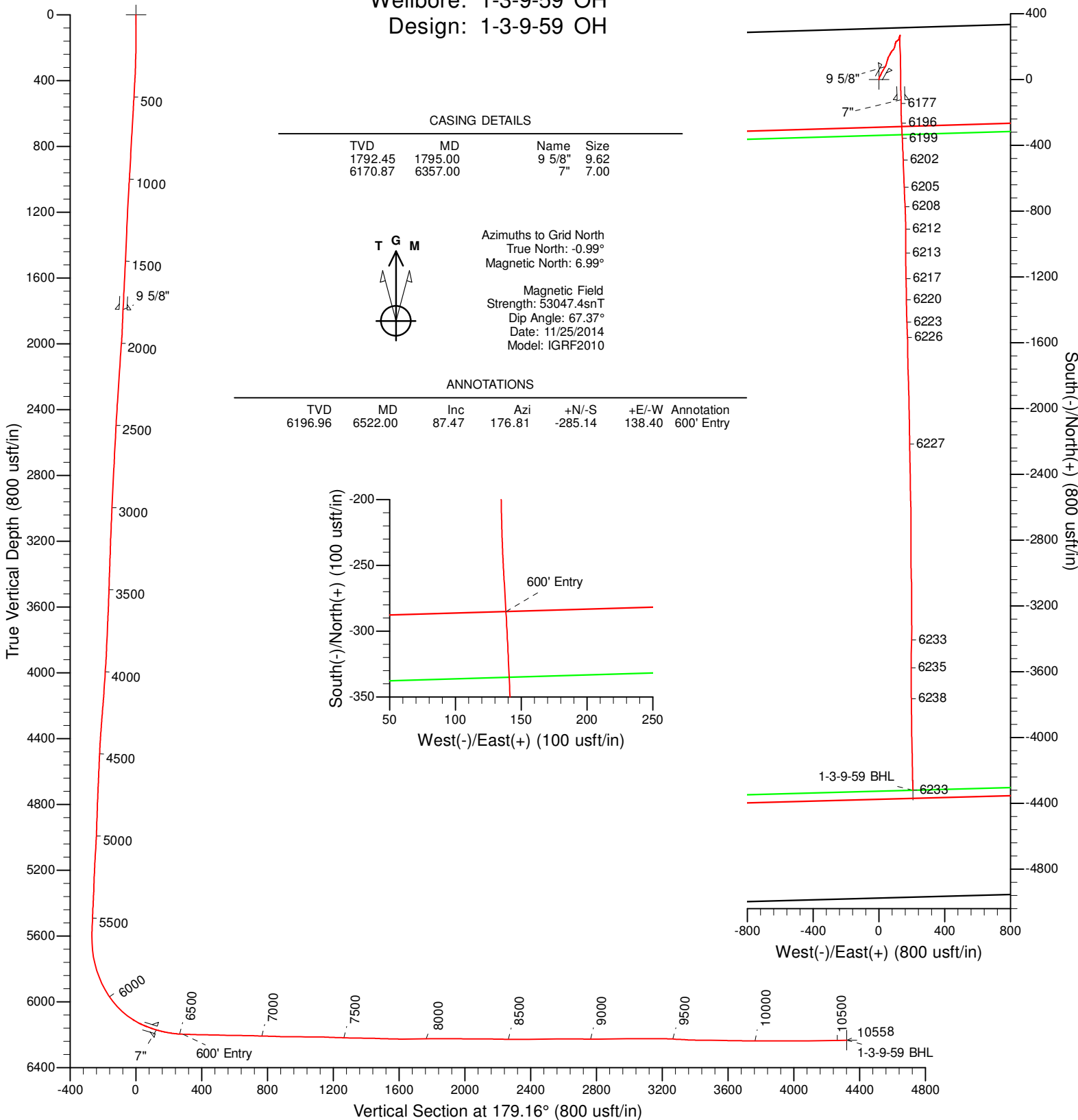




Project: Niobrara CON'83  
County: Weld  
Site: Timbro Ranch 3&34 Pad  
Well: 1-3-9-59  
Wellbore: 1-3-9-59 OH  
Design: 1-3-9-59 OH



#### LOCATION CALLS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
1-3-9-59 SHL	0.00	0.00	0.00	1532962.70	3425536.07	40° 47' 10.48 N	103° 57' 47.76 W
1-3-9-59 BHL	6233.21	-4319.27	206.18	1528643.43	3425742.25	40° 46' 27.78 N	103° 57' 46.06 W

