



Precision Directional Services, Inc.  
27610 Commerce Oaks Drive  
Oak Ridge North, TX 77385

**DL 1993**

2":100' - MD  
11/20/2013 10:31:45 AM

**Oper. Company:** Carrizo Oil & Gas, Inc.  
**Country:** USA  
**State / Province:** Colorado  
**County / Parish:** Weld County  
**Started:** 11/16/2013 11:00 AM

**API/UWI:** 05-123-38331-00  
**Field:** Niobrara  
**Well:** Speaker 3-27-8-61  
**Rig:** Xtreme 17  
**Ended:** 11/20/2013 12:00 AM

### Personnel

**Day Hand:** Andrew Thomson  
**Night Hand:** Luis Suarez  
**Comp. Emp:** Curtiss Andersen

### Location

**Latitude:** 40 38'21.145N  
**Longitude:** 104 11'55.876W  
**Elev. GL:** 4932  
**Elev. DF:** 17  
**Elev. KB:** 4949

### Hole Data

Size	From	To
12 1/4	0	1465
8 3/4	1465	6600
6 1/8	6600	11170

### Casing Data

Size	From	To
9 5/8	0	1465
7	1465	6600
4 1/2	6600	11170

### Bit Sizes

Size	From	To
12 1/4	0	1465
8 3/4	1465	6600
6 1/8	6600	11170

### Mud Data

Type	Weight	Density	Viscosity	Rm	Rmf	Rmc	From	To
WBM	9.6						0	1465
WBM	9.8						1465	6600
WBM	9.8						6600	11170

### Tool Run Data

Serial Number	Gamma Offset	Resist. Offset	Start Time	Start Depth	End Time	End Depth
1148	42	0	11/16/2013 9:19:51 AM	5890	11/17/2013 9:19:51 AM	6600
1148	42	0	11/18/2013 9:20:12 AM	6600	11/20/2013 9:20:12 AM	11170

*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.*























