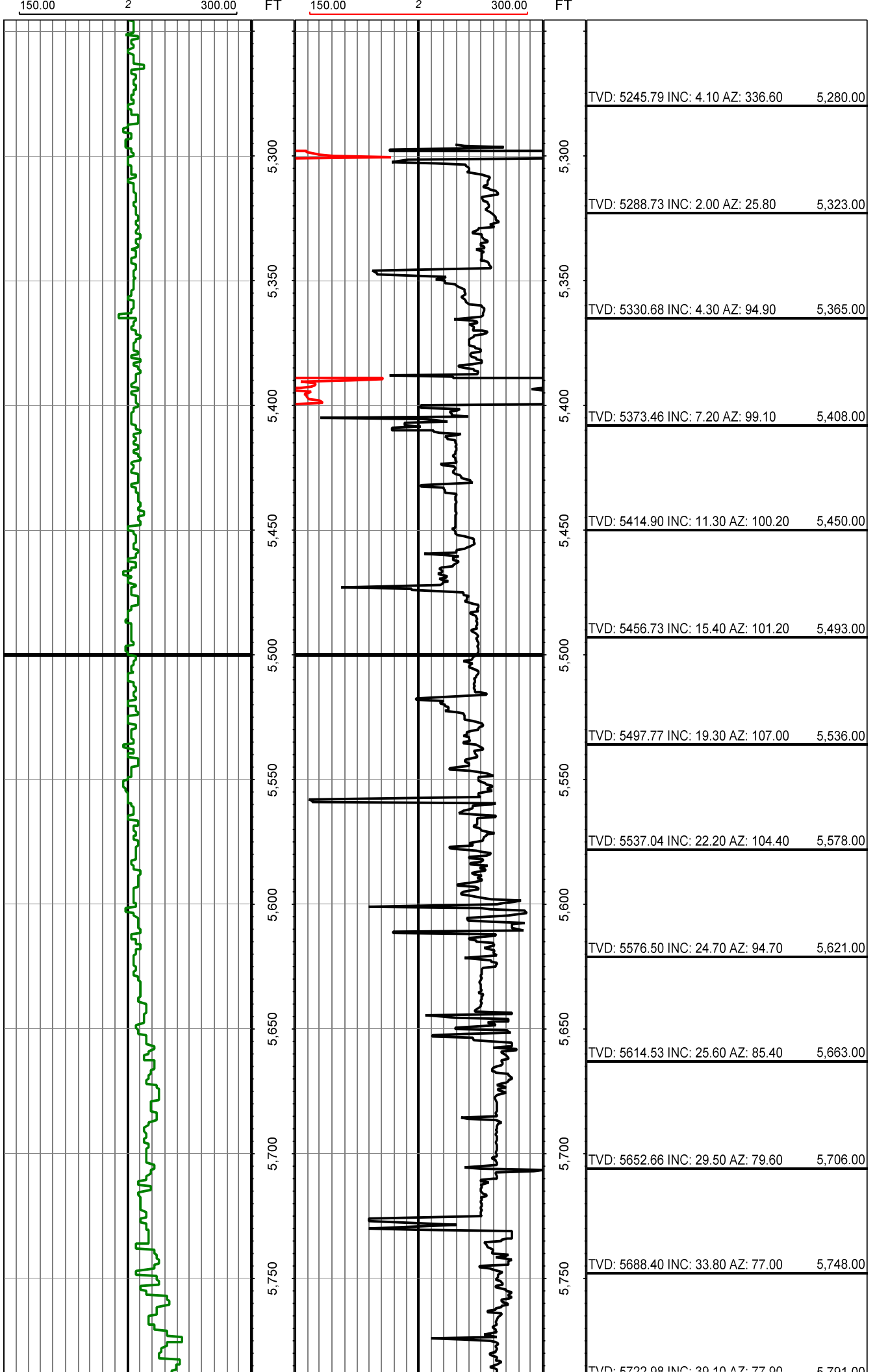
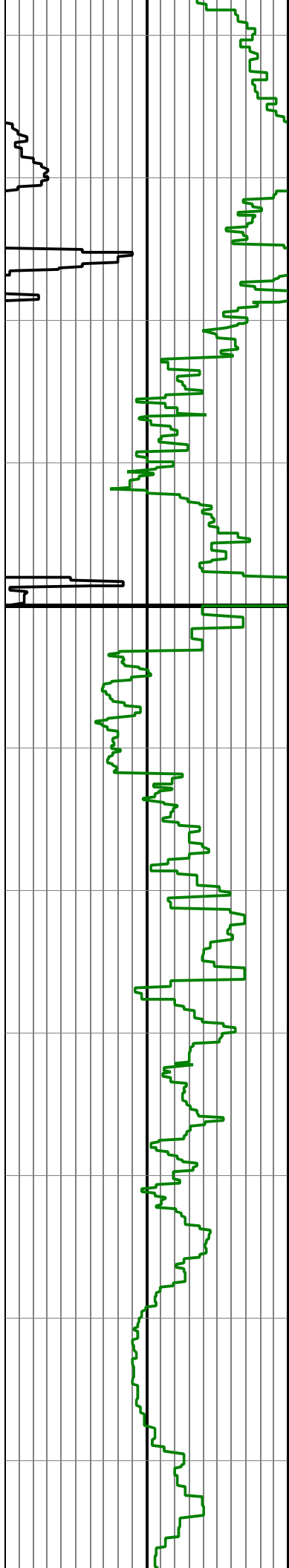


