



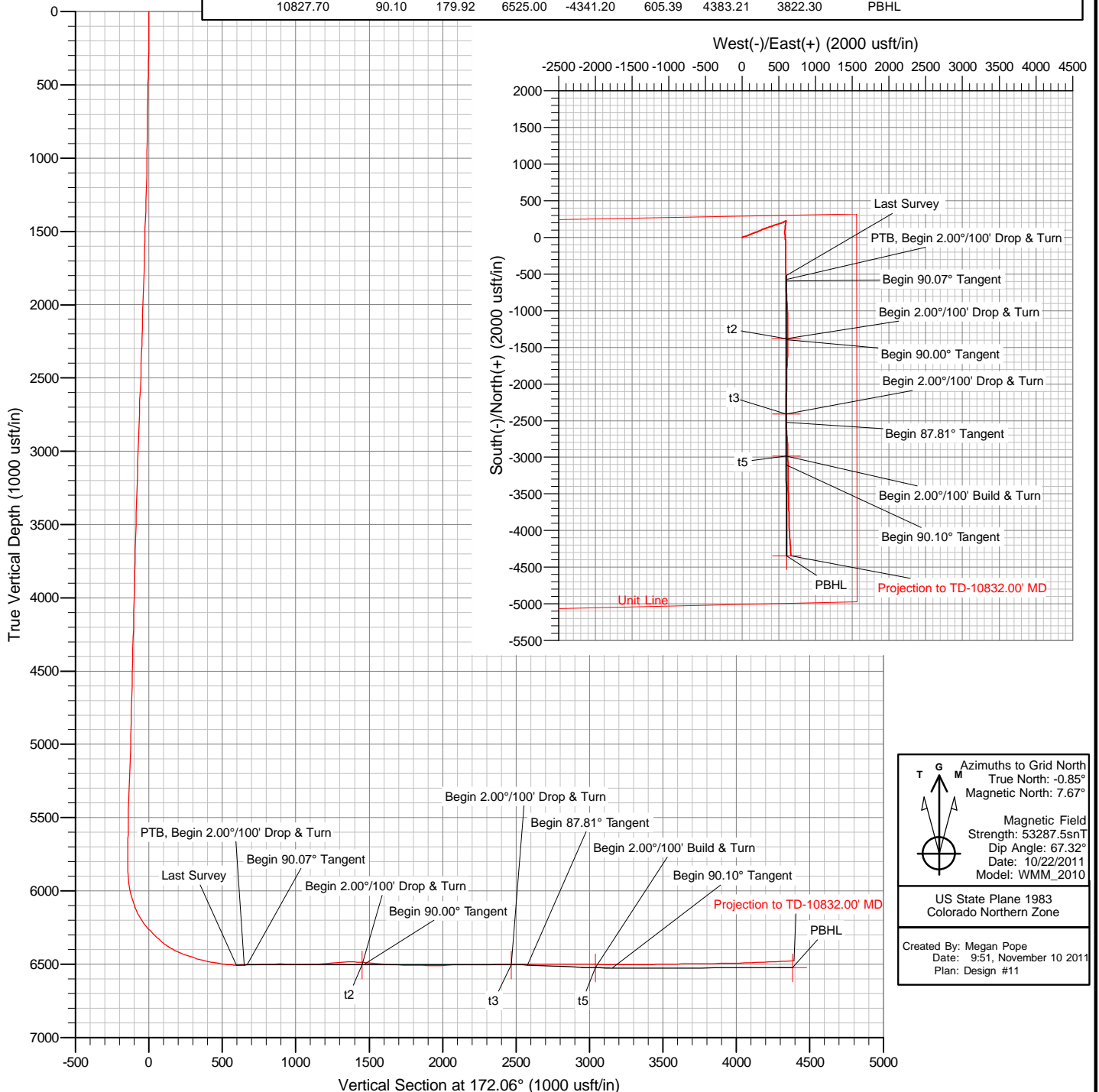
Company: Carrizo Oil & Gas
Site: Speaker
Well: 1-27-31-8-61
Project: Weld County, Colorado (NAD83)
Rig Name: Xtreme 19



