



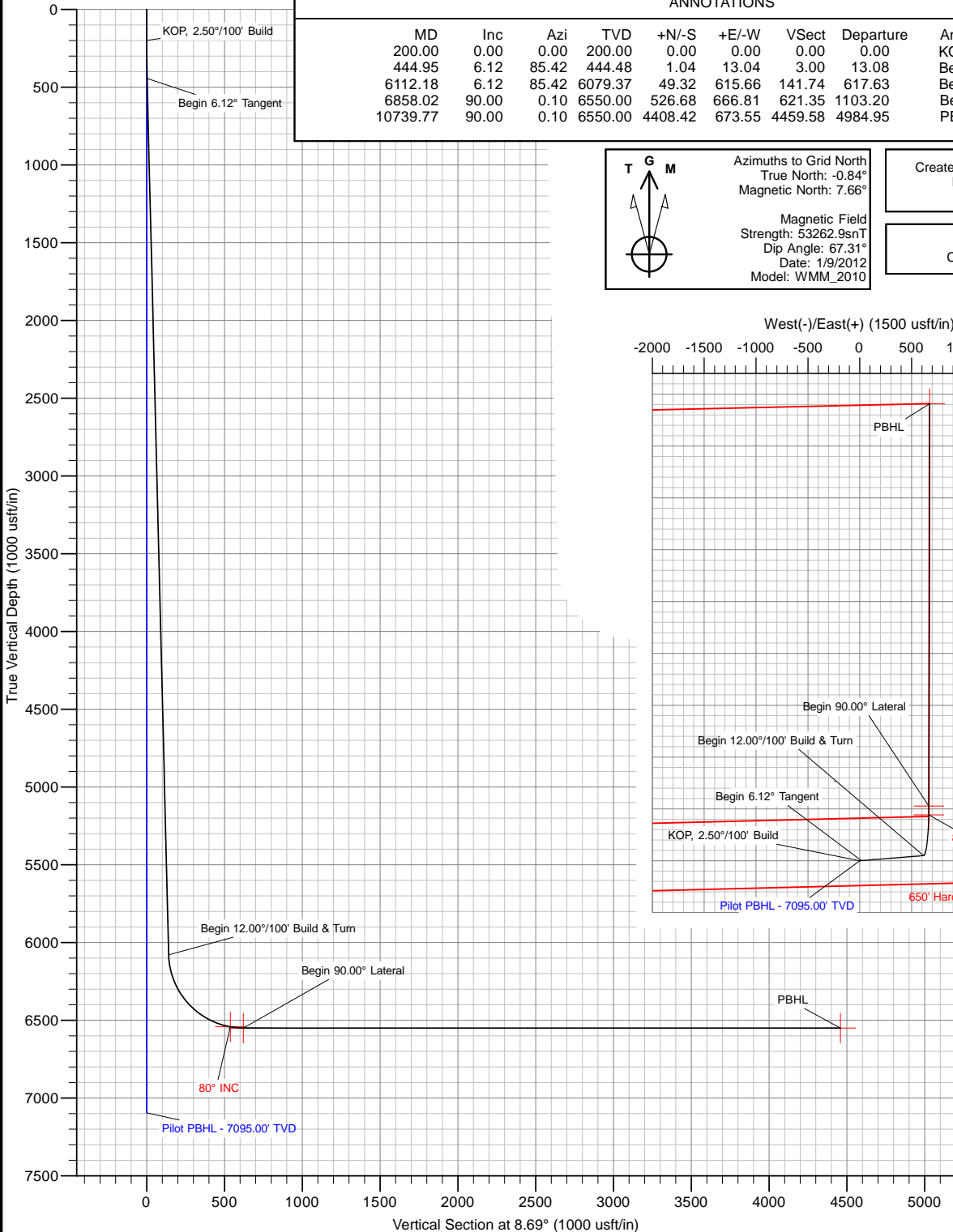
Company: Carrizo Oil & Gas
 Site: Debrine
 Well: 21-44-8-61
 Project: Weld County, Colorado (NAD83)
 Rig Name: Xtreme 19



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

PILOT ANNOTATIONS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	V Sect	Departure	Annotation	
7095.00	0.00	0.00	7095.00	0.00	0.00	0.00	0.00	Pilot PBHL - 7095.00' TVD	

