkalinity	0.7 - 0.8	0.7 - 0.9	0.7 - 0.9		
Filtrate Alkalinity	0.7 - 1.0	0.5 - 1.0	0.5 - 1.0		
Chlorides	1200	1300	1300		
Mud RM	N/A	N/A	N/A		
Mud RMF	N/A	N/A	N/A		
Mud RMC	N/A	N/A	N/A		
Mud RM at BHT	N/A	N/A	N/A		

Hole Data			Casing Data		
Size	From	To	Size	From	To
12 1/4	0.00	1497.00	9 5/8	0.00	1477.00
8 3/4	1497.00	6376.00	7	0.00	6356.00
6 1/8	6376.00	10456.00	4.5	6356.00	10456.00

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.

0.00 GR(API) 150.00 MD 0.00 ROP(FT/HR) 150.00 MD Surveys (TVD/INC/AZ)
150.00 2 300.00 FT 150.00 2 300.00 FT



