Planning: 936.442.2510 Fax: 936.442.2515
Operations: 936.442.2500 Fax: 936.442.2599

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Departure	Annotation
7005.00	90.30	179.40	6506.33	-518.92	596.26	596.30	0.00	Last Survey
7060.00	90.30	179.40	6506.05	-573.91	596.84	650.85	55.00	PTB, Begin 2.00°/100' Drop & Turn
7077.69	90.07	179.67	6505.99	-591.61	596.98	668.39	72.69	Begin 90.07° Tangent
7867.80	90.07	179.67	6505.00	-1381.70	601.53	1451.54	862.80	Begin 2.00°/100' Drop & Turn
7879.34	90.00	179.89	6504.99	-1393.24	601.57	1462.98	874.34	Begin 90.00° Tangent
8894.73	90.00	179.89	6505.00	-2408.63	603.53	2468.90	1889.73	Begin 2.00°/100' Drop & Turn
9004.56	87.81	180.01	6507.10	-2518.43	603.62	2577.66	1999.53	Begin 87.81° Tangent
9472.17	87.81	180.01	6525.00	-2985.70	603.53	3040.44	2466.80	Begin 2.00°/100' Build & Turn
9586.78	90.10	179.92	6527.10	-3100.29	603.60	3153.94	2581.39	Begin 90.10° Tangent
10827.70	90.10	179.92	6525.00	-4341.20	605.39	4383.21	3822.30	PBHL



Azimuths to Grid North
True North: -0.85°
Magnetic North: 7.67°

Magnetic Field
Strength: 53287.5snT
Dip Angle: 67.32°
Date: 10/22/2011
Model: WMM_2010

US State Plane 1983
Colorado Northern Zone

Created By: Megan Pope
Date: 9:51, November 10 2011
Plan: Design #11

The customer should only rely on this document after independently verifying all paths, targets, coordinates, lease and hard lines represented. Any decisions made or wells drilled utilizing this or any other information supplied by MS Energy are at the sole risk and responsibility of the customer. MS Energy is not responsible for the accuracy of this schematic or the information contained herein.



Carrizo Oil & Gas

Weld County, Colorado (NAD83)

Speaker

1-27-31-8-61

Wellbore #1

Survey: Archer MWD

Standard Survey Report

10 November, 2011

Company:	Carrizo Oil & Gas	Local Co-ordinate Reference:	Well 1-27-31-8-61
Project:	Weld County, Colorado (NAD83)	TVD Reference:	Well @ 5008.80usft (Xtreme 19)
Site:	Speaker	MD Reference:	Well @ 5008.80usft (Xtreme 19)
Well:	1-27-31-8-61	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	Southern Region

Project	Weld County, Colorado (NAD83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Well	1-27-31-8-61				
Well Position	+N/-S	0.00 usft	Northing:	1,478,423.70 usft	Latitude: 40° 38' 21.3924 N
	+E/-W	0.00 usft	Easting:	3,364,087.47 usft	Longitude: 104° 11' 16.996 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level: 4,991.80 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	WMM_2010	10/22/11	8.52	67.32	53,287

Design	Surveys				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	172.06	

Survey Program	Date	11/10/11			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
124.00	10,832.00	Archer MWD (Wellbore #1)	MWD	MWD - Standard	