## Titan Directional Drilling, LLC

## Survey Report

<b>Company:</b>	Carrizo Oil & Gas, Inc.	<b>Local Co-ordinate Reference:</b>	Well 1-3-9-59
<b>Project:</b>	Niobrara CON'83	<b>TVD Reference:</b>	5065'GL+17"KB @ 5082.00usft (Xtreme 19)
<b>Site:</b>	Timbro Ranch 3&34 Pad	<b>MD Reference:</b>	5065'GL+17"KB @ 5082.00usft (Xtreme 19)
<b>Well:</b>	1-3-9-59	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	1-3-9-59 OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	1-3-9-59 OH	<b>Database:</b>	EDM 5000.1 Single User Db

<b>Project</b>	Niobrara CON'83,		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

<b>Site</b>	Timbro Ranch 3&34 Pad, Centered on 2-34-10-59		
<b>Site Position:</b>		<b>Northing:</b>	1,532,965.70 usft
<b>From:</b>	Map	<b>Easting:</b>	3,425,550.75 usft
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13.20 in
		<b>Latitude:</b>	40° 47' 10.51 N
		<b>Longitude:</b>	103° 57' 47.57 W
		<b>Grid Convergence:</b>	0.99 °

<b>Well</b>	1-3-9-59		
<b>Well Position</b>	<b>+N/-S</b>	0.00 usft	<b>Northing:</b>
	<b>+E/-W</b>	0.00 usft	<b>Easting:</b>
<b>Position Uncertainty</b>	0.00 usft	<b>Wellhead Elevation:</b>	5,082.00 usft
		<b>Latitude:</b>	40° 47' 10.48 N
		<b>Longitude:</b>	103° 57' 47.76 W
		<b>Ground Level:</b>	5,065.00 usft

<b>Wellbore</b>	1-3-9-59 OH		
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination</b>
			(°)
	IGRF2010	11/25/14	7.99
			<b>Dip Angle</b>
			(°)
			67.37
			<b>Field Strength</b>
			(nT)
			53,047

<b>Design</b>	1-3-9-59 OH		
<b>Audit Notes:</b>			
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL
		<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			<b>Direction</b>
			(°)
			179.16

<b>Survey Program</b>	<b>Date</b>	12/30/14		
<b>From</b>	<b>To</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
(usft)	(usft)			
139.00	10,504.00	Survey #1 (1-3-9-59 OH)	MWD	MWD - Standard
10,558.00	10,558.00	Projection (1-3-9-59 OH)	ZERO-ERROR	Zero Error

<b>Survey</b>										
<b>Measured</b>	<b>Inclination</b>	<b>Azimuth</b>	<b>Vertical</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Vertical</b>	<b>Dogleg</b>	<b>Build</b>	<b>Turn</b>	
<b>Depth</b>	<b>(°)</b>	<b>(°)</b>	<b>Depth</b>	<b>(usft)</b>	<b>(usft)</b>	<b>Section</b>	<b>Rate</b>	<b>Rate</b>	<b>Rate</b>	
<b>(usft)</b>			<b>(usft)</b>			<b>(usft)</b>	<b>(°/100ft)</b>	<b>(°/100ft)</b>	<b>(°/100ft)</b>	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
139.00	0.75	263.54	139.00	-0.10	-0.90	0.09	0.54	0.54	0.00	
232.00	1.32	36.35	231.99	0.69	-0.87	-0.70	2.05	0.61	142.81	
323.00	2.02	10.68	322.95	3.11	0.04	-3.11	1.11	0.77	-28.21	
414.00	3.38	14.64	413.85	7.28	1.02	-7.27	1.51	1.49	4.35	
504.00	3.34	14.90	503.69	12.38	2.36	-12.35	0.05	-0.04	0.29	
596.00	3.87	31.78	595.51	17.61	4.69	-17.54	1.28	0.58	18.35	
686.00	3.74	29.67	685.31	22.75	7.74	-22.63	0.21	-0.14	-2.34	
777.00	3.56	27.38	776.13	27.83	10.51	-27.68	0.25	-0.20	-2.52	
868.00	3.38	23.16	866.96	32.81	12.86	-32.62	0.34	-0.20	-4.64	

