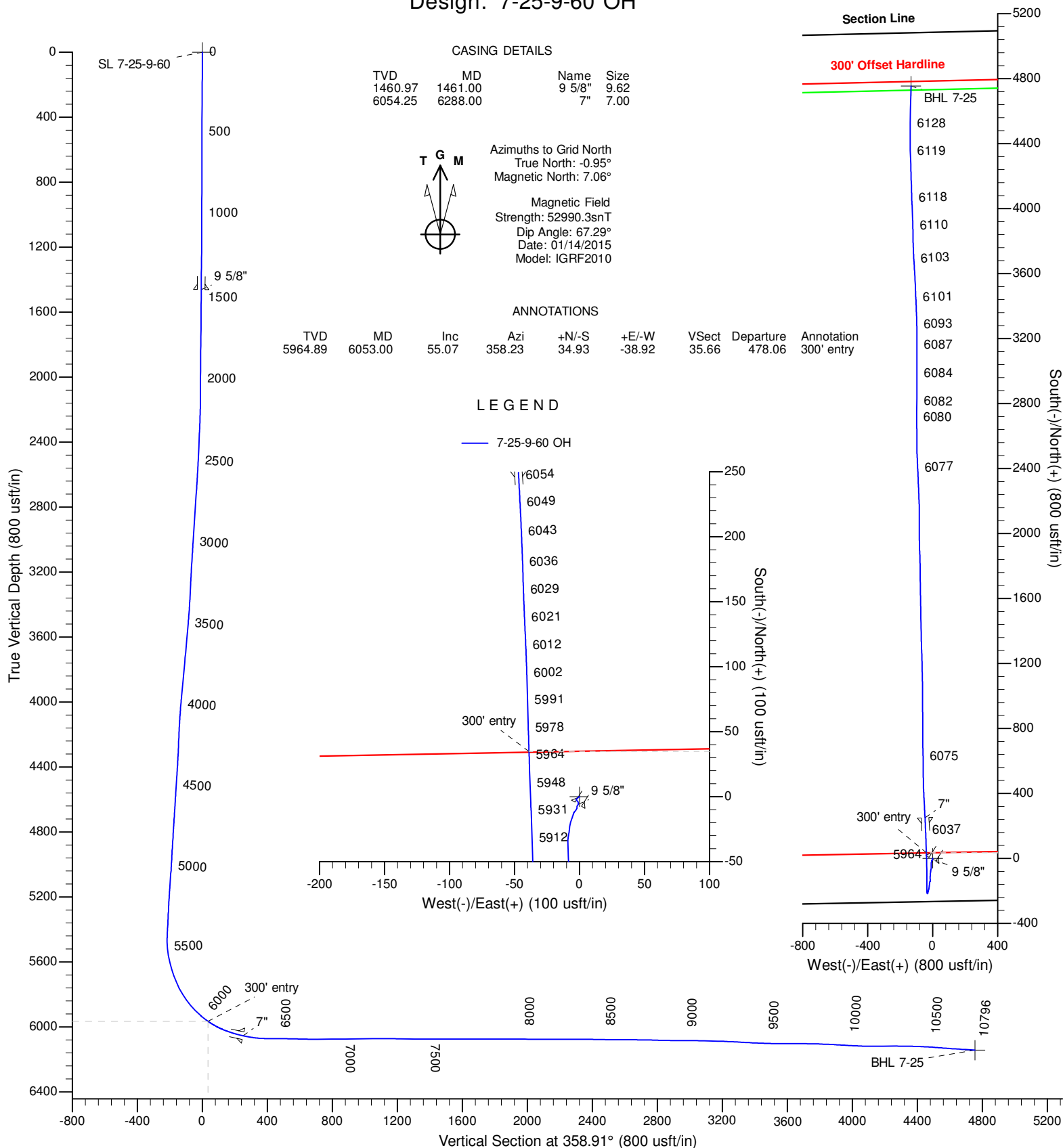




Project: Niobrara CON'83  
County: Weld  
Site: Shull 25-9-60 Pad  
Well: 7-25-9-60  
Wellbore: 7-25-9-60 OH  
Design: 7-25-9-60 OH



**TITAN**  
Directional Drilling



DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SL 7-25-9-60	0.00	0.00		1506554.20	3405814.10	40° 42' 52.87 N	104° 2' 9.78 W	Point
BHL 7-25	6142.62	4753.67	-133.51	1511307.82	3405680.59	40° 43' 39.86 N	104° 2' 10.49 W	Point