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
124.00	0.20	29.60	124.00	0.19	0.11	-0.17	0.16	0.16	0.00	
217.00	1.50	68.70	216.99	0.77	1.32	-0.58	1.45	1.40	42.04	
279.00	2.50	63.20	278.95	1.68	3.28	-1.21	1.64	1.61	-8.87	
341.00	3.20	57.10	340.87	3.23	5.94	-2.37	1.23	1.13	-9.84	
402.00	4.40	63.40	401.74	5.20	9.47	-3.84	2.08	1.97	10.33	
495.00	6.20	72.50	494.34	8.31	17.45	-5.82	2.13	1.94	9.78	
587.00	6.20	72.50	585.80	11.29	26.92	-7.47	0.00	0.00	0.00	
679.00	6.50	69.60	677.24	14.60	36.54	-9.42	0.48	0.33	-3.15	
771.00	5.10	76.30	768.76	17.39	45.40	-10.95	1.69	-1.52	7.28	
863.00	4.60	78.30	860.43	19.10	52.98	-11.60	0.57	-0.54	2.17	
955.00	5.00	73.50	952.11	20.99	60.44	-12.44	0.62	0.43	-5.22	
1,047.00	5.10	75.10	1,043.75	23.18	68.23	-13.53	0.19	0.11	1.74	
1,123.00	5.10	74.00	1,119.45	24.98	74.74	-14.42	0.13	0.00	-1.45	
1,208.00	5.50	60.60	1,204.09	28.02	81.93	-16.44	1.53	0.47	-15.76	

Company:	Carrizo Oil & Gas	Local Co-ordinate Reference:	Well 1-27-31-8-61
Project:	Weld County, Colorado (NAD83)	TVD Reference:	Well @ 5008.80usft (Xtreme 19)
Site:	Speaker	MD Reference:	Well @ 5008.80usft (Xtreme 19)
Well:	1-27-31-8-61	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	Southern Region

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
1,293.00	5.40	59.80	1,288.71	32.03	88.93	-19.44	0.15	-0.12	-0.94	
1,366.00	5.20	60.20	1,361.40	35.40	94.77	-21.97	0.28	-0.27	0.55	
1,482.00	5.10	64.10	1,476.93	40.27	103.97	-25.52	0.31	-0.09	3.36	
1,567.00	6.70	68.80	1,561.48	43.71	111.99	-27.82	1.96	1.88	5.53	
1,652.00	6.70	73.20	1,645.90	46.94	121.36	-29.72	0.60	0.00	5.18	
1,738.00	7.70	68.60	1,731.22	50.49	131.53	-31.84	1.34	1.16	-5.35	
1,823.00	7.70	66.40	1,815.45	54.85	142.05	-34.70	0.35	0.00	-2.59	
1,906.00	7.60	66.20	1,897.71	59.29	152.17	-37.70	0.12	-0.12	-0.24	
1,991.00	7.70	70.90	1,981.96	63.42	162.69	-40.34	0.75	0.12	5.53	
2,076.00	7.60	70.60	2,066.20	67.15	173.37	-42.56	0.13	-0.12	-0.35	
2,162.00	7.60	71.80	2,151.44	70.82	184.14	-44.70	0.18	0.00	1.40	
2,247.00	7.20	72.50	2,235.74	74.17	194.56	-46.59	0.48	-0.47	0.82	
2,332.00	8.30	69.00	2,319.96	77.97	205.37	-48.86	1.41	1.29	-4.12	
