



# Precision

## Survey Report

<b>Client</b>	Big Horn	<b>MWD Operator</b>	D. Barge / S. Thompson
<b>Well Name</b>	CVR 5-63-32-1609 CDH	<b>Rig Name</b>	Nabors M 37
<b>Location</b>	Weld County, CO	<b>End Date</b>	
<b>Start Date</b>	6/21/2013	<b>Proposed Direction</b>	67.89

<b>SUR NUM</b>	<b>MD ft</b>	<b>INC °</b>	<b>AZM °</b>	<b>TVD ft</b>	<b>N-S ft</b>	<b>E-W ft</b>	<b>SECT ft</b>	<b>DLS °/100'</b>
<b>TIE IN</b>	690	0.24	62.59	689.97	2.24	5.53	5.96	0.5
1	859	0.2	105.1	858.97	2.33	6.13	6.55	0.1
2	951	3.7	353.9	950.91	5.24	5.97	7.50	4.1
3	1043	8.3	350.0	1042.38	14.73	4.50	9.71	5.0
4	1135	9.2	353.0	1133.31	28.57	2.45	13.02	1.1
5	1227	11.7	348.8	1223.77	45.03	-0.26	16.71	2.8
6	1319	12.2	348.1	1313.78	63.69	-4.08	20.20	0.6
7	1506	14.9	4.4	1495.63	107.02	-6.31	34.44	2.5
8	1696	18.6	3.9	1677.53	161.62	-2.37	58.64	1.9
9	1887	18.4	351.2	1858.74	221.83	-4.91	78.94	2.1
10	2076	20.2	343.3	2037.14	282.58	-18.85	88.89	1.7
11	2266	26.2	338.4	2211.71	353.06	-43.75	92.36	3.3
12	2455	28.2	351.9	2379.96	436.16	-65.42	103.55	3.4
13	2645	27.9	353.3	2547.65	524.75	-76.93	126.23	0.4
14	2833	29.5	352.5	2712.55	614.33	-88.11	149.60	0.9
15	3022	28.8	352.1	2877.61	705.56	-100.44	172.51	0.4
16	3212	26.4	350.5	3045.98	792.57	-113.70	192.97	1.3
17	3401	24.2	351.9	3216.84	872.38	-126.10	211.53	1.2
18	3589	30.0	354.4	3384.13	957.37	-136.12	234.23	3.1
19	3778	33.9	354.6	3544.47	1056.91	-145.70	262.82	2.1
20	3968	30.1	352.5	3705.58	1156.94	-156.91	290.09	2.1
21	4158	29.3	351.9	3870.61	1250.20	-169.68	313.36	0.4
22	4348	27.5	351.0	4037.74	1339.56	-183.09	334.57	1.0
23	4538	28.0	351.6	4205.89	1427.01	-196.47	355.09	0.3
24	4727	23.0	351.8	4376.42	1507.50	-208.22	374.49	2.6
25	4917	21.3	351.8	4552.40	1578.40	-218.44	391.71	0.9
26	5106	18.6	359.7	4730.07	1642.54	-223.49	411.17	2.0



