



END OF WELL REPORT

Prepared For:

**Extraction Oil & Gas
BReniman 7
Patterson 346
Weld County, CO**

Prepared By:

***Seth Burstad
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Project: Weld County, CO NAD 83
 Site: Breniman
 Well: Breniman 7
 Wellbore: OH
 Design: OH

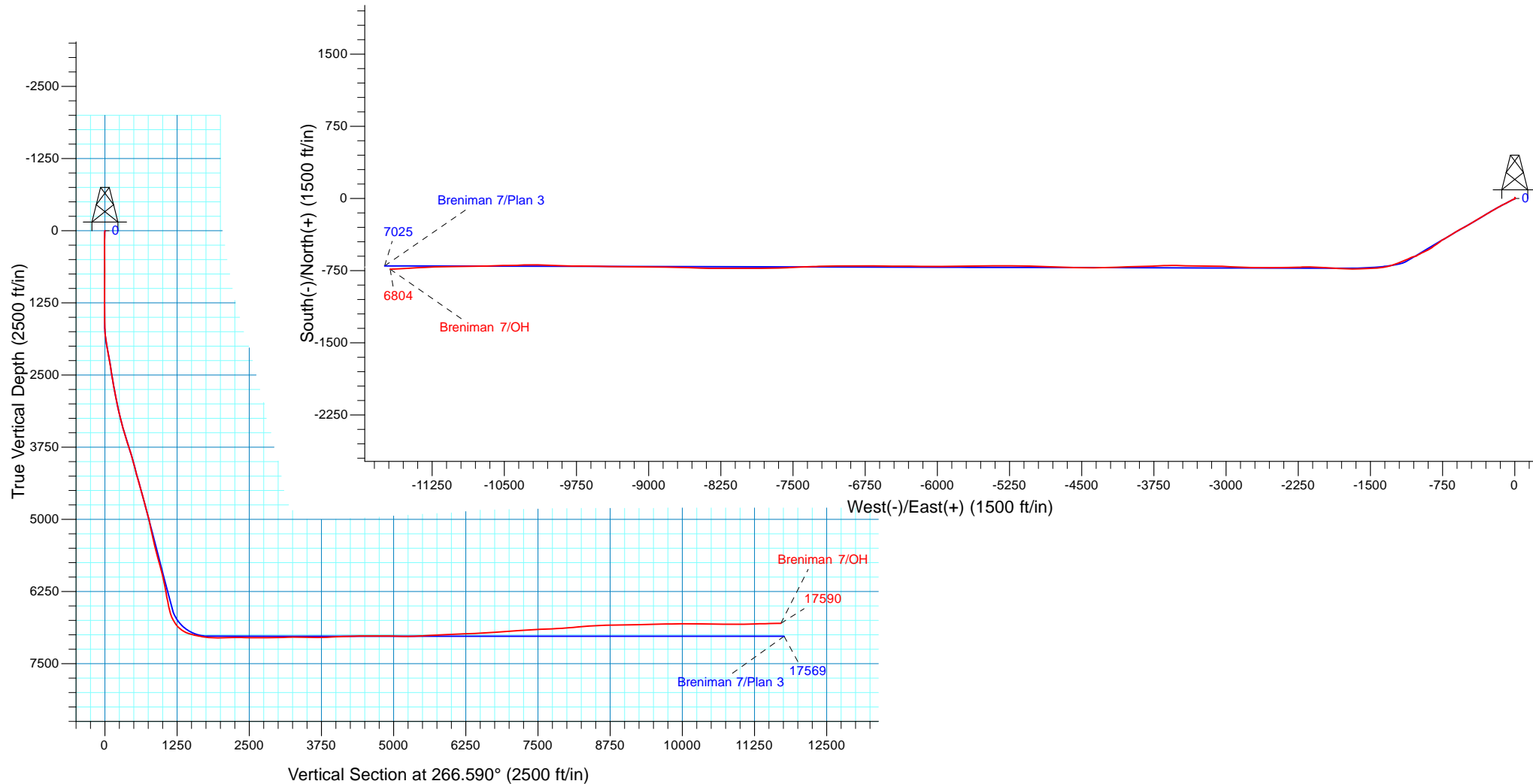


WELL DETAILS: Breniman 7			
GL 4796' & KB 25' @ 4821.00ft (Patterson 346)	4796.00		
Northing	Easting	Latitude	Longitude
1422804.78	3166804.74	40° 29' 32.827 N	104° 54' 0.936 W

PROJECT DETAILS: Weld County, CO NAD 83	
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: OH (Breniman 7/OH)
Created By: Seth Burstad Date: 7-26-2016

ANNOTATIONS						
TVD	MD	Inc	Azi	+N/-S	+E/-W	Annotation
76.99	77.00	1.40	54.000	0.55	0.76	First Helmer MWD Survey
1501.73	1502.00	0.90	229.400	-0.01	2.20	Last Helmer MWD Survey
1665.72	1666.00	0.76	206.170	-1.82	0.74	First SDI MWD Survey
6804.48	17527.00	90.54	266.640	-730.98	-11623.02	Last SDI MWD Survey
6803.88	17590.00	90.54	266.640	-734.67	-11685.91	Projection to TD





Extraction Oil & Gas

Weld County, CO NAD 83

Breniman

Breniman 7

OH

Design: OH

Standard Survey Report

26 July, 2016



Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Breniman 7
Project:	Weld County, CO NAD 83	TVD Reference:	GL 4796' & KB 25' @ 4821.00ft (Patterson 346)
Site:	Breniman	MD Reference:	GL 4796' & KB 25' @ 4821.00ft (Patterson 346)
Well:	Breniman 7	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Casper District

Project	Weld County, CO NAD 83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		Breniman, Site Center : Breniman 2			
Site Position:		Northing:	1,422,925.49 usft	Latitude:	40° 29' 34.015 N
From:	Lat/Long	Easting:	3,166,875.93 usft	Longitude:	104° 54' 0.004 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.39 °

Well	Breniman 7, 607' FNL 2056' FWL Sec 16 T6N R67W					
Well Position	+N/-S	0.00 ft	Northing:	1,422,804.78 usft	Latitude:	40° 29' 32.827 N
	+E/-W	0.00 ft	Easting:	3,166,804.74 usft	Longitude:	104° 54' 0.936 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	4,796.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2016	6/22/2016	8.54	66.95	52,533

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	266.590	

Survey Program	Date	7/26/2016			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
77.00	1,553.00	Survey #1 - Surface (OH)	MWD	MWD - Standard	
1,666.00	17,590.00	Survey #2 - Production (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	

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)	
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
77.00	1.40	54.000	76.99	0.55	0.76	-0.79	1.82	1.82	0.00	
First Helmer MWD Survey										
172.00	1.50	39.200	171.96	2.20	2.49	-2.61	0.41	0.11	-15.58	
267.00	1.60	32.800	266.93	4.28	3.99	-4.24	0.21	0.11	-6.74	
362.00	1.20	351.400	361.90	6.38	4.56	-4.93	1.11	-0.42	-43.58	
457.00	1.50	334.700	456.88	8.48	3.88	-4.38	0.52	0.32	-17.58	
552.00	1.40	323.500	551.84	10.54	2.66	-3.28	0.32	-0.11	-11.79	
647.00	0.70	269.200	646.83	11.47	1.39	-2.07	1.20	-0.74	-57.16	
742.00	1.10	152.200	741.82	10.65	1.23	-1.86	1.63	0.42	-123.16	

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Site:	Breniman	MD Reference:	GL 4796' & KB 25' @ 4821.00ft (Patterson 346)
Well:	Breniman 7	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Casper District

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)
837.00	0.90	149.100	836.81	9.20	2.04	-2.58	0.22	-0.21	-3.26
932.00	1.00	167.400	931.80	7.75	2.60	-3.06	0.33	0.11	19.26
1,027.00	1.00	164.400	1,026.78	6.15	3.01	-3.37	0.06	0.00	-3.16
1,122.00	1.10	166.300	1,121.77	4.46	3.45	-3.71	0.11	0.11	2.00
1,217.00	0.80	183.700	1,216.75	2.91	3.62	-3.79	0.43	-0.32	18.32
1,312.00	0.70	195.500	1,311.75	1.69	3.42	-3.52	0.19	-0.11	12.42
1,407.00	0.50	217.300	1,406.74	0.80	3.02	-3.06	0.32	-0.21	22.95
1,502.00	0.90	229.400	1,501.73	-0.01	2.20	-2.19	0.45	0.42	12.74
Last Helmer MWD Survey									
1,666.00	0.76	206.170	1,665.72	-1.82	0.74	-0.63	0.22	-0.09	-14.16
First SDI MWD Survey									
1,856.00	8.30	247.970	1,855.00	-8.11	-12.55	13.01	4.08	3.97	22.00
1,951.00	10.45	243.830	1,948.73	-14.48	-26.64	27.45	2.37	2.26	-4.36
2,046.00	12.22	242.820	2,041.87	-22.87	-43.32	44.60	1.87	1.86	-1.06
2,142.00	11.30	241.800	2,135.86	-31.96	-60.64	62.44	0.98	-0.96	-1.06
2,238.00	10.51	242.030	2,230.12	-40.51	-76.66	78.94	0.82	-0.82	0.24
2,333.00	9.61	242.590	2,323.66	-48.23	-91.36	94.06	0.95	-0.95	0.59
2,428.00	8.89	240.160	2,417.42	-55.53	-104.76	107.88	0.86	-0.76	-2.56
2,522.99	11.09	244.960	2,510.97	-63.05	-119.41	122.95	2.47	2.32	5.05
2,617.99	9.91	243.570	2,604.38	-70.55	-135.01	138.97	1.27	-1.24	-1.46
2,712.99	10.94	239.400	2,697.81	-78.78	-150.09	154.51	1.34	1.08	-4.39
2,807.99	12.68	242.110	2,790.80	-88.25	-167.06	172.02	1.92	1.83	2.85
2,903.99	11.92	240.220	2,884.59	-98.10	-184.98	190.49	0.90	-0.79	-1.97
2,998.99	12.87	240.180	2,977.38	-108.24	-202.68	208.76	1.00	1.00	-0.04
3,094.99	13.92	241.390	3,070.76	-119.08	-222.09	228.78	1.13	1.09	1.26
3,189.99	14.55	240.440	3,162.85	-130.44	-242.50	249.83	0.71	0.66	-1.00
3,285.99	15.66	239.120	3,255.53	-143.04	-264.11	272.15	1.21	1.16	-1.38
3,379.99	16.87	238.390	3,345.76	-156.70	-286.62	295.43	1.31	1.29	-0.78
3,474.99	17.20	237.170	3,436.60	-171.54	-310.16	319.81	0.51	0.35	-1.28
3,570.99	19.15	239.770	3,527.80	-187.17	-335.69	346.23	2.20	2.03	2.71
3,760.99	20.08	238.740	3,706.78	-219.78	-390.50	402.88	0.52	0.49	-0.54
3,855.99	20.23	238.960	3,795.96	-236.72	-418.52	431.86	0.18	0.16	0.23
3,950.99	19.01	238.680	3,885.44	-253.23	-445.81	460.08	1.29	-1.28	-0.29
4,141.99	14.71	240.170	4,068.19	-281.47	-493.44	509.31	2.26	-2.25	0.78
4,236.99	16.31	241.820	4,159.73	-293.77	-515.67	532.23	1.75	1.68	1.74
4,332.99	18.54	242.380	4,251.32	-307.22	-541.08	558.39	2.33	2.32	0.58
4,427.99	17.64	241.450	4,341.62	-321.10	-567.10	585.20	0.99	-0.95	-0.98
4,522.99	15.94	241.060	4,432.57	-334.29	-591.16	610.00	1.79	-1.79	-0.41
4,617.99	17.38	240.070	4,523.58	-347.68	-614.88	634.47	1.54	1.52	-1.04
4,713.99	18.27	236.480	4,614.97	-363.15	-639.85	660.32	1.47	0.93	-3.74
4,808.99	17.18	235.410	4,705.46	-379.34	-663.81	685.20	1.20	-1.15	-1.13
4,903.99	16.91	241.110	4,796.29	-393.98	-687.46	709.68	1.78	-0.28	6.00
4,999.00	16.60	240.990	4,887.27	-407.24	-711.43	734.39	0.33	-0.33	-0.13

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Site:	Breniman	MD Reference:	GL 4796' & KB 25' @ 4821.00ft (Patterson 346)
Well:	Breniman 7	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Casper District

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)	
5,095.00	16.00	241.380	4,979.41	-420.22	-735.04	758.73	0.64	-0.63	0.41	
5,190.00	12.88	236.870	5,071.40	-432.29	-755.40	779.78	3.49	-3.28	-4.75	
5,286.00	13.95	228.780	5,164.79	-445.76	-773.07	798.21	2.25	1.11	-8.43	
5,381.00	13.93	232.980	5,256.99	-460.19	-790.81	816.79	1.07	-0.02	4.42	
5,477.00	15.02	236.360	5,349.95	-474.04	-810.40	837.16	1.44	1.14	3.52	
5,572.00	17.85	236.530	5,441.05	-488.89	-832.80	860.40	2.98	2.98	0.18	
5,668.00	15.92	230.560	5,532.92	-505.37	-855.24	883.79	2.70	-2.01	-6.22	
5,763.00	16.67	239.110	5,624.12	-520.65	-877.00	906.41	2.64	0.79	9.00	
5,859.00	16.70	244.620	5,716.08	-533.63	-901.28	931.42	1.65	0.03	5.74	
5,954.00	16.28	245.260	5,807.17	-545.05	-925.70	956.49	0.48	-0.44	0.67	
6,050.00	15.76	242.750	5,899.44	-556.66	-949.52	980.95	0.90	-0.54	-2.61	
6,145.00	13.90	242.210	5,991.28	-567.88	-971.08	1,003.14	1.96	-1.96	-0.57	
6,240.00	13.88	244.530	6,083.50	-578.10	-991.46	1,024.10	0.59	-0.02	2.44	
6,335.00	13.33	236.050	6,175.84	-589.12	-1,010.84	1,044.09	2.18	-0.58	-8.93	
6,430.00	8.20	245.440	6,269.15	-598.06	-1,026.10	1,059.85	5.69	-5.40	9.88	
6,526.00	13.03	258.480	6,363.49	-603.07	-1,042.94	1,076.96	5.59	5.03	13.58	
6,621.00	10.63	254.240	6,456.47	-607.59	-1,061.87	1,096.13	2.69	-2.53	-4.46	
6,716.00	13.59	243.930	6,549.35	-614.88	-1,080.33	1,114.99	3.85	3.12	-10.85	
6,811.00	18.94	245.320	6,640.52	-626.23	-1,104.39	1,139.68	5.65	5.63	1.46	
6,907.00	27.46	248.890	6,728.68	-640.73	-1,139.26	1,175.35	8.99	8.88	3.72	
7,002.00	36.82	247.020	6,809.03	-659.78	-1,186.00	1,223.15	9.91	9.85	-1.97	
7,097.00	47.92	250.090	6,879.12	-682.97	-1,245.55	1,283.97	11.88	11.68	3.23	
7,193.00	58.91	256.000	6,936.28	-705.13	-1,319.20	1,358.81	12.46	11.45	6.16	
7,313.00	73.87	266.300	6,984.31	-721.41	-1,427.43	1,467.82	14.72	12.47	8.58	
7,408.00	76.84	267.390	7,008.33	-726.46	-1,519.20	1,559.72	3.32	3.13	1.15	
7,503.00	80.02	268.390	7,027.38	-729.88	-1,612.19	1,652.75	3.50	3.35	1.05	
7,599.00	82.37	269.950	7,042.07	-731.25	-1,707.04	1,747.51	2.93	2.45	1.63	
7,694.00	86.20	273.680	7,051.54	-728.25	-1,801.48	1,841.61	5.61	4.03	3.93	
7,789.00	91.18	274.280	7,053.71	-721.66	-1,896.20	1,935.77	5.28	5.24	0.63	
7,885.00	91.04	273.040	7,051.85	-715.53	-1,991.98	2,031.02	1.30	-0.15	-1.29	
7,980.00	90.94	270.420	7,050.21	-712.66	-2,086.92	2,125.61	2.76	-0.11	-2.76	
8,076.00	92.05	269.910	7,047.70	-712.39	-2,182.88	2,221.39	1.27	1.16	-0.53	
8,171.00	89.53	268.050	7,046.39	-714.08	-2,277.85	2,316.29	3.30	-2.65	-1.96	
8,266.00	87.95	268.470	7,048.48	-716.96	-2,372.78	2,411.22	1.72	-1.66	0.44	
8,362.00	88.89	269.740	7,051.13	-718.46	-2,468.73	2,507.09	1.65	0.98	1.32	
8,457.00	90.27	270.170	7,051.82	-718.54	-2,563.72	2,601.92	1.52	1.45	0.45	
8,553.00	89.83	270.740	7,051.74	-717.77	-2,659.72	2,697.70	0.75	-0.46	0.59	
8,648.00	91.11	271.320	7,050.96	-716.07	-2,754.70	2,792.41	1.48	1.35	0.61	
8,743.00	90.60	271.790	7,049.54	-713.49	-2,849.65	2,887.04	0.73	-0.54	0.49	
8,839.00	90.50	273.220	7,048.62	-709.29	-2,945.55	2,982.53	1.49	-0.10	1.49	
8,934.00	92.38	272.050	7,046.23	-704.93	-3,040.42	3,076.96	2.33	1.98	-1.23	
9,029.00	91.61	270.370	7,042.93	-702.92	-3,135.33	3,171.59	1.94	-0.81	-1.77	
9,125.00	90.17	270.690	7,041.44	-702.03	-3,231.31	3,267.35	1.54	-1.50	0.33	
9,220.00	89.33	271.240	7,041.85	-700.43	-3,326.30	3,362.07	1.06	-0.88	0.58	

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9,315.00	88.96	271.780	7,043.27	-697.93	-3,421.25	3,456.71	0.69	-0.39	0.57	
9,411.00	88.63	270.450	7,045.29	-696.06	-3,517.21	3,552.39	1.43	-0.34	-1.39	
9,506.00	89.50	268.990	7,046.84	-696.53	-3,612.20	3,647.23	1.79	0.92	-1.54	
9,602.00	90.91	267.320	7,046.49	-699.62	-3,708.14	3,743.19	2.28	1.47	-1.74	
9,697.00	92.58	268.500	7,043.60	-703.08	-3,803.03	3,838.11	2.15	1.76	1.24	
9,793.00	93.22	268.350	7,038.74	-705.72	-3,898.87	3,933.94	0.68	0.67	-0.16	
9,888.00	92.28	268.290	7,034.19	-708.50	-3,993.72	4,028.79	0.99	-0.99	-0.06	
9,983.00	91.54	267.550	7,031.02	-711.95	-4,088.60	4,123.71	1.10	-0.78	-0.78	
10,079.00	91.01	268.710	7,028.88	-715.08	-4,184.52	4,219.65	1.33	-0.55	1.21	
10,175.00	93.32	268.110	7,025.26	-717.74	-4,280.41	4,315.52	2.49	2.41	-0.63	
10,270.00	91.71	269.930	7,021.09	-719.36	-4,375.30	4,410.34	2.56	-1.69	1.92	
10,365.00	89.46	270.470	7,020.12	-719.03	-4,470.29	4,505.14	2.44	-2.37	0.57	
10,461.00	89.83	270.960	7,020.71	-717.83	-4,566.28	4,600.89	0.64	0.39	0.51	
10,556.00	90.07	271.770	7,020.80	-715.57	-4,661.25	4,695.56	0.89	0.25	0.85	
10,651.00	90.10	271.980	7,020.65	-712.46	-4,756.20	4,790.15	0.22	0.03	0.22	
10,747.00	89.16	272.850	7,021.27	-708.41	-4,852.11	4,885.65	1.33	-0.98	0.91	
10,842.00	88.89	271.690	7,022.89	-704.65	-4,947.02	4,980.17	1.25	-0.28	-1.22	
10,938.00	87.68	271.720	7,025.76	-701.80	-5,042.93	5,075.75	1.26	-1.26	0.03	
11,033.00	87.85	271.010	7,029.47	-699.54	-5,137.83	5,170.34	0.77	0.18	-0.75	
11,128.00	91.98	270.370	7,029.61	-698.39	-5,232.80	5,265.08	4.40	4.35	-0.67	
11,224.00	91.74	270.520	7,026.49	-697.65	-5,328.75	5,360.81	0.29	-0.25	0.16	
11,319.00	93.79	269.400	7,021.91	-697.71	-5,423.63	5,455.53	2.46	2.16	-1.18	
11,415.00	92.86	269.160	7,016.34	-698.92	-5,519.46	5,551.26	1.00	-0.97	-0.25	
11,510.00	92.48	269.170	7,011.92	-700.30	-5,614.35	5,646.06	0.40	-0.40	0.01	
11,605.00	94.64	268.340	7,006.02	-702.36	-5,709.14	5,740.80	2.44	2.27	-0.87	
11,700.00	91.68	269.130	7,000.78	-704.45	-5,803.96	5,835.58	3.22	-3.12	0.83	
11,795.00	92.59	269.520	6,997.24	-705.57	-5,898.88	5,930.41	1.04	0.96	0.41	
11,891.00	91.95	269.860	6,993.44	-706.09	-5,994.81	6,026.19	0.75	-0.67	0.35	
11,986.00	93.76	271.620	6,988.71	-704.87	-6,089.67	6,120.82	2.66	1.91	1.85	
12,081.00	91.58	270.110	6,984.28	-703.43	-6,184.55	6,215.44	2.79	-2.29	-1.59	
12,176.00	91.58	270.120	6,981.66	-703.24	-6,279.51	6,310.22	0.01	0.00	0.01	
12,272.00	92.72	270.300	6,978.06	-702.89	-6,375.44	6,405.96	1.20	1.19	0.19	
12,367.00	92.96	270.070	6,973.36	-702.59	-6,470.33	6,500.66	0.35	0.25	-0.24	
12,462.00	94.26	271.690	6,967.37	-701.13	-6,565.12	6,595.20	2.18	1.37	1.71	
12,557.00	93.40	269.230	6,961.03	-700.37	-6,659.90	6,689.77	2.74	-0.91	-2.59	
12,652.00	92.15	271.210	6,956.43	-700.01	-6,754.78	6,784.46	2.46	-1.32	2.08	
12,747.00	94.91	270.270	6,950.58	-698.78	-6,849.58	6,879.02	3.07	2.91	-0.99	
12,843.00	93.60	268.700	6,943.46	-699.64	-6,945.31	6,974.63	2.13	-1.36	-1.64	
12,938.00	94.40	269.000	6,936.83	-701.54	-7,040.06	7,069.32	0.90	0.84	0.32	
13,033.00	94.85	268.880	6,929.17	-703.29	-7,134.73	7,163.93	0.49	0.47	-0.13	
13,128.00	94.84	269.220	6,921.15	-704.86	-7,229.38	7,258.50	0.36	-0.01	0.36	
13,223.00	92.72	267.440	6,914.88	-707.63	-7,324.12	7,353.24	2.91	-2.23	-1.87	
13,318.00	92.21	267.100	6,910.80	-712.15	-7,418.93	7,448.15	0.65	-0.54	-0.36	