2,417.00	8.30	68.60	2,404.07	82.41	216.81	-51.67	0.07	0.00	-0.47	
2,503.00	8.30	67.60	2,489.17	87.04	228.33	-54.67	0.17	0.00	-1.16	
2,588.00	7.70	66.00	2,573.34	91.70	239.20	-57.78	0.75	-0.71	-1.88	
2,673.00	7.40	64.40	2,657.60	96.38	249.34	-61.01	0.43	-0.35	-1.88	
2,758.00	7.70	65.80	2,741.87	101.08	259.47	-64.27	0.41	0.35	1.65	
2,843.00	7.70	65.30	2,826.10	105.79	269.84	-67.50	0.08	0.00	-0.59	
2,929.00	7.40	64.90	2,911.36	110.55	280.09	-70.80	0.35	-0.35	-0.47	
3,014.00	7.60	72.20	2,995.63	114.59	290.40	-73.38	1.14	0.24	8.59	
3,099.00	7.40	70.90	3,079.90	118.10	300.92	-75.40	0.31	-0.24	-1.53	
3,184.00	7.20	67.90	3,164.21	121.89	311.03	-77.76	0.51	-0.24	-3.53	
3,270.00	7.00	67.60	3,249.55	125.92	320.87	-80.39	0.24	-0.23	-0.35	
3,355.00	6.20	66.90	3,333.99	129.69	329.88	-82.88	0.95	-0.94	-0.82	
3,440.00	6.50	69.20	3,418.47	133.20	338.60	-85.15	0.46	0.35	2.71	
3,525.00	7.20	69.50	3,502.86	136.78	348.08	-87.38	0.82	0.82	0.35	
3,610.00	8.10	70.40	3,587.10	140.65	358.71	-89.75	1.07	1.06	1.06	
3,696.00	8.40	70.70	3,672.21	144.76	370.35	-92.21	0.35	0.35	0.35	
3,781.00	7.40	74.30	3,756.41	148.29	381.48	-94.17	1.31	-1.18	4.24	
3,866.00	7.40	73.90	3,840.70	151.29	392.01	-95.69	0.06	0.00	-0.47	
3,951.00	7.70	72.50	3,924.96	154.52	402.70	-97.41	0.41	0.35	-1.65	
4,036.00	7.40	72.30	4,009.23	157.90	413.34	-99.29	0.35	-0.35	-0.24	
4,120.00	7.20	72.20	4,092.54	161.15	423.51	-101.10	0.24	-0.24	-0.12	
4,204.00	6.70	73.20	4,175.93	164.18	433.21	-102.76	0.61	-0.60	1.19	
4,291.00	8.30	68.10	4,262.18	167.99	443.90	-105.06	1.99	1.84	-5.86	
4,376.00	8.10	67.20	4,346.31	172.60	455.11	-108.07	0.28	-0.24	-1.06	
4,461.00	7.60	70.90	4,430.52	176.76	465.94	-110.70	0.84	-0.59	4.35	
4,546.00	7.00	70.60	4,514.83	180.31	476.14	-112.81	0.71	-0.71	-0.35	
4,632.00	7.00	72.90	4,600.19	183.60	486.09	-114.69	0.33	0.00	2.67	
4,717.00	7.90	72.30	4,684.47	186.90	496.61	-116.50	1.06	1.06	-0.71	
4,802.00	8.30	72.70	4,768.62	190.50	508.03	-118.49	0.48	0.47	0.47	
4,887.00	7.90	73.70	4,852.77	193.96	519.49	-120.34	0.50	-0.47	1.18	
4,973.00	7.60	75.30	4,937.99	197.06	530.67	-121.87	0.43	-0.35	1.86	