# Titan Directional Drilling, LLC

## Survey Report

<b>Company:</b>	Carrizo Oil & Gas, Inc.	<b>Local Co-ordinate Reference:</b>	Well 7-25-9-60
<b>Project:</b>	Niobrara CON'83	<b>TVD Reference:</b>	WELL @ 4904.00usft (Extreme 19)
<b>Site:</b>	Shull 25-9-60 Pad	<b>MD Reference:</b>	WELL @ 4904.00usft (Extreme 19)
<b>Well:</b>	7-25-9-60	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	7-25-9-60 OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	7-25-9-60 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>	Shull 25-9-60 Pad, Centered on 6-25-9-60		
<b>Site Position:</b>		<b>Northing:</b>	1,506,554.60 usft
<b>From:</b>	Map	<b>Easting:</b>	3,405,828.40 usft
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13.20 in
		<b>Latitude:</b>	40° 42' 52.87 N
		<b>Longitude:</b>	104° 2' 9.59 W
		<b>Grid Convergence:</b>	0.95 °

<b>Well</b>	7-25-9-60		
<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>	4,904.00 usft
		<b>Latitude:</b>	40° 42' 52.87 N
		<b>Longitude:</b>	104° 2' 9.78 W
		<b>Ground Level:</b>	4,887.00 usft

<b>Wellbore</b>	7-25-9-60 OH		
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>
	IGRF2010	01/14/15	8.00
			<b>Dip Angle (°)</b>
			67.29
			<b>Field Strength (nT)</b>
			52,990

<b>Design</b>	7-25-9-60 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) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>
	0.00	0.00	0.00
			<b>Direction (°)</b>
			358.91

<b>Survey Program</b>	<b>Date</b>	01/27/15		
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
139.00	10,739.00	Survey #1 (7-25-9-60 OH)	MWD	MWD - Standard
10,796.00	10,796.00	Survey #2 (7-25-9-60 OH)	ZERO-ERROR	Zero Error

<b>Survey</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Vertical Section (usft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
139.00	0.10	280.00	139.00	0.02	-0.12	0.02	0.07	0.07	0.00	
232.00	0.40	241.60	232.00	-0.12	-0.48	-0.11	0.35	0.32	-41.29	
323.00	0.40	213.10	323.00	-0.54	-0.94	-0.52	0.22	0.00	-31.32	
415.00	0.40	237.60	414.99	-0.98	-1.38	-0.95	0.18	0.00	26.63	
506.00	0.40	228.70	505.99	-1.36	-1.89	-1.32	0.07	0.00	-9.78	
597.00	0.00	141.60	596.99	-1.57	-2.13	-1.53	0.44	-0.44	0.00	
688.00	0.40	226.30	687.99	-1.79	-2.36	-1.74	0.44	0.44	0.00	
778.00	0.10	231.90	777.99	-2.05	-2.65	-2.00	0.33	-0.33	6.22	
869.00	0.30	149.10	868.99	-2.31	-2.59	-2.26	0.33	0.22	-90.99	