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Breniman 7
Project:	Weld County, CO NAD 83	TVD Reference:	GL 4796' & KB 25' @ 4821.00ft (Patterson 346)
Site:	Breniman	MD Reference:	GL 4796' & KB 25' @ 4821.00ft (Patterson 346)
Well:	Breniman 7	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Casper District

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)	
13,413.00	92.42	267.150	6,906.96	-716.91	-7,513.73	7,543.07	0.23	0.22	0.05	
13,508.00	92.65	268.200	6,902.76	-720.76	-7,608.56	7,637.96	1.13	0.24	1.11	
13,604.00	92.08	269.220	6,898.80	-722.92	-7,704.45	7,733.81	1.22	-0.59	1.06	
13,698.00	93.50	269.010	6,894.22	-724.37	-7,798.32	7,827.60	1.53	1.51	-0.22	
13,794.00	93.19	269.810	6,888.62	-725.36	-7,894.15	7,923.32	0.89	-0.32	0.83	
13,889.00	94.71	269.980	6,882.07	-725.53	-7,988.92	8,017.94	1.61	1.60	0.18	
13,984.00	94.64	270.010	6,874.33	-725.54	-8,083.61	8,112.45	0.08	-0.07	0.03	
14,079.00	94.87	270.090	6,866.46	-725.46	-8,178.28	8,206.95	0.26	0.24	0.08	
14,174.00	95.44	269.980	6,857.92	-725.40	-8,272.90	8,301.40	0.61	0.60	-0.12	
14,269.00	95.14	270.850	6,849.16	-724.71	-8,367.49	8,395.78	0.97	-0.32	0.92	
14,364.00	94.00	272.350	6,841.59	-722.07	-8,462.15	8,490.11	1.98	-1.20	1.58	
14,459.00	90.94	271.680	6,837.50	-718.73	-8,556.99	8,584.59	3.30	-3.22	-0.71	
14,554.00	91.38	271.790	6,835.58	-715.86	-8,651.92	8,679.18	0.48	0.46	0.12	
14,649.00	90.97	271.140	6,833.63	-713.43	-8,746.87	8,773.82	0.81	-0.43	-0.68	
14,744.00	90.57	270.500	6,832.35	-712.07	-8,841.85	8,868.55	0.79	-0.42	-0.67	
14,839.00	91.58	270.250	6,830.57	-711.45	-8,936.83	8,963.33	1.10	1.06	-0.26	
14,935.00	92.18	271.290	6,827.42	-710.16	-9,032.77	9,059.02	1.25	0.63	1.08	
15,030.00	89.90	270.150	6,825.70	-708.96	-9,127.74	9,153.75	2.68	-2.40	-1.20	
15,125.00	90.47	270.790	6,825.39	-708.18	-9,222.74	9,248.53	0.90	0.60	0.67	
15,221.00	91.01	270.750	6,824.15	-706.89	-9,318.72	9,344.27	0.56	0.56	-0.04	
15,316.00	91.75	271.030	6,821.86	-705.42	-9,413.68	9,438.97	0.83	0.78	0.29	
15,412.00	92.65	270.900	6,818.18	-703.80	-9,509.59	9,534.62	0.95	0.94	-0.14	
15,507.00	90.67	270.410	6,815.42	-702.72	-9,604.54	9,629.33	2.15	-2.08	-0.52	
15,602.00	91.54	270.590	6,813.59	-701.89	-9,699.52	9,724.10	0.94	0.92	0.19	
15,698.00	89.23	270.760	6,812.95	-700.76	-9,795.50	9,819.84	2.41	-2.41	0.18	
15,793.00	90.20	271.800	6,813.42	-698.64	-9,890.48	9,914.52	1.50	1.02	1.09	
15,889.00	91.01	272.850	6,812.41	-694.74	-9,986.39	10,010.03	1.38	0.84	1.09	
15,984.00	91.41	272.090	6,810.40	-690.65	-10,081.28	10,104.51	0.90	0.42	-0.80	
16,079.00	91.14	270.390	6,808.29	-688.59	-10,176.23	10,199.17	1.81	-0.28	-1.79	
16,175.00	88.49	267.620	6,808.60	-690.26	-10,272.20	10,295.07	3.99	-2.76	-2.89	
16,270.00	87.95	268.710	6,811.55	-693.30	-10,367.10	10,389.98	1.28	-0.57	1.15	
16,365.00	87.49	269.230	6,815.33	-695.01	-10,462.01	10,484.83	0.73	-0.48	0.55	
16,460.00	89.09	268.180	6,818.16	-697.15	-10,556.94	10,579.72	2.01	1.68	-1.11	
16,556.00	88.83	268.060	6,819.90	-700.30	-10,652.87	10,675.67	0.30	-0.27	-0.13	
16,651.00	90.67	268.920	6,820.32	-702.81	-10,747.83	10,770.61	2.14	1.94	0.91	
16,745.00	90.24	268.860	6,819.57	-704.63	-10,841.81	10,864.53	0.46	-0.46	-0.06	
16,840.00	91.07	269.380	6,818.48	-706.09	-10,936.79	10,959.43	1.03	0.87	0.55	
16,936.00	91.21	269.540	6,816.57	-706.99	-11,032.77	11,055.29	0.22	0.15	0.17	
17,031.00	90.97	270.040	6,814.77	-707.34	-11,127.75	11,150.12	0.58	-0.25	0.53	
17,126.00	91.68	267.220	6,812.57	-709.61	-11,222.69	11,245.03	3.06	0.75	-2.97	
17,221.00	91.47	266.690	6,809.96	-714.65	-11,317.52	11,339.99	0.60	-0.22	-0.56	
17,314.00	91.55	266.860	6,807.51	-719.88	-11,410.34	11,432.96	0.20	0.09	0.18	
17,409.00	90.64	267.290	6,805.69	-724.73	-11,505.20	11,527.93	1.06	-0.96	0.45	

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Breniman 7
Project:	Weld County, CO NAD 83	TVD Reference:	GL 4796' & KB 25' @ 4821.00ft (Patterson 346)
Site:	Breniman	MD Reference:	GL 4796' & KB 25' @ 4821.00ft (Patterson 346)
Well:	Breniman 7	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Casper District

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)
17,527.00	90.54	266.640	6,804.48	-730.98	-11,623.02	11,645.92	0.56	-0.08	-0.55
Last SDI MWD Survey									
17,590.00	90.54	266.640	6,803.88	-734.67	-11,685.91	11,708.92	0.00	0.00	0.00
Projection to TD									

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
77.00	76.99	0.55	0.76	First Helmer MWD Survey
1,502.00	1,501.73	-0.01	2.20	Last Helmer MWD Survey
1,666.00	1,665.72	-1.82	0.74	First SDI MWD Survey
17,527.00	6,804.48	-730.98	-11,623.02	Last SDI MWD Survey
17,590.00	6,803.88	-734.67	-11,685.91	Projection to TD

Checked By: _____	Approved By: _____	Date: _____
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Extraction Oil & Gas

Weld County, CO NAD 83

Breniman

Breniman 7

OH

Design: OH

Survey Report - Geographic

26 July, 2016



Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Breniman 7
Project:	Weld County, CO NAD 83	TVD Reference:	GL 4796' & KB 25' @ 4821.00ft (Patterson 346)
Site:	Breniman	MD Reference:	GL 4796' & KB 25' @ 4821.00ft (Patterson 346)
Well:	Breniman 7	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Casper District

Project	Weld County, CO NAD 83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		Breniman, Site Center : Breniman 2			
Site Position:		Northing:	1,422,925.49 usft	Latitude:	40° 29' 34.015 N
From:	Lat/Long	Easting:	3,166,875.93 usft	Longitude:	104° 54' 0.004 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.39 °

Well	Breniman 7, 607' FNL 2056' FWL Sec 16 T6N R67W					
Well Position	+N/-S	0.00 ft	Northing:	1,422,804.78 usft	Latitude:	40° 29' 32.827 N
	+E/-W	0.00 ft	Easting:	3,166,804.74 usft	Longitude:	104° 54' 0.936 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	4,796.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2016	6/22/2016	8.54	66.95	52,533

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00		266.590

Survey Program	Date	7/26/2016			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
77.00	1,553.00	Survey #1 - Surface (OH)	MWD	MWD - Standard	
1,666.00	17,590.00	Survey #2 - Production (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.000	0.00	0.00	0.00	1,422,804.78	3,166,804.74	40° 29' 32.827 N	104° 54' 0.936 W
77.00	1.40	54.000	76.99	0.55	0.76	1,422,805.34	3,166,805.50	40° 29' 32.832 N	104° 54' 0.926 W
First Helmer MWD Survey									
172.00	1.50	39.200	171.96	2.20	2.49	1,422,806.99	3,166,807.21	40° 29' 32.849 N	104° 54' 0.904 W
267.00	1.60	32.800	266.93	4.28	3.99	1,422,809.08	3,166,808.70	40° 29' 32.869 N	104° 54' 0.884 W
362.00	1.20	351.400	361.90	6.38	4.56	1,422,811.18	3,166,809.26	40° 29' 32.890 N	104° 54' 0.877 W
457.00	1.50	334.700	456.88	8.48	3.88	1,422,813.29	3,166,808.56	40° 29' 32.911 N	104° 54' 0.886 W
552.00	1.40	323.500	551.84	10.54	2.66	1,422,815.34	3,166,807.33	40° 29' 32.931 N	104° 54' 0.902 W
647.00	0.70	269.200	646.83	11.47	1.39	1,422,816.25	3,166,806.05	40° 29' 32.940 N	104° 54' 0.918 W
742.00	1.10	152.200	741.82	10.65	1.23	1,422,815.44	3,166,805.90	40° 29' 32.932 N	104° 54' 0.920 W
837.00	0.90	149.100	836.81	9.20	2.04	1,422,814.00	3,166,806.72	40° 29' 32.918 N	104° 54' 0.910 W

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Breniman 7
Project:	Weld County, CO NAD 83	TVD Reference:	GL 4796' & KB 25' @ 4821.00ft (Patterson 346)
Site:	Breniman	MD Reference:	GL 4796' & KB 25' @ 4821.00ft (Patterson 346)
Well:	Breniman 7	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Casper District

Survey										
Measured			Vertical			Map		Map		
Depth	Inclination	Azimuth	Depth	+N/-S	+E/-W	Northing	Easting		Latitude	Longitude
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)			
932.00	1.00	167.400	931.80	7.75	2.60	1,422,812.55	3,166,807.29		40° 29' 32.904 N	104° 54' 0.902 W
1,027.00	1.00	164.400	1,026.78	6.15	3.01	1,422,810.95	3,166,807.71		40° 29' 32.888 N	104° 54' 0.897 W
1,122.00	1.10	166.300	1,121.77	4.46	3.45	1,422,809.26	3,166,808.16		40° 29' 32.871 N	104° 54' 0.891 W
1,217.00	0.80	183.700	1,216.75	2.91	3.62	1,422,807.72	3,166,808.34		40° 29' 32.856 N	104° 54' 0.889 W
1,312.00	0.70	195.500	1,311.75	1.69	3.42	1,422,806.50	3,166,808.15		40° 29' 32.844 N	104° 54' 0.892 W
1,407.00	0.50	217.300	1,406.74	0.80	3.02	1,422,805.60	3,166,807.75		40° 29' 32.835 N	104° 54' 0.897 W
1,502.00	0.90	229.400	1,501.73	-0.01	2.20	1,422,804.78	3,166,806.94		40° 29' 32.827 N	104° 54' 0.908 W
Last Helmer MWD Survey										
1,666.00	0.76	206.170	1,665.72	-1.82	0.74	1,422,802.96	3,166,805.49		40° 29' 32.809 N	104° 54' 0.926 W
First SDI MWD Survey										
1,856.00	8.30	247.970	1,855.00	-8.11	-12.55	1,422,796.58	3,166,792.25		40° 29' 32.747 N	104° 54' 1.098 W
1,951.00	10.45	243.830	1,948.73	-14.48	-26.64	1,422,790.12	3,166,778.20		40° 29' 32.684 N	104° 54' 1.281 W
2,046.00	12.22	242.820	2,041.87	-22.87	-43.32	1,422,781.61	3,166,761.58		40° 29' 32.601 N	104° 54' 1.497 W
2,142.00	11.30	241.800	2,135.86	-31.96	-60.64	1,422,772.41	3,166,744.31		40° 29' 32.511 N	104° 54' 1.721 W
2,238.00	10.51	242.030	2,230.12	-40.51	-76.66	1,422,763.75	3,166,728.35		40° 29' 32.427 N	104° 54' 1.928 W
2,333.00	9.61	242.590	2,323.66	-48.23	-91.36	1,422,755.94	3,166,713.71		40° 29' 32.350 N	104° 54' 2.118 W
2,428.00	8.89	240.160	2,417.42	-55.53	-104.76	1,422,748.54	3,166,700.35		40° 29' 32.278 N	104° 54' 2.292 W
2,522.99	11.09	244.960	2,510.97	-63.05	-119.41	1,422,740.92	3,166,685.76		40° 29' 32.204 N	104° 54' 2.482 W
2,617.99	9.91	243.570	2,604.38	-70.55	-135.01	1,422,733.31	3,166,670.21		40° 29' 32.130 N	104° 54' 2.683 W
2,712.99	10.94	239.400	2,697.81	-78.78	-150.09	1,422,724.98	3,166,655.19		40° 29' 32.048 N	104° 54' 2.879 W
2,807.99	12.68	242.110	2,790.80	-88.25	-167.06	1,422,715.40	3,166,638.27		40° 29' 31.955 N	104° 54' 3.098 W
2,903.99	11.92	240.220	2,884.59	-98.10	-184.98	1,422,705.43	3,166,620.42		40° 29' 31.857 N	104° 54' 3.330 W
2,998.99	12.87	240.180	2,977.38	-108.24	-202.68	1,422,695.17	3,166,602.80		40° 29' 31.757 N	104° 54' 3.559 W
3,094.99	13.92	241.390	3,070.76	-119.08	-222.09	1,422,684.20	3,166,583.46		40° 29' 31.650 N	104° 54' 3.811 W
3,189.99	14.55	240.440	3,162.85	-130.44	-242.50	1,422,672.70	3,166,563.12		40° 29' 31.538 N	104° 54' 4.075 W
3,285.99	15.66	239.120	3,255.53	-143.04	-264.11	1,422,659.95	3,166,541.60		40° 29' 31.413 N	104° 54' 4.355 W
3,379.99	16.87	238.390	3,345.76	-156.70	-286.62	1,422,646.14	3,166,519.19		40° 29' 31.278 N	104° 54' 4.646 W
3,474.99	17.20	237.170	3,436.60	-171.54	-310.16	1,422,631.14	3,166,495.75		40° 29' 31.132 N	104° 54' 4.951 W
3,570.99	19.15	239.770	3,527.80	-187.17	-335.69	1,422,615.35	3,166,470.32		40° 29' 30.977 N	104° 54' 5.281 W
3,760.99	20.08	238.740	3,706.78	-219.78	-390.50	1,422,582.36	3,166,415.73		40° 29' 30.655 N	104° 54' 5.990 W
3,855.99	20.23	238.960	3,795.96	-236.72	-418.52	1,422,565.24	3,166,387.83		40° 29' 30.488 N	104° 54' 6.353 W
3,950.99	19.01	238.680	3,885.44	-253.23	-445.81	1,422,548.54	3,166,360.65		40° 29' 30.324 N	104° 54' 6.706 W
4,141.99	14.71	240.170	4,068.19	-281.47	-493.44	1,422,519.97	3,166,313.21		40° 29' 30.045 N	104° 54' 7.323 W
4,236.99	16.31	241.820	4,159.73	-293.77	-515.67	1,422,507.52	3,166,291.07		40° 29' 29.924 N	104° 54' 7.610 W
4,332.99	18.54	242.380	4,251.32	-307.22	-541.08	1,422,493.91	3,166,265.75		40° 29' 29.791 N	104° 54' 7.939 W
4,427.99	17.64	241.450	4,341.62	-321.10	-567.10	1,422,479.85	3,166,239.82		40° 29' 29.654 N	104° 54' 8.276 W
4,522.99	15.94	241.060	4,432.57	-334.29	-591.16	1,422,466.50	3,166,215.85		40° 29' 29.523 N	104° 54' 8.588 W
4,617.99	17.38	240.070	4,523.58	-347.68	-614.88	1,422,452.94	3,166,192.23		40° 29' 29.391 N	104° 54' 8.895 W
4,713.99	18.27	236.480	4,614.97	-363.15	-639.85	1,422,437.31	3,166,167.36		40° 29' 29.238 N	104° 54' 9.218 W
4,808.99	17.18	235.410	4,705.46	-379.34	-663.81	1,422,420.96	3,166,143.51		40° 29' 29.078 N	104° 54' 9.528 W
4,903.99	16.91	241.110	4,796.29	-393.98	-687.46	1,422,406.16	3,166,119.96		40° 29' 28.934 N	104° 54' 9.834 W
4,999.00	16.60	240.990	4,887.27	-407.24	-711.43	1,422,392.74	3,166,096.08		40° 29' 28.803 N	104° 54' 10.144 W
5,095.00	16.00	241.380	4,979.41	-420.22	-735.04	1,422,379.59	3,166,072.56		40° 29' 28.674 N	104° 54' 10.450 W
5,190.00	12.88	236.870	5,071.40	-432.29	-755.40	1,422,367.39	3,166,052.28		40° 29' 28.555 N	104° 54' 10.713 W
5,286.00	13.95	228.780	5,164.79	-445.76	-773.07	1,422,353.80	3,166,034.70		40° 29' 28.422 N	104° 54' 10.942 W
5,381.00	13.93	232.980	5,256.99	-460.19	-790.81	1,422,339.25	3,166,017.06		40° 29' 28.279 N	104° 54' 11.172 W
5,477.00	15.02	236.360	5,349.95	-474.04	-810.40	1,422,325.27	3,165,997.57		40° 29' 28.142 N	104° 54' 11.425 W
5,572.00	17.85	236.530	5,441.05	-488.89	-832.80	1,422,310.27	3,165,975.27		40° 29' 27.996 N	104° 54' 11.715 W
5,668.00	15.92	230.560	5,532.92	-505.37	-855.24	1,422,293.63	3,165,952.94		40° 29' 27.833 N	104° 54' 12.006 W
5,763.00	16.67	239.110	5,624.12	-520.65	-877.00	1,422,278.21	3,165,931.28		40° 29' 27.682 N	104° 54' 12.287 W
5,859.00	16.70	244.620	5,716.08	-533.63	-901.28	1,422,265.07	3,165,907.09		40° 29' 27.553 N	104° 54' 12.601 W
5,954.00	16.28	245.260	5,807.17	-545.05	-925.70	1,422,253.48	3,165,882.74		40° 29' 27.441 N	104° 54' 12.918 W
6,050.00	15.76	242.750	5,899.44	-556.66	-949.52	1,422,241.72	3,165,859.01		40° 29' 27.326 N	104° 54' 13.226 W
6,145.00	13.90	242.210	5,991.28	-567.88	-971.08	1,422,230.34	3,165,837.52		40° 29' 27.215 N	104° 54' 13.505 W
6,240.00	13.88	244.530	6,083.50	-578.10	-991.46	1,422,219.98	3,165,817.21		40° 29' 27.114 N	104° 54' 13.769 W

