



# **End of Well Report**

**Carrizo Oil and Gas**

**Ptasnik 1-30-9-59**

**Weld County, Colorado**

**Prepared for Mr. Andrew Taylor**





April 20, 2015

Mr. Andrew Taylor  
Carrizo Oil & Gas  
500 Dallas St.  
Suite 2300  
Houston, TX 77002

Re: End of Well Report for Ptasnik 1-30-9-59

Mr. Taylor,

We appreciate the opportunity to do business with Carrizo Oil & Gas.  
The following pages are a summary of the subject well.

The report covers the Ptasnik 1-30-9-59 from the start on Wednesday April 08, 2015 to Thursday April 16, 2015, start depth is surface and end depth is 10,939' MD. The report includes the plot and surveys, daily reports and the bottom hole assembly review.

Should you have any further questions, feel free to contact us.

Regards,

Aaron Carney  
General Manager  
Titan Directional Drilling, LLC  
832-658-2828 Office  
832-568-2802 Direct  
601-616-4225 Cell

# **Section One**

## **As Drilled**

### **Plot and Surveys**



## Titan Directional Drilling, LLC

## Survey Report

<b>Company:</b>	Carrizo Oil & Gas, Inc.	<b>Local Co-ordinate Reference:</b>	Well 1-30-9-59 - Slot 1-30
<b>Project:</b>	Niobrara CON'83	<b>TVD Reference:</b>	GL+KB @ 4934.00usft (Xtreme 19)
<b>Site:</b>	Ptasnik 1-30-9-59 Pad	<b>MD Reference:</b>	GL+KB @ 4934.00usft (Xtreme 19)
<b>Well:</b>	1-30-9-59	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	1-30-9-59 OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	1-30-9-59 OH	<b>Database:</b>	EDM 5000.1 Single User Db

<b>Project</b>	Niobrara CON'83, Weld County, CO		
<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>	Ptasnik 1-30-9-59 Pad,		
<b>Site Position:</b>		<b>Northing:</b>	1,506,771.07 usft
<b>From:</b>	Map	<b>Easting:</b>	3,407,796.03 usft
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13.20 in
		<b>Latitude:</b>	40° 42' 54.69 N
		<b>Longitude:</b>	104° 1' 44.00 W
		<b>Grid Convergence:</b>	0.95 °

<b>Well</b>	1-30-9-59 - Slot 1-30		
<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>
			<b>Latitude:</b>
			<b>Longitude:</b>
			<b>Ground Level:</b>

<b>Wellbore</b>	1-30-9-59 OH		
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination</b>
			(°)
	IGRF2015	04/09/15	8.07
			<b>Dip Angle</b>
			(°)
			67.28
			<b>Field Strength</b>
			(nT)
			52,881

<b>Design</b>	1-30-9-59 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>
			(°)
			359.09

<b>Survey Program</b>	<b>Date</b>	04/17/15		
<b>From</b>	<b>To</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
(usft)	(usft)			
141.00	10,885.00	Survey #1 (1-30-9-59 OH)	MWD	MWD - Standard
10,939.00	10,939.00	Survey #2 (1-30-9-59 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>(°/100usft)</b>	<b>(°/100usft)</b>	<b>(°/100usft)</b>	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
141.00	0.40	236.00	141.00	-0.28	-0.41	-0.27	0.28	0.28	0.00	
234.00	0.90	198.70	233.99	-1.15	-0.91	-1.13	0.68	0.54	-40.11	
329.00	2.30	197.00	328.95	-3.68	-1.71	-3.65	1.47	1.47	-1.79	
419.00	4.30	191.00	418.80	-8.72	-2.88	-8.67	2.25	2.22	-6.67	
510.00	4.70	191.50	509.52	-15.72	-4.27	-15.65	0.44	0.44	0.55	
601.00	4.80	192.20	600.21	-23.09	-5.82	-23.00	0.13	0.11	0.77	
691.00	4.90	193.10	689.88	-30.52	-7.49	-30.40	0.14	0.11	1.00	
781.00	5.10	196.40	779.54	-38.10	-9.49	-37.94	0.39	0.22	3.67	
872.00	5.00	178.00	870.19	-45.94	-10.49	-45.77	1.78	-0.11	-20.22	

# Titan Directional Drilling, LLC

## Survey Report

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<b>Site:</b>	Ptasnik 1-30-9-59 Pad	<b>MD Reference:</b>	GL+KB @ 4934.00usft (Xtreme 19)
<b>Well:</b>	1-30-9-59	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	1-30-9-59 OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	1-30-9-59 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 (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
959.00	5.20	172.70	956.85	-53.64	-9.86	-53.48	0.59	0.23	-6.09
1,050.00	4.30	185.90	1,047.54	-61.13	-9.69	-60.97	1.55	-0.99	14.51
1,141.00	4.00	188.90	1,138.30	-67.66	-10.53	-67.48	0.41	-0.33	3.30
1,233.00	4.00	190.10	1,230.08	-73.99	-11.59	-73.79	0.09	0.00	1.30
1,324.00	4.10	190.30	1,320.85	-80.31	-12.73	-80.10	0.11	0.11	0.22
1,416.00	4.10	190.80	1,412.61	-86.78	-13.93	-86.55	0.04	0.00	0.54
1,508.00	4.10	190.10	1,504.38	-93.25	-15.12	-92.99	0.05	0.00	-0.76
1,593.00	4.00	188.00	1,589.17	-99.17	-16.07	-98.91	0.21	-0.12	-2.47
1,662.00	3.90	185.40	1,658.00	-103.89	-16.62	-103.62	0.30	-0.14	-3.77
1,668.00	3.90	185.75	1,663.99	-104.30	-16.66	-104.02	0.39	-0.02	5.76
9 5/8"									
1,747.00	3.90	190.30	1,742.81	-109.62	-17.41	-109.33	0.39	0.00	5.77
1,832.00	4.00	188.50	1,827.60	-115.39	-18.37	-115.09	0.19	0.12	-2.12
1,915.00	3.80	187.60	1,910.41	-120.98	-19.16	-120.66	0.25	-0.24	-1.08
2,000.00	3.20	192.40	1,995.25	-126.09	-20.04	-125.76	0.78	-0.71	5.65
2,084.00	4.90	190.30	2,079.04	-131.91	-21.19	-131.56	2.03	2.02	-2.50
2,169.00	5.20	183.40	2,163.71	-139.33	-22.06	-138.96	0.80	0.35	-8.12
2,254.00	5.20	182.50	2,248.36	-147.02	-22.46	-146.64	0.10	0.00	-1.06
2,338.00	5.20	185.90	2,332.02	-154.61	-23.02	-154.22	0.37	0.00	4.05
2,422.00	5.10	182.50	2,415.68	-162.13	-23.57	-161.73	0.38	-0.12	-4.05
2,508.00	5.00	184.10	2,501.34	-169.68	-24.01	-169.28	0.20	-0.12	1.86
2,593.00	5.00	181.10	2,586.02	-177.08	-24.34	-176.67	0.31	0.00	-3.53
2,678.00	5.60	180.10	2,670.66	-184.93	-24.42	-184.52	0.71	0.71	-1.18
2,763.00	4.70	198.90	2,755.32	-192.37	-25.56	-191.94	2.24	-1.06	22.12
2,848.00	5.10	201.20	2,840.01	-199.19	-28.05	-198.72	0.52	0.47	2.71
2,933.00	4.00	191.00	2,924.74	-205.62	-29.98	-205.12	1.60	-1.29	-12.00
3,018.00	4.20	188.40	3,009.52	-211.61	-31.00	-211.09	0.32	0.24	-3.06
3,102.00	4.20	187.10	3,093.30	-217.71	-31.83	-217.18	0.11	0.00	-1.55
3,186.00	3.80	181.00	3,177.09	-223.54	-32.26	-223.00	0.69	-0.48	-7.26
3,272.00	3.30	181.80	3,262.93	-228.87	-32.39	-228.32	0.58	-0.58	0.93
3,356.00	3.20	187.60	3,346.79	-233.61	-32.78	-233.06	0.41	-0.12	6.90
3,441.00	3.20	184.80	3,431.66	-238.32	-33.29	-237.77	0.18	0.00	-3.29
3,526.00	3.40	183.40	3,516.52	-243.20	-33.64	-242.64	0.25	0.24	-1.65
3,611.00	3.70	179.00	3,601.36	-248.46	-33.74	-247.90	0.48	0.35	-5.18
3,696.00	3.90	176.00	3,686.17	-254.09	-33.49	-253.52	0.33	0.24	-3.53
3,780.00	4.00	192.20	3,769.97	-259.80	-33.91	-259.23	1.33	0.12	19.29
3,865.00	4.20	191.20	3,854.75	-265.75	-35.14	-265.16	0.25	0.24	-1.18
3,950.00	4.50	182.40	3,939.51	-272.14	-35.88	-271.53	0.86	0.35	-10.35
4,035.00	4.50	191.50	4,024.25	-278.74	-36.69	-278.12	0.84	0.00	10.71
4,120.00	4.00	183.60	4,109.02	-284.96	-37.54	-284.33	0.90	-0.59	-9.29
4,205.00	4.40	196.40	4,193.79	-291.05	-38.64	-290.40	1.20	0.47	15.06
4,290.00	3.90	190.50	4,278.57	-297.02	-40.09	-296.35	0.77	-0.59	-6.94
4,375.00	4.80	192.90	4,363.32	-303.33	-41.41	-302.63	1.08	1.06	2.82

# Titan Directional Drilling, LLC

## Survey Report

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<b>Well:</b>	1-30-9-59	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	1-30-9-59 OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	1-30-9-59 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 (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,460.00	4.80	187.80	4,448.02	-310.32	-42.69	-309.60	0.50	0.00	-6.00
4,544.00	4.10	178.90	4,531.77	-316.80	-43.11	-316.08	1.17	-0.83	-10.60
4,629.00	4.70	191.70	4,616.52	-323.25	-43.76	-322.52	1.35	0.71	15.06
4,713.00	4.20	184.10	4,700.27	-329.69	-44.67	-328.94	0.92	-0.60	-9.05
4,798.00	4.70	189.40	4,785.01	-336.23	-45.47	-335.47	0.76	0.59	6.24
4,882.00	4.00	185.70	4,868.77	-342.54	-46.32	-341.76	0.90	-0.83	-4.40
4,966.00	4.70	205.00	4,952.53	-348.58	-48.06	-347.77	1.92	0.83	22.98
5,051.00	4.00	209.10	5,037.29	-354.32	-50.98	-353.47	0.90	-0.82	4.82
5,136.00	5.40	194.30	5,122.00	-360.79	-53.41	-359.90	2.17	1.65	-17.41
5,220.00	5.00	189.10	5,205.66	-368.23	-54.96	-367.31	0.74	-0.48	-6.19
5,304.00	3.60	186.60	5,289.42	-374.47	-55.85	-373.53	1.68	-1.67	-2.98
5,389.00	4.60	191.90	5,374.20	-380.45	-56.85	-379.50	1.26	1.18	6.24
5,474.00	3.10	180.30	5,459.01	-386.09	-57.57	-385.13	1.98	-1.76	-13.65
5,516.00	2.60	176.70	5,500.96	-388.18	-57.52	-387.21	1.26	-1.19	-8.57
5,559.00	2.00	168.10	5,543.92	-389.88	-57.31	-388.92	1.61	-1.40	-20.00
5,601.00	1.10	88.20	5,585.91	-390.59	-56.76	-389.64	5.02	-2.14	-190.24
5,644.00	6.00	28.60	5,628.82	-388.60	-55.27	-387.67	12.85	11.40	-138.60
5,686.00	10.60	19.10	5,670.37	-383.02	-52.95	-382.13	11.39	10.95	-22.62
5,728.00	12.90	11.20	5,711.49	-374.77	-50.78	-373.91	6.67	5.48	-18.81
5,771.00	15.30	3.60	5,753.20	-364.40	-49.49	-363.56	7.04	5.58	-17.67
5,813.00	17.80	359.70	5,793.45	-352.44	-49.17	-351.62	6.51	5.95	-9.29
5,855.00	21.40	357.10	5,833.02	-338.37	-49.59	-337.54	8.82	8.57	-6.19
5,898.00	26.00	356.40	5,872.38	-321.12	-50.58	-320.27	10.72	10.70	-1.63
5,940.00	31.70	357.60	5,909.15	-300.89	-51.62	-300.03	13.64	13.57	2.86
5,983.00	36.90	358.90	5,944.66	-276.67	-52.35	-275.81	12.21	12.09	3.02
6,025.00	39.60	359.00	5,977.64	-250.68	-52.82	-249.81	6.43	6.43	0.24
6,067.00	42.10	357.80	6,009.41	-223.22	-53.60	-222.34	6.24	5.95	-2.86
6,110.00	47.10	356.20	6,040.02	-193.08	-55.19	-192.18	11.92	11.63	-3.72
6,152.00	51.50	356.40	6,067.40	-161.32	-57.25	-160.39	10.48	10.48	0.48
6,195.00	55.20	356.90	6,093.06	-126.88	-59.26	-125.93	8.66	8.60	1.16
6,237.00	59.70	357.10	6,115.65	-91.54	-61.11	-90.56	10.72	10.71	0.48
6,280.00	64.10	357.50	6,135.90	-53.66	-62.89	-52.65	10.27	10.23	0.93
6,315.00	68.00	357.80	6,150.11	-21.70	-64.20	-20.68	11.17	11.14	0.86
6,347.00	71.60	357.80	6,161.16	8.30	-65.35	9.34	11.25	11.25	0.00
7"									
6,371.00	74.30	357.80	6,168.19	31.23	-66.24	32.28	11.25	11.25	0.00
6,417.00	79.70	358.20	6,178.54	76.00	-67.80	77.07	11.77	11.74	0.87
6,462.00	86.00	358.50	6,184.13	120.61	-69.08	121.70	14.02	14.00	0.67
6,508.00	90.40	356.70	6,185.58	166.54	-71.01	167.64	10.33	9.57	-3.91
6,553.00	89.30	355.20	6,185.70	211.42	-74.19	212.57	4.13	-2.44	-3.33
6,644.00	88.50	357.10	6,187.44	302.20	-80.29	303.43	2.27	-0.88	2.09
6,735.00	90.30	0.10	6,188.40	393.15	-82.52	394.41	3.84	1.98	3.30
6,826.00	89.30	357.60	6,188.71	484.12	-84.34	485.40	2.96	-1.10	-2.75
6,917.00	91.40	1.30	6,188.16	575.10	-85.22	576.38	4.67	2.31	4.07

# Titan Directional Drilling, LLC

## Survey Report

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<b>Well:</b>	1-30-9-59	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	1-30-9-59 OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	1-30-9-59 OH	<b>Database:</b>	EDM 5000.1 Single User Db

Survey									
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7,001.00	91.40	0.40	6,186.11	659.06	-83.97	660.31	1.07	0.00	-1.07
7,086.00	91.10	358.70	6,184.25	744.03	-84.64	745.28	2.03	-0.35	-2.00
7,170.00	91.50	357.80	6,182.35	827.97	-87.20	829.25	1.17	0.48	-1.07
7,254.00	89.30	359.90	6,181.76	911.94	-88.89	913.24	3.62	-2.62	2.50
7,338.00	89.30	359.40	6,182.79	995.94	-89.40	997.23	0.60	0.00	-0.60
7,423.00	91.20	358.90	6,182.41	1,080.92	-90.66	1,082.22	2.31	2.24	-0.59
7,507.00	89.80	359.00	6,181.68	1,164.90	-92.20	1,166.22	1.67	-1.67	0.12
7,591.00	89.70	359.00	6,182.05	1,248.89	-93.67	1,250.22	0.12	-0.12	0.00
7,675.00	89.40	358.30	6,182.71	1,332.86	-95.65	1,334.21	0.91	-0.36	-0.83
7,760.00	89.50	359.00	6,183.52	1,417.83	-97.65	1,419.21	0.83	0.12	0.82
7,845.00	91.50	2.40	6,182.78	1,502.81	-96.61	1,504.15	4.64	2.35	4.00
7,930.00	90.70	359.20	6,181.15	1,587.77	-95.42	1,589.09	3.88	-0.94	-3.76
8,015.00	89.70	356.90	6,180.85	1,672.71	-98.32	1,674.07	2.95	-1.18	-2.71
8,100.00	89.20	358.90	6,181.67	1,757.65	-101.43	1,759.04	2.43	-0.59	2.35
8,185.00	90.50	1.50	6,181.89	1,842.64	-101.13	1,844.01	3.42	1.53	3.06
8,270.00	90.60	359.90	6,181.08	1,927.63	-100.10	1,928.97	1.89	0.12	-1.88
8,355.00	91.30	359.00	6,179.67	2,012.61	-100.91	2,013.96	1.34	0.82	-1.06
8,440.00	89.10	358.90	6,179.37	2,097.59	-102.47	2,098.95	2.59	-2.59	-0.12
8,524.00	89.40	357.50	6,180.47	2,181.54	-105.11	2,182.93	1.70	0.36	-1.67
8,609.00	90.00	358.50	6,180.91	2,266.48	-108.07	2,267.91	1.37	0.71	1.18
8,694.00	90.90	357.90	6,180.25	2,351.44	-110.74	2,352.90	1.27	1.06	-0.71
8,779.00	90.30	359.40	6,179.36	2,436.41	-112.75	2,437.89	1.90	-0.71	1.76
8,864.00	89.60	357.60	6,179.43	2,521.37	-114.97	2,522.88	2.27	-0.82	-2.12
8,948.00	88.30	0.40	6,180.97	2,605.34	-116.44	2,606.86	3.67	-1.55	3.33
9,032.00	89.30	0.60	6,182.73	2,689.31	-115.70	2,690.81	1.21	1.19	0.24
9,117.00	89.70	359.70	6,183.47	2,774.31	-115.48	2,775.79	1.16	0.47	-1.06
9,201.00	90.20	358.70	6,183.54	2,858.30	-116.65	2,859.79	1.33	0.60	-1.19
9,285.00	90.30	358.20	6,183.18	2,942.27	-118.93	2,943.79	0.61	0.12	-0.60
9,370.00	90.60	357.30	6,182.51	3,027.20	-122.26	3,028.76	1.12	0.35	-1.06
9,455.00	88.40	359.90	6,183.25	3,112.16	-124.34	3,113.74	4.01	-2.59	3.06
9,540.00	89.30	359.90	6,184.96	3,197.14	-124.49	3,198.71	1.06	1.06	0.00
9,624.00	90.00	359.00	6,185.47	3,281.13	-125.30	3,282.71	1.36	0.83	-1.07
9,709.00	90.90	358.30	6,184.80	3,366.11	-127.30	3,367.70	1.34	1.06	-0.82
9,794.00	91.20	357.30	6,183.25	3,451.03	-130.56	3,452.67	1.23	0.35	-1.18
9,879.00	89.30	1.30	6,182.87	3,536.00	-131.60	3,537.64	5.21	-2.24	4.71
9,963.00	89.50	1.00	6,183.75	3,619.98	-129.91	3,621.58	0.43	0.24	-0.36
10,048.00	89.40	0.60	6,184.57	3,704.97	-128.73	3,706.54	0.49	-0.12	-0.47
10,134.00	90.70	0.40	6,184.50	3,790.96	-127.97	3,792.51	1.53	1.51	-0.23
10,218.00	91.00	359.40	6,183.25	3,874.95	-128.12	3,876.50	1.24	0.36	-1.19
10,303.00	91.30	358.30	6,181.54	3,959.91	-129.83	3,961.48	1.34	0.35	-1.29
10,388.00	89.10	356.90	6,181.25	4,044.83	-133.39	4,046.44	3.07	-2.59	-1.65
10,473.00	89.50	358.20	6,182.29	4,129.75	-137.02	4,131.40	1.60	0.47	1.53
10,558.00	89.50	359.40	6,183.03	4,214.72	-138.80	4,216.39	1.41	0.00	1.41

# Titan Directional Drilling, LLC

## Survey Report

<b>Company:</b>	Carrizo Oil & Gas, Inc.	<b>Local Co-ordinate Reference:</b>	Well 1-30-9-59 - Slot 1-30
<b>Project:</b>	Niobrara CON'83	<b>TVD Reference:</b>	GL+KB @ 4934.00usft (Xtreme 19)
<b>Site:</b>	Ptasnik 1-30-9-59 Pad	<b>MD Reference:</b>	GL+KB @ 4934.00usft (Xtreme 19)
<b>Well:</b>	1-30-9-59	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	1-30-9-59 OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	1-30-9-59 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 (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
10,643.00	89.10	1.10	6,184.07	4,299.71	-138.43	4,301.37	2.05	-0.47	2.00	
10,727.00	88.40	358.50	6,185.90	4,383.68	-138.72	4,385.33	3.20	-0.83	-3.10	
10,812.00	90.30	359.60	6,186.86	4,468.66	-140.13	4,470.32	2.58	2.24	1.29	
10,885.00	90.00	358.50	6,186.67	4,541.65	-141.34	4,543.32	1.56	-0.41	-1.51	
10,939.00	90.00	358.50	6,186.67	4,595.63	-142.75	4,597.32	0.00	0.00	0.00	
BHL 1-30										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude		Longitude
- hit/miss target										
- Shape										
BHL 1-30	0.00	0.00	6,186.67	4,595.63	-142.75	1,511,366.66	3,407,653.28	40° 43' 40.12 N		104° 1' 44.86 W
- actual wellpath hits target center										
- Point										

Casing Points						
Measured Depth (usft)	Vertical Depth (usft)	Name			Casing Diameter (in)	Hole Diameter (in)
1,668.00	1,663.99	9 5/8"			9.62	12.25
6,347.00	6,161.16	7"			7.00	7.50

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
6,171.00	6,079.01	-146.31	-58.16	300' entry	

# **Section Two**

## **Daily Reports**



JOB NO.:	TL15013	Report Time:	2400	1 of 9
Company:	Carrizo Oil and Gas	API JOB #	05-123-4124400	
LOCATION:	Rocky Mountains	WORK ORDER#	AFE#: 315-065	
RIG NAME:	Xtreme 19	FIELD:	Niobrara	
STATE:	CO	Township:		
COUNTY:	Weld	SECT\	RANGE:	
WELL NAME:	Ptasnik 1-30-9-59			

From Wednesday, April 08, 2015 at 0000 to Wednesday, April 08, 2015 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	0.00	Rotary Hours	0.00	WOB	0	Pick UP	0	Slack Off	0	SPM	
End Depth	0.00	Circulating Hours	0.00	RAB	0	SPP	0	FlowRate	0 - 0		0
Total Drilled:	0.00	Avg. Total ROP:	NA	Mud Data							
Total Rotary Drilled:	0.00	Avg. Rotary ROP:	NA	Type				PV	0	SOLID	0
Total Drilled Sliding:	0.00	Avg. Slide ROP:	NA	Weight	0	GAS	0	YP	0	BHT°	0
Slide Hours:	0.00	Percent Rotary:	NA	Viscosity	0	SAND	0	PH	0	Flow T°	0
Below Rotary Hrs.	0.00	Percent Slide:	NA	Chlorides	0	WL	0			Oil %	0

PERSONNEL						CASING			BHA	
Lead Directional :		Toby Wilson				Size	Lb/ft	Set Depth	N/A	
Second Directional :		Wade Moore				9 5/8	36	1648		
MWD Operator1		Paul Brown				7	23	6347		
MWD Operator2		Skylar Thompson				Signature:				
Directional Company:		Titan Directional Drilling, LLC								
Geologist:										
Company Man:		Jeff Myers								
Incl. In:	0	Azm. In:	0	Incl. Out:	0	Azm. Out:	0			

#### GENERAL COMMENT

Motors On Location:

Discovery: 775-DDS-003 - 7 3/4" Motor 7/8 Lobe 4.0 HR Stage Fxd @ 1.50° w/ 12 1/4" Stab (Clean) Rec'd 08-Apr-15  
National: 1044684-4 - 7 3/4" Motor 7/8 Lobe 4.0 HR Stage Adj @ 1.50° w/ 12 1/8" Stab (Clean) Rec'd 08-Apr-15

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
8-Apr-15	00:00	14:00	14.00	0	0	Standby	Standby while rig moves to current location.
8-Apr-15	14:00	15:00	1.00	0	0	Standby	Arrive on location and set up for job.
8-Apr-15	15:00	24:00	9.00	0	0	Standby	Standby while rig sets up on location.



