



## **END OF WELL REPORT**

**Rothe 12-14-8-61  
Xtreme 19  
Weld County, CO**

***Prepared By:***

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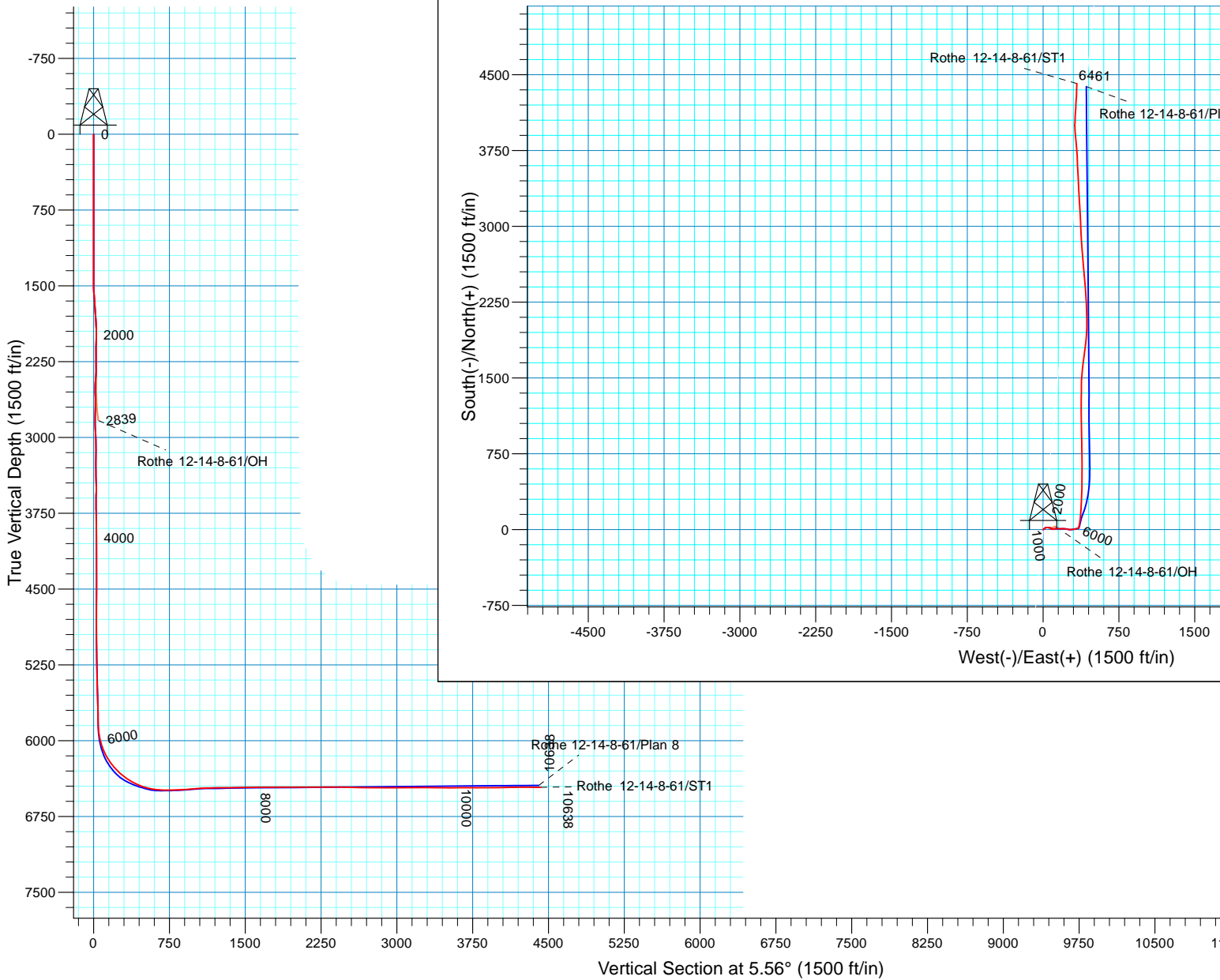
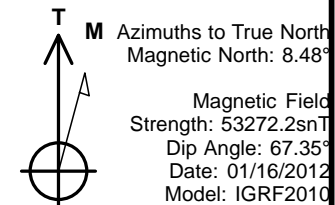


Project: Weld County, CO (NAD83)  
 Site: Rothe  
 Well: Rothe 12-14-8-61  
 Wellbore: ST1  
 Design: ST1



WELL DETAILS: Rothe 12-14-8-61

GL 4981' & KB 17' @ 4998.00ft (Xtreme 19)4981.00  
 Northing Easting Latitude Longitude  
 1489755.92 3371193.88 40° 40' 12.309 N 104° 9' 42.606 W



PROJECT DETAILS: Weld County, CO (NAD83)  
 Geodetic System: US State Plane 1983  
 Datum: North American Datum 1983  
 Ellipsoid: GRS 1980  
 Zone: Colorado Northern Zone  
 System Datum: Mean Sea Level  
 Local North: True

Design: ST1 (Rothe 12-14-8-61/ST1)  
 Created By: Julie Cruse Date: 1 February 2012



## **Carrizo Oil & Gas**

**Weld County, CO (NAD83)**

**Rothe**

**Rothe 12-14-8-61**

**ST1**

**Design: ST1**

## **Standard Survey Report**

**09 February, 2012**



<b>Company:</b>	Carrizo Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Rothe 12-14-8-61
<b>Project:</b>	Weld County, CO (NAD83)	<b>TVD Reference:</b>	GL 4981' & KB 17' @ 4998.00ft (Xtreme 19)
<b>Site:</b>	Rothe	<b>MD Reference:</b>	GL 4981' & KB 17' @ 4998.00ft (Xtreme 19)
<b>Well:</b>	Rothe 12-14-8-61	<b>North Reference:</b>	True
<b>Wellbore:</b>	ST1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	ST1	<b>Database:</b>	Rockies Compass Server

<b>Project</b>	Weld County, CO (NAD83)		
<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		

<b>Site</b>	Rothe				
<b>Site Position:</b>		<b>Northing:</b>	1,489,755.94 usft	<b>Latitude:</b>	40° 40' 12.309 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,371,193.87 usft	<b>Longitude:</b>	104° 9' 42.606 W
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	0.86 °

<b>Well</b>	Rothe 12-14-8-61, 245' FSL 245' FWL Sec 12 T8N R61W					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	1,489,755.93 usft	<b>Latitude:</b>	40° 40' 12.309 N
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	3,371,193.87 usft	<b>Longitude:</b>	104° 9' 42.606 W
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	4,981.00 ft

<b>Wellbore</b>	ST1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	01/16/12	8.48	67.35	53,272

<b>Design</b>	ST1				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	2,276.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	5.56	

<b>Survey Program</b>	<b>Date</b>	02/09/12			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
1,469.00	2,276.00	Survey #1 (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	
2,310.00	6,835.00	Survey #1 - Vertical (ST1)	SDI MWD	SDI MWD - Standard ver 1.0.1	
5,896.00	6,597.00	Survey #2 - Curve (ST1)	SDI MWD	SDI MWD - Standard ver 1.0.1	
6,668.00	10,638.00	Survey #3 - Lateral (ST1)	SDI MWD	SDI MWD - Standard ver 1.0.1	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	
2,276.00	4.57	96.37	2,272.57	18.82	63.97	24.93	0.25	-0.10	2.76	
<b>TIP</b>										
2,310.00	4.31	94.08	2,306.46	18.58	66.59	24.94	0.93	-0.76	-6.74	
<b>First SDI MWD Survey</b>										
2,325.00	4.40	97.60	2,321.42	18.46	67.72	24.93	1.88	0.60	23.47	
2,340.00	4.31	105.51	2,336.38	18.23	68.83	24.82	4.05	-0.60	52.73	
2,351.00	4.40	112.80	2,347.35	17.96	69.62	24.62	5.09	0.82	66.27	

<b>Company:</b>	Carrizo Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Rothe 12-14-8-61
<b>Project:</b>	Weld County, CO (NAD83)	<b>TVD Reference:</b>	GL 4981' & KB 17' @ 4998.00ft (Xtreme 19)
<b>Site:</b>	Rothe	<b>MD Reference:</b>	GL 4981' & KB 17' @ 4998.00ft (Xtreme 19)
<b>Well:</b>	Rothe 12-14-8-61	<b>North Reference:</b>	True
<b>Wellbore:</b>	ST1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	ST1	<b>Database:</b>	Rockies Compass Server

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
2,366.00	4.84	126.43	2,362.30	17.36	70.66	24.12	7.86	2.93	90.87	
2,381.00	5.63	136.10	2,377.23	16.46	71.68	23.32	7.88	5.27	64.47	
2,396.00	5.98	140.31	2,392.16	15.32	72.69	22.29	3.67	2.33	28.07	
2,411.00	6.42	143.39	2,407.07	14.05	73.69	21.12	3.68	2.93	20.53	
2,426.00	6.77	146.47	2,421.97	12.64	74.68	19.81	3.32	2.33	20.53	
2,436.00	6.68	147.17	2,431.90	11.66	75.32	18.90	1.22	-0.90	7.00	
2,451.00	6.33	144.71	2,446.81	10.25	76.27	17.59	2.98	-2.33	-16.40	
2,466.00	5.80	137.94	2,461.72	9.01	77.25	16.45	5.93	-3.53	-45.13	
2,481.00	5.10	125.90	2,476.65	8.06	78.30	15.61	8.91	-4.67	-80.27	
2,496.00	5.19	111.13	2,491.59	7.42	79.47	15.09	8.83	0.60	-98.47	
2,511.00	5.45	102.17	2,506.53	7.03	80.80	14.82	5.80	1.73	-59.73	
2,521.00	5.45	94.87	2,516.48	6.89	81.74	14.77	6.93	0.00	-73.00	
2,536.00	5.45	86.17	2,531.42	6.88	83.16	14.90	5.50	0.00	-58.00	
2,551.00	5.48	77.75	2,546.35	7.08	84.57	15.23	5.34	0.20	-56.13	
2,566.00	5.45	68.42	2,561.28	7.49	85.93	15.78	5.92	-0.20	-62.20	
2,581.00	5.10	66.93	2,576.22	8.01	87.21	16.42	2.51	-2.33	-9.93	
2,596.00	4.31	66.84	2,591.17	8.50	88.34	17.01	5.27	-5.27	-0.60	
2,606.00	3.61	72.37	2,601.14	8.74	88.99	17.32	7.97	-7.00	55.30	
2,621.00	2.81	85.56	2,616.12	8.91	89.80	17.57	7.23	-5.33	87.93	
2,636.00	2.81	95.49	2,631.10	8.90	90.54	17.63	3.24	0.00	66.20	
2,649.00	2.99	104.02	2,644.09	8.79	91.18	17.58	3.59	1.38	65.62	
2,691.00	4.13	112.10	2,686.00	7.96	93.65	16.99	2.96	2.71	19.24	
2,734.00	4.66	111.57	2,728.88	6.73	96.71	16.07	1.24	1.23	-1.23	
2,777.00	4.92	112.28	2,771.73	5.39	100.04	15.05	0.62	0.60	1.65	
2,819.00	5.98	91.18	2,813.54	4.66	103.89	14.70	5.35	2.52	-50.24	
2,862.00	6.24	87.14	2,856.30	4.73	108.46	15.22	1.17	0.60	-9.40	
2,904.00	4.92	68.86	2,898.10	5.50	112.42	16.36	5.23	-3.14	-43.52	
2,947.00	3.87	54.45	2,940.97	7.01	115.32	18.14	3.53	-2.44	-33.51	
2,990.00	4.22	51.02	2,983.87	8.84	117.73	20.21	0.99	0.81	-7.98	
3,032.00	3.87	56.99	3,025.76	10.59	120.12	22.17	1.30	-0.83	14.21	
3,075.00	3.61	78.70	3,068.67	11.65	122.67	23.47	3.33	-0.60	50.49	
3,118.00	3.78	103.84	3,111.59	11.57	125.37	23.66	3.76	0.40	58.47	
3,160.00	4.40	111.40	3,153.48	10.65	128.22	23.02	1.95	1.48	18.00	
3,203.00	4.57	111.31	3,196.35	9.43	131.35	22.10	0.40	0.40	-0.21	
3,245.00	4.40	94.70	3,238.22	8.69	134.51	21.67	3.11	-0.40	-39.55	
3,287.00	4.57	87.23	3,280.09	8.64	137.79	21.94	1.45	0.40	-17.79	
3,330.00	4.75	82.04	3,322.95	8.97	141.27	22.61	1.07	0.42	-12.07	
3,372.00	4.84	80.11	3,364.80	9.51	144.73	23.48	0.44	0.21	-4.60	
3,415.00	4.48	79.41	3,407.66	10.13	148.17	24.43	0.85	-0.84	-1.63	
3,458.00	4.13	88.55	3,450.54	10.48	151.37	25.09	1.79	-0.81	21.26	
3,500.00	4.31	96.90	3,492.43	10.33	154.45	25.24	1.52	0.43	19.88	
3,543.00	4.66	97.86	3,535.30	9.89	157.78	25.13	0.83	0.81	2.23	
3,584.00	4.84	100.24	3,576.15	9.36	161.13	24.92	0.65	0.44	5.80	
3,627.00	5.54	99.71	3,618.98	8.69	164.97	24.62	1.63	1.63	-1.23	

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<b>Well:</b>	Rothe 12-14-8-61	<b>North Reference:</b>	True
<b>Wellbore:</b>	ST1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	ST1	<b>Database:</b>	Rockies Compass Server

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
3,670.00	6.16	94.87	3,661.75	8.14	169.31	24.50	1.84	1.44	-11.26	
3,712.00	6.60	91.27	3,703.49	7.90	173.97	24.71	1.42	1.05	-8.57	
3,755.00	5.63	84.42	3,746.25	8.05	178.54	25.30	2.82	-2.26	-15.93	
3,796.00	4.13	87.32	3,787.10	8.31	182.02	25.90	3.71	-3.66	7.07	
3,839.00	4.04	81.43	3,829.99	8.61	185.06	26.49	1.00	-0.21	-13.70	
3,882.00	3.96	81.16	3,872.89	9.06	188.02	27.23	0.19	-0.19	-0.63	
3,924.00	4.31	83.54	3,914.78	9.46	191.03	27.92	0.93	0.83	5.67	
3,967.00	4.66	96.19	3,957.65	9.46	194.37	28.24	2.43	0.81	29.42	
4,010.00	5.10	102.96	4,000.49	8.84	197.97	27.97	1.68	1.02	15.74	
4,052.00	5.36	102.43	4,042.32	8.00	201.70	27.50	0.63	0.62	-1.26	
4,095.00	4.92	91.01	4,085.14	7.53	205.51	27.40	2.58	-1.02	-26.56	
4,137.00	5.01	89.60	4,126.99	7.52	209.14	27.74	0.36	0.21	-3.36	
4,223.00	2.81	87.93	4,212.78	7.62	215.00	28.40	2.56	-2.56	-1.94	
4,307.00	2.29	88.55	4,296.70	7.73	218.74	28.88	0.62	-0.62	0.74	
4,392.00	3.78	92.06	4,381.58	7.68	223.24	29.26	1.77	1.75	4.13	
4,477.00	4.40	95.14	4,466.36	7.28	229.29	29.46	0.77	0.73	3.62	
4,562.00	4.48	102.87	4,551.10	6.25	235.77	29.06	0.71	0.09	9.09	
4,647.00	5.01	105.95	4,635.81	4.49	242.57	27.96	0.69	0.62	3.62	
4,733.00	5.01	109.82	4,721.48	2.19	249.72	26.36	0.39	0.00	4.50	
4,818.00	5.10	94.61	4,806.16	0.63	256.98	25.51	1.58	0.11	-17.89	
4,902.00	5.54	90.04	4,889.80	0.32	264.75	25.96	0.73	0.52	-5.44	
4,987.00	5.45	87.84	4,974.41	0.47	272.89	26.90	0.27	-0.11	-2.59	
5,072.00	5.54	85.29	5,059.02	0.96	281.01	28.17	0.31	0.11	-3.00	
5,157.00	5.01	81.16	5,143.66	1.87	288.77	29.83	0.77	-0.62	-4.86	
5,241.00	4.92	81.16	5,227.34	2.99	295.95	31.63	0.11	-0.11	0.00	
5,326.00	5.10	80.81	5,312.02	4.15	303.28	33.50	0.21	0.21	-0.41	
5,411.00	5.01	81.25	5,396.68	5.32	310.68	35.38	0.12	-0.11	0.52	
5,495.00	4.40	77.82	5,480.40	6.56	317.46	37.27	0.80	-0.73	-4.08	
5,581.00	4.04	77.91	5,566.17	7.89	323.64	39.19	0.42	-0.42	0.10	
5,666.00	4.48	76.77	5,650.93	9.27	329.80	41.17	0.53	0.52	-1.34	
5,751.00	4.57	77.56	5,735.67	10.76	336.34	43.29	0.13	0.11	0.93	
5,836.00	4.22	79.93	5,820.42	12.04	342.73	45.17	0.46	-0.41	2.79	
5,866.00	3.96	79.93	5,850.34	12.41	344.83	45.75	0.87	-0.87	0.00	
5,896.00	4.13	77.30	5,880.27	12.83	346.91	46.37	0.84	0.57	-8.77	
5,921.00	4.48	57.96	5,905.20	13.55	348.61	47.25	5.94	1.40	-77.36	
5,951.00	6.07	44.07	5,935.07	15.31	350.71	49.20	6.76	5.30	-46.30	
5,981.00	8.18	26.76	5,964.84	18.35	352.77	52.43	9.96	7.03	-57.70	
6,005.00	10.29	23.07	5,988.53	21.85	354.38	56.07	9.13	8.79	-15.38	
6,035.00	12.13	20.70	6,017.96	27.27	356.55	61.67	6.32	6.13	-7.90	
6,065.00	14.51	18.23	6,047.15	33.78	358.84	68.38	8.16	7.93	-8.23	
6,091.00	15.92	16.30	6,072.23	40.30	360.86	75.06	5.76	5.42	-7.42	
6,121.00	18.82	15.95	6,100.86	48.90	363.34	83.86	9.67	9.67	-1.17	
6,151.00	21.19	13.31	6,129.05	58.84	365.92	94.00	8.45	7.90	-8.80	

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<b>Well:</b>	Rothe 12-14-8-61	<b>North Reference:</b>	True
<b>Wellbore:</b>	ST1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	ST1	<b>Database:</b>	Rockies Compass Server

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
6,175.00	23.21	11.91	6,151.27	67.68	367.90	103.00	8.70	8.42	-5.83	
6,205.00	26.38	11.91	6,178.50	79.99	370.49	115.50	10.57	10.57	0.00	
6,235.00	29.99	12.43	6,204.94	93.84	373.48	129.57	12.06	12.03	1.73	
6,260.00	32.36	14.19	6,226.33	106.43	376.47	142.39	10.16	9.48	7.04	
6,290.00	35.88	19.03	6,251.17	122.53	381.30	158.89	14.81	11.73	16.13	
6,320.00	38.95	18.94	6,274.99	139.77	387.23	176.61	10.23	10.23	-0.30	
6,345.00	40.63	21.75	6,294.20	154.76	392.80	192.08	9.84	6.72	11.24	
6,375.00	44.32	20.78	6,316.33	173.64	400.14	211.58	12.49	12.30	-3.23	
6,405.00	47.57	18.94	6,337.18	193.92	407.45	232.47	11.69	10.83	-6.13	
6,430.00	50.39	16.74	6,353.59	211.87	413.22	250.89	13.09	11.28	-8.80	
6,460.00	54.61	16.04	6,371.85	234.70	419.93	274.27	14.19	14.07	-2.33	
6,490.00	58.39	13.58	6,388.41	258.88	426.32	298.95	14.33	12.60	-8.20	
6,516.00	61.38	12.43	6,401.45	280.79	431.37	321.25	12.12	11.50	-4.42	
6,546.00	64.37	11.29	6,415.13	306.92	436.86	347.79	10.52	9.97	-3.80	
6,576.00	66.65	10.76	6,427.56	333.72	442.08	374.96	7.77	7.60	-1.77	
6,597.00	68.32	8.83	6,435.61	352.83	445.37	394.31	11.63	7.95	-9.19	
<b>Last Survey in 8 3/4" Hole</b>										
6,668.00	73.16	5.93	6,459.02	419.28	453.96	461.27	7.83	6.82	-4.08	
<b>First Survey in 6 1/4" Hole</b>										
6,683.00	73.25	4.96	6,463.36	433.57	455.32	475.63	6.22	0.60	-6.47	
6,698.00	73.42	5.05	6,467.66	447.89	456.57	490.00	1.27	1.13	0.60	
6,728.00	74.92	3.12	6,475.84	476.67	458.63	518.85	7.96	5.00	-6.43	
6,760.00	77.12	2.24	6,483.57	507.69	460.08	549.86	7.37	6.88	-2.75	
6,775.00	79.58	1.36	6,486.60	522.37	460.54	564.52	17.38	16.40	-5.87	
6,790.00	81.51	1.10	6,489.07	537.16	460.85	579.27	12.98	12.87	-1.73	
6,805.00	83.90	1.68	6,490.97	552.04	461.22	594.11	16.39	15.93	3.87	
6,820.00	86.53	1.80	6,492.22	566.98	461.67	609.02	17.55	17.53	0.80	
6,835.00	88.29	0.83	6,492.90	581.96	462.01	623.97	13.39	11.73	-6.47	
6,852.00	88.02	359.87	6,493.45	598.95	462.12	640.89	5.86	-1.59	-5.65	
6,867.00	89.43	359.69	6,493.78	613.94	462.06	655.81	9.48	9.40	-1.20	
6,882.00	90.13	359.16	6,493.84	628.94	461.91	670.72	5.85	4.67	-3.53	
6,897.00	90.40	359.69	6,493.77	643.94	461.76	685.63	3.97	1.80	3.53	
6,912.00	90.48	358.46	6,493.65	658.94	461.52	700.54	8.22	0.53	-8.20	
6,927.00	90.13	358.72	6,493.57	673.93	461.15	715.43	2.91	-2.33	1.73	
6,938.00	89.69	359.16	6,493.59	684.93	460.94	726.35	5.66	-4.00	4.00	
6,953.00	90.66	358.55	6,493.55	699.93	460.64	741.25	7.64	6.47	-4.07	
6,968.00	91.98	358.55	6,493.20	714.92	460.26	756.13	8.80	8.80	0.00	
6,983.00	92.51	358.55	6,492.61	729.90	459.89	771.01	3.53	3.53	0.00	
6,998.00	92.58	358.62	6,491.95	744.88	459.52	785.88	0.66	0.47	0.47	
7,023.00	91.45	358.72	6,491.07	769.86	458.94	810.69	4.54	-4.52	0.40	
7,038.00	91.10	358.99	6,490.73	784.85	458.64	825.58	2.95	-2.33	1.80	
7,053.00	91.63	359.16	6,490.38	799.85	458.39	840.48	3.71	3.53	1.13	
7,068.00	91.80	358.11	6,489.93	814.84	458.04	855.37	7.09	1.13	-7.00	
7,083.00	92.24	359.25	6,489.40	829.82	457.69	870.25	8.14	2.93	7.60	

<b>Company:</b>	Carrizo Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Rothe 12-14-8-61
<b>Project:</b>	Weld County, CO (NAD83)	<b>TVD Reference:</b>	GL 4981' & KB 17' @ 4998.00ft (Xtreme 19)
<b>Site:</b>	Rothe	<b>MD Reference:</b>	GL 4981' & KB 17' @ 4998.00ft (Xtreme 19)
<b>Well:</b>	Rothe 12-14-8-61	<b>North Reference:</b>	True
<b>Wellbore:</b>	ST1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	ST1	<b>Database:</b>	Rockies Compass Server

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,108.00	94.97	359.69	6,487.83	854.77	457.46	895.06	11.06	10.92	1.76
7,138.00	95.50	359.78	6,485.09	884.64	457.32	924.78	1.79	1.77	0.30
7,168.00	95.32	359.16	6,482.26	914.51	457.05	954.47	2.14	-0.60	-2.07
7,192.00	94.97	359.16	6,480.11	938.41	456.70	978.23	1.46	-1.46	0.00
7,222.00	93.21	359.51	6,477.97	968.33	456.35	1,007.97	5.98	-5.87	1.17
7,252.00	93.03	359.34	6,476.34	998.28	456.05	1,037.76	0.82	-0.60	-0.57
7,277.00	92.95	359.25	6,475.03	1,023.25	455.74	1,062.58	0.48	-0.32	-0.36
7,307.00	92.24	358.72	6,473.67	1,053.21	455.21	1,092.35	2.95	-2.37	-1.77
7,337.00	91.63	358.46	6,472.66	1,083.19	454.47	1,122.11	2.21	-2.03	-0.87
7,362.00	91.36	358.11	6,472.01	1,108.17	453.72	1,146.90	1.77	-1.08	-1.40
7,392.00	89.69	358.28	6,471.73	1,138.15	452.78	1,176.65	5.60	-5.57	0.57
7,422.00	90.31	359.51	6,471.73	1,168.14	452.20	1,206.45	4.59	2.07	4.10
7,447.00	91.11	0.58	6,471.42	1,193.14	452.22	1,231.33	5.34	3.20	4.28
7,489.00	91.54	1.71	6,470.45	1,235.12	453.06	1,273.19	2.88	1.02	2.69
7,532.00	91.10	1.53	6,469.46	1,278.09	454.27	1,316.08	1.11	-1.02	-0.42
7,574.00	91.36	0.83	6,468.56	1,320.07	455.14	1,357.95	1.78	0.62	-1.67
7,617.00	91.28	1.27	6,467.57	1,363.05	455.93	1,400.80	1.04	-0.19	1.02
7,660.00	89.60	359.95	6,467.24	1,406.05	456.38	1,443.64	4.97	-3.91	-3.07
7,702.00	90.31	2.77	6,467.27	1,448.03	457.38	1,485.52	6.92	1.69	6.71
7,745.00	90.13	3.47	6,467.11	1,490.97	459.72	1,528.48	1.68	-0.42	1.63
7,787.00	90.40	5.67	6,466.91	1,532.83	463.07	1,570.47	5.28	0.64	5.24
7,873.00	90.48	8.74	6,466.25	1,618.14	473.85	1,656.42	3.57	0.09	3.57
7,958.00	90.31	7.34	6,465.67	1,702.30	485.74	1,741.34	1.66	-0.20	-1.65
8,043.00	90.22	5.40	6,465.27	1,786.77	495.17	1,826.33	2.28	-0.11	-2.28
8,129.00	90.22	4.79	6,464.94	1,872.43	502.81	1,912.32	0.71	0.00	-0.71
8,214.00	90.31	3.29	6,464.55	1,957.21	508.80	1,997.29	1.77	0.11	-1.76
8,299.00	90.31	358.55	6,464.09	2,042.18	510.16	2,081.99	5.58	0.00	-5.58
8,384.00	89.52	356.44	6,464.22	2,127.09	506.45	2,166.14	2.65	-0.93	-2.48
8,469.00	90.84	357.93	6,463.95	2,211.98	502.27	2,250.23	2.34	1.55	1.75
8,555.00	89.69	356.88	6,463.55	2,297.89	498.38	2,335.36	1.81	-1.34	-1.22
8,640.00	88.90	355.65	6,464.60	2,382.70	492.84	2,419.23	1.72	-0.93	-1.45
8,725.00	87.41	353.98	6,467.33	2,467.31	485.16	2,502.69	2.63	-1.75	-1.96
8,810.00	89.78	354.50	6,469.42	2,551.84	476.64	2,586.01	2.85	2.79	0.61
8,896.00	89.96	355.73	6,469.61	2,637.53	469.31	2,670.58	1.45	0.21	1.43
8,981.00	90.13	356.00	6,469.55	2,722.31	463.18	2,754.37	0.38	0.20	0.32
9,066.00	89.52	355.12	6,469.81	2,807.05	456.60	2,838.08	1.26	-0.72	-1.04
9,151.00	89.52	357.05	6,470.52	2,891.85	450.80	2,921.91	2.27	0.00	2.27
9,236.00	90.57	358.81	6,470.45	2,976.79	447.73	3,006.16	2.41	1.24	2.07
9,321.00	89.87	356.61	6,470.13	3,061.71	444.34	3,090.35	2.72	-0.82	-2.59
9,406.00	89.78	355.91	6,470.38	3,146.53	438.79	3,174.24	0.83	-0.11	-0.82
9,490.00	91.45	357.84	6,469.48	3,230.39	434.21	3,257.26	3.04	1.99	2.30
9,574.00	88.90	356.26	6,469.23	3,314.27	429.89	3,340.33	3.57	-3.04	-1.88
9,660.00	89.34	357.84	6,470.55	3,400.15	425.46	3,425.37	1.91	0.51	1.84



<b>Company:</b>	Carrizo Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Rothe 12-14-8-61
<b>Project:</b>	Weld County, CO (NAD83)	<b>TVD Reference:</b>	GL 4981' & KB 17' @ 4998.00ft (Xtreme 19)
<b>Site:</b>	Rothe	<b>MD Reference:</b>	GL 4981' & KB 17' @ 4998.00ft (Xtreme 19)
<b>Well:</b>	Rothe 12-14-8-61	<b>North Reference:</b>	True
<b>Wellbore:</b>	ST1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	ST1	<b>Database:</b>	Rockies Compass Server

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
9,744.00	89.87	356.79	6,471.13	3,484.05	421.53	3,508.50	1.40	0.63	-1.25	
9,829.00	90.84	357.40	6,470.60	3,568.94	417.22	3,592.57	1.35	1.14	0.72	
9,914.00	90.22	356.79	6,469.81	3,653.82	412.91	3,676.64	1.02	-0.73	-0.72	
9,999.00	89.52	356.44	6,470.01	3,738.67	407.90	3,760.60	0.92	-0.82	-0.41	
10,084.00	89.60	353.80	6,470.66	3,823.36	400.67	3,844.19	3.11	0.09	-3.11	
10,099.00	89.87	354.15	6,470.73	3,838.27	399.09	3,858.88	2.95	1.80	2.33	
10,114.00	89.78	354.15	6,470.77	3,853.20	397.56	3,873.58	0.60	-0.60	0.00	
10,129.00	89.69	354.33	6,470.84	3,868.12	396.06	3,888.29	1.34	-0.60	1.20	
10,144.00	89.96	354.15	6,470.89	3,883.04	394.55	3,903.00	2.16	1.80	-1.20	
10,169.00	90.84	354.94	6,470.72	3,907.93	392.17	3,927.54	4.73	3.52	3.16	
10,184.00	91.19	357.23	6,470.45	3,922.89	391.15	3,942.33	15.44	2.33	15.27	
10,199.00	91.45	358.02	6,470.10	3,937.87	390.53	3,957.18	5.54	1.73	5.27	
10,229.00	92.07	0.66	6,469.18	3,967.85	390.18	3,986.99	9.04	2.07	8.80	
10,254.00	91.45	2.94	6,468.41	3,992.83	390.97	4,011.92	9.45	-2.48	9.12	
10,269.00	91.10	3.91	6,468.08	4,007.80	391.86	4,026.91	6.87	-2.33	6.47	
10,284.00	90.84	3.91	6,467.83	4,022.76	392.89	4,041.90	1.73	-1.73	0.00	
10,339.00	90.31	2.77	6,467.27	4,077.66	396.09	4,096.86	2.29	-0.96	-2.07	
10,382.00	90.84	2.77	6,466.84	4,120.61	398.17	4,139.80	1.23	1.23	0.00	
10,425.00	90.75	4.08	6,466.25	4,163.53	400.74	4,182.77	3.05	-0.21	3.05	
10,510.00	89.52	2.59	6,466.05	4,248.38	405.68	4,267.70	2.27	-1.45	-1.75	
10,571.00	89.69	1.71	6,466.47	4,309.34	407.97	4,328.59	1.47	0.28	-1.44	
<b>Last SDI MWD Survey</b>										
10,638.00	89.69	1.71	6,466.83	4,376.31	409.97	4,395.44	0.00	0.00	0.00	
<b>Projection to TD</b>										

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
2,276.00	2,272.57	18.82	63.97	TIP	
2,310.00	2,306.46	18.58	66.59	First SDI MWD Survey	
6,597.00	6,435.61	352.83	445.37	Last Survey in 8 3/4" Hole	
6,668.00	6,459.02	419.28	453.96	First Survey in 6 1/4" Hole	
10,571.00	6,466.47	4,309.34	407.97	Last SDI MWD Survey	
10,638.00	6,466.83	4,376.31	409.97	Projection to TD	

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_



## **Carrizo Oil & Gas**

**Weld County, CO (NAD83)**

**Rothe**

**Rothe 12-14-8-61**

**OH**

**Design: OH**

## **Standard Survey Report**

**01 February, 2012**



<b>Company:</b>	Carrizo Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Rothe 12-14-8-61
<b>Project:</b>	Weld County, CO (NAD83)	<b>TVD Reference:</b>	GL 4981' & KB 17' @ 4998.00ft (Xtreme 19)
<b>Site:</b>	Rothe	<b>MD Reference:</b>	GL 4981' & KB 17' @ 4998.00ft (Xtreme 19)
<b>Well:</b>	Rothe 12-14-8-61	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Rockies Compass Server

<b>Project</b>	Weld County, CO (NAD83)		
<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		

<b>Site</b>	Rothe				
<b>Site Position:</b>		<b>Northing:</b>	1,489,755.94 usft	<b>Latitude:</b>	40° 40' 12.309 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,371,193.87 usft	<b>Longitude:</b>	104° 9' 42.606 W
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	0.86 °

<b>Well</b>	Rothe 12-14-8-61, 245' FSL 245' FWL Sec 12 T8N R61W					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	1,489,755.93 usft	<b>Latitude:</b>	40° 40' 12.309 N
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	3,371,193.87 usft	<b>Longitude:</b>	104° 9' 42.606 W
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	4,981.00 ft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	2012/01/12	8.48	67.35	53,273

<b>Design</b>	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) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	75.16	

<b>Survey Program</b>	<b>Date</b>	2012/02/01			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
1,469.00	2,839.00	Survey #1 (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,469.00	0.09	81.61	1,469.00	0.17	1.14	1.15	0.01	0.01	0.00	
<b>First SDI MWD Survey</b>										
1,510.00	0.79	24.56	1,510.00	0.43	1.29	1.36	1.82	1.71	-139.15	
1,595.00	4.83	41.61	1,594.88	3.64	3.91	4.71	4.80	4.75	20.06	
1,679.00	6.59	46.10	1,678.46	9.63	9.73	11.87	2.16	2.10	5.35	
1,766.00	7.21	61.39	1,764.84	15.70	18.12	21.54	2.22	0.71	17.57	
1,849.00	7.21	67.98	1,847.18	20.15	27.53	31.77	1.00	0.00	7.94	
1,935.00	4.83	95.14	1,932.72	21.85	36.14	40.53	4.24	-2.77	31.58	
2,018.00	4.66	99.89	2,015.43	20.96	42.94	46.88	0.52	-0.20	5.72	
2,104.00	4.83	95.32	2,101.14	20.02	49.99	53.45	0.48	0.20	-5.31	

<b>Company:</b>	Carrizo Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Rothe 12-14-8-61
<b>Project:</b>	Weld County, CO (NAD83)	<b>TVD Reference:</b>	GL 4981' & KB 17' @ 4998.00ft (Xtreme 19)
<b>Site:</b>	Rothe	<b>MD Reference:</b>	GL 4981' & KB 17' @ 4998.00ft (Xtreme 19)
<b>Well:</b>	Rothe 12-14-8-61	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Rockies Compass Server