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Breniman 7
Project:	Weld County, CO NAD 83	TVD Reference:	GL 4796' & KB 25' @ 4821.00ft (Patterson 346)
Site:	Breniman	MD Reference:	GL 4796' & KB 25' @ 4821.00ft (Patterson 346)
Well:	Breniman 7	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Casper District

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
6,335.00	13.33	236.050	6,175.84	-589.12	-1,010.84	1,422,208.84	3,165,797.91	40° 29' 27.005 N	104° 54' 14.020 W
6,430.00	8.20	245.440	6,269.15	-598.06	-1,026.10	1,422,199.79	3,165,782.71	40° 29' 26.917 N	104° 54' 14.217 W
6,526.00	13.03	258.480	6,363.49	-603.07	-1,042.94	1,422,194.67	3,165,765.90	40° 29' 26.867 N	104° 54' 14.435 W
6,621.00	10.63	254.240	6,456.47	-607.59	-1,061.87	1,422,190.02	3,165,747.00	40° 29' 26.823 N	104° 54' 14.680 W
6,716.00	13.59	243.930	6,549.35	-614.88	-1,080.33	1,422,182.61	3,165,728.59	40° 29' 26.751 N	104° 54' 14.919 W
6,811.00	18.94	245.320	6,640.52	-626.23	-1,104.39	1,422,171.10	3,165,704.61	40° 29' 26.638 N	104° 54' 15.230 W
6,907.00	27.46	248.890	6,728.68	-640.73	-1,139.26	1,422,156.36	3,165,669.84	40° 29' 26.495 N	104° 54' 15.682 W
7,002.00	36.82	247.020	6,809.03	-659.78	-1,186.00	1,422,137.00	3,165,623.23	40° 29' 26.307 N	104° 54' 16.287 W
7,097.00	47.92	250.090	6,879.12	-682.97	-1,245.55	1,422,113.40	3,165,563.84	40° 29' 26.078 N	104° 54' 17.057 W
7,193.00	58.91	256.000	6,936.28	-705.13	-1,319.20	1,422,090.74	3,165,490.34	40° 29' 25.859 N	104° 54' 18.011 W
7,313.00	73.87	266.300	6,984.31	-721.41	-1,427.43	1,422,073.73	3,165,382.22	40° 29' 25.698 N	104° 54' 19.411 W
7,408.00	76.84	267.390	7,008.33	-726.46	-1,519.20	1,422,068.06	3,165,290.49	40° 29' 25.648 N	104° 54' 20.599 W
7,503.00	80.02	268.390	7,027.38	-729.88	-1,612.19	1,422,064.01	3,165,197.53	40° 29' 25.614 N	104° 54' 21.803 W
7,599.00	82.37	269.950	7,042.07	-731.25	-1,707.04	1,422,062.00	3,165,102.69	40° 29' 25.600 N	104° 54' 23.030 W
7,694.00	86.20	273.680	7,051.54	-728.25	-1,801.48	1,422,064.36	3,165,008.22	40° 29' 25.630 N	104° 54' 24.253 W
7,789.00	91.18	274.280	7,053.71	-721.66	-1,896.20	1,422,070.31	3,164,913.47	40° 29' 25.695 N	104° 54' 25.479 W
7,885.00	91.04	273.040	7,051.85	-715.53	-1,991.98	1,422,075.79	3,164,817.64	40° 29' 25.755 N	104° 54' 26.719 W
7,980.00	90.94	270.420	7,050.21	-712.66	-2,086.92	1,422,078.02	3,164,722.69	40° 29' 25.784 N	104° 54' 27.947 W
8,076.00	92.05	269.910	7,047.70	-712.39	-2,182.88	1,422,077.64	3,164,626.73	40° 29' 25.786 N	104° 54' 29.189 W
8,171.00	89.53	268.050	7,046.39	-714.08	-2,277.85	1,422,075.31	3,164,531.78	40° 29' 25.769 N	104° 54' 30.419 W
8,266.00	87.95	268.470	7,048.48	-716.96	-2,372.78	1,422,071.79	3,164,436.87	40° 29' 25.741 N	104° 54' 31.647 W
8,362.00	88.89	269.740	7,051.13	-718.46	-2,468.73	1,422,069.64	3,164,340.93	40° 29' 25.726 N	104° 54' 32.889 W
8,457.00	90.27	270.170	7,051.82	-718.54	-2,563.72	1,422,068.92	3,164,245.94	40° 29' 25.725 N	104° 54' 34.119 W
8,553.00	89.83	270.740	7,051.74	-717.77	-2,659.72	1,422,069.03	3,164,149.94	40° 29' 25.733 N	104° 54' 35.361 W
8,648.00	91.11	271.320	7,050.96	-716.07	-2,754.70	1,422,070.10	3,164,054.95	40° 29' 25.749 N	104° 54' 36.590 W
8,743.00	90.60	271.790	7,049.54	-713.49	-2,849.65	1,422,072.03	3,163,959.98	40° 29' 25.775 N	104° 54' 37.819 W
8,839.00	90.50	273.220	7,048.62	-709.29	-2,945.55	1,422,075.58	3,163,864.06	40° 29' 25.816 N	104° 54' 39.061 W
8,934.00	92.38	272.050	7,046.23	-704.93	-3,040.42	1,422,079.31	3,163,769.17	40° 29' 25.859 N	104° 54' 40.289 W
9,029.00	91.61	270.370	7,042.93	-702.92	-3,135.33	1,422,080.67	3,163,674.24	40° 29' 25.879 N	104° 54' 41.517 W
9,125.00	90.17	270.690	7,041.44	-702.03	-3,231.31	1,422,080.91	3,163,578.25	40° 29' 25.887 N	104° 54' 42.759 W
9,220.00	89.33	271.240	7,041.85	-700.43	-3,326.30	1,422,081.86	3,163,483.26	40° 29' 25.903 N	104° 54' 43.989 W
9,315.00	88.96	271.780	7,043.27	-697.93	-3,421.25	1,422,083.73	3,163,388.29	40° 29' 25.928 N	104° 54' 45.218 W
9,411.00	88.63	270.450	7,045.29	-696.06	-3,517.21	1,422,084.94	3,163,292.32	40° 29' 25.946 N	104° 54' 46.460 W
9,506.00	89.50	268.990	7,046.84	-696.53	-3,612.20	1,422,083.84	3,163,197.34	40° 29' 25.941 N	104° 54' 47.689 W
9,602.00	90.91	267.320	7,046.49	-699.62	-3,708.14	1,422,080.10	3,163,101.42	40° 29' 25.911 N	104° 54' 48.931 W
9,697.00	92.58	268.500	7,043.60	-703.08	-3,803.03	1,422,075.99	3,163,006.56	40° 29' 25.876 N	104° 54' 50.159 W
9,793.00	93.22	268.350	7,038.74	-705.72	-3,898.87	1,422,072.71	3,162,910.74	40° 29' 25.850 N	104° 54' 51.400 W
9,888.00	92.28	268.290	7,034.19	-708.50	-3,993.72	1,422,069.29	3,162,815.91	40° 29' 25.822 N	104° 54' 52.627 W
9,983.00	91.54	267.550	7,031.02	-711.95	-4,088.60	1,422,065.20	3,162,721.06	40° 29' 25.788 N	104° 54' 53.855 W
10,079.00	91.01	268.710	7,028.88	-715.08	-4,184.52	1,422,061.42	3,162,625.16	40° 29' 25.757 N	104° 54' 55.097 W
10,175.00	93.32	268.110	7,025.26	-717.74	-4,280.41	1,422,058.11	3,162,529.29	40° 29' 25.731 N	104° 54' 56.338 W
10,270.00	91.71	269.930	7,021.09	-719.36	-4,375.30	1,422,055.84	3,162,434.42	40° 29' 25.714 N	104° 54' 57.566 W
10,365.00	89.46	270.470	7,020.12	-719.03	-4,470.29	1,422,055.53	3,162,339.43	40° 29' 25.718 N	104° 54' 58.796 W
10,461.00	89.83	270.960	7,020.71	-717.83	-4,566.28	1,422,056.08	3,162,243.43	40° 29' 25.729 N	104° 55' 0.038 W
10,556.00	90.07	271.770	7,020.80	-715.57	-4,661.25	1,422,057.70	3,162,148.45	40° 29' 25.751 N	104° 55' 1.267 W
10,651.00	90.10	271.980	7,020.65	-712.46	-4,756.20	1,422,060.17	3,162,053.48	40° 29' 25.782 N	104° 55' 2.496 W
10,747.00	89.16	272.850	7,021.27	-708.41	-4,852.11	1,422,063.57	3,161,957.54	40° 29' 25.822 N	104° 55' 3.738 W
10,842.00	88.89	271.690	7,022.89	-704.65	-4,947.02	1,422,066.69	3,161,862.61	40° 29' 25.859 N	104° 55' 4.966 W
10,938.00	87.68	271.720	7,025.76	-701.80	-5,042.93	1,422,068.89	3,161,766.68	40° 29' 25.887 N	104° 55' 6.207 W
11,033.00	87.85	271.010	7,029.47	-699.54	-5,137.83	1,422,070.51	3,161,671.77	40° 29' 25.909 N	104° 55' 7.436 W
11,128.00	91.98	270.370	7,029.61	-698.39	-5,232.80	1,422,071.01	3,161,576.79	40° 29' 25.920 N	104° 55' 8.665 W
11,224.00	91.74	270.520	7,026.49	-697.65	-5,328.75	1,422,071.11	3,161,480.84	40° 29' 25.927 N	104° 55' 9.907 W
11,319.00	93.79	269.400	7,021.91	-697.71	-5,423.63	1,422,070.40	3,161,385.96	40° 29' 25.926 N	104° 55' 11.135 W
11,415.00	92.86	269.160	7,016.34	-698.92	-5,519.46	1,422,068.55	3,161,290.14	40° 29' 25.914 N	104° 55' 12.375 W
11,510.00	92.48	269.170	7,011.92	-700.30	-5,614.35	1,422,066.52	3,161,195.27	40° 29' 25.900 N	104° 55' 13.603 W

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Breniman 7
Project:	Weld County, CO NAD 83	TVD Reference:	GL 4796' & KB 25' @ 4821.00ft (Patterson 346)
Site:	Breniman	MD Reference:	GL 4796' & KB 25' @ 4821.00ft (Patterson 346)
Well:	Breniman 7	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Casper District

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
11,605.00	94.64	268.340	7,006.02	-702.36	-5,709.14	1,422,063.82	3,161,100.49	40° 29' 25.880 N	104° 55' 14.830 W
11,700.00	91.68	269.130	7,000.78	-704.45	-5,803.96	1,422,061.09	3,161,005.69	40° 29' 25.859 N	104° 55' 16.058 W
11,795.00	92.59	269.520	6,997.24	-705.57	-5,898.88	1,422,059.33	3,160,910.77	40° 29' 25.848 N	104° 55' 17.286 W
11,891.00	91.95	269.860	6,993.44	-706.09	-5,994.81	1,422,058.16	3,160,814.86	40° 29' 25.842 N	104° 55' 18.528 W
11,986.00	93.76	271.620	6,988.71	-704.87	-6,089.67	1,422,058.74	3,160,719.98	40° 29' 25.854 N	104° 55' 19.756 W
12,081.00	91.58	270.110	6,984.28	-703.43	-6,184.55	1,422,059.53	3,160,625.10	40° 29' 25.868 N	104° 55' 20.984 W
12,176.00	91.58	270.120	6,981.66	-703.24	-6,279.51	1,422,059.08	3,160,530.14	40° 29' 25.870 N	104° 55' 22.213 W
12,272.00	92.72	270.300	6,978.06	-702.89	-6,375.44	1,422,058.79	3,160,434.21	40° 29' 25.873 N	104° 55' 23.454 W
12,367.00	92.96	270.070	6,973.36	-702.59	-6,470.33	1,422,058.45	3,160,339.32	40° 29' 25.876 N	104° 55' 24.683 W
12,462.00	94.26	271.690	6,967.37	-701.13	-6,565.12	1,422,059.26	3,160,244.52	40° 29' 25.890 N	104° 55' 25.909 W
12,557.00	93.40	269.230	6,961.03	-700.37	-6,659.90	1,422,059.38	3,160,149.74	40° 29' 25.897 N	104° 55' 27.136 W
12,652.00	92.15	271.210	6,956.43	-700.01	-6,754.78	1,422,059.11	3,160,054.86	40° 29' 25.900 N	104° 55' 28.364 W
12,747.00	94.91	270.270	6,950.58	-698.78	-6,849.58	1,422,059.69	3,159,960.05	40° 29' 25.912 N	104° 55' 29.591 W
12,843.00	93.60	268.700	6,943.46	-699.64	-6,945.31	1,422,058.18	3,159,864.34	40° 29' 25.903 N	104° 55' 30.830 W
12,938.00	94.40	269.000	6,936.83	-701.54	-7,040.06	1,422,055.64	3,159,769.60	40° 29' 25.884 N	104° 55' 32.057 W
13,033.00	94.85	268.880	6,929.17	-703.29	-7,134.73	1,422,053.25	3,159,674.94	40° 29' 25.867 N	104° 55' 33.282 W
13,128.00	94.84	269.220	6,921.15	-704.86	-7,229.38	1,422,051.04	3,159,580.31	40° 29' 25.851 N	104° 55' 34.507 W
13,223.00	92.72	267.440	6,914.88	-707.63	-7,324.12	1,422,047.63	3,159,485.59	40° 29' 25.823 N	104° 55' 35.733 W
13,318.00	92.21	267.100	6,910.80	-712.15	-7,418.93	1,422,042.47	3,159,390.81	40° 29' 25.779 N	104° 55' 36.960 W
13,413.00	92.42	267.150	6,906.96	-716.91	-7,513.73	1,422,037.07	3,159,296.05	40° 29' 25.731 N	104° 55' 38.187 W
13,508.00	92.65	268.200	6,902.76	-720.76	-7,608.56	1,422,032.58	3,159,201.25	40° 29' 25.693 N	104° 55' 39.415 W
13,604.00	92.08	269.220	6,898.80	-722.92	-7,704.45	1,422,029.77	3,159,105.37	40° 29' 25.671 N	104° 55' 40.656 W
13,698.00	93.50	269.010	6,894.22	-724.37	-7,798.32	1,422,027.68	3,159,011.51	40° 29' 25.657 N	104° 55' 41.871 W
13,794.00	93.19	269.810	6,888.62	-725.36	-7,894.15	1,422,026.05	3,158,915.69	40° 29' 25.647 N	104° 55' 43.111 W
13,889.00	94.71	269.980	6,882.07	-725.53	-7,988.92	1,422,025.24	3,158,820.92	40° 29' 25.645 N	104° 55' 44.338 W
13,984.00	94.64	270.010	6,874.33	-725.54	-8,083.61	1,422,024.59	3,158,726.24	40° 29' 25.644 N	104° 55' 45.563 W
14,079.00	94.87	270.090	6,866.46	-725.46	-8,178.28	1,422,024.03	3,158,631.57	40° 29' 25.645 N	104° 55' 46.789 W
14,174.00	95.44	269.980	6,857.92	-725.40	-8,272.90	1,422,023.45	3,158,536.95	40° 29' 25.645 N	104° 55' 48.013 W
14,269.00	95.14	270.850	6,849.16	-724.71	-8,367.49	1,422,023.49	3,158,442.36	40° 29' 25.651 N	104° 55' 49.238 W
14,364.00	94.00	272.350	6,841.59	-722.07	-8,462.15	1,422,025.50	3,158,347.69	40° 29' 25.677 N	104° 55' 50.463 W
14,459.00	90.94	271.680	6,837.50	-718.73	-8,556.99	1,422,028.19	3,158,252.83	40° 29' 25.710 N	104° 55' 51.690 W
14,554.00	91.38	271.790	6,835.58	-715.86	-8,651.92	1,422,030.43	3,158,157.87	40° 29' 25.738 N	104° 55' 52.919 W
14,649.00	90.97	271.140	6,833.63	-713.43	-8,746.87	1,422,032.21	3,158,062.91	40° 29' 25.762 N	104° 55' 54.148 W
14,744.00	90.57	270.500	6,832.35	-712.07	-8,841.85	1,422,032.93	3,157,967.92	40° 29' 25.775 N	104° 55' 55.378 W
14,839.00	91.58	270.250	6,830.57	-711.45	-8,936.83	1,422,032.91	3,157,872.94	40° 29' 25.780 N	104° 55' 56.607 W
14,935.00	92.18	271.290	6,827.42	-710.16	-9,032.77	1,422,033.55	3,157,777.00	40° 29' 25.793 N	104° 55' 57.849 W
15,030.00	89.90	270.150	6,825.70	-708.96	-9,127.74	1,422,034.10	3,157,682.02	40° 29' 25.804 N	104° 55' 59.078 W
15,125.00	90.47	270.790	6,825.39	-708.18	-9,222.74	1,422,034.24	3,157,587.02	40° 29' 25.812 N	104° 56' 0.307 W
15,221.00	91.01	270.750	6,824.15	-706.89	-9,318.72	1,422,034.88	3,157,491.03	40° 29' 25.824 N	104° 56' 1.550 W
15,316.00	91.75	271.030	6,821.86	-705.42	-9,413.68	1,422,035.71	3,157,396.07	40° 29' 25.838 N	104° 56' 2.779 W
15,412.00	92.65	270.900	6,818.18	-703.80	-9,509.59	1,422,036.68	3,157,300.14	40° 29' 25.854 N	104° 56' 4.020 W
15,507.00	90.67	270.410	6,815.42	-702.72	-9,604.54	1,422,037.12	3,157,205.19	40° 29' 25.864 N	104° 56' 5.249 W
15,602.00	91.54	270.590	6,813.59	-701.89	-9,699.52	1,422,037.31	3,157,110.21	40° 29' 25.872 N	104° 56' 6.479 W
15,698.00	89.23	270.760	6,812.95	-700.76	-9,795.50	1,422,037.79	3,157,014.22	40° 29' 25.883 N	104° 56' 7.721 W
15,793.00	90.20	271.800	6,813.42	-698.64	-9,890.48	1,422,039.27	3,156,919.23	40° 29' 25.903 N	104° 56' 8.950 W
15,889.00	91.01	272.850	6,812.41	-694.74	-9,986.39	1,422,042.51	3,156,823.30	40° 29' 25.942 N	104° 56' 10.192 W
15,984.00	91.41	272.090	6,810.40	-690.65	-10,081.28	1,422,045.96	3,156,728.38	40° 29' 25.982 N	104° 56' 11.420 W
16,079.00	91.14	270.390	6,808.29	-688.59	-10,176.23	1,422,047.38	3,156,633.42	40° 29' 26.002 N	104° 56' 12.649 W
16,175.00	88.49	267.620	6,808.60	-690.26	-10,272.20	1,422,045.06	3,156,537.46	40° 29' 25.985 N	104° 56' 13.891 W
16,270.00	87.95	268.710	6,811.55	-693.30	-10,367.10	1,422,041.38	3,156,442.58	40° 29' 25.954 N	104° 56' 15.119 W
16,365.00	87.49	269.230	6,815.33	-695.01	-10,462.01	1,422,039.03	3,156,347.69	40° 29' 25.937 N	104° 56' 16.348 W
16,460.00	89.09	268.180	6,818.16	-697.15	-10,556.94	1,422,036.24	3,156,252.78	40° 29' 25.915 N	104° 56' 17.576 W
16,556.00	88.83	268.060	6,819.90	-700.30	-10,652.87	1,422,032.44	3,156,156.87	40° 29' 25.884 N	104° 56' 18.818 W
16,651.00	90.67	268.920	6,820.32	-702.81	-10,747.83	1,422,029.30	3,156,061.93	40° 29' 25.859 N	104° 56' 20.047 W
16,745.00	90.24	268.860	6,819.57	-704.63	-10,841.81	1,422,026.84	3,155,967.96	40° 29' 25.840 N	104° 56' 21.263 W