# Titan Directional Drilling, LLC

## Survey Report

<b>Company:</b>	Carrizo Oil & Gas, Inc.	<b>Local Co-ordinate Reference:</b>	Well 1-3-9-59
<b>Project:</b>	Niobrara CON'83	<b>TVD Reference:</b>	5065'GL+17"KB @ 5082.00usft (Xtreme 19)
<b>Site:</b>	Timbro Ranch 3&34 Pad	<b>MD Reference:</b>	5065'GL+17"KB @ 5082.00usft (Xtreme 19)
<b>Well:</b>	1-3-9-59	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	1-3-9-59 OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	1-3-9-59 OH	<b>Database:</b>	EDM 5000.1 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
958.00	3.34	16.04	956.81	37.77	14.63	-37.55	0.47	-0.04	-7.91
1,049.00	3.78	30.28	1,047.63	42.91	16.88	-42.65	1.08	0.48	15.65
1,140.00	3.43	31.07	1,138.45	47.83	19.79	-47.53	0.39	-0.38	0.87
1,230.00	3.30	31.78	1,228.30	52.34	22.55	-52.00	0.15	-0.14	0.79
1,321.00	3.08	27.56	1,319.16	56.73	25.06	-56.36	0.35	-0.24	-4.64
1,412.00	3.08	31.69	1,410.03	60.98	27.47	-60.57	0.24	0.00	4.54
1,503.00	3.03	32.65	1,500.90	65.08	30.06	-64.64	0.08	-0.05	1.05
1,588.00	3.16	32.92	1,585.77	68.94	32.54	-68.46	0.15	0.15	0.32
1,673.00	3.30	32.92	1,670.64	72.96	35.14	-72.44	0.16	0.16	0.00
1,757.00	3.12	30.81	1,754.51	76.95	37.63	-76.39	0.26	-0.21	-2.51
1,795.00	3.05	29.88	1,792.45	78.72	38.66	-78.14	0.22	-0.17	-2.43
9 5/8"									
1,826.00	3.00	29.10	1,823.41	80.14	39.47	-79.56	0.22	-0.17	-2.53
1,911.00	2.20	12.90	1,908.32	83.68	40.91	-83.07	1.27	-0.94	-19.06
1,996.00	4.40	19.30	1,993.18	88.35	42.36	-87.72	2.62	2.59	7.53
2,081.00	4.20	18.30	2,077.94	94.38	44.41	-93.72	0.25	-0.24	-1.18
2,166.00	4.00	16.30	2,162.72	100.18	46.22	-99.49	0.29	-0.24	-2.35
2,251.00	4.00	14.30	2,247.51	105.90	47.79	-105.19	0.16	0.00	-2.35
2,336.00	4.00	18.00	2,332.30	111.59	49.43	-110.85	0.30	0.00	4.35
2,422.00	3.70	19.20	2,418.11	117.06	51.27	-116.30	0.36	-0.35	1.40
2,505.00	3.30	17.20	2,500.96	121.87	52.86	-121.09	0.50	-0.48	-2.41
2,590.00	2.90	11.80	2,585.83	126.32	54.02	-125.51	0.58	-0.47	-6.35
2,675.00	2.80	9.10	2,670.73	130.47	54.79	-129.65	0.20	-0.12	-3.18
2,760.00	3.30	31.20	2,755.61	134.61	56.39	-133.77	1.49	0.59	26.00
2,845.00	3.20	33.00	2,840.47	138.70	58.95	-137.82	0.17	-0.12	2.12
2,930.00	3.30	31.30	2,925.34	142.78	61.51	-141.86	0.16	0.12	-2.00
3,016.00	3.30	29.40	3,011.19	147.05	64.01	-146.09	0.13	0.00	-2.21
3,099.00	2.80	28.90	3,094.07	150.90	66.16	-149.92	0.60	-0.60	-0.60
3,184.00	2.60	25.60	3,178.98	154.46	68.00	-153.45	0.30	-0.24	-3.88
3,269.00	1.60	15.30	3,263.92	157.34	69.15	-156.31	1.25	-1.18	-12.12
3,354.00	2.90	35.60	3,348.86	160.24	70.71	-159.18	1.77	1.53	23.88
3,438.00	2.10	36.50	3,432.78	163.20	72.86	-162.12	0.95	-0.95	1.07
3,523.00	2.00	25.60	3,517.72	165.79	74.43	-164.68	0.47	-0.12	-12.82
3,608.00	2.20	8.50	3,602.67	168.74	75.31	-167.62	0.77	0.24	-20.12
3,693.00	3.80	44.80	3,687.55	172.36	77.54	-171.20	2.83	1.88	42.71
3,778.00	3.80	47.40	3,772.37	176.26	81.60	-175.05	0.20	0.00	3.06
3,863.00	3.50	48.80	3,857.19	179.88	85.62	-178.60	0.37	-0.35	1.65
3,948.00	4.20	26.20	3,942.01	184.38	88.95	-183.05	1.95	0.82	-26.59
4,033.00	4.10	26.10	4,026.78	189.90	91.66	-188.54	0.12	-0.12	-0.12
4,118.00	4.20	27.60	4,111.56	195.39	94.44	-193.98	0.17	0.12	1.76
4,204.00	5.00	6.90	4,197.29	201.90	96.35	-200.46	2.13	0.93	-24.07
4,289.00	4.60	17.40	4,281.99	208.83	97.81	-207.37	1.13	-0.47	12.35
4,374.00	4.20	3.40	4,366.74	215.19	99.02	-213.71	1.34	-0.47	-16.47