ANNOTATIONS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	V Sect	Departure	Annotation	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	KOP, 2.50°/100' Build	
444.95	6.12	85.42	444.48	1.04	13.04	3.00	13.08	Begin 6.12° Tangent	
6112.18	6.12	85.42	6079.37	49.32	615.66	141.74	617.63	Begin 12.00°/100' Build & Turn	
6858.02	90.00	0.10	6550.00	526.68	666.81	621.35	1103.20	Begin 90.00° Lateral	
10739.77	90.00	0.10	6550.00	4408.42	673.55	4459.58	4984.95	PBHL	



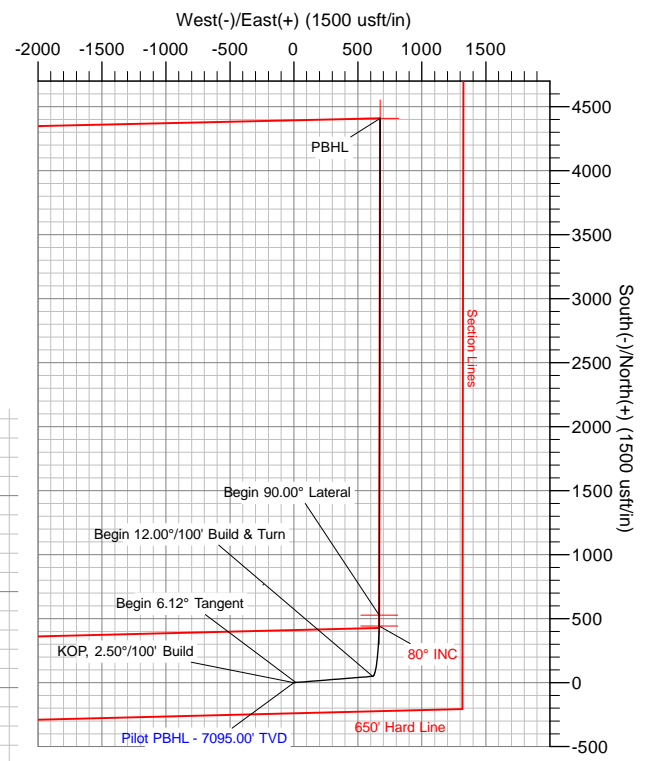
T G M

Azimuths to Grid North
 True North: -0.84°
 Magnetic North: 7.66°

Magnetic Field
 Strength: 53262.9snT
 Dip Angle: 67.31°
 Date: 1/9/2012
 Model: WMM_2010

Created By: Marcus Mitcham
 Date: 11:10, January 09 2012
 Plan: Design #1

US State Plane 1983
 Colorado Northern Zone



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)

Debrine

21-44-8-61

Wellbore #1

Plan: Design #1

Standard Planning Report

09 January, 2012

Database:	Local DB	Local Co-ordinate Reference:	Well 21-44-8-61
Company:	Carrizo Oil & Gas	TVD Reference:	WELL @ 5019.70usft (Xtreme 19)
Project:	Weld County, Colorado (NAD83)	MD Reference:	WELL @ 5019.70usft (Xtreme 19)
Site:	Debrine	North Reference:	Grid
Well:	21-44-8-61	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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	21-44-8-61					
Well Position	+N/-S	1,478,850.12 usft	Northing:	1,478,850.12 usft	Latitude:	40° 38' 26.340 N
	+E/-W	3,359,030.58 usft	Easting:	3,359,030.58 usft	Longitude:	104° 12' 22.505 W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	5,002.70 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	WMM_2010	1/9/2012	8.50	67.31	53,263

Design	Design #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	8.69

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
444.95	6.12	85.42	444.48	1.04	13.04	2.50	2.50	0.00	85.42	
6,112.18	6.12	85.42	6,079.37	49.32	615.66	0.00	0.00	0.00	0.00	
6,858.02	90.00	0.10	6,550.00	526.68	666.81	12.00	11.25	-11.44	-85.35	90° INC v4 - Debrine
10,739.77	90.00	0.10	6,550.00	4,408.42	673.55	0.00	0.00	0.00	0.00	PBHL v4 - Debrine - 2