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Breniman 7
Project:	Weld County, CO NAD 83	TVD Reference:	GL 4796' & KB 25' @ 4821.00ft (Patterson 346)
Site:	Breniman	MD Reference:	GL 4796' & KB 25' @ 4821.00ft (Patterson 346)
Well:	Breniman 7	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Casper District

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
16,840.00	91.07	269.380	6,818.48	-706.09	-10,936.79	1,422,024.74	3,155,872.99	40° 29' 25.826 N	104° 56' 22.493 W
16,936.00	91.21	269.540	6,816.57	-706.99	-11,032.77	1,422,023.19	3,155,777.02	40° 29' 25.816 N	104° 56' 23.735 W
17,031.00	90.97	270.040	6,814.77	-707.34	-11,127.75	1,422,022.20	3,155,682.05	40° 29' 25.812 N	104° 56' 24.964 W
17,126.00	91.68	267.220	6,812.57	-709.61	-11,222.69	1,422,019.28	3,155,587.13	40° 29' 25.789 N	104° 56' 26.193 W
17,221.00	91.47	266.690	6,809.96	-714.65	-11,317.52	1,422,013.60	3,155,492.33	40° 29' 25.739 N	104° 56' 27.420 W
17,314.00	91.55	266.860	6,807.51	-719.88	-11,410.34	1,422,007.74	3,155,399.55	40° 29' 25.687 N	104° 56' 28.622 W
17,409.00	90.64	267.290	6,805.69	-724.73	-11,505.20	1,422,002.25	3,155,304.73	40° 29' 25.639 N	104° 56' 29.850 W
17,527.00	90.54	266.640	6,804.48	-730.98	-11,623.02	1,421,995.21	3,155,186.95	40° 29' 25.576 N	104° 56' 31.375 W
Last SDI MWD Survey									
17,590.00	90.54	266.640	6,803.88	-734.67	-11,685.91	1,421,991.09	3,155,124.08	40° 29' 25.540 N	104° 56' 32.189 W
Projection to TD									

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
77.00	76.99	0.55	0.76	First Helmer MWD Survey
1,502.00	1,501.73	-0.01	2.20	Last Helmer MWD Survey
1,666.00	1,665.72	-1.82	0.74	First SDI MWD Survey
17,527.00	6,804.48	-730.98	-11,623.02	Last SDI MWD Survey
17,590.00	6,803.88	-734.67	-11,685.91	Projection to TD

Checked By: _____ Approved By: _____ Date: _____



JOB NO.: 373332
Company: Extraction Oil & Gas
LOCATION: Breniman Pad
RIG NAME: Patterson 346
STATE: Colorado
COUNTY: Weld
WELL NAME: Breniman 7
Lead Directional : Scott Sanford

Report Time: 2400 **1 of 5**
API JOB # 05-123-40419
WORK ORDER#
FIELD: Wattenburg
Township: 6N
Range/Section 67W 16
Company Man Hugh McGraw
2nd Dir Hand : Colby Hansen

From Sunday, July 17, 2016 at 0000 to Sunday, July 17, 2016 at 2400

DAILY TOTALS		ASSEMBLY TOTALS									
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.	0.00										
Total Drilled:	0.00	Drilling Parameters		Mud Record		Bit Record		Current BHA # 0			
Avg. Total ROP:	NA										
Slide Footage:	0.00	WOB:	0	Weight:	0	Bit No:					
Slide Hours	0.00	Rot Wt:	0	Visc:	0	Model					
Avg. Slide ROP:	NA	Pick UP:	0	Chlorides:	0	SN.:					
Rotate Footage:	0.00	Slack Off:	0	YP:	0	MFG.					
Rotary Hours	0.00	SPP:	0	PV:	0	Type					
Avg. Rot ROP:	NA	Flow:	0 - 0	PH:	0	IADC					
Circ Hours	0.00	SPM:	0	GAS:	0	JETS					
Ream Hours	0.00	Rot. RPM	-	SAND:	0	TFA:					
Rotary Hrs%:	NA	Mot RPM:	-	WL:	0	Hole ID: N/A					
Slide Hrs%:	NA	Incl. In:	0	SOLID:	0	Bit Hrs:					
Rotary Ftg%:	NA	Azm. In:	0	BHT°:	0	Bit Ftg:					
Slide Ftg%:	NA	Incl. Out:	0	Flow T°:	0	PUMPS					
CASING		Azm. Out:	0	Oil %:	0	Liner	0	0			
Size	Lb/Ft	MD	COST BREAKDOWN					Stroke	0	0	
								Effic.	95.00%	95.00%	
								Gal/Stk	0.00	0.00	
								BBL/Stk	0.000	0.000	

GENERAL COMMENT

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
00:00	24:00	24.00	1553	1553	0	.00	Standby	Wait on Skid and rg up



DAILY TOTALS		ASSEMBLY TOTALS									
Start Depth	1553.00	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	7325.00	1	G1677	2,417.00	17.42	13,620.00	29.45	3.67	50.53	16,037.00	319.46
Below Rot Hrs.	19.17										
Total Drilled:	5772.00	Drilling Parameters		Mud Record		Bit Record		Current BHA # 1			
Avg. Total ROP:	531.17	WOB: 30		Weight: 0		Bit No: 1		SK516M K2-Z 7/8,5.0 .29Rev. Pony Non Mag DC Pony Non Mag DC Non Mag DC Hang Off Sub Gap Sub Non Mag DC Filter Sub 3 Stands H.W.D.P.			
Slide Footage:	1271.00	Rot Wt: 0		Visc: 0		Model SK516M K2-Z					
Slide Hours	5.13	Pick UP: 0		Chlorides: 0		SN.: A219403					
Avg. Slide ROP:	247.60	Slack Off: 0		YP: 0		MFG. REED					
Rotate Footage:	4501.00	SPP: 3500		PV: 0		Type PDC					
Rotary Hours	5.73	Flow: 0 - 700		PH: 0		IADC					
Avg. Rot ROP:	785.06	SPM: 240		GAS: 0		JETS 7-12					
Circ Hours	0.60	Rot. RPM 0 - 65		SAND: 0		TFA: 0.773					
Ream Hours	0.33	Mot RPM: 0 - 65		WL: 0		Hole ID:					
Rotary Hrs%:	52.76	Incl. In: 0.83		SOLID: 0		Bit Hrs: 46.87					
Slide Hrs%:	47.24	Azm. In: 68.33		BHT°: 0		Bit Ftg: 16037.00					
Rotary Ftg%:	77.98	Incl. Out: 90.54		Flow T°: 0		PUMPS					
Slide Ftg%:	22.02	Azm. Out: 266.64		Oil %: 0		Liner 0 0					
CASING		COST BREAKDOWN				Stroke 0 0					
Size	Lb/Ft	MD					Effic. 95.00% 95.00%				
							Gal/Stk 0.00 0.00				
							BBL/Stk 0.000 0.000				

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
00:00	04:40	4.67	1553	1553	0	.00	Standby	Standby
04:40	05:50	1.17	1553	1553	0	.00	Other	Pick up tools
05:50	06:30	0.67	1553	1553	0	.00	TIH	TIH
06:30	07:08	0.63	1553	1553	0	.00	Other	Install rotating head
07:08	07:35	0.45	1553	1553	0	.00	Other	Displace and test casing
07:35	07:55	0.33	1553	1553	0	.00	Reaming	Drill out float equip
07:55	08:00	0.08	1553	1633	80	960.00	Drilling	Other
08:00	08:05	0.08	1633	1633	0	.00	Survey & Conn.	Survey & Conn.@1502' Inc 0.9° Azm 229.4°
08:05	08:14	0.15	1633	1729	96	640.00	Drilling	Drilling - (WOB:0;GPM :0;RPM:0)
08:14	08:18	0.07	1729	1729	0	.00	Survey & Conn.	Survey & Conn.@1666' Inc 0.76° Azm 206.17°
08:18	08:24	0.10	1729	1754	25	250.00	Sliding	Drilling - (WOB:15;GPM :700;RPM:0)
08:24	08:28	0.07	1754	1824	70	1050.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
08:28	08:32	0.07	1824	1824	0	.00	Survey & Conn.	Survey & Conn.@1666' Inc 0.76° Azm 206.17°
08:32	08:35	0.05	1824	1839	15	300.00	Sliding	Sliding - (WOB:15;GPM :700;TFO:10L))

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
08:35	08:39	0.07	1839	1919	80	1200.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
08:39	08:43	0.07	1919	1919	0	.00	Survey & Conn.	Survey & Conn.@1856' Inc 8.3° Azm 247.97°
08:43	08:46	0.05	1919	1931	12	240.00	Sliding	Sliding - (WOB:15;GPM :700;TFO:10L))
08:46	08:51	0.08	1931	2014	83	996.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
08:51	08:55	0.07	2014	2014	0	.00	Survey & Conn.	Survey & Conn.@1951' Inc 10.45° Azm 243.83°
08:55	08:58	0.05	2014	2024	10	200.00	Sliding	Sliding - (WOB:15;GPM :700;TFO:20L)
08:58	09:03	0.08	2024	2109	85	1020.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
09:03	09:07	0.07	2109	2109	0	.00	Survey & Conn.	Survey & Conn.@2046' Inc 12.22° Azm 242.82°
09:07	09:11	0.07	2109	2205	96	1440.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
09:21	09:25	0.07	2205	2205	0	.00	Survey & Conn.	Survey & Conn.@2142' Inc 11.3° Azm 241.8°
09:25	09:32	0.12	2205	2396	191	1637.14	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
09:32	09:36	0.07	2396	2396	0	.00	Survey & Conn.	Survey & Conn.@2333' Inc 9.61° Azm 242.59°
09:36	09:43	0.12	2396	2491	95	814.29	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
09:43	09:48	0.08	2491	2491	0	.00	Survey & Conn.	Survey & Conn.@2428' Inc 8.89° Azm 240.16°
09:48	09:50	0.03	2491	2501	10	300.00	Sliding	Sliding - (WOB:15;GPM :700;TFO:20L))
09:50	09:54	0.07	2501	2586	85	1275.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
09:54	09:59	0.08	2586	2586	0	.00	Survey & Conn.	Survey & Conn.@2522.99' Inc 11.09° Azm 244.96°
09:59	10:04	0.08	2586	2681	95	1140.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
10:04	10:09	0.08	2681	2681	0	.00	Survey & Conn.	Survey & Conn.@2617.99' Inc 9.91° Azm 243.57°
10:09	10:11	0.03	2681	2693	12	360.00	Sliding	Sliding - (WOB:15;GPM :700;TFO:0G)
10:11	10:16	0.08	2693	2776	83	996.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
10:16	10:21	0.08	2776	2776	0	.00	Survey & Conn.	Survey & Conn.@2712.99' Inc 10.94° Azm 239.4°
10:21	10:23	0.03	2776	2788	12	360.00	Sliding	Sliding - (WOB:15;GPM :700;TFO:0G)
10:23	10:27	0.07	2788	2871	83	1245.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
10:27	10:32	0.08	2871	2871	0	.00	Survey & Conn.	Survey & Conn.@2807.99' Inc 12.68° Azm 242.11°
10:32	10:38	0.10	2871	2967	96	960.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
10:38	10:43	0.08	2967	2967	0	.00	Survey & Conn.	Survey & Conn.@2903.99' Inc 11.92° Azm 240.22°
10:43	10:45	0.03	2967	2980	13	390.00	Sliding	Sliding - (WOB:12;GPM :700;TFO:0G)
10:45	10:50	0.08	2980	3062	82	984.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
10:50	10:55	0.08	3062	3062	0	.00	Survey & Conn.	Survey & Conn.@2998.99' Inc 12.87° Azm 240.18°
10:55	10:57	0.03	3062	3075	13	390.00	Sliding	Sliding - (WOB:13;GPM :700;TFO:0G)
10:57	11:02	0.08	3075	3158	83	996.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
11:02	11:07	0.08	3158	3158	0	.00	Survey & Conn.	Survey & Conn.@3094.99' Inc 13.92° Azm 241.39°
11:07	11:09	0.03	3158	3173	15	450.00	Sliding	Sliding - (WOB:13;GPM :700;TFO:10L))
11:09	11:14	0.08	3173	3253	80	960.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
11:14	11:19	0.08	3253	3253	0	.00	Survey & Conn.	Survey & Conn.@3189.99' Inc 14.55° Azm 240.44°
11:19	11:21	0.03	3253	3269	16	480.00	Sliding	Sliding - (WOB:13;GPM :700;TFO:10L))
11:21	11:25	0.07	3269	3349	80	1200.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
11:25	11:30	0.08	3349	3349	0	.00	Survey & Conn.	Survey & Conn.@3285.99' Inc 15.66° Azm 239.12°
11:30	11:32	0.03	3349	3365	16	480.00	Sliding	Sliding - (WOB:16;GPM :700;TFO:10L))
11:32	11:36	0.07	3365	3443	78	1170.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
11:36	11:41	0.08	3443	3443	0	.00	Survey & Conn.	Survey & Conn.@3379.99' Inc 16.87° Azm 238.39°
11:41	11:43	0.03	3443	3458	15	450.00	Sliding	Sliding - (WOB:16;GPM :700;TFO:0G)
11:43	11:48	0.08	3458	3538	80	960.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
11:48	11:54	0.10	3538	3538	0	.00	Survey & Conn.	Survey & Conn.@3474.99' Inc 17.2° Azm 237.17°
11:54	11:56	0.03	3538	3553	15	450.00	Sliding	Sliding - (WOB:16;GPM :700;TFO:0G)
11:56	12:01	0.08	3553	3634	81	972.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
12:01	12:06	0.08	3634	3634	0	.00	Survey & Conn.	Survey & Conn.@3570.99' Inc 19.15° Azm 239.77°

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
12:06	12:11	0.08	3634	3729	95	1140.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
12:11	12:16	0.08	3729	3729	0	.00	Survey & Conn.	Survey & Conn.@3760.99' Inc 20.08° Azm 238.74°
12:16	12:23	0.12	3729	3824	95	814.29	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
12:23	12:28	0.08	3824	3824	0	.00	Survey & Conn.	Survey & Conn.@3760.99' Inc 20.08° Azm 238.74°
12:28	12:34	0.10	3824	3919	95	950.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
12:34	12:39	0.08	3919	3919	0	.00	Survey & Conn.	Survey & Conn.@3855.99' Inc 20.23° Azm 238.96°
12:39	12:46	0.12	3919	4014	95	814.29	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
12:46	12:51	0.08	4014	4014	0	.00	Survey & Conn.	Survey & Conn.@3950.99' Inc 19.01° Azm 238.68°
12:51	12:56	0.08	4014	4109	95	1140.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
12:56	13:01	0.08	4109	4109	0	.00	Survey & Conn.	Survey & Conn.@3950.99' Inc 19.01° Azm 238.68°
13:01	13:08	0.12	4109	4205	96	822.86	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
13:08	13:13	0.08	4205	4205	0	.00	Survey & Conn.	Survey & Conn.@4141.99' Inc 14.71° Azm 240.17°
13:13	13:14	0.02	4205	4215	10	600.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
13:14	13:19	0.08	4215	4230	15	180.00	Sliding	Sliding - (WOB:16;GPM :700;TFO:0G)
13:19	13:25	0.10	4230	4300	70	700.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
13:25	13:30	0.08	4300	4300	0	.00	Survey & Conn.	Survey & Conn.@4236.99' Inc 16.31° Azm 241.82°
13:30	13:32	0.03	4300	4316	16	480.00	Sliding	Sliding - (WOB:16;GPM :700;TFO:0G))
13:32	13:37	0.08	4316	4396	80	960.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
13:37	13:42	0.08	4396	4396	0	.00	Survey & Conn.	Survey & Conn.@4332.99' Inc 18.54° Azm 242.38°
13:42	13:49	0.12	4396	4491	95	814.29	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
13:49	13:58	0.15	4491	4491	0	.00	Survey & Conn.	Survey & Conn.@4427.99' Inc 17.64° Azm 241.45°
13:58	14:06	0.13	4491	4586	95	712.50	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
14:06	14:11	0.08	4586	4586	0	.00	Survey & Conn.	Survey & Conn.@4522.99' Inc 15.94° Azm 241.06°
14:11	14:13	0.03	4586	4601	15	450.00	Sliding	Sliding - (WOB:16;GPM :700;TFO:10L)
14:13	14:19	0.10	4601	4681	80	800.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
14:19	14:24	0.08	4681	4681	0	.00	Survey & Conn.	Survey & Conn.@4617.99' Inc 17.38° Azm 240.07°
14:24	14:27	0.05	4681	4696	15	300.00	Sliding	Sliding - (WOB:16;GPM :700;TFO:10L))
14:27	14:34	0.12	4696	4777	81	694.29	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
14:34	14:39	0.08	4777	4777	0	.00	Survey & Conn.	Survey & Conn.@4713.99' Inc 18.27° Azm 236.48°
14:39	14:46	0.12	4777	4872	95	814.29	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
14:46	14:51	0.08	4872	4872	0	.00	Survey & Conn.	Survey & Conn.@4808.99' Inc 17.18° Azm 235.41°
14:51	14:58	0.12	4872	4887	15	128.57	Sliding	Sliding - (WOB:16;GPM :700;TFO:20L)
14:58	15:05	0.12	4887	4967	80	685.71	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
15:05	15:10	0.08	4967	4967	0	.00	Survey & Conn.	Survey & Conn.@4903.99' Inc 16.91° Azm 241.11°
15:10	15:13	0.05	4967	4985	18	360.00	Sliding	Sliding - (WOB:16;GPM :700;TFO:20L))
15:13	15:18	0.08	4985	5062	77	924.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
15:18	15:23	0.08	5062	5062	0	.00	Survey & Conn.	Survey & Conn.@4999' Inc 16.6° Azm 240.99°
15:23	15:28	0.08	5062	5082	20	240.00	Sliding	Sliding - (WOB:16;GPM :700;TFO:0G)
15:28	15:33	0.08	5082	5158	76	912.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
15:33	15:38	0.08	5158	5158	0	.00	Survey & Conn.	Survey & Conn.@5095' Inc 16° Azm 241.38°
15:38	15:47	0.15	5158	5253	95	633.33	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
15:47	15:52	0.08	5253	5253	0	.00	Survey & Conn.	Survey & Conn.@5190' Inc 12.88° Azm 236.87°
15:52	15:56	0.07	5253	5275	22	330.00	Sliding	Sliding - (WOB:20;GPM :700;TFO:0G)
15:56	16:03	0.12	5275	5349	74	634.29	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
16:03	16:08	0.08	5349	5349	0	.00	Survey & Conn.	Survey & Conn.@5286' Inc 13.95° Azm 228.78°
16:08	16:11	0.05	5349	5369	20	400.00	Sliding	Sliding - (WOB:20;GPM :700;TFO:0G))
16:11	16:17	0.10	5369	5444	75	750.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
16:17	16:22	0.08	5444	5444	0	.00	Survey & Conn.	Survey & Conn.@5381' Inc 13.93° Azm 232.98°

