



**Precision Directional Services, Inc.**

27610 Commerce Oaks Drive  
Oak Ridge North, TX 77385  
713-435-6250

**Hemberger 4-26-8-60**

**Scale 5":100' - TVD**

**11/9/2014 8:41 AM**

**Oper. Company:** Carrizo Oil & Gas, Inc.

**Well:** Hemberger 4-26-8-60

**Field:** Niobrara CONZ'83

**Rig:** Xtreme 19

**Well ID:** 05-123-39331-00

**Job Number:** DL2478

**State:** Colorado

**County:** Weld

**Country:** USA

**Location:** Briggsdale

**Start Date:** 11/04/2014 22:30:00

**End Date:** 11/09/2014 08:30:00

**Latitude:** 40.627325

**Longitude:** -104.051091666667

**Elev KB:** 17'

**Elev DF:** 4894'

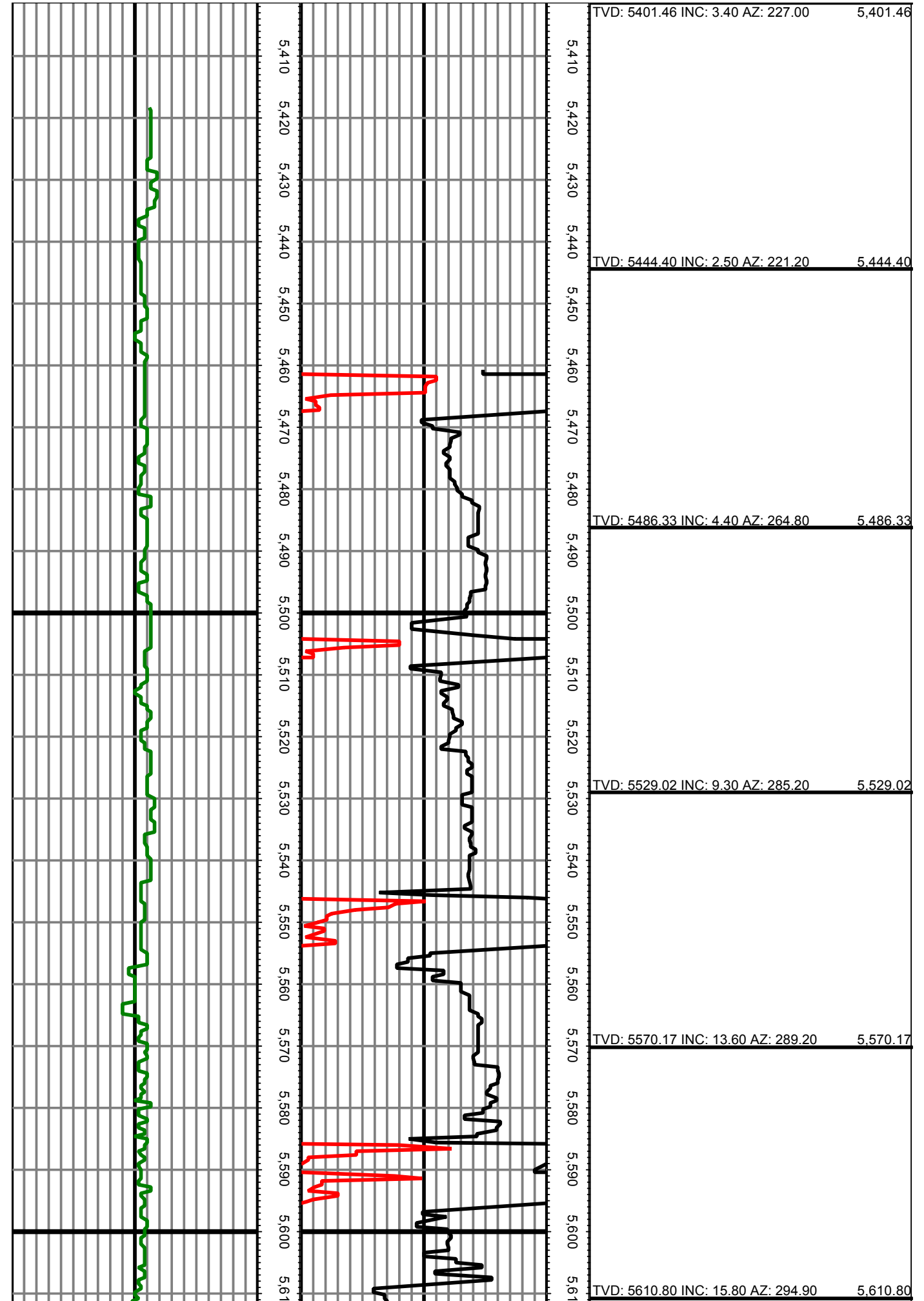
**Elev GL:** 4877'

**Operator 1:** Paul Brown

**Operator 2:** Steven Loggie

Tool Run Data	Run #1	Run #2	Run #3	Run #4	Run #5
Tool S/N	G2030	G2030			
Bit Size	8 3/4	6 1/8			
Cal Factor	3.86	1.65			
Gamma Offset	42.00	45.00			
Resistivity Offset	0.00	0.00			
Start Depth	5493.00	6398.00			
StartDate	11/4/2014	11/7/2014			
StartTime	18:30	05:20			
EndDepth	6398.00	10532.00			
EndDate	11/5/2014	11/9/2014			
EndTime	20:30	08:30			
Mud Type	WBM	WBM			
Mud Weight	9.5 - 9.6	9.1 - 9.6			
Funnel Viscosity	41	41			
Plastic Viscosity	14	14			
Yield Point	11	11			
Gel Strength	4 / 6 / 7	4 / 6 / 7			
Solids Content	4.4	4.4			
Sand Content	0.4	0.4			
Mud Alkalinity	0.2 / 1.2	0.2 / 1.2			
Filtrate Alkalinity	9.4	9.4			
Chlorides	800	800			
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			
Temperature	131-145	145 - 175			
Hole Data			Casing Data		
Size	From	To	Size	From	To
12 1/4	0.00	1451.00	9 5/8	0.00	1451.00
8 3/4	1451.00	6398.00	7	0.00	6378.00
6 1/8	6398.00	10532.00	4 1/2	6378.00	10532.00

*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.*



TVD: 5610.80 INC: 15.80 AZ: 294.90			5,610.80
TVD: 5650.66 INC: 20.80 AZ: 295.00			5,650.66
TVD: 5689.13 INC: 26.40 AZ: 295.20			5,689.13
TVD: 5725.74 INC: 32.20 AZ: 295.40			5,725.74
TVD: 5761.31 INC: 36.20 AZ: 300.00			5,761.31
TVD: 5795.22 INC: 39.70 AZ: 304.70			5,795.22
TVD: 5827.04 INC: 41.80 AZ: 307.70			5,827.04

