



# Precision

## Survey Report

<b>Client</b>	Carrizo Oil & Gas	<b>MWD Operator</b>	P.Brown/R.Rogers
<b>Well Name</b>	Nelson 1-20-9-60	<b>Rig Name</b>	Xtreme 19
<b>Location</b>	Weld County, CO	<b>End Date</b>	
<b>Start Date</b>	11/19/2012	<b>Proposed Direction</b>	178.6

<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>	0	0.00	0.00	0.00	0.00	0.00	0.00	0.0
1	144	0.4	169.9	144.00	-0.49	0.09	0.50	0.3
2	238	1.8	218.9	237.98	-1.97	-0.78	1.95	1.7
3	335	3.3	238.2	334.88	-4.62	-4.11	4.52	1.8
4	426	4.9	240.2	425.65	-7.94	-9.71	7.70	1.8
5	518	5.4	239.8	517.28	-12.07	-16.86	11.65	0.5
6	609	5.2	240.9	607.89	-16.23	-24.17	15.63	0.2
7	701	5.1	243.7	699.52	-20.06	-31.47	19.30	0.3
8	791	5.8	246.0	789.11	-23.69	-39.21	22.73	0.8
9	883	6.2	246.7	880.60	-27.54	-48.02	26.37	0.4
10	974	6.7	238.1	971.03	-32.29	-57.04	30.90	1.2
11	1066	6.8	224.2	1062.40	-39.03	-65.40	37.44	1.8
12	1157	6.9	220.0	1152.75	-47.08	-72.67	45.31	0.6
13	1249	6.0	216.1	1244.17	-55.20	-79.05	53.27	1.1
14	1341	5.8	212.2	1335.68	-63.02	-84.36	60.96	0.5
15	1579	5.8	214.7	1572.46	-83.08	-97.62	80.69	0.1
16	1664	5.7	215.6	1657.03	-90.05	-102.52	87.53	0.2
17	1748	5.5	212.9	1740.63	-96.82	-107.13	94.19	0.4
18	1833	5.7	221.7	1825.23	-103.39	-112.16	100.64	1.0
19	1877	5.7	223.8	1869.01	-106.60	-115.12	103.77	0.5
20	1962	5.0	217.0	1953.64	-112.60	-120.27	109.65	1.1
21	2048	4.9	226.1	2039.32	-118.14	-125.17	115.07	0.9
22	2133	5.6	228.9	2123.96	-123.39	-130.92	120.17	0.9
23	2218	5.1	225.8	2208.59	-128.75	-136.75	125.39	0.7
24	2302	5.3	233.1	2292.25	-133.68	-142.53	130.18	0.8
25	2387	5.0	234.2	2376.91	-138.20	-148.67	134.56	0.4



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26	2473	5.9	233.3	2462.52	-143.04	-155.26	139.23	1.1
27	2558	5.0	233.3	2547.13	-147.86	-161.73	143.90	1.1
28	2643	6.2	235.8	2631.72	-152.66	-168.49	148.52	1.4
29	2728	5.6	237.0	2716.27	-157.49	-175.77	153.18	0.7
30	2813	5.3	235.8	2800.89	-161.96	-182.49	157.49	0.4
31	2899	5.0	238.1	2886.54	-166.17	-188.96	161.54	0.4
32	2984	6.2	236.0	2971.14	-170.70	-195.91	165.89	1.4
33	3068	6.0	237.2	3054.66	-175.61	-203.36	170.63	0.3
34	3153	5.7	237.0	3139.22	-180.32	-210.64	175.15	0.4
35	3238	6.0	232.6	3223.77	-185.31	-217.71	179.98	0.6
36	3323	5.3	227.5	3308.36	-190.67	-224.13	185.17	1.0
37	3408	5.5	231.4	3392.98	-195.86	-230.21	190.22	0.5
38	3493	5.9	235.6	3477.56	-200.87	-237.00	195.06	0.7
39	3578	6.3	235.1	3562.08	-206.00	-244.43	200.01	0.5
40	3662	6.4	235.6	3645.57	-211.29	-252.07	205.11	0.1
41	3748	6.8	235.3	3731.00	-216.89	-260.21	210.52	0.5
42	3832	6.9	233.7	3814.40	-222.71	-268.36	216.14	0.3
43	3917	7.2	233.0	3898.76	-228.94	-276.73	222.16	0.4
44	4002	6.3	229.3	3983.17	-235.19	-284.52	228.22	1.2
45	4087	6.2	224.9	4067.66	-241.48	-291.30	234.34	0.6
46	4172	5.9	222.8	4152.19	-247.94	-297.51	240.65	0.4
47	4257	5.7	222.8	4236.75	-254.24	-303.34	246.81	0.2
48	4342	5.2	219.8	4321.37	-260.29	-308.68	252.73	0.7
49	4427	5.6	217.9	4405.99	-266.53	-313.69	258.84	0.5
50	4512	6.9	215.6	4490.48	-273.95	-319.21	266.13	1.6
51	4597	6.6	207.8	4574.90	-282.42	-324.46	274.47	1.1