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
16:22	16:30	0.13	5444	5474	30	225.00	Sliding	Sliding - (WOB:20;GPM :700;TFO:30R)
16:30	16:35	0.08	5474	5540	66	792.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
16:35	16:40	0.08	5540	5540	0	.00	Survey & Conn.	Survey & Conn.@5477' Inc 15.02° Azm 236.36°
16:40	16:45	0.08	5540	5570	30	360.00	Sliding	Sliding - (WOB:30;GPM :700;TFO:30R))
16:45	16:50	0.08	5570	5635	65	780.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
16:50	16:55	0.08	5635	5635	0	.00	Survey & Conn.	Survey & Conn.@5572' Inc 17.85° Azm 236.53°
16:55	17:01	0.10	5635	5731	96	960.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
17:01	17:06	0.08	5731	5731	0	.00	Survey & Conn.	Survey & Conn.@5668' Inc 15.92° Azm 230.56°
17:06	17:07	0.02	5731	5741	10	600.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
17:07	17:17	0.17	5741	5741	0	.00	Rig repair	Rig repair
17:17	17:21	0.07	5741	5766	25	375.00	Sliding	Sliding - (WOB:30;GPM :700;TFO:20R))
17:21	17:27	0.10	5766	5826	60	600.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
17:27	17:32	0.08	5826	5826	0	.00	Survey & Conn.	Survey & Conn.@5763' Inc 16.67° Azm 239.11°
17:32	17:34	0.03	5826	5841	15	450.00	Sliding	Sliding - (WOB:30;GPM :700;TFO:50R))
17:34	17:40	0.10	5841	5922	81	810.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
17:40	17:45	0.08	5922	5922	0	.00	Survey & Conn.	Survey & Conn.@5859' Inc 16.7° Azm 244.62°
17:45	17:47	0.03	5922	5937	15	450.00	Sliding	Sliding - (WOB:30;GPM :700;TFO:20R))
17:47	17:53	0.10	5937	6017	80	800.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
17:53	17:58	0.08	6017	6017	0	.00	Survey & Conn.	Survey & Conn.@5954' Inc 16.28° Azm 245.26°
17:58	18:01	0.05	6017	6032	15	300.00	Sliding	Sliding - (WOB:30;GPM :700;TFO:0G)
18:01	18:12	0.18	6032	6115	83	452.73	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
18:12	18:15	0.05	6115	6115	0	.00	Survey & Conn.	Survey & Conn.@6050' Inc 15.76° Azm 242.75°
18:15	18:18	0.05	6115	6127	12	240.00	Sliding	Sliding - (WOB:30;GPM :700;TFO:0G)
18:18	18:32	0.23	6127	6208	81	347.14	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
18:32	18:36	0.07	6208	6208	0	.00	Survey & Conn.	Survey & Conn.@6145' Inc 13.9° Azm 242.21°
18:36	18:39	0.05	6208	6227	19	380.00	Sliding	Sliding - (WOB:30;GPM :700;TFO:0G)
18:39	18:41	0.03	6227	6305	78	2340.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
18:41	18:44	0.05	6305	6305	0	.00	Survey & Conn.	Survey & Conn.@6240' Inc 13.88° Azm 244.53°
18:44	18:50	0.10	6305	6325	20	200.00	Sliding	Sliding - (WOB:30;GPM :700;TFO:0G)
18:50	19:10	0.33	6325	6398	73	219.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
19:10	19:14	0.07	6398	6398	0	.00	Survey & Conn.	Survey & Conn.@6335' Inc 13.33° Azm 236.05°
19:14	19:30	0.27	6398	6438	40	150.00	Sliding	Sliding - (WOB:30;GPM :700;TFO:0)
19:30	19:50	0.33	6438	6565	127	381.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
19:50	19:55	0.08	6565	6565	0	.00	Survey & Conn.	Survey & Conn.@6526' Inc 13.03° Azm 258.48°
19:55	20:24	0.48	6565	6589	24	49.66	Sliding	Sliding - (WOB:30;GPM :700;TFO:0)
20:24	20:31	0.12	6589	6630	41	351.43	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
20:31	20:50	0.32	6630	6660	30	94.74	Sliding	Sliding - (WOB:30;GPM :700;TFO:0)
20:50	20:55	0.08	6660	6684	24	288.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
20:55	20:59	0.07	6684	6684	0	.00	Survey & Conn.	Survey & Conn.@6621' Inc 10.63° Azm 254.24°
20:59	21:09	0.17	6684	6779	95	570.00	Sliding	Sliding - (WOB:30;GPM :700;TFO:0)
21:09	21:32	0.38	6779	6874	95	247.83	Sliding	Sliding - (WOB:30;GPM :700;TFO:0))
21:32	21:36	0.07	6874	6874	0	.00	Survey & Conn.	Survey & Conn.@6811' Inc 18.94° Azm 245.32°
21:36	22:00	0.40	6874	6970	96	240.00	Sliding	Sliding - (WOB:30;GPM :700;TFO:0)
22:00	22:05	0.08	6970	6970	0	.00	Survey & Conn.	Survey & Conn.@6907' Inc 27.46° Azm 248.89°
22:05	22:23	0.30	6970	7065	95	316.67	Sliding	
22:23	22:27	0.07	7065	7065	0	.00	Survey & Conn.	Survey & Conn.@7002' Inc 36.82° Azm 247.02°
22:27	22:44	0.28	7065	7160	95	335.29	Sliding	Sliding - (WOB:30;GPM :700;TFO:0)
22:44	22:48	0.07	7160	7160	0	.00	Survey & Conn.	Survey & Conn.@7097' Inc 47.92° Azm 250.09°

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
22:48	23:05	0.28	7160	7256	96	338.82	Sliding	Sliding - (WOB:30;GPM :700;TFO:0)
23:05	23:08	0.05	7256	7256	0	.00	Survey & Conn.	Survey & Conn.@7193' Inc 58.91° Azm 256°
23:08	23:38	0.50	7256	7325	69	138.00	Sliding	Sliding - (WOB:30;GPM :700;TFO:0)
23:38	23:54	0.27	7325	7325	0	.00	Circulating	Circulating
23:54	24:00	0.10	7325	7325	0	.00	POOH	P/U Adgitator



JOB NO.: 373332
Company: Extraction Oil & Gas
LOCATION: Breniman Pad
RIG NAME: Patterson 346
STATE: Colorado
COUNTY: Weld
WELL NAME: Breniman 7
Lead Directional : Scott Sanford

Report Time: 2400 **3 of 5**
API JOB # 05-123-40419
WORK ORDER#
FIELD: Wattenburg
Township: 6N
Range/Section 67W 16
Company Man Hugh McGraw
2nd Dir Hand : Colby Hansen

From Tuesday, July 19, 2016 at 0000 to Tuesday, July 19, 2016 at 2400

DAILY TOTALS		ASSEMBLY TOTALS									
Start Depth	7325.00	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	11763.00	1	G1677	2,417.00	17.42	13,620.00	29.45	3.67	50.53	16,037.00	319.46
Below Rot Hrs.	24.00										
Total Drilled:	4438.00										
Avg. Total ROP:	315.12										
Slide Footage:	678.00	Drilling Parameters		Mud Record		Bit Record		Current BHA # 1			
Slide Hours	4.50										
Avg. Slide ROP:	150.67	WOB:	45	Weight:	0	Bit No:	1	SK516M K2-Z 7/8,5.0 .29Rev. Pony Non Mag DC Pony Non Mag DC Non Mag DC Hang Off Sub Gap Sub Non Mag DC Filter Sub 3 Stands H.W.D.P.			
Rotate Footage:	3760.00	Rot Wt:	0	Visc:	0	Model	SK516M K2-Z				
Rotary Hours	9.58	Pick UP:	0	Chlorides:	0	SN.:	A219403				
Avg. Rot ROP:	392.35	Slack Off:	0	YP:	0	MFG.	REED				
Circ Hours	0.75	SPP:	4600	PV:	0	Type	PDC				
Ream Hours	0.00	Flow:	700 - 700	PH:	0	IADC					
Rotary Hrs%:	68.05	SPM:	240	GAS:	0	JETS	7-12				
Slide Hrs%:	31.95	Rot. RPM	20 - 70	SAND:	0	TFA:	0.773				
Rotary Ftg%:	84.72	Mot RPM:	0 - 70	WL:	0	Hole ID:					
Slide Ftg%:	15.28	Incl. In:	90.54	SOLID:	0	Bit Hrs:	46.87				
Casing		Azm. In:	266.64	BHT°:	0	Bit Ftg:	16037.00				
Size	Lb/Ft	MD	Incl. Out:	0	Flow T°:	PUMPS					
			Azm. Out:	0	Oil %:	0	0				
		COST BREAKDOWN					Effic.	95.00%	95.00%		
							Gal/Stk	0.00	0.00		
							BBL/Stk	0.000	0.000		

GENERAL COMMENT

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
00:00	04:55	4.92	7325	7325	0	.00	Short Trip	Short Trip
04:55	05:03	0.13	7325	7344	19	142.50	Drilling	Drilling - (WOB:30;GPM :700;RPM:65)
05:03	05:20	0.28	7344	7367	23	81.18	Sliding	Sliding - (WOB:30;GPM :700;TFO:0)
05:20	05:30	0.17	7367	7376	9	54.00	Drilling	Drilling - (WOB:30;GPM :700;RPM:20)
05:30	05:42	0.20	7376	7376	0	.00	Survey & Conn.	Survey & Conn.@7313' Inc 73.87° Azm 266.3°
05:42	06:18	0.60	7376	7471	95	158.33	Drilling	Drilling - (WOB:30;GPM :700;RPM:20)
06:18	06:29	0.18	7471	7471	0	.00	Survey & Conn.	Survey & Conn.@7408' Inc 76.84° Azm 267.39°
06:29	06:41	0.20	7471	7495	24	120.00	Sliding	Sliding - (WOB:30;GPM :700;TFO:0)
06:41	07:10	0.48	7495	7566	71	146.90	Drilling	Drilling - (WOB:30;GPM :700;RPM:20)
07:10	07:15	0.08	7566	7566	0	.00	Survey & Conn.	Survey & Conn.@7503' Inc 80.02° Azm 268.39°
07:15	07:24	0.15	7566	7591	25	166.67	Sliding	Sliding - (WOB:30;GPM :700;TFO:0)
07:24	07:40	0.27	7591	7662	71	266.25	Drilling	Drilling - (WOB:35;GPM :700;RPM:40)
07:40	07:46	0.10	7662	7662	0	.00	Survey & Conn.	Survey & Conn.@7599' Inc 82.37° Azm 269.95°
07:46	07:53	0.12	7662	7686	24	205.71	Sliding	Sliding - (WOB:30;GPM :700;TFO:0)

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
07:53	08:02	0.15	7686	7693	7	46.67	Drilling	Drilling - (WOB:35;GPM :700;RPM:40)
08:02	08:10	0.13	7693	7723	30	225.00	Sliding	Sliding - (WOB:30;GPM :700;TFO:0)
08:10	08:21	0.18	7723	7757	34	185.45	Drilling	Drilling - (WOB:35;GPM :700;RPM:60)
08:21	08:26	0.08	7757	7757	0	.00	Survey & Conn.	Survey & Conn.@7694' Inc 86.2° Azm 273.68°
08:26	08:39	0.22	7757	7852	95	438.46	Drilling	Drilling - (WOB:35;GPM :700;RPM:60)
08:39	08:44	0.08	7852	7852	0	.00	Survey & Conn.	Survey & Conn.@7789' Inc 91.18° Azm 274.28°
08:44	08:52	0.13	7852	7864	12	90.00	Sliding	Sliding - (WOB:30;GPM :700;TFO:0))
08:52	09:03	0.18	7864	7948	84	458.18	Drilling	Drilling - (WOB:40;GPM :700;RPM:60)
09:03	09:08	0.08	7948	7948	0	.00	Survey & Conn.	Survey & Conn.@7885' Inc 91.04° Azm 273.04°
09:08	09:20	0.20	7948	7948	0	.00	Other	Troubleshoot surface gear
09:20	09:24	0.07	7948	7960	12	180.00	Sliding	Sliding - (WOB:30;GPM :700;TFO:120L)
09:24	09:33	0.15	7960	8043	83	553.33	Drilling	Drilling - (WOB:40;GPM :700;RPM:60)
09:33	09:38	0.08	8043	8043	0	.00	Survey & Conn.	Survey & Conn.@7980' Inc 90.94° Azm 270.42°
09:38	09:51	0.22	8043	8139	96	443.08	Drilling	Drilling - (WOB:40;GPM :700;RPM:60)
09:51	09:56	0.08	8139	8139	0	.00	Survey & Conn.	Survey & Conn.@8076' Inc 92.05° Azm 269.91°
09:56	10:01	0.08	8139	8151	12	144.00	Sliding	Sliding - (WOB:30;GPM :700;TFO:120L)
10:01	10:12	0.18	8151	8234	83	452.73	Drilling	Drilling - (WOB:40;GPM :700;RPM:60)
10:12	10:17	0.08	8234	8234	0	.00	Survey & Conn.	Survey & Conn.@8171' Inc 89.53° Azm 268.05°
10:17	10:30	0.22	8234	8329	95	438.46	Drilling	Drilling - (WOB:40;GPM :700;RPM:60)
10:30	10:36	0.10	8329	8329	0	.00	Survey & Conn.	Survey & Conn.@8266' Inc 87.95° Azm 268.47°
10:36	10:40	0.07	8329	8337	8	120.00	Sliding	Sliding - (WOB:30;GPM :700;TFO:120L))
10:40	10:51	0.18	8337	8425	88	480.00	Drilling	Drilling - (WOB:40;GPM :700;RPM:60)
10:51	10:59	0.13	8425	8425	0	.00	Survey & Conn.	Survey & Conn.@8362' Inc 88.89° Azm 269.74°
10:59	11:02	0.05	8425	8435	10	200.00	Sliding	Sliding - (WOB:30;GPM :700;TFO:0G))
11:02	11:12	0.17	8435	8520	85	510.00	Drilling	Drilling - (WOB:40;GPM :700;RPM:60)
11:12	11:17	0.08	8520	8520	0	.00	Survey & Conn.	Survey & Conn.@8457' Inc 90.27° Azm 270.17°
11:17	11:30	0.22	8520	8616	96	443.08	Drilling	Drilling - (WOB:40;GPM :700;RPM:60)
11:30	11:35	0.08	8616	8616	0	.00	Survey & Conn.	Survey & Conn.@8553' Inc 89.83° Azm 270.74°
11:35	11:37	0.03	8616	8624	8	240.00	Sliding	Sliding - (WOB:30;GPM :700;TFO:10L))
11:37	11:48	0.18	8624	8711	87	474.55	Drilling	Drilling - (WOB:40;GPM :700;RPM:60)
11:48	11:53	0.08	8711	8711	0	.00	Survey & Conn.	Survey & Conn.@8648' Inc 91.11° Azm 271.32°
11:53	12:04	0.18	8711	8806	95	518.18	Drilling	Drilling - (WOB:40;GPM :700;RPM:60)
12:04	12:09	0.08	8806	8806	0	.00	Survey & Conn.	Survey & Conn.@8743' Inc 90.6° Azm 271.79°
12:09	12:21	0.20	8806	8902	96	480.00	Drilling	Drilling - (WOB:40;GPM :700;RPM:60)
12:21	12:26	0.08	8902	8902	0	.00	Survey & Conn.	Survey & Conn.@8839' Inc 90.5° Azm 273.22°
12:26	12:31	0.08	8902	8914	12	144.00	Sliding	Sliding - (WOB:45;GPM :700;TFO:10L))
12:31	12:42	0.18	8914	8997	83	452.73	Drilling	Drilling - (WOB:40;GPM :700;RPM:60)
12:42	12:47	0.08	8997	8997	0	.00	Survey & Conn.	Survey & Conn.@8934' Inc 92.38° Azm 272.05°
12:47	12:51	0.07	8997	9007	10	150.00	Sliding	Sliding - (WOB:45;GPM :700;TFO:70L))
12:51	13:03	0.20	9007	9092	85	425.00	Drilling	Drilling - (WOB:40;GPM :700;RPM:60)
13:03	13:08	0.08	9092	9092	0	.00	Survey & Conn.	Survey & Conn.@9029' Inc 91.61° Azm 270.37°
13:08	13:18	0.17	9092	9188	96	576.00	Drilling	Drilling - (WOB:40;GPM :700;RPM:60)
13:18	13:23	0.08	9188	9188	0	.00	Survey & Conn.	Survey & Conn.@9125' Inc 90.17° Azm 270.69°
13:23	13:57	0.57	9188	9378	190	335.29	Drilling	Drilling - (WOB:40;GPM :700;RPM:60)
13:57	14:02	0.08	9378	9378	0	.00	Survey & Conn.	Survey & Conn.@9315' Inc 88.96° Azm 271.78°
14:02	14:15	0.22	9378	9390	12	55.38	Sliding	Sliding - (WOB:45;GPM :700;TFO:110L))
14:15	14:25	0.17	9390	9474	84	504.00	Drilling	Drilling - (WOB:40;GPM :700;RPM:60)
14:25	14:30	0.08	9474	9474	0	.00	Survey & Conn.	Survey & Conn.@9411' Inc 88.63° Azm 270.45°

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
14:30	14:34	0.07	9474	9486	12	180.00	Sliding	Sliding - (WOB:45;GPM :700;TFO:70L))
14:34	14:44	0.17	9486	9569	83	498.00	Drilling	Drilling - (WOB:40;GPM :700;RPM:60)
14:44	14:49	0.08	9569	9569	0	.00	Survey & Conn.	Survey & Conn.@9506' Inc 89.5° Azm 268.99°
14:49	14:54	0.08	9569	9581	12	144.00	Sliding	Sliding - (WOB:45;GPM :700;TFO:60L))
14:54	15:04	0.17	9581	9665	84	504.00	Drilling	Drilling - (WOB:40;GPM :700;RPM:60)
15:04	15:09	0.08	9665	9665	0	.00	Survey & Conn.	Survey & Conn.@9602' Inc 90.91° Azm 267.32°
15:09	15:14	0.08	9665	9673	8	96.00	Sliding	Sliding - (WOB:45;GPM :700;TFO:30L))
15:14	15:24	0.17	9673	9760	87	522.00	Drilling	Drilling - (WOB:40;GPM :700;RPM:60)
15:24	15:29	0.08	9760	9760	0	.00	Survey & Conn.	Survey & Conn.@9697' Inc 92.58° Azm 268.5°
15:29	15:42	0.22	9760	9856	96	443.08	Drilling	Drilling - (WOB:40;GPM :700;RPM:60)
15:42	15:47	0.08	9856	9856	0	.00	Survey & Conn.	Survey & Conn.@9793' Inc 93.22° Azm 268.35°
15:47	15:52	0.08	9856	9868	12	144.00	Sliding	Sliding - (WOB:45;GPM :700;TFO:20R))
15:52	16:03	0.18	9868	9951	83	452.73	Drilling	Drilling - (WOB:40;GPM :700;RPM:60)
16:03	16:08	0.08	9951	9951	0	.00	Survey & Conn.	Survey & Conn.@9888' Inc 92.28° Azm 268.29°
16:08	16:14	0.10	9951	9961	10	100.00	Sliding	Sliding - (WOB:45;GPM :700;TFO:150R))
16:14	16:24	0.17	9961	10046	85	510.00	Drilling	Drilling - (WOB:40;GPM :700;RPM:60)
16:24	17:09	0.75	10046	10046	0	.00	Rig Service-Inhole	Rig Service-Inhole
17:09	17:14	0.08	10046	10046	0	.00	Survey & Conn.	Survey & Conn.@9983' Inc 91.54° Azm 267.55°
17:14	17:22	0.13	10046	10058	12	90.00	Sliding	Sliding - (WOB:45;GPM :700;TFO:180))
17:22	17:36	0.23	10058	10142	84	360.00	Drilling	Drilling - (WOB:40;GPM :700;RPM:60)
17:36	17:41	0.08	10142	10142	0	.00	Survey & Conn.	Survey & Conn.@10079' Inc 91.01° Azm 268.71°
17:41	18:00	0.32	10142	10238	96	303.16	Drilling	Drilling - (WOB:40;GPM :700;RPM:60)
18:00	18:03	0.05	10238	10238	0	.00	Survey & Conn.	Survey & Conn.@10175' Inc 93.32° Azm 268.11°
18:03	18:10	0.12	10238	10258	20	171.43	Sliding	Sliding - (WOB:45;GPM :700;TFO:140R)
18:10	18:23	0.22	10258	10333	75	346.15	Drilling	Drilling - (WOB:40;GPM :700;RPM:60)
18:23	18:37	0.23	10333	10333	0	.00	Survey & Conn.	Survey & Conn.@10270' Inc 91.71° Azm 269.93°
18:37	18:48	0.18	10333	10348	15	81.82	Sliding	Sliding - (WOB:45;GPM :700;TFO:140R))
18:48	18:57	0.15	10348	10428	80	533.33	Drilling	Drilling - (WOB:40;GPM :700;RPM:60)
18:57	19:00	0.05	10428	10428	0	.00	Survey & Conn.	Survey & Conn.@10365' Inc 89.46° Azm 270.47°
19:00	19:16	0.27	10428	10524	96	360.00	Sliding	Drilling - (WOB:40;GPM :700;RPM:70)
19:16	19:19	0.05	10524	10524	0	.00	Survey & Conn.	Survey & Conn.@10461' Inc 89.83° Azm 270.96°
19:19	19:31	0.20	10524	10619	95	475.00	Drilling	Drilling - (WOB:40;GPM :700;RPM:60)
19:31	19:38	0.12	10619	10619	0	.00	Survey & Conn.	Survey & Conn.@10556' Inc 90.07° Azm 271.77°
19:38	19:49	0.18	10619	10714	95	518.18	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
19:49	19:53	0.07	10714	10714	0	.00	Survey & Conn.	Survey & Conn.@10651' Inc 90.1° Azm 271.98°
19:53	20:04	0.18	10714	10810	96	523.64	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
20:04	20:08	0.07	10810	10810	0	.00	Survey & Conn.	Survey & Conn.@10747' Inc 89.16° Azm 272.85°
20:08	20:24	0.27	10810	10822	12	45.00	Sliding	Sliding - (WOB:45;GPM :700;TFO:0))
20:24	20:34	0.17	10822	10905	83	498.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
20:34	20:38	0.07	10905	10905	0	.00	Survey & Conn.	Survey & Conn.@10842' Inc 88.89° Azm 271.69°
20:38	20:49	0.18	10905	11001	96	523.64	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
20:49	20:53	0.07	11001	11001	0	.00	Survey & Conn.	Survey & Conn.@10938' Inc 87.68° Azm 271.72°
20:53	21:05	0.20	11001	11016	15	75.00	Sliding	Sliding - (WOB:45;GPM :700;TFO:0))
21:05	21:13	0.13	11016	11096	80	600.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
21:13	21:17	0.07	11096	11096	0	.00	Survey & Conn.	Survey & Conn.@11033' Inc 87.85° Azm 271.01°
21:17	21:35	0.30	11096	11131	35	116.67	Sliding	Sliding - (WOB:45;GPM :700;TFO:0))
21:35	22:00	0.42	11131	11287	156	374.40	Sliding	Sliding - (WOB:45;GPM :700;TFO:0)
22:00	22:03	0.05	11287	11287	0	.00	Survey & Conn.	Survey & Conn.@11224' Inc 91.74° Azm 270.52°