Database:	Local DB	Local Co-ordinate Reference:	Well 21-44-8-61
Company:	Carrizo Oil & Gas	TVD Reference:	WELL @ 5019.70usft (Xtreme 19)
Project:	Weld County, Colorado (NAD83)	MD Reference:	WELL @ 5019.70usft (Xtreme 19)
Site:	Debrine	North Reference:	Grid
Well:	21-44-8-61	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned 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	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP, 2.50°/100' Build										
300.00	2.50	85.42	299.97	0.17	2.17	0.50	2.50	2.50	0.00	0.00
400.00	5.00	85.42	399.75	0.70	8.69	2.00	2.50	2.50	0.00	0.00
444.95	6.12	85.42	444.48	1.04	13.04	3.00	2.50	2.50	0.00	0.00
Begin 6.12° Tangent										
500.00	6.12	85.42	499.22	1.51	18.89	4.35	0.00	0.00	0.00	0.00
600.00	6.12	85.42	598.65	2.37	29.52	6.80	0.00	0.00	0.00	0.00
700.00	6.12	85.42	698.08	3.22	40.16	9.25	0.00	0.00	0.00	0.00
800.00	6.12	85.42	797.51	4.07	50.79	11.69	0.00	0.00	0.00	0.00
900.00	6.12	85.42	896.94	4.92	61.42	14.14	0.00	0.00	0.00	0.00
1,000.00	6.12	85.42	996.37	5.77	72.06	16.59	0.00	0.00	0.00	0.00
1,100.00	6.12	85.42	1,095.80	6.62	82.69	19.04	0.00	0.00	0.00	0.00
1,200.00	6.12	85.42	1,195.23	7.48	93.32	21.49	0.00	0.00	0.00	0.00
1,300.00	6.12	85.42	1,294.65	8.33	103.96	23.93	0.00	0.00	0.00	0.00
1,400.00	6.12	85.42	1,394.08	9.18	114.59	26.38	0.00	0.00	0.00	0.00
1,500.00	6.12	85.42	1,493.51	10.03	125.22	28.83	0.00	0.00	0.00	0.00
1,600.00	6.12	85.42	1,592.94	10.88	135.86	31.28	0.00	0.00	0.00	0.00
1,700.00	6.12	85.42	1,692.37	11.74	146.49	33.73	0.00	0.00	0.00	0.00
1,800.00	6.12	85.42	1,791.80	12.59	157.12	36.17	0.00	0.00	0.00	0.00
1,900.00	6.12	85.42	1,891.23	13.44	167.76	38.62	0.00	0.00	0.00	0.00
2,000.00	6.12	85.42	1,990.66	14.29	178.39	41.07	0.00	0.00	0.00	0.00
2,100.00	6.12	85.42	2,090.09	15.14	189.02	43.52	0.00	0.00	0.00	0.00
2,200.00	6.12	85.42	2,189.52	15.99	199.66	45.97	0.00	0.00	0.00	0.00
2,300.00	6.12	85.42	2,288.95	16.85	210.29	48.41	0.00	0.00	0.00	0.00
2,400.00	6.12	85.42	2,388.38	17.70	220.92	50.86	0.00	0.00	0.00	0.00
2,500.00	6.12	85.42	2,487.81	18.55	231.56	53.31	0.00	0.00	0.00	0.00
2,600.00	6.12	85.42	2,587.24	19.40	242.19	55.76	0.00	0.00	0.00	0.00
2,700.00	6.12	85.42	2,686.67	20.25	252.83	58.21	0.00	0.00	0.00	0.00
2,800.00	6.12	85.42	2,786.10	21.11	263.46	60.66	0.00	0.00	0.00	0.00
2,900.00	6.12	85.42	2,885.53	21.96	274.09	63.10	0.00	0.00	0.00	0.00
3,000.00	6.12	85.42	2,984.95	22.81	284.73	65.55	0.00	0.00	0.00	0.00
3,100.00	6.12	85.42	3,084.38	23.66	295.36	68.00	0.00	0.00	0.00	0.00
3,200.00	6.12	85.42	3,183.81	24.51	305.99	70.45	0.00	0.00	0.00	0.00
3,300.00	6.12	85.42	3,283.24	25.37	316.63	72.90	0.00	0.00	0.00	0.00
3,400.00	6.12	85.42	3,382.67	26.22	327.26	75.34	0.00	0.00	0.00	0.00
3,500.00	6.12	85.42	3,482.10	27.07	337.89	77.79	0.00	0.00	0.00	0.00
3,600.00	6.12	85.42	3,581.53	27.92	348.53	80.24	0.00	0.00	0.00	0.00
3,700.00	6.12	85.42	3,680.96	28.77	359.16	82.69	0.00	0.00	0.00	0.00
3,800.00	6.12	85.42	3,780.39	29.62	369.79	85.14	0.00	0.00	0.00	0.00
3,900.00	6.12	85.42	3,879.82	30.48	380.43	87.58	0.00	0.00	0.00	0.00
4,000.00	6.12	85.42	3,979.25	31.33	391.06	90.03	0.00	0.00	0.00	0.00
4,100.00	6.12	85.42	4,078.68	32.18	401.69	92.48	0.00	0.00	0.00	0.00
4,200.00	6.12	85.42	4,178.11	33.03	412.33	94.93	0.00	0.00	0.00	0.00
4,300.00	6.12	85.42	4,277.54	33.88	422.96	97.38	0.00	0.00	0.00	0.00
4,400.00	6.12	85.42	4,376.97	34.74	433.59	99.83	0.00	0.00	0.00	0.00
4,500.00	6.12	85.42	4,476.40	35.59	444.23	102.27	0.00	0.00	0.00	0.00
4,600.00	6.12	85.42	4,575.83	36.44	454.86	104.72	0.00	0.00	0.00	0.00
4,700.00	6.12	85.42	4,675.25	37.29	465.49	107.17	0.00	0.00	0.00	0.00
4,800.00	6.12	85.42	4,774.68	38.14	476.13	109.62	0.00	0.00	0.00	0.00
4,900.00	6.12	85.42	4,874.11	39.00	486.76	112.07	0.00	0.00	0.00	0.00
5,000.00	6.12	85.42	4,973.54	39.85	497.39	114.51	0.00	0.00	0.00	0.00