**Precision Directional Services, Inc.**27610 Commerce Oaks Drive
Oak Ridge North, TX 77385**Bringelson Ranch 7-20-9-58****Scale 2":100' - MD****2/17/2014 1:18 AM****Oper. Company:** Carrizo Oil & Gas, Inc.**Well:** Bringelson Ranch 7-20-9-58**Field:** Niobrara CONZ'83**Rig:** Xtreme 19**Well ID:** 05-123-35854-00**Job Number:** DL2099**Notes:****State:** Colorado**County:** Weld**Country:** USA**Start Date:** 02/13/2014 00:00:00**End Date:** 02/17/2014 00:00:00**Latitude:** 40.731522222222**Longitude:** -103.89559444444**Elev KB:** 17'**Elev DF:** 4873'**Elev GL:** 4856'**Notes:****Operator 1:** Paul Brown**Notes:****Operator 2:** Kody Armajo

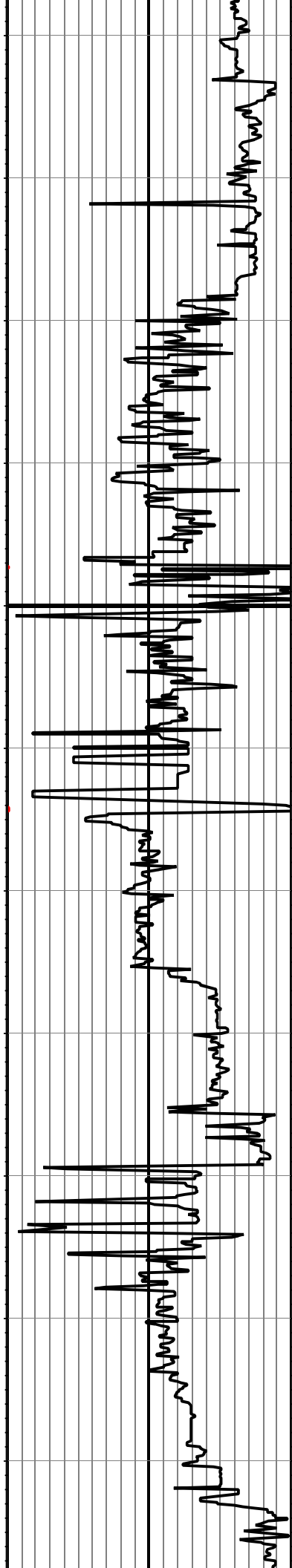
Tool Run Data	Run #1	Run #2	Run #3	Run #4	Run #5
Tool S/N	G1519	G2577			
Bit Size	8 3/4	6 1/8			
Cal Factor	3.09	1.28			
Gamma Offset	50.00	56.00			
Resistivity Offset	0.00	0.00			
Start Depth	5295.00	6072.00			
StartDate	2/12/2014	2/14/2014			
StartTime	7:30 PM	2:30 PM			
EndDepth	6072.00	10206.00			
EndDate	2/13/2014	2/17/2013			
EndTime	9:30 PM	1:18 AM			
Mud Type	WBM	WBM			
Mud Weight	9.6	9.5 - 9.8			
Funnel Viscosity	41 / 40	45 / 46			
Plastic Viscosity	11 / 9	13 / 10			
Yield Point	9 / 7	8 / 9			
Gel Strength	13 / 8	5 / 8			
Solids Content	7% - 7.2%	8% - 8.2%			
Sand Content	0.25% - 0.50%	0.25%			
Mud Alkalinity	0.5 / 0.4	0.9			
Filtrate Alkalinity	0.3 - 0.7	0.8 - 1.3			
Chlorides	1,000	1,200			
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	1460.00	9 5/8	0.00	1379.00
8 3/4	1460.00	6072.00	7	0.00	6052.00
6 1/8	6072.00	10206.00	4 1/2	6052.00	10206.00

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.





5,800
5,850
5,900
5,950
6,000
6,050
6,100
6,150
6,200
6,250
6,300



5,800
5,850
5,900
5,950
6,000
6,050
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6,150
6,200
6,250
6,300

TVD: 5722.98 INC: 59.10 AZ: 77.90	5,791.00
TVD: 5754.38 INC: 44.10 AZ: 76.30	5,833.00
TVD: 5783.55 INC: 50.40 AZ: 75.90	5,876.00
TVD: 5809.27 INC: 54.10 AZ: 73.10	5,918.00
TVD: 5833.31 INC: 57.90 AZ: 72.10	5,961.00
TVD: 5854.46 INC: 61.60 AZ: 72.40	6,003.00
TVD: 5892.95 INC: 73.10 AZ: 79.60	6,103.00
TVD: 5904.62 INC: 77.50 AZ: 80.80	6,149.00
TVD: 5913.59 INC: 80.00 AZ: 81.40	6,195.00
TVD: 5919.51 INC: 84.90 AZ: 82.30	6,240.00
TVD: 5921.19 INC: 90.90 AZ: 82.60	6,286.00
TVD: 5920.03 INC: 92.00 AZ: 82.60	6,332.00