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
22:03	22:15	0.20	11287	11299	12	60.00	Sliding	Sliding - (WOB:45;GPM :700;TFO:0))
22:15	22:27	0.20	11299	11382	83	415.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
22:27	22:30	0.05	11382	11382	0	.00	Survey & Conn.	Survey & Conn.@11319' Inc 93.79° Azm 269.4°
22:30	22:36	0.10	11382	11388	6	60.00	Sliding	Sliding - (WOB:45;GPM :700;TFO:0))
22:36	22:50	0.23	11388	11478	90	385.71	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
22:50	22:52	0.03	11478	11478	0	.00	Survey & Conn.	Survey & Conn.@11415' Inc 92.86° Azm 269.16°
22:52	23:04	0.20	11478	11573	95	475.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
23:04	23:10	0.10	11573	11573	0	.00	Survey & Conn.	Survey & Conn.@11510' Inc 92.48° Azm 269.17°
23:10	23:16	0.10	11573	11581	8	80.00	Sliding	Sliding - (WOB:45;GPM :700;TFO:0))
23:16	23:27	0.18	11581	11668	87	474.55	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
23:27	23:31	0.07	11668	11668	0	.00	Survey & Conn.	Survey & Conn.@11605' Inc 94.64° Azm 268.34°
23:31	23:38	0.12	11668	11683	15	128.57	Sliding	Sliding - (WOB:45;GPM :700;TFO:0)
23:38	23:48	0.17	11683	11763	80	480.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
23:48	24:00	0.20	11763	11763	0	.00	Survey & Conn.	Survey & Conn.@11700' Inc 91.68° Azm 269.13°



JOB NO.: 373332
Company: Extraction Oil & Gas
LOCATION: Breniman Pad
RIG NAME: Patterson 346
STATE: Colorado
COUNTY: Weld
WELL NAME: Breniman 7
Lead Directional : Scott Sanford

Report Time: 2400 **4 of 5**
API JOB # 05-123-40419
WORK ORDER#
FIELD: Wattenburg
Township: 6N
Range/Section 67W 16
Company Man Hugh McGraw
2nd Dir Hand : Colby Hansen

From Wednesday, July 20, 2016 at 0000 to Wednesday, July 20, 2016 at 2400

DAILY TOTALS		ASSEMBLY TOTALS									
Start Depth	11763.00	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	16761.00	1	G1677	2,417.00	17.42	13,620.00	29.45	3.67	50.53	16,037.00	319.46
Below Rot Hrs.	24.00										
Total Drilled:	4681.00										
Avg. Total ROP:	272.94										
Slide Footage:	411.00	Drilling Parameters WOB: 45 Rot Wt: 0 Pick UP: 0 Slack Off: 0 SPP: 5600 Flow: 0 - 700 SPM: 240 Rot. RPM 70 - 70 Mot RPM: 0 - 70 Incl. In: 0 Azm. In: 0 Incl. Out: 0 Azm. Out: 0		Mud Record Weight: 0 Visc: 0 Chlorides: 0 YP: 0 PV: 0 PH: 0 GAS: 0 SAND: 0 WL: 0 SOLID: 0 BHT°: 0 Flow T°: 0 Oil %: 0		Bit Record Bit No: 1 Model SK516M K2-Z SN.: A219403 MFG. REED Type PDC IADC JETS 7-12 TFA: 0.773 Hole ID: Bit Hrs: 46.87 Bit Ftg: 16037.00		Current BHA # 1 SK516M K2-Z 7/8,5.0 .29Rev. Pony Non Mag DC Pony Non Mag DC Non Mag DC Hang Off Sub Gap Sub Non Mag DC Filter Sub 3 Stands H.W.D.P.			
Avg. Slide ROP:	67.75										
Rotate Footage:	4270.00										
Rotary Hours	11.08										
Avg. Rot ROP:	385.26										
Circ Hours	0.18										
Ream Hours	0.00										
Rotary Hrs%:	64.63										
Slide Hrs%:	35.37										
Rotary Ftg%:	91.22										
Slide Ftg%:	8.78										
Casing											
Size	Lb/Ft	MD									
			COST BREAKDOWN								

GENERAL COMMENT

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
00:00	00:09	0.15	11763	11763	0	.00	Survey & Conn.	Survey & Conn. @11700' Inc 91.68° Azm 269.13°
00:09	00:11	0.03	11763	11769	6	180.00	Sliding	Sliding - (WOB:65;GPM :700;TFO:0G))
00:11	00:22	0.18	11769	11858	89	485.45	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
00:22	00:26	0.07	11858	11858	0	.00	Survey & Conn.	Survey & Conn. @11795' Inc 92.59° Azm 269.52°
00:26	00:37	0.18	11858	11954	96	523.64	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
00:37	00:46	0.15	11954	11954	0	.00	Survey & Conn.	Survey & Conn. @11891' Inc 91.95° Azm 269.86°
00:46	00:51	0.08	11954	11962	8	96.00	Sliding	Sliding - (WOB:65;GPM :700;TFO:0G)
00:51	01:03	0.20	11962	12049	87	435.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
01:03	01:09	0.10	12049	12049	0	.00	Survey & Conn.	Survey & Conn. @11986' Inc 93.76° Azm 271.62°
01:09	01:19	0.17	12049	12059	10	60.00	Sliding	Sliding - (WOB:65;GPM :700;TFO:0G)
01:19	01:30	0.18	12059	12144	85	463.64	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
01:30	01:36	0.10	12144	12144	0	.00	Survey & Conn.	Survey & Conn. @12081' Inc 91.58° Azm 270.11°
01:36	01:43	0.12	12144	12239	95	814.29	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
01:43	01:49	0.10	12239	12239	0	.00	Survey & Conn.	Survey & Conn. @12176' Inc 91.58° Azm 270.12°

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
01:49	01:56	0.12	12239	12251	12	102.86	Sliding	Sliding - (WOB:65;GPM :700;TFO:0G)
01:56	02:10	0.23	12251	12335	84	360.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
02:10	02:14	0.07	12335	12335	0	.00	Survey & Conn.	Survey & Conn.@12272' Inc 92.72° Azm 270.3°
02:14	02:20	0.10	12335	12342	7	70.00	Sliding	Sliding - (WOB:65;GPM :700;TFO:0G)
02:20	02:34	0.23	12342	12430	88	377.14	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
02:34	02:37	0.05	12430	12430	0	.00	Survey & Conn.	Survey & Conn.@12367' Inc 92.96° Azm 270.07°
02:37	02:49	0.20	12430	12440	10	50.00	Sliding	Sliding - (WOB:65;GPM :700;TFO:0G)
02:49	03:04	0.25	12440	12525	85	340.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
03:04	03:08	0.07	12525	12525	0	.00	Survey & Conn.	Survey & Conn.@12462' Inc 94.26° Azm 271.69°
03:08	03:18	0.17	12525	12532	7	42.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
03:18	03:30	0.20	12532	12620	88	440.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
03:30	03:36	0.10	12620	12620	0	.00	Survey & Conn.	Survey & Conn.@12557' Inc 93.4° Azm 269.23°
03:36	03:40	0.07	12620	12672	52	780.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
03:40	03:50	0.17	12672	12682	10	60.00	Sliding	Sliding - (WOB:65;GPM :700;TFO:0G)
03:50	03:56	0.10	12682	12715	33	330.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
03:56	04:01	0.08	12715	12715	0	.00	Survey & Conn.	Survey & Conn.@12652' Inc 92.15° Azm 271.21°
04:01	04:04	0.05	12715	12725	10	200.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
04:04	04:10	0.10	12725	12735	10	100.00	Sliding	Sliding - (WOB:65;GPM :700;TFO:0G)
04:10	04:26	0.27	12735	12810	75	281.25	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
04:26	04:37	0.18	12810	12810	0	.00	Survey & Conn.	Survey & Conn.@12747' Inc 94.91° Azm 270.27°
04:37	04:41	0.07	12810	12818	8	120.00	Sliding	Sliding - (WOB:65;GPM :700;TFO:0G)
04:41	05:05	0.40	12818	12906	88	220.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
05:05	05:10	0.08	12906	12906	0	.00	Survey & Conn.	Survey & Conn.@12843' Inc 93.6° Azm 268.7°
05:10	05:17	0.12	12906	13001	95	814.29	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
05:17	05:20	0.05	13001	13001	0	.00	Survey & Conn.	Survey & Conn.@12938' Inc 94.4° Azm 269°
05:20	05:36	0.27	13001	13096	95	356.25	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
05:36	05:44	0.13	13096	13096	0	.00	Survey & Conn.	Survey & Conn.@13033' Inc 94.85° Azm 268.88°
05:44	05:57	0.22	13096	13191	95	438.46	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
05:57	06:03	0.10	13191	13191	0	.00	Survey & Conn.	Survey & Conn.@13128' Inc 94.84° Azm 269.22°
06:03	06:09	0.10	13191	13201	10	100.00	Sliding	Sliding - (WOB:65;GPM :700;TFO:0G))
06:09	06:22	0.22	13201	13286	85	392.31	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
06:22	06:27	0.08	13286	13286	0	.00	Survey & Conn.	Survey & Conn.@13223' Inc 92.72° Azm 267.44°
06:27	06:32	0.08	13286	13286	0	.00	Rig repair	
06:32	06:48	0.27	13286	13381	95	356.25	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
06:48	06:53	0.08	13381	13381	0	.00	Survey & Conn.	Survey & Conn.@13318' Inc 92.21° Azm 267.1°
06:53	07:05	0.20	13381	13476	95	475.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
07:05	07:10	0.08	13476	13476	0	.00	Survey & Conn.	Survey & Conn.@13413' Inc 92.42° Azm 267.15°
07:10	07:15	0.08	13476	13483	7	84.00	Sliding	Sliding - (WOB:135;GPM :700;TFO:0G)
07:15	07:26	0.18	13483	13571	88	480.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
07:26	07:31	0.08	13571	13571	0	.00	Survey & Conn.	Survey & Conn.@13508' Inc 92.65° Azm 268.2°
07:31	07:44	0.22	13571	13667	96	443.08	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
07:44	07:49	0.08	13667	13667	0	.00	Survey & Conn.	Survey & Conn.@13604' Inc 92.08° Azm 269.22°
07:49	07:57	0.13	13667	13679	12	90.00	Sliding	Sliding - (WOB:135;GPM :700;TFO:0G))
07:57	08:08	0.18	13679	13761	82	447.27	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
08:08	08:13	0.08	13761	13761	0	.00	Survey & Conn.	Survey & Conn.@13698' Inc 93.5° Azm 269.01°
08:13	08:26	0.22	13761	13857	96	443.08	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
08:26	08:31	0.08	13857	13857	0	.00	Survey & Conn.	Survey & Conn.@13794' Inc 93.19° Azm 269.81°
08:31	08:39	0.13	13857	13869	12	90.00	Sliding	Sliding - (WOB:85;GPM :700;TFO:0G)

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
08:39	08:51	0.20	13869	13952	83	415.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
08:51	08:56	0.08	13952	13952	0	.00	Survey & Conn.	Survey & Conn.@13889' Inc 94.71° Azm 269.98°
08:56	09:07	0.18	13952	14047	95	518.18	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
09:07	09:12	0.08	14047	14047	0	.00	Survey & Conn.	Survey & Conn.@13984' Inc 94.64° Azm 270.01°
09:12	09:29	0.28	14047	14142	95	335.29	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
09:29	09:34	0.08	14142	14142	0	.00	Survey & Conn.	Survey & Conn.@14079' Inc 94.87° Azm 270.09°
09:34	09:50	0.27	14142	14237	95	356.25	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
09:50	09:57	0.12	14237	14237	0	.00	Survey & Conn.	Survey & Conn.@14174' Inc 95.44° Azm 269.98°
09:57	10:07	0.17	14237	14249	12	72.00	Sliding	Sliding - (WOB:85;GPM :700;TFO:0G))
10:07	10:20	0.22	14249	14332	83	383.08	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
10:20	10:25	0.08	14332	14332	0	.00	Survey & Conn.	Survey & Conn.@14269' Inc 95.14° Azm 270.85°
10:25	10:47	0.37	14332	14352	20	54.55	Sliding	Sliding - (WOB:85;GPM :700;TFO:180))
10:47	10:58	0.18	14352	14427	75	409.09	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
10:58	11:03	0.08	14427	14427	0	.00	Survey & Conn.	Survey & Conn.@14364' Inc 94° Azm 272.35°
11:03	11:34	0.52	14427	14457	30	58.06	Sliding	Sliding - (WOB:85;GPM :700;TFO:180))
11:34	11:44	0.17	14457	14522	65	390.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
11:44	11:49	0.08	14522	14522	0	.00	Survey & Conn.	Survey & Conn.@14459' Inc 90.94° Azm 271.68°
11:49	12:01	0.20	14522	14617	95	475.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
12:01	12:06	0.08	14617	14617	0	.00	Survey & Conn.	Survey & Conn.@14554' Inc 91.38° Azm 271.79°
12:06	12:17	0.18	14617	14629	12	65.45	Sliding	Sliding - (WOB:85;GPM :700;TFO:150L)
12:17	12:28	0.18	14629	14712	83	452.73	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
12:28	12:33	0.08	14712	14712	0	.00	Survey & Conn.	Survey & Conn.@14649' Inc 90.97° Azm 271.14°
12:33	12:45	0.20	14712	14724	12	60.00	Sliding	Sliding - (WOB:85;GPM :700;TFO:150L)
12:45	12:56	0.18	14724	14807	83	452.73	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
12:56	13:02	0.10	14807	14807	0	.00	Survey & Conn.	Survey & Conn.@14744' Inc 90.57° Azm 270.5°
13:02	13:20	0.30	14807	14902	95	316.67	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
13:20	13:25	0.08	14902	14902	0	.00	Survey & Conn.	Survey & Conn.@14839' Inc 91.58° Azm 270.25°
13:25	13:42	0.28	14902	14917	15	52.94	Sliding	Sliding - (WOB:85;GPM :700;TFO:150L))
13:42	13:52	0.17	14917	14998	81	486.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
13:52	13:57	0.08	14998	14998	0	.00	Survey & Conn.	Survey & Conn.@14935' Inc 92.18° Azm 271.29°
13:57	14:10	0.22	14998	14998	0	.00	Other	Re-sync MWD
14:10	14:27	0.28	14998	15016	18	63.53	Sliding	Sliding - (WOB:85;GPM :700;TFO:180)
14:27	14:37	0.17	15016	15093	77	462.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
14:37	14:42	0.08	15093	15093	0	.00	Survey & Conn.	Survey & Conn.@15030' Inc 89.9° Azm 270.15°
14:42	14:52	0.17	15093	15093	0	.00	Other	Re-sync MWD
14:52	15:04	0.20	15093	15188	95	475.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
15:04	15:09	0.08	15188	15188	0	.00	Survey & Conn.	Survey & Conn.@15125' Inc 90.47° Azm 270.79°
15:09	15:23	0.23	15188	15284	96	411.43	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
15:23	15:28	0.08	15284	15284	0	.00	Survey & Conn.	Survey & Conn.@15221' Inc 91.01° Azm 270.75°
15:28	15:47	0.32	15284	15379	95	300.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
15:47	15:53	0.10	15379	15379	0	.00	Survey & Conn.	Survey & Conn.@15316' Inc 91.75° Azm 271.03°
15:53	16:13	0.33	15379	15475	96	288.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
16:13	16:18	0.08	15475	15475	0	.00	Survey & Conn.	Survey & Conn.@15412' Inc 92.65° Azm 270.9°
16:18	16:40	0.37	15475	15495	20	54.55	Sliding	Sliding - (WOB:85;GPM :700;TFO:180)
16:40	16:52	0.20	15495	15570	75	375.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
16:52	17:03	0.18	15570	15570	0	.00	Rig Service-Inhole	Rig Service-Inhole
17:03	17:24	0.35	15570	15665	95	271.43	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
17:24	17:29	0.08	15665	15665	0	.00	Survey & Conn.	Survey & Conn.@15602' Inc 91.54° Azm 270.59°

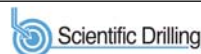
Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
17:29	17:53	0.40	15665	15683	18	45.00	Sliding	Sliding - (WOB:85;GPM :700;TFO:180)
17:53	18:10	0.28	15683	16761	1078	3804.71	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
18:10	18:29	0.32	16761	16761	0	.00	Survey & Conn.	Survey & Conn.@16651' Inc 90.67° Azm 268.92°
18:29	19:02	0.55	16761	16761	0	.00	Rig repair	go through pumps
19:02	19:14	0.20	16761	15856	-905	-4525.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
19:14	19:20	0.10	15856	15856	0	.00	Survey & Conn.	Survey & Conn.@15793' Inc 90.2° Azm 271.8°
19:20	20:15	0.92	15856	15856	0	.00	Other	REPLACE O RING ON STAND PIPE.
20:15	20:33	0.30	15856	15952	96	320.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
20:33	20:34	0.02	15952	15952	0	.00	Survey & Conn.	Survey & Conn.@15889' Inc 91.01° Azm 272.85°
20:34	21:00	0.43	15952	15962	10	23.08	Sliding	Sliding - (WOB:85;GPM :700;TFO:180)
21:00	21:10	0.17	15962	16047	85	510.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
21:10	21:19	0.15	16047	16047	0	.00	Survey & Conn.	Survey & Conn.@15984' Inc 91.41° Azm 272.09°
21:19	21:40	0.35	16047	16059	12	34.29	Sliding	Sliding - (WOB:85;GPM :700;TFO:180)
21:40	21:50	0.17	16059	16142	83	498.00	Sliding	Sliding - (WOB:85;GPM :700;TFO:180)
21:50	21:57	0.12	16142	16142	0	.00	Survey & Conn.	Survey & Conn.@16079' Inc 91.14° Azm 270.39°
21:57	22:00	0.05	16142	16152	10	200.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
22:00	22:23	0.38	16152	16164	12	31.30	Sliding	Sliding - (WOB:85;GPM :700;TFO:180)
22:23	22:34	0.18	16164	16238	74	403.64	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
22:34	22:39	0.08	16238	16238	0	.00	Survey & Conn.	Survey & Conn.@16175' Inc 88.49° Azm 267.62°
22:39	22:59	0.33	16238	16333	95	285.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
22:59	23:09	0.17	16333	16333	0	.00	Survey & Conn.	Survey & Conn.@16270' Inc 87.95° Azm 268.71°
23:09	23:15	0.10	16333	16369	36	360.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
23:15	23:44	0.48	16369	16384	15	31.03	Sliding	Sliding - (WOB:45;GPM :700;TFO:0)
23:44	23:54	0.17	16384	16428	44	264.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
23:54	23:57	0.05	16428	16428	0	.00	Survey & Conn.	Survey & Conn.@16365' Inc 87.49° Azm 269.23°
23:57	24:00	0.05	16428	16444	16	320.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)



Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
00:00	00:11	0.18	16444	16523	79	430.91	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
00:11	00:16	0.08	16523	16523	0	.00	Survey & Conn.	Survey & Conn.@16460' Inc 89.09° Azm 268.18°
00:16	00:28	0.20	16523	16619	96	480.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
00:28	00:35	0.12	16619	16619	0	.00	Survey & Conn.	Survey & Conn.@16556' Inc 88.83° Azm 268.06°
00:35	01:06	0.52	16619	16639	20	38.71	Sliding	Sliding - (WOB:45;GPM :700;TFO:0)
01:06	01:24	0.30	16639	16714	75	250.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
01:24	01:28	0.07	16714	16714	0	.00	Survey & Conn.	Survey & Conn.@16651' Inc 90.67° Azm 268.92°
01:28	01:35	0.12	16714	16808	94	805.71	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
01:35	01:42	0.12	16808	16808	0	.00	Survey & Conn.	Survey & Conn.@16745' Inc 90.24° Azm 268.86°
01:42	01:49	0.12	16808	16818	10	85.71	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
01:49	02:11	0.37	16818	16826	8	21.82	Sliding	Sliding - (WOB:45;GPM :700;TFO:0))
02:11	02:25	0.23	16826	16903	77	330.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
02:25	02:32	0.12	16903	16903	0	.00	Survey & Conn.	Survey & Conn.@16840' Inc 91.07° Azm 269.38°
02:32	02:47	0.25	16903	16999	96	384.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
02:47	02:54	0.12	16999	16999	0	.00	Survey & Conn.	Survey & Conn.@16936' Inc 91.21° Azm 269.54°
02:54	03:02	0.13	16999	17094	95	712.50	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
03:02	03:08	0.10	17094	17094	0	.00	Survey & Conn.	Survey & Conn.@17031' Inc 90.97° Azm 270.04°
03:08	03:10	0.03	17094	17104	10	300.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
03:10	03:36	0.43	17104	17119	15	34.62	Sliding	Sliding - (WOB:45;GPM :700;TFO:0)
03:36	03:50	0.23	17119	17189	70	300.00	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
03:50	03:57	0.12	17189	17189	0	.00	Survey & Conn.	Survey & Conn.@17126' Inc 91.68° Azm 267.22°
03:57	04:08	0.18	17189	17284	95	518.18	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
04:08	04:15	0.12	17284	17284	0	.00	Survey & Conn.	Survey & Conn.@17221' Inc 91.47° Azm 266.69°
04:15	04:28	0.22	17284	17377	93	429.23	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
04:28	04:34	0.10	17377	17377	0	.00	Survey & Conn.	Survey & Conn.@17314' Inc 91.55° Azm 266.86°
04:34	04:41	0.12	17377	17387	10	85.71	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
04:41	05:05	0.40	17387	17401	14	35.00	Sliding	Sliding - (WOB:45;GPM :700;TFO:0)
05:05	05:49	0.73	17401	17590	189	257.73	Drilling	Drilling - (WOB:45;GPM :700;RPM:70)
05:49	07:33	1.73	17590	17590	0	.00	Circulating	Circulating
07:33	09:40	2.12	17590	17590	0	.00	Short Trip	Short Trip
09:40	11:00	1.33	17590	17590	0	.00	Circulating	Circulating
11:00	20:00	9.00	17590	17590	0	.00	POOH	POOH
20:00	21:00	1.00	17590	17590	0	.00	Other	L/D-Rack back Tools
21:00	24:00	3.00	17590	17590	0	.00	Standby	Standby

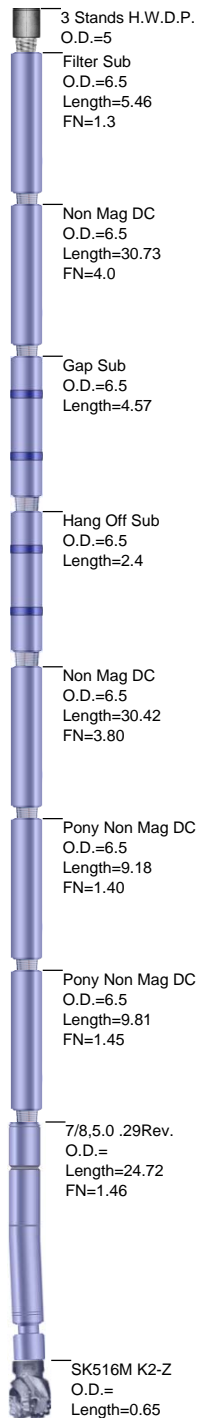
BHA # 1



JOB NO.: 373332 Work Order: FIELD: Wattenburg
 Company: Extraction Oil & Gas Township: 6N
 LOCATION: Breniman Pad SECT. RANGE: 16 67W
 RIG NAME: Patterson 346 Lead DD: Scott Sanford
 STATE: Colorado Co. Man: Hugh McGraw
 COUNTY: Weld BHA TYPE: Steerable Assembly
 WELL NAME: Breniman 7 BHA WT: 15812 Wt @ Jars: N/A

Time and Depths	MOTOR DATA	Drilling Parameters
Date In: 18-Jul-16 @ 04:40	2.0 Deg, 7/8, 5.0stg .29Rev	SO/PU: 0 - 60 / 0-230
Date Out: 21-Jul-16 @ 21:00	MFG.: Bico	Rot Strg Wt: 0-140
Hrs In Hole: 88.17	Pad OD: 6 3/4	WOB: 0 - 135
Start Depth: 1553.00	NB Stab: 0	TORQ: 0 - 25000
End Depth: 17590.00	Bit to Bend: 4.64	SPP: 0 - 5600
Total Drilled: 16037.00	Bent Hsg/Sub°: 2 /	Motor RPM: 203
Avg. Total ROP: 342.18	Lobe/Stage: 7/8 / 5	Rotary RPM: 0 - 70
Circ Hrs: Tot/Only 51.47 / 4.60	Rev/GAL: 0.29	Flow Rate: 0 - 700
Percent Slide: 15.07	Rotor Jet: 0	Avg Diff: 1200
Percent Hrs: 37.16	Prop BUR: 0	Stall Pres.: 0
Slide Hours: 17.42	Act BUR: 0	Off Bot Pres.: 0
Total Sliding: 2417.00		
Avg. Slide ROP: 138.78		
Percent Rotary: 84.93		
Percent Hrs: 62.84		
Rotary Hours: 29.45		
Total Rotary: 13620.00		
Avg. Rotary ROP: 462.48		
Reason POOH: TD		
	Mud Data	Bit Record
	Type	REED / SK516M K2-Z
	WT: 0 GAS: 0	Run #: 1
	Vis: 0 PV: 0	Type Bit: PDC
	WL: 0 PH: 0	IADC#: TFA: 0.773
	SOL: 0 SAND: 0	JETS: 7-12
	Oil %: 0 T °: 0	Bit Drop: 0 PSI @ 700 GPM
	Chlor: 0 YP: 0	Cond.: 1 Chipped Cutter
MWD Spacing	Gamma: 0 Restiv: 0 Sensor: 63	Last Casing O.D.
	GYRO: 0 DNSC: 0 Sonic: 0	Shoe @: Hanger @:
INC IN: .0	INC OUT: .0	AZM IN: .00
		AZM OUT: .00

BHA Detail							
Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn	MFG.
SK516M K2-Z	A219403			0.65	0.65	4 1/2 REGP	REED
7/8, 5.0 .29Rev.	G1677			24.72	25.37	4 1/2 IFB	BICO
Pony Non Mag DC	125-297	3.25	6.5	9.81	35.18	4 1/2 IFB	SDI
Pony Non Mag DC	125-438	3.25	6.5	9.18	44.36	4 1/2 IFB	SDI
Non Mag DC	189-009	3.25	6.5	30.42	74.78	4 1/2 IFB	SDI
Hang Off Sub	8-1048	3.75	6.5	2.40	77.18	4 1/2 IFB	SDI
Gap Sub	SDi 69-759	3.25	6.5	4.57	81.75	4 1/2 IFB	SDI
Non Mag DC	189-012	3.25	6.5	30.73	112.48	4 1/2 IFB	SDI
Filter Sub	SD116074	3.25	6.5	5.46	117.94	4 1/2 IFB	SDI
3 Stands H.W.D.P.	N/A	3.76	5	275.51	393.45	4 1/2 IFB	Other





JOB NO.: 373332
Company: Extraction Oil & Gas
LOCATION: Breniman Pad
RIG NAME: Patterson 346
STATE: Colorado
COUNTY: Country
WELL NAME: Breniman 7

FIELD: Wattenburg
Township: 6N
Range 67W

MOTOR INFORMATION

Desc: 2.0 Deg,7/8, 5.0stg .29Rev
 Bent Hsg/Sub: 2 / 0 Bit to Bend: 4.64
 Pad OD: 6 3/4 NB Stab:

Slide Report for BHA # 1

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
1	18-Jul	Drilling	07:55	08:00	0.08	1553	1633	80		960.0	0	0				0.90	229.40	0.00	
1	18-Jul	Drilling	08:05	08:14	0.15	1633	1729	96		640.0	0	0				0.76	206.17	0.00	
1	18-Jul	Sliding	08:18	08:24	0.10	1729	1754	25	15	250.0	0	0	700	2200	240M	0.76	206.17	0.00	
1	18-Jul	Drilling	08:24	08:28	0.07	1754	1824	70	30	1050.0	65	7000	700	2600		0.76	206.17	0.00	
1	18-Jul	Sliding	08:32	08:35	0.05	1824	1839	15	15	300.0	0	0	700	2600	10L	0.76	206.17	0.00	
1	18-Jul	Drilling	08:35	08:39	0.07	1839	1919	80	30	1200.0	65	0	700	2600		8.30	247.97	0.00	
1	18-Jul	Sliding	08:43	08:46	0.05	1919	1931	12	15	240.0	65	0	700	2600	20L	8.30	247.97	0.00	
1	18-Jul	Drilling	08:46	08:51	0.08	1931	2014	83	30	996.0	65	7000	700	2600		10.45	243.83	0.00	
1	18-Jul	Sliding	08:55	08:58	0.05	2014	2024	10	15	200.0	65	7000	700	2600	20L	10.45	243.83	0.00	
1	18-Jul	Drilling	08:58	09:03	0.08	2024	2109	85	30	1020.0	65	7000	700	2600		12.22	242.82	0.00	
1	18-Jul	Drilling	09:07	09:11	0.07	2109	2205	96	30	1440.0	65	7000	700	2600		11.30	241.80	0.00	
1	18-Jul	Drilling	09:25	09:32	0.12	2205	2396	191	30	1637.1	65	7000	700	2600		9.61	242.59	0.00	
1	18-Jul	Drilling	09:36	09:43	0.12	2396	2491	95	30	814.3	65	7000	700	2600		8.89	240.16	0.00	
1	18-Jul	Sliding	09:48	09:50	0.03	2491	2501	10	15	300.0	65	7000	700	2600	0G	8.89	240.16	0.00	
1	18-Jul	Drilling	09:50	09:54	0.07	2501	2586	85	30	1275.0	65	7000	700	2600		11.09	244.96	0.00	
1	18-Jul	Drilling	09:59	10:04	0.08	2586	2681	95	30	1140.0	65	7000	700	2600		9.91	243.57	0.00	
1	18-Jul	Sliding	10:09	10:11	0.03	2681	2693	12	15	360.0	65	7000	700	2600	0G	9.91	243.57	0.00	
1	18-Jul	Drilling	10:11	10:16	0.08	2693	2776	83	30	996.0	65	7000	700	2600		10.94	239.40	0.00	
1	18-Jul	Sliding	10:21	10:23	0.03	2776	2788	12	12	360.0	65	7000	700	2600	0G	10.94	239.40	0.00	
1	18-Jul	Drilling	10:23	10:27	0.07	2788	2871	83	30	1245.0	65	9500	700	3000		12.68	242.11	0.00	
1	18-Jul	Drilling	10:32	10:38	0.10	2871	2967	96	30	960.0	65	9500	700	3000		11.92	240.22	0.00	
1	18-Jul	Sliding	10:43	10:45	0.03	2967	2980	13	13	390.0	65	9500	700	3000	0G	11.92	240.22	0.00	
1	18-Jul	Drilling	10:45	10:50	0.08	2980	3062	82	30	984.0	65	9500	700	3000		12.87	240.18	0.00	
1	18-Jul	Sliding	10:55	10:57	0.03	3062	3075	13	13	390.0	65	9500	700	3000	0G	12.87	240.18	0.00	
1	18-Jul	Drilling	10:57	11:02	0.08	3075	3158	83	30	996.0	65	9500	700	3000		13.92	241.39	0.00	
1	18-Jul	Sliding	11:07	11:09	0.03	3158	3173	15	15	450.0	65	9500	700	3000	10L	13.92	241.39	0.00	

Slide Report for BHA # 1

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
1	18-Jul	Drilling	11:09	11:14	0.08	3173	3253	80	30	960.0	65	9500	700	3000		14.55	240.44	0.00	
1	18-Jul	Sliding	11:19	11:21	0.03	3253	3269	16	16	480.0	65	9500	700	3000	10L	14.55	240.44	0.00	
1	18-Jul	Drilling	11:21	11:25	0.07	3269	3349	80	30	1200.0	65	9500	700	3000		15.66	239.12	0.00	
1	18-Jul	Sliding	11:30	11:32	0.03	3349	3365	16	16	480.0	65	9500	700	3000	0G	15.66	239.12	0.00	
1	18-Jul	Drilling	11:32	11:36	0.07	3365	3443	78	30	1170.0	65	9500	700	3000		16.87	238.39	0.00	
1	18-Jul	Sliding	11:41	11:43	0.03	3443	3458	15	16	450.0	65	9500	700	3000	0G	16.87	238.39	0.00	
1	18-Jul	Drilling	11:43	11:48	0.08	3458	3538	80	30	960.0	65	9500	700	3000		17.20	237.17	0.00	
1	18-Jul	Sliding	11:54	11:56	0.03	3538	3553	15	16	450.0	65	9500	700	3000	0G	17.20	237.17	0.00	
1	18-Jul	Drilling	11:56	12:01	0.08	3553	3634	81	30	972.0	65	9500	700	3000		19.15	239.77	0.00	
1	18-Jul	Drilling	12:06	12:11	0.08	3634	3729	95	30	1140.0	65	9500	700	3000		19.15	239.77	0.00	
1	18-Jul	Drilling	12:16	12:23	0.12	3729	3824	95	30	814.3	65	9500	700	3000		20.08	238.74	0.00	
1	18-Jul	Drilling	12:28	12:34	0.10	3824	3919	95	30	950.0	65	10000	700	3300		20.23	238.96	0.00	
1	18-Jul	Drilling	12:39	12:46	0.12	3919	4014	95	30	814.3	65	10000	700	3300		19.01	238.68	0.00	
1	18-Jul	Drilling	12:51	12:56	0.08	4014	4109	95	30	1140.0	65	10000	700	3300		19.01	238.68	0.00	
1	18-Jul	Drilling	13:01	13:08	0.12	4109	4205	96	30	822.9	65	10500	700	3400		14.71	240.17	0.00	
1	18-Jul	Drilling	13:13	13:14	0.02	4205	4215	10	30	600.0	65	10500	700	3400		14.71	240.17	0.00	
1	18-Jul	Sliding	13:14	13:19	0.08	4215	4230	15	16	180.0	65	10500	700	3400	0G	14.71	240.17	0.00	
1	18-Jul	Drilling	13:19	13:25	0.10	4230	4300	70	30	700.0	65	10500	700	3400		16.31	241.82	0.00	
1	18-Jul	Sliding	13:30	13:32	0.03	4300	4316	16	16	480.0	65	10500	700	3400	10L	16.31	241.82	0.00	
1	18-Jul	Drilling	13:32	13:37	0.08	4316	4396	80	30	960.0	65	10500	700	3400		18.54	242.38	0.00	
1	18-Jul	Drilling	13:42	13:49	0.12	4396	4491	95	30	814.3	65	10500	700	3400		17.64	241.45	0.00	
1	18-Jul	Drilling	13:58	14:06	0.13	4491	4586	95	30	712.5	65	10500	700	3400		15.94	241.06	0.00	
1	18-Jul	Sliding	14:11	14:13	0.03	4586	4601	15	16	450.0	65	10500	700	3400	10L	15.94	241.06	0.00	
1	18-Jul	Drilling	14:13	14:19	0.10	4601	4681	80	30	800.0	65	10500	700	3400		17.38	240.07	0.00	
1	18-Jul	Sliding	14:24	14:27	0.05	4681	4696	15	16	300.0	65	10500	700	3400	20L	17.38	240.07	0.00	
1	18-Jul	Drilling	14:27	14:34	0.12	4696	4777	81	30	694.3	65	10500	700	3400		18.27	236.48	0.00	
1	18-Jul	Drilling	14:39	14:46	0.12	4777	4872	95	30	814.3	65	10500	700	3400		17.18	235.41	0.00	
1	18-Jul	Sliding	14:51	14:58	0.12	4872	4887	15	16	128.6	65	10500	700	3400	20L	17.18	235.41	0.00	
1	18-Jul	Drilling	14:58	15:05	0.12	4887	4967	80	30	685.7	65	10500	700	3400		16.91	241.11	0.00	
1	18-Jul	Sliding	15:10	15:13	0.05	4967	4985	18	16	360.0	65	10500	700	3400	0G	16.91	241.11	0.00	
1	18-Jul	Drilling	15:13	15:18	0.08	4985	5062	77	30	924.0	65	10500	700	3400		16.60	240.99	0.00	
1	18-Jul	Sliding	15:23	15:28	0.08	5062	5082	20	20	240.0	65	10500	700	3400	0G	16.60	240.99	0.00	
1	18-Jul	Drilling	15:28	15:33	0.08	5082	5158	76	30	912.0	65	10500	700	3400		16.00	241.38	0.00	
1	18-Jul	Drilling	15:38	15:47	0.15	5158	5253	95	30	633.3	65	10500	700	3400		12.88	236.87	0.00	
1	18-Jul	Sliding	15:52	15:56	0.07	5253	5275	22	20	330.0	65	10500	700	3400	0G	12.88	236.87	0.00	

Slide Report for BHA # 1

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
1	18-Jul	Drilling	15:56	16:03	0.12	5275	5349	74	30	634.3	65	10500	700	3400		13.95	228.78	0.00	
1	18-Jul	Sliding	16:08	16:11	0.05	5349	5369	20	20	400.0	65	10500	700	3400	30R	13.95	228.78	0.00	
1	18-Jul	Drilling	16:11	16:17	0.10	5369	5444	75	30	750.0	65	10500	700	3400		13.93	232.98	0.00	
1	18-Jul	Sliding	16:22	16:30	0.13	5444	5474	30	20	225.0	65	10500	700	3400	30R	13.93	232.98	0.00	
1	18-Jul	Drilling	16:30	16:35	0.08	5474	5540	66	30	792.0	65	10500	700	3400		15.02	236.36	0.00	
1	18-Jul	Sliding	16:40	16:45	0.08	5540	5570	30	30	360.0	65	10500	700	3400	20R	15.02	236.36	0.00	
1	18-Jul	Drilling	16:45	16:50	0.08	5570	5635	65	30	780.0	65	10500	700	3400		17.85	236.53	0.00	
1	18-Jul	Drilling	16:55	17:01	0.10	5635	5731	96	30	960.0	65	10500	700	3400		15.92	230.56	0.00	
1	18-Jul	Drilling	17:06	17:07	0.02	5731	5741	10	30	600.0	65	10500	700	3400		15.92	230.56	0.00	
1	18-Jul	Sliding	17:17	17:21	0.07	5741	5766	25	30	375.0	65	10500	700	3400	50R	16.67	239.11	0.00	
1	18-Jul	Drilling	17:21	17:27	0.10	5766	5826	60	30	600.0	65	10500	700	3400		16.67	239.11	0.00	
1	18-Jul	Sliding	17:32	17:34	0.03	5826	5841	15	30	450.0	65	10500	700	3400	20R	16.67	239.11	0.00	
1	18-Jul	Drilling	17:34	17:40	0.10	5841	5922	81	30	810.0	65	12500	700	3500		16.70	244.62	0.00	
1	18-Jul	Sliding	17:45	17:47	0.03	5922	5937	15	30	450.0	65	12500	700	3500	0G	16.70	244.62	0.00	
1	18-Jul	Drilling	17:47	17:53	0.10	5937	6017	80	30	800.0	65	12500	700	3500		16.28	245.26	0.00	
1	18-Jul	Sliding	17:58	18:01	0.05	6017	6032	15	30	300.0	65	12500	700	3500	0G	16.28	245.26	0.00	
1	18-Jul	Drilling	18:01	18:12	0.18	6032	6115	83	30	452.7	65	12500	700	3500		15.76	242.75	0.00	
1	18-Jul	Sliding	18:15	18:18	0.05	6115	6127	12	30	240.0	65	12500	700	3500	0G	15.76	242.75	0.00	
1	18-Jul	Drilling	18:18	18:32	0.23	6127	6208	81	30	347.1	65	12500	700	3500		13.90	242.21	0.00	
1	18-Jul	Sliding	18:36	18:39	0.05	6208	6227	19	30	380.0	65	12500	700	3500	0G	13.90	242.21	0.00	
1	18-Jul	Drilling	18:39	18:41	0.03	6227	6305	78	30	2340.0	65	12500	700	3500		13.88	244.53	0.00	
1	18-Jul	Sliding	18:44	18:50	0.10	6305	6325	20	30	200.0	65	12500	700	3500		13.88	244.53	0.00	
1	18-Jul	Drilling	18:50	19:10	0.33	6325	6398	73	30	219.0	65	12500	700	3500		13.33	236.05	0.00	
1	18-Jul	Sliding	19:14	19:30	0.27	6398	6438	40	30	150.0	65	12500	700	3500		8.20	245.44	0.00	
1	18-Jul	Drilling	19:30	19:50	0.33	6438	6565	127	30	381.0	65	12500	700	3500		13.03	258.48	0.00	
1	18-Jul	Sliding	19:55	20:24	0.48	6565	6589	24	30	49.7	65	12500	700	3500		13.03	258.48	0.00	
1	18-Jul	Drilling	20:24	20:31	0.12	6589	6630	41	30	351.4	65	12500	700	3500		10.63	254.24	0.00	
1	18-Jul	Sliding	20:31	20:50	0.32	6630	6660	30	30	94.7	65	12500	700	3500		10.63	254.24	0.00	
1	18-Jul	Drilling	20:50	20:55	0.08	6660	6684	24	30	288.0	65	12500	700	3500		10.63	254.24	0.00	
1	18-Jul	Sliding	20:59	21:09	0.17	6684	6779	95	30	570.0	65	12500	700	3500		13.59	243.93	0.00	
1	18-Jul	Sliding	21:09	21:32	0.38	6779	6874	95	30	247.8	20	12500	700	3500		18.94	245.32	0.00	
1	18-Jul	Sliding	21:36	22:00	0.40	6874	6970	96	30	240.0	20	12500	700	3500		27.46	248.89	0.00	
1	18-Jul	Sliding	22:05	22:23	0.30	6970	7065	95	30	316.7	20	12500	700	3500		36.82	247.02	0.00	
1	18-Jul	Sliding	22:27	22:44	0.28	7065	7160	95	30	335.3	20	12500	700	3500		47.92	250.09	0.00	
1	18-Jul	Sliding	22:48	23:05	0.28	7160	7256	96	30	338.8	20	12500	700	3500		58.91	256.00	0.00	