JOB NO.:	TL15013	Report Time:	2400	2 of 9
Company:	Carrizo Oil and Gas	API JOB #	05-123-4124400	
LOCATION:	Rocky Mountains	WORK ORDER#	AFE#: 315-065	
RIG NAME:	Xtreme 19	FIELD:	Niobrara	
STATE:	CO	Township:		
COUNTY:	Weld	SECT\	RANGE:	
WELL NAME:	Ptasnik 1-30-9-59			

From Thursday, April 09, 2015 at 0000 to Thursday, April 09, 2015 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	77.00	Rotary Hours	3.17	WOB	0	Pick UP	85	Slack Off	75	SPM	
End Depth	1668.00	Circulating Hours	1.50	RAB	80	SPP	1600	FlowRate	0 - 575	150	
Total Drilled:	1591.00	Avg. Total ROP:	444.00	Mud Data							
Total Rotary Drilled:	1500.00	Avg. Rotary ROP:	473.68	Type	Water Base			PV	0	SOLID	0
Total Drilled Sliding:	91.00	Avg. Slide ROP:	218.40	Weight	8.6	GAS	0	YP	0	BHT°	73
Slide Hours:	0.42	Percent Rotary:	94.28	Viscosity	27	SAND	0	PH	0	Flow T°	0
Below Rotary Hrs.	14.50	Percent Slide:	5.72	Chlorides	0	WL	0			Oil %	0

PERSONNEL						CASING			BHA
Lead Directional :		Toby Wilson				Size	Lb/ft	Set Depth	BHA # 1:12 1/4" Hughes "HDQ506", 7 3/4" Motor 7/8 Lobe 4.0 Stg. Fixed @1.50° w/12 1/4" Stab, 12" Stabilizer, Muleshoe Sub (Titan MWD), NMDC, NMDC, 11 3/4 Stabilizer, X-O Sub, 3 - 6" Drill Collars, X-O Sub, ,
Second Directional :		Wade Moore				9 5/8	36	1648	
MWD Operator1		Paul Brown				Signature:			
MWD Operator2		Skylar Thompson							
Directional Company:		Titan Directional Drilling, LLC							
Geologist:									
Company Man:		Jeff Myers							
Incl. In:	0	Azm. In:	0	Incl. Out:	4	Azm. Out:	188		

### GENERAL COMMENT

Motors On Location:

Discovery: 775-DDS-003 - 7 3/4" Motor 7/8 Lobe 4.0 HR Stage Fxd @ 1.50° w/ 12 1/4" Stab (In Hole)  
National: 1044684-4 - 7 3/4" Motor 7/8 Lobe 4.0 HR Stage Adj @ 1.50° w/ 12 1/8" Stab (Clean)

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
9-Apr-15	00:00	09:30	9.50	0	0	Standby	Standby while rig sets up on location.
9-Apr-15	09:30	12:25	2.92	0	0	Change BHA	Pick up BHA #1 - Make up bit - Orient tools - Install MWD probe
9-Apr-15	12:25	12:35	0.17	77	106	Drilling	Drill out conductor
9-Apr-15	12:35	13:00	0.42	106	106	Other	Pump out cellar
9-Apr-15	13:00	13:50	0.83	106	106	TIH	Finish making up BHA #1 - Make up stabilizer & stand of drill collars
9-Apr-15	13:50	13:55	0.08	106	136	Drilling	Drilling - (WOB:5;GPM :344;RPM:25)
9-Apr-15	13:55	14:05	0.17	136	136	Connection	Connection
9-Apr-15	14:05	14:10	0.08	136	166	Drilling	Drilling - (WOB:5;GPM :344;RPM:25)
9-Apr-15	14:10	14:20	0.17	166	166	Connection	Connection
9-Apr-15	14:20	14:25	0.08	166	196	Drilling	Drilling - (WOB:5;GPM :344;RPM:25)
9-Apr-15	14:25	15:00	0.58	196	196	Other	Change out saver sub - Install stabbing guide
9-Apr-15	15:00	15:10	0.17	196	196	Survey & Conn.	Survey & Conn.@141' Inc 0.4° Azm 236°
9-Apr-15	15:10	15:15	0.08	196	211	Sliding	Sliding - (WOB:4;GPM :382;TFO:180M))
9-Apr-15	15:15	15:20	0.08	211	229	Drilling	Drilling - (WOB:8;GPM :382;RPM:50)
9-Apr-15	15:20	15:30	0.17	229	229	Connection	Connection

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
9-Apr-15	15:30	15:35	0.08	229	259	Drilling	Drilling - (WOB:8;GPM :382;RPM:50)
9-Apr-15	15:35	15:45	0.17	259	259	Connection	Connection
9-Apr-15	15:45	15:50	0.08	259	289	Drilling	Drilling - (WOB:8;GPM :382;RPM:50)
9-Apr-15	15:50	16:20	0.50	289	289	Rig Service-Inhole	Rig Service-Inhole
9-Apr-15	16:20	16:30	0.17	289	289	Survey & Conn.	Survey & Conn.@234' Inc 0.9° Azm 198.7°
9-Apr-15	16:30	16:35	0.08	289	309	Sliding	Sliding - (WOB:4;GPM :382;TFO:180M))
9-Apr-15	16:35	16:45	0.17	309	384	Drilling	Drilling - (WOB:10;GPM :382;RPM:50)
9-Apr-15	16:45	16:55	0.17	384	384	Survey & Conn.	Survey & Conn.@329' Inc 2.3° Azm 197°
9-Apr-15	16:55	17:00	0.08	384	404	Sliding	Sliding - (WOB:6;GPM :458;TFO:165M))
9-Apr-15	17:00	17:10	0.17	404	474	Drilling	Drilling - (WOB:10;GPM :382;RPM:50)
9-Apr-15	17:10	17:25	0.25	474	474	Survey & Conn.	Survey & Conn.@419' Inc 4.3° Azm 191°
9-Apr-15	17:25	17:35	0.17	474	565	Drilling	Drilling - (WOB:10;GPM :382;RPM:50)
9-Apr-15	17:35	17:45	0.17	565	565	Survey & Conn.	Survey & Conn.@510' Inc 4.7° Azm 191.5°
9-Apr-15	17:45	17:55	0.17	565	656	Drilling	Drilling - (WOB:16;GPM :575;RPM:50)
9-Apr-15	17:55	18:05	0.17	656	656	Survey & Conn.	Survey & Conn.@601' Inc 4.8° Azm 192.2°
9-Apr-15	18:05	18:15	0.17	656	656	Circulating	Circulating while troubleshooting
9-Apr-15	18:15	18:25	0.17	656	746	Drilling	Drilling - (WOB:16;GPM :575;RPM:50)
9-Apr-15	18:25	18:35	0.17	746	746	Survey & Conn.	Survey & Conn.@691' Inc 4.9° Azm 193.1°
9-Apr-15	18:35	18:45	0.17	746	836	Drilling	Drilling - (WOB:16;GPM :575;RPM:50)
9-Apr-15	18:45	18:55	0.17	836	836	Survey & Conn.	Survey & Conn.@781' Inc 5.1° Azm 196.4°
9-Apr-15	18:55	19:00	0.08	836	856	Sliding	Sliding - (WOB:6;GPM :458;TFO:80M))
9-Apr-15	19:00	19:10	0.17	856	927	Drilling	Drilling - (WOB:16;GPM :575;RPM:50)
9-Apr-15	19:10	19:20	0.17	927	927	Survey & Conn.	Survey & Conn.@872' Inc 5° Azm 178°
9-Apr-15	19:20	19:30	0.17	927	1014	Drilling	Drilling - (WOB:16;GPM :575;RPM:50)
9-Apr-15	19:30	20:35	1.08	1014	1014	Other	Change out saver sub
9-Apr-15	20:35	20:45	0.17	1014	1014	Survey & Conn.	Survey & Conn.@959' Inc 5.2° Azm 172.7°
9-Apr-15	20:45	20:50	0.08	1014	1030	Sliding	Sliding - (WOB:6;GPM :575;TFO:325M))
9-Apr-15	20:50	21:00	0.17	1030	1105	Drilling	Drilling - (WOB:16;GPM :575;RPM:50)
9-Apr-15	21:00	21:10	0.17	1105	1105	Survey & Conn.	Survey & Conn.@1050' Inc 4.3° Azm 185.9°
9-Apr-15	21:10	21:20	0.17	1105	1196	Drilling	Drilling - (WOB:16;GPM :575;RPM:50)
9-Apr-15	21:20	21:30	0.17	1196	1196	Survey & Conn.	Survey & Conn.@1141' Inc 4° Azm 188.9°
9-Apr-15	21:30	21:40	0.17	1196	1288	Drilling	Drilling - (WOB:16;GPM :575;RPM:50)
9-Apr-15	21:40	21:50	0.17	1288	1288	Survey & Conn.	Survey & Conn.@1233' Inc 4° Azm 190.1°
9-Apr-15	21:50	22:00	0.17	1288	1379	Drilling	Drilling - (WOB:16;GPM :575;RPM:50)
9-Apr-15	22:00	22:10	0.17	1379	1379	Survey & Conn.	Survey & Conn.@1324' Inc 4.1° Azm 190.3°
9-Apr-15	22:10	22:20	0.17	1379	1471	Drilling	Drilling - (WOB:16;GPM :575;RPM:50)
9-Apr-15	22:20	22:30	0.17	1471	1471	Survey & Conn.	Survey & Conn.@1416' Inc 4.1° Azm 190.8°
9-Apr-15	22:30	22:35	0.08	1471	1563	Drilling	Drilling - (WOB:16;GPM :575;RPM:50)
9-Apr-15	22:35	22:45	0.17	1563	1563	Survey & Conn.	Survey & Conn.@1508' Inc 4.1° Azm 190.1°
9-Apr-15	22:45	22:55	0.17	1563	1648	Drilling	Drilling - (WOB:16;GPM :575;RPM:50)
9-Apr-15	22:55	23:05	0.17	1648	1648	Survey & Conn.	Survey & Conn.@1593' Inc 4° Azm 188°
9-Apr-15	23:05	23:10	0.08	1648	1668	Drilling	Drilling - (WOB:16;GPM :575;RPM:50)
9-Apr-15	23:10	24:00	0.83	1668	1668	Circulating	Circulating sweeps around for wiper trip.



JOB NO.:	TL15013	Report Time:	2400	3 of 9
Company:	Carrizo Oil and Gas	API JOB #	05-123-4124400	
LOCATION:	Rocky Mountains	WORK ORDER#	AFE#: 315-065	
RIG NAME:	Xtreme 19	FIELD:	Niobrara	
STATE:	CO	Township:		
COUNTY:	Weld	SECT\	RANGE:	
WELL NAME:	Ptasnik 1-30-9-59			

**From Friday, April 10, 2015 at 0000 to Friday, April 10, 2015 at 2400**

DRILLING SUMMARY				Drilling Parameters							
Start Depth	0.00	Rotary Hours	0.00	WOB	0	Pick UP	85	Slack Off	75	SPM	
End Depth	0.00	Circulating Hours	1.00	RAB	80	SPP	0	FlowRate	0 - 575		0
Total Drilled:	0.00	Avg. Total ROP:	NA	Mud Data							
Total Rotary Drilled:	0.00	Avg. Rotary ROP:	NA	Type	Water Base			PV	0	SOLID	1.2
Total Drilled Sliding:	0.00	Avg. Slide ROP:	NA	Weight	8.5	GAS	0	YP	0	BHT°	73
Slide Hours:	0.00	Percent Rotary:	NA	Viscosity	26	SAND	0	PH	8.2	Flow T°	0
Below Rotary Hrs.	4.50	Percent Slide:	NA	Chlorides	500	WL	0			Oil %	0

PERSONNEL						CASING			BHA	
Lead Directional :		Toby Wilson				Size	Lb/ft	Set Depth	BHA # 1:12 1/4" Hughes "HDQ506", 7 3/4" Motor 7/8 Lobe 4.0 Stg. Fixed @1.50° w/12 1/4" Stab, 12" Stabilizer, Muleshoe Sub (Titan MWD), NMDC, NMDC, 11 3/4 Stabilizer, X-O Sub, 3 - 6" Drill Collars, X-O Sub, ,	
Second Directional :		Wade Moore				9 5/8	36	1648		
MWD Operator1		Paul Brown				7	23	6347		
MWD Operator2		Skylar Thompson				Signature:				
Directional Company:		Titan Directional Drilling, LLC								
Geologist:										
Company Man:		Jeff Myers								
Incl. In:	4	Azm. In:	188	Incl. Out:	4	Azm. Out:	188			

#### GENERAL COMMENT

Motors On Location:

Discovery: 775-DDS-003 - 7 3/4" Motor 7/8 Lobe 4.0 HR Stage Fxd @ 1.50° w/ 12 1/4" Stab (Dirty) Sent In 10-Apr-15  
National: 1044684-4 - 7 3/4" Motor 7/8 Lobe 4.0 HR Stage Adj @ 1.50° w/ 12 1/8" Stab (Clean) Sent In 10-Apr-15

Discovery: 650-DDS-008 - 6 1/2" Motor 6/7 Lobe 5.0 HR Stage Fxd @ 1.50° (Clean) Rec'd 10-Apr-15  
Discovery: 650-DDS-019 - 6 1/2" Motor 6/7 Lobe 5.0 HR Stage Fxd @ 2.25° (Clean) Rec'd 10-Apr-15  
Discovery: 650-DDS-029 - 6 1/2" Motor 6/7 Lobe 5.0 HR Stage Adj @ 2.38° (Clean) Rec'd 10-Apr-15

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
10-Apr-15	00:00	00:45	0.75	1668	1668	POOH	Pull out of hole to drill collars.
10-Apr-15	00:45	01:30	0.75	1668	1668	TIH	Trip in hole to bottom.
10-Apr-15	01:30	02:30	1.00	1668	1668	Circulating	Circulating sweeps around to POOH and run 9 5/8" casing.
10-Apr-15	02:30	03:30	1.00	1668	1668	POOH	Pull out of hole to BHA
10-Apr-15	03:30	04:30	1.00	1668	1668	Change BHA	Lay down BHA #1
10-Apr-15	04:30	15:00	10.50	1668	1668	Standby	Standby while rig runs 9 5/8" casing and cements.
10-Apr-15	15:00	24:00	9.00	1668	1668	Standby	Standby while rig nipples up and test BOP.



JOB NO.:	TL15013	Report Time:	2400	4 of 9
Company:	Carrizo Oil and Gas	API JOB #	05-123-4124400	
LOCATION:	Rocky Mountains	WORK ORDER#	AFE#: 315-065	
RIG NAME:	Xtreme 19	FIELD:	Niobrara	
STATE:	CO	Township:		
COUNTY:	Weld	SECT\	RANGE:	
WELL NAME:	Ptasnik 1-30-9-59			

From Saturday, April 11, 2015 at 0000 to Saturday, April 11, 2015 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	1668.00	Rotary Hours	6.67	WOB	20	Pick UP	105	Slack Off	95	SPM	
End Depth	5257.00	Circulating Hours	1.67	RAB	100	SPP	2750	FlowRate	0 - 575	150	
Total Drilled:	3589.00	Avg. Total ROP:	444.00	Mud Data							
Total Rotary Drilled:	3347.00	Avg. Rotary ROP:	502.05	Type	Water Base			PV	0	SOLID	1.2
Total Drilled Sliding:	242.00	Avg. Slide ROP:	170.82	Weight	8.5	GAS	0	YP	0	BHT°	109
Slide Hours:	1.42	Percent Rotary:	93.26	Viscosity	26	SAND	0	PH	8.2	Flow T°	0
Below Rotary Hrs.	20.75	Percent Slide:	6.74	Chlorides	500	WL	0			Oil %	0
PERSONNEL				CASING					BHA		
Lead Directional :	Toby Wilson			Size	Lb/ft	Set Depth		BHA # 2:8 3/4" Smith "SDi516", 6 1/2" Motor 6/7 Lobe 5.0HR Stage Fxd @ 1.50°, Muleshoe Sub (Titan MWD), NMDC, NMDC, X-O Sub, 15 Stands - HWDP, ,			
Second Directional :	Wade Moore			9 5/8	36	1648					
MWD Operator1	Paul Brown			Signature:							
MWD Operator2	Skylar Thompson										
Directional Company:	Titan Directional Drilling, LLC										
Geologist:											
Company Man:	Jeff Myers										
Incl. In:	4	Azm. In:	188	Incl. Out:	5.4	Azm. Out:	194.3				

#### GENERAL COMMENT

Motors On Location:

Discovery: 650-DDS-008 - 6 1/2" Motor 6/7 Lobe 5.0 HR Stage Fxd @ 1.50° (In Hole)  
Discovery: 650-DDS-019 - 6 1/2" Motor 6/7 Lobe 5.0 HR Stage Fxd @ 2.25° (Clean)  
Discovery: 650-DDS-029 - 6 1/2" Motor 6/7 Lobe 5.0 HR Stage Adj @ 2.38° (Clean)

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
11-Apr-15	00:00	03:15	3.25	1668	1668	Standby	Standby while rig test BOP
11-Apr-15	03:15	04:30	1.25	1668	1668	Change BHA	Pick up BHA #2 - Make up bit - Orient tools - Install MWD probe
11-Apr-15	04:30	05:00	0.50	1668	1668	TIH	Trip in hole 2 stands and install rotating head.
11-Apr-15	05:00	05:15	0.25	1668	1668	Circulating	Test tools (good test)
11-Apr-15	05:15	06:00	0.75	1668	1668	TIH	Trip in hole to 1603'
11-Apr-15	06:00	06:40	0.67	1668	1668	Circulating	Drill cement & shoe track from 1603' to 1648'
11-Apr-15	06:40	06:45	0.08	1668	1678	Drilling	Drilling - (WOB:6;GPM :344;RPM:25)
11-Apr-15	06:45	07:15	0.50	1678	1678	Other	Perform FIT
11-Apr-15	07:15	07:20	0.08	1678	1715	Drilling	Drilling - (WOB:16;GPM :382;RPM:50)
11-Apr-15	07:20	07:30	0.17	1715	1715	Survey & Conn.	Survey & Conn.@1662' Inc 3.9° Azm 185.4°
11-Apr-15	07:30	07:40	0.17	1715	1800	Drilling	Drilling - (WOB:12;GPM :382;RPM:50)
11-Apr-15	07:40	07:50	0.17	1800	1800	Survey & Conn.	Survey & Conn.@1747' Inc 3.9° Azm 190.3°
11-Apr-15	07:50	08:00	0.17	1800	1885	Drilling	Drilling - (WOB:12;GPM :382;RPM:50)
11-Apr-15	08:00	08:10	0.17	1885	1885	Survey & Conn.	Survey & Conn.@1832' Inc 4° Azm 188.5°
11-Apr-15	08:10	08:20	0.17	1885	1968	Drilling	Drilling - (WOB:12;GPM :458;RPM:50)

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
11-Apr-15	08:20	08:30	0.17	1968	1968	Survey & Conn.	Survey & Conn.@1915' Inc 3.8° Azm 187.6°
11-Apr-15	08:30	08:45	0.25	1968	2053	Drilling	Drilling - (WOB:12;GPM :458;RPM:50)
11-Apr-15	08:45	08:55	0.17	2053	2053	Survey & Conn.	Survey & Conn.@2000' Inc 3.2° Azm 192.4°
11-Apr-15	08:55	09:00	0.08	2053	2073	Sliding	Sliding - (WOB:6;GPM :535;TFO:185M))
11-Apr-15	09:00	09:10	0.17	2073	2137	Drilling	Drilling - (WOB:16;GPM :535;RPM:50)
11-Apr-15	09:10	09:20	0.17	2137	2137	Survey & Conn.	Survey & Conn.@2084' Inc 4.9° Azm 190.3°
11-Apr-15	09:20	09:30	0.17	2137	2222	Drilling	Drilling - (WOB:16;GPM :535;RPM:50)
11-Apr-15	09:30	09:40	0.17	2222	2222	Survey & Conn.	Survey & Conn.@2169' Inc 5.2° Azm 183.4°
11-Apr-15	09:40	09:45	0.08	2222	2307	Drilling	Drilling - (WOB:16;GPM :535;RPM:50)
11-Apr-15	09:45	09:55	0.17	2307	2307	Survey & Conn.	Survey & Conn.@2254' Inc 5.2° Azm 182.5°
11-Apr-15	09:55	10:00	0.08	2307	2391	Drilling	Drilling - (WOB:16;GPM :535;RPM:50)
11-Apr-15	10:00	10:10	0.17	2391	2391	Survey & Conn.	Survey & Conn.@2338' Inc 5.2° Azm 185.9°
11-Apr-15	10:10	10:20	0.17	2391	2475	Drilling	Drilling - (WOB:16;GPM :535;RPM:50)
11-Apr-15	10:20	10:30	0.17	2475	2475	Survey & Conn.	Survey & Conn.@2422' Inc 5.1° Azm 182.5°
11-Apr-15	10:30	10:45	0.25	2475	2561	Drilling	Drilling - (WOB:16;GPM :535;RPM:50)
11-Apr-15	10:45	10:55	0.17	2561	2561	Survey & Conn.	Survey & Conn.@2508' Inc 5° Azm 184.1°
11-Apr-15	10:55	11:05	0.17	2561	2646	Drilling	Drilling - (WOB:16;GPM :535;RPM:50)
11-Apr-15	11:05	11:15	0.17	2646	2646	Survey & Conn.	Survey & Conn.@2593' Inc 5° Azm 181.1°
11-Apr-15	11:15	11:25	0.17	2646	2731	Drilling	Drilling - (WOB:16;GPM :535;RPM:50)
11-Apr-15	11:25	11:35	0.17	2731	2731	Survey & Conn.	Survey & Conn.@2678' Inc 5.6° Azm 180.1°
11-Apr-15	11:35	11:40	0.08	2731	2751	Sliding	Sliding - (WOB:6;GPM :535;TFO:320M))
11-Apr-15	11:40	11:45	0.08	2751	2816	Drilling	Drilling - (WOB:16;GPM :535;RPM:50)
11-Apr-15	11:45	11:55	0.17	2816	2816	Survey & Conn.	Survey & Conn.@2763' Inc 4.7° Azm 198.9°
11-Apr-15	11:55	12:05	0.17	2816	2901	Drilling	Drilling - (WOB:16;GPM :535;RPM:50)
11-Apr-15	12:05	12:15	0.17	2901	2901	Survey & Conn.	Survey & Conn.@2848' Inc 5.1° Azm 201.2°
11-Apr-15	12:15	12:20	0.08	2901	2916	Sliding	Sliding - (WOB:6;GPM :535;TFO:60M))
11-Apr-15	12:20	12:25	0.08	2916	2986	Drilling	Drilling - (WOB:20;GPM :535;RPM:50)
11-Apr-15	12:25	12:35	0.17	2986	2986	Survey & Conn.	Survey & Conn.@2933' Inc 4° Azm 191°
11-Apr-15	12:35	12:40	0.08	2986	3071	Drilling	Drilling - (WOB:20;GPM :535;RPM:50)
11-Apr-15	12:40	12:50	0.17	3071	3071	Survey & Conn.	Survey & Conn.@3018' Inc 4.2° Azm 188.4°
11-Apr-15	12:50	13:00	0.17	3071	3155	Drilling	Drilling - (WOB:20;GPM :535;RPM:50)
11-Apr-15	13:00	13:10	0.17	3155	3155	Survey & Conn.	Survey & Conn.@3102' Inc 4.2° Azm 187.1°
11-Apr-15	13:10	13:15	0.08	3155	3239	Drilling	Drilling - (WOB:20;GPM :535;RPM:50)
11-Apr-15	13:15	13:25	0.17	3239	3239	Survey & Conn.	Survey & Conn.@3186' Inc 3.8° Azm 181°
11-Apr-15	13:25	13:30	0.08	3239	3325	Drilling	Drilling - (WOB:20;GPM :535;RPM:50)
11-Apr-15	13:30	13:40	0.17	3325	3325	Survey & Conn.	Survey & Conn.@3272' Inc 3.3° Azm 181.8°
11-Apr-15	13:40	13:45	0.08	3325	3409	Drilling	Drilling - (WOB:20;GPM :535;RPM:50)
11-Apr-15	13:45	13:55	0.17	3409	3409	Survey & Conn.	Survey & Conn.@3356' Inc 3.2° Azm 187.6°
11-Apr-15	13:55	14:00	0.08	3409	3494	Drilling	Drilling - (WOB:20;GPM :535;RPM:50)
11-Apr-15	14:00	14:10	0.17	3494	3494	Survey & Conn.	Survey & Conn.@3441' Inc 3.2° Azm 184.8°
11-Apr-15	14:10	14:20	0.17	3494	3579	Drilling	Drilling - (WOB:20;GPM :535;RPM:50)
11-Apr-15	14:20	14:30	0.17	3579	3579	Survey & Conn.	Survey & Conn.@3526' Inc 3.4° Azm 183.4°
11-Apr-15	14:30	14:40	0.17	3579	3664	Drilling	Drilling - (WOB:20;GPM :535;RPM:50)
11-Apr-15	14:40	14:50	0.17	3664	3664	Survey & Conn.	Survey & Conn.@3611' Inc 3.7° Azm 179°
11-Apr-15	14:50	15:00	0.17	3664	3749	Drilling	Drilling - (WOB:20;GPM :535;RPM:50)
11-Apr-15	15:00	15:10	0.17	3749	3749	Survey & Conn.	Survey & Conn.@3696' Inc 3.9° Azm 176°