# Titan Directional Drilling, LLC

## Survey Report

<b>Company:</b>	Carrizo Oil & Gas, Inc.	<b>Local Co-ordinate Reference:</b>	Well 7-25-9-60
<b>Project:</b>	Niobrara CON'83	<b>TVD Reference:</b>	WELL @ 4904.00usft (Extreme 19)
<b>Site:</b>	Shull 25-9-60 Pad	<b>MD Reference:</b>	WELL @ 4904.00usft (Extreme 19)
<b>Well:</b>	7-25-9-60	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	7-25-9-60 OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	7-25-9-60 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)
960.00	0.40	141.30	959.99	-2.76	-2.27	-2.71	0.12	0.11	-8.57
1,052.00	0.20	113.30	1,051.99	-3.07	-1.92	-3.03	0.26	-0.22	-30.43
1,143.00	0.40	139.10	1,142.99	-3.37	-1.57	-3.34	0.26	0.22	28.35
1,235.00	0.40	150.00	1,234.98	-3.90	-1.19	-3.87	0.08	0.00	11.85
1,327.00	0.60	164.10	1,326.98	-4.64	-0.90	-4.62	0.25	0.22	15.33
1,419.00	0.40	189.30	1,418.98	-5.42	-0.82	-5.40	0.32	-0.22	27.39
1,461.00	0.54	211.73	1,460.97	-5.73	-0.95	-5.71	0.55	0.34	53.41
9 5/8"									
1,496.00	0.70	222.20	1,495.97	-6.03	-1.18	-6.01	0.55	0.45	29.91
1,581.00	0.50	205.10	1,580.97	-6.75	-1.69	-6.72	0.31	-0.24	-20.12
1,666.00	0.50	189.30	1,665.96	-7.45	-1.90	-7.42	0.16	0.00	-18.59
1,751.00	0.60	182.10	1,750.96	-8.26	-1.98	-8.22	0.14	0.12	-8.47
1,836.00	0.50	204.60	1,835.96	-9.05	-2.15	-9.00	0.28	-0.12	26.47
1,921.00	0.60	210.10	1,920.95	-9.77	-2.53	-9.72	0.13	0.12	6.47
2,006.00	0.50	212.70	2,005.95	-10.47	-2.95	-10.41	0.12	-0.12	3.06
2,090.00	0.70	226.30	2,089.94	-11.13	-3.52	-11.06	0.29	0.24	16.19
2,176.00	0.60	216.80	2,175.94	-11.85	-4.17	-11.77	0.17	-0.12	-11.05
2,261.00	2.00	197.30	2,260.92	-13.62	-4.88	-13.53	1.70	1.65	-22.94
2,345.00	2.80	199.50	2,344.84	-16.96	-6.00	-16.84	0.96	0.95	2.62
2,430.00	2.70	193.60	2,429.74	-20.86	-7.16	-20.72	0.35	-0.12	-6.94
2,515.00	2.80	185.30	2,514.65	-24.87	-7.83	-24.72	0.48	0.12	-9.76
2,600.00	3.30	191.50	2,599.53	-29.34	-8.51	-29.17	0.70	0.59	7.29
2,684.00	3.90	179.10	2,683.36	-34.56	-8.94	-34.39	1.17	0.71	-14.76
2,769.00	3.80	179.30	2,768.17	-40.27	-8.86	-40.10	0.12	-0.12	0.24
2,854.00	3.70	177.70	2,852.99	-45.83	-8.72	-45.65	0.17	-0.12	-1.88
2,938.00	3.70	178.60	2,936.81	-51.25	-8.54	-51.07	0.07	0.00	1.07
3,022.00	3.60	177.30	3,020.64	-56.59	-8.35	-56.42	0.15	-0.12	-1.55
3,107.00	3.70	195.30	3,105.47	-61.90	-8.95	-61.72	1.35	0.12	21.18
3,191.00	3.40	195.30	3,189.31	-66.92	-10.32	-66.71	0.36	-0.36	0.00
3,276.00	2.90	188.60	3,274.18	-71.47	-11.31	-71.25	0.73	-0.59	-7.88
3,361.00	2.70	184.80	3,359.08	-75.60	-11.80	-75.36	0.32	-0.24	-4.47
3,446.00	4.40	187.40	3,443.91	-80.82	-12.39	-80.57	2.01	2.00	3.06
3,531.00	4.90	186.40	3,528.63	-87.67	-13.21	-87.40	0.60	0.59	-1.18
3,617.00	5.10	186.60	3,614.31	-95.11	-14.06	-94.83	0.23	0.23	0.23
3,702.00	5.10	185.00	3,698.97	-102.63	-14.82	-102.33	0.17	0.00	-1.88
3,786.00	5.30	182.80	3,782.62	-110.22	-15.34	-109.91	0.34	0.24	-2.62
3,871.00	5.40	180.70	3,867.25	-118.14	-15.58	-117.83	0.26	0.12	-2.47
3,956.00	5.20	178.80	3,951.89	-125.99	-15.55	-125.68	0.31	-0.24	-2.24
4,041.00	4.80	173.20	4,036.57	-133.38	-15.05	-133.07	0.74	-0.47	-6.59
4,126.00	3.40	195.10	4,121.35	-139.34	-15.28	-139.03	2.44	-1.65	25.76
4,210.00	2.90	207.20	4,205.23	-143.64	-16.90	-143.29	0.99	-0.60	14.40
4,295.00	2.40	199.00	4,290.14	-147.23	-18.46	-146.85	0.74	-0.59	-9.65
4,380.00	3.60	185.20	4,375.02	-151.57	-19.29	-151.18	1.64	1.41	-16.24