Database:	Local DB	Local Co-ordinate Reference:	Well 21-44-8-61
Company:	Carrizo Oil & Gas	TVD Reference:	WELL @ 5019.70usft (Xtreme 19)
Project:	Weld County, Colorado (NAD83)	MD Reference:	WELL @ 5019.70usft (Xtreme 19)
Site:	Debrine	North Reference:	Grid
Well:	21-44-8-61	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned 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)	
5,100.00	6.12	85.42	5,072.97	40.70	508.03	116.96	0.00	0.00	0.00	
5,200.00	6.12	85.42	5,172.40	41.55	518.66	119.41	0.00	0.00	0.00	
5,300.00	6.12	85.42	5,271.83	42.40	529.29	121.86	0.00	0.00	0.00	
5,400.00	6.12	85.42	5,371.26	43.25	539.93	124.31	0.00	0.00	0.00	
5,500.00	6.12	85.42	5,470.69	44.11	550.56	126.75	0.00	0.00	0.00	
5,600.00	6.12	85.42	5,570.12	44.96	561.20	129.20	0.00	0.00	0.00	
5,700.00	6.12	85.42	5,669.55	45.81	571.83	131.65	0.00	0.00	0.00	
5,800.00	6.12	85.42	5,768.98	46.66	582.46	134.10	0.00	0.00	0.00	
5,900.00	6.12	85.42	5,868.41	47.51	593.10	136.55	0.00	0.00	0.00	
6,000.00	6.12	85.42	5,967.84	48.37	603.73	138.99	0.00	0.00	0.00	
6,100.00	6.12	85.42	6,067.27	49.22	614.36	141.44	0.00	0.00	0.00	
6,112.18	6.12	85.42	6,079.37	49.32	615.66	141.74	0.00	0.00	0.00	
Begin 12.00°/100' Build & Turn										
6,125.00	6.43	71.60	6,092.12	49.60	617.02	142.23	12.00	2.41	-107.77	
6,150.00	7.91	50.44	6,116.93	51.14	619.68	144.15	12.00	5.90	-84.64	
6,175.00	10.08	37.08	6,141.62	53.98	622.32	147.35	12.00	8.69	-53.45	
6,200.00	12.59	28.69	6,166.13	58.12	624.95	151.84	12.00	10.06	-33.54	
6,225.00	15.28	23.14	6,190.40	63.54	627.55	157.59	12.00	10.75	-22.22	
6,250.00	18.07	19.23	6,214.34	70.23	630.13	164.60	12.00	11.14	-15.61	
6,275.00	20.91	16.35	6,237.91	78.18	632.66	172.83	12.00	11.37	-11.53	
6,300.00	23.79	14.14	6,261.03	87.35	635.15	182.27	12.00	11.52	-8.86	
6,325.00	26.69	12.38	6,283.64	97.72	637.58	192.90	12.00	11.62	-7.04	
6,350.00	29.62	10.94	6,305.68	109.28	639.96	204.68	12.00	11.69	-5.74	
6,375.00	32.55	9.74	6,327.09	121.97	642.27	217.58	12.00	11.74	-4.80	