Company:	Carrizo Oil & Gas	Local Co-ordinate Reference:	Well 1-27-31-8-61
Project:	Weld County, Colorado (NAD83)	TVD Reference:	Well @ 5008.80usft (Xtreme 19)
Site:	Speaker	MD Reference:	Well @ 5008.80usft (Xtreme 19)
Well:	1-27-31-8-61	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	Southern Region

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
5,058.00	7.70	68.50	5,022.23	200.57	541.40	-123.86	1.07	0.12	-8.00	
5,143.00	7.40	62.80	5,106.49	205.16	551.57	-127.01	0.95	-0.35	-6.71	
5,229.00	6.90	60.90	5,191.83	210.21	561.01	-130.70	0.64	-0.58	-2.21	
5,314.00	6.70	64.20	5,276.23	214.85	569.93	-134.06	0.52	-0.24	3.88	
5,399.00	5.80	66.70	5,360.72	218.71	578.34	-136.72	1.11	-1.06	2.94	
5,484.00	5.10	67.60	5,445.34	221.84	585.78	-138.80	0.83	-0.82	1.06	
5,569.00	4.00	71.80	5,530.07	224.21	592.09	-140.27	1.35	-1.29	4.94	
5,655.00	2.50	77.60	5,615.93	225.55	596.77	-140.95	1.78	-1.74	6.74	
5,740.00	0.50	39.10	5,700.90	226.24	598.82	-141.35	2.51	-2.35	-45.29	
5,825.00	0.40	263.20	5,785.89	226.49	598.76	-141.61	0.98	-0.12	-159.88	
5,904.00	0.70	198.40	5,864.89	226.00	598.33	-141.18	0.81	0.38	-82.03	
5,946.00	2.10	193.10	5,906.88	225.01	598.08	-140.23	3.34	3.33	-12.62	
5,989.00	6.90	189.90	5,949.73	221.69	597.45	-137.04	11.17	11.16	-7.44	
6,031.00	11.60	188.90	5,991.17	215.03	596.36	-130.59	11.20	11.19	-2.38	
6,074.00	17.10	186.90	6,032.82	204.48	594.93	-120.33	12.84	12.79	-4.65	
6,116.00	19.70	188.20	6,072.67	191.34	593.18	-107.56	6.27	6.19	3.10	
6,159.00	21.50	186.80	6,112.92	176.34	591.22	-92.98	4.34	4.19	-3.26	
6,202.00	26.60	186.60	6,152.17	158.94	589.18	-76.03	11.86	11.86	-0.47	
6,244.00	32.00	185.20	6,188.78	138.50	587.08	-56.07	12.96	12.86	-3.33	
6,287.00	37.10	184.70	6,224.19	114.21	584.99	-32.31	11.88	11.86	-1.16	
6,329.00	42.80	181.30	6,256.38	87.30	583.62	-5.84	14.53	13.57	-8.10	
6,372.00	45.20	178.10	6,287.31	57.44	583.80	23.76	7.61	5.58	-7.44	
6,414.00	45.70	175.70	6,316.78	27.56	585.42	53.58	4.24	1.19	-5.71	
6,457.00	49.80	174.80	6,345.68	-4.16	588.06	85.35	9.66	9.53	-2.09	
6,500.00	54.90	176.70	6,371.94	-38.10	590.57	119.31	12.36	11.86	4.42	
6,542.00	60.90	179.40	6,394.25	-73.63	591.75	154.67	15.29	14.29	6.43	
6,585.00	65.50	179.90	6,413.64	-112.00	591.98	192.70	10.75	10.70	1.16	
6,627.00	69.50	179.90	6,429.70	-150.80	592.05	231.14	9.52	9.52	0.00	
6,670.00	70.70	180.40	6,444.34	-191.23	591.94	271.17	3.00	2.79	1.16	
6,713.00	72.30	179.90	6,457.98	-232.01	591.84	311.54	3.88	3.72	-1.16	
6,755.00	75.00	179.70	6,469.81	-272.30	591.98	351.47	6.44	6.43	-0.48	
6,798.00	76.70	179.20	6,480.32	-314.00	592.38	392.81	4.11	3.95	-1.16	
6,840.00	80.20	178.50	6,488.73	-355.13	593.20	433.67	8.49	8.33	-1.67	
6,883.00	81.10	178.50	6,495.71	-397.54	594.32	475.83	2.09	2.09	0.00	
6,926.00	82.90	179.40	6,501.70	-440.12	595.09	518.10	4.67	4.19	2.09	
6,968.00	86.90	178.90	6,505.43	-481.94	595.72	559.61	9.60	9.52	-1.19	
7,005.00	90.30	179.40	6,506.33	-518.92	596.26	596.31	9.29	9.19	1.35	
7,047.00	91.80	178.70	6,505.56	-560.90	596.96	637.99	3.94	3.57	-1.67	
7,089.00	92.60	178.50	6,503.95	-602.86	597.99	679.68	1.96	1.90	-0.48	
7,132.00	92.60	177.80	6,502.00	-645.79	599.37	722.40	1.63	0.00	-1.63	
7,175.00	91.50	177.40	6,500.46	-688.73	601.17	765.17	2.72	-2.56	-0.93	
7,217.00	91.00	176.90	6,499.55	-730.66	603.26	806.99	1.68	-1.19	-1.19	
7,260.00	90.40	176.90	6,499.02	-773.60	605.58	849.83	1.40	-1.40	0.00	