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
2,190.00	4.66	94.00	2,186.84	19.44	57.08	60.15	0.23	-0.20	-1.53
2,276.00	4.57	96.37	2,272.57	18.82	63.97	66.65	0.25	-0.10	2.76
2,362.00	4.48	91.36	2,358.30	18.36	70.73	73.07	0.47	-0.10	-5.83
2,446.00	4.48	93.56	2,442.04	18.08	77.28	79.33	0.20	0.00	2.62
2,532.00	4.22	88.11	2,527.79	17.97	83.80	85.61	0.57	-0.30	-6.34
2,617.00	4.83	82.40	2,612.53	18.55	90.47	92.20	0.89	0.72	-6.72
2,702.00	7.56	54.01	2,697.04	22.31	98.55	100.97	4.74	3.21	-33.40
2,789.00	12.22	65.08	2,782.73	29.56	111.53	115.38	5.76	5.36	12.72
<b>Last SDI MWD Survey</b>									
2,839.00	12.22	65.08	2,831.60	34.02	121.13	125.80	0.00	0.00	0.00
<b>Projection to TD</b>									

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,469.00	1,469.00	0.17	1.14	First SDI MWD Survey
2,789.00	2,782.73	29.56	111.53	Last SDI MWD Survey
2,839.00	2,831.60	34.02	121.13	Projection to TD

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_



## **Carrizo Oil & Gas**

**Weld County, CO (NAD83)**

**Rothe**

**Rothe 12-14-8-61**

**ST1**

**Design: ST1**

## **Survey Report - Geographic**

**01 February, 2012**



<b>Company:</b>	Carrizo Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Rothe 12-14-8-61
<b>Project:</b>	Weld County, CO (NAD83)	<b>TVD Reference:</b>	GL 4981' & KB 17' @ 4998.00ft (Xtreme 19)
<b>Site:</b>	Rothe	<b>MD Reference:</b>	GL 4981' & KB 17' @ 4998.00ft (Xtreme 19)
<b>Well:</b>	Rothe 12-14-8-61	<b>North Reference:</b>	True
<b>Wellbore:</b>	ST1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	ST1	<b>Database:</b>	Rockies Compass Server

<b>Project</b>	Weld County, CO (NAD83)		
<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		

<b>Site</b>	Rothe				
<b>Site Position:</b>		<b>Northing:</b>	1,489,755.94 usft	<b>Latitude:</b>	40° 40' 12.309 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,371,193.87 usft	<b>Longitude:</b>	104° 9' 42.606 W
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	0.86 °

<b>Well</b>	Rothe 12-14-8-61, 245' FSL 245' FWL Sec 12 T8N R61W					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	1,489,755.93 usft	<b>Latitude:</b>	40° 40' 12.309 N
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	3,371,193.87 usft	<b>Longitude:</b>	104° 9' 42.606 W
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	4,981.00 ft

<b>Wellbore</b>	ST1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	2012/01/16	8.48	67.35	53,272

<b>Design</b>	ST1				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	2,276.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	5.56	

<b>Survey Program</b>	<b>Date</b>	2012/02/01			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
1,469.00	2,276.00	Survey #1 (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	
2,310.00	6,835.00	Survey #1 - Vertical (ST1)	SDI MWD	SDI MWD - Standard ver 1.0.1	
6,852.00	10,638.00	Survey #3 - Lateral (ST1)	SDI MWD	SDI MWD - Standard ver 1.0.1	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Map Northing (usft)</b>	<b>Map Easting (usft)</b>	<b>Latitude</b>	<b>Longitude</b>	
0.00	0.00	0.00	0.00	0.00	0.00	1,489,755.93	3,371,193.87	40° 40' 12.309 N	104° 9' 42.606 W	
1,469.00	0.09	81.61	1,469.00	0.17	1.14	1,489,756.11	3,371,195.01	40° 40' 12.311 N	104° 9' 42.591 W	
1,510.00	0.79	24.56	1,510.00	0.43	1.29	1,489,756.38	3,371,195.16	40° 40' 12.313 N	104° 9' 42.589 W	
1,595.00	4.83	41.61	1,594.88	3.64	3.91	1,489,759.63	3,371,197.73	40° 40' 12.345 N	104° 9' 42.555 W	
1,679.00	6.59	46.10	1,678.46	9.63	9.73	1,489,765.70	3,371,203.46	40° 40' 12.404 N	104° 9' 42.480 W	
1,766.00	7.21	61.39	1,764.84	15.70	18.12	1,489,771.90	3,371,211.76	40° 40' 12.464 N	104° 9' 42.371 W	
1,849.00	7.21	67.98	1,847.18	20.15	27.53	1,489,776.49	3,371,221.09	40° 40' 12.508 N	104° 9' 42.249 W	
1,935.00	4.83	95.14	1,932.72	21.85	36.14	1,489,778.32	3,371,229.68	40° 40' 12.525 N	104° 9' 42.137 W	
2,018.00	4.66	99.89	2,015.43	20.96	42.94	1,489,777.53	3,371,236.49	40° 40' 12.516 N	104° 9' 42.049 W	
2,104.00	4.83	95.32	2,101.14	20.02	49.99	1,489,776.70	3,371,243.55	40° 40' 12.507 N	104° 9' 41.957 W	

<b>Company:</b>	Carrizo Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Rothe 12-14-8-61
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<b>Site:</b>	Rothe	<b>MD Reference:</b>	GL 4981' & KB 17' @ 4998.00ft (Xtreme 19)
<b>Well:</b>	Rothe 12-14-8-61	<b>North Reference:</b>	True
<b>Wellbore:</b>	ST1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	ST1	<b>Database:</b>	Rockies Compass Server

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
2,190.00	4.66	94.00	2,186.84	19.44	57.08	1,489,776.23	3,371,250.65	40° 40' 12.501 N	104° 9' 41.865 W	
2,276.00	4.57	96.37	2,272.57	18.82	63.97	1,489,775.71	3,371,257.55	40° 40' 12.495 N	104° 9' 41.776 W	
<b>TIP</b>										
2,310.00	4.31	94.08	2,306.46	18.58	66.59	1,489,775.51	3,371,260.17	40° 40' 12.492 N	104° 9' 41.742 W	
<b>First SDI MWD Survey</b>										
2,325.00	4.40	97.60	2,321.42	18.46	67.72	1,489,775.41	3,371,261.31	40° 40' 12.491 N	104° 9' 41.727 W	
2,340.00	4.31	105.51	2,336.38	18.23	68.83	1,489,775.20	3,371,262.42	40° 40' 12.489 N	104° 9' 41.713 W	
2,351.00	4.40	112.80	2,347.35	17.96	69.62	1,489,774.94	3,371,263.21	40° 40' 12.486 N	104° 9' 41.703 W	
2,366.00	4.84	126.43	2,362.30	17.36	70.66	1,489,774.35	3,371,264.26	40° 40' 12.480 N	104° 9' 41.689 W	
2,381.00	5.63	136.10	2,377.23	16.46	71.68	1,489,773.46	3,371,265.30	40° 40' 12.471 N	104° 9' 41.676 W	
2,396.00	5.98	140.31	2,392.16	15.32	72.69	1,489,772.35	3,371,266.32	40° 40' 12.460 N	104° 9' 41.663 W	
2,411.00	6.42	143.39	2,407.07	14.05	73.69	1,489,771.09	3,371,267.34	40° 40' 12.448 N	104° 9' 41.650 W	
2,426.00	6.77	146.47	2,421.97	12.64	74.68	1,489,769.69	3,371,268.35	40° 40' 12.434 N	104° 9' 41.637 W	
2,436.00	6.68	147.17	2,431.90	11.66	75.32	1,489,768.72	3,371,269.00	40° 40' 12.424 N	104° 9' 41.629 W	
2,451.00	6.33	144.71	2,446.81	10.25	76.27	1,489,767.33	3,371,269.98	40° 40' 12.410 N	104° 9' 41.616 W	
2,466.00	5.80	137.94	2,461.72	9.01	77.25	1,489,766.11	3,371,270.98	40° 40' 12.398 N	104° 9' 41.603 W	
2,481.00	5.10	125.90	2,476.65	8.06	78.30	1,489,765.17	3,371,272.04	40° 40' 12.389 N	104° 9' 41.590 W	
2,496.00	5.19	111.13	2,491.59	7.42	79.47	1,489,764.55	3,371,273.23	40° 40' 12.382 N	104° 9' 41.575 W	
2,511.00	5.45	102.17	2,506.53	7.03	80.80	1,489,764.18	3,371,274.56	40° 40' 12.378 N	104° 9' 41.557 W	
2,521.00	5.45	94.87	2,516.48	6.89	81.74	1,489,764.05	3,371,275.50	40° 40' 12.377 N	104° 9' 41.545 W	
2,536.00	5.45	86.17	2,531.42	6.88	83.16	1,489,764.06	3,371,276.92	40° 40' 12.377 N	104° 9' 41.527 W	
2,551.00	5.48	77.75	2,546.35	7.08	84.57	1,489,764.28	3,371,278.33	40° 40' 12.379 N	104° 9' 41.508 W	
2,566.00	5.45	68.42	2,561.28	7.49	85.93	1,489,764.71	3,371,279.68	40° 40' 12.383 N	104° 9' 41.491 W	
2,581.00	5.10	66.93	2,576.22	8.01	87.21	1,489,765.26	3,371,280.95	40° 40' 12.388 N	104° 9' 41.474 W	
2,596.00	4.31	66.84	2,591.17	8.50	88.34	1,489,765.76	3,371,282.08	40° 40' 12.393 N	104° 9' 41.460 W	
2,606.00	3.61	72.37	2,601.14	8.74	88.99	1,489,766.01	3,371,282.72	40° 40' 12.395 N	104° 9' 41.451 W	
2,621.00	2.81	85.56	2,616.12	8.91	89.80	1,489,766.19	3,371,283.53	40° 40' 12.397 N	104° 9' 41.441 W	
2,636.00	2.81	95.49	2,631.10	8.90	90.54	1,489,766.20	3,371,284.26	40° 40' 12.397 N	104° 9' 41.431 W	
2,649.00	2.99	104.02	2,644.09	8.79	91.18	1,489,766.09	3,371,284.91	40° 40' 12.396 N	104° 9' 41.423 W	
2,691.00	4.13	112.10	2,686.00	7.96	93.65	1,489,765.30	3,371,287.39	40° 40' 12.388 N	104° 9' 41.391 W	
2,734.00	4.66	111.57	2,728.88	6.73	96.71	1,489,764.12	3,371,290.47	40° 40' 12.375 N	104° 9' 41.351 W	
2,777.00	4.92	112.28	2,771.73	5.39	100.04	1,489,762.83	3,371,293.82	40° 40' 12.362 N	104° 9' 41.308 W	
2,819.00	5.98	91.18	2,813.54	4.66	103.89	1,489,762.16	3,371,297.68	40° 40' 12.355 N	104° 9' 41.258 W	
2,862.00	6.24	87.14	2,856.30	4.73	108.46	1,489,762.30	3,371,302.25	40° 40' 12.356 N	104° 9' 41.198 W	
2,904.00	4.92	68.86	2,898.10	5.50	112.42	1,489,763.12	3,371,306.20	40° 40' 12.363 N	104° 9' 41.147 W	
2,947.00	3.87	54.45	2,940.97	7.01	115.32	1,489,764.67	3,371,309.08	40° 40' 12.378 N	104° 9' 41.109 W	
2,990.00	4.22	51.02	2,983.87	8.84	117.73	1,489,766.55	3,371,311.46	40° 40' 12.396 N	104° 9' 41.078 W	
3,032.00	3.87	56.99	3,025.76	10.59	120.12	1,489,768.33	3,371,313.82	40° 40' 12.414 N	104° 9' 41.047 W	
3,075.00	3.61	78.70	3,068.67	11.65	122.67	1,489,769.42	3,371,316.35	40° 40' 12.424 N	104° 9' 41.014 W	
3,118.00	3.78	103.84	3,111.59	11.57	125.37	1,489,769.39	3,371,319.06	40° 40' 12.423 N	104° 9' 40.979 W	
3,160.00	4.40	111.40	3,153.48	10.65	128.22	1,489,768.51	3,371,321.91	40° 40' 12.414 N	104° 9' 40.942 W	
3,203.00	4.57	111.31	3,196.35	9.43	131.35	1,489,767.34	3,371,325.06	40° 40' 12.402 N	104° 9' 40.901 W	
3,245.00	4.40	94.70	3,238.22	8.69	134.51	1,489,766.64	3,371,328.24	40° 40' 12.395 N	104° 9' 40.860 W	
3,287.00	4.57	87.23	3,280.09	8.64	137.79	1,489,766.64	3,371,331.52	40° 40' 12.394 N	104° 9' 40.818 W	
3,330.00	4.75	82.04	3,322.95	8.97	141.27	1,489,767.02	3,371,334.99	40° 40' 12.397 N	104° 9' 40.773 W	
3,372.00	4.84	80.11	3,364.80	9.51	144.73	1,489,767.62	3,371,338.45	40° 40' 12.403 N	104° 9' 40.728 W	
3,415.00	4.48	79.41	3,407.66	10.13	148.17	1,489,768.29	3,371,341.87	40° 40' 12.409 N	104° 9' 40.683 W	
3,458.00	4.13	88.55	3,450.54	10.48	151.37	1,489,768.69	3,371,345.07	40° 40' 12.412 N	104° 9' 40.642 W	
3,500.00	4.31	96.90	3,492.43	10.33	154.45	1,489,768.59	3,371,348.15	40° 40' 12.411 N	104° 9' 40.602 W	
3,543.00	4.66	97.86	3,535.30	9.89	157.78	1,489,768.20	3,371,351.49	40° 40' 12.407 N	104° 9' 40.558 W	
3,584.00	4.84	100.24	3,576.15	9.36	161.13	1,489,767.72	3,371,354.85	40° 40' 12.401 N	104° 9' 40.515 W	
3,627.00	5.54	99.71	3,618.98	8.69	164.97	1,489,767.10	3,371,358.69	40° 40' 12.395 N	104° 9' 40.465 W	
3,670.00	6.16	94.87	3,661.75	8.14	169.31	1,489,766.62	3,371,363.04	40° 40' 12.389 N	104° 9' 40.409 W	
3,712.00	6.60	91.27	3,703.49	7.90	173.97	1,489,766.45	3,371,367.70	40° 40' 12.387 N	104° 9' 40.348 W	
3,755.00	5.63	84.42	3,746.25	8.05	178.54	1,489,766.67	3,371,372.27	40° 40' 12.388 N	104° 9' 40.289 W	

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<b>Site:</b>	Rothe	<b>MD Reference:</b>	GL 4981' & KB 17' @ 4998.00ft (Xtreme 19)
<b>Well:</b>	Rothe 12-14-8-61	<b>North Reference:</b>	True
<b>Wellbore:</b>	ST1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	ST1	<b>Database:</b>	Rockies Compass Server

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
3,796.00	4.13	87.32	3,787.10	8.31	182.02	1,489,766.98	3,371,375.74	40° 40' 12.391 N	104° 9' 40.244 W	
3,839.00	4.04	81.43	3,829.99	8.61	185.06	1,489,767.33	3,371,378.78	40° 40' 12.394 N	104° 9' 40.204 W	
3,882.00	3.96	81.16	3,872.89	9.06	188.02	1,489,767.83	3,371,381.74	40° 40' 12.398 N	104° 9' 40.166 W	
3,924.00	4.31	83.54	3,914.78	9.46	191.03	1,489,768.27	3,371,384.73	40° 40' 12.402 N	104° 9' 40.127 W	
3,967.00	4.66	96.19	3,957.65	9.46	194.37	1,489,768.32	3,371,388.08	40° 40' 12.402 N	104° 9' 40.084 W	
4,010.00	5.10	102.96	4,000.49	8.84	197.97	1,489,767.75	3,371,391.68	40° 40' 12.396 N	104° 9' 40.037 W	
4,052.00	5.36	102.43	4,042.32	8.00	201.70	1,489,766.97	3,371,395.43	40° 40' 12.388 N	104° 9' 39.988 W	
4,095.00	4.92	91.01	4,085.14	7.53	205.51	1,489,766.56	3,371,399.24	40° 40' 12.383 N	104° 9' 39.939 W	
4,137.00	5.01	89.60	4,126.99	7.52	209.14	1,489,766.60	3,371,402.88	40° 40' 12.383 N	104° 9' 39.892 W	
4,223.00	2.81	87.93	4,212.78	7.62	215.00	1,489,766.79	3,371,408.74	40° 40' 12.384 N	104° 9' 39.816 W	
4,307.00	2.29	88.55	4,296.70	7.73	218.74	1,489,766.96	3,371,412.47	40° 40' 12.385 N	104° 9' 39.767 W	
4,392.00	3.78	92.06	4,381.58	7.68	223.24	1,489,766.97	3,371,416.97	40° 40' 12.385 N	104° 9' 39.709 W	
4,477.00	4.40	95.14	4,466.36	7.28	229.29	1,489,766.67	3,371,423.02	40° 40' 12.381 N	104° 9' 39.630 W	
4,562.00	4.48	102.87	4,551.10	6.25	235.77	1,489,765.74	3,371,429.52	40° 40' 12.371 N	104° 9' 39.546 W	
4,647.00	5.01	105.95	4,635.81	4.49	242.57	1,489,764.08	3,371,436.35	40° 40' 12.353 N	104° 9' 39.458 W	
4,733.00	5.01	109.82	4,721.48	2.19	249.72	1,489,761.88	3,371,443.53	40° 40' 12.330 N	104° 9' 39.365 W	
4,818.00	5.10	94.61	4,806.16	0.63	256.98	1,489,760.43	3,371,450.81	40° 40' 12.315 N	104° 9' 39.271 W	
4,902.00	5.54	90.04	4,889.80	0.32	264.75	1,489,760.25	3,371,458.59	40° 40' 12.312 N	104° 9' 39.170 W	
4,987.00	5.45	87.84	4,974.41	0.47	272.89	1,489,760.52	3,371,466.72	40° 40' 12.314 N	104° 9' 39.065 W	
5,072.00	5.54	85.29	5,059.02	0.96	281.01	1,489,761.13	3,371,474.84	40° 40' 12.318 N	104° 9' 38.959 W	
5,157.00	5.01	81.16	5,143.66	1.87	288.77	1,489,762.15	3,371,482.58	40° 40' 12.327 N	104° 9' 38.858 W	
5,241.00	4.92	81.16	5,227.34	2.99	295.95	1,489,763.38	3,371,489.74	40° 40' 12.338 N	104° 9' 38.765 W	
5,326.00	5.10	80.81	5,312.02	4.15	303.28	1,489,764.65	3,371,497.06	40° 40' 12.350 N	104° 9' 38.670 W	
5,411.00	5.01	81.25	5,396.68	5.32	310.68	1,489,765.93	3,371,504.44	40° 40' 12.361 N	104° 9' 38.574 W	
5,495.00	4.40	77.82	5,480.40	6.56	317.46	1,489,767.27	3,371,511.19	40° 40' 12.374 N	104° 9' 38.486 W	
5,581.00	4.04	77.91	5,566.17	7.89	323.64	1,489,768.70	3,371,517.36	40° 40' 12.387 N	104° 9' 38.406 W	
5,666.00	4.48	76.77	5,650.93	9.27	329.80	1,489,770.18	3,371,523.50	40° 40' 12.400 N	104° 9' 38.326 W	
5,751.00	4.57	77.56	5,735.67	10.76	336.34	1,489,771.76	3,371,530.01	40° 40' 12.415 N	104° 9' 38.241 W	
5,836.00	4.22	79.93	5,820.42	12.04	342.73	1,489,773.14	3,371,536.38	40° 40' 12.428 N	104° 9' 38.158 W	
5,866.00	3.96	79.93	5,850.34	12.41	344.83	1,489,773.54	3,371,538.48	40° 40' 12.432 N	104° 9' 38.131 W	
6,852.00	88.02	359.87	6,487.68	636.97	385.42	1,490,398.65	3,371,569.63	40° 40' 18.603 N	104° 9' 37.604 W	
6,867.00	89.43	359.69	6,488.01	651.97	385.36	1,490,413.64	3,371,569.35	40° 40' 18.751 N	104° 9' 37.605 W	
6,882.00	90.13	359.16	6,488.07	666.97	385.21	1,490,428.63	3,371,568.97	40° 40' 18.899 N	104° 9' 37.607 W	
6,897.00	90.40	359.69	6,488.00	681.97	385.06	1,490,443.63	3,371,568.60	40° 40' 19.048 N	104° 9' 37.609 W	
6,912.00	90.48	358.46	6,487.89	696.97	384.82	1,490,458.62	3,371,568.13	40° 40' 19.196 N	104° 9' 37.612 W	
6,927.00	90.13	358.72	6,487.81	711.96	384.45	1,490,473.61	3,371,567.53	40° 40' 19.344 N	104° 9' 37.617 W	
6,938.00	89.69	359.16	6,487.82	722.96	384.25	1,490,484.60	3,371,567.16	40° 40' 19.453 N	104° 9' 37.619 W	
6,953.00	90.66	358.55	6,487.78	737.96	383.95	1,490,499.59	3,371,566.64	40° 40' 19.601 N	104° 9' 37.623 W	
6,968.00	91.98	358.55	6,487.43	752.95	383.57	1,490,514.58	3,371,566.03	40° 40' 19.749 N	104° 9' 37.628 W	
6,983.00	92.51	358.55	6,486.84	767.93	383.19	1,490,529.55	3,371,565.43	40° 40' 19.897 N	104° 9' 37.633 W	
6,998.00	92.58	358.62	6,486.18	782.91	382.82	1,490,544.53	3,371,564.83	40° 40' 20.045 N	104° 9' 37.638 W	
7,023.00	91.45	358.72	6,485.30	807.89	382.24	1,490,569.49	3,371,563.87	40° 40' 20.292 N	104° 9' 37.645 W	
7,038.00	91.10	358.99	6,484.97	822.88	381.94	1,490,584.48	3,371,563.35	40° 40' 20.440 N	104° 9' 37.649 W	
7,053.00	91.63	359.16	6,484.61	837.88	381.70	1,490,599.47	3,371,562.88	40° 40' 20.588 N	104° 9' 37.652 W	
7,068.00	91.80	358.11	6,484.16	852.86	381.34	1,490,614.45	3,371,562.30	40° 40' 20.736 N	104° 9' 37.657 W	
7,083.00	92.24	359.25	6,483.63	867.85	380.99	1,490,629.43	3,371,561.73	40° 40' 20.884 N	104° 9' 37.661 W	
7,108.00	94.97	359.69	6,482.06	892.80	380.76	1,490,654.37	3,371,561.12	40° 40' 21.131 N	104° 9' 37.664 W	
7,138.00	95.50	359.78	6,479.32	922.67	380.62	1,490,684.24	3,371,560.53	40° 40' 21.426 N	104° 9' 37.666 W	
7,168.00	95.32	359.16	6,476.49	952.54	380.35	1,490,714.09	3,371,559.80	40° 40' 21.721 N	104° 9' 37.670 W	
7,192.00	94.97	359.16	6,474.34	976.44	380.00	1,490,737.99	3,371,559.09	40° 40' 21.957 N	104° 9' 37.674 W	
7,222.00	93.21	359.51	6,472.20	1,006.36	379.65	1,490,767.90	3,371,558.29	40° 40' 22.253 N	104° 9' 37.679 W	
7,252.00	93.03	359.34	6,470.57	1,036.31	379.35	1,490,797.84	3,371,557.54	40° 40' 22.549 N	104° 9' 37.683 W	
7,277.00	92.95	359.25	6,469.26	1,061.28	379.04	1,490,822.80	3,371,556.86	40° 40' 22.796 N	104° 9' 37.687 W	
7,307.00	92.24	358.72	6,467.91	1,091.24	378.51	1,490,852.75	3,371,555.87	40° 40' 23.092 N	104° 9' 37.694 W	
7,337.00	91.63	358.46	6,466.89	1,121.21	377.77	1,490,882.71	3,371,554.68	40° 40' 23.388 N	104° 9' 37.703 W	

<b>Company:</b>	Carrizo Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Rothe 12-14-8-61
<b>Project:</b>	Weld County, CO (NAD83)	<b>TVD Reference:</b>	GL 4981' & KB 17' @ 4998.00ft (Xtreme 19)
<b>Site:</b>	Rothe	<b>MD Reference:</b>	GL 4981' & KB 17' @ 4998.00ft (Xtreme 19)
<b>Well:</b>	Rothe 12-14-8-61	<b>North Reference:</b>	True
<b>Wellbore:</b>	ST1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	ST1	<b>Database:</b>	Rockies Compass Server

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
7,362.00	91.36	358.11	6,466.24	1,146.19	377.03	1,490,907.68	3,371,553.56	40° 40' 23.635 N	104° 9' 37.713 W	
7,392.00	89.69	358.28	6,465.97	1,176.18	376.08	1,490,937.64	3,371,552.16	40° 40' 23.931 N	104° 9' 37.725 W	
7,422.00	90.31	359.51	6,465.97	1,206.17	375.50	1,490,967.63	3,371,551.13	40° 40' 24.227 N	104° 9' 37.733 W	
7,447.00	91.11	0.58	6,465.66	1,231.17	375.52	1,490,992.62	3,371,550.77	40° 40' 24.474 N	104° 9' 37.732 W	
7,489.00	91.54	1.71	6,464.68	1,273.15	376.36	1,491,034.61	3,371,550.98	40° 40' 24.889 N	104° 9' 37.721 W	
7,532.00	91.10	1.53	6,463.69	1,316.12	377.58	1,491,077.59	3,371,551.54	40° 40' 25.314 N	104° 9' 37.706 W	
7,574.00	91.36	0.83	6,462.79	1,358.10	378.44	1,491,119.58	3,371,551.78	40° 40' 25.729 N	104° 9' 37.694 W	
7,617.00	91.28	1.27	6,461.80	1,401.08	379.23	1,491,162.57	3,371,551.91	40° 40' 26.153 N	104° 9' 37.684 W	
7,660.00	89.60	359.95	6,461.47	1,444.08	379.69	1,491,205.57	3,371,551.72	40° 40' 26.578 N	104° 9' 37.678 W	
7,702.00	90.31	2.77	6,461.50	1,486.06	380.68	1,491,247.56	3,371,552.09	40° 40' 26.993 N	104° 9' 37.665 W	
7,745.00	90.13	3.47	6,461.34	1,528.99	383.02	1,491,290.53	3,371,553.78	40° 40' 27.417 N	104° 9' 37.635 W	
7,787.00	90.40	5.67	6,461.15	1,570.86	386.37	1,491,332.43	3,371,556.49	40° 40' 27.831 N	104° 9' 37.592 W	
7,873.00	90.48	8.74	6,460.48	1,656.17	397.15	1,491,417.90	3,371,565.99	40° 40' 28.674 N	104° 9' 37.452 W	
7,958.00	90.31	7.34	6,459.90	1,740.33	409.04	1,491,502.23	3,371,576.61	40° 40' 29.506 N	104° 9' 37.297 W	
8,043.00	90.22	5.40	6,459.51	1,824.80	418.47	1,491,586.83	3,371,584.76	40° 40' 30.340 N	104° 9' 37.175 W	
8,129.00	90.22	4.79	6,459.18	1,910.46	426.11	1,491,672.59	3,371,591.10	40° 40' 31.187 N	104° 9' 37.076 W	
8,214.00	90.31	3.29	6,458.78	1,995.24	432.10	1,491,757.46	3,371,595.81	40° 40' 32.024 N	104° 9' 36.998 W	
8,299.00	90.31	358.55	6,458.32	2,080.21	433.46	1,491,842.43	3,371,595.89	40° 40' 32.864 N	104° 9' 36.980 W	
8,384.00	89.52	356.44	6,458.45	2,165.12	429.75	1,491,927.28	3,371,590.90	40° 40' 33.703 N	104° 9' 37.028 W	
8,469.00	90.84	357.93	6,458.18	2,250.01	425.57	1,492,012.10	3,371,585.44	40° 40' 34.542 N	104° 9' 37.083 W	
8,555.00	89.69	356.88	6,457.78	2,335.92	421.68	1,492,097.94	3,371,580.25	40° 40' 35.391 N	104° 9' 37.133 W	
8,640.00	88.90	355.65	6,458.83	2,420.73	416.14	1,492,182.66	3,371,573.44	40° 40' 36.229 N	104° 9' 37.205 W	
8,725.00	87.41	353.98	6,461.57	2,505.33	408.47	1,492,267.13	3,371,564.49	40° 40' 37.065 N	104° 9' 37.305 W	
8,810.00	89.78	354.50	6,463.65	2,589.87	399.94	1,492,351.54	3,371,554.68	40° 40' 37.900 N	104° 9' 37.415 W	
8,896.00	89.96	355.73	6,463.85	2,675.56	392.62	1,492,437.10	3,371,546.07	40° 40' 38.747 N	104° 9' 37.510 W	
8,981.00	90.13	356.00	6,463.78	2,760.34	386.49	1,492,521.78	3,371,538.66	40° 40' 39.585 N	104° 9' 37.590 W	
9,066.00	89.52	355.12	6,464.04	2,845.08	379.91	1,492,606.41	3,371,530.80	40° 40' 40.422 N	104° 9' 37.675 W	
9,151.00	89.52	357.05	6,464.75	2,929.87	374.10	1,492,691.11	3,371,523.72	40° 40' 41.260 N	104° 9' 37.750 W	
9,236.00	90.57	358.81	6,464.68	3,014.81	371.03	1,492,775.99	3,371,519.37	40° 40' 42.099 N	104° 9' 37.790 W	
9,321.00	89.87	356.61	6,464.36	3,099.74	367.64	1,492,860.86	3,371,514.69	40° 40' 42.938 N	104° 9' 37.834 W	
9,406.00	89.78	355.91	6,464.62	3,184.56	362.09	1,492,945.58	3,371,507.87	40° 40' 43.777 N	104° 9' 37.906 W	
9,490.00	91.45	357.84	6,463.72	3,268.42	357.51	1,493,029.37	3,371,502.02	40° 40' 44.605 N	104° 9' 37.966 W	
9,574.00	88.90	356.26	6,463.46	3,352.30	353.19	1,493,113.17	3,371,496.44	40° 40' 45.434 N	104° 9' 38.022 W	
9,660.00	89.34	357.84	6,464.78	3,438.17	348.77	1,493,198.97	3,371,490.72	40° 40' 46.283 N	104° 9' 38.079 W	
9,744.00	89.87	356.79	6,465.36	3,522.08	344.83	1,493,282.80	3,371,485.52	40° 40' 47.112 N	104° 9' 38.130 W	
9,829.00	90.84	357.40	6,464.83	3,606.97	340.52	1,493,367.61	3,371,479.93	40° 40' 47.950 N	104° 9' 38.186 W	
9,914.00	90.22	356.79	6,464.05	3,691.85	336.22	1,493,452.43	3,371,474.34	40° 40' 48.789 N	104° 9' 38.242 W	
9,999.00	89.52	356.44	6,464.24	3,776.70	331.20	1,493,537.19	3,371,468.04	40° 40' 49.628 N	104° 9' 38.307 W	
10,084.00	89.60	353.80	6,464.89	3,861.38	323.97	1,493,621.75	3,371,459.53	40° 40' 50.464 N	104° 9' 38.401 W	
10,099.00	89.87	354.15	6,464.96	3,876.30	322.39	1,493,636.65	3,371,457.73	40° 40' 50.612 N	104° 9' 38.421 W	
10,114.00	89.78	354.15	6,465.01	3,891.22	320.86	1,493,651.54	3,371,455.98	40° 40' 50.759 N	104° 9' 38.441 W	
10,129.00	89.69	354.33	6,465.08	3,906.15	319.36	1,493,666.44	3,371,454.25	40° 40' 50.907 N	104° 9' 38.461 W	
10,144.00	89.96	354.15	6,465.12	3,921.07	317.85	1,493,681.34	3,371,452.52	40° 40' 51.054 N	104° 9' 38.480 W	
10,169.00	90.84	354.94	6,464.95	3,945.96	315.48	1,493,706.19	3,371,449.77	40° 40' 51.300 N	104° 9' 38.511 W	
10,184.00	91.19	357.23	6,464.68	3,960.92	314.45	1,493,721.13	3,371,448.52	40° 40' 51.448 N	104° 9' 38.525 W	
10,199.00	91.45	358.02	6,464.34	3,975.90	313.83	1,493,736.11	3,371,447.67	40° 40' 51.596 N	104° 9' 38.533 W	
10,229.00	92.07	0.66	6,463.41	4,005.88	313.49	1,493,766.08	3,371,446.87	40° 40' 51.892 N	104° 9' 38.537 W	
10,254.00	91.45	2.94	6,462.65	4,030.86	314.27	1,493,791.06	3,371,447.28	40° 40' 52.139 N	104° 9' 38.527 W	
10,269.00	91.10	3.91	6,462.31	4,045.83	315.17	1,493,806.04	3,371,447.95	40° 40' 52.287 N	104° 9' 38.515 W	
10,284.00	90.84	3.91	6,462.06	4,060.79	316.19	1,493,821.02	3,371,448.75	40° 40' 52.435 N	104° 9' 38.502 W	
10,339.00	90.31	2.77	6,461.51	4,115.69	319.39	1,493,875.96	3,371,451.12	40° 40' 52.977 N	104° 9' 38.460 W	
10,382.00	90.84	2.77	6,461.08	4,158.64	321.47	1,493,918.94	3,371,452.55	40° 40' 53.402 N	104° 9' 38.433 W	
10,425.00	90.75	4.08	6,460.48	4,201.56	324.04	1,493,961.89	3,371,454.47	40° 40' 53.826 N	104° 9' 38.400 W	
10,510.00	89.52	2.59	6,460.28	4,286.41	328.98	1,494,046.81	3,371,458.14	40° 40' 54.664 N	104° 9' 38.336 W	



<b>Company:</b>	Carrizo Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Rothe 12-14-8-61
<b>Project:</b>	Weld County, CO (NAD83)	<b>TVD Reference:</b>	GL 4981' & KB 17' @ 4998.00ft (Xtreme 19)
<b>Site:</b>	Rothe	<b>MD Reference:</b>	GL 4981' & KB 17' @ 4998.00ft (Xtreme 19)
<b>Well:</b>	Rothe 12-14-8-61	<b>North Reference:</b>	True
<b>Wellbore:</b>	ST1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	ST1	<b>Database:</b>	Rockies Compass Server

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,571.00	89.69	1.71	6,460.70	4,347.36	331.27	1,494,107.79	3,371,459.50	40° 40' 55.267 N	104° 9' 38.306 W
<b>Last SDI MWD Survey</b>									
10,638.00	89.69	1.71	6,461.06	4,414.33	333.27	1,494,174.78	3,371,460.49	40° 40' 55.928 N	104° 9' 38.280 W
<b>Projection to TD</b>									

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
2,276.00	2,272.57	18.82	63.97	TIP	
2,310.00	2,306.46	18.58	66.59	First SDI MWD Survey	
10,571.00	6,460.70	4,347.36	331.27	Last SDI MWD Survey	
10,638.00	6,461.06	4,414.33	333.27	Projection to TD	

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_



## **Carrizo Oil & Gas**

Weld County, CO (NAD83)

Rothe

Rothe 12-14-8-61

OH

Design: OH

## **Survey Report - Geographic**

01 February, 2012



<b>Company:</b>	Carrizo Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Rothe 12-14-8-61
<b>Project:</b>	Weld County, CO (NAD83)	<b>TVD Reference:</b>	GL 4981' & KB 17' @ 4998.00ft (Xtreme 19)
<b>Site:</b>	Rothe	<b>MD Reference:</b>	GL 4981' & KB 17' @ 4998.00ft (Xtreme 19)
<b>Well:</b>	Rothe 12-14-8-61	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Rockies Compass Server

<b>Project</b>	Weld County, CO (NAD83)		
<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		

<b>Site</b>	Rothe				
<b>Site Position:</b>		<b>Northing:</b>	1,489,755.94 usft	<b>Latitude:</b>	40° 40' 12.309 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,371,193.87 usft	<b>Longitude:</b>	104° 9' 42.606 W
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	0.86 °