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
11-Apr-15	15:10	15:15	0.08	3749	3764	Sliding	Sliding - (WOB:6;GPM :535;TFO:255M))
11-Apr-15	15:15	15:20	0.08	3764	3833	Drilling	Drilling - (WOB:20;GPM :535;RPM:50)
11-Apr-15	15:20	15:30	0.17	3833	3833	Survey & Conn.	Survey & Conn.@3780' Inc 4° Azm 192.2°
11-Apr-15	15:30	15:40	0.17	3833	3918	Drilling	Drilling - (WOB:20;GPM :535;RPM:50)
11-Apr-15	15:40	15:50	0.17	3918	3918	Survey & Conn.	Survey & Conn.@3865' Inc 4.2° Azm 191.2°
11-Apr-15	15:50	15:55	0.08	3918	4003	Drilling	Drilling - (WOB:20;GPM :535;RPM:50)
11-Apr-15	15:55	16:05	0.17	4003	4003	Survey & Conn.	Survey & Conn.@3950' Inc 4.5° Azm 182.4°
11-Apr-15	16:05	16:10	0.08	4003	4015	Sliding	Sliding - (WOB:6;GPM :535;TFO:270M))
11-Apr-15	16:10	16:15	0.08	4015	4088	Drilling	Drilling - (WOB:20;GPM :535;RPM:50)
11-Apr-15	16:15	16:25	0.17	4088	4088	Survey & Conn.	Survey & Conn.@4035' Inc 4.5° Azm 191.5°
11-Apr-15	16:25	16:35	0.17	4088	4173	Drilling	Drilling - (WOB:3.2;GPM :535;RPM:50)
11-Apr-15	16:35	16:45	0.17	4173	4173	Survey & Conn.	Survey & Conn.@4120' Inc 4° Azm 183.6°
11-Apr-15	16:45	16:55	0.17	4173	4193	Sliding	Sliding - (WOB:6;GPM :535;TFO:255M))
11-Apr-15	16:55	17:05	0.17	4193	4258	Drilling	Drilling - (WOB:20;GPM :535;RPM:50)
11-Apr-15	17:05	17:50	0.75	4258	4258	Rig Service-Inhole	Rig Service-Inhole
11-Apr-15	17:50	18:00	0.17	4258	4258	Survey & Conn.	Survey & Conn.@4205' Inc 4.4° Azm 196.4°
11-Apr-15	18:00	18:10	0.17	4258	4343	Drilling	Drilling - (WOB:20;GPM :535;RPM:50)
11-Apr-15	18:10	18:20	0.17	4343	4343	Survey & Conn.	Survey & Conn.@4290' Inc 3.9° Azm 190.5°
11-Apr-15	18:20	18:30	0.17	4343	4368	Sliding	Sliding - (WOB:8;GPM :535;TFO:215M))
11-Apr-15	18:30	18:40	0.17	4368	4428	Drilling	Drilling - (WOB:20;GPM :535;RPM:50)
11-Apr-15	18:40	18:50	0.17	4428	4428	Survey & Conn.	Survey & Conn.@4375' Inc 4.8° Azm 192.9°
11-Apr-15	18:50	18:55	0.08	4428	4513	Drilling	Drilling - (WOB:20;GPM :535;RPM:50)
11-Apr-15	18:55	19:05	0.17	4513	4513	Survey & Conn.	Survey & Conn.@4460' Inc 4.8° Azm 187.8°
11-Apr-15	19:05	19:15	0.17	4513	4597	Drilling	Drilling - (WOB:20;GPM :535;RPM:50)
11-Apr-15	19:15	19:25	0.17	4597	4597	Survey & Conn.	Survey & Conn.@4544' Inc 4.1° Azm 178.9°
11-Apr-15	19:25	19:35	0.17	4597	4627	Sliding	Sliding - (WOB:8;GPM :535;TFO:240M))
11-Apr-15	19:35	19:45	0.17	4627	4682	Drilling	Drilling - (WOB:20;GPM :535;RPM:50)
11-Apr-15	19:45	19:55	0.17	4682	4682	Survey & Conn.	Survey & Conn.@4629' Inc 4.7° Azm 191.7°
11-Apr-15	19:55	20:00	0.08	4682	4766	Drilling	Drilling - (WOB:20;GPM :535;RPM:50)
11-Apr-15	20:00	20:10	0.17	4766	4766	Survey & Conn.	Survey & Conn.@4713' Inc 4.2° Azm 184.1°
11-Apr-15	20:10	20:20	0.17	4766	4791	Sliding	Sliding - (WOB:8;GPM :535;TFO:230M))
11-Apr-15	20:20	20:30	0.17	4791	4851	Drilling	Drilling - (WOB:20;GPM :535;RPM:50)
11-Apr-15	20:30	20:40	0.17	4851	4851	Survey & Conn.	Survey & Conn.@4798' Inc 4.7° Azm 189.4°
11-Apr-15	20:40	21:05	0.42	4851	4935	Drilling	Drilling - (WOB:20;GPM :535;RPM:50)
11-Apr-15	21:05	21:15	0.17	4935	4935	Survey & Conn.	Survey & Conn.@4882' Inc 4° Azm 185.7°
11-Apr-15	21:15	22:15	1.00	4935	4935	Other	Fix problems with weight indicator and recalibrate hookload.
11-Apr-15	22:15	22:25	0.17	4935	4965	Sliding	Sliding - (WOB:8;GPM :575;TFO:210M))
11-Apr-15	22:25	22:50	0.42	4965	5019	Drilling	Drilling - (WOB:20;GPM :575;RPM:50)
11-Apr-15	22:50	23:00	0.17	5019	5019	Survey & Conn.	Survey & Conn.@4966' Inc 4.7° Azm 205°
11-Apr-15	23:00	23:15	0.25	5019	5104	Drilling	Drilling - (WOB:20;GPM :575;RPM:50)
11-Apr-15	23:15	23:25	0.17	5104	5104	Survey & Conn.	Survey & Conn.@5051' Inc 4° Azm 209.1°
11-Apr-15	23:25	23:35	0.17	5104	5134	Sliding	Sliding - (WOB:8;GPM :575;TFO:180M))
11-Apr-15	23:35	23:45	0.17	5134	5189	Drilling	Drilling - (WOB:20;GPM :575;RPM:50)
11-Apr-15	23:45	23:55	0.17	5189	5189	Survey & Conn.	Survey & Conn.@5136' Inc 5.4° Azm 194.3°
11-Apr-15	23:55	24:00	0.08	5189	5257	Drilling	Drilling - (WOB:20;GPM :575;RPM:50)



JOB NO.:	TL15013	Report Time:	2400	5 of 9
Company:	Carrizo Oil and Gas	API JOB #	05-123-4124400	
LOCATION:	Rocky Mountains	WORK ORDER#	AFE#: 315-065	
RIG NAME:	Xtreme 19	FIELD:	Niobrara	
STATE:	CO	Township:		
COUNTY:	Weld	SECT\	RANGE:	
WELL NAME:	Ptasnik 1-30-9-59			

**From Sunday, April 12, 2015 at 0000 to Sunday, April 12, 2015 at 2400**

DRILLING SUMMARY				Drilling Parameters							
Start Depth	5257.00	Rotary Hours	2.50	WOB	10	Pick UP	130	Slack Off	100	SPM	
End Depth	6249.00	Circulating Hours	3.75	RAB	115	SPP	2050	FlowRate	0 - 575	120	
Total Drilled:	992.00	Avg. Total ROP:	112.30	Mud Data							
Total Rotary Drilled:	529.00	Avg. Rotary ROP:	211.60	Type	Water Base			PV	0	SOLID	1.2
Total Drilled Sliding:	463.00	Avg. Slide ROP:	73.11	Weight	8.5	GAS	0	YP	0	BHT°	136
Slide Hours:	6.33	Percent Rotary:	53.33	Viscosity	26	SAND	0	PH	8.2	Flow T°	0
Below Rotary Hrs.	24.00	Percent Slide:	46.67	Chlorides	500	WL	0			Oil %	0
PERSONNEL				CASING					BHA		
Lead Directional :	Toby Wilson			Size	Lb/ft	Set Depth		BHA # 3:8 3/4" Smith "SDi611", 6 1/2" Motor 6/7 Lobe 5.0HR Stage Fxd @ 2.25°, Muleshoe Sub (Titan MWD), NMDC, NMFlex, X-O Sub, 10 Stands - Drill Pipe, 15 Stands - HWDP, ,			
Second Directional :	Wade Moore			9 5/8	36	1648					
MWD Operator1	Paul Brown			Signature:							
MWD Operator2	Skylar Thompson										
Directional Company:	Titan Directional Drilling, LLC										
Geologist:											
Company Man:	Jeff Myers										
Incl. In:	5.4	Azm. In:	194.3	Incl. Out:	51.5	Azm. Out:	356.4				

#### GENERAL COMMENT

Motors On Location:

Discovery: 650-DDS-008 - 6 1/2" Motor 6/7 Lobe 5.0 HR Stage Fxd @ 1.50° (Dirty)  
 Discovery: 650-DDS-019 - 6 1/2" Motor 6/7 Lobe 5.0 HR Stage Fxd @ 2.25° (In Hole)  
 Discovery: 650-DDS-029 - 6 1/2" Motor 6/7 Lobe 5.0 HR Stage Adj @ 2.38° (Clean)

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
12-Apr-15	00:00	00:05	0.08	5257	5273	Drilling	Drilling - (WOB:20;GPM :575;RPM:50)
12-Apr-15	00:05	00:15	0.17	5273	5273	Survey & Conn.	Survey & Conn.@5220' Inc 5° Azm 189.1°
12-Apr-15	00:15	00:20	0.08	5273	5357	Drilling	Drilling - (WOB:20;GPM :575;RPM:50)
12-Apr-15	00:20	00:30	0.17	5357	5357	Survey & Conn.	Survey & Conn.@5304' Inc 3.6° Azm 186.6°
12-Apr-15	00:30	00:40	0.17	5357	5382	Sliding	Sliding - (WOB:8;GPM :575;TFO:190M))
12-Apr-15	00:40	00:50	0.17	5382	5442	Drilling	Drilling - (WOB:20;GPM :575;RPM:50)
12-Apr-15	00:50	01:00	0.17	5442	5442	Survey & Conn.	Survey & Conn.@5389' Inc 4.6° Azm 191.9°
12-Apr-15	01:00	01:15	0.25	5442	5527	Drilling	Drilling - (WOB:20;GPM :420;RPM:50)
12-Apr-15	01:15	01:25	0.17	5527	5527	Survey & Conn.	Survey & Conn.@5474' Inc 3.1° Azm 180.3°
12-Apr-15	01:25	01:30	0.08	5527	5569	Drilling	Drilling - (WOB:20;GPM :420;RPM:50)
12-Apr-15	01:30	01:40	0.17	5569	5569	MWD Survey	MWD Survey@5516' Inc 2.6° Azm 176.7°
12-Apr-15	01:40	02:20	0.67	5569	5569	Circulating	Circulating sweeps around to POOH and pick up curve assembly.
12-Apr-15	02:20	02:50	0.50	5569	5569	Rig Service-Inhole	Rig Service-Inhole
12-Apr-15	02:50	06:20	3.50	5569	5569	POOH	Pull out of hole
12-Apr-15	06:20	07:00	0.67	5569	5569	Change BHA	Lay down BHA #2

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
12-Apr-15	07:00	07:30	0.50	5569	5569	Other	Clean up rig floor
12-Apr-15	07:30	08:35	1.08	5569	5569	TIH	Pick up BHA #3 - Make up bit - Orient tools - Install MWD probe
12-Apr-15	08:35	08:50	0.25	5569	5569	Other	Install rotating head
12-Apr-15	08:50	09:00	0.17	5569	5569	Circulating	Test tools (OK)
12-Apr-15	09:00	12:25	3.42	5569	5569	TIH	Trip in hole
12-Apr-15	12:25	12:40	0.25	5569	5569	Circulating	Fill pipe - Sync MWD tool
12-Apr-15	12:40	12:50	0.17	5569	5590	Drilling	Drilling - (WOB:20;GPM :458;RPM:30)
12-Apr-15	12:50	13:10	0.33	5590	5590	Circulating	Circulate hole clean
12-Apr-15	13:10	13:25	0.25	5590	5612	Sliding	Sliding - (WOB:12;GPM :458;TFO:360M))
12-Apr-15	13:25	13:35	0.17	5612	5612	Survey & Conn.	Survey & Conn.@5559' Inc 2° Azm 168.1°
12-Apr-15	13:35	13:40	0.08	5612	5617	Drilling	Drilling - (WOB:20;GPM :458;RPM:30)
12-Apr-15	13:40	14:00	0.33	5617	5655	Sliding	Sliding - (WOB:12;GPM :458;TFO:360M))
12-Apr-15	14:00	14:10	0.17	5655	5655	MWD Survey	MWD Survey@5601' Inc 1.1° Azm 88.2°
12-Apr-15	14:10	14:15	0.08	5655	5665	Drilling	Drilling - (WOB:20;GPM :458;RPM:30)
12-Apr-15	14:15	14:45	0.50	5665	5697	Sliding	Sliding - (WOB:10;GPM :458;TFO:350M))
12-Apr-15	14:45	14:55	0.17	5697	5697	Survey & Conn.	Survey & Conn.@5644' Inc 6° Azm 28.6°
12-Apr-15	14:55	15:00	0.08	5697	5714	Drilling	Drilling - (WOB:20;GPM :458;RPM:30)
12-Apr-15	15:00	15:35	0.58	5714	5740	Sliding	Sliding - (WOB:8;GPM :458;TFO:330M))
12-Apr-15	15:35	15:45	0.17	5740	5740	MWD Survey	MWD Survey@5686' Inc 10.6° Azm 19.1°
12-Apr-15	15:45	15:50	0.08	5740	5757	Drilling	Drilling - (WOB:20;GPM :458;RPM:30)
12-Apr-15	15:50	16:15	0.42	5757	5781	Sliding	Sliding - (WOB:8;GPM :458;TFO:40L))
12-Apr-15	16:15	16:45	0.50	5781	5781	Rig Service-Inhole	Rig Service-Inhole
12-Apr-15	16:45	16:55	0.17	5781	5781	Survey & Conn.	Survey & Conn.@5728' Inc 12.9° Azm 11.2°
12-Apr-15	16:55	17:00	0.08	5781	5801	Drilling	Drilling - (WOB:20;GPM :458;RPM:30)
12-Apr-15	17:00	17:20	0.33	5801	5825	Sliding	Sliding - (WOB:10;GPM :458;TFO:30L))
12-Apr-15	17:20	17:30	0.17	5825	5825	MWD Survey	MWD Survey@5771' Inc 15.3° Azm 3.6°
12-Apr-15	17:30	17:35	0.08	5825	5838	Drilling	Drilling - (WOB:20;GPM :458;RPM:30)
12-Apr-15	17:35	18:05	0.50	5838	5866	Sliding	Sliding - (WOB:10;GPM :458;TFO:20L))
12-Apr-15	18:05	18:15	0.17	5866	5866	Survey & Conn.	Survey & Conn.@5813' Inc 17.8° Azm 359.7°
12-Apr-15	18:15	18:25	0.17	5866	5876	Drilling	Drilling - (WOB:20;GPM :458;RPM:30)
12-Apr-15	18:25	18:55	0.50	5876	5909	Sliding	Sliding - (WOB:10;GPM :458;TFO:1))
12-Apr-15	18:55	19:05	0.17	5909	5909	MWD Survey	MWD Survey@5855' Inc 21.4° Azm 357.1°
12-Apr-15	19:05	19:10	0.08	5909	5921	Drilling	Drilling - (WOB:20;GPM :458;RPM:30)
12-Apr-15	19:10	19:30	0.33	5921	5951	Sliding	Sliding - (WOB:10;GPM :458;TFO:1))
12-Apr-15	19:30	19:40	0.17	5951	5951	Survey & Conn.	Survey & Conn.@5898' Inc 26° Azm 356.4°
12-Apr-15	19:40	19:50	0.17	5951	5966	Drilling	Drilling - (WOB:20;GPM :458;RPM:30)
12-Apr-15	19:50	20:10	0.33	5966	5994	Sliding	Sliding - (WOB:10;GPM :458;TFO:1))
12-Apr-15	20:10	20:20	0.17	5994	5994	MWD Survey	MWD Survey@5940' Inc 31.7° Azm 357.6°
12-Apr-15	20:20	20:25	0.08	5994	6016	Drilling	Drilling - (WOB:20;GPM :458;RPM:30)
12-Apr-15	20:25	20:40	0.25	6016	6036	Sliding	Sliding - (WOB:10;GPM :458;TFO:1))
12-Apr-15	20:40	20:50	0.17	6036	6036	Survey & Conn.	Survey & Conn.@5983' Inc 36.9° Azm 358.9°
12-Apr-15	20:50	21:00	0.17	6036	6059	Drilling	Drilling - (WOB:20;GPM :458;RPM:30)
12-Apr-15	21:00	21:15	0.25	6059	6079	Sliding	Sliding - (WOB:10;GPM :458;TFO:20L))
12-Apr-15	21:15	21:25	0.17	6079	6079	MWD Survey	MWD Survey@6025' Inc 39.6° Azm 359°
12-Apr-15	21:25	21:30	0.08	6079	6090	Drilling	Drilling - (WOB:20;GPM :458;RPM:30)
12-Apr-15	21:30	21:45	0.25	6090	6120	Sliding	Sliding - (WOB:10;GPM :458;TFO:20L))

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
12-Apr-15	21:45	21:55	0.17	6120	6120	Survey & Conn.	Survey & Conn.@6067' Inc 42.1° Azm 357.8°
12-Apr-15	21:55	22:00	0.08	6120	6132	Drilling	Drilling - (WOB:20;GPM :458;RPM:30)
12-Apr-15	22:00	22:30	0.50	6132	6164	Sliding	Sliding - (WOB:10;GPM :458;TFO:1))
12-Apr-15	22:30	22:40	0.17	6164	6164	MWD Survey	MWD Survey@6110' Inc 47.1° Azm 356.2°
12-Apr-15	22:40	22:50	0.17	6164	6184	Drilling	Drilling - (WOB:20;GPM :458;RPM:30)
12-Apr-15	22:50	23:10	0.33	6184	6205	Sliding	Sliding - (WOB:10;GPM :458;TFO:1))
12-Apr-15	23:10	23:20	0.17	6205	6205	Survey & Conn.	Survey & Conn.@6152' Inc 51.5° Azm 356.4°
12-Apr-15	23:20	23:30	0.17	6205	6219	Drilling	Drilling - (WOB:20;GPM :458;RPM:30)
12-Apr-15	23:30	24:00	0.50	6219	6249	Sliding	Sliding - (WOB:10;GPM :458;TFO:1))



JOB NO.:	TL15013	Report Time:	2400	6 of 9
Company:	Carrizo Oil and Gas	API JOB #	05-123-4124400	
LOCATION:	Rocky Mountains	WORK ORDER#	AFE#: 315-065	
RIG NAME:	Xtreme 19	FIELD:	Niobrara	
STATE:	CO	Township:		
COUNTY:	Weld	SECT\	RANGE:	
WELL NAME:	Ptasnik 1-30-9-59			

**From Monday, April 13, 2015 at 0000 to Monday, April 13, 2015 at 2400**

DRILLING SUMMARY				Drilling Parameters							
Start Depth	6249.00	Rotary Hours	0.33	WOB	0	Pick UP	140	Slack Off	115	SPM	
End Depth	6369.00	Circulating Hours	3.58	RAB	125	SPP	0	FlowRate	0 - 458	0	
Total Drilled:	120.00	Avg. Total ROP:	84.71	Mud Data							
Total Rotary Drilled:	44.00	Avg. Rotary ROP:	132.00	Type	Water Base			PV	13	SOLID	5.8
Total Drilled Sliding:	76.00	Avg. Slide ROP:	70.15	Weight	9.5	GAS	0	YP	14	BHT°	136
Slide Hours:	1.08	Percent Rotary:	36.67	Viscosity	42	SAND	0.5	PH	9.3	Flow T°	112
Below Rotary Hrs.	9.67	Percent Slide:	63.33	Chlorides	600	WL	6.4			Oil %	0
PERSONNEL				CASING					BHA		
Lead Directional :	Toby Wilson			Size	Lb/ft	Set Depth		BHA # 3:8 3/4" Smith "SDi611", 6 1/2" Motor 6/7 Lobe 5.0HR Stage Fxd @ 2.25°, Muleshoe Sub (Titan MWD), NMDC, NMFlex, X-O Sub, 10 Stands - Drill Pipe, 15 Stands - HWDP, ,			
Second Directional :	Wade Moore / Randall Cole			9 5/8	36	1648					
MWD Operator1	Paul Brown			7	23	6347					
MWD Operator2	Skylar Thompson			Signature:							
Directional Company:	Titan Directional Drilling, LLC										
Geologist:											
Company Man:	Jeff Myers										
Incl. In:	51.5	Azm. In:	356.4	Incl. Out:	68	Azm. Out:	357.8				

#### GENERAL COMMENT

Motors On Location:

Discovery: 650-DDS-008 - 6 1/2" Motor 6/7 Lobe 5.0 HR Stage Fxd @ 1.50° (Dirty) Shipped In 4-13-15  
 Discovery: 650-DDS-019 - 6 1/2" Motor 6/7 Lobe 5.0 HR Stage Fxd @ 2.25° (Dirty) Shipped In 4-13-15  
 Discovery: 650-DDS-029 - 6 1/2" Motor 6/7 Lobe 5.0 HR Stage Adj @ 2.38° (Clean) Shipped In 4-13-15

Discovery: 475-DDS-019 - 4 3/4" Motor 5/6 Lobe 8.3 HR Stage Fxd @ 1.83° (Clean) Rec'd 4-13-15  
 Discovery: 475-DDS-044 - 4 3/4" Motor 5/6 Lobe 8.3 HR Stage Fxd @ 1.83° (Clean) Rec'd 4-13-15

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
13-Apr-15	00:00	00:10	0.17	6249	6249	MWD Survey	MWD Survey@6195' Inc 55.2° Azm 356.9°
13-Apr-15	00:10	00:15	0.08	6249	6266	Drilling	Drilling - (WOB:20;GPM :458;RPM:30)
13-Apr-15	00:15	00:35	0.33	6266	6290	Sliding	Sliding - (WOB:10;GPM :458;TFO:1))
13-Apr-15	00:35	00:50	0.25	6290	6290	Survey & Conn.	Survey & Conn.@6237' Inc 59.7° Azm 357.1°
13-Apr-15	00:50	01:00	0.17	6290	6306	Drilling	Drilling - (WOB:20;GPM :458;RPM:30)
13-Apr-15	01:00	01:20	0.33	6306	6334	Sliding	Sliding - (WOB:10;GPM :458;TFO:1))
13-Apr-15	01:20	01:30	0.17	6334	6334	MWD Survey	MWD Survey@6280' Inc 64.1° Azm 357.5°
13-Apr-15	01:30	01:45	0.25	6334	6334	Circulating	Waiting on orders from Carrizo.
13-Apr-15	01:45	01:50	0.08	6334	6345	Drilling	Drilling - (WOB:20;GPM :458;RPM:30)
13-Apr-15	01:50	02:15	0.42	6345	6369	Sliding	Sliding - (WOB:10;GPM :458;TFO:1))
13-Apr-15	02:15	02:25	0.17	6369	6369	MWD Survey	MWD Survey@6315' Inc 68° Azm 357.8°
13-Apr-15	02:25	03:45	1.33	6369	6369	Circulating	Circulating sweeps around for wiper trip.
13-Apr-15	03:45	04:50	1.08	6369	6369	Short Trip	Short trip to kickoff point and back to bottom.