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Project:	Weld County, Colorado (NAD83)	TVD Reference:	Well @ 5008.80usft (Xtreme 19)
Site:	Speaker	MD Reference:	Well @ 5008.80usft (Xtreme 19)
Well:	1-27-31-8-61	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	Southern Region

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,302.00	89.90	176.90	6,498.91	-815.54	607.86	891.68	1.19	-1.19	0.00
7,345.00	89.70	177.80	6,499.06	-858.49	609.84	934.50	2.14	-0.47	2.09
7,388.00	88.30	178.10	6,499.81	-901.45	611.38	977.27	3.33	-3.26	0.70
7,430.00	89.00	178.00	6,500.80	-943.42	612.81	1,019.02	1.68	1.67	-0.24
7,473.00	89.90	177.80	6,501.21	-986.39	614.39	1,061.80	2.14	2.09	-0.47
7,515.00	90.40	177.30	6,501.10	-1,028.35	616.18	1,103.61	1.68	1.19	-1.19
7,558.00	91.70	178.30	6,500.32	-1,071.31	617.83	1,146.38	3.81	3.02	2.33
7,601.00	92.70	178.10	6,498.67	-1,114.25	619.18	1,189.10	2.37	2.33	-0.47
7,643.00	95.20	178.90	6,495.77	-1,156.14	620.28	1,230.73	6.25	5.95	1.90
7,686.00	96.40	178.70	6,491.43	-1,198.91	621.17	1,273.22	2.83	2.79	-0.47
7,729.00	94.10	179.70	6,487.49	-1,241.72	621.77	1,315.70	5.83	-5.35	2.33
7,770.00	91.70	180.60	6,485.42	-1,282.66	621.66	1,356.24	6.25	-5.85	2.20
7,813.00	88.20	181.10	6,485.46	-1,325.65	621.03	1,398.73	8.22	-8.14	1.16
7,855.00	86.60	181.00	6,487.36	-1,367.60	620.26	1,440.17	3.82	-3.81	-0.24
7,898.00	85.30	180.40	6,490.40	-1,410.49	619.73	1,482.57	3.33	-3.02	-1.40
7,941.00	85.50	179.70	6,493.85	-1,453.35	619.70	1,525.02	1.69	0.47	-1.63
7,983.00	85.90	179.90	6,497.00	-1,495.23	619.84	1,566.52	1.06	0.95	0.48
8,026.00	85.90	181.80	6,500.07	-1,538.11	619.21	1,608.90	4.41	0.00	4.42
8,068.00	86.20	182.00	6,502.96	-1,579.99	617.82	1,650.19	0.86	0.71	0.48
8,111.00	87.40	182.40	6,505.36	-1,622.89	616.17	1,692.45	2.94	2.79	0.93
8,154.00	88.30	182.20	6,506.98	-1,665.82	614.44	1,734.73	2.14	2.09	-0.47
8,196.00	89.40	181.80	6,507.82	-1,707.79	612.98	1,776.09	2.79	2.62	-0.95
8,239.00	89.40	182.20	6,508.27	-1,750.76	611.48	1,818.44	0.93	0.00	0.93
8,282.00	89.00	182.00	6,508.87	-1,793.73	609.90	1,860.78	1.04	-0.93	-0.47
8,324.00	89.40	181.50	6,509.46	-1,835.70	608.62	1,902.18	1.52	0.95	-1.19
8,367.00	89.40	180.80	6,509.91	-1,878.69	607.76	1,944.64	1.63	0.00	-1.63
8,410.00	91.30	181.50	6,509.64	-1,921.68	606.89	1,987.09	4.71	4.42	1.63
8,452.00	93.30	181.00	6,507.96	-1,963.63	605.98	2,028.52	4.91	4.76	-1.19
8,495.00	93.30	180.40	6,505.48	-2,006.56	605.45	2,070.96	1.39	0.00	-1.40
8,538.00	90.60	180.60	6,504.02	-2,049.53	605.08	2,113.46	6.30	-6.28	0.47
8,580.00	89.00	182.20	6,504.17	-2,091.51	604.05	2,154.90	5.39	-3.81	3.81
8,623.00	89.90	182.40	6,504.58	-2,134.48	602.33	2,197.22	2.14	2.09	0.47
8,666.00	91.10	182.00	6,504.21	-2,177.44	600.68	2,239.54	2.94	2.79	-0.93
8,708.00	91.80	181.50	6,503.14	-2,219.41	599.40	2,280.93	2.05	1.67	-1.19
8,751.00	91.00	180.40	6,502.09	-2,262.39	598.68	2,323.40	3.16	-1.86	-2.56
8,793.00	90.60	180.30	6,501.51	-2,304.38	598.43	2,364.96	0.98	-0.95	-0.24
8,836.00	91.30	180.10	6,500.79	-2,347.38	598.28	2,407.52	1.69	1.63	-0.47
8,879.00	90.60	180.10	6,500.08	-2,390.37	598.20	2,450.09	1.63	-1.63	0.00
8,921.00	89.60	180.40	6,500.01	-2,432.37	598.02	2,491.66	2.49	-2.38	0.71
8,964.00	89.70	179.70	6,500.27	-2,475.37	597.98	2,534.24	1.64	0.23	-1.63
9,007.00	89.60	178.50	6,500.53	-2,518.36	598.66	2,576.92	2.80	-0.23	-2.79
9,049.00	89.90	176.90	6,500.71	-2,560.33	600.34	2,618.71	3.88	0.71	-3.81
9,092.00	90.10	175.50	6,500.71	-2,603.23	603.19	2,661.60	3.29	0.47	-3.26