# Titan Directional Drilling, LLC

## Survey Report

<b>Company:</b>	Carrizo Oil & Gas, Inc.	<b>Local Co-ordinate Reference:</b>	Well 7-25-9-60
<b>Project:</b>	Niobrara CON'83	<b>TVD Reference:</b>	WELL @ 4904.00usft (Extreme 19)
<b>Site:</b>	Shull 25-9-60 Pad	<b>MD Reference:</b>	WELL @ 4904.00usft (Extreme 19)
<b>Well:</b>	7-25-9-60	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	7-25-9-60 OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	7-25-9-60 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)
4,464.00	3.70	174.80	4,458.85	-156.90	-19.28	-156.50	0.80	0.12	-12.38
4,548.00	3.70	191.60	4,542.68	-162.25	-19.58	-161.85	1.29	0.00	20.00
4,633.00	3.30	188.80	4,627.52	-167.36	-20.50	-166.94	0.51	-0.47	-3.29
4,719.00	4.10	187.90	4,713.34	-172.85	-21.30	-172.41	0.93	0.93	-1.05
4,804.00	3.30	184.20	4,798.16	-178.30	-21.90	-177.85	0.98	-0.94	-4.35
4,889.00	3.70	192.20	4,883.00	-183.42	-22.66	-182.95	0.74	0.47	9.41
4,974.00	2.80	184.20	4,967.87	-188.17	-23.39	-187.69	1.18	-1.06	-9.41
5,059.00	4.40	198.80	5,052.70	-193.33	-24.59	-192.83	2.15	1.88	17.18
5,144.00	4.40	197.00	5,137.45	-199.53	-26.60	-198.99	0.16	0.00	-2.12
5,228.00	3.40	192.10	5,221.25	-205.05	-28.06	-204.48	1.25	-1.19	-5.83
5,313.00	2.60	185.70	5,306.13	-209.43	-28.78	-208.85	1.02	-0.94	-7.53
5,399.00	3.40	202.30	5,392.02	-213.73	-29.94	-213.12	1.36	0.93	19.30
5,441.00	3.30	206.70	5,433.95	-215.97	-30.96	-215.34	0.66	-0.24	10.48
5,484.00	2.10	285.30	5,476.91	-216.86	-32.28	-216.21	8.24	-2.79	182.79
5,526.00	6.20	336.40	5,518.80	-214.58	-33.93	-213.90	12.25	9.76	121.67
5,568.00	10.40	352.00	5,560.36	-208.75	-35.36	-208.03	11.26	10.00	37.14
5,611.00	13.50	359.20	5,602.42	-199.88	-35.97	-199.16	7.99	7.21	16.74
5,653.00	16.60	1.30	5,642.98	-188.98	-35.91	-188.26	7.49	7.38	5.00
5,696.00	20.10	1.00	5,683.78	-175.45	-35.64	-174.74	8.14	8.14	-0.70
5,738.00	23.30	0.30	5,722.80	-159.92	-35.47	-159.22	7.64	7.62	-1.67
5,781.00	27.20	0.50	5,761.69	-141.58	-35.34	-140.88	9.07	9.07	0.47
5,823.00	31.00	359.50	5,798.38	-121.16	-35.35	-120.46	9.12	9.05	-2.38
5,865.00	35.50	359.70	5,833.49	-98.14	-35.51	-97.44	10.72	10.71	0.48
5,908.00	39.80	359.70	5,867.53	-71.88	-35.65	-71.19	10.00	10.00	0.00
5,950.00	44.40	358.40	5,898.69	-43.73	-36.13	-43.04	11.15	10.95	-3.10
5,993.00	49.20	357.60	5,928.11	-12.42	-37.23	-11.71	11.24	11.16	-1.86
6,035.00	53.40	358.10	5,954.37	20.33	-38.45	21.06	10.04	10.00	1.19
6,053.00	55.07	358.23	5,964.89	34.93	-38.92	35.66	9.30	9.29	0.73
300' entry									
6,077.00	57.30	358.40	5,978.24	54.86	-39.51	55.60	9.30	9.29	0.70
6,120.00	62.80	358.40	5,999.70	92.09	-40.55	92.84	12.79	12.79	0.00
6,161.00	67.60	357.20	6,016.89	129.27	-41.98	130.04	12.00	11.71	-2.93
6,204.00	71.60	358.40	6,031.88	169.53	-43.52	170.33	9.66	9.30	2.79
6,246.00	74.50	357.30	6,044.12	209.67	-45.03	210.49	7.35	6.90	-2.62
6,288.00	77.60	356.97	6,054.25	250.38	-47.07	251.23	7.42	7.38	-0.77
7"									
6,311.00	79.30	356.80	6,058.85	272.88	-48.29	273.75	7.42	7.39	-0.76
6,358.00	82.40	357.00	6,066.33	319.21	-50.80	320.12	6.61	6.60	0.43
6,403.00	87.00	357.00	6,070.48	363.94	-53.15	364.89	10.22	10.22	0.00
6,449.00	89.30	357.60	6,071.97	409.86	-55.31	410.84	5.17	5.00	1.30
6,494.00	89.70	358.60	6,072.36	454.84	-56.80	455.84	2.39	0.89	2.22
6,579.00	89.50	359.80	6,072.95	539.83	-57.99	540.83	1.43	-0.24	1.41
6,664.00	88.30	358.70	6,074.58	624.80	-59.10	625.81	1.91	-1.41	-1.29
6,749.00	90.00	359.80	6,075.84	709.78	-60.22	710.80	2.38	2.00	1.29