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
13-Apr-15	04:50	06:20	1.50	6369	6369	Circulating	Circulating sweeps around to POOH and run 7" casing.
13-Apr-15	06:20	09:00	2.67	6369	6369	POOH	Pull out of hole to run 7" casing
13-Apr-15	09:00	09:40	0.67	6369	6369	Change BHA	Lay down BHA #3
13-Apr-15	09:40	24:00	14.33	6369	6369	Standby	Standby while rig runs 7" casing & cements



JOB NO.:	TL15013	Report Time:	2400	7 of 9
Company:	Carrizo Oil and Gas	API JOB #	05-123-4124400	
LOCATION:	Rocky Mountains	WORK ORDER#	AFE#: 315-065	
RIG NAME:	Xtreme 19	FIELD:	Niobrara	
STATE:	CO	Township:		
COUNTY:	Weld	SECT\	RANGE:	
WELL NAME:	Ptasnik 1-30-9-59			

**From Tuesday, April 14, 2015 at 0000 to Tuesday, April 14, 2015 at 2400**

DRILLING SUMMARY				Drilling Parameters							
Start Depth	6369.00	Rotary Hours	9.08	WOB	20	Pick UP	140	Slack Off	115	SPM	
End Depth	8069.00	Circulating Hours	1.08	RAB	125	SPP	2550	FlowRate	0 - 287	75	
Total Drilled:	1700.00	Avg. Total ROP:	148.91	Mud Data							
Total Rotary Drilled:	1462.00	Avg. Rotary ROP:	160.95	Type	Water Base			PV	16	SOLID	6.4
Total Drilled Sliding:	238.00	Avg. Slide ROP:	102.00	Weight	9.65	GAS	0	YP	15	BHT°	136
Slide Hours:	2.33	Percent Rotary:	86.00	Viscosity	52	SAND	0.5	PH	9	Flow T°	95
Below Rotary Hrs.	21.67	Percent Slide:	14.00	Chlorides	600	WL	6.4			Oil %	0
PERSONNEL				CASING					BHA		
Lead Directional :	Randall Cole			Size	Lb/ft	Set Depth		BHA # 4:6 1/8" Smith "SDi513" PDC Bit, 4 3/4" Motor 5/6 Lobe 8.3HR Stg Fxd @ 1.83°, Muleshoe Sub (Titan MWD), NMDC, NMFlex, X-O Sub, 65 Stands - Drill Pipe, 15 Stands - HWDP, ,			
Second Directional :	Toby Wilson			9 5/8	36	1648					
MWD Operator1	Paul Brown			7	23	6347					
MWD Operator2	Skylar Thompson										
Directional Company:	Titan Directional Drilling, LLC			Signature:							
Geologist:											
Company Man:	Jeff Myers										
Incl. In:	68	Azm. In:	357.8	Incl. Out:	90.7	Azm. Out:	359.2				

#### GENERAL COMMENT

Motors On Location:

Discovery: 475-DDS-019 - 4 3/4" Motor 5/6 Lobe 8.3 HR Stage Fxd @ 1.83° (In Hole)  
Discovery: 475-DDS-044 - 4 3/4" Motor 5/6 Lobe 8.3 HR Stage Fxd @ 1.83° (Clean)

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
14-Apr-15	00:00	02:20	2.33	6369	6369	Standby	Standby while rig runs 7" casing & cements
14-Apr-15	02:20	02:50	0.50	6369	6369	Change BHA	Pick up BHA #4 - Make up bit - Orient tools
14-Apr-15	02:50	03:20	0.50	6369	6369	Other	Work on drawworks brake
14-Apr-15	03:20	03:50	0.50	6369	6369	TIH	Finish making up BHA #4 - Install MWD probe
14-Apr-15	03:50	04:00	0.17	6369	6369	Other	Install rotating head
14-Apr-15	04:00	04:10	0.17	6369	6369	Circulating	Test tools (OK)
14-Apr-15	04:10	07:50	3.67	6369	6369	TIH	Trip in hole
14-Apr-15	07:50	08:40	0.83	6369	6369	Drilling Cement	Drill shoe track from 6259' to 6351
14-Apr-15	08:40	08:50	0.17	6369	6369	Drilling	Drilling - (WOB:14;GPM :229;RPM:30)
14-Apr-15	08:50	09:20	0.50	6369	6415	Sliding	Sliding - (WOB:10;GPM :229;TFO:1))
14-Apr-15	09:20	09:25	0.08	6415	6425	Drilling	Drilling - (WOB:14;GPM :229;RPM:30)
14-Apr-15	09:25	09:35	0.17	6425	6425	Survey & Conn.	Survey & Conn.@6371' Inc 74.3° Azm 357.8°
14-Apr-15	09:35	10:05	0.50	6425	6465	Sliding	Sliding - (WOB:10;GPM :229;TFO:1))
14-Apr-15	10:05	10:15	0.17	6465	6471	Drilling	Drilling - (WOB:14;GPM :229;RPM:30)
14-Apr-15	10:15	10:25	0.17	6471	6471	MWD Survey	MWD Survey@6417' Inc 79.7° Azm 358.2°
14-Apr-15	10:25	10:40	0.25	6471	6501	Sliding	Sliding - (WOB:10;GPM :229;TFO:1))

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
14-Apr-15	10:40	10:50	0.17	6501	6516	Drilling	Drilling - (WOB:14;GPM :229;RPM:30)
14-Apr-15	10:50	11:00	0.17	6516	6516	Survey & Conn.	Survey & Conn.@6462' Inc 86° Azm 358.5°
14-Apr-15	11:00	11:20	0.33	6516	6562	Drilling	Drilling - (WOB:14;GPM :229;RPM:30)
14-Apr-15	11:20	11:30	0.17	6562	6562	MWD Survey	MWD Survey@6508' Inc 90.4° Azm 356.7°
14-Apr-15	11:30	11:35	0.08	6562	6582	Sliding	Sliding - (WOB:10;GPM :287;TFO:100R))
14-Apr-15	11:35	11:45	0.17	6582	6607	Drilling	Drilling - (WOB:14;GPM :287;RPM:30)
14-Apr-15	11:45	11:55	0.17	6607	6607	Survey & Conn.	Survey & Conn.@6553' Inc 89.3° Azm 355.2°
14-Apr-15	11:55	12:25	0.50	6607	6698	Drilling	Drilling - (WOB:14;GPM :287;RPM:50)
14-Apr-15	12:25	12:35	0.17	6698	6698	Survey & Conn.	Survey & Conn.@6644' Inc 88.5° Azm 357.1°
14-Apr-15	12:35	12:45	0.17	6698	6718	Sliding	Sliding - (WOB:10;GPM :287;TFO:60R))
14-Apr-15	12:45	13:20	0.58	6718	6789	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
14-Apr-15	13:20	13:30	0.17	6789	6789	Survey & Conn.	Survey & Conn.@6735' Inc 90.3° Azm 0.1°
14-Apr-15	13:30	13:50	0.33	6789	6880	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
14-Apr-15	13:50	14:00	0.17	6880	6880	Survey & Conn.	Survey & Conn.@6826' Inc 89.3° Azm 357.6°
14-Apr-15	14:00	14:10	0.17	6880	6900	Sliding	Sliding - (WOB:10;GPM :287;TFO:50R))
14-Apr-15	14:10	14:35	0.42	6900	6971	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
14-Apr-15	14:35	14:45	0.17	6971	6971	Survey & Conn.	Survey & Conn.@6917' Inc 91.4° Azm 1.3°
14-Apr-15	14:45	15:05	0.33	6971	7055	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
14-Apr-15	15:05	15:40	0.58	7055	7055	Rig Service-Inhole	Rig Service-Inhole
14-Apr-15	15:40	15:50	0.17	7055	7055	Survey & Conn.	Survey & Conn.@7001' Inc 91.4° Azm 0.4°
14-Apr-15	15:50	16:15	0.42	7055	7140	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
14-Apr-15	16:15	16:25	0.17	7140	7140	Survey & Conn.	Survey & Conn.@7086' Inc 91.1° Azm 358.7°
14-Apr-15	16:25	16:50	0.42	7140	7224	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
14-Apr-15	16:50	17:00	0.17	7224	7224	Survey & Conn.	Survey & Conn.@7170' Inc 91.5° Azm 357.8°
14-Apr-15	17:00	17:05	0.08	7224	7239	Sliding	Sliding - (WOB:10;GPM :287;TFO:140R))
14-Apr-15	17:05	17:35	0.50	7239	7308	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
14-Apr-15	17:35	17:45	0.17	7308	7308	Survey & Conn.	Survey & Conn.@7254' Inc 89.3° Azm 359.9°
14-Apr-15	17:45	18:10	0.42	7308	7392	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
14-Apr-15	18:10	18:20	0.17	7392	7392	Survey & Conn.	Survey & Conn.@7338' Inc 89.3° Azm 359.4°
14-Apr-15	18:20	18:30	0.17	7392	7399	Sliding	Sliding - (WOB:26;GPM :287;TFO:30R))
14-Apr-15	18:30	18:55	0.42	7399	7477	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
14-Apr-15	18:55	19:05	0.17	7477	7477	Survey & Conn.	Survey & Conn.@7423' Inc 91.2° Azm 358.9°
14-Apr-15	19:05	19:10	0.08	7477	7485	Sliding	Sliding - (WOB:26;GPM :287;TFO:135R))
14-Apr-15	19:10	19:35	0.42	7485	7561	Drilling	2Drilling - (WOB:20;GPM :287;RPM:50)
14-Apr-15	19:35	20:15	0.67	7561	7561	Other	Change out rotating head rubber
14-Apr-15	20:15	20:25	0.17	7561	7561	Survey & Conn.	Survey & Conn.@7507' Inc 89.8° Azm 359°
14-Apr-15	20:25	20:50	0.42	7561	7645	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
14-Apr-15	20:50	21:00	0.17	7645	7645	Survey & Conn.	Survey & Conn.@7591' Inc 89.7° Azm 359°
14-Apr-15	21:00	21:25	0.42	7645	7729	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
14-Apr-15	21:25	21:35	0.17	7729	7729	Survey & Conn.	Survey & Conn.@7675' Inc 89.4° Azm 358.3°
14-Apr-15	21:35	21:40	0.08	7729	7739	Sliding	Sliding - (WOB:26;GPM :287;TFO:60R))
14-Apr-15	21:40	22:05	0.42	7739	7814	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
14-Apr-15	22:05	22:15	0.17	7814	7814	Survey & Conn.	Survey & Conn.@7760' Inc 89.5° Azm 359°
14-Apr-15	22:15	22:20	0.08	7814	7824	Sliding	Sliding - (WOB:26;GPM :287;TFO:45R))
14-Apr-15	22:20	22:45	0.42	7824	7899	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
14-Apr-15	22:45	22:55	0.17	7899	7899	Survey & Conn.	Survey & Conn.@7845' Inc 91.5° Azm 2.4°

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
14-Apr-15	22:55	23:05	0.17	7899	7911	Sliding	Sliding - (WOB:26;GPM :287;TFO:110L))
14-Apr-15	23:05	23:25	0.33	7911	7984	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
14-Apr-15	23:25	23:35	0.17	7984	7984	Survey & Conn.	Survey & Conn.@7930' Inc 90.7° Azm 359.2°
14-Apr-15	23:35	24:00	0.42	7984	8069	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)



JOB NO.:	TL15013	Report Time:	2400	8 of 9
Company:	Carrizo Oil and Gas	API JOB #	05-123-4124400	
LOCATION:	Rocky Mountains	WORK ORDER#	AFE#: 315-065	
RIG NAME:	Xtreme 19	FIELD:	Niobrara	
STATE:	CO	Township:		
COUNTY:	Weld	SECT\	RANGE:	
WELL NAME:	Ptasnik 1-30-9-59			

From Wednesday, April 15, 2015 at 0000 to Wednesday, April 15, 2015 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	8069.00	Rotary Hours	12.67	WOB	20	Pick UP	175	Slack Off	0	SPM	
End Depth	10745.00	Circulating Hours	0.75	RAB	110	SPP	3050	FlowRate	287 - 287	75	
Total Drilled:	2676.00	Avg. Total ROP:	149.36	Mud Data							
Total Rotary Drilled:	2508.00	Avg. Rotary ROP:	198.00	Type	Water Base			PV	18	SOLID	7.2
Total Drilled Sliding:	168.00	Avg. Slide ROP:	32.00	Weight	9.9	GAS	0	YP	24	BHT°	168
Slide Hours:	5.25	Percent Rotary:	93.72	Viscosity	50	SAND	0.5	PH	10	Flow T°	116
Below Rotary Hrs.	24.00	Percent Slide:	6.28	Chlorides	600	WL	6			Oil %	0
PERSONNEL				CASING					BHA		
Lead Directional :	Randall Cole			Size	Lb/ft	Set Depth		BHA # 4:6 1/8" Smith "SDi513" PDC Bit, 4 3/4" Motor 5/6 Lobe 8.3HR Stg Fxd @ 1.83°, Muleshoe Sub (Titan MWD), NMDC, NMFlex, X-O Sub, 65 Stands - Drill Pipe, 15 Stands - HWDP, ,			
Second Directional :	Toby Wilson			9 5/8	36	1648					
MWD Operator1	Paul Brown			7	23	6347					
MWD Operator2	Skylar Thompson			Signature:							
Directional Company:	Titan Directional Drilling, LLC										
Geologist:											
Company Man:	Jeff Myers										
Incl. In:	90.7	Azm. In:	359.2	Incl. Out:	89.1	Azm. Out:	1.1				

#### GENERAL COMMENT

Motors On Location:

Discovery: 475-DDS-019 - 4 3/4" Motor 5/6 Lobe 8.3 HR Stage Fxd @ 1.83° (In Hole)  
Discovery: 475-DDS-044 - 4 3/4" Motor 5/6 Lobe 8.3 HR Stage Fxd @ 1.83° (Clean)

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
15-Apr-15	00:00	00:10	0.17	8069	8069	Survey & Conn.	Survey & Conn.@8015' Inc 89.7° Azm 356.9°
15-Apr-15	00:10	00:25	0.25	8069	8084	Sliding	Sliding - (WOB:34;GPM :287;TFO:90R))
15-Apr-15	00:25	00:50	0.42	8084	8154	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
15-Apr-15	00:50	01:00	0.17	8154	8154	Survey & Conn.	Survey & Conn.@8100' Inc 89.2° Azm 358.9°
15-Apr-15	01:00	01:05	0.08	8154	8160	Sliding	Sliding - (WOB:34;GPM :287;TFO:40R))
15-Apr-15	01:05	01:30	0.42	8160	8239	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
15-Apr-15	01:30	01:40	0.17	8239	8239	Survey & Conn.	Survey & Conn.@8185' Inc 90.5° Azm 1.5°
15-Apr-15	01:40	02:05	0.42	8239	8324	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
15-Apr-15	02:05	02:15	0.17	8324	8324	Survey & Conn.	Survey & Conn.@8270' Inc 90.6° Azm 359.9°
15-Apr-15	02:15	02:45	0.50	8324	8409	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
15-Apr-15	02:45	02:55	0.17	8409	8409	Survey & Conn.	Survey & Conn.@8355' Inc 91.3° Azm 359°
15-Apr-15	02:55	03:05	0.17	8409	8419	Sliding	Sliding - (WOB:34;GPM :287;TFO:150R))
15-Apr-15	03:05	03:30	0.42	8419	8494	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
15-Apr-15	03:30	03:40	0.17	8494	8494	Survey & Conn.	Survey & Conn.@8440' Inc 89.1° Azm 358.9°
15-Apr-15	03:40	04:10	0.50	8494	8578	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
15-Apr-15	04:10	04:20	0.17	8578	8578	Survey & Conn.	Survey & Conn.@8524' Inc 89.4° Azm 357.5°

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
15-Apr-15	04:20	04:30	0.17	8578	8590	Sliding	Sliding - (WOB:34;GPM :287;TFO:90R))
15-Apr-15	04:30	04:55	0.42	8590	8663	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
15-Apr-15	04:55	05:25	0.50	8663	8663	Rig Service-Inhole	Rig Service-Inhole
15-Apr-15	05:25	05:35	0.17	8663	8663	Survey & Conn.	Survey & Conn.@8609' Inc 90° Azm 358.5°
15-Apr-15	05:35	06:00	0.42	8663	8748	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
15-Apr-15	06:00	06:10	0.17	8748	8748	Survey & Conn.	Survey & Conn.@8694' Inc 90.9° Azm 357.9°
15-Apr-15	06:10	06:30	0.33	8748	8763	Sliding	Sliding - (WOB:34;GPM :287;TFO:140R))
15-Apr-15	06:30	06:50	0.33	8763	8833	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
15-Apr-15	06:50	07:00	0.17	8833	8833	Survey & Conn.	Survey & Conn.@8779' Inc 90.3° Azm 359.4°
15-Apr-15	07:00	07:25	0.42	8833	8918	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
15-Apr-15	07:25	07:35	0.17	8918	8918	Survey & Conn.	Survey & Conn.@8864' Inc 89.6° Azm 357.6°
15-Apr-15	07:35	08:00	0.42	8918	8938	Sliding	Sliding - (WOB:34;GPM :287;TFO:100R))
15-Apr-15	08:00	08:20	0.33	8938	9002	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
15-Apr-15	08:20	08:30	0.17	9002	9002	Survey & Conn.	Survey & Conn.@8948' Inc 88.3° Azm 0.4°
15-Apr-15	08:30	08:50	0.33	9002	9086	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
15-Apr-15	08:50	09:00	0.17	9086	9086	Survey & Conn.	Survey & Conn.@9032' Inc 89.3° Azm 0.6°
15-Apr-15	09:00	09:25	0.42	9086	9171	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
15-Apr-15	09:25	09:35	0.17	9171	9171	Survey & Conn.	Survey & Conn.@9117' Inc 89.7° Azm 359.7°
15-Apr-15	09:35	10:05	0.50	9171	9255	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
15-Apr-15	10:05	10:15	0.17	9255	9255	Survey & Conn.	Survey & Conn.@9201' Inc 90.2° Azm 358.7°
15-Apr-15	21:45	22:10	0.42	10537	10612	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
15-Apr-15	22:10	22:20	0.17	10612	10612	Survey & Conn.	Survey & Conn.@10558' Inc 89.5° Azm 359.4°
15-Apr-15	22:20	23:15	0.92	10612	10622	Sliding	Sliding - (WOB:34;GPM :287;TFO:160R))
15-Apr-15	23:15	23:35	0.33	10622	10697	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
15-Apr-15	23:35	23:45	0.17	10697	10697	Survey & Conn.	Survey & Conn.@10643' Inc 89.1° Azm 1.1°
15-Apr-15	23:45	24:00	0.25	10697	10745	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
15-Apr-15	10:15	10:40	0.42	9255	9339	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
15-Apr-15	10:40	10:50	0.17	9339	9339	Survey & Conn.	Survey & Conn.@9285' Inc 90.3° Azm 358.2°
15-Apr-15	10:50	11:10	0.33	9339	9424	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
15-Apr-15	11:10	11:20	0.17	9424	9424	Survey & Conn.	Survey & Conn.@9370' Inc 90.6° Azm 357.3°
15-Apr-15	11:20	11:45	0.42	9424	9444	Sliding	Sliding - (WOB:34;GPM :287;TFO:100R))
15-Apr-15	11:45	12:05	0.33	9444	9509	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
15-Apr-15	12:05	12:15	0.17	9509	9509	Survey & Conn.	Survey & Conn.@9455' Inc 88.4° Azm 359.9°
15-Apr-15	12:15	12:40	0.42	9509	9594	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
15-Apr-15	12:40	12:50	0.17	9594	9594	Survey & Conn.	Survey & Conn.@9540' Inc 89.3° Azm 359.9°
15-Apr-15	12:50	13:10	0.33	9594	9678	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
15-Apr-15	13:10	13:20	0.17	9678	9678	Survey & Conn.	Survey & Conn.@9624' Inc 90° Azm 359°
15-Apr-15	13:20	13:40	0.33	9678	9763	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
15-Apr-15	13:40	13:50	0.17	9763	9763	Survey & Conn.	Survey & Conn.@9709' Inc 90.9° Azm 358.3°
15-Apr-15	13:50	14:20	0.50	9763	9848	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
15-Apr-15	14:20	14:30	0.17	9848	9848	Survey & Conn.	Survey & Conn.@9794' Inc 91.2° Azm 357.3°
15-Apr-15	14:30	14:55	0.42	9848	9868	Sliding	Sliding - (WOB:34;GPM :287;TFO:120R))
15-Apr-15	14:55	15:15	0.33	9868	9933	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
15-Apr-15	15:15	15:25	0.17	9933	9933	Survey & Conn.	Survey & Conn.@9879' Inc 89.3° Azm 1.3°
15-Apr-15	15:25	15:45	0.33	9933	10017	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
15-Apr-15	15:45	15:55	0.17	10017	10017	Survey & Conn.	Survey & Conn.@9963' Inc 89.5° Azm 1°

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
15-Apr-15	15:55	16:20	0.42	10017	10102	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
15-Apr-15	16:20	16:30	0.17	10102	10102	Survey & Conn.	Survey & Conn.@10048' Inc 89.4° Azm 0.6°
15-Apr-15	16:30	16:55	0.42	10102	10188	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
15-Apr-15	16:55	17:10	0.25	10188	10188	Rig Service-Inhole	Rig Service-Inhole
15-Apr-15	17:10	17:20	0.17	10188	10188	Survey & Conn.	Survey & Conn.@10134' Inc 90.7° Azm 0.4°
15-Apr-15	17:20	17:45	0.42	10188	10272	Drilling	Drilling - (WOB:20;GPM :287;RPM:55)
15-Apr-15	17:45	17:55	0.17	10272	10272	Survey & Conn.	Survey & Conn.@10218' Inc 91° Azm 359.4°
15-Apr-15	17:55	18:20	0.42	10272	10357	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
15-Apr-15	18:20	18:30	0.17	10357	10357	Survey & Conn.	Survey & Conn.@10303' Inc 91.3° Azm 358.3°
15-Apr-15	18:30	19:25	0.92	10357	10372	Sliding	Sliding - (WOB:34;GPM :287;TFO:135R))
15-Apr-15	19:25	19:50	0.42	10372	10442	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
15-Apr-15	19:50	20:00	0.17	10442	10442	Survey & Conn.	Survey & Conn.@10388' Inc 89.1° Azm 356.9°
15-Apr-15	20:00	20:40	0.67	10442	10457	Sliding	Sliding - (WOB:34;GPM :287;TFO:90R))
15-Apr-15	20:40	21:05	0.42	10457	10527	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
15-Apr-15	21:05	21:15	0.17	10527	10527	Survey & Conn.	Survey & Conn.@10473' Inc 89.5° Azm 358.2°
15-Apr-15	21:15	21:45	0.50	10527	10537	Sliding	Sliding - (WOB:34;GPM :287;TFO:130R))