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27	5296	14.9	359.8	4911.98	1697.29	-223.74	431.55	1.9
28	5485	6.5	340.7	5097.57	1731.75	-227.37	441.16	4.8
29	5672	3.7	332.6	5283.82	1747.10	-233.64	441.12	1.5
30	5861	1.8	315.4	5472.59	1754.63	-238.53	439.43	1.1
31	6050	0.9	321.2	5661.54	1757.90	-241.55	437.86	0.5
32	6145	0.8	352.3	5756.53	1759.14	-242.11	437.81	0.5
33	6240	4.0	75.6	5851.45	1760.62	-238.98	441.26	4.2
34	6278	7.7	77.4	5889.24	1761.51	-235.21	445.09	9.7
35	6302	9.1	74.9	5912.99	1762.35	-231.81	448.56	6.0
36	6334	10.3	79.1	5944.53	1763.55	-226.56	453.88	4.4
37	6365	13.1	83.0	5974.88	1764.51	-220.35	459.99	9.4
38	6397	17.1	81.0	6005.77	1765.69	-212.10	468.08	12.6
39	6428	21.7	78.9	6035.00	1767.50	-201.97	478.15	15.0
40	6459	26.1	82.8	6063.34	1769.46	-189.57	490.37	15.1
41	6490	29.6	89.3	6090.75	1770.41	-175.14	504.09	14.9
42	6523	32.0	93.0	6119.10	1770.05	-158.26	519.60	9.3
43	6552	32.4	92.1	6143.64	1769.37	-142.82	533.64	2.2
44	6583	33.4	92.5	6169.66	1768.69	-126.00	548.98	3.3
45	6618	33.2	92.3	6198.92	1767.88	-106.80	566.46	0.7
46	6650	33.0	91.4	6225.72	1767.32	-89.33	582.43	1.7
47	6682	32.6	90.7	6252.62	1767.00	-72.00	598.37	1.7
48	6713	32.1	90.9	6278.81	1766.77	-55.42	613.65	1.6
49	6745	33.0	90.4	6305.78	1766.58	-38.20	629.52	2.9
50	6775	36.3	87.2	6330.46	1766.95	-21.15	645.46	12.6
51	6809	40.2	83.7	6357.16	1768.65	-0.19	665.52	13.1
52	6840	43.6	83.0	6380.23	1771.05	20.37	685.47	11.1
53	6871	47.2	83.2	6401.99	1773.70	42.28	706.77	11.6
54	6903	51.5	83.9	6422.84	1776.42	66.40	730.14	13.5



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55	6935	57.0	86.0	6441.53	1778.69	92.26	754.95	18.0
56	6966	62.0	87.7	6457.26	1780.15	118.92	780.20	16.8
57	6998	65.6	88.6	6471.38	1781.07	147.62	807.13	11.5
58	7030	68.9	89.3	6483.76	1781.61	177.12	834.66	10.5
59	7062	72.0	89.8	6494.46	1781.85	207.27	862.69	9.8
60	7093	75.1	89.8	6503.24	1781.95	236.99	890.27	10.0
61	7125	78.2	89.5	6510.63	1782.14	268.12	919.18	9.7
62	7156	80.3	90.2	6516.41	1782.22	298.58	947.42	7.1
63	7232	82.6	93.7	6527.71	1779.65	373.67	1016.03	5.5
64	7262	82.7	93.0	6531.55	1777.92	403.38	1042.90	2.3
65	7296	82.7	92.8	6535.87	1776.21	437.06	1073.46	0.6
66	7329	82.1	91.9	6540.23	1774.87	469.74	1103.23	3.3
67	7360	81.7	91.9	6544.60	1773.85	500.41	1131.27	1.3
68	7392	81.4	92.1	6549.30	1772.75	532.05	1160.16	1.1
69	7424	81.1	92.3	6554.17	1771.53	563.65	1188.98	1.1
70	7456	80.9	95.3	6559.18	1769.44	595.18	1217.41	9.3
71	7487	80.7	93.7	6564.14	1767.04	625.69	1244.77	5.1
72	7520	82.0	90.7	6569.10	1765.79	658.28	1274.49	9.8
73	7551	84.6	87.0	6572.72	1766.41	689.06	1303.24	14.5
74	7584	85.8	84.9	6575.48	1768.73	721.86	1334.50	7.3
75	7616	87.3	84.7	6577.40	1771.62	753.67	1365.06	4.7
76	7648	88.8	85.6	6578.49	1774.33	785.53	1395.60	5.5
77	7680	89.7	85.6	6578.91	1776.78	817.44	1426.08	2.8
78	7712	91.7	85.3	6578.52	1779.32	849.33	1456.59	6.3
79	7744	94.1	85.1	6576.90	1782.00	881.18	1487.10	7.5
80	7775	95.3	85.3	6574.36	1784.58	911.96	1516.59	3.9
81	7807	95.1	85.8	6571.46	1787.05	943.74	1546.96	1.7
82	7839	94.5	86.7	6568.78	1789.14	975.55	1577.22	3.4