# Titan Directional Drilling, LLC

## Survey Report

<b>Company:</b>	Carrizo Oil & Gas, Inc.	<b>Local Co-ordinate Reference:</b>	Well 1-3-9-59
<b>Project:</b>	Niobrara CON'83	<b>TVD Reference:</b>	5065'GL+17"KB @ 5082.00usft (Xtreme 19)
<b>Site:</b>	Timbro Ranch 3&34 Pad	<b>MD Reference:</b>	5065'GL+17"KB @ 5082.00usft (Xtreme 19)
<b>Well:</b>	1-3-9-59	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	1-3-9-59 OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	1-3-9-59 OH	<b>Database:</b>	EDM 5000.1 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
4,459.00	3.30	26.00	4,451.57	220.50	100.27	-219.00	2.02	-1.06	26.59	
4,545.00	2.40	3.40	4,537.46	224.52	101.47	-223.01	1.65	-1.05	-26.28	
4,630.00	2.80	28.40	4,622.38	228.12	102.56	-226.59	1.40	0.47	29.41	
4,715.00	4.20	50.30	4,707.22	231.94	105.94	-230.36	2.25	1.65	25.76	
4,800.00	3.70	60.40	4,792.02	235.28	110.72	-233.63	1.01	-0.59	11.88	
4,885.00	3.20	46.50	4,876.87	238.27	114.83	-236.56	1.14	-0.59	-16.35	
4,970.00	2.50	45.10	4,961.76	241.21	117.86	-239.45	0.83	-0.82	-1.65	
5,055.00	3.80	23.20	5,046.63	245.11	120.28	-243.32	2.06	1.53	-25.76	
5,141.00	3.50	17.40	5,132.46	250.23	122.19	-248.41	0.55	-0.35	-6.74	
5,225.00	2.60	12.40	5,216.34	254.54	123.37	-252.70	1.12	-1.07	-5.95	
5,311.00	1.70	15.50	5,302.28	257.67	124.13	-255.82	1.05	-1.05	3.60	
5,396.00	3.40	26.50	5,387.19	261.14	125.59	-259.27	2.07	2.00	12.94	
5,481.00	2.60	20.30	5,472.07	265.21	127.38	-263.31	1.01	-0.94	-7.29	
5,567.00	2.20	14.50	5,558.00	268.63	128.47	-266.72	0.54	-0.47	-6.74	
5,609.00	0.80	44.40	5,599.98	269.62	128.88	-267.71	3.71	-3.33	71.19	
5,652.00	2.20	178.30	5,642.97	269.01	129.11	-267.09	6.55	3.26	311.39	
5,694.00	6.00	189.60	5,684.86	266.04	128.77	-264.13	9.21	9.05	26.90	
5,737.00	10.30	188.70	5,727.41	260.02	127.82	-258.12	10.00	10.00	-2.09	
5,779.00	13.90	181.50	5,768.48	251.27	127.11	-249.38	9.28	8.57	-17.14	
5,821.00	17.50	180.40	5,808.90	239.90	126.94	-238.02	8.60	8.57	-2.62	
5,863.00	20.70	180.20	5,848.59	226.16	126.87	-224.28	7.62	7.62	-0.48	
5,906.00	24.90	179.30	5,888.22	209.50	126.95	-207.62	9.80	9.77	-2.09	
5,948.00	29.60	175.70	5,925.55	190.31	127.84	-188.41	11.85	11.19	-8.57	
5,991.00	33.70	177.10	5,962.15	167.79	129.24	-165.88	9.69	9.53	3.26	
6,033.00	37.90	179.20	5,996.20	143.25	130.01	-141.33	10.42	10.00	5.00	
6,075.00	42.70	179.20	6,028.23	116.09	130.39	-114.17	11.43	11.43	0.00	
6,118.00	47.30	178.20	6,058.62	85.70	131.09	-83.77	10.82	10.70	-2.33	
6,160.00	52.30	180.00	6,085.73	53.64	131.57	-51.71	12.35	11.90	4.29	
6,203.00	58.20	179.60	6,110.23	18.33	131.70	-16.39	13.74	13.72	-0.93	
6,245.00	64.00	179.70	6,130.51	-18.43	131.93	20.36	13.81	13.81	0.24	
6,288.00	68.10	178.50	6,147.97	-57.71	132.55	59.65	9.87	9.53	-2.79	
6,324.00	70.50	178.70	6,160.69	-91.37	133.37	93.32	6.69	6.67	0.56	
6,357.00	73.57	179.10	6,170.87	-122.76	133.97	124.71	9.36	9.29	1.20	
7"										
6,409.00	78.40	179.70	6,183.46	-173.19	134.50	175.14	9.36	9.30	1.16	
6,454.00	81.60	178.60	6,191.27	-217.49	135.16	219.45	7.51	7.11	-2.44	
6,500.00	86.90	176.50	6,195.88	-263.20	137.12	265.18	12.38	11.52	-4.57	
6,522.00	87.47	176.81	6,196.96	-285.14	138.40	287.14	2.95	2.59	1.41	
600' Entry										
6,585.00	89.10	177.70	6,198.85	-348.03	141.42	350.07	2.95	2.59	1.41	
6,671.00	88.50	177.20	6,200.65	-433.93	145.24	436.01	0.91	-0.70	-0.58	
6,755.00	88.80	178.10	6,202.63	-517.84	148.68	519.96	1.13	0.36	1.07	
6,839.00	89.20	178.00	6,204.09	-601.77	151.54	603.93	0.49	0.48	-0.12	
6,924.00	88.60	177.70	6,205.73	-686.70	154.73	688.89	0.79	-0.71	-0.35	