JOB NO.:	TL15013	Report Time:	2400	9 of 9
Company:	Carrizo Oil and Gas	API JOB #	05-123-4124400	
LOCATION:	Rocky Mountains	WORK ORDER#	AFE#: 315-065	
RIG NAME:	Xtreme 19	FIELD:	Niobrara	
STATE:	CO	Township:		
COUNTY:	Weld	SECT\	RANGE:	
WELL NAME:	Ptasnik 1-30-9-59			

From Thursday, April 16, 2015 at 0000 to Thursday, April 16, 2015 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	10745.00	Rotary Hours	0.92	WOB	0	Pick UP	175	Slack Off	0	SPM	
End Depth	10939.00	Circulating Hours	10.75	RAB	110	SPP	0	FlowRate	0 - 287	0	
Total Drilled:	194.00	Avg. Total ROP:	101.22	Mud Data							
Total Rotary Drilled:	184.00	Avg. Rotary ROP:	200.73	Type	Water Base			PV	18	SOLID	7.2
Total Drilled Sliding:	10.00	Avg. Slide ROP:	10.00	Weight	9.9	GAS	0	YP	24	BHT°	183
Slide Hours:	1.00	Percent Rotary:	94.85	Viscosity	50	SAND	0.5	PH	10	Flow T°	116
Below Rotary Hrs.	20.67	Percent Slide:	5.15	Chlorides	600	WL	6			Oil %	0
PERSONNEL				CASING					BHA		
Lead Directional :	Randall Cole			Size	Lb/ft	Set Depth		BHA # 4:6 1/8" Smith "SDi513" PDC Bit, 4 3/4" Motor 5/6 Lobe 8.3HR Stg Fxd @ 1.83°, Muleshoe Sub (Titan MWD), NMDC, NMFlex, X-O Sub, 65 Stands - Drill Pipe, 15 Stands - HWDP, ,			
Second Directional :	Toby Wilson			9 5/8	36	1648					
MWD Operator1	Paul Brown			7	23	6347					
MWD Operator2	Skylar Thompson			Signature:							
Directional Company:	Titan Directional Drilling, LLC										
Geologist:											
Company Man:	Jeff Myers										
Incl. In:	89.1	Azm. In:	1.1	Incl. Out:	90	Azm. Out:	358.5				

#### GENERAL COMMENT

Motors On Location:

Discovery: 475-DDS-019 - 4 3/4" Motor 5/6 Lobe 8.3 HR Stage Fxd @ 1.83° (Dirty) Shipped In 4-16-15  
 Discovery: 475-DDS-044 - 4 3/4" Motor 5/6 Lobe 8.3 HR Stage Fxd @ 1.83° (Clean) Shipped In 4-16-15

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
16-Apr-15	00:00	00:10	0.17	10745	10781	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
16-Apr-15	00:10	00:20	0.17	10781	10781	Survey & Conn.	Survey & Conn.@10727' Inc 88.4° Azm 358.5°
16-Apr-15	00:20	01:20	1.00	10781	10791	Sliding	Sliding - (WOB:34;GPM :287;TFO:20R))
16-Apr-15	01:20	01:45	0.42	10791	10866	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
16-Apr-15	01:45	01:55	0.17	10866	10866	Survey & Conn.	Survey & Conn.@10812' Inc 90.3° Azm 359.6°
16-Apr-15	01:55	02:15	0.33	10866	10939	Drilling	Drilling - (WOB:20;GPM :287;RPM:50)
16-Apr-15	02:15	02:20	0.08	10939	10939	MWD Survey	MWD Survey@10885' Inc 90° Azm 358.5°
16-Apr-15	02:20	03:30	1.17	10939	10939	Circulating	Circulate 2 sweeps around
16-Apr-15	03:30	03:55	0.42	10939	10939	Rig Service-Inhole	Rig Service-Inhole
16-Apr-15	03:55	06:40	2.75	10939	10939	POOH	POOH to shoe 6347'
16-Apr-15	06:40	13:05	6.42	10939	10939	Reaming	Wash and Ream from 6347' to 10939'
16-Apr-15	13:05	15:45	2.67	10939	10939	Circulating	Circulate sweeps around
16-Apr-15	15:45	20:00	4.25	10939	10939	POOH	Pull out of the hole to run liner & skid to next well
16-Apr-15	20:00	20:40	0.67	10939	10939	Change BHA	Lay down BHA #4
16-Apr-15	20:40	24:00	3.33	10939	10939	Standby	Standby while rig runs liner & skids to next well - Released from job

# **Section Three**

## **Bottom Hole Assemblies**



## Well Information

**BHA #**

**1**

<b>JOB NO.:</b>	TL15013	<b>FIELD:</b>	Niobrara
<b>Company:</b>	Carrizo Oil and Gas	<b>Township:</b>	
<b>LOCATION:</b>	Rocky Mountains	<b>SECT. RANGE:</b>	
<b>RIG NAME:</b>	Xtreme 19		
<b>STATE:</b>	CO		
<b>COUNTY:</b>	Weld	<b>BHA TYPE:</b>	Steerable Assembly
<b>WELL NAME:</b>	Ptasnik 1-30-9-59		

Motor Info: Discovery  
 7 3/4" 7/8 Lobe 4.0 Stage  
 Flow Range: 400 to 900 GPM  
 Maximum surface rotary: 80 RPM  
 Maximum torque: 14,930 ft/lbs  
 Max Diff. : 900 PSI  
 Fixed set @ 1.50°  
 Bearing housing stabilizer: 12 1/4"  
 Rev per Gallon = 0.166  
 Bit To Bend: 5.86'

Bit Info: PDC  
 Manufacture: Hughes  
 Model: HDQ506  
 Serial #: 7024252  
 Jets: 6x16  
 TFA: 1.178  
 6-Blade  
 3/4" Cutters Single Row

MWD Sensor Data:  
 Bit to Directional Sensor: 52' SVY= 55'  
 Bit to Gamma Sensor: XX

#	Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn	Bott Conn	STAB OD	Fishing Neck
1	12 1/4" Hughes "HDQ506"	7024252	2 1/2	12 1/4	1.00	1.00	6 5/8 REG-P	(NONE)-		N/A
2	7 3/4" Motor 7/8 Lobe 4.0 Stg. Fixed @1.50°	775-DDS-003	0.00	7 3/4	28.17	29.17	6 5/8 REG-B	6 5/8 REG-B		N/A
3	12" Stabilizer	AWSS-3944	3	7 7/8	5.56	34.73	6 5/8 REG-B	6 5/8 REG-P		N/A
4	Muleshoe Sub (Titan MWD)	T8000	2 15/16	8	3.00	37.73	6 5/8 REG-B	6 5/8 REG-P		N/A
5	NMDC	AWS800-30-4079	3 3/8	8 3/16	30.60	68.33	6 5/8 REG-B	6 5/8 REG-P		N/A
6	NMDC	AWS800-30-1261	3 1/4	8	30.57	98.90	6 5/8 REG-B	6 5/8 REG-P		N/A
7	11 3/4 Stabilizer	AWSS-3861	2 15/16	7 7/8	4.89	103.79	6 5/8 REG-B	6 5/8 REG-P		N/A
8	X-O Sub	Rig	2 3/4	5 7/8	3.00	106.79	4 1/2 XH-B	6 5/8 REG-P		N/A
9	3 - 6" Drill Collars	Rig	2 3/4	6	89.50	196.29	4 1/2 XH-B	4 1/2 XH-P		N/A
10	X-O Sub	Rig	2 3/4	5 7/8	2.40	198.69	XT-39-B	4 1/2 XH-P		N/A
11			0.00		0.00	198.69	-	-		N/A



# Well Information

**BHA #** 1

**JOB NO.:** TL15013  
**Company:** Carrizo Oil and Gas  
**LOCATION:** Rocky Mountains  
**RIG NAME:** Xtreme 19  
**STATE:** CO  
**COUNTY:** Weld  
**WELL NAME:** Ptasnik 1-30-9-59

**FIELD:** Niobrara  
**Township:**  
**SECT. RANGE:**  
**Lead DD:** Toby Wilson  
**Co. Man:** Jeff Myers  
**BHA TYPE:** Steerable Assembly

## BHA Summary Information

TIME IN - OUT		Rotary Hours		3.17		Start Depth		77.00		RPM	Flow Rate
Start Time	End Time	Circ Hrs Tot/Only		5.58 / 2.00		End Depth		1668.00			
09-Apr-15 @ 09:30	10-Apr-15 @ 04:30	Slide Hours		.42		Percent Rotary:		94.28 <td rowspan="2">0 -50</td> <td rowspan="2">344 -575</td>		0 -50	344 -575
		Below Rotary Hrs.		19.00		Percent Slide:		5.72			
Total Drilled:		1591.00		Avg. Total ROP:		444.00		Incl.		Azimuth	
Total Rotary Drilled:		1500.00		Avg. Rotary ROP:		473.68		IN	OUT	IN	OUT
Total Drilled Sliding:		91.00		Avg. Slide ROP:		218.40		.0	.0	.00	.00
SPP	450 -2150	Weights	SO	35 -75	PU	35 -85	RAB	35 -80	Reason POOH		TD

Bit Data								MOTOR DATA					Mud Data					
Hughes		12 1/4" Hughes "HDQ506"						7 3/4" Motor 7/8 Lobe 4.0 HR Stage Fxd @					Type	Water Base				
Type Bit				PDC				Model: Superhawk			Pad OD		WT	8.5	GAS	0	Solids	1.2
TFA		1.178						MFG. Discovery			8 3/16		Vis	26	SAND	0	T °	0
JETS		16	16	16	16	16	Bend °		1.5	Stator/Rotor		7/8	PV	0	PH	8.2	Chlor	500
		16	0	0	0	0	Bit to Bend		5.86	Motor Diff		550	YP	0	WL	0	Oil %	0
Bit Coding			IADC#					Rev/GAL		0.166						BHT°		73
IR	OR	DL	Loc	BS	G	ODL	NB Stab		12.25		PUMPS		PUMP1		PUMP1			
												NAME		Gardner-Denver				
												Model		Gardner-Denver				
												Type		Triplex				
												Liner		Triplex				
												Stroke		Triplex				
												Efficiency		Triplex				
														Triplex				
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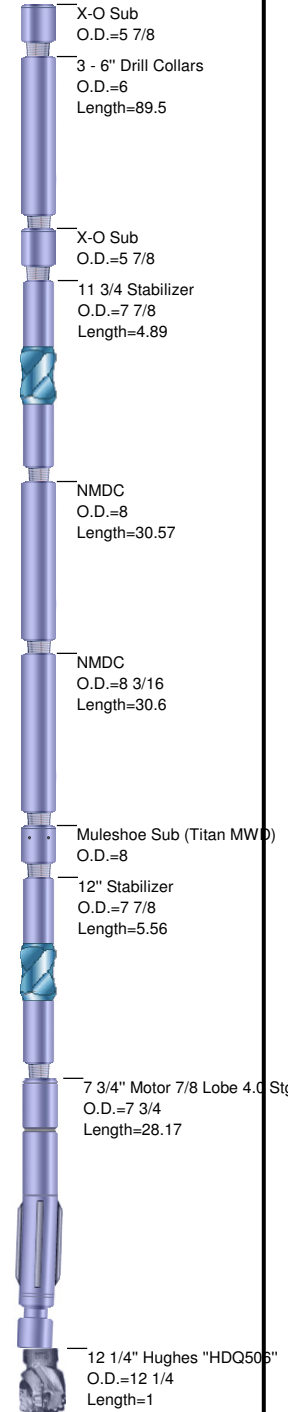
Motor Info: Discovery  
 7 3/4" 7/8 Lobe 4.0 Stage  
 Flow Range: 400 to 900 GPM  
 Maximum surface rotary: 80 RPM  
 Maximum torque: 14,930 ft/lbs  
 Max Diff. : 900 PSI  
 Fixed set @ 1.50°  
 Bearing housing stabilizer: 12 1/4"  
 Rev per Gallon = 0.166  
 Bit To Bend: 5.86'

Bit Info: PDC  
 Manufacture: Hughes  
 Model: HDQ506  
 Serial #: 7024252  
 Jets: 6x16  
 TFA: 1.178  
 6-Blade  
 3/4" Cutters Single Row

MWD Sensor Data:  
 Bit to Directional Sensor: 52' SVY= 55'  
 Bit to Gamma Sensor: XX

## BHA Detail

#	Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn
1	12 1/4" Hughes "HDQ506"	7024252	2 1/2	12 1/4	1.00	1.00	6 5/8 REGP
2	7 3/4" Motor 7/8 Lobe 4.0 Stg. Fixed @1.50° w/12 1/4" Stab	775-DDS-003		7 3/4	28.17	29.17	6 5/8 REGB
3	12" Stabilizer	AWSS-3944	3	7 7/8	5.56	34.73	6 5/8 REGB
4	Muleshoe Sub (Titan MWD)	T8000	2 15/16	8	3.00	37.73	6 5/8 REGB
5	NMDC	AWS800-30-4079	3 3/8	8 3/16	30.60	68.33	6 5/8 REGB
6	NMDC	AWS800-30-1261	3 1/4	8	30.57	98.90	6 5/8 REGB
7	11 3/4 Stabilizer	AWSS-3861	2 15/16	7 7/8	4.89	103.79	6 5/8 REGB
8	X-O Sub	Rig	2 3/4	5 7/8	3.00	106.79	4 1/2 XHB
9	3 - 6" Drill Collars	Rig	2 3/4	6	89.50	196.29	4 1/2 XHB
10	X-O Sub	Rig	2 3/4	5 7/8	2.40	198.69	XT-39B
11					0.00	198.69	





**JOB NO.:** TL15013  
**Company:** Carrizo Oil and Gas  
**LOCATION:** Rocky Mountains  
**RIG NAME:** Xtreme 19  
**STATE:** CO  
**COUNTY:** Country  
**WELL NAME:** Ptasnik 1-30-9-59

**FIELD:** Niobrara  
**Township:**  
**Range**

#### MOTOR INFORMATION

Desc: 7 3/4" Motor 7/8 Lobe 4.0 HR Stage  
 Fxd @ 1.50°  
 Bent Hsg/Sub: 1.5 / 1.5 Bit to Bend: 5.86  
 Pad OD: 8 3/16 NB Stab: 12 1/4

## Slide Report for BHA # 1

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
1	9-Apr	Drilling	12:25	12:35	0.17	77	106	29	5	174.0	25	2000	344	450		0.30	0.00	0.28	
1	9-Apr	Drilling	13:50	13:55	0.08	106	136	30	5	360.0	25	3000	344	500		0.39	0.00	0.28	
1	9-Apr	Drilling	14:05	14:10	0.08	136	166	30	5	360.0	25	3000	344	500		0.51	219.18	0.68	
1	9-Apr	Drilling	14:20	14:25	0.08	166	196	30	5	360.0	25	3000	344	500		0.67	207.21	0.68	
1	9-Apr	Sliding	15:10	15:15	0.08	196	211	15	4	180.0	0	0	382	500	180M	0.76	203.23	0.68	
1	9-Apr	Drilling	15:15	15:20	0.08	211	229	18	8	216.0	50	4000	382	650		0.87	199.56	0.68	
1	9-Apr	Drilling	15:30	15:35	0.08	229	259	30	8	360.0	50	4000	382	650		1.27	197.89	1.47	
1	9-Apr	Drilling	15:45	15:50	0.08	259	289	30	8	360.0	50	4000	382	700		1.71	197.38	1.47	
1	9-Apr	Sliding	16:30	16:35	0.08	289	309	20	4	240.0	0	0	382	550	180M	2.01	197.16	1.47	
1	9-Apr	Drilling	16:35	16:45	0.17	309	384	75	10	450.0	50	5000	382	800		3.52	192.52	2.25	
1	9-Apr	Sliding	16:55	17:00	0.08	384	404	20	6	240.0	0	0	458	800	165M	3.96	191.58	2.25	
1	9-Apr	Drilling	17:00	17:10	0.17	404	474	70	10	420.0	50	5000	458	1050		4.54	191.31	0.44	
1	9-Apr	Drilling	17:25	17:35	0.17	474	565	91	10	546.0	50	5000	458	1050		4.76	191.93	0.13	
1	9-Apr	Drilling	17:45	17:55	0.17	565	656	91	16	546.0	50	5500	575	1650		4.86	192.75	0.14	
1	9-Apr	Drilling	18:15	18:25	0.17	656	746	90	16	540.0	50	5500	575	1650		5.02	195.15	0.39	
1	9-Apr	Drilling	18:35	18:45	0.17	746	836	90	16	540.0	50	6000	575	1750		4.98	185.35	1.78	
1	9-Apr	Sliding	18:55	19:00	0.08	836	856	20	6	240.0	0	0	575	1400	80M	4.98	181.26	1.78	
1	9-Apr	Drilling	19:00	19:10	0.17	856	927	71	16	426.0	50	6000	575	1750		5.12	174.60	0.59	
1	9-Apr	Drilling	19:20	19:30	0.17	927	1014	87	16	522.0	50	6000	575	1850		4.63	180.07	1.55	
1	9-Apr	Sliding	20:45	20:50	0.08	1014	1030	16	6	192.0	0	0	575	1500	325M	4.48	182.56	1.55	
1	9-Apr	Drilling	20:50	21:00	0.17	1030	1105	75	16	450.0	50	6500	575	1850		4.12	187.66	0.41	
1	9-Apr	Drilling	21:10	21:20	0.17	1105	1196	91	16	546.0	50	6500	575	1850		4.00	189.62	0.09	
1	9-Apr	Drilling	21:30	21:40	0.17	1196	1288	92	16	552.0	50	6500	575	1850		4.06	190.22	0.11	
1	9-Apr	Drilling	21:50	22:00	0.17	1288	1379	91	16	546.0	50	6500	575	1950		4.10	190.60	0.04	
1	9-Apr	Drilling	22:10	22:20	0.17	1379	1471	92	16	552.0	50	7000	575	1950		4.10	190.38	0.05	
1	9-Apr	Drilling	22:30	22:35	0.08	1471	1563	92	16	1104.0	50	7000	575	1950		4.03	188.75	0.21	

# Slide Report for BHA # 1

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
1	9-Apr	Drilling	22:45	22:55	0.17	1563	1648	85	16	510.0	50	7000	575	1950		0.00	0.00	0.00	
1	9-Apr	Drilling	23:05	23:10	0.08	1648	1668	20	16	240.0	50	7000	575	2150		0.00	0.00	0.00	

Total Drilled:						1591	Avg. Total ROP:				444.00	DEPTH% - TIME %							
Total Rotary Drilled:						1500	Avg. Rotary ROP:				473.68	Percent Rotary: 94.28 - 88.37							
Total Drilled Sliding:						91	Avg. Slide ROP:				218.40	Percent Slide: 5.72 - 11.63							



## Well Information

**BHA #**

**2**

<b>JOB NO.:</b>	TL15013	<b>FIELD:</b>	Niobrara
<b>Company:</b>	Carrizo Oil and Gas	<b>Township:</b>	
<b>LOCATION:</b>	Rocky Mountains	<b>SECT. RANGE:</b>	
<b>RIG NAME:</b>	Xtreme 19		
<b>STATE:</b>	CO		
<b>COUNTY:</b>	Weld	<b>BHA TYPE:</b>	Steerable Assembly
<b>WELL NAME:</b>	Ptasnik 1-30-9-59		

Motor Info: Discovery  
 6 1/2" 6/7 Lobe 5.0 HR Stage  
 Flow Range: 300 to 600 GPM  
 Maximum surface rotary: 80 RPM  
 Maximum torque: 9,350 ft/lbs  
 Max Diff. : 900 PSI  
 Fixed set @ 1.50°  
 Bearing housing: Slick Sleeve  
 Rev per Gallon = 0.292  
 Bit To Bend: 5.42'

Bit Info: PDC  
 Manufacture: Smith  
 Model: SDi516  
 Serial #: JH8195  
 Jets: 6x15  
 TFA: 1.035  
 5-Blade  
 Single Row 5/8" Cutters

MWD Sensor Data:  
 Bit to Directional Sensor: 50' SVY= 53'  
 Bit to Gamma Sensor: 39'

#	Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn	Bott Conn	STAB OD	Fishing Neck
1	8 3/4" Smith "SDi516"	JH8195	2	8 3/4	1.00	1.00	4 1/2 REG-P	(NONE)-		N/A
2	6 1/2" Motor 6/7 Lobe 5.0HR Stage Fxd @ 1.50°	650-DDS-008	0.00	6 1/2	27.56	28.56	4 1/2 XH-B	4 1/2 REG-B		N/A
3	Muleshoe Sub (Titan MWD)	T65008	2 7/8	6 9/16	3.03	31.59	4 1/2 XH-B	4 1/2 XH-P		N/A
4	NMDC	AWS675-30-5011	3 1/4	6 3/4	31.07	62.66	4 1/2 XH-B	4 1/2 XH-P		N/A
5	NMDC	AWS675-30-5015	3 1/4	6 3/4	31.12	93.78	4 1/2 XH-B	4 1/2 XH-P		N/A
6	X-O Sub	Rig	2 3/4	5 7/8	2.40	96.18	XT-39-B	4 1/2 XH-P		N/A
7	15 Stands - HWDP	Rig	2 9/16	4	1,364.19	1460.37	XT-39-B	XT-39-P		N/A
8			0.00		0.00	1460.37	-	-		N/A



# Well Information

**BHA #** 2

**JOB NO.:** TL15013  
**Company:** Carrizo Oil and Gas  
**LOCATION:** Rocky Mountains  
**RIG NAME:** Xtreme 19  
**STATE:** CO  
**COUNTY:** Weld  
**WELL NAME:** Ptasnik 1-30-9-59

**FIELD:** Niobrara  
**Township:**  
**SECT. RANGE:**  
**Lead DD:** Toby Wilson  
**Co. Man:** Jeff Myers  
**BHA TYPE:** Steerable Assembly

## BHA Summary Information

TIME IN - OUT		Rotary Hours		7.33		Start Depth		1668.00		RPM Range	Flow Rate
Start Time	End Time	Circ Hrs Tot/Only		10.67 / 1.75		End Depth		5569.00			
11-Apr-15 @ 03:15	12-Apr-15 @ 07:00	Slide Hours		1.58		Percent Rotary:		93.16		0 -50	307 -575
		Below Rotary Hrs.		27.75		Percent Slide:		6.84			
Total Drilled:		3901.00		Avg. Total ROP:		437.50		Incl.		Azimuth	
Total Rotary Drilled:		3634.00		Avg. Rotary ROP:		495.55		IN	OUT	IN	OUT
Total Drilled Sliding:		267.00		Avg. Slide ROP:		168.63		.0	.0	.00	.00
SPP	275 -2750	Weights	SO	75 -100	PU	85 -130	RAB	80 -115	Reason POOH		BHA

Bit Data							MOTOR DATA					Mud Data					
SMITH		8 3/4" Smith "SDi516"					6 3/4" Motor 6/7 Lobe 5.0 HR Stage Fxd @					Type	Water Base				
Type Bit				PDC			Model: Superhawk			Pad OD		WT	8.5	GAS	0	Solids	1.2
TFA		1.035					MFG. Discovery			6 7/8		Vis	26	SAND	0	T °	0
JETS		15	15	15	15	15	Bend ° 1.5			Stator/Rotor 6/7		PV	0	PH 8.2	Chlor	500	
		15	0	0	0	0	Bit to Bend 5.42			Motor Diff 550		YP	0	WL 0	Oil %	0	
Bit Coding			IADC#				Rev/GAL 0.292					BHT°  136					
IR	OR	DL	Loc	BS	G	ODL	NB Stab 0			PUMPS		PUMP1		PUMP1			
										NAME		Gardner-Denver		Gardner-Denver			
0	0	NO	A	X	8.75	NO	Rotor Jet 0			Model		PZ-11		PZ-11			
Bit Drop:			242 PSI @ 575 GPM				Sensor Offsets			Type		Triplex		Triplex			
Comments					Sensor	50	Sonic	0	Liner		6.00		6.00				
					Gamma	39	DNsc	1668	Stroke		11.00		11.00				
					Restiv	0	GYRO	0	Efficiency		.95		.95				

