



Precision Directional Services, Inc  
27610 Commerce Oaks Drive  
Oak Ridge North, TX 77385  
713-435-6250

**DL1748**

2":100' - MD

8/6/2013 1:49:46 PM

**Oper. Company:** Carrizo Oil & Gas, Inc  
**Country:** USA  
**State / Province:** Colorado  
**County / Parish:** Weld  
**Started:** 07/30/2013 02:00 AM

**API/UWI:** 05-123-37243  
**Field:** Niobrara CONZ'83  
**Well:** Nelson Ranches 1-27-10-59  
**Rig:** Xtreme 19  
**Ended:** 08/06/2013 12:11 PM

### Personnel

**Day Hand:** Paul Brown  
**Night Hand:** Kody Armajo  
**Comp. Emp:** Gabe Vela

### Location

**Latitude:** 40.8100527777778  
**Longitude:** -103.975677777778  
**Elev. GL:** 5167'  
**Elev. DF:** 5184'  
**Elev. KB:** 17'

### Hole Data

Size	From	To
12 3/4	0	1388
8 3/4	1388	6361
6 1/8	6361	11607

### Casing Data

Size	From	To
9 5/8	0	1388
7	1388	6361
4.5	6361	11607

### Bit Sizes

Size	From	To
12 3/4	0	1455
8 3/4	1455	6383
6 1/8	6383	11607

### Mud Data

Type	Weight	Density	Viscosity	Rm	Rmf	Rmc	From	To
WBM	8.4-8.9	8.4-8.9	28-29	n/a	n/a	n/a	0	6361
WBM	10	10	44-45	n/a	n/a	n/a	6361	11607

### Tool Run Data

Serial Number	Gamma Offset	Resist. Offset	Start Time	Start Depth	End Time	End Depth
G2689	51	0	7/28/2013 11:30:30 PM	5715	7/30/2013 6:00:30 PM	6383
G2689	52	0	7/31/2013 10:00:20 PM	6383	8/3/2013 9:30:20 PM	8803
G1830	52	0	8/3/2013 10:11:50 PM	8803	8/6/2013 12:11:50 PM	11607

*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.*

