<b>Well</b>	Rothe 12-14-8-61, 245' FSL 245' FWL Sec 12 T8N R61W					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	1,489,755.93 usft	<b>Latitude:</b>	40° 40' 12.309 N
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	3,371,193.87 usft	<b>Longitude:</b>	104° 9' 42.606 W
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	4,981.00 ft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	2012/01/12	8.48	67.35	53,273

<b>Design</b>	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) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	75.16	

<b>Survey Program</b>	<b>Date</b>	2012/02/01			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
1,469.00	2,839.00	Survey #1 (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Map Northing (usft)</b>	<b>Map Easting (usft)</b>	<b>Latitude</b>	<b>Longitude</b>	
0.00	0.00	0.00	0.00	0.00	0.00	1,489,755.93	3,371,193.87	40° 40' 12.309 N	104° 9' 42.606 W	
1,469.00	0.09	81.61	1,469.00	0.17	1.14	1,489,756.11	3,371,195.01	40° 40' 12.311 N	104° 9' 42.591 W	
<b>First SDI MWD Survey</b>										
1,510.00	0.79	24.56	1,510.00	0.43	1.29	1,489,756.38	3,371,195.16	40° 40' 12.313 N	104° 9' 42.589 W	
1,595.00	4.83	41.61	1,594.88	3.64	3.91	1,489,759.63	3,371,197.73	40° 40' 12.345 N	104° 9' 42.555 W	
1,679.00	6.59	46.10	1,678.46	9.63	9.73	1,489,765.70	3,371,203.46	40° 40' 12.404 N	104° 9' 42.480 W	
1,766.00	7.21	61.39	1,764.84	15.70	18.12	1,489,771.90	3,371,211.76	40° 40' 12.464 N	104° 9' 42.371 W	
1,849.00	7.21	67.98	1,847.18	20.15	27.53	1,489,776.49	3,371,221.09	40° 40' 12.508 N	104° 9' 42.249 W	
1,935.00	4.83	95.14	1,932.72	21.85	36.14	1,489,778.32	3,371,229.68	40° 40' 12.525 N	104° 9' 42.137 W	
2,018.00	4.66	99.89	2,015.43	20.96	42.94	1,489,777.53	3,371,236.49	40° 40' 12.516 N	104° 9' 42.049 W	
2,104.00	4.83	95.32	2,101.14	20.02	49.99	1,489,776.70	3,371,243.55	40° 40' 12.507 N	104° 9' 41.957 W	
2,190.00	4.66	94.00	2,186.84	19.44	57.08	1,489,776.23	3,371,250.65	40° 40' 12.501 N	104° 9' 41.865 W	



<b>Company:</b>	Carrizo Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Rothe 12-14-8-61
<b>Project:</b>	Weld County, CO (NAD83)	<b>TVD Reference:</b>	GL 4981' & KB 17' @ 4998.00ft (Xtreme 19)
<b>Site:</b>	Rothe	<b>MD Reference:</b>	GL 4981' & KB 17' @ 4998.00ft (Xtreme 19)
<b>Well:</b>	Rothe 12-14-8-61	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Rockies Compass Server

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
2,276.00	4.57	96.37	2,272.57	18.82	63.97	1,489,775.71	3,371,257.55	40° 40' 12.495 N	104° 9' 41.776 W	
2,362.00	4.48	91.36	2,358.30	18.36	70.73	1,489,775.35	3,371,264.32	40° 40' 12.490 N	104° 9' 41.688 W	
2,446.00	4.48	93.56	2,442.04	18.08	77.28	1,489,775.17	3,371,270.87	40° 40' 12.488 N	104° 9' 41.603 W	
2,532.00	4.22	88.11	2,527.79	17.97	83.80	1,489,775.16	3,371,277.39	40° 40' 12.486 N	104° 9' 41.519 W	
2,617.00	4.83	82.40	2,612.53	18.55	90.47	1,489,775.84	3,371,284.05	40° 40' 12.492 N	104° 9' 41.432 W	
2,702.00	7.56	54.01	2,697.04	22.31	98.55	1,489,779.72	3,371,292.07	40° 40' 12.529 N	104° 9' 41.327 W	
2,789.00	12.22	65.08	2,782.73	29.56	111.53	1,489,787.17	3,371,304.95	40° 40' 12.601 N	104° 9' 41.159 W	
<b>Last SDI MWD Survey</b>										
2,839.00	12.22	65.08	2,831.60	34.02	121.13	1,489,791.77	3,371,314.48	40° 40' 12.645 N	104° 9' 41.034 W	
<b>Projection to TD</b>										

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
1,469.00	1,469.00	0.17	1.14	First SDI MWD Survey	
2,789.00	2,782.73	29.56	111.53	Last SDI MWD Survey	
2,839.00	2,831.60	34.02	121.13	Projection to TD	

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_



**JOB NO.:** 41HMP1201071  
**COMPANY:** Carrizo Oil & Gas  
**LOCATION:**  
**RIG NAME:** Xtreme 19  
**STATE:** Colorado  
**COUNTY:** Weld  
**WELL NAME:** Rothe 12-14-8-61  
**Lead Directional :** David Carrico (10051)

**Report Time:** 2400      **1 of 15**  
**API JOB #**  
**WORK ORDER#** 156131  
**FIELD:** DJ Basin  
**Township:** 8N  
**Range/Section** 61W      12  
**Company Man** Tom Harris  
**2nd Dir Hand :**

**From Sunday, January 15, 2012 at 0000 to Sunday, January 15, 2012 at 2400**

Start Depth	0.00	BHA #	Motor SN / R.S SN	Slide Ftg	Slide Hrs	Rotate Ftg	Rotate Hrs	Circ Hrs	D & C Hrs	BHA Ftg	Avg ROP
End Depth	0.00	1	6805	380.00	2.92	1,030.00	5.17	1.67	9.75	1,410.00	152.43
Below Rot Hrs.	1.50										
Total Drilled:	0.00										
Avg. Total ROP:	NA										
Slide Footage:	0.00										
Slide Hours	0.00										
Avg. Slide ROP:	NA										
Rotate Footage:	0.00										
Rotary Hours	0.00										
Avg. Rot ROP:	NA										
Circ Hours	0.00										
Ream Hours	0.00										
Rotary Hrs%:	NA										
Slide Hrs%:	NA										
Rotary Ftg%:	NA										
Slide Ftg%:	NA										
		WOB:	0	Weight:	0	Bit No:	1	8 3/4 inch UD516			
		Rot Wt:	0	Visc:	0	Model:	8 3/4 inch	6 3/4 inch 7:8 6.4 - 1.5adj.			
		Pick UP:	0	Chlorides:	0	SN.:	4545	6 1/2 inch MWD Collar			
		Slack Off:	0	YP:	0	MFG.	Ulterra	6 3/4 inch MWD H/O Sub			
		SPP:	0	PV:	0	Type	PDC	6 1/4 inch Stabilizer (NM)			
		Flow:	0 - 0	PH:	0	IADC		6 1/2 inch NMDC			
		SPM:	0	GAS:	0	JETS	4-16,20,3-8	6 1/2 inch Stabilizer			
		Rot. RPM	-	SAND:	0	TFA:	1.239	X-0 - 4 1/2XH Pin - 4 XT39			
		Mot RPM:	-	WL:	0	Hole ID:	8 3/4	4 inch HWDP (39 jts.)			
		Incl. In:	73.16	SOLID:	0	Bit Hrs:	8.08				
		Azm. In:	5.93	BHT°:	0	Bit Ftg:	1410.00				
		Incl. Out:	79.58	Flow T°:	0	Stroke	6      6				
		Azm. Out:	1.36	Oil %:	0	Effic.	95.00% 95.00%				
						Gal/Stk	3.84    3.84				
						BBL/Stk	0.091    0.091				

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
00:00	22:30	22.50	0	0	0	.00	Standby	Standby/Travel
22:30	24:00	1.50	0	0	0	.00	Change BHA	Change BHA - BHA 1



**JOB NO.:** 41HMP1201071  
**COMPANY:** Carrizo Oil & Gas  
**LOCATION:**  
**RIG NAME:** Xtreme 19  
**STATE:** Colorado  
**COUNTY:** Weld  
**WELL NAME:** Rothe 12-14-8-61  
**Lead Directional :** David Carrico (10051)

**Report Time:** 2400 **2 of 15**  
**API JOB #**  
**WORK ORDER#** 156131  
**FIELD:** DJ Basin  
**Township:** 8N  
**Range/Section** 61W 12  
**Company Man** Tom Harris  
**2nd Dir Hand :** Terry Maxfield (10495)

**From Monday, January 16, 2012 at 0000 to Monday, January 16, 2012 at 2400**

Start Depth	1429.00	BHA #	Motor SN / R.S SN	Slide Ftg	Slide Hrs	Rotate Ftg	Rotate Hrs	Circ Hrs	D & C Hrs	BHA Ftg	Avg ROP
End Depth	2839.00	1	6805	380.00	2.92	1,030.00	5.17	1.67	9.75	1,410.00	152.43
Below Rot Hrs.	19.75										
Total Drilled:	1410.00										
Avg. Total ROP:	165.88										
Slide Footage:	380.00										
Slide Hours	2.92										
Avg. Slide ROP:	130.29										
Rotate Footage:	1030.00										
Rotary Hours	5.58										
Avg. Rot ROP:	184.48										
Circ Hours	1.83										
Ream Hours	0.00										
Rotary Hrs%:	65.69										
Slide Hrs%:	34.31										
Rotary Ftg%:	73.05										
Slide Ftg%:	26.95										
		WOB:	0	Weight:	8.5	Bit No:	1	8 3/4 inch UD516 6 3/4 inch 7:8 6.4 - 1.5adj. 6 1/2 inch MWD Collar 6 3/4 inch MWD H/O Sub 6 1/4 inch Stabilizer (NM) 6 1/2 inch NMDC 6 1/2 inch Stabilizer X-0 - 4 1/2XH Pin - 4 XT39 4 inch HWDP (39 jts.)			
		Rot Wt:	0	Visc:	28	Model	8 3/4 inch				
		Pick UP:	0	Chlorides:	40	SN.:	4545				
		Slack Off:	0	YP:	0	MFG.	Ulterra				
		SPP:	0	PV:	1	Type	PDC				
		Flow:	0 - 605	PH:	13	IADC					
		SPM:	0	GAS:	0	JETS	4-16,20,3-8				
		Rot. RPM	30 - 60	SAND:	0	TFA:	1.239				
		Mot RPM:	0 - 0	WL:	0	Hole ID:	8 3/4				
		Incl. In:	0	SOLID:	1	Bit Hrs:	8.08				
		Azm. In:	0	BHT°:	92	Bit Ftg:	1410.00				
		Incl. Out:	12.22	Flow T°:	65	Stroke	6 6				
		Azm. Out:	65.08	Oil %:	0	Effic.	95.00% 95.00%				
							Gal/Stk	3.84 3.84			
							BBL/Stk	0.091 0.091			

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
00:00	01:40	1.67	1429	1429	0	.00	TIH	TIH
01:40	02:05	0.42	1429	1429	0	.00	Drilling Cement	Drilling Dement
02:05	02:10	0.08	1429	1439	10	120.00	Drilling	Drilling - (WOB:15;GPM :306;RPM:30)
02:10	02:40	0.50	1439	1439	0	.00	Circulating	Circulating/FIT Test
02:40	03:00	0.33	1439	1521	82	246.00	Drilling	Drilling - (WOB:15;GPM :306;RPM:30)
03:00	03:20	0.33	1521	1521	0	.00	MWD Survey	MWD Survey
03:20	03:30	0.17	1521	1563	42	252.00	Sliding	Sliding - (WOB:10;GPM :383;TFO:90)
03:30	03:40	0.17	1563	1563	0	.00	Survey & Conn.	Survey & Conn.
03:40	04:05	0.42	1563	1606	43	103.20	Sliding	Sliding - (WOB:10;GPM :383;TFO:90)
04:05	04:15	0.17	1606	1647	41	246.00	Drilling	Drilling - (WOB:10;GPM :383;RPM:30)
04:15	04:25	0.17	1647	1647	0	.00	Survey & Conn.	Survey & Conn.
04:25	04:35	0.17	1647	1667	20	120.00	Sliding	Sliding - (WOB:10;GPM :383;TFO:90)
04:35	04:55	0.33	1667	1732	65	195.00	Drilling	Drilling - (WOB:10;GPM :383;RPM:30)
04:55	05:05	0.17	1732	1732	0	.00	Survey & Conn.	Survey & Conn.

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
05:05	05:20	0.25	1732	1762	30	120.00	Sliding	Sliding - (WOB:10;GPM :383;TFO:135)
05:20	05:35	0.25	1762	1818	56	224.00	Drilling	Drilling - (WOB:10;GPM :383;RPM:60)
05:35	06:00	0.42	1818	1818	0	.00	Survey & Conn.	Survey & Conn. (Sync issues)
06:00	06:20	0.33	1818	1860	42	126.00	Sliding	Sliding - (WOB:10;GPM :383;TFO:135)
06:20	06:40	0.33	1860	1903	43	129.00	Drilling	Drilling - (WOB:10;GPM :383;RPM:60)
06:40	06:55	0.25	1903	1903	0	.00	Survey & Conn.	Survey & Conn.
06:55	07:15	0.33	1903	1946	43	129.00	Sliding	Sliding - (WOB:10;GPM :605;TFO:135)
07:15	07:30	0.25	1946	1988	42	168.00	Drilling	Drilling - (WOB:10;GPM :383;RPM:60)
07:30	07:45	0.25	1988	1988	0	.00	Survey & Conn.	Survey & Conn.
07:45	08:20	0.58	1988	2072	84	144.00	Drilling	Drilling - (WOB:10;GPM :383;RPM:60)
08:20	08:45	0.42	2072	2072	0	.00	Survey & Conn.	Survey & Conn. (Sync issues)
08:45	09:10	0.42	2072	2158	86	206.40	Drilling	Drilling - (WOB:10;GPM :605;RPM:60)
09:10	09:25	0.25	2158	2158	0	.00	Survey & Conn.	Survey & Conn.
09:25	09:55	0.50	2158	2243	85	170.00	Drilling	Drilling - (WOB:10;GPM :605;RPM:35)
09:55	10:00	0.08	2243	2243	0	.00	Survey & Conn.	Survey & Conn.
10:00	10:55	0.92	2243	2328	85	92.73	Drilling	Drilling - (WOB:10;GPM :605;RPM:35)
10:55	11:05	0.17	2328	2328	0	.00	Survey & Conn.	Survey & Conn.
11:05	11:20	0.25	2328	2414	86	344.00	Drilling	Drilling - (WOB:10;GPM :605;RPM:35)
11:20	11:30	0.17	2414	2414	0	.00	Survey & Conn.	Survey & Conn.
11:30	11:50	0.33	2414	2499	85	255.00	Drilling	Drilling - (WOB:10;GPM :605;RPM:35)
11:50	12:00	0.17	2499	2499	0	.00	Survey & Conn.	Survey & Conn.
12:00	12:10	0.17	2499	2584	85	510.00	Drilling	Drilling - (WOB:10;GPM :605;RPM:35)
12:10	12:20	0.17	2584	2584	0	.00	Survey & Conn.	Survey & Conn.
12:20	12:40	0.33	2584	2619	35	105.00	Sliding	Sliding - (WOB:10;GPM :605;TFO:145)
12:40	12:45	0.08	2619	2669	50	600.00	Drilling	Drilling - (WOB:10;GPM :605;RPM:35)
12:45	13:20	0.58	2669	2669	0	.00	Service-Inhol	Rig Service-Inhole
13:20	13:30	0.17	2669	2669	0	.00	Survey & Conn.	Survey & Conn.
13:30	13:50	0.33	2669	2709	40	120.00	Sliding	Sliding - (WOB:0;GPM :605;TFO:160)
13:50	14:00	0.17	2709	2709	0	.00	Rig repair	Rig repair - Pump
14:00	14:10	0.17	2709	2754	45	270.00	Drilling	Drilling - (WOB:10;GPM :605;RPM:35)
14:10	14:20	0.17	2754	2754	0	.00	Survey & Conn.	Survey & Conn.
14:20	14:55	0.58	2754	2839	85	145.71	Sliding	Sliding - (WOB:0;GPM :605;TFO:180)
14:55	15:05	0.17	2839	2839	0	.00	MWD Survey	MWD Survey
15:05	15:55	0.83	2839	2839	0	.00	Wireline	Wireline checkshot
15:55	16:10	0.25	2839	2839	0	.00	Circulating	Circulating - Pump pill.
16:10	18:45	2.58	2839	2839	0	.00	POOH	POOH
18:45	19:45	1.00	2839	2839	0	.00	Change BHA	Change BHA
19:45	24:00	4.25	2839	2839	0	.00	Standby	Standby - Wait on rig.





**JOB NO.:** 41HMP1201071  
**COMPANY:** Carrizo Oil & Gas  
**LOCATION:**  
**RIG NAME:** Xtreme 19  
**STATE:** Colorado  
**COUNTY:** Weld  
**WELL NAME:** Rothe 12-14-8-61  
**Lead Directional :** David Carrico (10051)

**Report Time:** 2400      **4 of 15**  
**API JOB #**  
**WORK ORDER#** 156131  
**FIELD:** DJ Basin  
**Township:** 8N  
**Range/Section** 61W      12  
**Company Man** Tom Harris  
**2nd Dir Hand :** Terry Maxfield (10495)

**From Wednesday, January 18, 2012 at 0000 to Wednesday, January 18, 2012 at 2400**

Start Depth	2332.00	BHA #	Motor SN / R.S SN	Slide Ftg	Slide Hrs	Rotate Ftg	Rotate Hrs	Circ Hrs	D & C Hrs	BHA Ftg	Avg ROP
End Depth	3470.00	2	6864	543.00	7.25	3,013.00	16.45	8.80	32.50	3,556.00	134.61
Below Rot Hrs.	20.50										
Total Drilled:	1118.00										
Avg. Total ROP:	112.74										
Slide Footage:	386.00										
Slide Hours	5.25										
Avg. Slide ROP:	73.52										
Rotate Footage:	732.00										
Rotary Hours	4.67										
Avg. Rot ROP:	156.86										
Circ Hours	6.42										
Ream Hours	1.92										
Rotary Hrs%:	47.06										
Slide Hrs%:	52.94										
Rotary Ftg%:	65.47										
Slide Ftg%:	34.53										
		WOB:	0	Weight:	8.5	Bit No:	1	8 3/4 inch UD516 6 3/4 inch Motor 7:8 6.4 - 6 1/2 inch NMDC 6 1/2 inch MWD H/O SUB 6 1/2 inch NMDC X-0 - 4 1/2XH Pin - 4 XT39 4 inch HWDP (39 jts.)			
		Rot Wt:	0	Visc:	28	Model	8 3/4 inch				
		Pick UP:	0	Chlorides:	40	SN.:	4545				
		Slack Off:	0	YP:	0	MFG.	Ulterra				
		SPP:	2000	PV:	1	Type	PDC				
		Flow:	0 - 605	PH:	13	IADC					
		SPM:	160	GAS:	0	JETS	4-16,20,3-8				
		Rot. RPM	30 - 35	SAND:	0	TFA:	1.239				
		Mot RPM:	0 - 30	WL:	0	Hole ID:	8 3/4				
		Incl. In:	12.22	SOLID:	1	Bit Hrs:	8.08				
		Azm. In:	65.08	BHT°:	92	Bit Ftg:	1410.00				
		Incl. Out:	4.13	Flow T°:	65						
		Azm. Out:	88.55	Oil %:	0	Stroke	6      6 11      11				
							Effic.	95.00% 95.00%			
							Gal/Stk	3.84      3.84			
							BBL/Stk	0.091      0.091			

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
00:00	03:30	3.50	2839	2839	0	.00	Standby	Standby, Wating on Cement
03:30	03:50	0.33	2839	2839	0	.00	TIH	TIH
03:50	04:10	0.33	2100	2204	104	312.00	Reaming	To Find Cement
04:10	05:00	0.83	2204	2204	0	.00	Other	Install Rot Head
05:00	05:30	0.50	2204	2332	128	256.00	Reaming	Tage Cement
05:30	05:40	0.17	2332	2342	10	60.00	Drilling	Drilling - (WOB:10;GPM :605;RPM:35)
05:40	06:45	1.08	2342	2342	0	.00	Reaming	Build trough.
06:45	07:15	0.50	2342	2365	23	46.00	Sliding	Sliding - (WOB:10;GPM :605;TFO:160)
07:15	07:25	0.17	2365	2365	0	.00	MWD Survey	MWD Survey
07:25	07:40	0.25	2365	2380	15	60.00	Sliding	Sliding - (WOB:10;GPM :381;TFO:190)
07:40	07:50	0.17	2380	2380	0	.00	MWD Survey	MWD Survey
07:50	08:20	0.50	2380	2395	15	30.00	Sliding	Sliding - (WOB:5;GPM :381;TFO:190)
08:20	08:30	0.17	2395	2395	0	.00	Survey & Conn.	Survey & Conn.
08:30	08:45	0.25	2395	2395	0	.00	Circulating	Circulating - Check samples. projections

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
08:45	09:00	0.25	2395	2406	11	44.00	Sliding	Sliding - (WOB:5;GPM :605;TFO:190)
09:00	09:20	0.33	2406	2406	0	.00	Survey & Conn.	Survey & Conn.
09:20	09:25	0.08	2406	2421	15	180.00	Drilling	Drilling - (WOB:5;GPM :306;RPM:35)
09:25	09:30	0.08	2421	2421	0	.00	MWD Survey	MWD Survey
09:30	09:40	0.17	2421	2436	15	90.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
09:40	09:50	0.17	2436	2436	0	.00	MWD Survey	MWD Survey
09:50	10:00	0.17	2436	2451	15	90.00	Sliding	Sliding - (WOB:5;GPM :605;TFO:200)
10:00	10:10	0.17	2451	2451	0	.00	MWD Survey	MWD Survey
10:10	10:20	0.17	2451	2466	15	90.00	Sliding	Sliding - (WOB:5;GPM :605;TFO:-180)
10:20	10:25	0.08	2466	2466	0	.00	MWD Survey	MWD Survey
10:25	10:30	0.08	2466	2481	15	180.00	Sliding	Sliding - (WOB:5;GPM :605;TFO:-180)
10:30	10:35	0.08	2481	2481	0	.00	MWD Survey	MWD Survey
10:35	10:40	0.08	2481	2491	10	120.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
10:40	11:00	0.33	2491	2491	0	.00	Survey & Conn.	Survey & Conn.
11:00	11:10	0.17	2491	2506	15	90.00	Sliding	Sliding - (WOB:5;GPM :605;TFO:-135)
11:10	11:15	0.08	2506	2506	0	.00	MWD Survey	MWD Survey - Advised Co-man that we should rotate and see what we have, was told to keep sliding.
11:15	11:25	0.17	2506	2521	15	90.00	Sliding	Sliding - (WOB:5;GPM :605;TFO:-135)
11:25	11:30	0.08	2521	2521	0	.00	MWD Survey	MWD Survey
11:30	11:40	0.17	2521	2536	15	90.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
11:40	11:45	0.08	2536	2536	0	.00	MWD Survey	MWD Survey
11:45	11:50	0.08	2536	2551	15	180.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
11:50	12:00	0.17	2551	2551	0	.00	MWD Survey	MWD Survey
12:00	12:10	0.17	2551	2566	15	90.00	Sliding	Sliding - (WOB:5;GPM :605;TFO:-120)
12:10	12:15	0.08	2566	2566	0	.00	MWD Survey	MWD Survey
12:15	12:20	0.08	2566	2576	10	120.00	Sliding	Sliding - (WOB:5;GPM :605;TFO:-120)
12:20	12:35	0.25	2576	2576	0	.00	Survey & Conn.	Survey & Conn.
12:35	12:45	0.17	2576	2591	15	90.00	Sliding	Sliding - (WOB:5;GPM :605;TFO:-180)
12:45	13:10	0.42	2591	2591	0	.00	Circulating	Circulating - Troubleshoot.
13:10	13:15	0.08	2591	2591	0	.00	MWD Survey	MWD Survey
13:15	13:30	0.25	2591	2606	15	60.00	Sliding	Sliding - (WOB:5;GPM :605;TFO:-180)
13:30	13:40	0.17	2606	2606	0	.00	MWD Survey	MWD Survey
13:40	13:55	0.25	2606	2621	15	60.00	Sliding	Sliding - (WOB:5;GPM :605;TFO:110)
13:55	14:10	0.25	2621	2621	0	.00	MWD Survey	MWD Survey
14:10	14:15	0.08	2621	2636	15	180.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
14:15	14:20	0.08	2636	2636	0	.00	MWD Survey	MWD Survey
14:20	14:30	0.17	2636	2651	15	90.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
14:30	14:35	0.08	2651	2651	0	.00	MWD Survey	MWD Survey
14:35	14:40	0.08	2651	2661	10	120.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
14:40	14:50	0.17	2661	2661	0	.00	Survey & Conn.	Survey & Conn.
14:50	15:05	0.25	2661	2676	15	60.00	Sliding	Sliding - (WOB:5;GPM :605;TFO:110)
15:05	15:10	0.08	2676	2676	0	.00	MWD Survey	MWD Survey
15:10	15:15	0.08	2676	2691	15	180.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
15:15	15:20	0.08	2691	2691	0	.00	MWD Survey	MWD Survey
15:20	15:30	0.17	2691	2704	13	78.00	Sliding	Sliding - (WOB:5;GPM :605;TFO:130)
15:30	15:35	0.08	2704	2704	0	.00	MWD Survey	MWD Survey
15:35	15:50	0.25	2704	2746	42	168.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
15:50	16:15	0.42	2746	2746	0	.00	Service-Inhol	Rig Service-Inhole

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
16:15	16:20	0.08	2746	2746	0	.00	Survey & Conn.	Survey & Conn.
16:20	16:45	0.42	2746	2789	43	103.20	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
16:45	16:50	0.08	2789	2789	0	.00	MWD Survey	MWD Survey
16:50	17:00	0.17	2789	2809	20	120.00	Sliding	Sliding - (WOB:5;GPM :605;TFO:60)
17:00	17:10	0.17	2809	2832	23	138.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
17:10	17:20	0.17	2832	2832	0	.00	MWD Survey	Survey & Conn.
17:20	17:35	0.25	2832	2875	43	172.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
17:35	17:40	0.08	2875	2895	20	240.00	Survey & Conn.	Survey & Conn.
17:40	18:00	0.33	2895	2894	-1	-3.00	Sliding	Sliding - (WOB:5;GPM :605;TFO:180)
18:00	18:05	0.08	2894	2917	23	276.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
18:05	18:20	0.25	2917	2917	0	.00	Survey & Conn.	Survey & Conn.
18:20	18:30	0.17	2917	2932	15	90.00	Sliding	Sliding - (WOB:5;GPM :605;TFO:180)
18:30	18:40	0.17	2932	2959	27	162.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
18:40	18:45	0.08	2959	2959	0	.00	MWD Survey	Survey & Conn.
18:45	18:55	0.17	2959	3002	43	258.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
18:55	19:05	0.17	3002	3002	0	.00	Survey & Conn.	Survey & Conn.
19:05	19:15	0.17	3002	3022	20	120.00	Sliding	Sliding - (WOB:5;GPM :605;TFO:90)
19:15	19:25	0.17	3022	3045	23	138.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
19:25	19:30	0.08	3045	3045	0	.00	MWD Survey	Survey & Conn.
19:30	19:45	0.25	3045	3070	25	100.00	Sliding	Sliding - (WOB:5;GPM :605;TFO:90)
19:45	19:50	0.08	3070	3087	17	204.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
19:50	20:05	0.25	3087	3087	0	.00	Survey & Conn.	Survey & Conn.
20:05	20:15	0.17	3087	3112	25	150.00	Sliding	Sliding - (WOB:5;GPM :605;TFO:90)
20:15	20:25	0.17	3112	3130	18	108.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
20:25	20:30	0.08	3130	3130	0	.00	MWD Survey	MWD Survey
20:30	20:45	0.25	3130	3173	43	172.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
20:45	20:55	0.17	3173	3173	0	.00	Survey & Conn.	Survey & Conn.
20:55	21:05	0.17	3173	3215	42	252.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
21:05	21:10	0.08	3215	3215	0	.00	MWD Survey	MWD Survey
21:10	21:25	0.25	3215	3240	25	100.00	Sliding	Sliding - (WOB:5;GPM :605;TFO:-90)
21:25	21:35	0.17	3240	3258	18	108.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
21:35	21:45	0.17	3258	3258	0	.00	Survey & Conn.	Survey & Conn.
21:45	21:55	0.17	3258	3300	42	252.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
21:55	22:05	0.17	3300	3300	0	.00	MWD Survey	MWD Survey
22:05	22:15	0.17	3300	3342	42	252.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
22:15	22:25	0.17	3342	3342	0	.00	Survey & Conn.	Survey & Conn.
22:25	22:35	0.17	3342	3385	43	258.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
22:35	22:45	0.17	3385	3385	0	.00	MWD Survey	MWD Survey
22:45	22:55	0.17	3385	3427	42	252.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
22:55	23:10	0.25	3427	3427	0	.00	Survey & Conn.	Survey & Conn.
23:10	23:20	0.17	3427	3447	20	120.00	Sliding	Sliding - (WOB:5;GPM :605;TFO:110)
23:20	23:30	0.17	3447	3447	0	.00	MWD Survey	MWD Survey
23:30	23:50	0.33	3447	3470	23	69.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
23:50	24:00	0.17	3470	3470	0	.00	Survey & Conn.	Survey & Conn.



**JOB NO.:** 41HMP1201071

**COMPANY:** Carrizo Oil & Gas

**LOCATION:**

**RIG NAME:** Xtreme 19

**STATE:** Colorado

**COUNTY:** Weld

**WELL NAME:** Rothe 12-14-8-61

**Lead Directional :** David Carrico (10051)

**Report Time:** 2400

5 of 15

**API JOB #**

**WORK ORDER#** 156131

**FIELD:** DJ Basin

**Township:** 8N

**Range/Section** 61W 12

**Company Man** Tom Harris

**2nd Dir Hand :** Terry Maxfield (10495)

**From Thursday, January 19, 2012 at 0000 to Thursday, January 19, 2012 at 2400**

<b>Start Depth</b>	3470.00	<b>BHA #</b>	2	<b>Motor SN / R.S SN</b>	6864	<b>Slide Ftg</b>	543.00	<b>Slide Hrs</b>	7.25	<b>Rotate Ftg</b>	3,013.00	<b>Rotate Hrs</b>	16.45	<b>Circ Hrs</b>	8.80	<b>D &amp; C Hrs</b>	32.50	<b>BHA Ftg</b>	3,556.00	<b>Avg ROP</b>	134.61			
<b>End Depth</b>	5908.00																							
<b>Below Rot Hrs.</b>	24.00																							
<b>Total Drilled:</b>	2438.00																							
<b>Avg. Total ROP:</b>	176.88																							
<b>Slide Footage:</b>	157.00																							
<b>Slide Hours</b>	2.00																							
<b>Avg. Slide ROP:</b>	78.50																							
<b>Rotate Footage:</b>	2281.00																							
<b>Rotary Hours</b>	11.78																							
<b>Avg. Rot ROP:</b>	193.58																							
<b>Circ Hours</b>	3.05																							
<b>Ream Hours</b>	0.00																							
<b>Rotary Hrs%:</b>	85.49																							
<b>Slide Hrs%:</b>	14.51																							
<b>Rotary Ftg%:</b>	93.56																							
<b>Slide Ftg%:</b>	6.44																							
		<b>WOB:</b>	15	<b>Weight:</b>	8.5	<b>Model</b>	8 3/4 inch											<b>Bit No:</b>	1	8 3/4 inch UD516 6 3/4 inch Motor 7:8 6.4 - 6 1/2 inch NMDC 6 1/2 inch MWD H/O SUB 6 1/2 inch NMDC X-0 - 4 1/2XH Pin - 4 XT39 4 inch HWDP (39 jts.)				
		<b>Rot Wt:</b>	0	<b>Visc:</b>	28	<b>SN.:</b>	4545											<b>Model</b>	8 3/4 inch					
		<b>Pick UP:</b>	0	<b>Chlorides:</b>	460	<b>MFG.</b>	Ulterra											<b>SN.:</b>	4545					
		<b>Slack Off:</b>	0	<b>YP:</b>	0	<b>Type</b>	PDC											<b>MFG.</b>	Ulterra					
		<b>SPP:</b>	2300	<b>PV:</b>	1	<b>IADC</b>												<b>Type</b>	PDC					
		<b>Flow:</b>	605 - 605	<b>PH:</b>	8.5	<b>JETS</b>	4-16,20,3-8											<b>IADC</b>						
		<b>SPM:</b>	160	<b>GAS:</b>	0	<b>TFA:</b>	1.239											<b>JETS</b>	4-16,20,3-8					
		<b>Rot. RPM</b>	30 - 40	<b>SAND:</b>	0	<b>Hole ID:</b>	8 3/4											<b>TFA:</b>	1.239					
		<b>Mot RPM:</b>	0 - 30	<b>WL:</b>	0	<b>Bit Hrs:</b>	8.08											<b>Hole ID:</b>	8 3/4					
		<b>Incl. In:</b>	4.13	<b>SOLID:</b>	1	<b>Bit Ftg:</b>	1410.00											<b>WL:</b>	0					
		<b>Azm. In:</b>	88.55	<b>BHT°:</b>	143													<b>SOLID:</b>	1					
		<b>Incl. Out:</b>	4.22	<b>Flow T°:</b>	95													<b>BHT°:</b>	143					
		<b>Azm. Out:</b>	79.93	<b>Oil %:</b>	0													<b>Flow T°:</b>	95					
																						<b>Stroke</b>	6	6
																						<b>Effic.</b>	95.00%	95.00%
																						<b>Gal/Stk</b>	3.84	3.84
																						<b>BBL/Stk</b>	0.091	0.091

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
00:00	00:10	0.17	3470	3555	85	510.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
00:10	00:15	0.08	3555	3555	0	.00	MWD Survey	MWD Survey
00:15	00:25	0.17	3555	3598	43	258.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
00:25	00:35	0.17	3598	3598	0	.00	Survey & Conn.	Survey & Conn.
00:35	00:50	0.25	3598	3639	41	164.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
00:50	00:55	0.08	3639	3639	0	.00	MWD Survey	MWD Survey
00:55	01:10	0.25	3639	3659	20	80.00	Sliding	Sliding - (WOB:5;GPM :605;TFO:-120)
01:10	01:20	0.17	3659	3682	23	138.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
01:20	01:30	0.17	3682	3682	0	.00	Survey & Conn.	Survey & Conn.
01:30	01:45	0.25	3682	3725	43	172.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
01:45	01:50	0.08	3725	3725	0	.00	MWD Survey	MWD Survey
01:50	02:00	0.17	3725	3745	20	120.00	Sliding	Sliding - (WOB:5;GPM :605;TFO:-160)
02:00	02:10	0.17	3745	3767	22	132.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
02:10	02:20	0.17	3767	3767	0	.00	Survey & Conn.	Survey & Conn.