Motor Info: Discovery  
6 1/2" 6/7 Lobe 5.0 HR Stage  
Flow Range: 300 to 600 GPM  
Maximum surface rotary: 80 RPM  
Maximum torque: 9,350 ft/lbs  
Max Diff. : 900 PSI  
Fixed set @ 1.50°  
Bearing housing: Slick Sleeve  
Rev per Gallon = 0.292  
Bit To Bend: 5.42'

Bit Info: PDC  
Manufacture: Smith  
Model: SDi516  
Serial #: JH8195  
Jets: 6x15  
TFA: 1.035  
5-Blade  
Single Row 5/8" Cutters

MWD Sensor Data:  
Bit to Directional Sensor: 50' SVY= 53'  
Bit to Gamma Sensor: 39'

## BHA Detail

#	Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn
1	8 3/4" Smith "SDi516"	JH8195	2	8 3/4	1.00	1.00	4 1/2 REGP
2	6 1/2" Motor 6/7 Lobe 5.0HR Stage Fxd @ 1.50°	650-DDS-008		6 1/2	27.56	28.56	4 1/2 XHB
3	Muleshoe Sub (Titan MWD)	T65008	2 7/8	6 9/16	3.03	31.59	4 1/2 XHB
4	NMDC	AWS675-30-5011	3 1/4	6 3/4	31.07	62.66	4 1/2 XHB
5	NMDC	AWS675-30-5015	3 1/4	6 3/4	31.12	93.78	4 1/2 XHB
6	X-O Sub	Rig	2 3/4	5 7/8	2.40	96.18	XT-39B
7	15 Stands - HWDP	Rig	2 9/16	4	1,364.19	1460.37	XT-39B
8					0.00	1460.37	

15 Stands - HWDP  
O.D.=4  
Length=1364.19

X-O Sub  
O.D.=5 7/8  
Length=2.4  
NMDC  
O.D.=6 3/4  
Length=31.12

NMDC  
O.D.=6 3/4  
Length=31.07

Muleshoe Sub (Titan MWD)  
O.D.=6 9/16  
Length=3.03

6 1/2" Motor 6/7 Lobe 5.0HR Stage Fxd  
O.D.=6 1/2  
Length=27.56

8 3/4" Smith "SDi516"  
O.D.=8 3/4  
Length=1



**JOB NO.:** TL15013  
**Company:** Carrizo Oil and Gas  
**LOCATION:** Rocky Mountains  
**RIG NAME:** Xtreme 19  
**STATE:** CO  
**COUNTY:** Country  
**WELL NAME:** Ptasnik 1-30-9-59

**FIELD:** Niobrara  
**Township:**  
**Range**

#### MOTOR INFORMATION

Desc: 6 3/4" Motor 6/7 Lobe 5.0 HR Stage  
 Fxd @ 1.50°  
 Bent Hsg/Sub: 1.5 / 1.5 Bit to Bend: 5.42  
 Pad OD: 6 7/8 NB Stab:

## Slide Report for BHA # 2

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
2	11-Apr	Drilling	06:40	06:45	0.08	1668	1678	10	6	120.0	25	2000	344	750		3.90	186.32	0.39	
2	11-Apr	Drilling	07:15	07:20	0.08	1678	1715	37	12	444.0	50	3000	382	1050		3.90	188.46	0.39	
2	11-Apr	Drilling	07:30	07:40	0.17	1715	1800	85	12	510.0	50	3000	382	1050		3.96	189.17	0.19	
2	11-Apr	Drilling	07:50	08:00	0.17	1800	1885	85	12	510.0	50	3000	382	1150		3.87	187.94	0.25	
2	11-Apr	Drilling	08:10	08:20	0.17	1885	1968	83	12	498.0	50	3000	458	1550		3.42	190.40	0.78	
2	11-Apr	Drilling	08:30	08:45	0.25	1968	2053	85	12	340.0	50	4000	458	1550		4.27	190.88	2.03	
2	11-Apr	Sliding	08:55	09:00	0.08	2053	2073	20	6	240.0	0	0	535	1500	185M	4.68	190.49	2.03	
2	11-Apr	Drilling	09:00	09:10	0.17	2073	2137	64	16	384.0	50	4000	535	1900		5.08	185.90	0.80	
2	11-Apr	Drilling	09:20	09:30	0.17	2137	2222	85	16	510.0	50	4000	535	1900		5.20	182.84	0.10	
2	11-Apr	Drilling	09:40	09:45	0.08	2222	2307	85	16	1020.0	50	4000	535	1900		5.20	184.65	0.37	
2	11-Apr	Drilling	09:55	10:00	0.08	2307	2391	84	16	1008.0	50	4000	535	1900		5.13	183.77	0.38	
2	11-Apr	Drilling	10:10	10:20	0.17	2391	2475	84	16	504.0	50	4000	535	1900		5.04	183.48	0.20	
2	11-Apr	Drilling	10:30	10:45	0.25	2475	2561	86	16	344.0	50	4000	535	2050		5.00	182.23	0.31	
2	11-Apr	Drilling	10:55	11:05	0.17	2561	2646	85	16	510.0	50	4000	535	2050		5.37	180.45	0.71	
2	11-Apr	Drilling	11:15	11:25	0.17	2646	2731	85	16	510.0	50	4000	535	2050		4.97	191.05	2.24	
2	11-Apr	Sliding	11:35	11:40	0.08	2731	2751	20	6	240.0	0	0	535	1650	320M	4.79	195.85	2.24	
2	11-Apr	Drilling	11:40	11:45	0.08	2751	2816	65	16	780.0	50	4000	535	2050		4.95	200.38	0.52	
2	11-Apr	Drilling	11:55	12:05	0.17	2816	2901	85	16	510.0	50	4000	535	2050		4.40	195.43	1.60	
2	11-Apr	Sliding	12:15	12:20	0.08	2901	2916	15	6	180.0	0	0	535	1650	60M	4.21	193.46	1.60	
2	11-Apr	Drilling	12:20	12:25	0.08	2916	2986	70	20	840.0	50	4000	535	2050		4.12	189.35	0.32	
2	11-Apr	Drilling	12:35	12:40	0.08	2986	3071	85	20	1020.0	50	4000	535	2050		4.20	187.58	0.11	
2	11-Apr	Drilling	12:50	13:00	0.17	3071	3155	84	20	504.0	50	5000	535	2050		3.94	183.39	0.69	
2	11-Apr	Drilling	13:10	13:15	0.08	3155	3239	84	20	1008.0	50	5000	535	2050		3.49	181.47	0.58	
2	11-Apr	Drilling	13:25	13:30	0.08	3239	3325	86	20	1032.0	50	5000	535	2050		3.23	185.42	0.41	
2	11-Apr	Drilling	13:40	13:45	0.08	3325	3409	84	20	1008.0	50	5000	535	2050		3.20	185.85	0.18	
2	11-Apr	Drilling	13:55	14:00	0.08	3409	3494	85	20	1020.0	50	5000	535	2050		3.32	183.91	0.25	

## Slide Report for BHA # 2

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
2	11-Apr	Drilling	14:10	14:20	0.17	3494	3579	85	20	510.0	50	5000	535	2050		3.58	180.57	0.48	
2	11-Apr	Drilling	14:30	14:40	0.17	3579	3664	85	20	510.0	50	6000	535	2050		3.82	177.09	0.33	
2	11-Apr	Drilling	14:50	15:00	0.17	3664	3749	85	20	510.0	50	6000	535	2050		3.93	186.33	1.33	
2	11-Apr	Sliding	15:10	15:15	0.08	3749	3764	15	6	180.0	0	0	535	1650	255M	3.96	189.20	1.33	
2	11-Apr	Drilling	15:15	15:20	0.08	3764	3833	69	20	828.0	50	6000	535	2050		4.12	191.57	0.25	
2	11-Apr	Drilling	15:30	15:40	0.17	3833	3918	85	20	510.0	50	6000	535	2050		4.38	185.57	0.86	
2	11-Apr	Drilling	15:50	15:55	0.08	3918	4003	85	20	1020.0	50	6000	535	2050		4.49	188.08	0.84	
2	11-Apr	Sliding	16:05	16:10	0.08	4003	4015	12	6	144.0	0	0	535	1650	270M	4.49	189.36	0.84	
2	11-Apr	Drilling	16:10	16:15	0.08	4015	4088	73	20	876.0	50	6000	535	2050		4.18	186.79	0.90	
2	11-Apr	Drilling	16:25	16:35	0.17	4088	4173	85	3	510.0	50	6000	535	2050		4.23	191.87	1.20	
2	11-Apr	Sliding	16:45	16:55	0.17	4173	4193	20	6	120.0	0	0	535	1650	255M	4.33	194.74	1.20	
2	11-Apr	Drilling	16:55	17:05	0.17	4193	4258	65	20	390.0	50	6000	535	2050		4.08	192.89	0.77	
2	11-Apr	Drilling	18:00	18:10	0.17	4258	4343	85	20	510.0	50	6000	535	2050		4.46	192.11	1.08	
2	11-Apr	Sliding	18:20	18:30	0.17	4343	4368	25	8	150.0	0	0	535	1750	215M	4.73	192.74	1.08	
2	11-Apr	Drilling	18:30	18:40	0.17	4368	4428	60	20	360.0	50	6000	535	2050		4.80	189.72	0.50	
2	11-Apr	Drilling	18:50	18:55	0.08	4428	4513	85	20	1020.0	50	6000	535	2050		4.35	182.52	1.17	
2	11-Apr	Drilling	19:05	19:15	0.17	4513	4597	84	20	504.0	50	6000	535	2050		4.45	187.29	1.35	
2	11-Apr	Sliding	19:25	19:35	0.17	4597	4627	30	8	180.0	0	0	535	1750	240M	4.68	191.44	1.35	
2	11-Apr	Drilling	19:35	19:45	0.17	4627	4682	55	20	330.0	50	6000	535	2050		4.38	187.11	0.92	
2	11-Apr	Drilling	19:55	20:00	0.08	4682	4766	84	20	1008.0	50	6000	535	2050		4.51	187.54	0.76	
2	11-Apr	Sliding	20:10	20:20	0.17	4766	4791	25	8	150.0	0	0	535	1950	230M	4.66	189.01	0.76	
2	11-Apr	Drilling	20:20	20:30	0.17	4791	4851	60	20	360.0	50	6500	535	2250		4.26	187.21	0.90	
2	11-Apr	Drilling	20:40	21:05	0.42	4851	4935	84	20	201.6	50	6500	535	2250		4.39	198.61	1.92	
2	11-Apr	Sliding	22:15	22:25	0.17	4935	4965	30	8	180.0	0	0	575	2350	210M	4.69	204.81	1.92	
2	11-Apr	Drilling	22:25	22:50	0.42	4965	5019	54	20	129.6	50	6500	575	2650		4.26	207.40	0.90	
2	11-Apr	Drilling	23:00	23:15	0.25	5019	5104	85	20	340.0	50	6500	575	2750		4.84	198.86	2.17	
2	11-Apr	Sliding	23:25	23:35	0.17	5104	5134	30	8	180.0	0	0	575	2500	180M	5.36	194.56	2.17	
2	11-Apr	Drilling	23:35	23:45	0.17	5134	5189	55	20	330.0	50	6500	575	2750		5.14	191.11	0.74	
2	11-Apr	Drilling	23:55	24:00	0.08	5189	5257	68	20	816.0	50	6500	575	2750		4.38	188.20	1.68	
2	12-Apr	Drilling	00:00	00:05	0.08	5257	5273	16	20	192.0	50	6500	575	2750		4.12	187.72	1.68	
2	12-Apr	Drilling	00:15	00:20	0.08	5273	5357	84	20	1008.0	50	6500	575	2750		4.22	190.20	1.26	
2	12-Apr	Sliding	00:30	00:40	0.17	5357	5382	25	8	150.0	0	0	575	2450	190M	4.52	191.55	1.26	
2	12-Apr	Drilling	00:40	00:50	0.17	5382	5442	60	20	360.0	50	6500	575	2750		3.65	185.78	1.98	
2	12-Apr	Drilling	01:00	01:15	0.25	5442	5527	85	20	340.0	50	6500	420	2150		0.00	0.00	0.00	

## Slide Report for BHA # 2

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
2	12-Apr	Drilling	01:25	01:30	0.08	5527	5569	42	20	504.0	50	6500	420	2150		0.00	0.00	0.00	

<b>Total Drilled:</b>		3901	<b>Avg. Total ROP:</b>		437.50	<b>DEPTH% - TIME %</b>	
<b>Total Rotary Drilled:</b>		3634	<b>Avg. Rotary ROP:</b>		495.55	<b>Percent Rotary:</b> 93.16 - 82.24	
<b>Total Drilled Sliding:</b>		267	<b>Avg. Slide ROP:</b>		168.63	<b>Percent Slide:</b> 6.84 - 17.76	



## Well Information

**BHA #**
**3**

<b>JOB NO.:</b>	TL15013	<b>FIELD:</b>	Niobrara
<b>Company:</b>	Carrizo Oil and Gas	<b>Township:</b>	
<b>LOCATION:</b>	Rocky Mountains	<b>SECT. RANGE:</b>	
<b>RIG NAME:</b>	Xtreme 19		
<b>STATE:</b>	CO		
<b>COUNTY:</b>	Weld	<b>BHA TYPE:</b>	Steerable Assembly
<b>WELL NAME:</b>	Ptasnik 1-30-9-59		

Motor Data: Discovery  
 6 1/2" 6/7 Lobe 5.0HR Stage  
 Flow Range: 300 to 600 GPM  
 Maximum Surface Rotary: 40 RPM  
 Maximum Torque: 10,158 ft/lbs  
 Fixed Housing set @ 2.25°  
 Bearing Housing 7 3/4" Kick Pad  
 Rev per Gallon = 0.292  
 Bit to Bend = 5.40'

Bit Data:  
 Manufacture: Smith  
 Type: SDi611  
 Serial #: JJ9805  
 Jets: 6x15  
 TFA: 1.035  
 6-Blade  
 Single Row 3/8" Cutters

MWD Sensor Data:  
 Bit to Directional Sensor: 51' SVY=54'  
 Bit to Gamma Sensor: 40'

#	Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn	Bott Conn	STAB OD	Fishing Neck
1	8 3/4" Smith "SDi611"	JJ9805	2	8 3/4	1.00	1.00	4 1/2 REG-P	(NONE)-		N/A
2	6 1/2" Motor 6/7 Lobe 5.0HR Stage Fxd @ 2.25°	650-DDS-019	0.00	6 1/2	28.72	29.72	4 1/2 XH-B	4 1/2 REG-B		N/A
3	Muleshoe Sub (Titan MWD)	T65008	2 7/8	6 9/16	3.03	32.75	4 1/2 XH-B	4 1/2 XH-P		N/A
4	NMDC	AWS675-30-5011	3 1/4	6 3/4	31.07	63.82	4 1/2 XH-B	4 1/2 XH-P		N/A
5	NMFlex	AWF650-30-3598	2 13/16	6 9/16	30.91	94.73	4 1/2 XH-B	4 1/2 XH-P		N/A
6	X-O Sub	Rig	2 3/4	5 7/8	2.40	97.13	XT-39-B	4 1/2 XH-P		N/A
7	10 Stands - Drill Pipe	Rig	2 11/16	4	847.20	944.33	XT-39-B	XT-39-P		N/A
8	15 Stands - HWDP	Rig	2 9/16	4	1,364.19	2308.52	XT-39-B	XT-39-P		N/A
9			0.00		0.00	2308.52	-	-		N/A



# Well Information

**BHA #** 3

**JOB NO.:** TL15013  
**Company:** Carrizo Oil and Gas  
**LOCATION:** Rocky Mountains  
**RIG NAME:** Xtreme 19  
**STATE:** CO  
**COUNTY:** Weld  
**WELL NAME:** Ptasnik 1-30-9-59

**FIELD:** Niobrara  
**Township:**  
**SECT. RANGE:**  
**Lead DD:** Toby Wilson  
**Co. Man:** Jeff Myers  
**BHA TYPE:** Steerable Assembly

## BHA Summary Information

TIME IN - OUT		Rotary Hours		2.17	Start Depth		5569.00	RPM Range	Flow Rate	
Start Time	End Time	Circ Hrs Tot/Only		14.92 / 5.50	End Depth		6369.00			
12-Apr-15 @ 07:30	13-Apr-15 @ 09:40	Slide Hours		7.25	Percent Rotary:		35.75 <td rowspan="2">0 -30</td> <td rowspan="2">191 -458</td>	0 -30	191 -458	
		Below Rotary Hrs.		26.17	Percent Slide:		64.25			
Total Drilled:		800.00	Avg. Total ROP:		84.96	Incl.		Azimuth		
Total Rotary Drilled:		286.00	Avg. Rotary ROP:		132.00	IN	OUT	IN	OUT	
Total Drilled Sliding:		514.00	Avg. Slide ROP:		70.90	.0	.0	.00	.00	
SPP	300 -2450	Weights	SO	100 -115	PU	130 -140	RAB	115 -125	Reason POOH	TD

Bit Data							MOTOR DATA					Mud Data						
SMITH		8 3/4" Smith "SDi611"					6 3/4" Motor 6/7 Lobe 5.0 HR Stage Fxd @					Type	Water Base					
Type Bit				PDC			Model: Superhawk			Pad OD		WT	8.5	GAS	0	Solids	1.2	
TFA		1.035					MFG. Discovery					7	Vis	26	SAND	0	T °	0
JETS		15	15	15	15	15	Bend °		2.25	Stator/Rotor		6/7	PV	0	PH 8.2	Chlor	500	
		15	0	0	0	0	Bit to Bend		5.4	Motor Diff		375	YP	0	WL 0	Oil %	0	
Bit Coding			IADC#				Rev/GAL		0.292				BHT°  136					
IR	OR	DL	Loc	BS	G	ODL	NB Stab		0		PUMPS		PUMP1		PUMP1			
							Rotor Jet		0		NAME		Gardner-Denver		Gardner-Denver			
0							2		CT		S		X		8.75		NO	
Bit Drop:		153 PSI @ 458 GPM					Sensor Offsets					Model		PZ-11		PZ-11		
Comments				Sensor		51	Sonic	0		Type		Triplex		Triplex				
				Gamma		40	DNCS	5569		Liner		6.00		6.00				
				Restiv		0	GYRO	0		Stroke		11.00		11.00				
											Efficiency		.95		.95			

Motor Data: Discovery  
6 1/2" 6/7 Lobe 5.0HR Stage  
Flow Range: 300 to 600 GPM  
Maximum Surface Rotary: 40 RPM  
Maximum Torque: 10,158 ft/lbs  
Fixed Housing set @ 2.25°  
Bearing Housing 7 3/4" Kick Pad  
Rev per Gallon = 0.292  
Bit to Bend = 5.40'

Bit Data:  
Manufacture: Smith  
Type: SDi611  
Serial #: JJ9805  
Jets: 6x15  
TFA: 1.035  
6-Blade  
Single Row 3/8" Cutters

MWD Sensor Data:  
Bit to Directional Sensor: 51' SVY=54'  
Bit to Gamma Sensor: 40'

## BHA Detail

#	Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn
1	8 3/4" Smith "SDi611"	JJ9805	2	8 3/4	1.00	1.00	4 1/2 REGP
2	6 1/2" Motor 6/7 Lobe 5.0HR Stage Fxd @ 2.25°	650-DDS-019		6 1/2	28.72	29.72	4 1/2 XHB
3	Muleshoe Sub (Titan MWD)	T65008	2 7/8	6 9/16	3.03	32.75	4 1/2 XHB
4	NMDC	AWS675-30-5011	3 1/4	6 3/4	31.07	63.82	4 1/2 XHB
5	NMFlex	AWF650-30-3598	2 13/16	6 9/16	30.91	94.73	4 1/2 XHB
6	X-O Sub	Rig	2 3/4	5 7/8	2.40	97.13	XT-39B
7	10 Stands - Drill Pipe	Rig	2 11/16	4	847.20	944.33	XT-39B
8	15 Stands - HWDP	Rig	2 9/16	4	1,364.19	2308.52	XT-39B
9					0.00	2308.52	

15 Stands - HWDP  
O.D.=4  
Length=1364.19

10 Stands - Drill Pipe  
O.D.=4  
Length=847.2

X-O Sub  
O.D.=5 7/8

NMFlex  
O.D.=6 9/16  
Length=30.91

NMDC  
O.D.=6 3/4  
Length=31.07

Muleshoe Sub (Titan MWD)  
O.D.=6 9/16

6 1/2" Motor 6/7 Lobe 5.0HR Stage Fxd  
O.D.=6 1/2  
Length=28.72

8 3/4" Smith "SDi611"  
O.D.=8 3/4  
Length=1



**JOB NO.:** TL15013  
**Company:** Carrizo Oil and Gas  
**LOCATION:** Rocky Mountains  
**RIG NAME:** Xtreme 19  
**STATE:** CO  
**COUNTY:** Country  
**WELL NAME:** Ptasnik 1-30-9-59

**FIELD:** Niobrara  
**Township:**  
**Range**

#### MOTOR INFORMATION

**Desc:** 6 3/4" Motor 6/7 Lobe 5.0 HR Stage  
**Fxd @ 2 25°**  
**Bent Hsg/Sub: 2.25/ 2.25 Bit to Bend: 5.4**  
**Pad OD: 7 NB Stab:**

### Slide Report for BHA # 3

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
3	12-Apr	Drilling	12:40	12:50	0.17	5569	5590	21	20	126.0	30	6000	458	2450		1.04	117.91	5.02	
3	12-Apr	Sliding	13:10	13:25	0.25	5590	5612	22	12	88.0	0	0	458	2000	360M	2.07	48.53	12.85	
3	12-Apr	Drilling	13:35	13:40	0.08	5612	5617	5	20	60.0	30	6000	458	2250		2.65	41.61	12.85	
3	12-Apr	Sliding	13:40	14:00	0.33	5617	5655	38	10	114.0	0	0	458	1950	360M	7.18	24.95	11.39	
3	12-Apr	Drilling	14:10	14:15	0.08	5655	5665	10	20	120.0	30	6000	458	2300		8.27	22.54	11.39	
3	12-Apr	Sliding	14:15	14:45	0.50	5665	5697	32	10	64.0	0	0	458	2000	350M	11.18	16.72	6.67	
3	12-Apr	Drilling	14:55	15:00	0.08	5697	5714	17	20	204.0	30	6000	458	2300		12.11	13.50	6.67	
3	12-Apr	Sliding	15:00	15:35	0.58	5714	5740	26	8	44.6	0	0	458	2000	330M	13.55	8.82	7.04	
3	12-Apr	Drilling	15:45	15:50	0.08	5740	5757	17	20	204.0	30	6000	458	2300		14.49	5.80	7.04	
3	12-Apr	Sliding	15:50	16:15	0.42	5757	5781	24	8	57.6	0	0	458	2000	40L	15.89	2.56	6.51	
3	12-Apr	Drilling	16:55	17:00	0.08	5781	5801	20	20	240.0	30	6000	458	2300		17.08	0.70	6.51	
3	12-Apr	Sliding	17:00	17:20	0.33	5801	5825	24	10	72.0	0	0	458	2000	30L	18.82	358.86	8.82	
3	12-Apr	Drilling	17:30	17:35	0.08	5825	5838	13	20	156.0	30	6000	458	2300		19.94	358.04	8.82	
3	12-Apr	Sliding	17:35	18:05	0.50	5838	5866	28	10	56.0	0	0	458	2000	20L	22.58	356.90	10.72	
3	12-Apr	Drilling	18:15	18:25	0.17	5866	5876	10	20	60.0	30	6000	458	2300		23.65	356.73	10.72	
3	12-Apr	Sliding	18:25	18:55	0.50	5876	5909	33	10	66.0	0	0	458	2000	1	27.49	356.76	13.64	
3	12-Apr	Drilling	19:05	19:10	0.08	5909	5921	12	20	144.0	30	6000	458	2300		29.12	357.11	13.64	
3	12-Apr	Sliding	19:10	19:30	0.33	5921	5951	30	10	90.0	0	0	458	2000	1	33.03	357.97	12.21	
3	12-Apr	Drilling	19:40	19:50	0.17	5951	5966	15	20	90.0	30	6000	458	2300		34.84	358.43	12.21	
3	12-Apr	Sliding	19:50	20:10	0.33	5966	5994	28	10	84.0	0	0	458	2050	1	37.61	358.93	6.43	
3	12-Apr	Drilling	20:20	20:25	0.08	5994	6016	22	20	264.0	30	6000	458	2300		39.02	358.98	6.43	
3	12-Apr	Sliding	20:25	20:40	0.25	6016	6036	20	10	80.0	0	0	458	2050	20L	40.25	358.67	6.24	
3	12-Apr	Drilling	20:50	21:00	0.17	6036	6059	23	20	138.0	30	6000	458	2300		41.62	358.02	6.24	
3	12-Apr	Sliding	21:00	21:15	0.25	6059	6079	20	10	80.0	0	0	458	2050	20L	43.49	357.32	11.92	
3	12-Apr	Drilling	21:25	21:30	0.08	6079	6090	11	20	132.0	30	6500	458	2300		44.77	356.91	11.92	
3	12-Apr	Sliding	21:30	21:45	0.25	6090	6120	30	10	120.0	0	0	458	2050	20L	48.15	356.25	10.48	