6,400.00	35.50	8.72	6,347.81	135.78	644.51	231.57	12.00	11.78	-4.08	
6,425.00	38.45	7.84	6,367.78	150.66	646.67	246.60	12.00	11.81	-3.53	
6,450.00	41.41	7.06	6,386.95	166.57	648.75	262.64	12.00	11.83	-3.10	
6,475.00	44.37	6.37	6,405.26	183.46	650.74	279.64	12.00	11.85	-2.76	
6,500.00	47.34	5.75	6,422.67	201.30	652.63	297.56	12.00	11.87	-2.48	
6,525.00	50.31	5.19	6,439.13	220.03	654.42	316.35	12.00	11.88	-2.25	
6,550.00	53.28	4.67	6,454.59	239.60	656.11	335.95	12.00	11.89	-2.07	
6,575.00	56.26	4.20	6,469.01	259.96	657.69	356.31	12.00	11.90	-1.91	
6,600.00	59.23	3.75	6,482.35	281.05	659.15	377.38	12.00	11.90	-1.78	
6,625.00	62.21	3.33	6,494.57	302.81	660.49	399.09	12.00	11.91	-1.68	
6,650.00	65.19	2.93	6,505.65	325.19	661.72	421.40	12.00	11.92	-1.59	
6,675.00	68.17	2.55	6,515.55	348.11	662.82	444.23	12.00	11.92	-1.51	
6,700.00	71.15	2.19	6,524.24	371.53	663.79	467.52	12.00	11.92	-1.45	
6,725.00	74.13	1.84	6,531.69	395.38	664.62	491.22	12.00	11.93	-1.40	
6,750.00	77.11	1.50	6,537.90	419.58	665.33	515.25	12.00	11.93	-1.36	
6,775.00	80.09	1.17	6,542.84	444.08	665.90	539.56	12.00	11.93	-1.33	
6,800.00	83.08	0.84	6,546.50	468.80	666.34	564.06	12.00	11.93	-1.30	
6,825.00	86.06	0.52	6,548.87	493.68	666.63	588.71	12.00	11.93	-1.29	
6,850.00	89.04	0.20	6,549.93	518.66	666.79	613.42	12.00	11.93	-1.28	
6,858.02	90.00	0.10	6,550.00	526.68	666.81	621.35	12.00	11.93	-1.28	
Begin 90.00° Lateral										
6,900.00	90.00	0.10	6,550.00	568.66	666.88	662.86	0.00	0.00	0.00	
7,000.00	90.00	0.10	6,550.00	668.66	667.06	761.74	0.00	0.00	0.00	
7,100.00	90.00	0.10	6,550.00	768.66	667.23	860.62	0.00	0.00	0.00	
7,200.00	90.00	0.10	6,550.00	868.66	667.40	959.49	0.00	0.00	0.00	
7,300.00	90.00	0.10	6,550.00	968.66	667.58	1,058.37	0.00	0.00	0.00	
7,400.00	90.00	0.10	6,550.00	1,068.66	667.75	1,157.25	0.00	0.00	0.00	
7,500.00	90.00	0.10	6,550.00	1,168.66	667.92	1,256.13	0.00	0.00	0.00	
7,600.00	90.00	0.10	6,550.00	1,268.66	668.10	1,355.01	0.00	0.00	0.00	
7,700.00	90.00	0.10	6,550.00	1,368.66	668.27	1,453.89	0.00	0.00	0.00	