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52	4682	6.2	207.1	4659.37	-290.83	-328.83	282.77	0.5
53	4767	6.9	219.4	4743.82	-298.86	-334.16	290.67	1.8
54	4852	6.4	221.7	4828.24	-306.35	-340.55	297.99	0.7
55	4937	5.7	221.5	4912.77	-313.04	-346.50	304.55	0.8
56	5022	4.7	217.1	4997.42	-318.98	-351.40	310.37	1.3
57	5108	5.2	222.9	5083.10	-324.65	-356.18	315.91	0.8
58	5193	6.1	224.5	5167.68	-330.69	-361.97	321.81	1.1
59	5278	5.5	221.5	5252.25	-336.96	-367.83	327.94	0.8
60	5363	5.1	226.5	5336.89	-342.62	-373.27	333.46	0.7
61	5448	6.0	229.6	5421.49	-348.10	-379.39	338.79	1.1
62	5533	5.2	228.4	5506.08	-353.53	-385.66	344.07	1.0
63	5618	5.4	225.8	5590.72	-358.88	-391.41	349.28	0.4
64	5704	6.1	229.8	5676.28	-364.65	-397.80	354.89	0.9
65	5788	5.3	229.1	5759.87	-370.07	-404.14	360.16	1.0
66	5873	4.8	224.7	5844.54	-375.17	-409.61	365.12	0.7
67	5927	4.3	223.5	5898.37	-378.24	-412.59	368.12	0.9
68	5969	4.7	222.1	5940.24	-380.66	-414.83	370.49	1.0
69	6012	9.0	195.4	5982.93	-385.21	-416.90	374.99	12.2
70	6055	15.5	181.1	6024.94	-394.21	-417.91	383.96	16.6
71	6097	20.1	177.8	6064.92	-407.04	-417.74	396.79	11.2
72	6139	23.3	182.2	6103.94	-422.56	-417.78	412.30	8.5
73	6181	27.8	184.5	6141.82	-440.63	-418.87	430.34	11.0
74	6224	33.8	189.7	6178.75	-462.44	-421.67	452.08	15.3
75	6267	39.7	191.3	6213.19	-487.72	-426.38	477.24	13.9
76	6309	44.5	188.8	6244.34	-515.44	-431.27	504.83	12.1
77	6352	49.4	185.7	6273.69	-546.60	-435.20	535.88	12.6



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78	6394	53.6	183.0	6299.84	-579.36	-437.67	568.58	11.2
79	6456	56.8	181.8	6335.22	-630.22	-439.79	619.37	5.4
80	6499	60.2	179.5	6357.68	-666.87	-440.19	656.00	9.1
81	6541	64.5	179.5	6377.17	-704.07	-439.87	693.19	10.2
82	6584	68.6	180.1	6394.28	-743.51	-439.73	732.62	9.6
83	6627	72.5	181.1	6408.59	-784.04	-440.16	773.13	9.3
84	6669	76.7	181.3	6419.74	-824.52	-441.01	813.58	10.0
85	6712	81.6	181.8	6427.84	-866.72	-442.15	855.74	11.5
86	6754	85.6	181.5	6432.52	-908.43	-443.35	897.41	9.6
87	6822	92.2	182.2	6433.82	-976.35	-445.55	965.25	9.8
88	6864	92.3	182.2	6432.17	-1018.28	-447.16	1007.14	0.2
89	6907	92.0	182.5	6430.56	-1061.22	-448.92	1050.01	1.0
90	6949	91.7	182.0	6429.20	-1103.16	-450.57	1091.91	1.4
91	6991	91.1	181.8	6428.18	-1145.13	-451.96	1133.83	1.5
92	7033	91.0	182.3	6427.41	-1187.09	-453.46	1175.74	1.2
93	7076	91.0	182.0	6426.66	-1230.05	-455.08	1218.65	0.7
94	7118	90.6	181.3	6426.07	-1272.03	-456.28	1260.59	1.9
95	7161	90.1	180.9	6425.81	-1315.02	-457.11	1303.55	1.5
96	7204	89.7	180.8	6425.88	-1358.02	-457.75	1346.52	1.0
97	7246	89.4	180.4	6426.21	-1400.02	-458.19	1388.49	1.2
98	7289	90.9	181.5	6426.10	-1443.01	-458.90	1431.45	4.3
99	7332	90.4	180.4	6425.61	-1486.00	-459.61	1474.41	2.8
100	7374	90.6	180.8	6425.25	-1527.99	-460.05	1516.38	1.1
101	7417	90.3	179.9	6424.91	-1570.99	-460.32	1559.36	2.2
102	7459	90.6	180.6	6424.58	-1612.99	-460.50	1601.34	1.8
103	7502	90.5	180.2	6424.17	-1655.99	-460.80	1644.32	1.0