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83	7967	93.7	87.2	6559.63	1795.93	1103.04	1697.89	0.7
84	8063	92.3	87.9	6554.61	1800.03	1198.82	1788.17	1.6
85	8158	92.1	87.2	6550.96	1804.09	1293.66	1877.57	0.8
86	8254	90.6	88.4	6548.70	1807.77	1389.56	1967.80	2.0
87	8344	91.1	88.6	6547.37	1810.13	1479.52	2052.03	0.6
88	8446	89.4	90.9	6546.92	1810.57	1581.51	2146.68	2.8
89	8541	87.1	94.2	6549.82	1806.35	1676.35	2232.96	4.2
90	8637	87.9	93.7	6554.01	1799.74	1772.03	2319.12	1.0
91	8735	90.0	93.0	6555.80	1794.02	1869.84	2407.58	2.3
92	8828	89.5	90.4	6556.21	1791.26	1962.79	2492.66	2.8
93	8924	90.8	89.3	6555.96	1791.51	2058.79	2581.69	1.8
94	9019	90.2	88.8	6555.13	1793.09	2153.77	2670.28	0.8
95	9116	91.4	89.1	6553.78	1794.86	2250.74	2760.79	1.3
96	9212	92.8	88.8	6550.26	1796.62	2346.66	2850.32	1.5
97	9308	93.2	88.3	6545.23	1799.05	2442.50	2940.02	0.7
98	9404	89.4	88.6	6543.06	1801.64	2538.42	3029.86	4.0
99	9500	88.1	88.3	6545.15	1804.24	2634.36	3119.73	1.4
100	9597	88.6	87.6	6547.94	1807.71	2731.26	3210.80	0.9
101	9693	88.7	87.2	6550.21	1812.06	2827.13	3301.26	0.4
102	9788	89.3	86.8	6551.86	1817.03	2921.98	3391.02	0.8
103	9884	89.3	86.3	6553.04	1822.81	3017.80	3481.96	0.5
104	9979	88.8	86.2	6554.61	1829.02	3112.59	3572.11	0.5
105	10075	88.8	85.8	6556.62	1835.72	3208.33	3663.34	0.4
106	10170	89.6	84.0	6557.95	1844.16	3302.94	3754.17	2.1
107	10265	89.8	82.4	6558.45	1855.41	3397.27	3845.79	1.7
108	10362	89.5	81.9	6559.04	1868.65	3493.36	3939.80	0.6
109	10459	90.8	81.8	6558.78	1882.41	3589.38	4033.93	1.3
110	10554	90.4	81.6	6557.79	1896.12	3683.37	4126.18	0.5



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111	10650	92.5	82.4	6555.36	1909.47	3778.40	4219.25	2.3
112	10745	93.0	82.1	6550.80	1922.27	3872.43	4311.18	0.6
113	10841	93.0	81.6	6545.78	1935.86	3967.33	4404.21	0.5
114	10937	92.9	81.6	6540.84	1949.87	4062.17	4497.35	0.1
115	11032	91.2	83.5	6537.44	1962.17	4156.30	4589.19	2.7
116	11128	91.9	83.3	6534.84	1973.20	4251.63	4681.66	0.8
117	11225	91.0	83.3	6532.39	1984.52	4347.94	4775.15	0.9
118	11321	90.6	83.7	6531.05	1995.38	4443.31	4867.60	0.6
119	11341	90.6	83.3	6530.84	1997.65	4463.18	4886.86	2.0
Proj	11400	90.6	83.3	6530.22	2004.53	4521.77	4943.73	0.0