# Titan Directional Drilling, LLC

## Survey Report

<b>Company:</b>	Carrizo Oil & Gas, Inc.	<b>Local Co-ordinate Reference:</b>	Well 1-3-9-59
<b>Project:</b>	Niobrara CON'83	<b>TVD Reference:</b>	5065'GL+17"KB @ 5082.00usft (Xtreme 19)
<b>Site:</b>	Timbro Ranch 3&34 Pad	<b>MD Reference:</b>	5065'GL+17"KB @ 5082.00usft (Xtreme 19)
<b>Well:</b>	1-3-9-59	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	1-3-9-59 OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	1-3-9-59 OH	<b>Database:</b>	EDM 5000.1 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,009.00	88.40	176.80	6,207.95	-771.57	158.81	773.82	1.08	-0.24	-1.06
7,094.00	88.00	179.50	6,210.62	-856.48	161.55	858.75	3.21	-0.47	3.18
7,179.00	89.60	180.00	6,212.40	-941.45	161.92	943.73	1.97	1.88	0.59
7,265.00	89.80	179.80	6,212.85	-1,027.45	162.07	1,029.72	0.33	0.23	-0.23
7,348.00	89.10	179.20	6,213.65	-1,110.44	162.79	1,112.71	1.11	-0.84	-0.72
7,433.00	87.30	178.70	6,216.32	-1,195.38	164.35	1,197.66	2.20	-2.12	-0.59
7,518.00	89.10	179.30	6,218.99	-1,280.33	165.83	1,282.62	2.23	2.12	0.71
7,604.00	88.80	179.00	6,220.56	-1,366.30	167.11	1,368.60	0.49	-0.35	-0.35
7,687.00	88.70	178.60	6,222.37	-1,449.26	168.85	1,451.58	0.50	-0.12	-0.48
7,772.00	87.80	177.20	6,224.97	-1,534.16	171.96	1,536.52	1.96	-1.06	-1.65
7,857.00	90.10	179.60	6,226.53	-1,619.10	174.33	1,621.49	3.91	2.71	2.82
7,942.00	91.10	179.00	6,225.64	-1,704.09	175.37	1,706.48	1.37	1.18	-0.71
8,027.00	90.10	178.00	6,224.75	-1,789.06	177.60	1,791.47	1.66	-1.18	-1.18
8,112.00	90.20	178.40	6,224.53	-1,874.01	180.27	1,876.45	0.49	0.12	0.47
8,197.00	89.60	178.90	6,224.67	-1,958.99	182.27	1,961.45	0.92	-0.71	0.59
8,282.00	89.30	178.40	6,225.49	-2,043.96	184.27	2,046.44	0.69	-0.35	-0.59
8,367.00	89.80	180.00	6,226.16	-2,128.95	185.46	2,131.44	1.97	0.59	1.88
8,453.00	89.10	178.80	6,226.98	-2,214.94	186.36	2,217.43	1.62	-0.81	-1.40
8,538.00	89.70	178.70	6,227.87	-2,299.91	188.21	2,302.42	0.72	0.71	-0.12
8,623.00	90.70	179.50	6,227.58	-2,384.90	189.55	2,387.42	1.51	1.18	0.94
8,709.00	90.60	179.10	6,226.60	-2,470.89	190.60	2,473.41	0.48	-0.12	-0.47
8,794.00	90.80	178.20	6,225.56	-2,555.86	192.60	2,558.40	1.08	0.24	-1.06
8,879.00	89.50	180.00	6,225.34	-2,640.84	193.93	2,643.40	2.61	-1.53	2.12
8,964.00	88.80	178.70	6,226.60	-2,725.82	194.90	2,728.39	1.74	-0.82	-1.53