# Titan Directional Drilling, LLC

## Survey Report

<b>Company:</b>	Carrizo Oil & Gas, Inc.	<b>Local Co-ordinate Reference:</b>	Well 7-25-9-60
<b>Project:</b>	Niobrara CON'83	<b>TVD Reference:</b>	WELL @ 4904.00usft (Extreme 19)
<b>Site:</b>	Shull 25-9-60 Pad	<b>MD Reference:</b>	WELL @ 4904.00usft (Extreme 19)
<b>Well:</b>	7-25-9-60	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	7-25-9-60 OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	7-25-9-60 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)
6,834.00	91.90	0.20	6,074.44	794.76	-60.22	795.76	2.28	2.24	0.47
6,919.00	89.20	358.60	6,073.62	879.74	-61.11	880.75	3.69	-3.18	-1.88
7,004.00	90.90	359.90	6,073.55	964.73	-62.22	965.74	2.52	2.00	1.53
7,089.00	91.20	359.40	6,071.99	1,049.72	-62.74	1,050.72	0.69	0.35	-0.59
7,174.00	88.90	359.10	6,071.91	1,134.70	-63.85	1,135.71	2.73	-2.71	-0.35
7,259.00	89.50	358.40	6,073.10	1,219.67	-65.70	1,220.70	1.08	0.71	-0.82
7,344.00	89.50	357.70	6,073.84	1,304.62	-68.60	1,305.69	0.82	0.00	-0.82
7,430.00	90.20	359.10	6,074.07	1,390.58	-71.00	1,391.68	1.82	0.81	1.63
7,515.00	90.30	359.30	6,073.70	1,475.57	-72.18	1,476.68	0.26	0.12	0.24
7,599.00	89.00	358.40	6,074.21	1,559.55	-73.87	1,560.68	1.88	-1.55	-1.07
7,684.00	90.00	359.40	6,074.95	1,644.53	-75.50	1,645.67	1.66	1.18	1.18
7,768.00	89.90	359.80	6,075.02	1,728.53	-76.09	1,729.66	0.49	-0.12	0.48
7,853.00	90.50	358.40	6,074.73	1,813.52	-77.42	1,814.66	1.79	0.71	-1.65
7,937.00	89.60	357.90	6,074.65	1,897.47	-80.13	1,898.65	1.23	-1.07	-0.60
8,023.00	89.70	359.80	6,075.18	1,983.45	-81.86	1,984.65	2.21	0.12	2.21
8,107.00	89.50	0.10	6,075.77	2,067.45	-81.93	2,068.63	0.43	-0.24	0.36
8,192.00	90.40	359.10	6,075.84	2,152.44	-82.53	2,153.62	1.58	1.06	-1.18
8,277.00	90.20	357.30	6,075.40	2,237.40	-85.20	2,238.61	2.13	-0.24	-2.12
8,362.00	89.40	358.10	6,075.69	2,322.32	-88.61	2,323.59	1.33	-0.94	0.94
8,447.00	89.00	356.70	6,076.88	2,407.23	-92.46	2,408.55	1.71	-0.47	-1.65
8,532.00	90.00	358.50	6,077.62	2,492.14	-96.02	2,493.52	2.42	1.18	2.12
8,617.00	89.90	0.20	6,077.70	2,577.14	-96.99	2,578.51	2.00	-0.12	2.00
8,702.00	88.50	358.40	6,078.88	2,662.12	-98.02	2,663.50	2.68	-1.65	-2.12
8,787.00	89.30	1.00	6,080.51	2,747.09	-98.47	2,748.47	3.20	0.94	3.06
8,872.00	88.40	0.50	6,082.22	2,832.07	-97.36	2,833.40	1.21	-1.06	-0.59
8,957.00	89.90	0.40	6,083.48	2,917.05	-96.69	2,918.36	1.77	1.76	-0.12
9,042.00	89.30	0.30	6,084.07	3,002.05	-96.17	3,003.33	0.72	-0.71	-0.12
9,127.00	88.70	359.80	6,085.56	3,087.03	-96.10	3,088.30	0.92	-0.71	-0.59
9,212.00	88.60	359.90	6,087.56	3,172.01	-96.32	3,173.27	0.17	-0.12	0.12
9,297.00	87.20	358.90	6,090.68	3,256.94	-97.21	3,258.20	2.02	-1.65	-1.18
9,382.00	86.50	358.20	6,095.35	3,341.79	-99.36	3,343.07	1.16	-0.82	-0.82
9,467.00	87.60	357.40	6,099.72	3,426.61	-102.61	3,427.94	1.60	1.29	-0.94
9,552.00	89.70	357.50	6,101.72	3,511.50	-106.39	3,512.89	2.47	2.47	0.12
9,637.00	89.70	357.00	6,102.17	3,596.40	-110.47	3,597.85	0.59	0.00	-0.59
9,722.00	89.50	356.30	6,102.76	3,681.25	-115.44	3,682.78	0.86	-0.24	-0.82
9,807.00	88.70	358.40	6,104.10	3,766.14	-119.37	3,767.73	2.64	-0.94	2.47
9,891.00	87.40	359.20	6,106.95	3,850.07	-121.13	3,851.68	1.82	-1.55	0.95
9,975.00	86.40	357.60	6,111.50	3,933.91	-123.47	3,935.55	2.24	-1.19	-1.90
10,061.00	87.30	357.70	6,116.22	4,019.71	-126.99	4,021.40	1.05	1.05	0.12
10,145.00	90.10	358.50	6,118.13	4,103.64	-129.77	4,105.36	3.47	3.33	0.95
10,230.00	90.60	358.00	6,117.61	4,188.59	-132.37	4,190.35	0.83	0.59	-0.59
10,315.00	89.50	358.20	6,117.54	4,273.55	-135.19	4,275.34	1.32	-1.29	0.24
10,400.00	88.70	358.10	6,118.87	4,358.49	-137.93	4,360.32	0.95	-0.94	-0.12