# Slide Report for BHA # 3

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
3	12-Apr	Drilling	21:55	22:00	0.08	6120	6132	12	20	144.0	30	6500	458	2300		49.40	356.31	10.48	
3	12-Apr	Sliding	22:00	22:30	0.50	6132	6164	32	10	64.0	0	0	458	2050	1	52.53	356.54	8.66	
3	12-Apr	Drilling	22:40	22:50	0.17	6164	6184	20	20	120.0	30	6500	458	2300		54.25	356.78	8.66	
3	12-Apr	Sliding	22:50	23:10	0.33	6184	6205	21	10	63.0	0	0	458	2050	1	56.27	356.95	10.72	
3	12-Apr	Drilling	23:20	23:30	0.17	6205	6219	14	20	84.0	30	6500	458	2300		57.77	357.02	10.72	
3	12-Apr	Sliding	23:30	24:00	0.50	6219	6249	30	10	60.0	0	0	458	2050	1	60.93	357.22	10.27	
3	13-Apr	Drilling	00:10	00:15	0.08	6249	6266	17	20	204.0	30	6500	458	2300		62.67	357.37	10.27	
3	13-Apr	Sliding	00:15	00:35	0.33	6266	6290	24	10	72.0	0	0	458	2050	1	65.21	357.59	11.17	
3	13-Apr	Drilling	00:50	01:00	0.17	6290	6306	16	20	96.0	30	7000	458	2300		67.00	357.72	11.17	
3	13-Apr	Sliding	01:00	01:20	0.33	6306	6334	28	10	84.0	0	0	458	2050	1	0.00	0.00	0.00	
3	13-Apr	Drilling	01:45	01:50	0.08	6334	6345	11	20	132.0	30	7000	458	2300		0.00	0.00	0.00	
3	13-Apr	Sliding	01:50	02:15	0.42	6345	6369	24	10	57.6	0	0	458	2050	1	0.00	0.00	0.00	

Total Drilled: 800

Avg. Total ROP: 84.96

DEPTH% - TIME %

Total Rotary Drilled: 286

Avg. Rotary ROP: 132.00

Percent Rotary: 35.75 - 23.01

Total Drilled Sliding: 514

Avg. Slide ROP: 70.90

Percent Slide: 64.25 - 76.99



## Well Information

**BHA #**
**4**

<b>JOB NO.:</b>	TL15013	<b>FIELD:</b>	Niobrara
<b>Company:</b>	Carrizo Oil and Gas	<b>Township:</b>	
<b>LOCATION:</b>	Rocky Mountains	<b>SECT. RANGE:</b>	
<b>RIG NAME:</b>	Xtreme 19		
<b>STATE:</b>	CO		
<b>COUNTY:</b>	Weld	<b>BHA TYPE:</b>	Steerable Assembly
<b>WELL NAME:</b>	Ptasnik 1-30-9-59		

Motor Data: Discovery  
 4 3/4" 5/6 Lobe 8.3HR Stage  
 Flow Range: 100 to 300 GPM  
 Maximum Surface Rotary: 50 RPM  
 Maximum Torque: 4,810 ft/lbs  
 Fixed Housing Set @ 1.83°  
 Bearing Housing Slick Sleeve  
 Rev Per Gallon = 1.0  
 Bit to Bend = 4.46'

Bit Data: PDC  
 Manufacture: Smith  
 Type: SDi513  
 Serial #: JJ4464  
 Jets: 5X16's  
 T.F.A.: 0.981  
 5-Blade  
 Single Row 1/2" Cutters

MWD Sensor Data:  
 Bit to Directional Sensor: 51' Svy: 54'  
 Bit to Gamma Sensor: 40'

#	Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn	Bott Conn	STAB OD	Fishing Neck
1	6 1/8" Smith "SDi513" PDC Bit	JJ4464	0.00	6 1/8	1.00	1.00	3 1/2 REG-P	-		N/A
2	4 3/4" Motor 5/6 Lobe 8.3HR Stg Fxd @ 1.83°	475-DDS-019	0.00	4 3/4	28.72	29.72	3 1/2 IF-B	3 1/2 REG-B		N/A
3	Muleshoe Sub (Titan MWD)	T475000	2 5/16	4 13/16	3.01	32.73	3 1/2 IF-B	3 1/2 IF-P		N/A
4	NMDC	AWS475-30-4959	2 5/8	4 3/4	31.14	63.87	3 1/2 IF-B	3 1/2 IF-P		N/A
5	NMFlex	AWF475-30-2361	2 3/4	4 3/4	30.84	94.71	3 1/2 IF-B	3 1/2 IF-P		N/A
6	X-O Sub	AWST-3140	2 3/4	5	3.95	98.66	XT 39-B	3 1/2 IF-P		N/A
7	65 Stands - Drill Pipe	Rig	2 11/16	4	5,508.58	5607.24	XT-39-B	XT-39-P		N/A
8	15 Stands - HWDP	Rig	2 9/16	4	1,364.19	6971.43	XT-39-B	XT-39-P		N/A
9			0.00		0.00	6971.43	-	-		N/A



# Well Information

**BHA #** 4

**JOB NO.:** TL15013  
**Company:** Carrizo Oil and Gas  
**LOCATION:** Rocky Mountains  
**RIG NAME:** Xtreme 19  
**STATE:** CO  
**COUNTY:** Weld  
**WELL NAME:** Ptasnik 1-30-9-59

**FIELD:** Niobrara  
**Township:**  
**SECT. RANGE:**  
**Lead DD:** Randall Cole  
**Co. Man:** Jeff Myers  
**BHA TYPE:** Steerable Assembly

## BHA Summary Information

TIME IN - OUT		Rotary Hours		22.67	Start Depth		6369.00	RPM Range	Flow Rate	
Start Time	End Time	Circ Hrs Tot/Only		42.087 10.83	End Depth		10939.00			
14-Apr-15 @ 02:20	16-Apr-15 @ 20:40	Slide Hours		8.58	Percent Rotary:		90.90	0 -55	153 -287	
		Below Rotary Hrs.		66.33	Percent Slide:		9.10			
Total Drilled:		4570.00	Avg. Total ROP:		146.24	Incl.		Azimuth		
Total Rotary Drilled:		4154.00	Avg. Rotary ROP:		183.26	IN	OUT	IN	OUT	
Total Drilled Sliding:		416.00	Avg. Slide ROP:		48.47	.0	.0	.00	.00	
SPP	300 -3050	Weights	SO	0 -115	PU	140 -175	RAB	110 -125	Reason POOH	TD

### Bit Data

### MOTOR DATA

### Mud Data

SMITH		6 1/8" Smith "SDi513" PDC Bit						4 3/4" Motor 5/6 Lobe 8.3HR Stg Fxd @						Type	Water Base					
Type Bit				PDC						Model: Superhawk				Pad OD		WT 9.9 GAS 0 Solids 7.2				
TFA		0.981								MFG. Discovery				5 1/4		Vis 50 SAND 0.5 T° 116				
JETS			16	16	16	16	16	Bend ° 1.83 Stator/Rotor 5/6				PV 18 PH 10 Chlor 600								
			0	0	0	0	0	Bit to Bend 4.46 Motor Diff 600				YP 24 WL 6 Oil % 0								
Bit Coding				IADC#			Rev/GAL 1						BHT°  183							
IR	OR	DL	Loc	BS	G	ODL	NB Stab 0				PUMPS		PUMP1		PUMP1					
0	3	BF	A	X	6.12 5	NO	Rotor Jet 0				NAME		Gardner-Denver		Gardner-Denver					
Bit Drop:		78 PSI @ 287 GPM						Sensor Offsets				Model		PZ-11		PZ-11				
Comments							Sensor		51	Sonic	0	Type		Triplex		Triplex				
							Gamma		40	DNsc	6369	Liner		6.00		6.00				
							Restiv		0	GYRO	0	Stroke		11.00		11.00				
												Efficiency		.95		.95				

Motor Data: Discovery  
4 3/4" 5/6 Lobe 8.3HR Stage  
Flow Range: 100 to 300 GPM  
Maximum Surface Rotary: 50 RPM  
Maximum Torque: 4,810 ft/lbs  
Fixed Housing Set @ 1.83°  
Bearing Housing Slick Sleeve  
Rev Per Gallon = 1.0  
Bit to Bend = 4.46'

Bit Data: PDC  
Manufacture: Smith  
Type: SDi513  
Serial #: JJ4464  
Jets: 5X16's  
T.F.A.: 0.981  
5-Blade  
Single Row 1/2" Cutters

MWD Sensor Data:  
Bit to Directional Sensor: 51' Svy: 54'  
Bit to Gamma Sensor: 40'

## BHA Detail

#	Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn
1	6 1/8" Smith "SDi513" PDC Bit	JJ4464		6 1/8	1.00	1.00	3 1/2 REGP
2	4 3/4" Motor 5/6 Lobe 8.3HR Stg Fxd @ 1.83°	475-DDS-019		4 3/4	28.72	29.72	3 1/2 IFB
3	Muleshoe Sub (Titan MWD)	T475000	2 5/16	4 13/16	3.01	32.73	3 1/2 IFB
4	NMDC	AWS475-30-4959	2 5/8	4 3/4	31.14	63.87	3 1/2 IFB
5	NMFlex	AWF475-30-2361	2 3/4	4 3/4	30.84	94.71	3 1/2 IFB
6	X-O Sub	AWST-3140	2 3/4	5	3.95	98.66	XT 39B
7	65 Stands - Drill Pipe	Rig	2 11/16	4	5,508.58	5607.24	XT-39B
8	15 Stands - HWDP	Rig	2 9/16	4	1,364.19	6971.43	XT-39B
9					0.00	6971.43	

15 Stands - HWDP  
O.D.=4  
Length=1364.19

65 Stands - Drill Pipe  
O.D.=4  
Length=5508.58

X-O Sub  
O.D.=5

NMFlex  
O.D.=4 3/4  
Length=30.84

NMDC  
O.D.=4 3/4  
Length=31.14

Muleshoe Sub (Titan MWD)  
O.D.=4 13/16

4 3/4" Motor 5/6 Lobe 8.3HR Stg Fxd @  
O.D.=4 3/4  
Length=28.72

6 1/8" Smith "SDi513" PDC Bit  
O.D.=6 1/8  
Length=1



**JOB NO.:** TL15013  
**Company:** Carrizo Oil and Gas  
**LOCATION:** Rocky Mountains  
**RIG NAME:** Xtreme 19  
**STATE:** CO  
**COUNTY:** Country  
**WELL NAME:** Ptasnik 1-30-9-59

**FIELD:** Niobrara  
**Township:**  
**Range**

#### MOTOR INFORMATION

Desc: 4 3/4" Motor 5/6 Lobe 8.3HR Stg Fxd @ 1.83°  
 Bent Hsg/Sub: 1.83/ 0 Bit to Bend: 4.46  
 Pad OD: 5 1/4 NB Stab:

## Slide Report for BHA # 4

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
4	14-Apr	Drilling	08:40	08:50	0.17	6369	6369	0	14	0.0	30	5500	229	1700		74.08	357.80	11.25	
4	14-Apr	Sliding	08:50	09:20	0.50	6369	6415	46	10	92.0	0	0	229	1700	1	79.47	358.18	11.77	
4	14-Apr	Drilling	09:20	09:25	0.08	6415	6425	10	14	120.0	30	5500	229	1700		80.82	358.25	14.02	
4	14-Apr	Sliding	09:35	10:05	0.50	6425	6465	40	10	80.0	0	0	229	1700	1	86.29	358.38	10.33	
4	14-Apr	Drilling	10:05	10:15	0.17	6465	6471	6	14	36.0	30	5500	229	1800		86.86	358.15	10.33	
4	14-Apr	Sliding	10:25	10:40	0.25	6471	6501	30	10	120.0	0	0	229	1700	1	89.73	356.97	10.33	
4	14-Apr	Drilling	10:40	10:50	0.17	6501	6516	15	14	90.0	30	5500	229	1800		90.20	356.43	4.13	
4	14-Apr	Drilling	11:00	11:20	0.33	6516	6562	46	14	138.0	30	5500	229	1800		89.22	355.39	2.27	
4	14-Apr	Sliding	11:30	11:35	0.08	6562	6582	20	10	240.0	0	0	287	2000	100R	89.04	355.81	2.27	
4	14-Apr	Drilling	11:35	11:45	0.17	6582	6607	25	14	150.0	30	5500	287	2250		88.83	356.33	2.27	
4	14-Apr	Drilling	11:55	12:25	0.50	6607	6698	91	14	182.0	50	6000	287	2250		89.57	358.88	3.84	
4	14-Apr	Sliding	12:35	12:45	0.17	6698	6718	20	10	120.0	0	0	287	2000	60R	89.96	359.54	3.84	
4	14-Apr	Drilling	12:45	13:20	0.58	6718	6789	71	20	121.7	50	6000	287	2250		89.71	358.62	2.96	
4	14-Apr	Drilling	13:30	13:50	0.33	6789	6880	91	20	273.0	50	6000	287	2250		90.55	359.80	4.67	
4	14-Apr	Sliding	14:00	14:10	0.17	6880	6900	20	10	120.0	0	0	287	2000	50R	91.01	0.61	4.67	
4	14-Apr	Drilling	14:10	14:35	0.42	6900	6971	71	20	170.4	50	6000	287	2250		91.40	0.72	1.07	
4	14-Apr	Drilling	14:45	15:05	0.33	6971	7055	84	20	252.0	50	6500	287	2250		91.21	359.32	2.03	
4	14-Apr	Drilling	15:50	16:15	0.42	7055	7140	85	20	204.0	50	6500	287	2250		91.36	358.12	1.17	
4	14-Apr	Drilling	16:25	16:50	0.42	7140	7224	84	20	201.6	50	6500	287	2250		90.09	359.15	3.62	
4	14-Apr	Sliding	17:00	17:05	0.08	7224	7239	15	10	180.0	0	0	287	2100	140R	89.69	359.53	3.62	
4	14-Apr	Drilling	17:05	17:35	0.50	7239	7308	69	20	138.0	50	6500	287	2350		89.30	359.58	0.60	
4	14-Apr	Drilling	17:45	18:10	0.42	7308	7392	84	20	201.6	50	6500	287	2450		90.51	359.08	2.31	
4	14-Apr	Sliding	18:20	18:30	0.17	7392	7399	7	26	42.0	0	0	287	2200	30R	90.66	359.04	2.31	
4	14-Apr	Drilling	18:30	18:55	0.42	7399	7477	78	20	187.2	50	6500	287	2450		90.30	358.96	1.67	
4	14-Apr	Sliding	19:05	19:10	0.08	7477	7485	8	26	96.0	0	0	287	2200	135R	90.17	358.97	1.67	
4	14-Apr	Drilling	19:10	19:35	0.42	7485	7561	76	20	182.4	50	7000	287	2450		89.74	359.00	0.12	

# Slide Report for BHA # 4

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
4	14-Apr	Drilling	20:25	20:50	0.42	7561	7645	84	20	201.6	50	7000	287	2450		89.51	358.55	0.91	
4	14-Apr	Drilling	21:00	21:25	0.42	7645	7729	84	20	201.6	50	7000	287	2450		89.46	358.74	0.83	
4	14-Apr	Sliding	21:35	21:40	0.08	7729	7739	10	26	120.0	0	0	287	2200	60R	89.48	358.83	0.83	
4	14-Apr	Drilling	21:40	22:05	0.42	7739	7814	75	20	180.0	50	7000	287	2450		90.77	1.16	4.64	
4	14-Apr	Sliding	22:15	22:20	0.08	7814	7824	10	26	120.0	0	0	287	2300	45R	91.01	1.56	4.64	
4	14-Apr	Drilling	22:20	22:45	0.42	7824	7899	75	20	180.0	50	7000	287	2550		90.99	0.37	3.88	
4	14-Apr	Sliding	22:55	23:05	0.17	7899	7911	12	26	72.0	0	0	287	2300	110L	90.88	359.92	3.88	
4	14-Apr	Drilling	23:05	23:25	0.33	7911	7984	73	20	219.0	50	7000	287	2550		90.06	357.74	2.95	
4	14-Apr	Drilling	23:35	24:00	0.42	7984	8069	85	20	204.0	50	7000	287	2550		89.38	358.17	2.43	
4	15-Apr	Sliding	00:10	00:25	0.25	8069	8084	15	34	60.0	0	0	287	2200	90R	89.29	358.52	2.43	
4	15-Apr	Drilling	00:25	00:50	0.42	8084	8154	70	20	168.0	50	7000	287	2550		90.03	0.55	3.42	
4	15-Apr	Sliding	01:00	01:05	0.08	8154	8160	6	34	72.0	0	0	287	2200	40R	90.12	0.74	3.42	
4	15-Apr	Drilling	01:05	01:30	0.42	8160	8239	79	20	189.6	50	7000	287	2550		90.56	0.48	1.89	
4	15-Apr	Drilling	01:40	02:05	0.42	8239	8324	85	20	204.0	50	7000	287	2650		91.04	359.33	1.34	
4	15-Apr	Drilling	02:15	02:45	0.50	8324	8409	85	20	170.0	50	7000	287	2650		89.90	358.94	2.59	
4	15-Apr	Sliding	02:55	03:05	0.17	8409	8419	10	34	60.0	0	0	287	2300	150R	89.64	358.92	2.59	
4	15-Apr	Drilling	03:05	03:30	0.42	8419	8494	75	20	180.0	50	7000	287	2650		89.29	358.00	1.70	
4	15-Apr	Drilling	03:40	04:10	0.50	8494	8578	84	20	168.0	50	7500	287	2650		89.78	358.14	1.37	
4	15-Apr	Sliding	04:20	04:30	0.17	8578	8590	12	34	72.0	0	0	287	2300	90R	89.87	358.28	1.37	
4	15-Apr	Drilling	04:30	04:55	0.42	8590	8663	73	20	175.2	50	7500	287	2650		90.57	358.12	1.27	
4	15-Apr	Drilling	05:35	06:00	0.42	8663	8748	85	20	204.0	50	7500	287	2650		90.52	358.85	1.90	
4	15-Apr	Sliding	06:10	06:30	0.33	8748	8763	15	34	45.0	0	0	287	2200	140R	90.41	359.12	1.90	
4	15-Apr	Drilling	06:30	06:50	0.33	8763	8833	70	20	210.0	50	7500	287	2650		89.86	358.26	2.27	
4	15-Apr	Drilling	07:00	07:25	0.42	8833	8918	85	20	204.0	50	7500	287	2650		88.76	359.40	3.67	
4	15-Apr	Sliding	07:35	08:00	0.42	8918	8938	20	34	48.0	0	0	287	2200	100R	88.45	0.07	3.67	
4	15-Apr	Drilling	08:00	08:20	0.33	8938	9002	64	20	192.0	50	7500	287	2650		88.94	0.53	1.21	
4	15-Apr	Drilling	08:30	08:50	0.33	9002	9086	84	20	252.0	50	7500	287	2650		89.55	0.03	1.16	
4	15-Apr	Drilling	09:00	09:25	0.42	9086	9171	85	20	204.0	50	7500	287	2650		90.02	359.06	1.33	
4	15-Apr	Drilling	09:35	10:05	0.50	9171	9255	84	20	168.0	50	7500	287	2650		90.26	358.38	0.61	
4	15-Apr	Drilling	10:15	10:40	0.42	9255	9339	84	20	201.6	50	7500	287	2650		90.49	357.63	1.12	
4	15-Apr	Drilling	10:50	11:10	0.33	9339	9424	85	20	255.0	50	7500	287	2650		89.20	358.95	4.01	
4	15-Apr	Sliding	11:20	11:45	0.42	9424	9444	20	34	48.0	0	0	287	2300	100R	88.68	359.56	4.01	
4	15-Apr	Drilling	11:45	12:05	0.33	9444	9509	65	20	195.0	55	7500	287	2650		88.97	359.90	1.06	
4	15-Apr	Drilling	12:15	12:40	0.42	9509	9594	85	20	204.0	55	7500	287	2650		89.75	359.32	1.36	

# Slide Report for BHA # 4

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
4	15-Apr	Drilling	12:50	13:10	0.33	9594	9678	84	20	252.0	55	9000	287	2850		90.57	358.56	1.34	
4	15-Apr	Drilling	13:20	13:40	0.33	9678	9763	85	20	255.0	55	9000	287	2850		91.09	357.66	1.23	
4	15-Apr	Drilling	13:50	14:20	0.50	9763	9848	85	20	170.0	55	10000	287	2850		89.99	359.84	5.21	
4	15-Apr	Sliding	14:30	14:55	0.42	9848	9868	20	34	48.0	0	0	287	2400	120R	89.55	0.78	5.21	
4	15-Apr	Drilling	14:55	15:15	0.33	9868	9933	65	20	195.0	55	11000	287	2850		89.43	1.11	0.43	
4	15-Apr	Drilling	15:25	15:45	0.33	9933	10017	84	20	252.0	55	11000	287	2850		89.44	0.75	0.49	
4	15-Apr	Drilling	15:55	16:20	0.42	10017	10102	85	20	204.0	55	11000	287	2850		90.22	0.47	1.53	
4	15-Apr	Drilling	16:30	16:55	0.42	10102	10188	86	20	206.4	55	11000	287	2950		90.89	359.76	1.24	
4	15-Apr	Drilling	17:20	17:45	0.42	10188	10272	84	20	201.6	55	11000	287	2950		91.19	358.70	1.34	
4	15-Apr	Drilling	17:55	18:20	0.42	10272	10357	85	20	204.0	50	11000	287	2950		89.90	357.41	3.07	
4	15-Apr	Sliding	18:30	19:25	0.92	10357	10372	15	34	16.4	0	0	287	2500	135R	89.51	357.16	3.07	
4	15-Apr	Drilling	19:25	19:50	0.42	10372	10442	70	20	168.0	50	11000	287	2950		89.35	357.73	1.60	
4	15-Apr	Sliding	20:00	20:40	0.67	10442	10457	15	34	22.5	0	0	287	2500	90R	89.42	357.96	1.60	
4	15-Apr	Drilling	20:40	21:05	0.42	10457	10527	70	20	168.0	50	11000	287	2950		89.50	358.96	1.41	
4	15-Apr	Sliding	21:15	21:45	0.50	10527	10537	10	34	20.0	0	0	287	2500	130R	89.50	359.10	1.41	
4	15-Apr	Drilling	21:45	22:10	0.42	10537	10612	75	20	180.0	50	11000	287	2950		89.25	0.48	2.05	
4	15-Apr	Sliding	22:20	23:15	0.92	10612	10622	10	34	10.9	0	0	287	2500	160R	89.20	0.68	2.05	
4	15-Apr	Drilling	23:15	23:35	0.33	10622	10697	75	20	225.0	50	12000	287	2950		88.65	359.43	3.20	
4	15-Apr	Drilling	23:45	24:00	0.25	10697	10745	48	20	192.0	50	12000	287	3050		88.80	358.73	2.58	
4	16-Apr	Drilling	00:00	00:10	0.17	10745	10781	36	20	216.0	50	12000	287	3050		89.61	359.20	2.58	
4	16-Apr	Sliding	00:20	01:20	1.00	10781	10791	10	34	10.0	0	0	287	2600	20R	89.83	359.33	2.58	
4	16-Apr	Drilling	01:20	01:45	0.42	10791	10866	75	20	180.0	50	12000	287	3050		90.08	358.79	1.56	
4	16-Apr	Drilling	01:55	02:15	0.33	10866	10939	73	20	219.0	50	12000	287	3050		0.00	0.00	0.00	