9,049.00	90.90	181.00	6,226.82	-2,810.81	195.12	2,813.37	3.66	2.47	2.71
9,134.00	90.90	180.00	6,225.49	-2,895.80	194.38	2,898.33	1.18	0.00	-1.18
9,219.00	90.40	178.70	6,224.52	-2,980.78	195.34	2,983.33	1.64	-0.59	-1.53
9,304.00	90.60	177.80	6,223.78	-3,065.74	197.94	3,068.31	1.08	0.24	-1.06
9,390.00	90.00	180.70	6,223.33	-3,151.72	199.06	3,154.30	3.44	-0.70	3.37
9,474.00	87.60	179.90	6,225.09	-3,235.69	198.62	3,238.26	3.01	-2.86	-0.95
9,560.00	86.50	179.30	6,229.52	-3,321.58	199.22	3,324.14	1.46	-1.28	-0.70
9,645.00	88.80	181.50	6,233.00	-3,406.49	198.63	3,409.04	3.74	2.71	2.59
9,730.00	89.50	181.10	6,234.26	-3,491.46	196.70	3,493.97	0.95	0.82	-0.47
9,815.00	89.50	180.60	6,235.00	-3,576.45	195.44	3,578.93	0.59	0.00	-0.59
9,900.00	88.70	179.70	6,236.34	-3,661.44	195.22	3,663.90	1.42	-0.94	-1.06
9,985.00	89.30	178.50	6,237.82	-3,746.41	196.55	3,748.89	1.58	0.71	-1.41
10,069.00	90.30	180.10	6,238.12	-3,830.40	197.58	3,832.88	2.25	1.19	1.90
10,154.00	90.30	179.40	6,237.67	-3,915.40	197.95	3,917.88	0.82	0.00	-0.82
10,239.00	90.20	178.70	6,237.30	-4,000.38	199.36	4,002.88	0.83	-0.12	-0.82
10,324.00	89.90	178.60	6,237.23	-4,085.36	201.36	4,087.87	0.37	-0.35	-0.12
10,409.00	91.00	179.10	6,236.56	-4,170.34	203.07	4,172.87	1.42	1.29	0.59
10,493.00	91.40	178.80	6,234.80	-4,254.31	204.61	4,256.85	0.60	0.48	-0.36
10,504.00	91.40	178.60	6,234.53	-4,265.30	204.86	4,267.84	1.82	0.00	-1.82

# Titan Directional Drilling, LLC

## Survey Report

<b>Company:</b>	Carrizo Oil & Gas, Inc.	<b>Local Co-ordinate Reference:</b>	Well 1-3-9-59
<b>Project:</b>	Niobrara CON'83	<b>TVD Reference:</b>	5065'GL+17'KB @ 5082.00usft (Xtreme 19)
<b>Site:</b>	Timbro Ranch 3&34 Pad	<b>MD Reference:</b>	5065'GL+17'KB @ 5082.00usft (Xtreme 19)
<b>Well:</b>	1-3-9-59	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	1-3-9-59 OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	1-3-9-59 OH	<b>Database:</b>	EDM 5000.1 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,558.00	91.40	178.60	6,233.21	-4,319.27	206.18	4,321.83	0.00	0.00	0.00

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,795.00	1,792.45	9 5/8"	9.63	12.25	
6,357.00	6,170.87	7"	7.00	8.75	

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
6,522.00	6,196.96	-285.14	138.40	600' Entry	