# Titan Directional Drilling, LLC

## Survey Report

<b>Company:</b>	Carrizo Oil & Gas, Inc.	<b>Local Co-ordinate Reference:</b>	Well 7-25-9-60
<b>Project:</b>	Niobrara CON'83	<b>TVD Reference:</b>	WELL @ 4904.00usft (Extreme 19)
<b>Site:</b>	Shull 25-9-60 Pad	<b>MD Reference:</b>	WELL @ 4904.00usft (Extreme 19)
<b>Well:</b>	7-25-9-60	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	7-25-9-60 OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	7-25-9-60 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)	
10,485.00	87.30	0.70	6,121.84	4,443.42	-138.82	4,445.26	3.47	-1.65	3.06	
10,570.00	85.30	0.60	6,127.32	4,528.24	-137.86	4,530.04	2.36	-2.35	-0.12	
10,655.00	86.20	1.60	6,133.62	4,612.99	-136.23	4,614.74	1.58	1.06	1.18	
10,739.00	86.40	0.90	6,139.04	4,696.79	-134.40	4,698.50	0.87	0.24	-0.83	
10,796.00	86.40	0.90	6,142.62	4,753.67	-133.51	4,755.35	0.00	0.00	0.00	

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (in)	Hole Diameter (in)
1,461.00	1,460.97	9 5/8"		9.62	12.25
6,288.00	6,054.25	7"		7.00	8.75

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
6,053.00	5,964.89	34.93	-38.92	300' entry	