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
02:20	02:35	0.25	3767	3792	25	100.00	Sliding	Sliding - (WOB:5;GPM :605;TFO:180)
02:35	02:45	0.17	3792	3810	18	108.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
02:45	02:55	0.17	3810	3810	0	.00	MWD Survey	MWD Survey
02:55	03:05	0.17	3810	3851	41	246.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
03:05	03:15	0.17	3851	3851	0	.00	Survey & Conn.	Survey & Conn.
03:15	03:30	0.25	3851	3894	43	172.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
03:30	03:35	0.08	3894	3894	0	.00	MWD Survey	MWD Survey
03:35	03:50	0.25	3894	3937	43	172.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
03:50	04:00	0.17	3937	3937	0	.00	Survey & Conn.	Survey & Conn.
04:00	04:20	0.33	3937	3957	20	60.00	Sliding	Sliding - (WOB:5;GPM :605;TFO:180)
04:20	04:30	0.17	3957	3979	22	132.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
04:30	04:40	0.17	3979	3979	0	.00	MWD Survey	MWD Survey
04:40	04:55	0.25	3979	4022	43	172.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
04:55	05:15	0.33	4022	4022	0	.00	Service-Inhol	Rig Service-Inhole
05:15	05:30	0.25	4022	4022	0	.00	Survey & Conn.	Survey & Conn.
05:30	05:45	0.25	4022	4065	43	172.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
05:45	05:55	0.17	4065	4065	0	.00	Survey & Conn.	Survey & Conn.
05:55	06:05	0.17	4065	4085	20	120.00	Sliding	Sliding - (WOB:5;GPM :605;TFO:60)
06:05	06:15	0.17	4085	4107	22	132.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
06:15	06:25	0.17	4107	4107	0	.00	Survey & Conn.	Survey & Conn.
06:25	06:40	0.25	4107	4150	43	172.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
06:40	06:45	0.08	4150	4150	0	.00	MWD Survey	MWD Survey
06:45	06:55	0.17	4150	4192	42	252.00	Drilling	Drilling - (WOB:5;GPM :605;RPM:30)
06:55	07:05	0.17	4192	4192	0	.00	Survey & Conn.	Survey & Conn.
07:05	07:25	0.33	4192	4207	15	45.00	Sliding	Sliding - (WOB:5;GPM :605;TFO:-135)
07:25	07:40	0.25	4207	4278	71	284.00	Drilling	Drilling - (WOB:10;GPM :605;RPM:40)
07:40	07:50	0.17	4278	4278	0	.00	Survey & Conn.	Survey & Conn.
07:50	08:15	0.42	4278	4362	84	201.60	Drilling	Drilling - (WOB:10;GPM :605;RPM:40)
08:15	08:25	0.17	4362	4362	0	.00	Survey & Conn.	Survey & Conn.
08:25	08:35	0.17	4362	4379	17	102.00	Sliding	Sliding - (WOB:10;GPM :605;TFO:-180)
08:35	08:55	0.33	4379	4447	68	204.00	Drilling	Drilling - (WOB:10;GPM :605;RPM:40)
08:55	09:05	0.17	4447	4447	0	.00	Survey & Conn.	Survey & Conn.
09:05	09:25	0.33	4447	4532	85	255.00	Drilling	Drilling - (WOB:15;GPM :605;RPM:40)
09:25	09:35	0.17	4532	4532	0	.00	Survey & Conn.	Survey & Conn.
09:35	10:00	0.42	4532	4618	86	206.40	Drilling	Drilling - (WOB:15;GPM :605;RPM:40)
10:00	10:15	0.25	4618	4618	0	.00	Survey & Conn.	Survey & Conn.
10:15	10:40	0.42	4618	4702	84	201.60	Drilling	Drilling - (WOB:15;GPM :605;RPM:40)
10:40	10:50	0.17	4702	4702	0	.00	Survey & Conn.	Survey & Conn.
10:50	11:10	0.33	4702	4788	86	258.00	Drilling	Drilling - (WOB:15;GPM :605;RPM:40)
11:10	11:25	0.25	4788	4788	0	.00	Survey & Conn.	Survey & Conn.
11:25	11:45	0.33	4788	4808	20	60.00	Sliding	Sliding - (WOB:10;GPM :605;TFO:90)
11:45	12:10	0.42	4808	4873	65	156.00	Drilling	Drilling - (WOB:15;GPM :605;RPM:40)
12:10	12:20	0.17	4873	4873	0	.00	Survey & Conn.	Survey & Conn.
12:20	12:45	0.42	4873	4957	84	201.60	Drilling	Drilling - (WOB:15;GPM :605;RPM:40)
12:45	13:00	0.25	4957	4957	0	.00	Survey & Conn.	Survey & Conn.
13:00	13:25	0.42	4957	5042	85	204.00	Drilling	Drilling - (WOB:15;GPM :605;RPM:40)
13:25	13:35	0.17	5042	5042	0	.00	Survey & Conn.	Survey & Conn.
13:35	13:55	0.33	5042	5127	85	255.00	Drilling	Drilling - (WOB:15;GPM :605;RPM:40)

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
13:55	14:10	0.25	5127	5127	0	.00	Survey & Conn.	Survey & Conn.
14:10	14:35	0.42	5127	5212	85	204.00	Drilling	Drilling - (WOB:15;GPM :605;RPM:40)
14:35	14:45	0.17	5212	5212	0	.00	Survey & Conn.	Survey & Conn.
14:45	15:10	0.42	5212	5296	84	201.60	Drilling	Drilling - (WOB:15;GPM :605;RPM:40)
15:10	15:20	0.17	5296	5296	0	.00	Survey & Conn.	Survey & Conn.
15:20	15:45	0.42	5296	5381	85	204.00	Drilling	Drilling - (WOB:15;GPM :605;RPM:40)
15:45	15:55	0.17	5381	5381	0	.00	Survey & Conn.	Survey & Conn.
15:55	16:20	0.42	5381	5466	85	204.00	Drilling	Drilling - (WOB:15;GPM :605;RPM:40)
16:20	16:50	0.50	5466	5466	0	.00	Service-Inhol	Rig Service-Inhole
16:50	17:00	0.17	5466	5466	0	.00	Survey & Conn.	Survey & Conn.
17:00	17:30	0.50	5466	5550	84	168.00	Drilling	Drilling - (WOB:15;GPM :605;RPM:40)
17:30	17:40	0.17	5550	5550	0	.00	Survey & Conn.	Survey & Conn.
17:40	18:05	0.42	5550	5636	86	206.40	Drilling	Drilling - (WOB:15;GPM :605;RPM:40)
18:05	18:15	0.17	5636	5636	0	.00	Survey & Conn.	Survey & Conn.
18:15	18:50	0.58	5636	5721	85	145.71	Drilling	Drilling - (WOB:15;GPM :605;RPM:40)
18:50	19:00	0.17	5721	5721	0	.00	Survey & Conn.	Survey & Conn.
19:00	19:30	0.50	5721	5806	85	170.00	Drilling	Drilling - (WOB:15;GPM :605;RPM:40)
19:30	19:40	0.17	5806	5806	0	.00	Survey & Conn.	Survey & Conn.
19:40	20:05	0.42	5806	5891	85	204.00	Drilling	Drilling - (WOB:15;GPM :605;RPM:40)
20:05	20:15	0.17	5891	5891	0	.00	Survey & Conn.	Survey & Conn.
20:15	20:37	0.37	5891	5908	17	46.36	Drilling	Drilling - (WOB:15;GPM :605;RPM:40)
20:37	22:05	1.47	5908	5908	0	.00	Circulating	Circulating
22:05	24:00	1.92	5908	5908	0	.00	POOH	POOH



Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
11:00	11:10	0.17	6002	6002	0	.00	MWD Survey	MWD Survey
11:10	11:35	0.42	6002	6032	30	72.00	Sliding	Sliding - (WOB:10;GPM :575;TFO:-20)
11:35	11:45	0.17	6032	6032	0	.00	MWD Survey	MWD Survey
11:45	12:00	0.25	6032	6056	24	96.00	Sliding	Sliding - (WOB:10;GPM :575;TFO:-15)
12:00	12:20	0.33	6056	6056	0	.00	Survey & Conn.	Survey & Conn.
12:20	12:55	0.58	6056	6086	30	51.43	Sliding	Sliding - (WOB:10;GPM :575;TFO:-15)
12:55	13:05	0.17	6086	6086	0	.00	MWD Survey	MWD Survey
13:05	13:30	0.42	6086	6116	30	72.00	Sliding	Sliding - (WOB:10;GPM :575;TFO:-15) Losing pump pressure -400lbs
13:30	13:40	0.17	6116	6116	0	.00	MWD Survey	MWD Survey
13:40	13:50	0.17	6116	6132	16	96.00	Sliding	Sliding - (WOB:10;GPM :575;TFO:-15)
13:50	14:25	0.58	6132	6132	0	.00	Rig repair	Rig repair - Pumps
14:25	14:35	0.17	6132	6139	7	42.00	Sliding	Sliding - (WOB:10;GPM :575;TFO:-360)
14:35	14:50	0.25	6139	6139	0	.00	Rig repair	Rig repair - Pumps
14:50	15:00	0.17	6139	6139	0	.00	Survey & Conn.	Survey & Conn. - Pump pressure returning.
15:00	15:30	0.50	6139	6172	33	66.00	Sliding	Sliding - (WOB:10;GPM :575;TFO:-360)
15:30	15:40	0.17	6172	6172	0	.00	MWD Survey	MWD Survey
15:40	16:00	0.33	6172	6202	30	90.00	Sliding	Sliding - (WOB:10;GPM :575;TFO:-360)
16:00	16:10	0.17	6202	6202	0	.00	MWD Survey	MWD Survey
16:10	16:25	0.25	6202	6226	24	96.00	Sliding	Sliding - (WOB:10;GPM :575;TFO:-360)
16:25	16:35	0.17	6226	6226	0	.00	Survey & Conn.	Survey & Conn.
16:35	17:30	0.92	6226	6226	0	.00	Circulating	Circulating
17:30	18:15	0.75	6226	6226	0	.00	POOH	POOH
18:15	19:05	0.83	6226	6226	0	.00	Circulating	Circulating
19:05	22:10	3.08	6226	6226	0	.00	POOH	POOH
22:10	24:00	1.83	6226	6226	0	.00	Change BHA	Change BHA



**JOB NO.:** 41HMP1201071  
**COMPANY:** Carrizo Oil & Gas  
**LOCATION:**  
**RIG NAME:** Xtreme 19  
**STATE:** Colorado  
**COUNTY:** Weld  
**WELL NAME:** Rothe 12-14-8-61  
**Lead Directional :** David Carrico (10051)

**Report Time:** 2400 7 of 15  
**API JOB #**  
**WORK ORDER#** 156131  
**FIELD:** DJ Basin  
**Township:** 8N  
**Range/Section** 61W 12  
**Company Man** Tom Harris  
**2nd Dir Hand :** Terry Maxfield (10495)

**From Saturday, January 21, 2012 at 0000 to Saturday, January 21, 2012 at 2400**

<b>Start Depth</b>	6226.00	<b>BHA #</b>	4	<b>Motor SN / R.S SN</b>	6808	<b>Slide Ftg</b>	424.00	<b>Slide Hrs</b>	9.33	<b>Rotate Ftg</b>		<b>Rotate Hrs</b>		<b>Circ Hrs</b>	8.75	<b>D &amp; C Hrs</b>	18.08	<b>BHA Ftg</b>	424.00	<b>Avg ROP</b>	25.57
<b>End Depth</b>	6650.00																				
<b>Below Rot Hrs.</b>	24.00																				
<b>Total Drilled:</b>	424.00																				
<b>Avg. Total ROP:</b>	45.43																				
<b>Slide Footage:</b>	424.00																				
<b>Slide Hours</b>	9.33																				
<b>Avg. Slide ROP:</b>	45.43																				
<b>Rotate Footage:</b>	0.00																				
<b>Rotary Hours</b>	0.00																				
<b>Avg. Rot ROP:</b>	NA																				
<b>Circ Hours</b>	6.50																				
<b>Ream Hours</b>	0.00																				
<b>Rotary Hrs%:</b>	.00																				
<b>Slide Hrs%:</b>	100.00																				
<b>Rotary Ftg%:</b>	.00																				
<b>Slide Ftg%:</b>	100.00																				
		<b>WOB:</b>	0	<b>Weight:</b>	9.6	<b>Model</b>	8 3/4 VD516 5														
		<b>Rot Wt:</b>	160	<b>Visc:</b>	41	<b>SN.:</b>	6145														
		<b>Pick UP:</b>	185	<b>Chlorides:</b>	140	<b>MFG.</b>	Ulterra														
		<b>Slack Off:</b>	135	<b>YP:</b>	12	<b>Type</b>	PDC														
		<b>SPP:</b>	2100	<b>PV:</b>	9	<b>IADC</b>															
		<b>Flow:</b>	0 - 498	<b>PH:</b>	9	<b>JETS</b>	5-14,3-16														
		<b>SPM:</b>	130	<b>GAS:</b>	0	<b>TFA:</b>	1.34														
		<b>Rot. RPM</b>	-	<b>SAND:</b>	0.25	<b>Hole ID:</b>	8 3/4														
		<b>Mot RPM:</b>	0 - 0	<b>WL:</b>	0	<b>Bit Hrs:</b>															
		<b>Incl. In:</b>	23.21	<b>SOLID:</b>	3	<b>Bit Ftg:</b>															
		<b>Azm. In:</b>	11.91	<b>BHT°:</b>	143																
		<b>Incl. Out:</b>	68.32	<b>Flow T°:</b>	95																
		<b>Azm. Out:</b>	8.83	<b>Oil %:</b>	0	<b>Stroke</b>	6 6														
						<b>Effic.</b>	95.00% 95.00%														
						<b>Gal/Stk</b>	3.84 3.84														
						<b>BBL/Stk</b>	0.091 0.091														

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
00:00	00:25	0.42	6226	6226	0	.00	Change BHA	Change BHA
00:25	02:50	2.42	6226	6226	0	.00	Other	TEST MWD
02:50	03:40	0.83	6226	6226	0	.00	Other	Blow Down Top Drive
03:40	06:00	2.33	6226	6226	0	.00	TIH	TIH
06:00	07:00	1.00	6226	6226	0	.00	Circulating	Circulating
07:00	07:30	0.50	6226	6258	32	64.00	Sliding	Sliding - (WOB:10;GPM :575;TFO:-360)
07:30	07:35	0.08	6258	6258	0	.00	MWD Survey	MWD Survey
07:35	07:50	0.25	6258	6288	30	120.00	Sliding	Sliding - (WOB:15;GPM :498;TFO:-360)
07:50	08:00	0.17	6288	6288	0	.00	MWD Survey	MWD Survey
08:00	08:20	0.33	6288	6313	25	75.00	Sliding	Sliding - (WOB:15;GPM :498;TFO:-360)
08:20	08:40	0.33	6313	6313	0	.00	Survey & Conn.	Survey & Conn.
08:40	08:55	0.25	6313	6343	30	120.00	Sliding	Sliding - (WOB:15;GPM :498;TFO:30)
08:55	09:05	0.17	6343	6343	0	.00	MWD Survey	MWD Survey
09:05	09:30	0.42	6343	6355	12	28.80	Sliding	Sliding - (WOB:15;GPM :498;TFO:-360)

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
09:30	11:45	2.25	6355	6355	0	.00	Circulating	Circulating - Work on pumps.
11:45	12:00	0.25	6355	6373	18	72.00	Sliding	Sliding - (WOB:15;GPM :498;TFO:-360)
12:00	12:15	0.25	6373	6373	0	.00	MWD Survey	MWD Survey
12:15	12:35	0.33	6373	6398	25	75.00	Sliding	Sliding - (WOB:15;GPM :498;TFO:-20)
12:35	12:50	0.25	6398	6398	0	.00	Survey & Conn.	Survey & Conn.
12:50	13:15	0.42	6398	6428	30	72.00	Sliding	Sliding - (WOB:15;GPM :498;TFO:-20)
13:15	13:20	0.08	6428	6428	0	.00	MWD Survey	MWD Survey
13:20	13:45	0.42	6428	6428	0	.00	Circulating	Circulating - Discussing build with Engineer per his request.
13:45	14:10	0.42	6428	6458	30	72.00	Sliding	Sliding - (WOB:15;GPM :498;TFO:-20)
14:10	14:15	0.08	6458	6458	0	.00	MWD Survey	MWD Survey
14:15	14:35	0.33	6458	6483	25	75.00	Sliding	Sliding - (WOB:15;GPM :498;TFO:-20)
14:35	14:45	0.17	6483	6483	0	.00	Survey & Conn.	Survey & Conn.
14:45	15:15	0.50	6483	6483	0	.00	Circulating	Circulating - Discussing landing/hardlines with Engineer per his request.
15:15	15:45	0.50	6483	6513	30	60.00	Sliding	Sliding - (WOB:15;GPM :498;TFO:-30)
15:45	15:55	0.17	6513	6513	0	.00	MWD Survey	MWD Survey
15:55	16:30	0.58	6513	6543	30	51.43	Sliding	Sliding - (WOB:15;GPM :498;TFO:-30)
16:30	16:40	0.17	6543	6543	0	.00	MWD Survey	MWD Survey
16:40	16:50	0.17	6543	6551	8	48.00	Sliding	Sliding - (WOB:15;GPM :498;TFO:-30)
16:50	17:15	0.42	6551	6551	0	.00	Pipe Stuck	Pipe Stuck - Worked free, pulled 230+/- (100k over)
17:15	18:10	0.92	6551	6569	18	19.64	Sliding	Sliding - (WOB:15;GPM :498;TFO:-360)
18:10	19:00	0.83	6569	6569	0	.00	Survey & Conn.	Survey & Conn.
19:00	20:20	1.33	6569	6599	30	22.50	Sliding	Sliding - (WOB:15;GPM :498;TFO:-30)
20:20	20:30	0.17	6599	6599	0	.00	MWD Survey	MWD Survey
20:30	21:40	1.17	6599	6629	30	25.71	Sliding	Sliding - (WOB:15;GPM :498;TFO:-30)
21:40	21:50	0.17	6629	6629	0	.00	MWD Survey	MWD Survey
21:50	23:00	1.17	6629	6650	21	18.00	Sliding	Sliding - (WOB:15;GPM :498;TFO:-30)
23:00	23:10	0.17	6650	6650	0	.00	Survey & Conn.	Survey & Conn.
23:10	24:00	0.83	6650	6650	0	.00	Circulating	Circulating



**JOB NO.:** 41HMP1201071  
**COMPANY:** Carrizo Oil & Gas  
**LOCATION:**  
**RIG NAME:** Xtreme 19  
**STATE:** Colorado  
**COUNTY:** Weld  
**WELL NAME:** Rothe 12-14-8-61  
**Lead Directional :** David Carrico (10051)

**Report Time:** 2400 8 of 15  
**API JOB #**  
**WORK ORDER#** 156131  
**FIELD:** DJ Basin  
**Township:** 8N  
**Range/Section** 61W 12  
**Company Man** Tom Harris  
**2nd Dir Hand :** Terry Maxfield (10495)

**From Sunday, January 22, 2012 at 0000 to Sunday, January 22, 2012 at 2400**

Start Depth	0.00	BHA #	Motor SN / R.S SN	Slide Ftg	Slide Hrs	Rotate Ftg	Rotate Hrs	Circ Hrs	D & C Hrs	BHA Ftg	Avg ROP
End Depth	0.00	4	6808	424.00	9.33			8.75	18.08	424.00	25.57
Below Rot Hrs.	9.50										
Total Drilled:	0.00										
Avg. Total ROP:	NA										
Slide Footage:	0.00										
Slide Hours	0.00										
Avg. Slide ROP:	NA										
Rotate Footage:	0.00										
Rotary Hours	0.00										
Avg. Rot ROP:	NA										
Circ Hours	2.25										
Ream Hours	0.00										
Rotary Hrs%:	NA										
Slide Hrs%:	NA										
Rotary Ftg%:	NA										
Slide Ftg%:	NA										
		<b>Water Base</b> <b>WOB:</b> 0 <b>Rot Wt:</b> 0 <b>Pick UP:</b> 0 <b>Slack Off:</b> 0 <b>SPP:</b> 0 <b>Flow:</b> 0 - 498 <b>SPM:</b> 0 <b>Rot. RPM</b> - <b>Mot RPM:</b> - <b>Incl. In:</b> 68.32 <b>Azm. In:</b> 8.83 <b>Incl. Out:</b> 68.32 <b>Azm. Out:</b> 8.83		<b>Weight:</b> 9.6 <b>Visc:</b> 41 <b>Chlorides:</b> 140 <b>YP:</b> 12 <b>PV:</b> 9 <b>PH:</b> 9 <b>GAS:</b> 0 <b>SAND:</b> 0.25 <b>WL:</b> 0 <b>SOLID:</b> 3 <b>BHT°:</b> 143 <b>Flow T°:</b> 95 <b>Oil %:</b> 0		<b>Bit No:</b> 2 <b>Model</b> 8 3/4 VD516 5 <b>SN.:</b> 6145 <b>MFG.</b> Ulterra <b>Type</b> PDC <b>IADC</b> <b>JETS</b> 5-14,3-16 <b>TFA:</b> 1.34 <b>Hole ID:</b> 8 3/4 <b>Bit Hrs:</b> <b>Bit Ftg:</b>		8 3/4 VD516 5 X14 3X 16 6 3/4 inc motor 7:8 6.5 6 1/2 inch NMDC 6 1/2 inch MWD H/O SUB 6 1/2 inch NMDC X-0 - 4 1/2XH Pin - 4 XT39 4 inch DP (24 jts.) 4 inch HWDP (39 jts.)			
						<b>Stroke</b> 6 6 11 11 <b>Effic.</b> 95.00% 95.00% <b>Gal/Stk</b> 3.84 3.84 <b>BBL/Stk</b> 0.091 0.091					

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
00:00	00:30	0.50	6650	6650	0	.00	Circulating	Circulating
00:30	01:30	1.00	6650	6650	0	.00	Short Trip	Short Trip
01:30	03:15	1.75	6650	6650	0	.00	Circulating	Circulating
03:15	08:18	5.05	6650	6650	0	.00	POOH	POOH
08:18	09:30	1.20	6650	6650	0	.00	Other	Lay Down Tools
09:30	24:00	14.50	6650	6650	0	.00	Standby	Standby



**JOB NO.:** 41HMP1201071  
**COMPANY:** Carrizo Oil & Gas  
**LOCATION:**  
**RIG NAME:** Xtreme 19  
**STATE:** Colorado  
**COUNTY:** Weld  
**WELL NAME:** Rothe 12-14-8-61  
**Lead Directional :** David Carrico (10051)

**Report Time:** 2400 9 of 15  
**API JOB #**  
**WORK ORDER#** 156131  
**FIELD:** DJ Basin  
**Township:** 8N  
**Range/Section** 61W 12  
**Company Man** Tom Harris  
**2nd Dir Hand :** Terry Maxfield (10495) / Paul Jevne (Contract)

**From Monday, January 23, 2012 at 0000 to Monday, January 23, 2012 at 2400**

Start Depth	End Depth	BHA #	Motor SN / R.S SN	Slide Ftg	Slide Hrs	Rotate Ftg	Rotate Hrs	Circ Hrs	D & C Hrs	BHA Ftg	Avg ROP
6650.00	6750.00	5	G585	90.00	2.33	25.00	0.75	3.67	6.75	115.00	19.17
Below Rot Hrs.	20.50										
Total Drilled:	100.00										
Avg. Total ROP:	25.53										
Slide Footage:	75.00										
Slide Hours	2.08										
Avg. Slide ROP:	36.00										
Rotate Footage:	25.00										
Rotary Hours	1.83										
Avg. Rot ROP:	13.64										
Circ Hours	1.08										
Ream Hours	0.17										
Rotary Hrs%:	46.81										
Slide Hrs%:	53.19										
Rotary Ftg%:	25.00										
Slide Ftg%:	75.00										
		WOB:	0	Water Base	Weight:	9.6	Bit No:	3	6 1/4 QD405F 5 X 16		
		Rot Wt:	122	Visc:	41	Model	6 1/4 QD405F 5	4 3/4 inch Motor 5:6 8.3 1.83			
		Pick UP:	140	Chlorides:	140	SN.:	7021603	4 3/4 inch X-O / PxP			
		Slack Off:	115	YP:	12	MFG.	HUGHES	4 3/4 inch PRT Collar -			
		SPP:	1450	PV:	9	Type	PDC	4 3/4 inch PRT X-O / PxP			
		Flow:	0 - 300	PH:	9	IADC		4 3/4 inch PRT NAV Collar			
		SPM:	80	GAS:	0	JETS	5-16	4 3/4 inch NMDC			
		Rot. RPM	20 - 20	SAND:	0.25	TFA:	0.981	X-0 - 3 1/2 IF Pin - 4 XT39			
		Mot RPM:	0 - 0	WL:	0	Hole ID:	6 1/4	4 inch DP (66 stds.)			
		Incl. In:	68.32	SOLID:	3	Bit Hrs:	3.08	4 inch HWDP (39 jts.)			
		Azm. In:	8.83	BHT°:	143	Bit Ftg:	115.00				
		Incl. Out:	73.16	Flow T°:	95	Stroke	11 11				
		Azm. Out:	5.93	Oil %:	0	Effic.	95.00% 95.00%				
						Gal/Stk	3.84 3.84				
						BBL/Stk	0.091 0.091				

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
00:00	03:30	3.50	6650	6650	0	.00	Standby	Standby
03:30	09:00	5.50	6650	6650	0	.00	Change BHA	Change BHA - Approximately 1 1/2 hrs in between to repair ST80 and Top Drive.
09:00	09:15	0.25	6650	6650	0	.00	Circulating	Circulating - Test MWD - OK
09:15	13:55	4.67	6650	6650	0	.00	TIH	TIH
13:55	15:00	1.08	6650	6650	0	.00	Other	Other - Prep for casing pressure test.
15:00	15:20	0.33	6650	6650	0	.00	Circulating	Circulating - Test casing @ 1500 psi
15:20	15:40	0.33	6650	6650	0	.00	Other	Other - Prep for drilling.
15:40	16:45	1.08	6650	6650	0	.00	Drilling Cement	Drilling - (WOB:10;GPM :230;RPM:20)
16:45	17:30	0.75	6650	6675	25	33.33	Drilling	Drilling - (WOB:10;GPM :230;RPM:20)
17:30	17:40	0.17	6675	6675	0	.00	Rig repair	Rig repair - Re-cal depth trasking.
17:40	18:20	0.67	6675	6683	8	12.00	Sliding	Sliding - (WOB:15;GPM :498;TFO:-30)
18:20	21:50	3.50	6683	6683	0	.00	Rig repair	Rig repair - Wait on Pason hand.
21:50	22:00	0.17	6683	6683	0	.00	Reaming	Wash to bottom.

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
22:00	22:30	0.50	6683	6705	22	44.00	Sliding	Sliding - (WOB:15;GPM :300;TFO:-30)
22:30	22:35	0.08	6705	6705	0	.00	MWD Survey	MWD Survey
22:35	23:00	0.42	6705	6720	15	36.00	Sliding	Sliding - (WOB:15;GPM :300;TFO:-360)
23:00	23:05	0.08	6720	6720	0	.00	MWD Survey	MWD Survey
23:05	23:20	0.25	6720	6735	15	60.00	Sliding	Sliding - (WOB:15;GPM :300;TFO:-360)
23:20	23:35	0.25	6735	6735	0	.00	Survey & Conn.	Survey & Conn.
23:35	23:50	0.25	6735	6750	15	60.00	Sliding	Sliding - (WOB:15;GPM :300;TFO:-360)
23:50	24:00	0.17	6750	6750	0	.00	MWD Survey	MWD Survey - Consult with Engineer concerning pool build rates.



Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
19:10	19:55	0.75	6795	6827	32	42.67	Sliding	Sliding - (WOB:30 ;GPM :210;TFO:-360)
19:55	20:10	0.25	6827	6827	0	.00	Survey & Conn.	Survey & Conn.
20:10	20:45	0.58	6827	6842	15	25.71	Sliding	Sliding - (WOB:35;GPM :210;TFO:-360)
20:45	20:50	0.08	6842	6842	0	.00	MWD Survey	MWD Survey
20:50	21:40	0.83	6842	6842	0	.00	Circulating	Circulating
21:40	22:45	1.08	6842	6842	0	.00	Service-Inhol	Rig Service-Inhole
22:45	24:00	1.25	6842	6842	0	.00	POOH	POOH



**JOB NO.:** 41HMP1201071  
**COMPANY:** Carrizo Oil & Gas  
**LOCATION:**  
**RIG NAME:** Xtreme 19  
**STATE:** Colorado  
**COUNTY:** Weld  
**WELL NAME:** Rothe 12-14-8-61  
**Lead Directional :** David Carrico (10051)

**Report Time:** 2400 11 of 15  
**API JOB #**  
**WORK ORDER#** 156131  
**FIELD:** DJ Basin  
**Township:** 8N  
**Range/Section** 61W 12  
**Company Man** Tom Harris  
**2nd Dir Hand :** Paul Jevne (Contract)

**From Wednesday, January 25, 2012 at 0000 to Wednesday, January 25, 2012 at 2400**

Start Depth	End Depth	BHA #	Motor SN / R.S SN	Slide Ftg	Slide Hrs	Rotate Ftg	Rotate Hrs	Circ Hrs	D & C Hrs	BHA Ftg	Avg ROP
6842.00	7374.00	6	G584	77.00	2.25			2.25	4.50	77.00	18.12
24.00		7	G761	180.00	5.00	352.00	2.92	3.42	11.33	532.00	0.00
532.00				Water Base		Bit No: 3		6 1/4 QD405F 5 X 16			
67.20		WOB: 15		Weight: 9.6	Model 6 1/4 QD405F 5	4 3/4 inch Motor 5:6 8.3 stg. -					
180.00		Rot Wt: 122		Visc: 41	SN.: 7021603	4 3/4 inch X-O / PxP					
5.00		Pick UP: 150		Chlorides: 140	MFG. HUGHES	4 3/4 inch PRT Collar -					
36.00		Slack Off: 105		YP: 12	Type PDC	4 3/4 inch PRT X-O / PxP					
352.00		SPP: 1500		PV: 9	IADC	4 3/4 inch NMDC					
5.00		Flow: 0 - 300		PH: 9	JETS 5-16	X-0 - 3 1/2 IF Pin - 4 XT39					
36.00		SPM: 73		GAS: 0	TFA: 0.981	4 inch DP (66 stds.)					
352.00		Rot. RPM 20 - 40		SAND: 0.25	Hole ID: 6 1/4	4 inch HWDP (39 jts.)					
2.92		Mot RPM: 0 - 20		WL: 0	Bit Hrs: 3.08						
120.69		Incl. In: 79.58		SOLID: 3	Bit Ftg: 115.00						
4.33		Azm. In: 1.36		BHT°: 143							
0.08		Incl. Out: 92.24		Flow T°: 95							
36.84		Azm. Out: 358.72		Oil %: 0	Stroke 6 6						
63.16					Effic. 95.00% 95.00%						
66.17					Gal/Stk 3.84 3.84						
33.83					BBL/Stk 0.091 0.091						

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
00:00	01:45	1.75	6842	6842	0	.00	POOH	POOH
01:45	04:55	3.17	6842	6842	0	.00	Change BHA	Change BHA
04:55	05:05	0.17	6842	6842	0	.00	Circulating	Circulating - Test MWD - OK
05:05	06:30	1.42	6842	6842	0	.00	Other	Other - Finish BHA, M/U Bit.
06:30	10:00	3.50	6842	6842	0	.00	TIH	TIH
10:00	10:15	0.25	6842	6842	0	.00	Circulating	Circulating - Fill pipe.
10:15	10:30	0.25	6842	6857	15	60.00	Sliding	Sliding - (WOB:35;GPM :210;TFO:-360)
10:30	10:40	0.17	6857	6857	0	.00	MWD Survey	MWD Survey
10:40	11:00	0.33	6857	6872	15	45.00	Sliding	Sliding - (WOB:20;GPM :300;TFO:-130)
11:00	11:05	0.08	6872	6872	0	.00	MWD Survey	MWD Survey
11:05	11:25	0.33	6872	6887	15	45.00	Sliding	Sliding - (WOB:20;GPM :300;TFO:-360)
11:25	11:30	0.08	6887	6887	0	.00	MWD Survey	MWD Survey
11:30	11:45	0.25	6887	6902	15	60.00	Drilling	Drilling - (WOB:10;GPM :230;RPM:20)
11:45	11:50	0.08	6902	6902	0	.00	MWD Survey	MWD Survey

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
11:50	12:05	0.25	6902	6919	17	68.00	Drilling	Drilling - (WOB:10;GPM :300;RPM:20)
12:05	13:00	0.92	6919	6919	0	.00	Service-Inhol	Rig Service-Inhole
13:00	13:20	0.33	6919	6919	0	.00	Survey & Conn.	Survey & Conn.
13:20	14:15	0.92	6919	6934	15	16.36	Sliding	Sliding - (WOB:20;GPM :300;TFO:-30) - Issues sliding, pressure fluxuations.
14:15	14:25	0.17	6934	6934	0	.00	MWD Survey	MWD Survey
14:25	15:10	0.75	6934	6949	15	20.00	Sliding	Sliding - (WOB:25;GPM :300;TFO:-360) Issues sliding, pressure fluxuations.
15:10	15:15	0.08	6949	6949	0	.00	MWD Survey	MWD Survey
15:15	15:45	0.50	6949	6964	15	30.00	Sliding	Sliding - (WOB:25;GPM :300;TFO:-360)
15:45	15:50	0.08	6964	6964	0	.00	MWD Survey	MWD Survey
15:50	16:05	0.25	6964	6979	15	60.00	Sliding	Sliding - (WOB:25;GPM :300;TFO:-360)
16:05	16:10	0.08	6979	6979	0	.00	MWD Survey	MWD Survey
16:10	16:25	0.25	6979	6994	15	60.00	Drilling	Drilling - (WOB:10;GPM :300;RPM:20)
16:25	16:30	0.08	6994	6994	0	.00	MWD Survey	MWD Survey
16:30	16:40	0.17	6994	7005	11	66.00	Drilling	Drilling - (WOB:10;GPM :300;RPM:20)
16:40	17:00	0.33	7005	7005	0	.00	Survey & Conn.	Survey & Conn.
17:00	17:35	0.58	7005	7020	15	25.71	Sliding	Sliding - (WOB:25;GPM :300;TFO:-360)
17:35	17:40	0.08	7020	7020	0	.00	MWD Survey	MWD Survey
17:40	18:00	0.33	7020	7035	15	45.00	Drilling	Drilling - (WOB:10;GPM :300;RPM:20)
18:00	18:05	0.08	7035	7035	0	.00	MWD Survey	MWD Survey
18:05	18:25	0.33	7035	7050	15	45.00	Drilling	Drilling - (WOB:15;GPM :250;RPM:40)
18:25	18:35	0.17	7050	7050	0	.00	MWD Survey	MWD Survey
18:35	18:40	0.08	7050	7065	15	180.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
18:40	18:50	0.17	7065	7065	0	.00	MWD Survey	MWD Survey
18:50	19:10	0.33	7065	7080	15	45.00	Sliding	Sliding - (WOB:20;GPM :280;TFO:30)
19:10	19:15	0.08	7080	7080	0	.00	Reaming	Ream Slide
19:15	19:25	0.17	7080	7090	10	60.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
19:25	20:00	0.58	7090	7090	0	.00	Survey & Conn.	Survey & Conn.
20:00	20:05	0.08	7090	7105	15	180.00	Sliding	Sliding - (WOB:15;GPM :280;TFO:30)
20:05	20:15	0.17	7105	7105	0	.00	MWD Survey	MWD Survey
20:15	20:35	0.33	7105	7120	15	45.00	Sliding	Sliding - (WOB:15;GPM :280;TFO:15)
20:35	20:45	0.17	7120	7120	0	.00	MWD Survey	MWD Survey
20:45	20:50	0.08	7120	7135	15	180.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
20:50	20:55	0.08	7135	7135	0	.00	MWD Survey	MWD Survey
20:55	21:00	0.08	7135	7150	15	180.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
21:00	21:10	0.17	7150	7150	0	.00	MWD Survey	MWD Survey
21:10	21:15	0.08	7150	7175	25	300.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
21:15	21:30	0.25	7175	7175	0	.00	Survey & Conn.	Survey & Conn.
21:30	21:40	0.17	7175	7205	30	180.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
21:40	22:00	0.33	7205	7205	0	.00	MWD Survey	MWD Survey
22:00	22:20	0.33	7205	7220	15	45.00	Sliding	Sliding - (WOB:15;GPM :280;TFO:15)
22:20	22:30	0.17	7220	7235	15	90.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
22:30	22:45	0.25	7235	7235	0	.00	MWD Survey	MWD Survey
22:45	22:50	0.08	7235	7259	24	288.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
22:50	23:05	0.25	7259	7259	0	.00	Survey & Conn.	Survey & Conn.
23:05	23:10	0.08	7259	7289	30	360.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
23:10	23:20	0.17	7289	7289	0	.00	MWD Survey	MWD Survey