Company:	Carrizo Oil & Gas	Local Co-ordinate Reference:	Well 1-27-31-8-61
Project:	Weld County, Colorado (NAD83)	TVD Reference:	Well @ 5008.80usft (Xtreme 19)
Site:	Speaker	MD Reference:	Well @ 5008.80usft (Xtreme 19)
Well:	1-27-31-8-61	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	Southern Region

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
9,134.00	89.70	175.70	6,500.79	-2,645.11	606.41	2,703.52	1.06	-0.95	0.48	
9,177.00	90.30	176.60	6,500.79	-2,688.01	609.30	2,746.41	2.52	1.40	2.09	
9,220.00	90.60	176.40	6,500.45	-2,730.93	611.92	2,789.28	0.84	0.70	-0.47	
9,262.00	89.70	177.10	6,500.34	-2,772.86	614.31	2,831.14	2.71	-2.14	1.67	
9,305.00	90.10	177.30	6,500.42	-2,815.81	616.41	2,873.96	1.04	0.93	0.47	
9,348.00	90.30	176.90	6,500.27	-2,858.75	618.58	2,916.80	1.04	0.47	-0.93	
9,390.00	89.40	178.30	6,500.38	-2,900.71	620.34	2,958.60	3.96	-2.14	3.33	
9,433.00	88.90	178.50	6,501.01	-2,943.69	621.54	3,001.33	1.25	-1.16	0.47	
9,475.00	88.50	178.70	6,501.97	-2,985.67	622.57	3,043.05	1.06	-0.95	0.48	
9,518.00	88.70	178.50	6,503.02	-3,028.64	623.62	3,085.75	0.66	0.47	-0.47	
9,560.00	89.00	178.10	6,503.86	-3,070.62	624.86	3,127.50	1.19	0.71	-0.95	
9,602.00	89.40	178.50	6,504.45	-3,112.59	626.11	3,169.24	1.35	0.95	0.95	
9,645.00	89.20	178.00	6,504.97	-3,155.57	627.42	3,211.99	1.25	-0.47	-1.16	
9,688.00	89.60	178.90	6,505.42	-3,198.55	628.59	3,254.72	2.29	0.93	2.09	
9,730.00	90.80	180.10	6,505.27	-3,240.55	628.95	3,296.36	4.04	2.86	2.86	
9,773.00	91.30	179.70	6,504.49	-3,283.54	629.03	3,338.95	1.49	1.16	-0.93	
9,816.00	91.70	179.60	6,503.36	-3,326.53	629.29	3,381.56	0.96	0.93	-0.23	
9,858.00	91.70	179.20	6,502.12	-3,368.50	629.73	3,423.20	0.95	0.00	-0.95	
9,901.00	91.00	180.30	6,501.10	-3,411.49	629.92	3,465.80	3.03	-1.63	2.56	
9,943.00	90.60	179.70	6,500.52	-3,453.49	629.92	3,507.39	1.72	-0.95	-1.43	
9,986.00	90.60	178.90	6,500.07	-3,496.48	630.44	3,550.05	1.86	0.00	-1.86	