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104	7544	91.4	179.7	6423.47	-1697.98	-460.76	1686.30	2.5
105	7587	90.6	178.7	6422.72	-1740.97	-460.16	1729.29	3.0
106	7629	90.2	179.0	6422.43	-1782.96	-459.32	1771.29	1.2
107	7672	89.9	178.3	6422.39	-1825.95	-458.31	1814.29	1.8
108	7714	89.4	177.9	6422.64	-1867.92	-456.91	1856.29	1.5
109	7757	89.3	177.8	6423.13	-1910.89	-455.30	1899.28	0.3
110	7799	89.3	177.6	6423.65	-1952.85	-453.62	1941.27	0.5
111	7842	89.5	178.3	6424.10	-1995.82	-452.08	1984.27	1.7
112	7885	88.8	177.6	6424.73	-2038.79	-450.54	2027.26	2.3
113	7927	89.0	178.3	6425.54	-2080.75	-449.04	2069.25	1.7
114	7970	89.3	177.9	6426.18	-2123.73	-447.61	2112.24	1.2
115	8012	91.1	178.5	6426.03	-2165.70	-446.29	2154.24	4.5
116	8055	92.8	178.3	6424.57	-2208.66	-445.09	2197.21	4.0
117	8097	93.0	178.5	6422.44	-2250.59	-443.92	2239.16	0.7
118	8140	92.2	178.1	6420.49	-2293.53	-442.65	2282.11	2.1
119	8183	91.4	178.5	6419.14	-2336.49	-441.37	2325.09	2.1
120	8225	90.0	178.7	6418.63	-2378.47	-440.35	2367.09	3.4
121	8268	89.6	178.7	6418.78	-2421.46	-439.37	2410.09	0.9
122	8310	89.2	178.3	6419.22	-2463.44	-438.27	2452.08	1.3
123	8353	88.7	178.3	6420.01	-2506.41	-437.00	2495.08	1.2
124	8396	88.5	178.7	6421.06	-2549.39	-435.87	2538.06	1.0
125	8438	90.1	178.8	6421.57	-2591.37	-434.95	2580.06	3.8
126	8481	89.5	178.3	6421.72	-2634.36	-433.87	2623.06	1.8
127	8523	89.0	178.5	6422.27	-2676.34	-432.69	2665.05	1.3
128	8566	90.1	178.8	6422.61	-2719.32	-431.68	2708.05	2.7
129	8608	90.8	178.3	6422.28	-2761.31	-430.62	2750.05	2.0



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130	8651	91.9	178.3	6421.26	-2804.28	-429.34	2793.04	2.6
131	8693	91.7	178.3	6419.95	-2846.24	-428.10	2835.02	0.5
132	8736	91.2	177.6	6418.86	-2889.20	-426.56	2878.00	2.0
133	8779	90.8	177.6	6418.11	-2932.15	-424.76	2920.98	0.9
134	8821	90.6	177.9	6417.59	-2974.12	-423.11	2962.98	0.9
135	8864	91.2	177.4	6416.92	-3017.07	-421.35	3005.97	1.8
136	8906	91.7	177.8	6415.86	-3059.02	-419.59	3047.94	1.5
137	8948	91.8	177.9	6414.57	-3100.97	-418.01	3089.92	0.3
138	8990	91.3	177.4	6413.44	-3142.92	-416.29	3131.90	1.7
139	9033	91.1	177.1	6412.54	-3185.86	-414.23	3174.88	0.8
140	9076	90.7	176.4	6411.86	-3228.79	-411.79	3217.85	1.9
141	9118	90.2	176.0	6411.53	-3270.70	-409.01	3259.81	1.5
142	9161	90.7	176.7	6411.19	-3313.61	-406.27	3302.78	2.0
143	9203	90.7	176.4	6410.68	-3355.53	-403.74	3344.75	0.7
144	9246	91.0	176.7	6410.04	-3398.44	-401.16	3387.71	1.0
145	9288	91.3	177.2	6409.20	-3440.38	-398.92	3429.69	1.4
146	9331	91.2	178.5	6408.26	-3483.34	-397.31	3472.67	3.0
147	9373	91.4	177.9	6407.31	-3525.30	-395.99	3514.66	1.5
148	9415	91.5	177.9	6406.25	-3567.26	-394.45	3556.64	0.2
149	9458	92.4	177.8	6404.78	-3610.21	-392.84	3599.61	2.1
150	9500	92.7	177.6	6402.91	-3652.13	-391.16	3641.57	0.9
151	9543	92.7	178.8	6400.89	-3695.06	-389.81	3684.52	2.8
152	9585	92.0	178.5	6399.17	-3737.01	-388.82	3726.48	1.8
153	9628	90.0	179.2	6398.42	-3780.00	-387.96	3769.47	4.9
154	9671	89.1	178.8	6398.75	-3822.99	-387.21	3812.47	2.3
155	9713	89.4	179.0	6399.30	-3864.98	-386.40	3854.47	0.9



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156	9756	88.3	179.0	6400.17	-3907.96	-385.65	3897.46	2.6
157								
158								
159								
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164								
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