Total Drilled: 4570

Avg. Total ROP: 146.24

DEPTH% - TIME %

Total Rotary Drilled: 4154

Avg. Rotary ROP: 183.26

Percent Rotary: 90.90 - 72.53

Total Drilled Sliding: 416

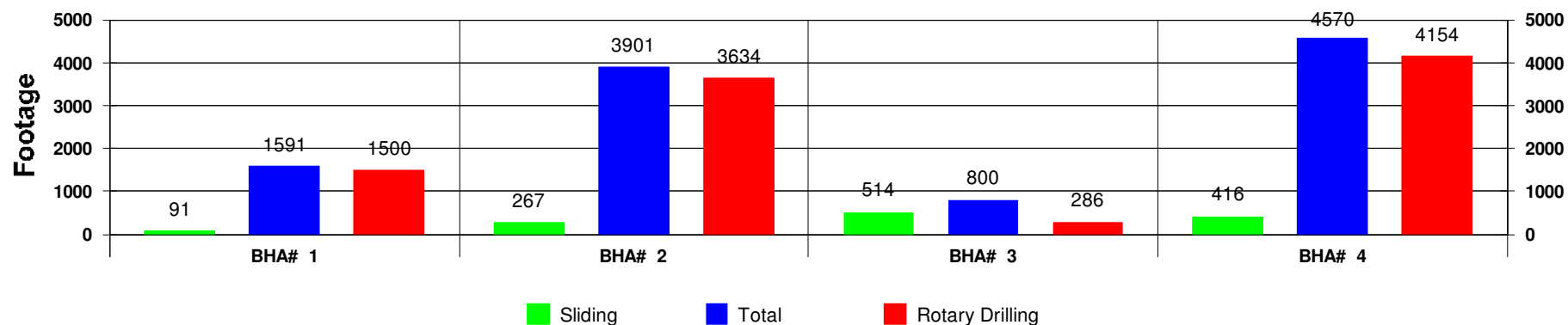
Avg. Slide ROP: 48.47

Percent Slide: 9.10 - 27.47

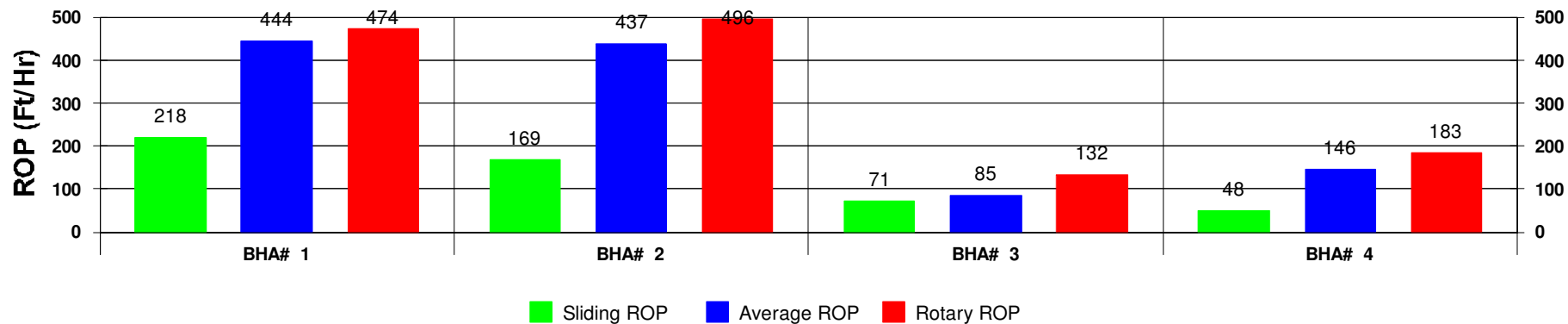


JOB NO.:	TL15013	FIELD:	Niobrara
Company:	Carrizo Oil and Gas	Township:	
LOCATION:	Rocky Mountains	SECT\ RANGE:	
RIG NAME:	Xtreme 19	COMMENT	
STATE:	CO		
COUNTY:	Weld		
WELL NAME:	Ptasnik 1-30-9-59		

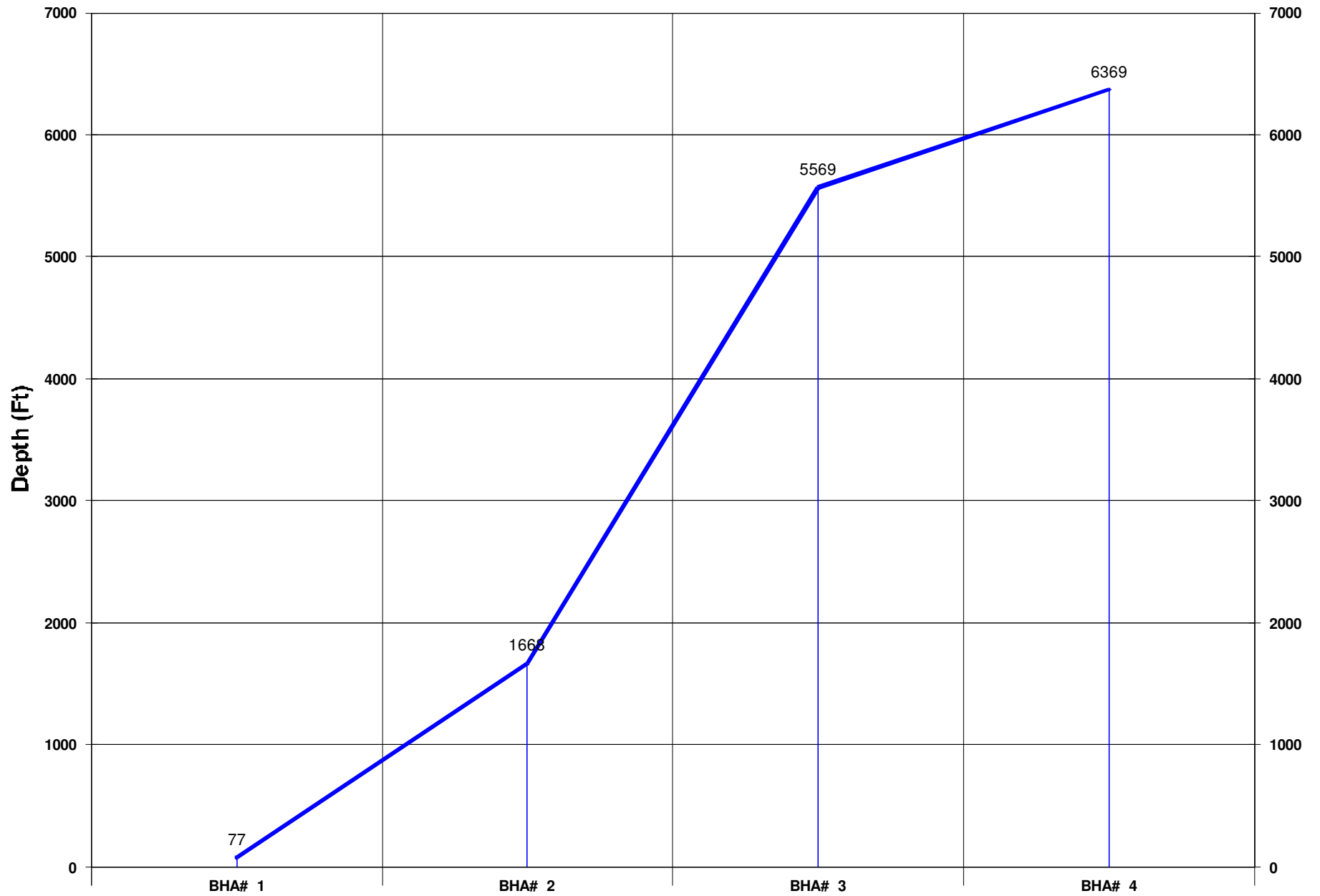
### Footage Drilled with BHA



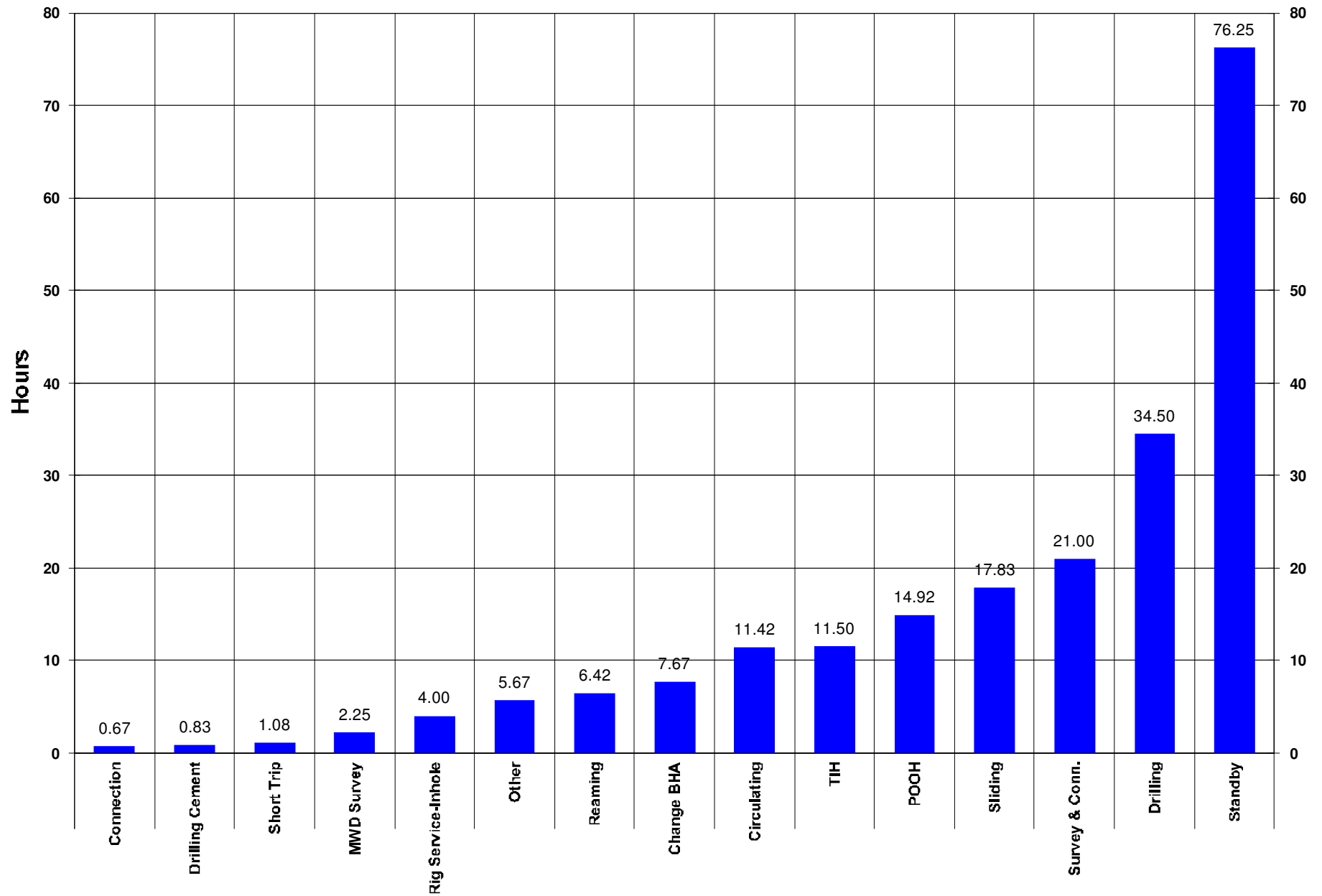
### ROP vs BHA



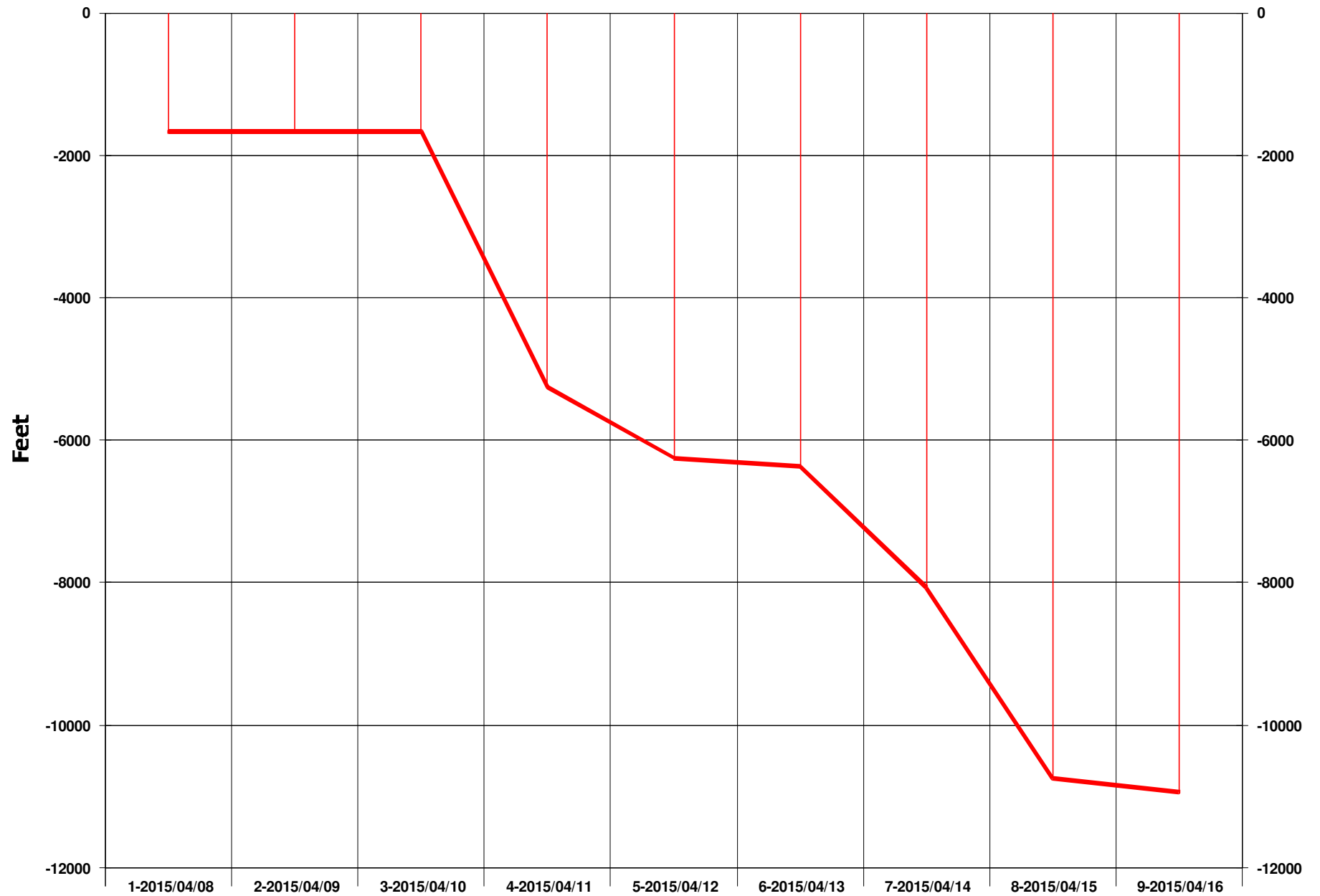
### Depth vs BHA



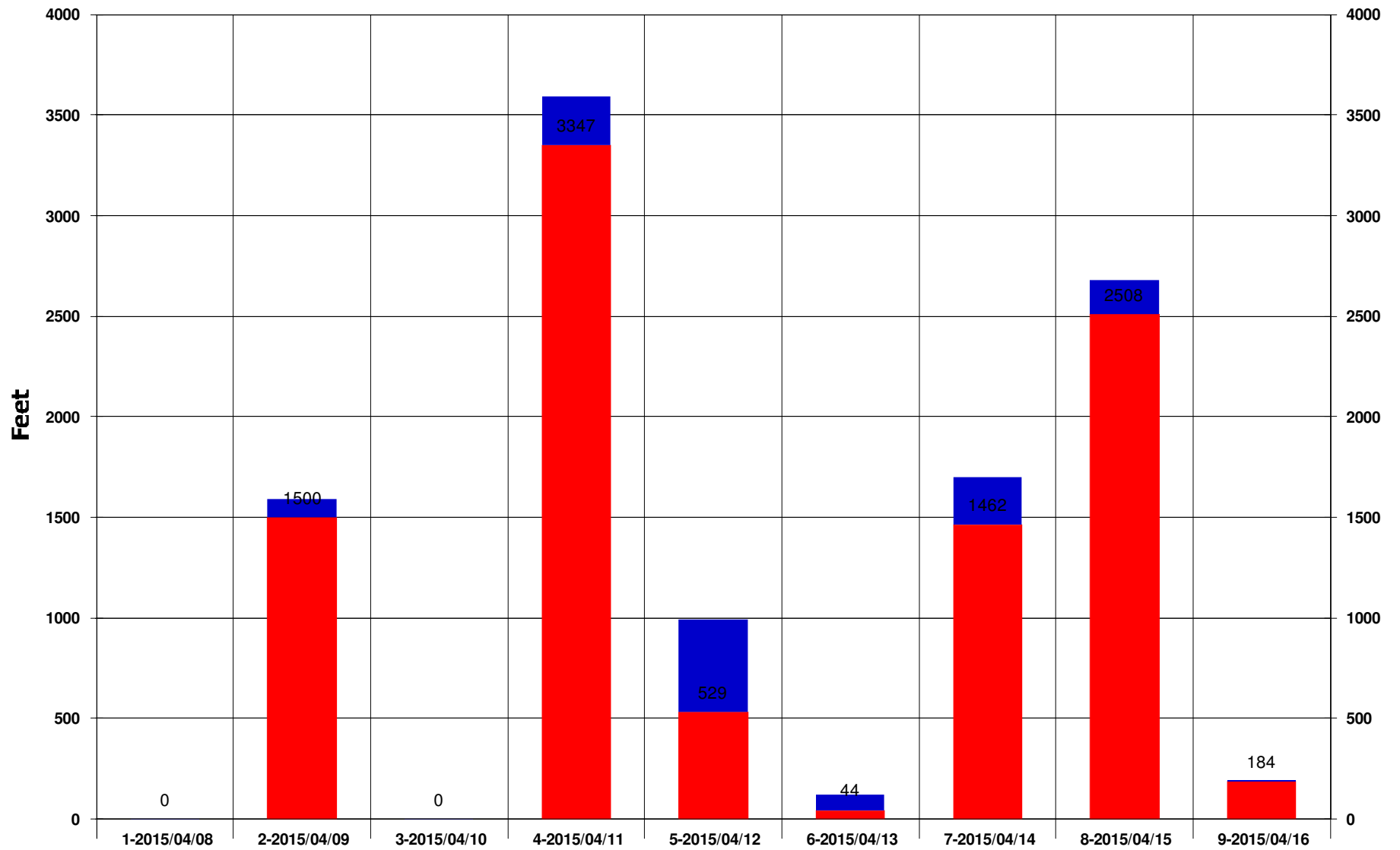
## Activity Histogram



Measured Depth vs Days

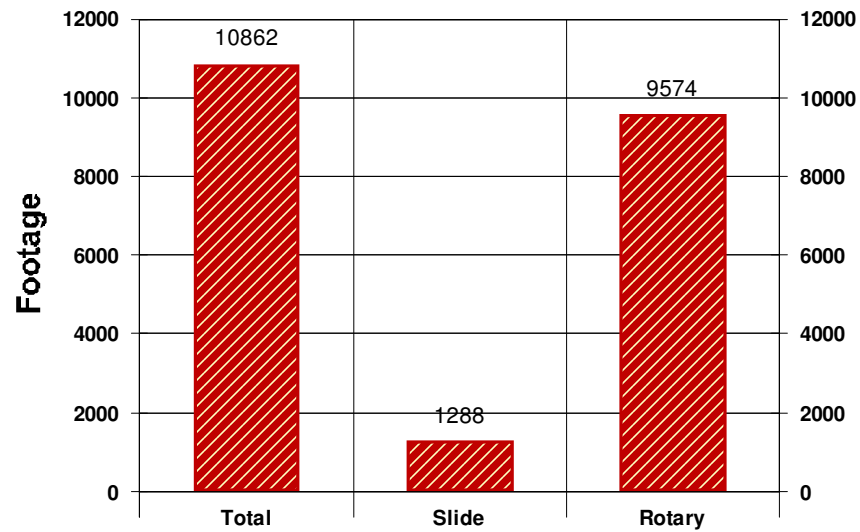


## Daily Footage

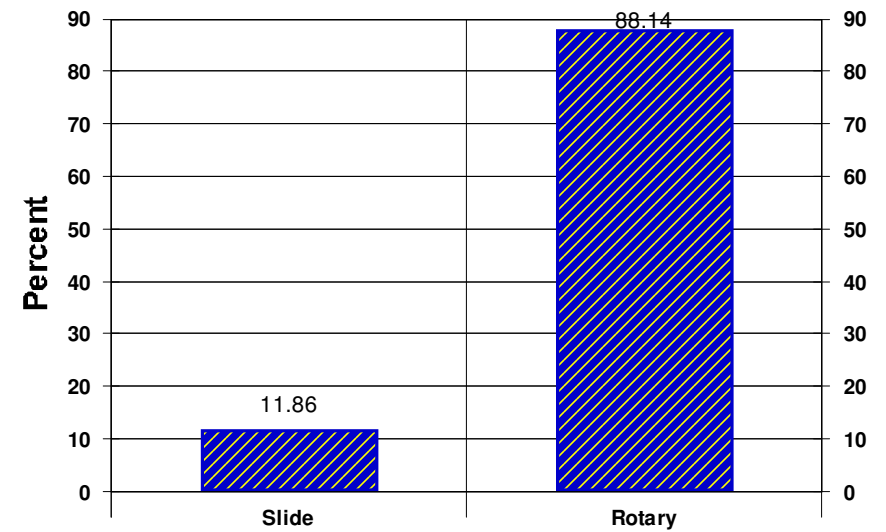


Rotary Drilling Sliding

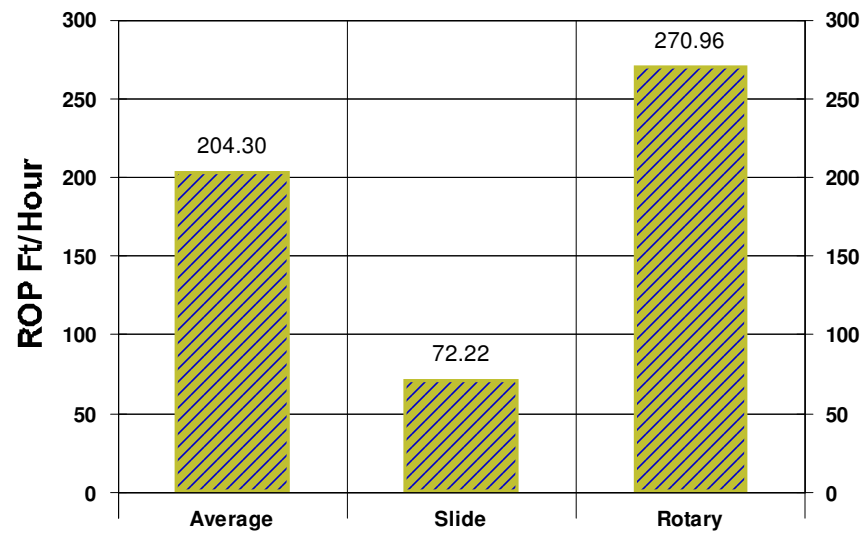
Footage Drilled Totals



Footage Percent



Rate of Penetration Totals



Time Percent