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
23:20	23:25	0.08	7289	7319	30	360.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
23:25	23:35	0.17	7319	7319	0	.00	MWD Survey	MWD Survey
23:35	23:40	0.08	7319	7344	25	300.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
23:40	23:50	0.17	7344	7344	0	.00	Survey & Conn.	Survey & Conn.
23:50	24:00	0.17	7344	7374	30	180.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)



**JOB NO.:** 41HMP1201071 **Report Time:** 2400 12 of 15  
**COMPANY:** Carrizo Oil & Gas **API JOB #**  
**LOCATION:** **WORK ORDER#** 156131  
**RIG NAME:** Xtreme 19 **FIELD:** DJ Basin  
**STATE:** Colorado **Township:** 8N  
**COUNTY:** Weld **Range/Section** 61W 12  
**WELL NAME:** Rothe 12-14-8-61 **Company Man** Tom Harris  
**Lead Directional :** David Carrico (10051) **2nd Dir Hand :** Paul Jevne (Contract)

**From Thursday, January 26, 2012 at 0000 to Thursday, January 26, 2012 at 2400**

Start Depth	7374.00	BHA #	Motor SN / R.S SN	Slide Ftg	Slide Hrs	Rotate Ftg	Rotate Hrs	Circ Hrs	D & C Hrs	BHA Ftg	Avg ROP
End Depth	9258.00	7	G761	814.00	23.33	2,982.00	22.17	12.83	58.33	3,796.00	72.19
Below Rot Hrs.	24.00										
Total Drilled:	1884.00										
Avg. Total ROP:	115.35										
Slide Footage:	367.00										
Slide Hours	6.17										
Avg. Slide ROP:	59.51										
Rotate Footage:	1517.00										
Rotary Hours	10.17										
Avg. Rot ROP:	149.21										
Circ Hours	2.42										
Ream Hours	0.00										
Rotary Hrs%:	62.24										
Slide Hrs%:	37.76										
Rotary Ftg%:	80.52										
Slide Ftg%:	19.48										
		WOB: 15		Weight: 9.6		Bit No: 3		6 1/4 QD405F 5 X 16			
		Rot Wt: 130		Visc: 41		Model 6 1/4 QD405F 5		4 3/4 inch Motor 5:6 8.3 stg. -			
		Pick UP: 180		Chlorides: 140		SN.: 7021603		4 3/4 inch X-O / PxP			
		Slack Off: 85		YP: 12		MFG. HUGHES		4 3/4 inch PRT Collar -			
		SPP: 1700		PV: 9		Type PDC		4 3/4 inch PRT X-O / PxP			
		Flow: 280 - 280		PH: 9		IADC		4 3/4 inch NMDC			
		SPM: 73		GAS: 0		JETS 5-16		X-O - 3 1/2 IF Pin - 4 XT39			
		Rot. RPM 30 - 40		SAND: 0.25		TFA: 0.981		4 inch DP (66 stds.)			
		Mot RPM: 0 - 0		WL: 0		Hole ID: 6 1/4		4 inch HWDP (39 jts.)			
		Incl. In: 92.24		SOLID: 3		Bit Hrs: 3.08					
		Azm. In: 358.72		BHT°: 143		Bit Ftg: 115.00					
		Incl. Out: 89.52		Flow T°: 95							
		Azm. Out: 357.05		Oil %: 0		Stroke 6 6					
						Effic. 95.00% 95.00%					
						Gal/Stk 3.84 3.84					
						BBL/Stk 0.091 0.091					

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
00:00	00:05	0.08	7374	7374	0	.00	MWD Survey	MWD Survey
00:05	00:20	0.25	7374	7382	8	32.00	Sliding	Sliding - (WOB:15;GPM :280;TFO:160)
00:20	00:30	0.17	7382	7404	22	132.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
00:30	00:40	0.17	7404	7404	0	.00	MWD Survey	MWD Survey
00:40	01:00	0.33	7404	7418	14	42.00	Sliding	Sliding - (WOB:15;GPM :280;TFO:160)
01:00	01:05	0.08	7418	7429	11	132.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
01:05	01:20	0.25	7429	7429	0	.00	Survey & Conn.	Survey & Conn.
01:20	01:35	0.25	7429	7441	12	48.00	Sliding	Sliding - (WOB:15;GPM :280;TFO:60)
01:35	01:45	0.17	7441	7459	18	108.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
01:45	02:00	0.25	7459	7459	0	.00	MWD Survey	MWD Survey
02:00	02:10	0.17	7459	7471	12	72.00	Sliding	Sliding - (WOB:15;GPM :280;TFO:55)
02:10	02:25	0.25	7471	7489	18	72.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
02:25	02:35	0.17	7489	7489	0	.00	MWD Survey	MWD Survey
02:35	02:45	0.17	7489	7514	25	150.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
02:45	03:15	0.50	7514	7514	0	.00	Service-Inhol	Rig Service-Inhole
03:15	03:25	0.17	7514	7514	0	.00	Survey & Conn.	Survey & Conn.
03:25	03:45	0.33	7514	7556	42	126.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
03:45	03:50	0.08	7556	7556	0	.00	MWD Survey	MWD Survey
03:50	04:05	0.25	7556	7599	43	172.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
04:05	04:25	0.33	7599	7599	0	.00	Survey & Conn.	Survey & Conn.
04:25	04:40	0.25	7599	7641	42	168.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
04:40	04:55	0.25	7641	7641	0	.00	MWD Survey	MWD Survey
04:55	05:05	0.17	7641	7649	8	48.00	Sliding	Sliding - (WOB:15;GPM :280;TFO:70)
05:05	05:20	0.25	7649	7684	35	140.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
05:20	05:30	0.17	7684	7684	0	.00	Survey & Conn.	Survey & Conn.
05:30	05:45	0.25	7684	7727	43	172.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
05:45	05:50	0.08	7727	7727	0	.00	MWD Survey	MWD Survey
05:50	06:10	0.33	7727	7769	42	126.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
06:10	06:25	0.25	7769	7769	0	.00	Survey & Conn.	Survey & Conn.
06:25	06:40	0.25	7769	7812	43	172.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
06:40	06:45	0.08	7812	7812	0	.00	MWD Survey	MWD Survey
06:45	07:05	0.33	7812	7854	42	126.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
07:05	07:20	0.25	7854	7854	0	.00	Survey & Conn.	Survey & Conn.
07:20	07:45	0.42	7854	7879	25	60.00	Sliding	Sliding - (WOB:15;GPM :280;TFO:150)
07:45	08:10	0.42	7879	7940	61	146.40	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
08:10	08:25	0.25	7940	7940	0	.00	Survey & Conn.	Survey & Conn.
08:25	08:45	0.33	7940	7970	30	90.00	Sliding	Sliding - (WOB:20;GPM :280;TFO:-90)
08:45	09:15	0.50	7970	8025	55	110.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
09:15	09:30	0.25	8025	8025	0	.00	Survey & Conn.	Survey & Conn.
09:30	10:00	0.50	8025	8060	35	70.00	Sliding	Sliding - (WOB:20;GPM :280;TFO:-90)
10:00	10:15	0.25	8060	8060	0	.00	Circulating	Circulating - Calibrate depth tracker
10:15	10:30	0.25	8060	8110	50	200.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:30)
10:30	10:45	0.25	8110	8110	0	.00	Survey & Conn.	Survey & Conn.
10:45	11:15	0.50	8110	8140	30	60.00	Sliding	Sliding - (WOB:20;GPM :280;TFO:-90)
11:15	11:35	0.33	8140	8196	56	168.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:30)
11:35	11:50	0.25	8196	8196	0	.00	Survey & Conn.	Survey & Conn.
11:50	12:25	0.58	8196	8238	42	72.00	Sliding	Sliding - (WOB:20;GPM :280;TFO:-90)
12:25	12:40	0.25	8238	8281	43	172.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:30)
12:40	12:55	0.25	8281	8281	0	.00	Survey & Conn.	Survey & Conn.
12:55	13:30	0.58	8281	8336	55	94.29	Sliding	Sliding - (WOB:20;GPM :280;TFO:-90)
13:30	13:50	0.33	8336	8366	30	90.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:30)
13:50	14:05	0.25	8366	8366	0	.00	Survey & Conn.	Survey & Conn.
14:05	14:30	0.42	8366	8451	85	204.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:30)
14:30	14:45	0.25	8451	8451	0	.00	Survey & Conn.	Survey & Conn.
14:45	15:15	0.50	8451	8481	30	60.00	Sliding	Sliding - (WOB:20;GPM :280;TFO:-90)
15:15	15:40	0.42	8481	8536	55	132.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:30)
15:40	16:10	0.50	8536	8536	0	.00	Service-Inhol	Rig Service-Inhole
16:10	16:25	0.25	8536	8536	0	.00	Survey & Conn.	Survey & Conn.
16:25	17:00	0.58	8536	8622	86	147.43	Drilling	Drilling - (WOB:15;GPM :280;RPM:30)
17:00	17:15	0.25	8622	8622	0	.00	Survey & Conn.	Survey & Conn.
17:15	17:40	0.42	8622	8707	85	204.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
17:40	17:50	0.17	8707	8707	0	.00	Survey & Conn.	Survey & Conn.

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
17:50	18:20	0.50	8707	8792	85	170.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
18:20	18:35	0.25	8792	8792	0	.00	Survey & Conn.	Survey & Conn.
18:35	19:00	0.42	8792	8810	18	43.20	Sliding	Sliding - (WOB:20;GPM :280;TFO:30)
19:00	19:25	0.42	8810	8877	67	160.80	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
19:25	19:45	0.33	8877	8877	0	.00	Survey & Conn.	Survey & Conn.
19:45	20:10	0.42	8877	8893	16	38.40	Sliding	Sliding - (WOB:20;GPM :280;TFO:20)
20:10	20:40	0.50	8893	8963	70	140.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
20:40	20:50	0.17	8963	8963	0	.00	Survey & Conn.	Survey & Conn.
20:50	21:20	0.50	8963	9048	85	170.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
21:20	21:30	0.17	9048	9048	0	.00	Survey & Conn.	Survey & Conn.
21:30	22:05	0.58	9048	9133	85	145.71	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
22:05	22:20	0.25	9133	9133	0	.00	Survey & Conn.	Survey & Conn.
22:20	22:40	0.33	9133	9150	17	51.00	Sliding	Sliding - (WOB:20;GPM :280;TFO:90)
22:40	23:10	0.50	9150	9218	68	136.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
23:10	23:25	0.25	9218	9218	0	.00	Survey & Conn.	Survey & Conn.
23:25	23:50	0.42	9218	9233	15	36.00	Sliding	Sliding - (WOB:20;GPM :280;TFO:75)
23:50	24:00	0.17	9233	9258	25	150.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)



**JOB NO.:** 41HMP1201071

**COMPANY:** Carrizo Oil & Gas

**LOCATION:**

**RIG NAME:** Xtreme 19

**STATE:** Colorado

**COUNTY:** Weld

**WELL NAME:** Rothe 12-14-8-61

**Lead Directional :** David Carrico (10051)

**Report Time:** 2400 13 of 15

**API JOB #**

**WORK ORDER#** 156131

**FIELD:** DJ Basin

**Township:** 8N

**Range/Section** 61W 12

**Company Man** Tom Harris

**2nd Dir Hand :** Paul Jevne (Contract)

**From Friday, January 27, 2012 at 0000 to Friday, January 27, 2012 at 2400**

<b>Start Depth</b>	9258.00	<b>BHA #</b>	<b>Motor SN / R.S SN</b>	<b>Slide Ftg</b>	<b>Slide Hrs</b>	<b>Rotate Ftg</b>	<b>Rotate Hrs</b>	<b>Circ Hrs</b>	<b>D &amp; C Hrs</b>	<b>BHA Ftg</b>	<b>Avg ROP</b>
<b>End Depth</b>	10296.00	7	G761	814.00	23.33	2,982.00	22.17	12.83	58.33	3,796.00	72.19
<b>Below Rot Hrs.</b>	24.00										
<b>Total Drilled:</b>	1038.00										
<b>Avg. Total ROP:</b>	55.86										
<b>Slide Footage:</b>	252.00										
<b>Slide Hours</b>	11.67										
<b>Avg. Slide ROP:</b>	21.60										
<b>Rotate Footage:</b>	786.00										
<b>Rotary Hours</b>	6.92										
<b>Avg. Rot ROP:</b>	113.64										
<b>Circ Hours</b>	2.08										
<b>Ream Hours</b>	0.00										
<b>Rotary Hrs%:</b>	37.22										
<b>Slide Hrs%:</b>	62.78										
<b>Rotary Ftg%:</b>	75.72										
<b>Slide Ftg%:</b>	24.28										
		<b>WOB:</b>	15	<b>Weight:</b>	9.6	<b>Model</b>	6 1/4 QD405F 5	<b>Bit No:</b> 3			
		<b>Rot Wt:</b>	130	<b>Visc:</b>	41	<b>SN.:</b>	7021603	6 1/4 QD405F 5 X 16			
		<b>Pick UP:</b>	195	<b>Chlorides:</b>	140	<b>MFG.</b>	HUGHES	4 3/4 inch Motor 5:6 8.3 stg. -			
		<b>Slack Off:</b>	75	<b>YP:</b>	12	<b>Type</b>	PDC	4 3/4 inch X-O / PxP			
		<b>SPP:</b>	1800	<b>PV:</b>	9	<b>IADC</b>		4 3/4 inch PRT Collar -			
		<b>Flow:</b>	280 - 280	<b>PH:</b>	9	<b>JETS</b>	5-16	4 3/4 inch PRT X-O / PxP			
		<b>SPM:</b>	73	<b>GAS:</b>	0	<b>TFA:</b>	0.981	4 3/4 inch NMDC			
		<b>Rot. RPM</b>	40 - 45	<b>SAND:</b>	0.25	<b>Hole ID:</b>	6 1/4	X-0 - 3 1/2 IF Pin - 4 XT39			
		<b>Mot RPM:</b>	0 - 0	<b>WL:</b>	0	<b>Bit Hrs:</b>	3.08	4 inch DP (66 stds.)			
		<b>Incl. In:</b>	89.52	<b>SOLID:</b>	3	<b>Bit Ftg:</b>	115.00	4 inch HWDP (39 jts.)			
		<b>Azm. In:</b>	357.05	<b>BHT°:</b>	143						
		<b>Incl. Out:</b>	91.45	<b>Flow T°:</b>	95						
		<b>Azm. Out:</b>	358.02	<b>Oil %:</b>	0						
				<b>Stroke</b>	6	6					
				<b>Effic.</b>	95.00%	95.00%					
				<b>Gal/Stk</b>	3.84	3.84					
				<b>BBL/Stk</b>	0.091	0.091					

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
00:00	00:15	0.25	9258	9303	45	180.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
00:15	00:25	0.17	9303	9303	0	.00	Survey & Conn.	Survey & Conn.
00:25	00:55	0.50	9303	9388	85	170.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
00:55	01:10	0.25	9388	9388	0	.00	Survey & Conn.	Survey & Conn.
01:10	01:40	0.50	9388	9398	10	20.00	Sliding	Sliding - (WOB:20;GPM :280;TFO:60)
01:40	02:10	0.50	9398	9473	75	150.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
02:10	02:20	0.17	9473	9473	0	.00	Survey & Conn.	Survey & Conn.
02:20	02:50	0.50	9473	9483	10	20.00	Sliding	Sliding - (WOB:30;GPM :280;TFO:60)
02:50	03:25	0.58	9483	9557	74	126.86	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
03:25	03:40	0.25	9557	9557	0	.00	Service-Inhol	Rig Service-Inhole
03:40	04:00	0.33	9557	9557	0	.00	Survey & Conn.	Survey & Conn.
04:00	04:15	0.25	9557	9567	10	40.00	Sliding	Sliding - (WOB:30;GPM :280;TFO:50)
04:15	04:40	0.42	9567	9641	74	177.60	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
04:40	04:55	0.25	9641	9641	0	.00	Survey & Conn.	Survey & Conn.

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
04:55	05:20	0.42	9641	9658	17	40.80	Sliding	Sliding - (WOB:30;GPM :280;TFO:90)
05:20	06:00	0.67	9658	9727	69	103.50	Drilling	Drilling - (WOB:15;GPM :280;RPM:40)
06:00	06:15	0.25	9727	9727	0	.00	Survey & Conn.	Survey & Conn.
06:15	07:05	0.83	9727	9745	18	21.60	Sliding	Sliding - (WOB:30;GPM :280;TFO:60)
07:05	08:10	1.08	9745	9811	66	60.92	Drilling	Drilling - (WOB:15;GPM :280;RPM:45)
08:10	08:25	0.25	9811	9811	0	.00	Survey & Conn.	Survey & Conn.
08:25	09:10	0.75	9811	9819	8	10.67	Sliding	Sliding - (WOB:30;GPM :280;TFO:45)
09:10	10:10	1.00	9819	9896	77	77.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:45)
10:10	10:25	0.25	9896	9896	0	.00	Survey & Conn.	Survey & Conn.
10:25	11:10	0.75	9896	9981	85	113.33	Drilling	Drilling - (WOB:15;GPM :280;RPM:45)
11:10	11:25	0.25	9981	9981	0	.00	Survey & Conn.	Survey & Conn.
11:25	12:25	1.00	9981	10006	25	25.00	Sliding	Sliding - (WOB:30;GPM :280;TFO:45)
12:25	13:00	0.58	10006	10066	60	102.86	Drilling	Drilling - (WOB:15;GPM :280;RPM:45)
13:00	13:15	0.25	10066	10066	0	.00	Survey & Conn.	Survey & Conn.
13:15	15:10	1.92	10066	10098	32	16.70	Sliding	Sliding - (WOB:30;GPM :280;TFO:45)
15:10	15:35	0.42	10098	10151	53	127.20	Drilling	Drilling - (WOB:15;GPM :280;RPM:45)
15:35	16:10	0.58	10151	10151	0	.00	Service-Inhol	Rig Service-Inhole
16:10	16:25	0.25	10151	10151	0	.00	Survey & Conn.	Survey & Conn.
16:25	17:30	1.08	10151	10166	15	13.85	Sliding	Sliding - (WOB:30;GPM :280;TFO:45)
17:30	17:35	0.08	10166	10166	0	.00	MWD Survey	MWD Survey
17:35	19:00	1.42	10166	10181	15	10.59	Sliding	Sliding - (WOB:40;GPM :280;TFO:60)
19:00	19:05	0.08	10181	10181	0	.00	MWD Survey	MWD Survey
19:05	19:30	0.42	10181	10196	15	36.00	Sliding	Sliding - (WOB:40;GPM :280;TFO:90)
19:30	19:35	0.08	10196	10196	0	.00	MWD Survey	MWD Survey
19:35	20:05	0.50	10196	10211	15	30.00	Sliding	Sliding - (WOB:40;GPM :280;TFO:90)
20:05	20:10	0.08	10211	10211	0	.00	MWD Survey	MWD Survey
20:10	21:20	1.17	10211	10236	25	21.43	Sliding	Sliding - (WOB:40;GPM :280;TFO:90)
21:20	21:50	0.50	10236	10236	0	.00	Circulating	Circulating- Pump Sweep and Ream
21:50	22:05	0.25	10236	10236	0	.00	Survey & Conn.	Survey & Conn.
22:05	22:20	0.25	10236	10251	15	60.00	Sliding	Sliding - (WOB:0;GPM :280;TFO:90)
22:20	22:30	0.17	10251	10251	0	.00	MWD Survey	MWD Survey
22:30	22:50	0.33	10251	10266	15	45.00	Sliding	Sliding - (WOB:40;GPM :280;TFO:110)
22:50	23:05	0.25	10266	10266	0	.00	MWD Survey	MWD Survey
23:05	23:25	0.33	10266	10273	7	21.00	Sliding	Sliding - (WOB:40;GPM :280;TFO:110)
23:25	23:50	0.42	10273	10273	0	.00	Rig repair	Rig repair - Power Issues
23:50	24:00	0.17	10273	10296	23	138.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:45)



**JOB NO.:** 41HMP1201071  
**COMPANY:** Carrizo Oil & Gas  
**LOCATION:**  
**RIG NAME:** Xtreme 19  
**STATE:** Colorado  
**COUNTY:** Weld  
**WELL NAME:** Rothe 12-14-8-61  
**Lead Directional :** David Carrico (10051)

**Report Time:** 2400      **14 of 15**  
**API JOB #**  
**WORK ORDER#** 156131  
**FIELD:** DJ Basin  
**Township:** 8N  
**Range/Section** 61W      12  
**Company Man** Tom Harris  
**2nd Dir Hand :** Paul Jevne (Contract)

**From Saturday, January 28, 2012 at 0000 to Saturday, January 28, 2012 at 2400**

Start Depth	10296.00	BHA #	Motor SN / R.S SN	Slide Ftg	Slide Hrs	Rotate Ftg	Rotate Hrs	Circ Hrs	D & C Hrs	BHA Ftg	Avg ROP
End Depth	10638.00	7	G761	814.00	23.33	2,982.00	22.17	12.83	58.33	3,796.00	72.19
Below Rot Hrs.	24.00										
Total Drilled:	342.00										
Avg. Total ROP:	128.25										
Slide Footage:	15.00										
Slide Hours	0.50										
Avg. Slide ROP:	30.00										
Rotate Footage:	327.00										
Rotary Hours	2.17										
Avg. Rot ROP:	150.92										
Circ Hours	7.25										
Ream Hours	0.25										
Rotary Hrs%:	81.25										
Slide Hrs%:	18.75										
Rotary Ftg%:	95.61										
Slide Ftg%:	4.39										
		WOB:	0	Weight:	9.6	Model	3	6 1/4 QD405F 5 X 16			
		Rot Wt:	130	Visc:	41	SN.:	6 1/4 QD405F 5	4 3/4 inch Motor 5:6 8.3 stg. -			
		Pick UP:	195	Chlorides:	140	MFG.	HUGHES	4 3/4 inch X-O / PxP			
		Slack Off:	75	YP:	12	Type	PDC	4 3/4 inch PRT Collar -			
		SPP:	450	PV:	9	IADC		4 3/4 inch PRT X-O / PxP			
		Flow:	0 - 280	PH:	9	JETS	5-16	4 3/4 inch NMDC			
		SPM:	30	GAS:	0	TFA:	0.981	X-O - 3 1/2 IF Pin - 4 XT39			
		Rot. RPM	45 - 45	SAND:	0.25	Hole ID:	6 1/4	4 inch DP (66 stds.)			
		Mot RPM:	0 - 0	WL:	0	Bit Hrs:	3.08	4 inch HWDP (39 jts.)			
		Incl. In:	91.45	SOLID:	3	Bit Ftg:	115.00				
		Azm. In:	358.02	BHT°:	143						
		Incl. Out:	89.69	Flow T°:	95						
		Azm. Out:	1.71	Oil %:	0	Stroke	6      6				
						Effic.	95.00%   95.00%				
						Gal/Stk	3.84      3.84				
						BBL/Stk	0.091   0.091				

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
00:00	00:05	0.08	10296	10296	0	.00	MWD Survey	MWD Survey
00:05	00:15	0.17	10296	10321	25	150.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:45)
00:15	00:30	0.25	10321	10321	0	.00	Reaming	Ream
00:30	00:45	0.25	10321	10321	0	.00	Survey & Conn.	Survey & Conn.
00:45	00:50	0.08	10321	10336	15	180.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:45)
00:50	00:55	0.08	10336	10336	0	.00	MWD Survey	MWD Survey
00:55	01:05	0.17	10336	10351	15	90.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:45)
01:05	01:10	0.08	10351	10351	0	.00	MWD Survey	MWD Survey
01:10	01:15	0.08	10351	10366	15	180.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:45)
01:15	01:35	0.33	10366	10366	0	.00	Rig repair	Rig repair - Power Issues
01:35	01:45	0.17	10366	10366	0	.00	MWD Survey	MWD Survey
01:45	02:00	0.25	10366	10406	40	160.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:45)
02:00	02:30	0.50	10406	10406	0	.00	Service-Inhol	Rig Service-Inhole
02:30	02:40	0.17	10406	10406	0	.00	Survey & Conn.	Survey & Conn.

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
02:40	03:10	0.50	10406	10406	0	.00	Rig repair	Rig repair
03:10	03:40	0.50	10406	10421	15	30.00	Sliding	Sliding - (WOB:0;GPM :280;TFO:110)
03:40	03:55	0.25	10421	10449	28	112.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:45)
03:55	04:00	0.08	10449	10449	0	.00	MWD Survey	MWD Survey
04:00	04:15	0.25	10449	10492	43	172.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:45)
04:15	04:25	0.17	10492	10492	0	.00	Survey & Conn.	Survey & Conn.
04:25	05:00	0.58	10492	10577	85	145.71	Drilling	Drilling - (WOB:15;GPM :280;RPM:45)
05:00	05:10	0.17	10577	10577	0	.00	Survey & Conn.	Survey & Conn.
05:10	05:30	0.33	10577	10638	61	183.00	Drilling	Drilling - (WOB:15;GPM :280;RPM:45)
05:30	05:35	0.08	10638	10638	0	.00	MWD Survey	MWD Survey
05:35	09:00	3.42	10638	10638	0	.00	Circulating	Circulating
09:00	11:00	2.00	10638	10638	0	.00	Short Trip	Short Trip - To shoe
11:00	13:30	2.50	10638	10638	0	.00	Circulating	Circulating
13:30	20:00	6.50	10638	10638	0	.00	POOH	POOH
20:00	24:00	4.00	10638	10638	0	.00	Rig repair	Rig repair



**JOB NO.:** 41HMP1201071  
**COMPANY:** Carrizo Oil & Gas  
**LOCATION:**  
**RIG NAME:** Xtreme 19  
**STATE:** Colorado  
**COUNTY:** Weld  
**WELL NAME:** Rothe 12-14-8-61  
**Lead Directional :** David Carrico (10051)

**Report Time:** 2400      **15 of 15**  
**API JOB #**  
**WORK ORDER#** 156131  
**FIELD:** DJ Basin  
**Township:** 8N  
**Range/Section** 61W      12  
**Company Man** Tom Harris  
**2nd Dir Hand :**

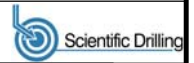
**From Sunday, January 29, 2012 at 0000 to Sunday, January 29, 2012 at 2400**

Start Depth	0.00	BHA #	Motor SN / R.S SN	Slide Ftg	Slide Hrs	Rotate Ftg	Rotate Hrs	Circ Hrs	D & C Hrs	BHA Ftg	Avg ROP	
End Depth	0.00											
Below Rot Hrs.	4.00											
Total Drilled:	0.00											
Avg. Total ROP:	NA											
Slide Footage:	0.00											
Slide Hours	0.00											
Avg. Slide ROP:	NA											
Rotate Footage:	0.00											
Rotary Hours	0.00											
Avg. Rot ROP:	NA											
Circ Hours	0.00											
Ream Hours	0.00											
Rotary Hrs%:	NA											
Slide Hrs%:	NA											
Rotary Ftg%:	NA											
Slide Ftg%:	NA											
		WOB:	0	Weight:	9.6	Bit No:						
		Rot Wt:	130	Visc:	41	Model						
		Pick UP:	195	Chlorides:	140	SN.:						
		Slack Off:	75	YP:	12	MFG.						
		SPP:	450	YP:	12	Type						
		Flow:	115 - 115	PV:	9	IADC						
		SPM:	30	PH:	9	JETS						
		Rot. RPM	-	GAS:	0	TFA:						
		Mot RPM:	-	SAND:	0.25	Hole ID: N/A						
		Incl. In:	89.69	WL:	0	Bit Hrs:						
		Azm. In:	1.71	SOLID:	3	Bit Ftg:						
		Incl. Out:	0	BHT°:	143							
		Azm. Out:	0	Flow T°:	95							
						Oil %:	0	Stroke	6	6		
								Effic.	95.00%	95.00%		
								Gal/Stk	3.84	3.84		
								BBL/Stk	0.091	0.091		

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
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00:00	04:00	0.00	10638	10638	0	.00	Rig repair	Rig repair - Travel Home
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# BHA # 2



**JOB NO.:** 41HMP1201071    **Work Order:** 156131    **FIELD:** DJ Basin  
**COMPANY:** Carrizo Oil & Gas    **Township:** 8N  
**LOCATION:**    **SECT. RANGE:** 12    61W  
**RIG NAME:** Xtreme 19    **Lead DD:** David Carrico (10051)  
**STATE:** Colorado    **Co. Man:** Tom Harris  
**COUNTY:** Weld    **BHA TYPE:** Steerable Assembly  
**WELL NAME:** Rothe 12-14-8-61    **BHA WT:** 155356    **Wt @ Jars:** N/A

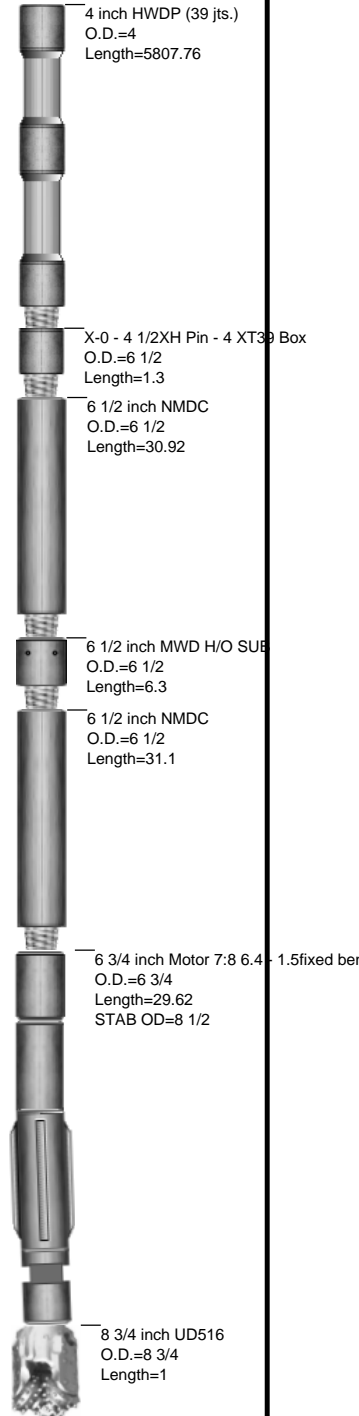
<b>Date In:</b> 17-Jan-12 @ 13:00	6 3/4 inch 7:8 6.4 - 1.5fixed bend	<b>SO/PU:</b> 0 - 0 / 0-0
<b>Date Out:</b> 20-Jan-12 @ 04:00	<b>MFG.:</b> SDI	<b>Rot Strg Wt:</b> 0-0
<b>Hrs In Hole:</b> 59.50	<b>PAD OD:</b> 7 1/4	<b>WOB:</b> 0 - 15
<b>Start Depth:</b> 2332.00	<b>NB Stab:</b> 8.5	<b>TORQ:</b> 0 - 0
<b>End Depth:</b> 5908.00	<b>Bit to Bend:</b> 6	<b>SPP:</b> 550 - 2300
<b>Total Drilled:</b> 3556.00	<b>Bent Hsg/Sub°:</b> 1.5 /	<b>Motor RPM:</b> 107 - 169
<b>Avg. Total ROP:</b> 150.04	<b>Lobe/Stage:</b> 7:8 / 6.4	<b>Rotary RPM:</b> 30 - 40
<b>Circ Hrs: Tot/Only</b> 33.75 / 10.05	<b>Rev/GAL:</b> 0.28	<b>Flow Rate:</b> 305 - 605
<b>Percent Slide:</b> 15.27	<b>Rotor Jet:</b> 0	<b>Avg Diff:</b> 650
<b>Percent Hrs:</b> 30.59	<b>Prop BUR:</b> 8.4	<b>Stall Pres.:</b> 900
<b>Slide Hours:</b> 7.25	<b>Act BUR:</b> 8	<b>Off Bot Pres.:</b> 150
<b>Total Sliding:</b> 543.00		
<b>Avg. Slide ROP:</b> 74.90	<b>Type</b> Water	Ulterra / 8 3/4 inch UD516
<b>Percent Rotary:</b> 84.73	<b>WT:</b> 8.5 <b>GAS:</b> 0	<b>Run #:</b> 1
<b>Percent Hrs:</b> 69.41	<b>Vis:</b> 28 <b>PV:</b> 0	<b>Type Bit:</b> PDC
<b>Rotary Hours:</b> 16.45	<b>WL:</b> 0 <b>PH:</b> 8.5	<b>IADC#:</b> TFA: 1.239
<b>Total Rotary:</b> 3013.00	<b>SOL:</b> 1 <b>SAND:</b> 0	<b>JETS:</b> 4-16,20,3-8
<b>Avg. Rotary ROP:</b> 183.16	<b>Oil %:</b> 0 <b>T °:</b> 143	<b>Bit Drop:</b> 187 PSI @ 605 GPM
<b>Reason POOH:</b>	<b>Chlor:</b> 460 <b>YP:</b> 1	<b>Cond.:</b> RE-RUNABLE

<b>Gamma:</b> 0 <b>Restiv:</b> 0 <b>Sensor:</b> 52.95	<b>Last Casing</b> 9 5/8
<b>GYRO:</b> 0 <b>DNCS:</b> 2332 <b>Sonic:</b> 0	<b>Shoe @:</b> 1424 <b>Hanger @:</b> 17

**INC IN:** 6.1    **INC OUT:** 4.3    **AZM IN:** 89.30    **AZM OUT:** 68.02

We pulled BHA do to TD at 5909. BHA preformed good we where getting 8deg/100' as our Build rates .

Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn	MFG.
8 3/4 inch UD516	4545		8 3/4	1.00	1.00	4 1/2 REGP	
6 3/4 inch Motor 7:8 6.4 - 1.5fixed bend	6864		6 3/4	29.62	30.62	4 1/2 XHB	
6 1/2 inch NMDC	122-053	3 1/4	6 1/2	31.10	61.72	4 1/2 XHB	
6 1/2 inch MWD H/O SUB	129-070	3 1/4	6 1/2	6.30	68.02	4 1/2 XHB	
6 1/2 inch NMDC	64-30-10107	3 1/4	6 1/2	30.92	98.94	4 1/2 XHB	
X-0 - 4 1/2XH Pin - 4 XT39 Box	RIG-4.5XH-4XT	3 1/4	6 1/2	1.30	100.24	4 XT39B	
4 inch HWDP (39 jts.)	RIG-HWDP-39	2 1/4	4	5,807.76	5908.00	4 XT39B	





**JOB NO.:** 41HMP1201071  
**COMPANY:** Carrizo Oil & Gas  
**LOCATION:**  
**RIG NAME:** Xtreme 19  
**STATE:** Colorado  
**COUNTY:** Country  
**WELL NAME:** Rothe 12-14-8-61

**FIELD:** DJ Basin  
**Township:** 8N  
**Range:** 61W

MOTOR INFORMATION	
Desc: 6 3/4 inch 7:8 6.4 - 1.5adj. bend	
Bent Hsg/Sub: 1.5 / 0	Bit to Bend: 7.16
PAD OD: 7 1/4	NB Stab:

#	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	16-Jan	Drilling	02:05	02:10	0.08	1429	1439	10	15	120.0	30	0	306	700		0.09	79.94	0.01	
1	16-Jan	Drilling	02:40	03:00	0.33	1439	1521	82	10	246.0	30	0	383	900		1.31	26.77	4.80	
1	16-Jan	Sliding	03:20	03:30	0.17	1521	1563	42	10	252.0	0	0	383	900	90	3.31	35.19	4.80	
1	16-Jan	Sliding	03:40	04:05	0.42	1563	1606	43	10	103.2	0	0	383	900	90	5.06	42.20	2.16	
1	16-Jan	Drilling	04:05	04:15	0.17	1606	1647	41	10	246.0	60	0	383	900		5.92	44.39	2.16	
1	16-Jan	Sliding	04:25	04:35	0.17	1647	1667	20	10	120.0	0	0	383	900	135	6.34	45.46	2.16	
1	16-Jan	Drilling	04:35	04:55	0.33	1667	1732	65	10	195.0	60	0	383	900		6.97	55.41	2.22	
1	16-Jan	Sliding	05:05	05:20	0.25	1732	1762	30	10	120.0	0	0	383	900	135	7.18	60.69	2.22	
1	16-Jan	Drilling	05:20	05:35	0.25	1762	1818	56	10	224.0	60	0	383	900		7.21	65.52	1.00	
1	16-Jan	Sliding	06:00	06:20	0.33	1818	1860	42	10	126.0	0	0	605	1750	135	6.91	71.45	4.24	
1	16-Jan	Drilling	06:20	06:40	0.33	1860	1903	43	10	129.0	60	0	605	1750		5.72	85.03	4.24	
1	16-Jan	Sliding	06:55	07:15	0.33	1903	1946	43	10	129.0	0	0	605	1750	145	4.81	95.77	0.52	
1	16-Jan	Drilling	07:15	07:30	0.25	1946	1988	42	10	168.0	60	0	605	1750		4.72	98.17	0.52	
1	16-Jan	Drilling	07:45	08:20	0.58	1988	2072	84	10	144.0	60	0	605	1750		4.77	97.02	0.48	
1	16-Jan	Drilling	08:45	09:10	0.42	2072	2158	86	10	206.4	35	0	605	1950		4.72	94.49	0.23	
1	16-Jan	Drilling	09:25	09:55	0.50	2158	2243	85	10	170.0	35	0	605	1950		4.60	95.46	0.25	
1	16-Jan	Drilling	10:00	10:55	0.92	2243	2328	85	10	92.7	35	0	605	1950		4.38	99.18	4.05	
1	16-Jan	Drilling	11:05	11:20	0.25	2328	2414	86	10	344.0	35	0	605	1950		6.49	144.01	3.32	
1	16-Jan	Drilling	11:30	11:50	0.33	2414	2499	85	10	255.0	35	0	605	1950		5.24	109.34	5.80	
1	16-Jan	Drilling	12:00	12:10	0.17	2499	2584	85	10	510.0	35	0	605	1950		4.94	66.91	5.27	
1	16-Jan	Sliding	12:20	12:40	0.33	2584	2619	35	10	105.0	0	0	605	1950	160	2.92	83.80	7.23	
1	16-Jan	Drilling	12:40	12:45	0.08	2619	2669	50	10	600.0	35	0	605	1950		3.53	107.87	2.96	
1	16-Jan	Sliding	13:30	13:50	0.33	2669	2709	40	10	120.0	0	0	605	1950	180	4.35	111.88	1.24	
1	16-Jan	Drilling	14:00	14:10	0.17	2709	2754	45	10	270.0	35	0	605	1950		4.78	111.90	0.62	
1	16-Jan	Sliding	14:20	14:55	0.58	2754	2839	85	10	145.7	0	0	605	1950	160	6.10	89.30	1.17	

#	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
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<b>Total Drilled:</b>						1410	<b>Avg. Total ROP:</b>				165.88	<b>DEPTH% - TIME %</b>									
<b>Total Rotary Drilled:</b>						1030	<b>Avg. Rotary ROP:</b>				184.48	<b>Percent Rotary:</b>		73.05 - 65.69							
<b>Total Drilled Sliding:</b>						380	<b>Avg. Slide ROP:</b>				130.29	<b>Percent Slide:</b>		26.95 - 34.31							

# BHA # 1



**JOB NO.:** 41HMP1201071    **Work Order:** 156131    **FIELD:** DJ Basin  
**COMPANY:** Carrizo Oil & Gas    **Township:** 8N  
**LOCATION:**    **SECT. RANGE:** 12    61W  
**RIG NAME:** Xtreme 19    **Lead DD:** David Carrico (10051)  
**STATE:** Colorado    **Co. Man:** Tom Harris  
**COUNTY:** Weld    **BHA TYPE:** Steerable Assembly  
**WELL NAME:** Rothe 12-14-8-61    **BHA WT:** 70302    **Wt @ Jars:** N/A

<b>Date In:</b> 15-Jan-12 @ 22:30 <b>Date Out:</b> 16-Jan-12 @ 19:45 <b>Hrs In Hole:</b> 21.25 <b>Start Depth:</b> 1429.00 <b>End Depth:</b> 2839.00 <b>Total Drilled:</b> 1410.00 <b>Avg. Total ROP:</b> 165.88 <b>Circ Hrs: Tot/Only</b> 10.33 / 1.83 <b>Percent Slide:</b> 26.95 <b>Percent Hrs:</b> 34.31 <b>Slide Hours:</b> 2.92 <b>Total Sliding:</b> 380.00 <b>Avg. Slide ROP:</b> 130.29 <b>Percent Rotary:</b> 73.05 <b>Percent Hrs:</b> 65.69 <b>Rotary Hours:</b> 5.58 <b>Total Rotary:</b> 1030.00 <b>Avg. Rotary ROP:</b> 184.48 <b>Reason POOH:</b>	6 3/4 inch 7:8 6.4 - 1.5adj. bend <b>MFG.:</b> SDI <b>PAD OD:</b> 7 1/4 <b>NB Stab:</b> 8.5 <b>Bit to Bend:</b> 7.16 <b>Bent Hsg/Sub°:</b> 1.5 / <b>Lobe/Stage:</b> 7:8 / 6.4 <b>Rev/GAL:</b> 0.28 <b>Rotor Jet:</b> 0 <b>Prop BUR:</b> 8.4 <b>Act BUR:</b> 8	<b>SO/PU:</b> 65 - 65 / 65-65 <b>Rot Strg Wt:</b> 65-65 <b>WOB:</b> 0 - 15 <b>TORQ:</b> 0 - 0 <b>SPP:</b> 700 - 1950 <b>Motor RPM:</b> 107 - 169 <b>Rotary RPM:</b> 30 - 60 <b>Flow Rate:</b> 300 - 605 <b>Avg Diff:</b> 650 <b>Stall Pres.:</b> 900 <b>Off Bot Pres.:</b> 150
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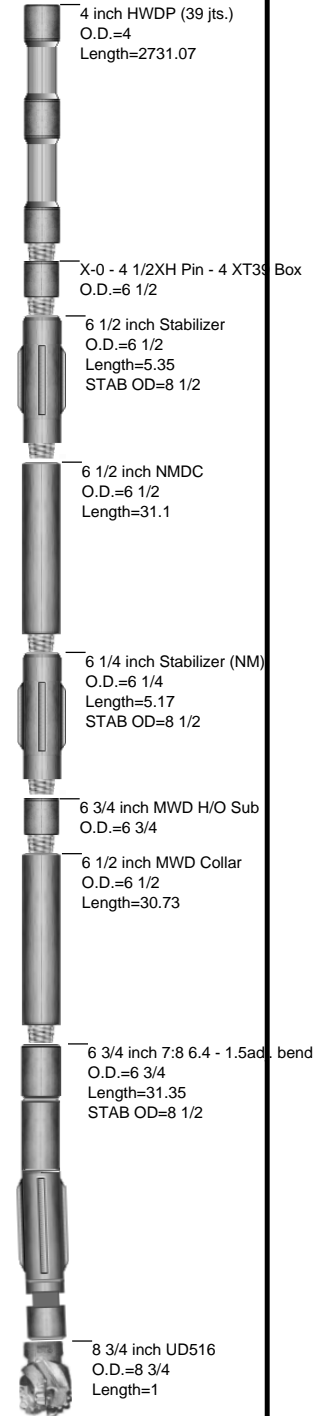
<b>Type</b> Water <b>WT:</b> 8.5 <b>GAS:</b> 0 <b>Vis:</b> 28 <b>PV:</b> 0 <b>WL:</b> 0 <b>PH:</b> 13 <b>SOL:</b> 1 <b>SAND:</b> 0 <b>Oil %:</b> 0 <b>T °:</b> 92 <b>Chlor:</b> 40 <b>YP:</b> 1	Ultrerra / 8 3/4 inch UD516 <b>Run #:</b> 1 <b>Type Bit:</b> PDC <b>IADC#:</b> <b>TFA:</b> 1.239 <b>JETS:</b> 4-16,20,3-8 <b>Bit Drop:</b> 187 PSI @ 605 GPM <b>Cond.:</b> REFURBISHED
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**Gamma:** 0    **Restiv:** 0    **Sensor:** 48    **Last Casing** 9 5/8  
**GYRO:** 0    **DNSC:** 1429    **Sonic:** 0    **Shoe @:** 1424    **Hanger @:** 17

**INC IN:** .0    **INC OUT:** 6.1    **AZM IN:** .00    **AZM OUT:** 89.30

Motor backed off at adjusting nut. Slides yielded good results, but in wrong direction. Acted funny while rotating, which is probably attributed to the previously mentioned issue.

Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn	MFG.
8 3/4 inch UD516	4545		8 3/4	1.00	1.00	4 1/2 REGP	
6 3/4 inch 7:8 6.4 - 1.5adj. bend	6805		6 3/4	31.35	32.35	4 1/2 XHB	
6 1/2 inch MWD Collar	64-30-7444	2 13/16	6 1/2	30.73	63.08	4 1/2 XHB	
6 3/4 inch MWD H/O Sub	LSB0113	2 13/16	6 3/4	1.93	65.01	4 1/2 XHB	
6 1/4 inch Stabilizer (NM)	12272	3 1/4	6 1/4	5.17	70.18	4 1/2 XHB	
6 1/2 inch NMDC	122-053	3 1/4	6 1/2	31.10	101.28	4 1/2 XHB	
6 1/2 inch Stabilizer	18712	3 1/4	6 1/2	5.35	106.63	4 1/2 XHB	
X-0 - 4 1/2XH Pin - 4 XT39 Box	RIG-4.5XH-4XT	3 1/4	6 1/2	1.30	107.93	4 XT39B	
4 inch HWDP (39 jts.)	RIG-HWDP-39	2 1/2	4	2,731.07	2839.00	4 XT39B	





**JOB NO.:** 41HMP1201071  
**COMPANY:** Carrizo Oil & Gas  
**LOCATION:**  
**RIG NAME:** Xtreme 19  
**STATE:** Colorado  
**COUNTY:** Country  
**WELL NAME:** Rothe 12-14-8-61

**FIELD:** DJ Basin  
**Township:** 8N  
**Range:** 61W

MOTOR INFORMATION	
Desc: 6 3/4 inch 7:8 6.4 - 1.5fixed bend	
Bent Hsg/Sub: 1.5 / 0	Bit to Bend: 6
PAD OD: 7 1/4	NB Stab:

#	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	18-Jan	Drilling	05:30	05:40	0.17	2332	2342	10	5	60.0	35	0	306	550		4.33	106.84	5.09	
2	18-Jan	Sliding	06:45	07:15	0.50	2342	2365	23	5	46.0	0	0	381	1000	190	4.81	125.52	7.86	
2	18-Jan	Sliding	07:25	07:40	0.25	2365	2380	15	5	60.0	0	0	605	2000	190	5.58	135.46	7.88	
2	18-Jan	Sliding	07:50	08:20	0.50	2380	2395	15	5	30.0	0	0	605	2000	190	5.96	140.03	3.67	
2	18-Jan	Sliding	08:45	09:00	0.25	2395	2406	11	5	44.0	0	0	605	2000	200	6.27	142.36	3.68	
2	18-Jan	Drilling	09:20	09:25	0.08	2406	2421	15	5	180.0	30	0	605	2000		6.65	145.44	3.32	
2	18-Jan	Drilling	09:30	09:40	0.17	2421	2436	15	5	90.0	30	0	605	2000		6.68	147.17	1.22	
2	18-Jan	Sliding	09:50	10:00	0.17	2436	2451	15	5	90.0	0	0	605	2000	-180	6.33	144.71	2.98	
2	18-Jan	Sliding	10:10	10:20	0.17	2451	2466	15	5	90.0	0	0	605	2000	-180	5.80	137.94	5.93	
2	18-Jan	Sliding	10:25	10:30	0.08	2466	2481	15	5	180.0	0	0	605	2000	-135	5.10	125.90	8.91	
2	18-Jan	Drilling	10:35	10:40	0.08	2481	2491	10	5	120.0	30	0	605	2000		5.16	116.05	8.83	
2	18-Jan	Sliding	11:00	11:10	0.17	2491	2506	15	5	90.0	0	0	605	2000	-135	5.36	105.16	5.80	
2	18-Jan	Sliding	11:15	11:25	0.17	2506	2521	15	5	90.0	0	0	605	2000	-120	5.45	94.87	6.93	
2	18-Jan	Drilling	11:30	11:40	0.17	2521	2536	15	5	90.0	30	0	605	2000		5.45	86.17	5.50	
2	18-Jan	Drilling	11:45	11:50	0.08	2536	2551	15	5	180.0	30	0	605	2000		5.48	77.75	5.34	
2	18-Jan	Sliding	12:00	12:10	0.17	2551	2566	15	5	90.0	0	0	605	2000	-120	5.45	68.42	5.92	
2	18-Jan	Sliding	12:15	12:20	0.08	2566	2576	10	5	120.0	0	0	605	2000	-180	5.22	67.43	2.51	
2	18-Jan	Sliding	12:35	12:45	0.17	2576	2591	15	5	90.0	0	0	605	2000	-180	4.57	66.87	5.27	
2	18-Jan	Sliding	13:15	13:30	0.25	2591	2606	15	5	60.0	0	0	605	2000	110	3.61	72.37	7.97	
2	18-Jan	Sliding	13:40	13:55	0.25	2606	2621	15	5	60.0	0	0	605	2000	110	2.81	85.56	7.23	
2	18-Jan	Drilling	14:10	14:15	0.08	2621	2636	15	5	180.0	30	0	605	2000		2.81	95.49	3.24	
2	18-Jan	Drilling	14:20	14:30	0.17	2636	2651	15	5	90.0	30	0	605	2000		3.04	104.40	2.96	
2	18-Jan	Drilling	14:35	14:40	0.08	2651	2661	10	5	120.0	30	0	605	2000		3.32	106.33	2.96	
2	18-Jan	Sliding	14:50	15:05	0.25	2661	2676	15	5	60.0	0	0	605	2000	130	3.72	109.21	2.96	
2	18-Jan	Drilling	15:10	15:15	0.08	2676	2691	15	5	180.0	30	0	605	2000		4.13	112.10	2.96	
2	18-Jan	Sliding	15:20	15:30	0.17	2691	2704	13	5	78.0	0	0	605	2000	60	4.29	111.94	1.24	
2	18-Jan	Drilling	15:35	15:50	0.25	2704	2746	42	5	168.0	30	0	605	2000		4.73	111.77	0.62	

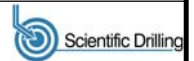
#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
2	18-Jan	Drilling	16:20	16:45	0.42	2746	2789	43	5	103.2	30	0	605	2000		5.22	106.25	5.35	
2	18-Jan	Sliding	16:50	17:00	0.17	2789	2809	20	5	120.0	0	0	605	2000	20	5.73	96.20	5.35	
2	18-Jan	Drilling	17:00	17:10	0.17	2809	2832	23	5	138.0	30	0	605	2000		6.06	89.96	1.17	
2	18-Jan	Drilling	17:20	17:35	0.25	2832	2875	43	5	172.0	30	0	605	2000		5.83	81.48	5.23	
2	18-Jan	Sliding	17:40	18:00	0.33	2895	2894	-1	5	-3.0	0	0	605	2000	180	5.23	73.21	5.23	
2	18-Jan	Drilling	18:00	18:05	0.08	2894	2917	23	5	276.0	30	0	605	2000		4.60	64.50	3.53	
2	18-Jan	Sliding	18:20	18:30	0.17	2917	2932	15	5	90.0	0	0	605	2000	180	4.24	59.48	3.53	
2	18-Jan	Drilling	18:30	18:40	0.17	2932	2959	27	5	162.0	30	0	605	2000		3.97	53.49	0.99	
2	18-Jan	Drilling	18:45	18:55	0.17	2959	3002	43	5	258.0	30	0	605	2000		4.12	52.73	1.30	
2	18-Jan	Sliding	19:05	19:15	0.17	3002	3022	20	5	120.0	0	0	605	2000	90	3.95	55.57	1.30	
2	18-Jan	Drilling	19:15	19:25	0.17	3022	3045	23	5	138.0	30	0	605	2000		3.79	63.55	3.33	
2	18-Jan	Sliding	19:30	19:45	0.25	3045	3070	25	5	100.0	0	0	605	2000	90	3.64	76.18	3.33	
2	18-Jan	Drilling	19:45	19:50	0.08	3070	3087	17	5	204.0	30	0	605	2000		3.66	85.72	3.76	
2	18-Jan	Sliding	20:05	20:15	0.17	3087	3112	25	5	150.0	0	0	605	2000	90	3.76	100.33	3.76	
2	18-Jan	Drilling	20:15	20:25	0.17	3112	3130	18	5	108.0	30	0	605	2000		3.96	106.00	1.95	
2	18-Jan	Drilling	20:30	20:45	0.25	3130	3173	43	5	172.0	30	0	605	2000		4.45	111.37	0.40	
2	18-Jan	Drilling	20:55	21:05	0.17	3173	3215	42	5	252.0	30	0	605	2000		4.52	106.56	3.11	
2	18-Jan	Sliding	21:10	21:25	0.25	3215	3240	25	5	100.0	0	0	605	2000	-90	4.42	96.68	3.11	
2	18-Jan	Drilling	21:25	21:35	0.17	3240	3258	18	5	108.0	30	0	605	2000		4.45	92.39	1.45	
2	18-Jan	Drilling	21:45	21:55	0.17	3258	3300	42	5	252.0	30	0	605	2000		4.62	85.66	1.07	
2	18-Jan	Drilling	22:05	22:15	0.17	3300	3342	42	5	252.0	30	0	605	2000		4.78	81.49	0.44	
2	18-Jan	Drilling	22:25	22:35	0.17	3342	3385	43	5	258.0	30	0	605	2000		4.73	79.90	0.85	
2	18-Jan	Drilling	22:45	22:55	0.17	3385	3427	42	5	252.0	30	0	605	2000		4.38	81.96	1.79	
2	18-Jan	Sliding	23:10	23:20	0.17	3427	3447	20	5	120.0	30	0	605	2000	110	4.22	86.21	1.79	
2	18-Jan	Drilling	23:30	23:50	0.33	3447	3470	23	5	69.0	30	0	605	2000		4.18	90.94	1.52	
2	19-Jan	Drilling	00:00	00:10	0.17	3470	3555	85	5	510.0	30	0	605	2000		4.71	98.56	0.65	
2	19-Jan	Drilling	00:15	00:25	0.17	3555	3598	43	5	258.0	30	0	605	2000		5.07	100.07	1.63	
2	19-Jan	Drilling	00:35	00:50	0.25	3598	3639	41	5	164.0	30	0	605	2000		5.71	98.36	1.84	
2	19-Jan	Sliding	00:55	01:10	0.25	3639	3659	20	5	80.0	30	0	605	2000	-120	6.00	96.11	1.84	
2	19-Jan	Drilling	01:10	01:20	0.17	3659	3682	23	5	138.0	30	0	605	2000		6.29	93.84	1.42	
2	19-Jan	Drilling	01:30	01:45	0.25	3682	3725	43	5	172.0	30	0	605	2000		6.31	89.20	2.82	
2	19-Jan	Sliding	01:50	02:00	0.17	3725	3745	20	5	120.0	30	0	605	2000	-160	5.86	86.01	2.82	
2	19-Jan	Drilling	02:00	02:10	0.17	3745	3767	22	5	132.0	30	0	605	2000		5.19	85.27	3.71	
2	19-Jan	Sliding	02:20	02:35	0.25	3767	3792	25	5	100.0	30	0	605	2000	180	4.28	87.04	3.71	
2	19-Jan	Drilling	02:35	02:45	0.17	3792	3810	18	5	108.0	30	0	605	2000		4.10	85.40	1.00	

#	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	19-Jan	Drilling	02:55	03:05	0.17	3810	3851	41	5	246.0	30	0	605	2000		4.02	81.35	0.19	
2	19-Jan	Drilling	03:15	03:30	0.25	3851	3894	43	5	172.0	30	0	605	2000		4.06	81.84	0.93	
2	19-Jan	Drilling	03:35	03:50	0.25	3894	3937	43	5	172.0	30	0	605	2000		4.42	87.36	2.43	
2	19-Jan	Sliding	04:00	04:20	0.33	3937	3957	20	5	60.0	30	0	605	2000	60	4.58	93.25	2.43	
2	19-Jan	Drilling	04:20	04:30	0.17	3957	3979	22	5	132.0	30	0	605	2000		4.78	98.08	1.68	
2	19-Jan	Drilling	04:40	04:55	0.25	3979	4022	43	5	172.0	30	0	605	2000		5.17	102.81	0.63	
2	19-Jan	Drilling	05:30	05:45	0.25	4022	4065	43	5	172.0	30	0	605	2000		5.23	98.98	2.58	
2	19-Jan	Sliding	05:55	06:05	0.17	4065	4085	20	5	120.0	0	0	605	2000	-135	5.02	93.67	2.58	
2	19-Jan	Drilling	06:05	06:15	0.17	4085	4107	22	5	132.0	30	0	605	2000		4.95	90.61	0.36	
2	19-Jan	Drilling	06:25	06:40	0.25	4107	4150	43	5	172.0	30	0	605	2000		4.68	89.35	2.56	
2	19-Jan	Drilling	06:45	06:55	0.17	4150	4192	42	10	252.0	40	0	605	2000		3.60	88.53	2.56	
2	19-Jan	Sliding	07:05	07:25	0.33	4192	4207	15	10	45.0	0	0	605	2000	-180	3.22	88.24	2.56	
2	19-Jan	Drilling	07:25	07:40	0.25	4207	4278	71	10	284.0	40	0	605	2000		2.47	88.34	0.62	
2	19-Jan	Drilling	07:50	08:15	0.42	4278	4362	84	10	201.6	40	0	605	2000		3.25	90.82	1.77	
2	19-Jan	Sliding	08:25	08:35	0.17	4362	4379	17	10	102.0	0	0	605	2000	90	3.55	91.52	1.77	
2	19-Jan	Drilling	08:35	08:55	0.33	4379	4447	68	15	204.0	40	0	605	2000		4.18	94.05	0.77	
2	19-Jan	Drilling	09:05	09:25	0.33	4447	4532	85	15	255.0	40	0	605	2000		4.45	100.14	0.71	
2	19-Jan	Drilling	09:35	10:00	0.42	4532	4618	86	15	206.4	40	0	605	2000		4.83	104.90	0.69	
2	19-Jan	Drilling	10:15	10:40	0.42	4618	4702	84	15	201.6	40	0	605	2000		5.01	108.43	0.39	
2	19-Jan	Drilling	10:50	11:10	0.33	4702	4788	86	15	258.0	40	0	605	2000		5.07	99.98	1.58	
2	19-Jan	Sliding	11:25	11:45	0.33	4788	4808	20	10	60.0	0	0	605	2300	360	5.09	96.40	1.58	
2	19-Jan	Drilling	11:45	12:10	0.42	4808	4873	65	15	156.0	40	0	605	2300		5.39	91.62	0.73	
2	19-Jan	Drilling	12:20	12:45	0.42	4873	4957	84	15	201.6	40	0	605	2300		5.48	88.62	0.27	
2	19-Jan	Drilling	13:00	13:25	0.42	4957	5042	85	15	204.0	40	0	605	2300		5.51	86.19	0.31	
2	19-Jan	Drilling	13:35	13:55	0.33	5042	5127	85	15	255.0	40	0	605	2300		5.20	82.62	0.77	
2	19-Jan	Drilling	14:10	14:35	0.42	5127	5212	85	15	204.0	40	0	605	2300		4.95	81.16	0.11	
2	19-Jan	Drilling	14:45	15:10	0.42	5212	5296	84	15	201.6	40	0	605	2300		5.04	80.93	0.21	
2	19-Jan	Drilling	15:20	15:45	0.42	5296	5381	85	15	204.0	40	0	605	2300		5.04	81.09	0.12	
2	19-Jan	Drilling	15:55	16:20	0.42	5381	5466	85	15	204.0	40	0	605	2300		4.61	79.00	0.80	
2	19-Jan	Drilling	17:00	17:30	0.50	5466	5550	84	15	168.0	40	0	605	2300		4.17	77.88	0.42	
2	19-Jan	Drilling	17:40	18:05	0.42	5550	5636	86	15	206.4	40	0	605	2300		4.32	77.17	0.53	
2	19-Jan	Drilling	18:15	18:50	0.58	5636	5721	85	15	145.7	40	0	605	2300		4.54	77.28	0.13	
2	19-Jan	Drilling	19:00	19:30	0.50	5721	5806	85	15	170.0	40	0	605	2300		4.34	79.09	0.46	
2	19-Jan	Drilling	19:40	20:05	0.42	5806	5891	85	15	204.0	40	0	605	2300		4.10	77.74	0.84	
2	19-Jan	Drilling	20:15	20:37	0.37	5891	5908	17	15	46.4	40	0	605	2300		4.30	68.02	5.94	

#	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
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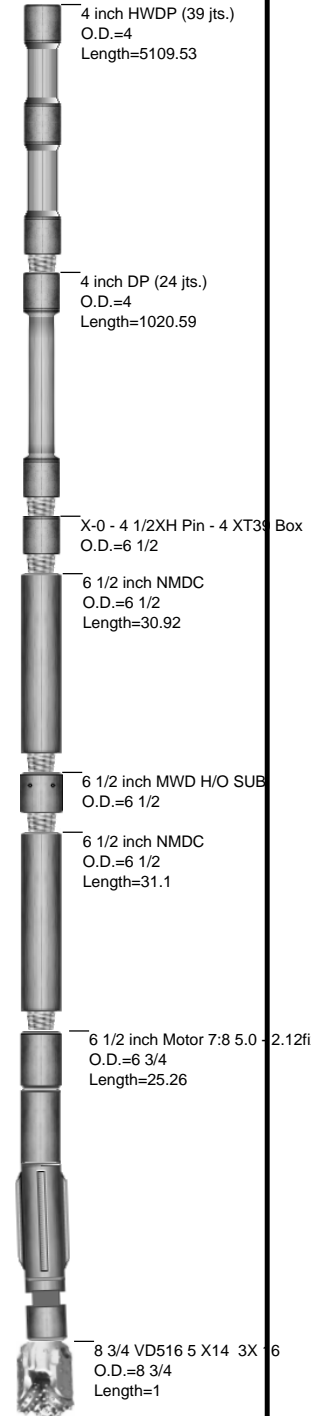
<b>Total Drilled:</b>						3556	<b>Avg. Total ROP:</b>			150.04	<b>DEPTH% - TIME %</b>								
<b>Total Rotary Drilled:</b>						3013	<b>Avg. Rotary ROP:</b>			183.16	<b>Percent Rotary:</b>			84.73 - 69.41					
<b>Total Drilled Sliding:</b>						543	<b>Avg. Slide ROP:</b>			74.90	<b>Percent Slide:</b>			15.27 - 30.59					

# BHA # 3



**JOB NO.:** 41HMP1201071    **Work Order:** 156131    **FIELD:** DJ Basin  
**COMPANY:** Carrizo Oil & Gas    **Township:** 8N  
**LOCATION:**    **SECT. RANGE:** 12    61W  
**RIG NAME:** Xtreme 19    **Lead DD:** David Carrico (10051)  
**STATE:** Colorado    **Co. Man:** Tom Harris  
**COUNTY:** Weld    **BHA TYPE:** Steerable Assembly  
**WELL NAME:** Rothe 12-14-8-61    **BHA WT:** 153863    **Wt @ Jars:** N/A

<b>Date In:</b> 20-Jan-12 @ 04:00	6 3/4 inch 7:8 5.0 - 2.12 fixed	<b>SO/PU:</b> 135 - 135 / 185-185
<b>Date Out:</b> 20-Jan-12 @ 24:00	<b>MFG.:</b> SDI	<b>Rot Strg Wt:</b> 160-160
<b>Hrs In Hole:</b> 20.00	<b>PAD OD:</b> 7	<b>WOB:</b> 0 - 10
<b>Start Depth:</b> 5908.00	<b>NB Stab:</b> 0	<b>TORQ:</b> -
<b>End Depth:</b> 6226.00	<b>Bit to Bend:</b> 6	<b>SPP:</b> 1000 - 2500
<b>Total Drilled:</b> 318.00	<b>Bent Hsg/Sub°:</b> 2.12 /	<b>Motor RPM:</b> 161
<b>Avg. Total ROP:</b> 65.79	<b>Lobe/Stage:</b> 7:8 / 5	<b>Rotary RPM:</b> -
<b>Circ Hrs: Tot/Only</b> 9.58 / 4.75	<b>Rev/GAL:</b> 0.28	<b>Flow Rate:</b> 306 - 575
<b>Percent Slide:</b> 100.00	<b>Rotor Jet:</b> 0	<b>Avg Diff:</b> 500
<b>Percent Hrs:</b> 100.00	<b>Prop BUR:</b> 12	<b>Stall Pres.:</b> 675
<b>Slide Hours:</b> 4.83	<b>Act BUR:</b> 9.5	<b>Off Bot Pres.:</b> 150
<b>Total Sliding:</b> 318.00		
<b>Avg. Slide ROP:</b> 65.79	<b>Type</b> Water	Ulterra / 8 3/4 VD516 5 X14 3X 16
<b>Percent Rotary:</b> .00	<b>WT:</b> 8.5	<b>GAS:</b> 0
<b>Percent Hrs:</b> .00	<b>Vis:</b> 28	<b>PV:</b> 0
<b>Rotary Hours:</b> .00	<b>WL:</b> 0	<b>PH:</b> 8.5
<b>Total Rotary:</b> .00	<b>SOL:</b> 1	<b>SAND:</b> 0
<b>Avg. Rotary ROP:</b> NA	<b>Oil %:</b> 0	<b>T °:</b> 143
<b>Reason POOH:</b>	<b>Chlor:</b> 460	<b>YP:</b> 1



<b>Gamma:</b> 0	<b>Restiv:</b> 0	<b>Sensor:</b> 48.59	<b>Last Casing</b> 9 5/8
<b>GYRO:</b> 0	<b>DNCS:</b> 5908	<b>Sonic:</b> 0	<b>Shoe @:</b> 1424 <b>Hanger @:</b> 17

**INC IN:** 4.3    **INC OUT:** 28.9    **AZM IN:** 68.02    **AZM OUT:** 12.27  
 Had to pull because we were not getting Build Rates needed. Yielding 9.5deg/100' needed 11deg/100'

Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn	MFG.
8 3/4 VD516 5 X14 3X 16	6145		8 3/4	1.00	1.00	4 1/2 REGP	
6 1/2 inch Motor 7:8 5.0 - 2.12fixed bend	6806		6 3/4	25.26	26.26	4 1/2 XHB	
6 1/2 inch NMDC	122-053	3 1/4	6 1/2	31.10	57.36	4 1/2 XHB	
6 1/2 inch MWD H/O SUB	129-070	3 1/4	6 1/2	6.30	63.66	4 1/2 XHB	
6 1/2 inch NMDC	64-30-10107	3 1/4	6 1/2	30.92	94.58	4 1/2 XHB	
X-0 - 4 1/2XH Pin - 4 XT39 Box	RIG-4.5XH-4XT	3 1/4	6 1/2	1.30	95.88	4 XT39B	
4 inch DP (24 jts.)	RIG-DP-24	3	4	1,020.59	1116.47	4 XT39B	
4 inch HWDP (39 jts.)	RIG-HWDP-39	2 1/4	4	5,109.53	6226.00	4 XT39B	



**JOB NO.:** 41HMP1201071  
**COMPANY:** Carrizo Oil & Gas  
**LOCATION:**  
**RIG NAME:** Xtreme 19  
**STATE:** Colorado  
**COUNTY:** Country  
**WELL NAME:** Rothe 12-14-8-61

**FIELD:** DJ Basin  
**Township:** 8N  
**Range** 61W

MOTOR INFORMATION	
Desc: 6 3/4 inch 7:8 5.0 - 2.12 fixed bend	
Bent Hsg/Sub: 2.12/ 0	Bit to Bend: 6
PAD OD: 7	NB Stab:

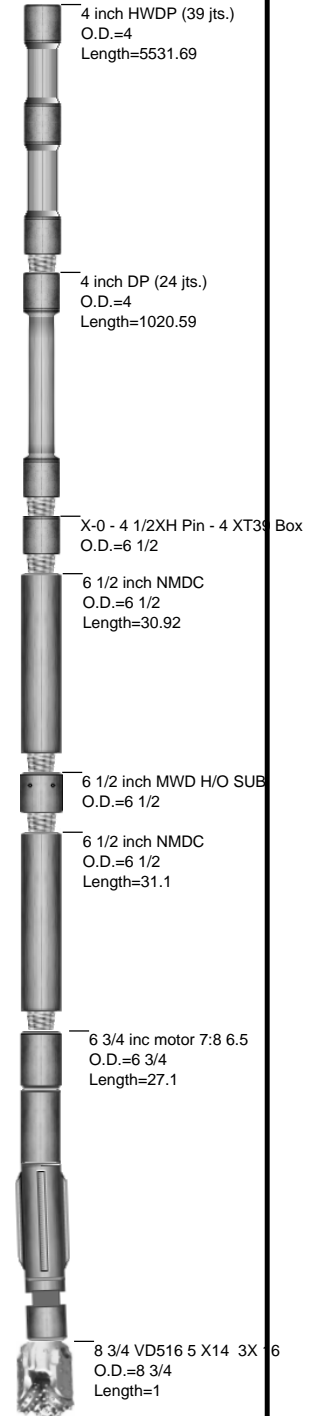
#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
3	20-Jan	Sliding	08:45	09:10	0.42	5908	5917	9	10	21.6	0	0	575	2500	30	4.42	61.05	5.94	
3	20-Jan	Sliding	09:20	09:45	0.42	5917	5947	30	10	72.0	0	0	575	2500	45	5.86	45.92	6.76	
3	20-Jan	Sliding	09:50	10:20	0.50	5947	5972	25	10	50.0	0	0	575	2500	30	7.55	31.95	9.96	
3	20-Jan	Sliding	10:35	11:00	0.42	5972	6002	30	10	72.0	0	0	575	2500	20	10.03	23.53	9.13	
3	20-Jan	Sliding	11:10	11:35	0.42	6002	6032	30	10	72.0	0	0	575	2500	-15	11.95	20.94	6.32	
3	20-Jan	Sliding	11:45	12:00	0.25	6032	6056	24	10	96.0	0	0	575	2500	-15	13.80	18.97	8.16	
3	20-Jan	Sliding	12:20	12:55	0.58	6056	6086	30	10	51.4	0	0	575	2500	-15	15.65	16.67	5.76	
3	20-Jan	Sliding	13:05	13:30	0.42	6086	6116	30	10	72.0	0	0	575	2100	-360	18.34	16.01	9.67	
3	20-Jan	Sliding	13:40	13:50	0.17	6116	6132	16	10	96.0	0	0	575	2100	-360	19.69	14.98	8.45	
3	20-Jan	Sliding	14:25	14:35	0.17	6132	6139	7	10	42.0	0	0	575	2100	-360	20.24	14.37	8.45	
3	20-Jan	Sliding	15:00	15:30	0.50	6139	6172	33	10	66.0	0	0	575	2300	-360	22.96	12.09	8.70	
3	20-Jan	Sliding	15:40	16:00	0.33	6172	6202	30	10	90.0	0	0	575	2300	-360	26.06	11.91	10.57	
3	20-Jan	Sliding	16:10	16:25	0.25	6202	6226	24	10	96.0	0	0	575	2300	-360	28.91	12.27	12.06	

<b>Total Drilled:</b>	318	<b>Avg. Total ROP:</b>	65.79	<b>DEPTH% - TIME %</b>
<b>Total Rotary Drilled:</b>	0	<b>Avg. Rotary ROP:</b>	NA	<b>Percent Rotary:</b> .00 - .00
<b>Total Drilled Sliding:</b>	318	<b>Avg. Slide ROP:</b>	65.79	<b>Percent Slide:</b> 100.00 - 100.00

# BHA # 4

**JOB NO.:** 41HMP1201071    **Work Order:** 156131    **FIELD:** DJ Basin  
**COMPANY:** Carrizo Oil & Gas    **Township:** 8N  
**LOCATION:**    **SECT. RANGE:** 12    61W  
**RIG NAME:** Xtreme 19    **Lead DD:** David Carrico (10051)  
**STATE:** Colorado    **Co. Man:** Tom Harris  
**COUNTY:** Weld    **BHA TYPE:** Steerable Assembly  
**WELL NAME:** Rothe 12-14-8-61    **BHA WT:** 161569    **Wt @ Jars:** N/A

<b>Date In:</b> 21-Jan-12 @ 00:00	6 3/4 inch 7:8 5.0 - 2.5 Adj bend	<b>SO/PU:</b> 135 - 135 / 185-185
<b>Date Out:</b> 22-Jan-12 @ 09:30	<b>MFG.:</b> SDI	<b>Rot Strg Wt:</b> 160-160
<b>Hrs In Hole:</b> 33.50	<b>PAD OD:</b> 7 1/8	<b>WOB:</b> 0 - 15
<b>Start Depth:</b> 6226.00	<b>NB Stab:</b> 0	<b>TORQ:</b> -
<b>End Depth:</b> 6650.00	<b>Bit to Bend:</b> 6.43	<b>SPP:</b> 800 - 2100
<b>Total Drilled:</b> 424.00	<b>Bent Hsg/Sub°:</b> 2.5 /	<b>Motor RPM:</b> 139
<b>Avg. Total ROP:</b> 45.43	<b>Lobe/Stage:</b> 7:8 / 5	<b>Rotary RPM:</b> -
<b>Circ Hrs: Tot/Only</b> 18.08 / 8.75	<b>Rev/GAL:</b> 0.28	<b>Flow Rate:</b> 230 - 498
<b>Percent Slide:</b> 100.00	<b>Rotor Jet:</b> 0	<b>Avg Diff:</b> 500
<b>Percent Hrs:</b> 100.00	<b>Prop BUR:</b> 15	<b>Stall Pres.:</b> 1250
<b>Slide Hours:</b> 9.33	<b>Act BUR:</b> 14	<b>Off Bot Pres.:</b> 150
<b>Total Sliding:</b> 424.00		
<b>Avg. Slide ROP:</b> 45.43	<b>Type</b> Water Base	Ulterra / 8 3/4 VD516 5 X14 3X 16
<b>Percent Rotary:</b> .00	<b>WT:</b> 9.6	<b>GAS:</b> 0
<b>Percent Hrs:</b> .00	<b>Vis:</b> 41	<b>PV:</b> 12
<b>Rotary Hours:</b> .00	<b>WL:</b> 0	<b>PH:</b> 9
<b>Total Rotary:</b> .00	<b>SOL:</b> 3	<b>SAND</b> 0.25
<b>Avg. Rotary ROP:</b> NA	<b>Oil %:</b> 0	<b>T °:</b> 143
<b>Reason POOH:</b>	<b>Chlor:</b> 140	<b>YP:</b> 9



<b>Gamma:</b> 0	<b>Restiv:</b> 0	<b>Sensor:</b> 53	<b>Last Casing</b> 9 5/8
<b>GYRO:</b> 0	<b>DNCS:</b> 6225	<b>Sonic:</b> 0	<b>Shoe @:</b> 1424 <b>Hanger @:</b> 17

**INC IN:** 28.9    **INC OUT:** 71.9    **AZM IN:** 12.27    **AZM OUT:** 6.67  
 BHA performed well, yielding 14deg/100 build rates.

Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn	MFG.
8 3/4 VD516 5 X14 3X 16	6145		8 3/4	1.00	1.00	4 1/2 REGP	
6 3/4 inc motor 7:8 6.5	6808		6 3/4	27.10	28.10	4 1/2 XHB	
6 1/2 inch NMDC	122-053	3 1/4	6 1/2	31.10	59.20	4 1/2 XHB	
6 1/2 inch MWD H/O SUB	129-070	3 1/4	6 1/2	6.30	65.50	4 1/2 XHB	
6 1/2 inch NMDC	64-30-10107	3 1/4	6 1/2	30.92	96.42	4 1/2 XHB	
X-0 - 4 1/2XH Pin - 4 XT39 Box	RIG-4.5XH-4XT	3 1/4	6 1/2	1.30	97.72	4 XT39B	
4 inch DP (24 jts.)	RIG-DP-24	3	4	1,020.59	1118.31	4 XT39B	
4 inch HWDP (39 jts.)	RIG-HWDP-39	2 1/4	4	5,531.69	6650.00	4 XT39B	



**JOB NO.:** 41HMP1201071  
**COMPANY:** Carrizo Oil & Gas  
**LOCATION:**  
**RIG NAME:** Xtreme 19  
**STATE:** Colorado  
**COUNTY:** Country  
**WELL NAME:** Rothe 12-14-8-61

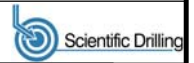
**FIELD:** DJ Basin  
**Township:** 8N  
**Range:** 61W

MOTOR INFORMATION	
Desc: 6 3/4 inch 7:8 5.0 - 2.5 Adj bend	
Bent Hsg/Sub: 2.5 / 0	Bit to Bend: 6.43
PAD OD: 7 1/8	NB Stab:

#	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	21-Jan	Sliding	07:00	07:30	0.50	6226	6258	32	15	64.0	0	0	498	2100	-360	32.17	14.05	10.16	
4	21-Jan	Sliding	07:35	07:50	0.25	6258	6288	30	15	120.0	0	0	498	2100	-360	35.65	18.71	14.81	
4	21-Jan	Sliding	08:00	08:20	0.33	6288	6313	25	15	75.0	0	0	498	2100	30	38.23	18.96	10.23	
4	21-Jan	Sliding	08:40	08:55	0.25	6313	6343	30	15	120.0	0	0	498	2100	-360	40.50	21.53	9.84	
4	21-Jan	Sliding	09:05	09:30	0.42	6343	6355	12	15	28.8	0	0	498	2100	-360	41.86	21.43	12.49	
4	21-Jan	Sliding	11:45	12:00	0.25	6355	6373	18	15	72.0	0	0	498	2100	-20	44.07	20.84	12.49	
4	21-Jan	Sliding	12:15	12:35	0.33	6373	6398	25	15	75.0	0	0	498	2100	-20	46.81	19.37	11.69	
4	21-Jan	Sliding	12:50	13:15	0.42	6398	6428	30	15	72.0	0	0	498	2100	-20	50.16	16.92	13.09	
4	21-Jan	Sliding	13:45	14:10	0.42	6428	6458	30	15	72.0	0	0	498	2100	-20	54.33	16.09	14.19	
4	21-Jan	Sliding	14:15	14:35	0.33	6458	6483	25	15	75.0	0	0	498	2100	-30	57.51	14.15	14.33	
4	21-Jan	Sliding	15:15	15:45	0.50	6483	6513	30	15	60.0	0	0	498	2100	-30	61.04	12.56	12.12	
4	21-Jan	Sliding	15:55	16:30	0.58	6513	6543	30	15	51.4	0	0	498	2100	-30	64.07	11.40	10.52	
4	21-Jan	Sliding	16:40	16:50	0.17	6543	6551	8	15	48.0	0	0	498	2100	-360	64.75	11.20	7.77	
4	21-Jan	Sliding	17:15	18:10	0.92	6551	6569	18	15	19.6	0	0	498	2100	-30	66.12	10.88	7.77	
4	21-Jan	Sliding	19:00	20:20	1.33	6569	6599	30	15	22.5	0	0	498	2100	-30	68.46	8.75	7.83	
4	21-Jan	Sliding	20:30	21:40	1.17	6599	6629	30	15	25.7	0	0	498	2100	-30	70.50	7.52	7.83	
4	21-Jan	Sliding	21:50	23:00	1.17	6629	6650	21	15	18.0	0	0	498	2100	-30	71.93	6.67	7.83	

<b>Total Drilled:</b>	424	<b>Avg. Total ROP:</b>	45.43	<b>DEPTH% - TIME %</b>	
<b>Total Rotary Drilled:</b>	0	<b>Avg. Rotary ROP:</b>	NA	<b>Percent Rotary:</b>	.00 - .00
<b>Total Drilled Sliding:</b>	424	<b>Avg. Slide ROP:</b>	45.43	<b>Percent Slide:</b>	100.00 - 100.00

# BHA # 5



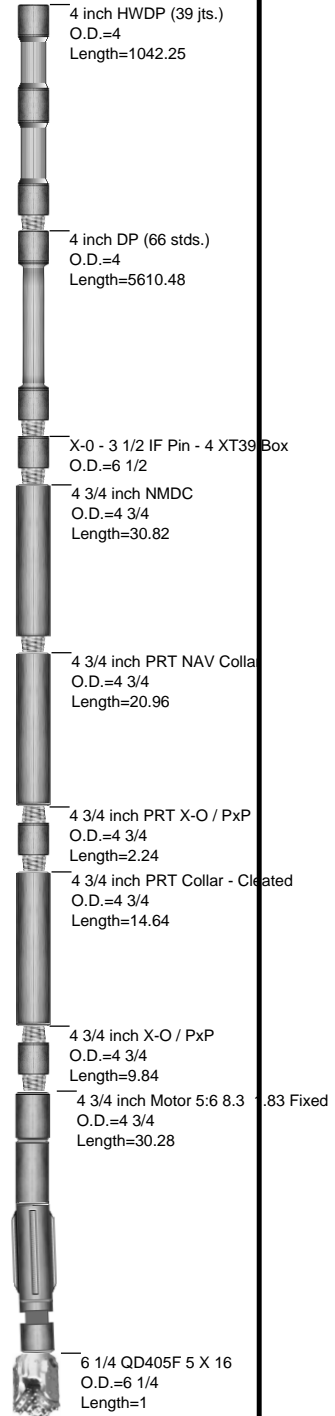
**JOB NO.:** 41HMP1201071    **Work Order:** 156131    **FIELD:** DJ Basin  
**COMPANY:** Carrizo Oil & Gas    **Township:** 8N  
**LOCATION:**    **SECT. RANGE:** 12    61W  
**RIG NAME:** Xtreme 19    **Lead DD:** David Carrico (10051)  
**STATE:** Colorado    **Co. Man:** Tom Harris  
**COUNTY:** Weld    **BHA TYPE:** Steerable Assembly  
**WELL NAME:** Rothe 12-14-8-61    **BHA WT:** 119605    **Wt @ Jars:** N/A

<b>Date In:</b> 23-Jan-12 @ 03:30	4 3/4 5:6/8.5 Stage RPG 1.057	<b>SO/PU:</b> 0 - 115 / 0-140
<b>Date Out:</b> 24-Jan-12 @ 05:45	<b>MFG.:</b> BICO	<b>Rot Strg Wt:</b> 0-122
<b>Hrs In Hole:</b> 26.25	<b>PAD OD:</b> 5	<b>WOB:</b> 0 - 15
<b>Start Depth:</b> 6650.00	<b>NB Stab:</b> 0	<b>TORQ:</b> 0 - 0
<b>End Depth:</b> 6765.00	<b>Bit to Bend:</b> 6.2	<b>SPP:</b> 400 - 1500
<b>Total Drilled:</b> 115.00	<b>Bent Hsg/Sub°:</b> 1.83 /	<b>Motor RPM:</b> 317
<b>Avg. Total ROP:</b> 27.60	<b>Lobe/Stage:</b> 5:6 / 8.3	<b>Rotary RPM:</b> 20 - 20
<b>Circ Hrs: Tot/Only</b> 6.75 / 2.58	<b>Rev/GAL:</b> 1.057	<b>Flow Rate:</b> 38 - 300
<b>Percent Slide:</b> 78.26	<b>Rotor Jet:</b> 0	<b>Avg Diff:</b> 1000
<b>Percent Hrs:</b> 56.00	<b>Prop BUR:</b> 11.5	<b>Stall Pres.:</b> 1250
<b>Slide Hours:</b> 2.33	<b>Act BUR:</b>	<b>Off Bot Pres.:</b> 200
<b>Total Sliding:</b> 90.00		
<b>Avg. Slide ROP:</b> 38.57		
<b>Percent Rotary:</b> 21.74	<b>Type</b> Water Base	<b>HUGHES /</b> 6 1/4 QD405F 5 X 16
<b>Percent Hrs:</b> 44.00	<b>WT:</b> 9.6 <b>GAS:</b> 0	<b>Run #:</b> 3
<b>Rotary Hours:</b> 1.83	<b>Vis:</b> 41 <b>PV:</b> 12	<b>Type Bit:</b> PDC
<b>Total Rotary:</b> 25.00	<b>WL:</b> 0 <b>PH:</b> 9	<b>IADC#:</b> <b>TFA:</b> 0.981
<b>Avg. Rotary ROP:</b> 13.64	<b>SOL:</b> 3 <b>SAND</b> 0.25	<b>JETS:</b> 5-16
<b>Reason POOH:</b>	<b>Oil %:</b> 0 <b>T °:</b> 143	<b>Bit Drop:</b> 83 PSI @ 300 GPM
	<b>Chlor:</b> 140 <b>YP:</b> 9	<b>Cond.:</b> NEW

<b>Gamma:</b> 40.14 <b>Restiv:</b> 43.64 <b>Sensor:</b> 67	<b>Last Casing</b> <b>7</b>
<b>GYRO:</b> 0 <b>DNCS:</b> 6650 <b>Sonic:</b> 0	<b>Shoe @:</b> 6640 <b>Hanger @:</b> 17

**INC IN:** 71.9    **INC OUT:** 77.9    **AZM IN:** 6.67    **AZM OUT:** 1.95  
 Had to pull, was not giving the build rates needed. Yielded 7.5deg/100' average, needed 11.5deg/100'

Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn	MFG.
6 1/4 QD405F 5 X 16	7021603		6 1/4	1.00	1.00	3 1/2 REGP	
4 3/4 inch Motor 5:6 8.3 1.83 Fixed	G585		4 3/4	30.28	31.28	3 1/2 IFB	
4 3/4 inch X-O / PxP	112-115	2 11/16	4 3/4	9.84	41.12	3 1/2 IFP	
4 3/4 inch PRT Collar - Cleated	140-021	3 1/4	4 3/4	14.64	55.76	3 1/2 IFB	
4 3/4 inch PRT X-O / PxP	66-307	2 11/16	4 3/4	2.24	58.00	3 1/2 IFP	
4 3/4 inch PRT NAV Collar	107-001	2 11/16	4 3/4	20.96	78.96	3 1/2 IFB	
4 3/4 inch NMDC	121-290	2 3/4	4 3/4	30.82	109.78	3 1/2 IFB	
X-0 - 3 1/2 IF Pin - 4 XT39 Box	RIG-3.5IF-4XT3	3 1/4	6 1/2	2.49	112.27	4 XT39B	
4 inch DP (66 stds.)	RIG-DP-66	3	4	5,610.48	5722.75	4 XT39B	
4 inch HWDP (39 jts.)	RIG-HWDP-39	2 1/4	4	1,042.25	6765.00	4 XT39B	





**JOB NO.:** 41HMP1201071  
**COMPANY:** Carrizo Oil & Gas  
**LOCATION:**  
**RIG NAME:** Xtreme 19  
**STATE:** Colorado  
**COUNTY:** Country  
**WELL NAME:** Rothe 12-14-8-61

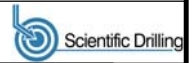
**FIELD:** DJ Basin  
**Township:** 8N  
**Range:** 61W

MOTOR INFORMATION	
Desc:	4 3/4 5:078.5 Stage RFG T.057 Fixed 1.83
Bent Hsg/Sub:	1.83/ 0 Bit to Bend: 6.2
PAD OD:	5 NB Stab:

#	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
5	23-Jan	Drilling	16:45	17:30	0.75	6650	6675	25	10	33.3	20	0	230	1000		73.20	5.48	6.22	
5	23-Jan	Sliding	17:40	18:20	0.67	6675	6683	8	15	12.0	0	0	300	1450	-30	73.25	4.96	6.22	
5	23-Jan	Sliding	22:00	22:30	0.50	6683	6705	22	15	44.0	0	0	300	1450	-360	73.77	4.60	7.96	
5	23-Jan	Sliding	22:35	23:00	0.42	6705	6720	15	15	36.0	0	0	300	1450	-30	74.52	3.63	7.96	
5	23-Jan	Sliding	23:05	23:20	0.25	6720	6735	15	15	60.0	0	0	300	1450	-360	75.40	2.93	7.37	
5	23-Jan	Sliding	23:35	23:50	0.25	6735	6750	15	15	60.0	0	0	300	1450	-360	76.43	2.52	7.37	
5	24-Jan	Sliding	00:10	00:25	0.25	6750	6765	15	15	60.0	0	0	300	1450	-360	77.94	1.95	17.38	

<b>Total Drilled:</b>						115	<b>Avg. Total ROP:</b>				27.60	<b>DEPTH% - TIME %</b>								
<b>Total Rotary Drilled:</b>						25	<b>Avg. Rotary ROP:</b>				13.64	<b>Percent Rotary:</b>			21.74 - 44.00					
<b>Total Drilled Sliding:</b>						90	<b>Avg. Slide ROP:</b>				38.57	<b>Percent Slide:</b>			78.26 - 56.00					

# BHA # 6



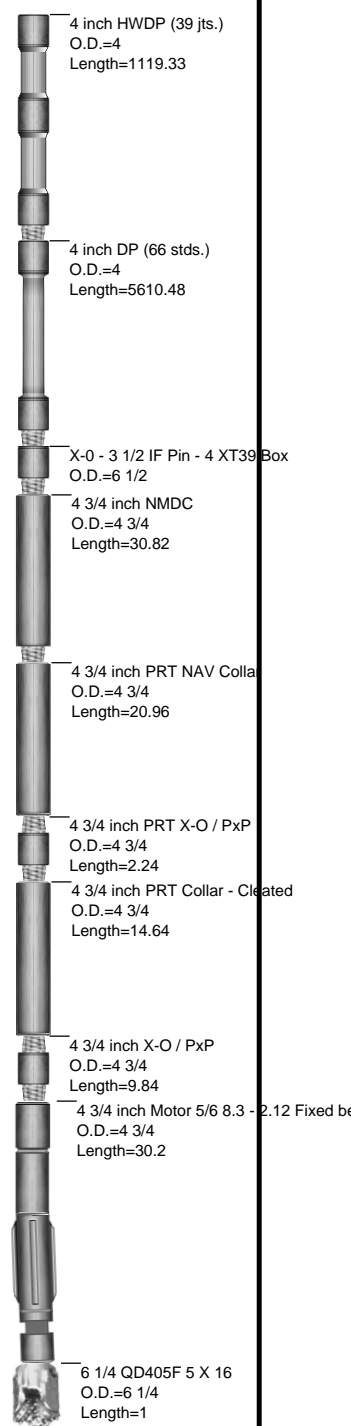
**JOB NO.:** 41HMP1201071    **Work Order:** 156131    **FIELD:** DJ Basin  
**COMPANY:** Carrizo Oil & Gas    **Township:** 8N  
**LOCATION:**    **SECT. RANGE:** 12    61W  
**RIG NAME:** Xtreme 19    **Lead DD:** David Carrico (10051)  
**STATE:** Colorado    **Co. Man:** Tom Harris  
**COUNTY:** Weld    **BHA TYPE:** Steerable Assembly  
**WELL NAME:** Rothe 12-14-8-61    **BHA WT:** 121525    **Wt @ Jars:** N/A

<b>Date In:</b> 24-Jan-12 @ 10:30	4 3/4 5:6 8.5 Stage RPG 1.057	<b>SO/PU:</b> 115 - 115 / 140-140
<b>Date Out:</b> 25-Jan-12 @ 01:45	<b>MFG.:</b> BICO	<b>Rot Strg Wt:</b> 122-122
<b>Hrs In Hole:</b> 15.25	<b>PAD OD:</b> 5 1/16	<b>WOB:</b> 0 - 35
<b>Start Depth:</b> 6765.00	<b>NB Stab:</b> 0	<b>TORQ:</b> -
<b>End Depth:</b> 6842.00	<b>Bit to Bend:</b> 6.2	<b>SPP:</b> 600 - 1500
<b>Total Drilled:</b> 77.00	<b>Bent Hsg/Sub°:</b> 2.12 /	<b>Motor RPM:</b> 222 - 317
<b>Avg. Total ROP:</b> 34.22	<b>Lobe/Stage:</b> 5:6 / 8.3	<b>Rotary RPM:</b> -
<b>Circ Hrs: Tot/Only</b> 5.58 / 3.33	<b>Rev/GAL:</b> 1.057	<b>Flow Rate:</b> 150 - 300
<b>Percent Slide:</b> 100.00	<b>Rotor Jet:</b> 0	<b>Avg Diff:</b> 1000
<b>Percent Hrs:</b> 100.00	<b>Prop BUR:</b> 15	<b>Stall Pres.:</b> 1250
<b>Slide Hours:</b> 2.25	<b>Act BUR:</b>	<b>Off Bot Pres.:</b> 200
<b>Total Sliding:</b> 77.00		
<b>Avg. Slide ROP:</b> 34.22		
<b>Percent Rotary:</b> .00	<b>Type</b> Water Base	<b>HUGHES /</b> 6 1/4 QD405F 5 X 16
<b>Percent Hrs:</b> .00	<b>WT:</b> 9.6	<b>GAS:</b> 0
<b>Rotary Hours:</b> .00	<b>Vis:</b> 41	<b>PV:</b> 12
<b>Total Rotary:</b> .00	<b>WL:</b> 0	<b>PH:</b> 9
<b>Avg. Rotary ROP:</b> NA	<b>SOL:</b> 3	<b>SAND</b> 0.25
<b>Reason POOH:</b>	<b>Oil %:</b> 0	<b>T °:</b> 143
	<b>Chlor:</b> 140	<b>YP:</b> 9

<b>Gamma:</b> 40.22	<b>Restiv:</b> 43.72	<b>Sensor:</b> 67	<b>Last Casing</b> 7
<b>GYRO:</b> 0	<b>DNCS:</b> 6765	<b>Sonic:</b> 0	<b>Shoe @:</b> 6640
			<b>Hanger @:</b> 17

**INC IN:** 77.9    **INC OUT:** 88.2    **AZM IN:** 1.95    **AZM OUT:** .43  
 Performed well, yielded 15-16deg/100' build rates.

Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn	MFG.
6 1/4 QD405F 5 X 16	7021603		6 1/4	1.00	1.00	3 1/2 REGP	
4 3/4 inch Motor 5/6 8.3 - 2.12 Fixed bend	G584		4 3/4	30.20	31.20	3 1/2 IFB	
4 3/4 inch X-O / PxP	112-115	2 11/16	4 3/4	9.84	41.04	3 1/2 IFP	
4 3/4 inch PRT Collar - Cleated	140-021	3 1/4	4 3/4	14.64	55.68	3 1/2 IFB	
4 3/4 inch PRT X-O / PxP	66-307	2 11/16	4 3/4	2.24	57.92	3 1/2 IFP	
4 3/4 inch PRT NAV Collar	107-001	2 11/16	4 3/4	20.96	78.88	3 1/2 IFB	
4 3/4 inch NMDC	121-290	2 3/4	4 3/4	30.82	109.70	3 1/2 IFB	
X-0 - 3 1/2 IF Pin - 4 XT39 Box	RIG-3.5IF-4XT3	3 1/4	6 1/2	2.49	112.19	4 XT39B	
4 inch DP (66 stds.)	RIG-DP-66	3	4	5,610.48	5722.67	4 XT39B	
4 inch HWDP (39 jts.)	RIG-HWDP-39	2 1/4	4	1,119.33	6842.00	4 XT39B	





**JOB NO.:** 41HMP1201071  
**COMPANY:** Carrizo Oil & Gas  
**LOCATION:**  
**RIG NAME:** Xtreme 19  
**STATE:** Colorado  
**COUNTY:** Country  
**WELL NAME:** Rothe 12-14-8-61

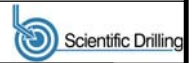
**FIELD:** DJ Basin  
**Township:** 8N  
**Range** 61W

MOTOR INFORMATION	
Desc:	4 3/4 5.6 6.5 Stage RFG T.057 Fixed 2 1/2
Bent Hsg/Sub:	2.12/ 0 Bit to Bend: 6.2
PAD OD:	5 1/16 NB Stab:

#	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
6	24-Jan	Sliding	18:00	18:30	0.50	6765	6765	0	25	0.0	0	0	300	1500	-360	77.94	1.95	17.38	
6	24-Jan	Sliding	18:35	19:00	0.42	6765	6795	30	25	72.0	0	0	210	1000	-360	82.31	1.29	16.39	
6	24-Jan	Sliding	19:10	19:55	0.75	6795	6827	32	30	42.7	0	0	210	1000	-360	87.35	1.35	13.39	
6	24-Jan	Sliding	20:10	20:45	0.58	6827	6842	15	35	25.7	0	0	210	1000	-360	88.18	0.43	5.86	

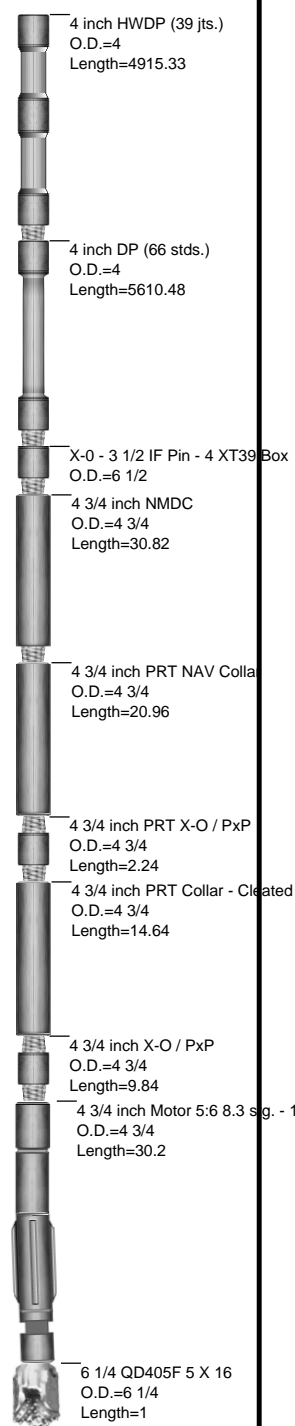
<b>Total Drilled:</b>		77	<b>Avg. Total ROP:</b>		34.22	<b>DEPTH% - TIME %</b>													
<b>Total Rotary Drilled:</b>		0	<b>Avg. Rotary ROP:</b>		NA	<b>Percent Rotary:</b>		.00 - .00											
<b>Total Drilled Sliding:</b>		77	<b>Avg. Slide ROP:</b>		34.22	<b>Percent Slide:</b>		100.00 - 100.00											

# BHA # 7



**JOB NO.:** 41HMP1201071    **Work Order:** 156131    **FIELD:** DJ Basin  
**COMPANY:** Carrizo Oil & Gas    **Township:** 8N  
**LOCATION:**    **SECT. RANGE:** 12    61W  
**RIG NAME:** Xtreme 19    **Lead DD:** David Carrico (10051)  
**STATE:** Colorado    **Co. Man:** Tom Harris  
**COUNTY:** Weld    **BHA TYPE:** Steerable Assembly  
**WELL NAME:** Rothe 12-14-8-61    **BHA WT:** 216224    **Wt @ Jars:** N/A

<b>Date In:</b> 25-Jan-12 @ 01:45	4 3/4 5:6 8.5 Stage RPG 1.057	<b>SO/PU:</b> 75 - 115 / 140-195
<b>Date Out:</b> 28-Jan-12 @ 20:00	<b>MFG.:</b> BICO	<b>Rot Strg Wt:</b> 122-130
<b>Hrs In Hole:</b> 90.25	<b>PAD OD:</b> 5 1/16	<b>WOB:</b> 0 - 40
<b>Start Depth:</b> 6842.00	<b>NB Stab:</b> 0	<b>TORQ:</b> 0 - 11
<b>End Depth:</b> 10638.00	<b>Bit to Bend:</b> 6.2	<b>SPP:</b> 300 - 2000
<b>Total Drilled:</b> 3796.00	<b>Bent Hsg/Sub°:</b> 1.83 /	<b>Motor RPM:</b> 211 - 317
<b>Avg. Total ROP:</b> 83.43	<b>Lobe/Stage:</b> 5:6 / 8.3	<b>Rotary RPM:</b> 20 - 45
<b>Circ Hrs: Tot/Only</b> 61.58 / 16.08	<b>Rev/GAL:</b> 1.057	<b>Flow Rate:</b> 150 - 300
<b>Percent Slide:</b> 21.44	<b>Rotor Jet:</b> 0	<b>Avg Diff:</b> 1000
<b>Percent Hrs:</b> 51.28	<b>Prop BUR:</b> 11.5	<b>Stall Pres.:</b> 1250
<b>Slide Hours:</b> 23.33	<b>Act BUR:</b>	<b>Off Bot Pres.:</b> 200
<b>Total Sliding:</b> 814.00		
<b>Avg. Slide ROP:</b> 34.89	<b>Type</b> Water Base	HUGHES / 6 1/4 QD405F 5 X 16
<b>Percent Rotary:</b> 78.56	<b>WT:</b> 9.6	<b>GAS:</b> 0
<b>Percent Hrs:</b> 48.72	<b>Vis:</b> 41	<b>PV:</b> 12
<b>Rotary Hours:</b> 22.17	<b>WL:</b> 0	<b>PH:</b> 9
<b>Total Rotary:</b> 2982.00	<b>SOL:</b> 3	<b>SAND</b> 0.25
<b>Avg. Rotary ROP:</b> 134.53	<b>Oil %:</b> 0	<b>T °:</b> 143
<b>Reason POOH:</b>	<b>Chlor:</b> 140	<b>YP:</b> 9



<b>Gamma:</b> 40.22	<b>Restiv:</b> 43.72	<b>Sensor:</b> 67	<b>Last Casing</b> 7
<b>GYRO:</b> 0	<b>DNCS:</b> 6842	<b>Sonic:</b> 0	<b>Shoe @:</b> 6640 <b>Hanger @:</b> 17

**INC IN:** 88.2    **INC OUT:** 89.7    **AZM IN:** .43    **AZM OUT:** 1.71  
 Performed as expected, yielding 6-8deg/100' build rates. Pulled due to TD.

Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn	MFG.
6 1/4 QD405F 5 X 16	7021603		6 1/4	1.00	1.00	3 1/2 REGP	
4 3/4 inch Motor 5:6 8.3 stg. - 1.83 fixed	G761		4 3/4	30.20	31.20	3 1/2 IFB	
4 3/4 inch X-O / PxP	112-115	2 11/16	4 3/4	9.84	41.04	3 1/2 IFP	
4 3/4 inch PRT Collar - Cleated	140-021	3 1/4	4 3/4	14.64	55.68	3 1/2 IFB	
4 3/4 inch PRT X-O / PxP	66-307	2 11/16	4 3/4	2.24	57.92	3 1/2 IFP	
4 3/4 inch PRT NAV Collar	107-001	2 11/16	4 3/4	20.96	78.88	3 1/2 IFB	
4 3/4 inch NMDC	121-290	2 3/4	4 3/4	30.82	109.70	3 1/2 IFB	
X-0 - 3 1/2 IF Pin - 4 XT39 Box	RIG-3.5IF-4XT3	3 1/4	6 1/2	2.49	112.19	4 XT39B	
4 inch DP (66 stds.)	RIG-DP-66	3	4	5,610.48	5722.67	4 XT39B	
4 inch HWDP (39 jts.)	RIG-HWDP-39	2 1/4	4	4,915.33	10638.00	4 XT39B	



**JOB NO.:** 41HMP1201071  
**COMPANY:** Carrizo Oil & Gas  
**LOCATION:**  
**RIG NAME:** Xtreme 19  
**STATE:** Colorado  
**COUNTY:** Country  
**WELL NAME:** Rothe 12-14-8-61

**FIELD:** DJ Basin  
**Township:** 8N  
**Range** 61W

MOTOR INFORMATION	
Desc:	4 3/4 5.6 6.5 Stage RFG T.057 Fixed 1.83
Bent Hsg/Sub:	1.83/ 0 Bit to Bend: 6.2
PAD OD:	5 1/16 NB Stab:

#	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
7	25-Jan	Sliding	10:15	10:30	0.25	6842	6857	15	20	60.0	0	0	300	1500	-130	88.49	359.81	9.48	
7	25-Jan	Sliding	10:40	11:00	0.33	6857	6872	15	20	45.0	0	0	300	1500	-360	89.66	359.51	5.85	
7	25-Jan	Sliding	11:05	11:25	0.33	6872	6887	15	20	45.0	0	0	300	1500	-30	90.22	359.34	3.97	
7	25-Jan	Drilling	11:30	11:45	0.25	6887	6902	15	10	60.0	20	0	300	1500		90.43	359.28	8.22	
7	25-Jan	Drilling	11:50	12:05	0.25	6902	6919	17	10	68.0	20	0	300	1500		90.32	358.58	2.91	
7	25-Jan	Sliding	13:20	14:15	0.92	6919	6934	15	25	16.4	0	0	300	1500	-360	89.85	359.00	5.66	
7	25-Jan	Sliding	14:25	15:10	0.75	6934	6949	15	25	20.0	0	0	300	1500	-360	90.40	358.71	7.64	
7	25-Jan	Sliding	15:15	15:45	0.50	6949	6964	15	25	30.0	0	0	300	1500	-360	91.63	358.55	8.80	
7	25-Jan	Sliding	15:50	16:05	0.25	6964	6979	15	25	60.0	0	0	300	1500	-360	92.37	358.55	3.53	
7	25-Jan	Drilling	16:10	16:25	0.25	6979	6994	15	10	60.0	30	0	300	1500		92.56	358.60	0.66	
7	25-Jan	Drilling	16:30	16:40	0.17	6994	7005	11	10	66.0	30	0	300	1500		92.26	358.65	4.54	
7	25-Jan	Sliding	17:00	17:35	0.58	7005	7020	15	25	25.7	0	0	200	800	-30	91.59	358.71	4.54	
7	25-Jan	Drilling	17:40	18:00	0.33	7020	7035	15	10	45.0	20	0	200	800		91.17	358.94	2.95	
7	25-Jan	Drilling	18:05	18:25	0.33	7035	7050	15	10	45.0	20	0	250	1000		91.52	359.13	3.71	
7	25-Jan	Drilling	18:35	18:40	0.08	7050	7065	15	15	180.0	20	0	280	1300		91.77	358.32	7.09	
7	25-Jan	Sliding	18:50	19:10	0.33	7065	7080	15	25	45.0	20	0	280	1300	30	92.15	359.02	8.14	
7	25-Jan	Drilling	19:15	19:25	0.17	7080	7090	10	15	60.0	40	0	280	1300		93.00	359.37	11.06	
7	25-Jan	Sliding	20:00	20:05	0.08	7090	7105	15	15	180.0	0	0	280	1400	30	94.64	359.64	11.06	
7	25-Jan	Sliding	20:15	20:35	0.33	7105	7120	15	15	45.0	0	0	280	1400	15	95.18	359.73	1.79	
7	25-Jan	Drilling	20:45	20:50	0.08	7120	7135	15	15	180.0	40	0	280	1400		95.45	359.77	1.79	
7	25-Jan	Drilling	20:55	21:00	0.08	7135	7150	15	15	180.0	40	0	280	1400		95.43	359.53	2.14	
7	25-Jan	Drilling	21:10	21:15	0.08	7150	7175	25	15	300.0	40	0	280	1400		95.22	359.16	1.46	
7	25-Jan	Drilling	21:30	21:40	0.17	7175	7205	30	15	180.0	40	0	280	1400		94.21	359.31	5.98	
7	25-Jan	Sliding	22:00	22:20	0.33	7205	7220	15	15	45.0	0	0	280	1400	160	93.33	359.49	5.98	
7	25-Jan	Drilling	22:20	22:30	0.17	7220	7235	15	15	90.0	40	0	280	1400		93.13	359.44	0.82	
7	25-Jan	Drilling	22:45	22:50	0.08	7235	7259	24	15	288.0	40	0	280	1400		93.01	359.31	0.48	
7	25-Jan	Drilling	23:05	23:10	0.08	7259	7289	30	15	360.0	40	0	280	1400		92.67	359.04	2.95	

#	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
7	25-Jan	Drilling	23:20	23:25	0.08	7289	7319	30	15	360.0	40	0	280	1400		92.00	358.62	2.21	
7	25-Jan	Drilling	23:35	23:40	0.08	7319	7344	25	15	300.0	40	0	280	1400		91.55	358.36	1.77	
7	25-Jan	Drilling	23:50	24:00	0.17	7344	7374	30	15	180.0	40	0	280	1500		90.69	358.18	5.60	
7	26-Jan	Sliding	00:05	00:20	0.25	7374	7382	8	15	32.0	0	0	280	1500	150	90.25	358.22	5.60	
7	26-Jan	Drilling	00:20	00:30	0.17	7382	7404	22	15	132.0	40	7.5	280	1500		89.94	358.77	4.59	
7	26-Jan	Sliding	00:40	01:00	0.33	7404	7418	14	15	42.0	0	0	280	1500	60	90.23	359.35	4.59	
7	26-Jan	Drilling	01:00	01:05	0.08	7418	7429	11	15	132.0	40	7.5	280	1500		90.53	359.81	5.34	
7	26-Jan	Sliding	01:20	01:35	0.25	7429	7441	12	15	48.0	0	0	280	1500	55	90.92	0.32	5.34	
7	26-Jan	Drilling	01:35	01:45	0.17	7441	7459	18	15	108.0	40	7.5	280	1500		91.23	0.90	2.88	
7	26-Jan	Sliding	02:00	02:10	0.17	7459	7471	12	15	72.0	0	0	280	1500	70	91.36	1.23	2.88	
7	26-Jan	Drilling	02:10	02:25	0.25	7471	7489	18	15	72.0	40	7.5	280	1500		91.54	1.71	2.88	
7	26-Jan	Drilling	02:35	02:45	0.17	7489	7514	25	15	150.0	40	7.5	280	1500		91.28	1.61	1.11	
7	26-Jan	Drilling	03:25	03:45	0.33	7514	7556	42	15	126.0	40	7.5	280	1500		91.25	1.13	1.78	
7	26-Jan	Drilling	03:50	04:05	0.25	7556	7599	43	15	172.0	40	8	280	1500		91.31	1.09	1.04	
7	26-Jan	Drilling	04:25	04:40	0.25	7599	7641	42	15	168.0	40	8	280	1500		90.34	0.53	4.97	
7	26-Jan	Sliding	04:55	05:05	0.17	7641	7649	8	15	48.0	0	0	280	1500	150	90.03	0.29	4.97	
7	26-Jan	Drilling	05:05	05:20	0.25	7649	7684	35	15	140.0	40	8	280	1500		90.01	1.56	6.92	
7	26-Jan	Drilling	05:30	05:45	0.25	7684	7727	43	15	172.0	40	0	280	1600		90.21	3.18	1.68	
7	26-Jan	Drilling	05:50	06:10	0.33	7727	7769	42	15	126.0	40	0	280	1600		90.28	4.73	5.28	
7	26-Jan	Drilling	06:25	06:40	0.25	7769	7812	43	15	172.0	40	0	280	1600		90.42	6.56	3.57	
7	26-Jan	Drilling	06:45	07:05	0.33	7812	7854	42	15	126.0	40	0	280	1600		90.46	8.06	3.57	
7	26-Jan	Sliding	07:20	07:45	0.42	7854	7879	25	20	60.0	0	0	280	1600	-90	90.47	8.64	1.66	
7	26-Jan	Drilling	07:45	08:10	0.42	7879	7940	61	15	146.4	40	0	280	1600		90.35	7.64	1.66	
7	26-Jan	Sliding	08:25	08:45	0.33	7940	7970	30	20	90.0	0	0	280	1600	-90	90.30	7.07	2.28	
7	26-Jan	Drilling	08:45	09:15	0.50	7970	8025	55	15	110.0	30	0	280	1600		90.24	5.81	2.28	
7	26-Jan	Sliding	09:30	10:00	0.50	8025	8060	35	20	70.0	0	0	280	1600	-90	90.22	5.28	0.71	
7	26-Jan	Drilling	10:15	10:30	0.25	8060	8110	50	15	200.0	30	0	280	1600		90.22	4.92	0.71	
7	26-Jan	Sliding	10:45	11:15	0.50	8110	8140	30	20	60.0	0	0	280	1600	-90	90.23	4.60	1.77	
7	26-Jan	Drilling	11:15	11:35	0.33	8140	8196	56	15	168.0	30	0	280	1600		90.29	3.61	1.77	
7	26-Jan	Sliding	11:50	12:25	0.58	8196	8238	42	20	72.0	0	0	280	1600	-90	90.31	1.95	5.58	
7	26-Jan	Drilling	12:25	12:40	0.25	8238	8281	43	15	172.0	30	0	280	1600		90.31	359.55	5.58	
7	26-Jan	Sliding	12:55	13:30	0.58	8281	8336	55	20	94.3	0	0	280	1600	-90	89.97	357.63	2.65	
7	26-Jan	Drilling	13:30	13:50	0.33	8336	8366	30	15	90.0	30	0	280	1600		89.69	356.89	2.65	
7	26-Jan	Drilling	14:05	14:30	0.42	8366	8451	85	15	204.0	30	0	280	1600		90.56	357.61	2.34	
7	26-Jan	Sliding	14:45	15:15	0.50	8451	8481	30	20	60.0	0	0	280	1600	30	90.68	357.78	1.81	

#	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
7	26-Jan	Drilling	15:15	15:40	0.42	8481	8536	55	15	132.0	30	0	280	1600		89.94	357.11	1.81	
7	26-Jan	Drilling	16:25	17:00	0.58	8536	8622	86	15	147.4	40	0	280	1600		89.07	355.91	1.72	
7	26-Jan	Drilling	17:15	17:40	0.42	8622	8707	85	15	204.0	40	0	280	1600		87.73	354.33	2.63	
7	26-Jan	Drilling	17:50	18:20	0.50	8707	8792	85	15	170.0	40	0	280	1600		89.28	354.39	2.85	
7	26-Jan	Sliding	18:35	19:00	0.42	8792	8810	18	20	43.2	0	0	280	1600	20	89.78	354.50	2.85	
7	26-Jan	Drilling	19:00	19:25	0.42	8810	8877	67	15	160.8	40	0	280	1600		89.92	355.46	1.45	
7	26-Jan	Sliding	19:45	20:10	0.42	8877	8893	16	20	38.4	0	0	280	1600	90	89.95	355.69	1.45	
7	26-Jan	Drilling	20:10	20:40	0.50	8893	8963	70	15	140.0	40	0	280	1700		90.09	355.94	0.38	
7	26-Jan	Drilling	20:50	21:20	0.50	8963	9048	85	15	170.0	40	11	280	1700		89.65	355.31	1.26	
7	26-Jan	Drilling	21:30	22:05	0.58	9048	9133	85	15	145.7	40	11	280	1700		89.52	356.64	2.27	
7	26-Jan	Sliding	22:20	22:40	0.33	9133	9150	17	20	51.0	0	11	280	1700	75	89.52	357.03	2.27	
7	26-Jan	Drilling	22:40	23:10	0.50	9150	9218	68	15	136.0	40	11	280	1700		90.35	358.44	2.41	
7	26-Jan	Sliding	23:25	23:50	0.42	9218	9233	15	20	36.0	0	11	280	1700	60	90.53	358.75	2.41	
7	26-Jan	Drilling	23:50	24:00	0.17	9233	9258	25	15	150.0	40	11	280	1700		90.39	358.24	2.72	
7	27-Jan	Drilling	00:00	00:15	0.25	9258	9303	45	15	180.0	40	11	280	1700		90.02	357.08	2.72	
7	27-Jan	Drilling	00:25	00:55	0.50	9303	9388	85	15	170.0	40	11	280	1700		89.80	356.06	0.83	
7	27-Jan	Sliding	01:10	01:40	0.50	9388	9398	10	30	20.0	0	0	280	1700	60	89.79	355.98	0.83	
7	27-Jan	Drilling	01:40	02:10	0.50	9398	9473	75	15	150.0	40	11	280	1700		91.11	357.45	3.04	
7	27-Jan	Sliding	02:20	02:50	0.50	9473	9483	10	30	20.0	0	0	280	1700	50	91.31	357.68	3.04	
7	27-Jan	Drilling	02:50	03:25	0.58	9483	9557	74	15	126.9	40	11	280	1700		89.42	356.58	3.57	
7	27-Jan	Sliding	04:00	04:15	0.25	9557	9567	10	30	40.0	0	0	280	1700	90	89.11	356.39	3.57	
7	27-Jan	Drilling	04:15	04:40	0.42	9567	9641	74	15	177.6	40	11	280	1700		89.24	357.49	1.91	
7	27-Jan	Sliding	04:55	05:20	0.42	9641	9658	17	30	40.8	0	0	280	1700	60	89.33	357.80	1.91	
7	27-Jan	Drilling	05:20	06:00	0.67	9658	9727	69	15	103.5	45	11	280	1800		89.76	357.00	1.40	
7	27-Jan	Sliding	06:15	07:05	0.83	9727	9745	18	30	21.6	0	0	280	1800	45	89.88	356.80	1.35	
7	27-Jan	Drilling	07:05	08:10	1.08	9745	9811	66	15	60.9	45	11	280	1800		90.63	357.27	1.35	
7	27-Jan	Sliding	08:25	09:10	0.75	9811	9819	8	30	10.7	0	0	280	1800	45	90.73	357.33	1.35	
7	27-Jan	Drilling	09:10	10:10	1.00	9819	9896	77	15	77.0	45	11	280	1800		90.35	356.92	1.02	
7	27-Jan	Drilling	10:25	11:10	0.75	9896	9981	85	15	113.3	45	11	280	1800		89.67	356.51	0.92	
7	27-Jan	Sliding	11:25	12:25	1.00	9981	10006	25	30	25.0	0	0	280	1800	45	89.53	356.22	3.11	
7	27-Jan	Drilling	12:25	13:00	0.58	10006	10066	60	15	102.9	45	11	280	1800		89.58	354.36	3.11	
7	27-Jan	Sliding	13:15	15:10	1.92	10066	10098	32	30	16.7	0	0	280	1800	45	89.85	354.13	2.95	
7	27-Jan	Drilling	15:10	15:35	0.42	10098	10151	53	15	127.2	45	11	280	1800		90.21	354.37	4.73	
7	27-Jan	Sliding	16:25	17:30	1.08	10151	10166	15	40	13.8	0	0	280	1800	60	90.73	354.85	4.73	
7	27-Jan	Sliding	17:35	19:00	1.42	10166	10181	15	40	10.6	0	0	280	1800	90	91.12	356.77	15.44	

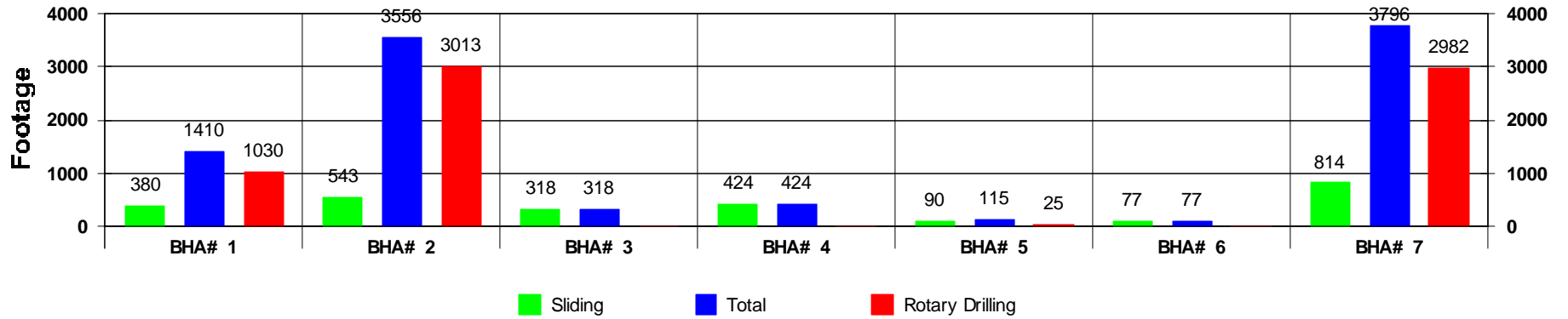
#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
7	27-Jan	Sliding	19:05	19:30	0.42	10181	10196	15	40	36.0	0	0	280	1800	75	91.40	357.86	5.54	
7	27-Jan	Sliding	19:35	20:05	0.50	10196	10211	15	40	30.0	0	0	280	1800	75	91.70	359.08	9.04	
7	27-Jan	Sliding	20:10	21:20	1.17	10211	10236	25	40	21.4	0	0	280	1800	75	91.90	1.30	9.45	
7	27-Jan	Sliding	22:05	22:20	0.25	10236	10251	15	40	60.0	0	0	280	1800	110	91.52	2.67	9.45	
7	27-Jan	Sliding	22:30	22:50	0.33	10251	10266	15	40	45.0	0	0	280	1800	110	91.17	3.72	6.87	
7	27-Jan	Sliding	23:05	23:25	0.33	10266	10273	7	40	21.0	0	0	280	1800	110	91.03	3.91	1.73	
7	27-Jan	Drilling	23:50	24:00	0.17	10273	10296	23	15	138.0	45	0	280	1800		90.72	3.66	2.29	
7	28-Jan	Drilling	00:05	00:15	0.17	10296	10321	25	15	150.0	45	0	280	1800		90.48	3.14	2.29	
7	28-Jan	Drilling	00:45	00:50	0.08	10321	10336	15	15	180.0	45	0	280	1800		90.34	2.83	2.29	
7	28-Jan	Drilling	00:55	01:05	0.17	10336	10351	15	15	90.0	45	0	280	1800		90.46	2.77	1.23	
7	28-Jan	Drilling	01:10	01:15	0.08	10351	10366	15	15	180.0	45	0	280	1800		90.64	2.77	1.23	
7	28-Jan	Drilling	01:45	02:00	0.25	10366	10406	40	15	160.0	45	0	280	1800		90.79	3.50	3.05	
7	28-Jan	Sliding	03:10	03:40	0.50	10406	10421	15	40	30.0	0	0	280	1800	90	90.76	3.96	3.05	
7	28-Jan	Drilling	03:40	03:55	0.25	10421	10449	28	15	112.0	45	0	280	1800		90.40	3.66	2.27	
7	28-Jan	Drilling	04:00	04:15	0.25	10449	10492	43	15	172.0	45	0	280	1800		89.78	2.91	2.27	
7	28-Jan	Drilling	04:25	05:00	0.58	10492	10577	85	15	145.7	45	0	280	1800		89.69	1.71	0.00	
7	28-Jan	Drilling	05:10	05:30	0.33	10577	10638	61	15	183.0	45	0	280	1800		89.69	1.71	0.00	

<b>Total Drilled:</b>	3796	<b>Avg. Total ROP:</b>	83.43	<b>DEPTH% - TIME %</b>
<b>Total Rotary Drilled:</b>	2982	<b>Avg. Rotary ROP:</b>	134.53	<b>Percent Rotary:</b> 78.56 - 48.72
<b>Total Drilled Sliding:</b>	814	<b>Avg. Slide ROP:</b>	34.89	<b>Percent Slide:</b> 21.44 - 51.28

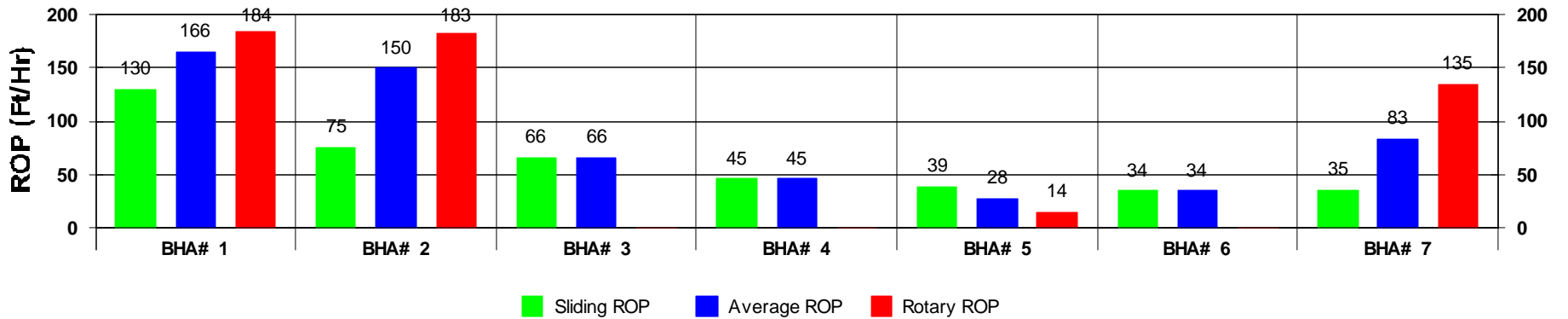


JOB NO.:	41HMP1201071	FIELD:	DJ Basin
COMPANY:	Carrizo Oil & Gas	Township:	8N
LOCATION:		SECTRANGE:	12 61W
RIG NAME:	Xtreme 19	COMMENT	
STATE:	Colorado		
COUNTY:	Weld		
WELL NAME:	Rothe 12-14-8-61		

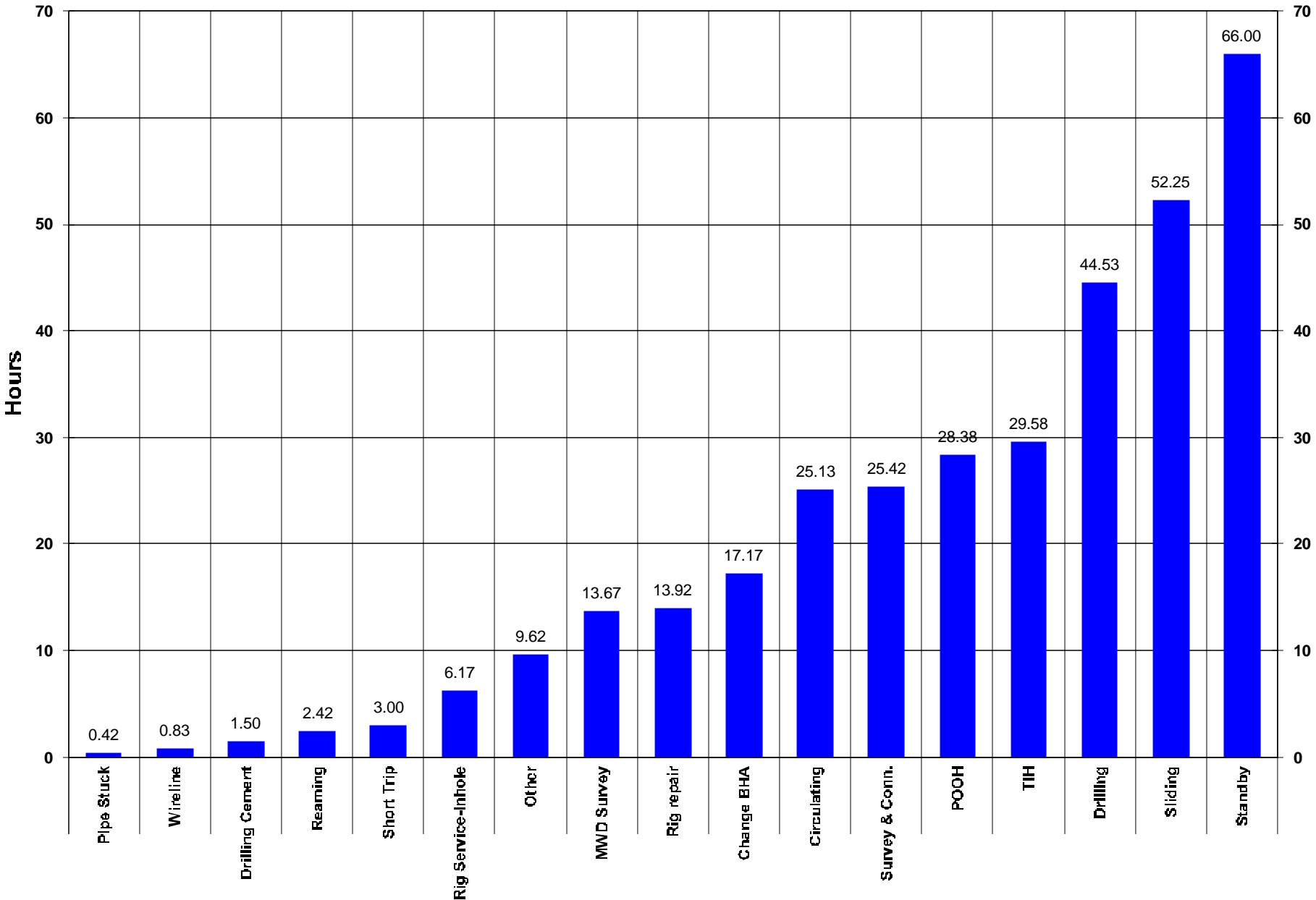
### Footage Drilled with BHA



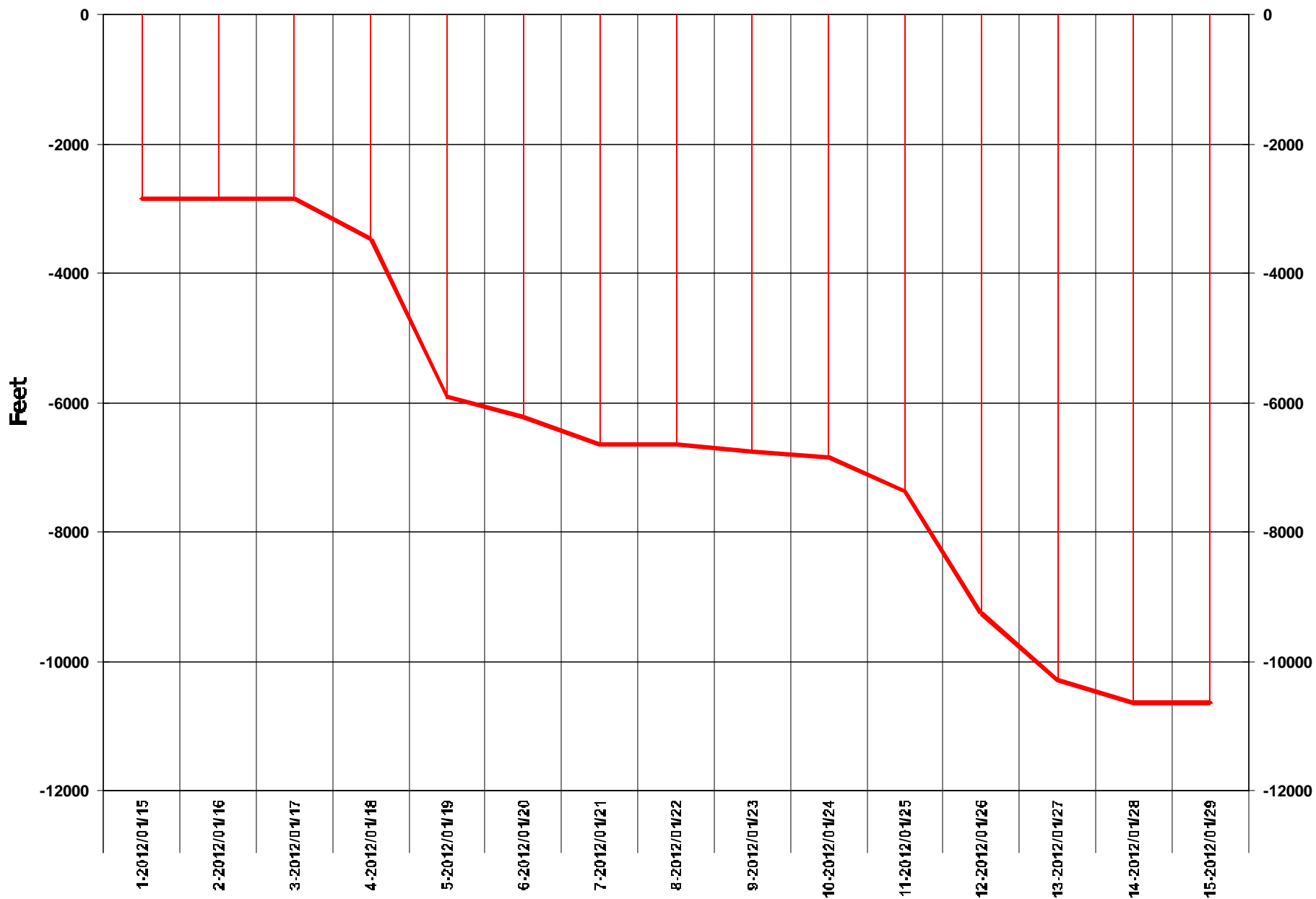
### ROP vs BHA



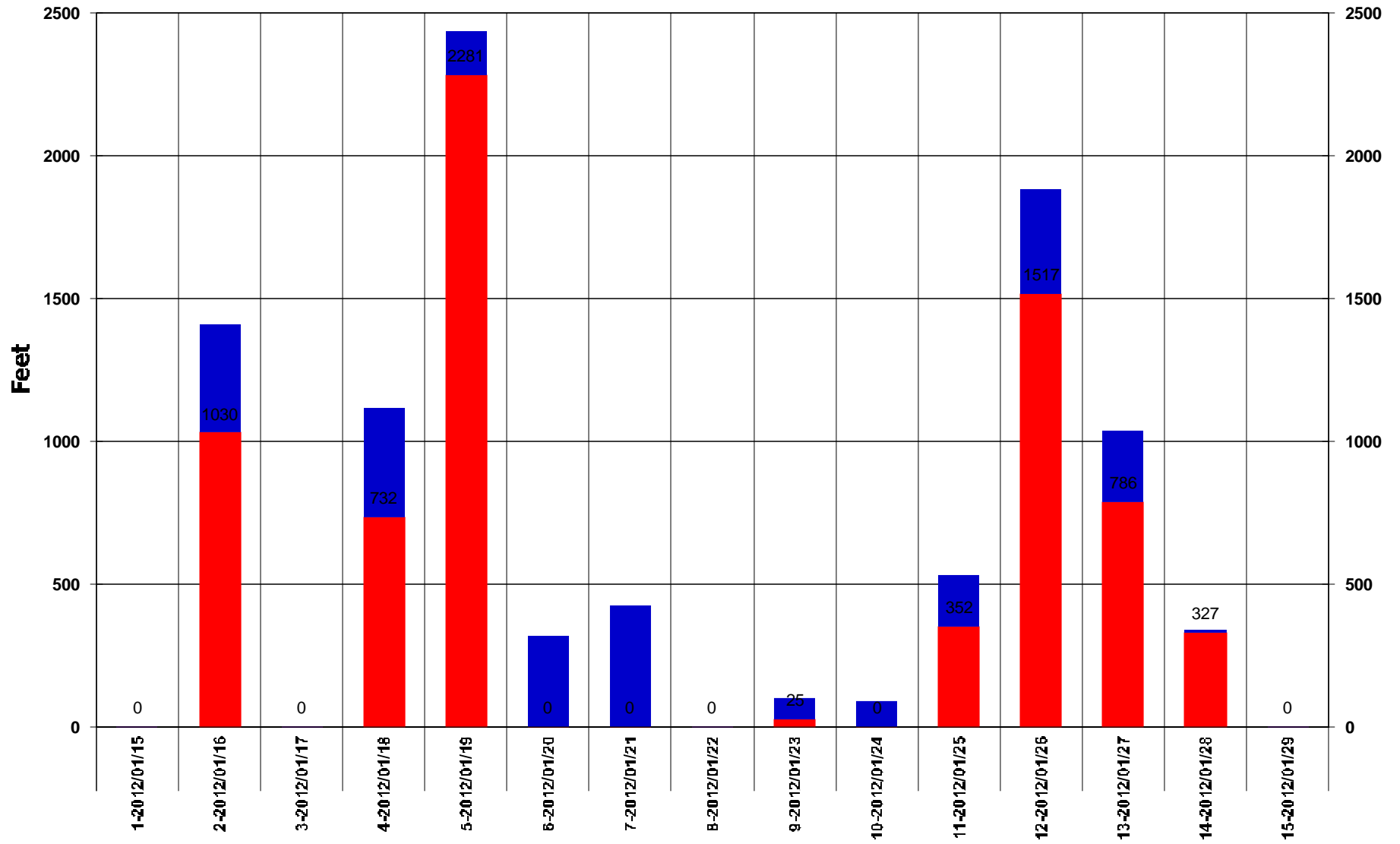
# Activity Histogram



### Measured Depth vs Days

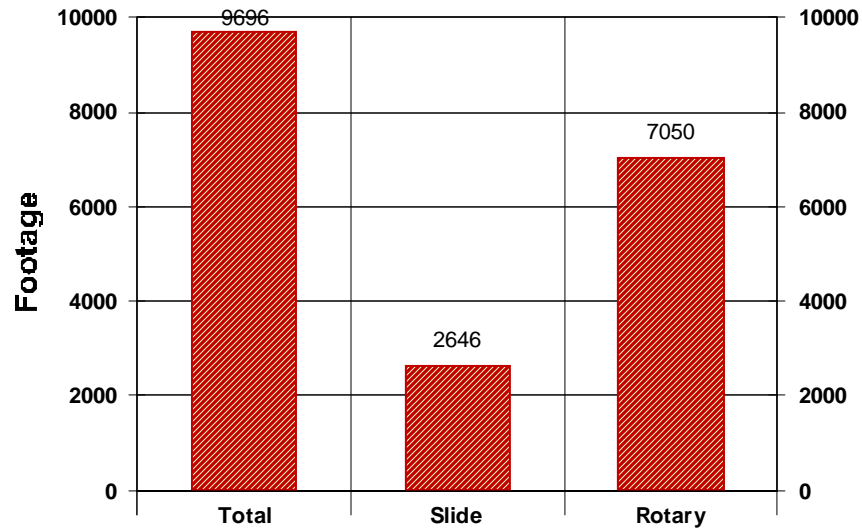


# Daily Footage

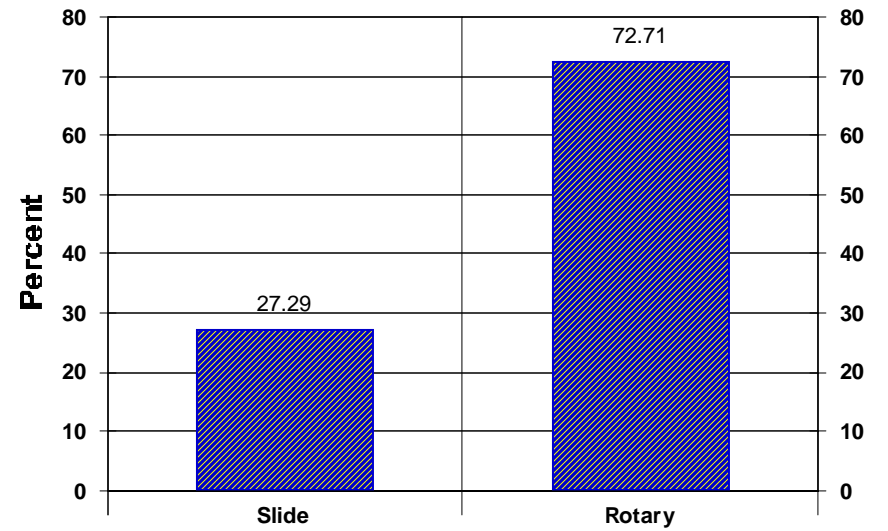


Rotary Drilling Sliding

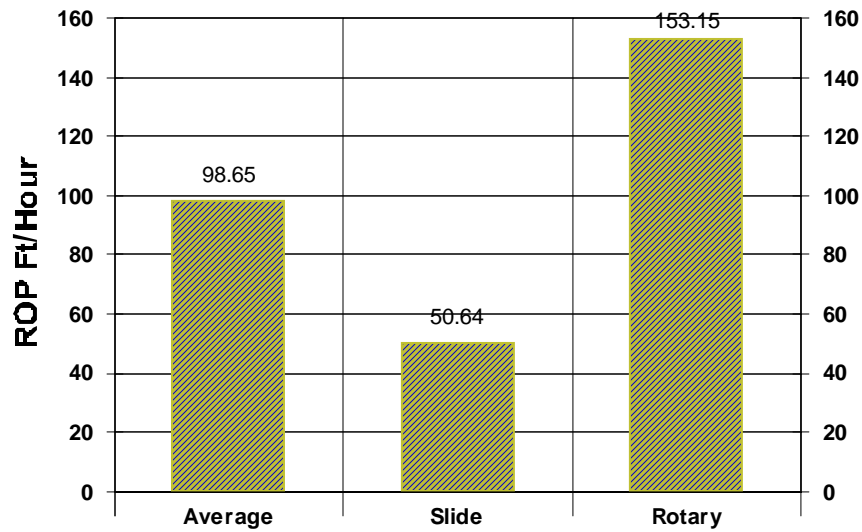
Footage Drilled Totals



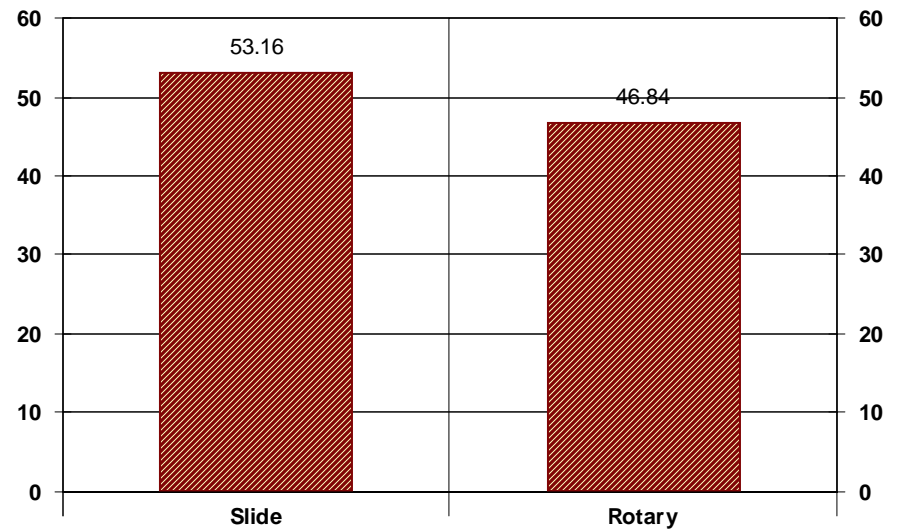
Footage Percent



Rate of Penetration Totals



Time Percent





**Scientific Drilling**  
Rocky Mountain Operations

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