10,029.00	91.10	178.70	6,499.43	-3,539.47	631.34	3,592.75	1.25	1.16	-0.47	
10,071.00	91.50	178.70	6,498.47	-3,581.44	632.29	3,634.45	0.95	0.95	0.00	
10,114.00	91.50	178.50	6,497.35	-3,624.42	633.34	3,677.16	0.46	0.00	-0.47	
10,157.00	90.80	178.50	6,496.49	-3,667.39	634.47	3,719.88	1.63	-1.63	0.00	
10,199.00	90.30	178.70	6,496.08	-3,709.38	635.50	3,761.60	1.28	-1.19	0.48	
10,242.00	89.70	179.20	6,496.08	-3,752.37	636.28	3,804.29	1.82	-1.40	1.16	
10,285.00	89.90	179.20	6,496.23	-3,795.37	636.88	3,846.96	0.47	0.47	0.00	
10,327.00	91.30	178.90	6,495.79	-3,837.36	637.58	3,888.64	3.41	3.33	-0.71	
10,370.00	91.10	178.10	6,494.89	-3,880.33	638.71	3,931.36	1.92	-0.47	-1.86	
10,412.00	91.30	177.30	6,494.01	-3,922.29	640.39	3,973.15	1.96	0.48	-1.90	
10,455.00	91.70	177.30	6,492.89	-3,965.23	642.42	4,015.95	0.93	0.93	0.00	
10,498.00	92.40	177.10	6,491.35	-4,008.15	644.52	4,058.75	1.69	1.63	-0.47	
10,540.00	92.90	176.40	6,489.41	-4,050.04	646.89	4,100.57	2.05	1.19	-1.67	
10,583.00	92.20	176.40	6,487.49	-4,092.91	649.59	4,143.40	1.63	-1.63	0.00	
10,625.00	91.50	176.20	6,486.14	-4,134.80	652.30	4,185.27	1.73	-1.67	-0.48	
10,668.00	91.70	176.70	6,484.94	-4,177.70	654.96	4,228.12	1.25	0.47	1.16	
10,710.00	92.20	176.00	6,483.51	-4,219.59	657.63	4,269.98	2.05	1.19	-1.67	
10,753.00	93.30	176.20	6,481.45	-4,262.44	660.56	4,312.82	2.60	2.56	0.47	
10,774.00	92.90	176.00	6,480.31	-4,283.36	661.98	4,333.74	2.13	-1.90	-0.95	
10,832.00	92.90	176.00	6,477.38	-4,341.14	666.02	4,391.53	0.00	0.00	0.00	
Projection to TD-10832.00' MD										



Company:	Carrizo Oil & Gas	Local Co-ordinate Reference:	Well 1-27-31-8-61
Project:	Weld County, Colorado (NAD83)	TVD Reference:	Well @ 5008.80usft (Xtreme 19)
Site:	Speaker	MD Reference:	Well @ 5008.80usft (Xtreme 19)
Well:	1-27-31-8-61	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	Southern Region

Survey Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
10,832.00	6,477.38	-4,341.14	666.02	Projection to TD-10832.00' MD	