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Project:	Weld County, Colorado (NAD83)	MD Reference:	WELL @ 5019.70usft (Xtreme 19)
Site:	Debrine	North Reference:	Grid
Well:	21-44-8-61	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned 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)
7,800.00	90.00	0.10	6,550.00	1,468.66	668.45	1,552.77	0.00	0.00	0.00
7,900.00	90.00	0.10	6,550.00	1,568.66	668.62	1,651.65	0.00	0.00	0.00
8,000.00	90.00	0.10	6,550.00	1,668.66	668.79	1,750.53	0.00	0.00	0.00
8,100.00	90.00	0.10	6,550.00	1,768.66	668.97	1,849.40	0.00	0.00	0.00
8,200.00	90.00	0.10	6,550.00	1,868.66	669.14	1,948.28	0.00	0.00	0.00
8,300.00	90.00	0.10	6,550.00	1,968.66	669.31	2,047.16	0.00	0.00	0.00
8,400.00	90.00	0.10	6,550.00	2,068.66	669.49	2,146.04	0.00	0.00	0.00
8,500.00	90.00	0.10	6,550.00	2,168.66	669.66	2,244.92	0.00	0.00	0.00
8,600.00	90.00	0.10	6,550.00	2,268.66	669.83	2,343.80	0.00	0.00	0.00
8,700.00	90.00	0.10	6,550.00	2,368.66	670.01	2,442.68	0.00	0.00	0.00
8,800.00	90.00	0.10	6,550.00	2,468.66	670.18	2,541.56	0.00	0.00	0.00
8,900.00	90.00	0.10	6,550.00	2,568.66	670.36	2,640.44	0.00	0.00	0.00
9,000.00	90.00	0.10	6,550.00	2,668.66	670.53	2,739.31	0.00	0.00	0.00
9,100.00	90.00	0.10	6,550.00	2,768.66	670.70	2,838.19	0.00	0.00	0.00
9,200.00	90.00	0.10	6,550.00	2,868.65	670.88	2,937.07	0.00	0.00	0.00
9,300.00	90.00	0.10	6,550.00	2,968.65	671.05	3,035.95	0.00	0.00	0.00
9,400.00	90.00	0.10	6,550.00	3,068.65	671.22	3,134.83	0.00	0.00	0.00
9,500.00	90.00	0.10	6,550.00	3,168.65	671.40	3,233.71	0.00	0.00	0.00
9,600.00	90.00	0.10	6,550.00	3,268.65	671.57	3,332.59	0.00	0.00	0.00
9,700.00	90.00	0.10	6,550.00	3,368.65	671.74	3,431.47	0.00	0.00	0.00
9,800.00	90.00	0.10	6,550.00	3,468.65	671.92	3,530.35	0.00	0.00	0.00
9,900.00	90.00	0.10	6,550.00	3,568.65	672.09	3,629.23	0.00	0.00	0.00
10,000.00	90.00	0.10	6,550.00	3,668.65	672.27	3,728.10	0.00	0.00	0.00
10,100.00	90.00	0.10	6,550.00	3,768.65	672.44	3,826.98	0.00	0.00	0.00
10,200.00	90.00	0.10	6,550.00	3,868.65	672.61	3,925.86	0.00	0.00	0.00
10,300.00	90.00	0.10	6,550.00	3,968.65	672.79	4,024.74	0.00	0.00	0.00
10,400.00	90.00	0.10	6,550.00	4,068.65	672.96	4,123.62	0.00	0.00	0.00
10,500.00	90.00	0.10	6,550.00	4,168.65	673.13	4,222.50	0.00	0.00	0.00
10,600.00	90.00	0.10	6,550.00	4,268.65	673.31	4,321.38	0.00	0.00	0.00
10,700.00	90.00	0.10	6,550.00	4,368.65	673.48	4,420.26	0.00	0.00	0.00
10,739.77	90.00	0.10	6,550.00	4,408.42	673.55	4,459.58	0.00	0.00	0.00
PBHL									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
80° INC v4 - Debrine - 2 - hit/miss target - Shape - Point	0.00	0.00	6,542.70	443.30	665.89	1,479,293.42	3,359,696.46	40° 38' 30.624 N	104° 12' 13.784 W
PBHL v4 - Debrine - 21- - plan hits target center - Point	0.00	0.00	6,550.00	4,408.42	673.55	1,483,258.54	3,359,704.13	40° 39' 9.799 N	104° 12' 12.932 W
90° INC v4 - Debrine - 2 - plan hits target center - Point	0.00	0.00	6,550.00	526.68	666.81	1,479,376.80	3,359,697.39	40° 38' 31.447 N	104° 12' 13.756 W



Database:	Local DB	Local Co-ordinate Reference:	Well 21-44-8-61
Company:	Carrizo Oil & Gas	TVD Reference:	WELL @ 5019.70usft (Xtreme 19)
Project:	Weld County, Colorado (NAD83)	MD Reference:	WELL @ 5019.70usft (Xtreme 19)
Site:	Debrine	North Reference:	Grid
Well:	21-44-8-61	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
200.00	200.00	0.00	0.00	KOP, 2.50°/100' Build	
444.95	444.48	1.04	13.04	Begin 6.12° Tangent	
6,112.18	6,079.37	49.32	615.66	Begin 12.00°/100' Build & Turn	
6,858.02	6,550.00	526.68	666.81	Begin 90.00° Lateral	
10,739.77	6,550.00	4,408.42	673.55	PBHL	