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#	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	18-Jul	Sliding	23:08	23:38	0.50	7256	7325	69	30	138.0	20	12500	700	3500		73.87	266.30	0.00	
1	19-Jul	Drilling	04:55	05:03	0.13	7325	7344	19	30	142.5	20	12500	700	3500		73.87	266.30	0.00	
1	19-Jul	Sliding	05:03	05:20	0.28	7344	7367	23	30	81.2	20	12500	700	3500		73.87	266.30	0.00	
1	19-Jul	Drilling	05:20	05:30	0.17	7367	7376	9	30	54.0	20	12500	700	3500		73.87	266.30	0.00	
1	19-Jul	Drilling	05:42	06:18	0.60	7376	7471	95	30	158.3	20	12500	700	3500		76.84	267.39	0.00	
1	19-Jul	Sliding	06:29	06:41	0.20	7471	7495	24	30	120.0	20	12500	700	3500		76.84	267.39	0.00	
1	19-Jul	Drilling	06:41	07:10	0.48	7495	7566	71	30	146.9	20	12500	700	3500		80.02	268.39	0.00	
1	19-Jul	Sliding	07:15	07:24	0.15	7566	7591	25	30	166.7	20	12500	700	3500		80.02	268.39	0.00	
1	19-Jul	Drilling	07:24	07:40	0.27	7591	7662	71	35	266.3	40	12700	700	4300		82.37	269.95	0.00	
1	19-Jul	Sliding	07:46	07:53	0.12	7662	7686	24	30	205.7	40	12700	700	4300		82.37	269.95	0.00	
1	19-Jul	Drilling	07:53	08:02	0.15	7686	7693	7	35	46.7	40	12700	700	4300		82.37	269.95	0.00	
1	19-Jul	Sliding	08:02	08:10	0.13	7693	7723	30	30	225.0	40	12700	700	4300		86.20	273.68	0.00	
1	19-Jul	Drilling	08:10	08:21	0.18	7723	7757	34	35	185.5	60	12700	700	4300		86.20	273.68	0.00	
1	19-Jul	Drilling	08:26	08:39	0.22	7757	7852	95	35	438.5	60	12700	700	4300		91.18	274.28	0.00	
1	19-Jul	Sliding	08:44	08:52	0.13	7852	7864	12	30	90.0	60	12700	700	4300	120L	91.18	274.28	0.00	
1	19-Jul	Drilling	08:52	09:03	0.18	7864	7948	84	40	458.2	60	15000	700	4600		91.04	273.04	0.00	
1	19-Jul	Sliding	09:20	09:24	0.07	7948	7960	12	30	180.0	60	15000	700	4600	120L	91.04	273.04	0.00	
1	19-Jul	Drilling	09:24	09:33	0.15	7960	8043	83	40	553.3	60	15000	700	4600		90.94	270.42	0.00	
1	19-Jul	Drilling	09:38	09:51	0.22	8043	8139	96	40	443.1	60	15000	700	4600		92.05	269.91	0.00	
1	19-Jul	Sliding	09:56	10:01	0.08	8139	8151	12	30	144.0	60	15000	700	4600	120L	92.05	269.91	0.00	
1	19-Jul	Drilling	10:01	10:12	0.18	8151	8234	83	40	452.7	60	15000	700	4600		89.53	268.05	0.00	
1	19-Jul	Drilling	10:17	10:30	0.22	8234	8329	95	40	438.5	60	15000	700	4600		87.95	268.47	0.00	
1	19-Jul	Sliding	10:36	10:40	0.07	8329	8337	8	30	120.0	60	15000	700	4600	0G	87.95	268.47	0.00	
1	19-Jul	Drilling	10:40	10:51	0.18	8337	8425	88	40	480.0	60	15000	700	4600		88.89	269.74	0.00	
1	19-Jul	Sliding	10:59	11:02	0.05	8425	8435	10	30	200.0	60	15000	700	4600	10R	88.89	269.74	0.00	
1	19-Jul	Drilling	11:02	11:12	0.17	8435	8520	85	40	510.0	60	15000	700	4600		90.27	270.17	0.00	
1	19-Jul	Drilling	11:17	11:30	0.22	8520	8616	96	40	443.1	60	15000	700	4600		89.83	270.74	0.00	
1	19-Jul	Sliding	11:35	11:37	0.03	8616	8624	8	45	240.0	60	15000	700	4600	10L	89.83	270.74	0.00	
1	19-Jul	Drilling	11:37	11:48	0.18	8624	8711	87	40	474.5	60	15000	700	4600		91.11	271.32	0.00	
1	19-Jul	Drilling	11:53	12:04	0.18	8711	8806	95	40	518.2	60	15000	700	4600		90.60	271.79	0.00	
1	19-Jul	Drilling	12:09	12:21	0.20	8806	8902	96	40	480.0	60	15000	700	4600		90.50	273.22	0.00	
1	19-Jul	Sliding	12:26	12:31	0.08	8902	8914	12	45	144.0	60	15000	700	4600	70L	90.50	273.22	0.00	
1	19-Jul	Drilling	12:31	12:42	0.18	8914	8997	83	40	452.7	60	15000	700	4600		92.38	272.05	0.00	
1	19-Jul	Sliding	12:47	12:51	0.07	8997	9007	10	45	150.0	60	15000	700	4600	110L	92.38	272.05	0.00	
1	19-Jul	Drilling	12:51	13:03	0.20	9007	9092	85	40	425.0	60	15000	700	4600		91.61	270.37	0.00	

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#	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	19-Jul	Drilling	13:08	13:18	0.17	9092	9188	96	40	576.0	60	15000	700	4600		90.17	270.69	0.00	
1	19-Jul	Drilling	13:23	13:57	0.57	9188	9378	190	40	335.3	60	15000	700	4600		88.96	271.78	0.00	
1	19-Jul	Sliding	14:02	14:15	0.22	9378	9390	12	45	55.4	60	15000	700	4600	70L	88.96	271.78	0.00	
1	19-Jul	Drilling	14:15	14:25	0.17	9390	9474	84	40	504.0	60	15000	700	4600		88.63	270.45	0.00	
1	19-Jul	Sliding	14:30	14:34	0.07	9474	9486	12	45	180.0	60	15000	700	4600	60L	88.63	270.45	0.00	
1	19-Jul	Drilling	14:34	14:44	0.17	9486	9569	83	40	498.0	60	15000	700	4600		89.50	268.99	0.00	
1	19-Jul	Sliding	14:49	14:54	0.08	9569	9581	12	45	144.0	60	15000	700	4600	30L	89.50	268.99	0.00	
1	19-Jul	Drilling	14:54	15:04	0.17	9581	9665	84	40	504.0	60	15000	700	4600		90.91	267.32	0.00	
1	19-Jul	Sliding	15:09	15:14	0.08	9665	9673	8	45	96.0	60	15000	700	4600	20R	90.91	267.32	0.00	
1	19-Jul	Drilling	15:14	15:24	0.17	9673	9760	87	40	522.0	60	15000	700	4600		92.58	268.50	0.00	
1	19-Jul	Drilling	15:29	15:42	0.22	9760	9856	96	40	443.1	60	15000	700	4600		93.22	268.35	0.00	
1	19-Jul	Sliding	15:47	15:52	0.08	9856	9868	12	45	144.0	60	15000	700	4600	150R	93.22	268.35	0.00	
1	19-Jul	Drilling	15:52	16:03	0.18	9868	9951	83	40	452.7	60	15000	700	4600		92.28	268.29	0.00	
1	19-Jul	Sliding	16:08	16:14	0.10	9951	9961	10	45	100.0	60	15000	700	4600	180	92.28	268.29	0.00	
1	19-Jul	Drilling	16:14	16:24	0.17	9961	10046	85	40	510.0	60	15000	700	4600		91.54	267.55	0.00	
1	19-Jul	Sliding	17:14	17:22	0.13	10046	10058	12	45	90.0	60	15000	700	4600	140R	91.54	267.55	0.00	
1	19-Jul	Drilling	17:22	17:36	0.23	10058	10142	84	40	360.0	60	15000	700	4600		91.01	268.71	0.00	
1	19-Jul	Drilling	17:41	18:00	0.32	10142	10238	96	40	303.2	60	15000	700	4600		93.32	268.11	0.00	
1	19-Jul	Sliding	18:03	18:10	0.12	10238	10258	20	45	171.4	60	15000	700	4600	140R	93.32	268.11	0.00	
1	19-Jul	Drilling	18:10	18:23	0.22	10258	10333	75	40	346.2	60	15000	700	4600		91.71	269.93	0.00	
1	19-Jul	Sliding	18:37	18:48	0.18	10333	10348	15	45	81.8	60	15000	700	4600	135R	91.71	269.93	0.00	
1	19-Jul	Drilling	18:48	18:57	0.15	10348	10428	80	40	533.3	60	15000	700	4600		89.46	270.47	0.00	
1	19-Jul	Sliding	19:00	19:16	0.27	10428	10524	96	40	360.0	70	15000	700	4600	90R	89.83	270.96	0.00	
1	19-Jul	Drilling	19:19	19:31	0.20	10524	10619	95	40	475.0	60	15000	700	4600		90.07	271.77	0.00	
1	19-Jul	Drilling	19:38	19:49	0.18	10619	10714	95	45	518.2	70	15000	700	4600		90.10	271.98	0.00	
1	19-Jul	Drilling	19:53	20:04	0.18	10714	10810	96	45	523.6	70	15000	700	4600		89.16	272.85	0.00	
1	19-Jul	Sliding	20:08	20:24	0.27	10810	10822	12	45	45.0	0	15000	700	4600	20L	89.16	272.85	0.00	
1	19-Jul	Drilling	20:24	20:34	0.17	10822	10905	83	45	498.0	70	15000	700	4600		88.89	271.69	0.00	
1	19-Jul	Drilling	20:38	20:49	0.18	10905	11001	96	45	523.6	70	15000	700	4600		87.68	271.72	0.00	
1	19-Jul	Sliding	20:53	21:05	0.20	11001	11016	15	45	75.0	70	15000	700	4600	0G	87.68	271.72	0.00	
1	19-Jul	Drilling	21:05	21:13	0.13	11016	11096	80	45	600.0	70	15000	700	4600		87.85	271.01	0.00	
1	19-Jul	Sliding	21:17	21:35	0.30	11096	11131	35	45	116.7	70	15000	700	4600		91.98	270.37	0.00	
1	19-Jul	Sliding	21:35	22:00	0.42	11131	11287	156	45	374.4	70	15000	700	4600		91.74	270.52	0.00	
1	19-Jul	Sliding	22:03	22:15	0.20	11287	11299	12	45	60.0	70	15000	700	4600		91.74	270.52	0.00	
1	19-Jul	Drilling	22:15	22:27	0.20	11299	11382	83	45	415.0	70	15000	700	4600		93.79	269.40	0.00	

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#	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	19-Jul	Sliding	22:30	22:36	0.10	11382	11388	6	45	60.0	70	15000	700	4600		93.79	269.40	0.00	
1	19-Jul	Drilling	22:36	22:50	0.23	11388	11478	90	45	385.7	70	15000	700	4600		92.86	269.16	0.00	
1	19-Jul	Drilling	22:52	23:04	0.20	11478	11573	95	45	475.0	70	15000	700	4600		92.48	269.17	0.00	
1	19-Jul	Sliding	23:10	23:16	0.10	11573	11581	8	45	80.0	70	15000	700	4600		92.48	269.17	0.00	
1	19-Jul	Drilling	23:16	23:27	0.18	11581	11668	87	45	474.5	70	15000	700	4600		94.64	268.34	0.00	
1	19-Jul	Sliding	23:31	23:38	0.12	11668	11683	15	45	128.6	70	15000	700	4600		94.64	268.34	0.00	
1	19-Jul	Drilling	23:38	23:48	0.17	11683	11763	80	45	480.0	70	15000	700	4600		91.68	269.13	0.00	
1	20-Jul	Sliding	00:09	00:11	0.03	11763	11769	6	65	180.0	0	15000	700	4600	0G	91.68	269.13	0.00	
1	20-Jul	Drilling	00:11	00:22	0.18	11769	11858	89	45	485.5	70	15000	700	4600		92.59	269.52	0.00	
1	20-Jul	Drilling	00:26	00:37	0.18	11858	11954	96	45	523.6	70	15000	700	4600		91.95	269.86	0.00	
1	20-Jul	Sliding	00:46	00:51	0.08	11954	11962	8	65	96.0	70	15000	700	4600	0G	91.95	269.86	0.00	
1	20-Jul	Drilling	00:51	01:03	0.20	11962	12049	87	45	435.0	70	15000	700	4600		93.76	271.62	0.00	
1	20-Jul	Sliding	01:09	01:19	0.17	12049	12059	10	65	60.0	70	15000	700	4600	0G	93.76	271.62	0.00	
1	20-Jul	Drilling	01:19	01:30	0.18	12059	12144	85	45	463.6	70	15000	700	4600		91.58	270.11	0.00	
1	20-Jul	Drilling	01:36	01:43	0.12	12144	12239	95	45	814.3	70	15000	700	4600		91.58	270.12	0.00	
1	20-Jul	Sliding	01:49	01:56	0.12	12239	12251	12	65	102.9	70	15000	700	4600	0G	91.58	270.12	0.00	
1	20-Jul	Drilling	01:56	02:10	0.23	12251	12335	84	45	360.0	70	15000	700	4600		92.72	270.30	0.00	
1	20-Jul	Sliding	02:14	02:20	0.10	12335	12342	7	65	70.0	70	15000	700	4600	0G	92.72	270.30	0.00	
1	20-Jul	Drilling	02:20	02:34	0.23	12342	12430	88	45	377.1	70	15000	700	4600		92.96	270.07	0.00	
1	20-Jul	Sliding	02:37	02:49	0.20	12430	12440	10	65	50.0	70	15000	700	4600	0G	92.96	270.07	0.00	
1	20-Jul	Drilling	02:49	03:04	0.25	12440	12525	85	45	340.0	70	15000	700	4600		94.26	271.69	0.00	
1	20-Jul	Drilling	03:08	03:18	0.17	12525	12532	7	45	42.0	70	15000	700	4600		94.26	271.69	0.00	
1	20-Jul	Drilling	03:18	03:30	0.20	12532	12620	88	45	440.0	70	15000	700	4600		93.40	269.23	0.00	
1	20-Jul	Drilling	03:36	03:40	0.07	12620	12672	52	45	780.0	70	15000	700	4600		92.15	271.21	0.00	
1	20-Jul	Sliding	03:40	03:50	0.17	12672	12682	10	65	60.0	70	15000	700	4600	0G	92.15	271.21	0.00	
1	20-Jul	Drilling	03:50	03:56	0.10	12682	12715	33	45	330.0	70	15000	700	4600		92.15	271.21	0.00	
1	20-Jul	Drilling	04:01	04:04	0.05	12715	12725	10	45	200.0	70	15000	700	4600		92.15	271.21	0.00	
1	20-Jul	Sliding	04:04	04:10	0.10	12725	12735	10	65	100.0	70	15000	700	4600	0G	92.15	271.21	0.00	
1	20-Jul	Drilling	04:10	04:26	0.27	12735	12810	75	45	281.3	70	15000	700	4600		94.91	270.27	0.00	
1	20-Jul	Sliding	04:37	04:41	0.07	12810	12818	8	65	120.0	70	15000	700	4600	0G	94.91	270.27	0.00	
1	20-Jul	Drilling	04:41	05:05	0.40	12818	12906	88	45	220.0	70	15000	700	4600		93.60	268.70	0.00	
1	20-Jul	Drilling	05:10	05:17	0.12	12906	13001	95	45	814.3	70	15000	700	4600		94.40	269.00	0.00	
1	20-Jul	Drilling	05:20	05:36	0.27	13001	13096	95	45	356.3	70	15000	700	4600		94.85	268.88	0.00	
1	20-Jul	Drilling	05:44	05:57	0.22	13096	13191	95	45	438.5	70	15000	700	4600		94.84	269.22	0.00	
1	20-Jul	Sliding	06:03	06:09	0.10	13191	13201	10	135	100.0	70	15000	700	4600	0G	94.84	269.22	0.00	

Slide Report for BHA # 1

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
1	20-Jul	Drilling	06:09	06:22	0.22	13201	13286	85	45	392.3	70	15000	700	4600		92.72	267.44	0.00	
1	20-Jul	Drilling	06:32	06:48	0.27	13286	13381	95	45	356.3	70	21000	700	5600		92.21	267.10	0.00	
1	20-Jul	Drilling	06:53	07:05	0.20	13381	13476	95	45	475.0	70	21000	700	5600		92.42	267.15	0.00	
1	20-Jul	Sliding	07:10	07:15	0.08	13476	13483	7	135	84.0	70	21000	700	5600	OG	92.42	267.15	0.00	
1	20-Jul	Drilling	07:15	07:26	0.18	13483	13571	88	45	480.0	70	21000	700	5600		92.65	268.20	0.00	
1	20-Jul	Drilling	07:31	07:44	0.22	13571	13667	96	45	443.1	70	21000	700	5600		92.08	269.22	0.00	
1	20-Jul	Sliding	07:49	07:57	0.13	13667	13679	12	85	90.0	70	21000	700	5600	OG	92.08	269.22	0.00	
1	20-Jul	Drilling	07:57	08:08	0.18	13679	13761	82	45	447.3	70	21000	700	5600		93.50	269.01	0.00	
1	20-Jul	Drilling	08:13	08:26	0.22	13761	13857	96	45	443.1	70	21000	700	5600		93.19	269.81	0.00	
1	20-Jul	Sliding	08:31	08:39	0.13	13857	13869	12	85	90.0	70	21000	700	5600	OG	93.19	269.81	0.00	
1	20-Jul	Drilling	08:39	08:51	0.20	13869	13952	83	45	415.0	70	21000	700	5600		94.71	269.98	0.00	
1	20-Jul	Drilling	08:56	09:07	0.18	13952	14047	95	45	518.2	70	21000	700	5600		94.64	270.01	0.00	
1	20-Jul	Drilling	09:12	09:29	0.28	14047	14142	95	45	335.3	70	21000	700	5600		94.87	270.09	0.00	
1	20-Jul	Drilling	09:34	09:50	0.27	14142	14237	95	45	356.3	70	21000	700	5600		95.44	269.98	0.00	
1	20-Jul	Sliding	09:57	10:07	0.17	14237	14249	12	85	72.0	70	21000	700	5600	180	95.44	269.98	0.00	
1	20-Jul	Drilling	10:07	10:20	0.22	14249	14332	83	45	383.1	70	21000	700	5600		95.14	270.85	0.00	
1	20-Jul	Sliding	10:25	10:47	0.37	14332	14352	20	85	54.5	70	21000	700	5600	180	95.14	270.85	0.00	
1	20-Jul	Drilling	10:47	10:58	0.18	14352	14427	75	45	409.1	70	21000	700	5600		94.00	272.35	0.00	
1	20-Jul	Sliding	11:03	11:34	0.52	14427	14457	30	85	58.1	70	21000	700	5600	150L	94.00	272.35	0.00	
1	20-Jul	Drilling	11:34	11:44	0.17	14457	14522	65	45	390.0	70	21000	700	5600		90.94	271.68	0.00	
1	20-Jul	Drilling	11:49	12:01	0.20	14522	14617	95	45	475.0	70	21000	700	5600		91.38	271.79	0.00	
1	20-Jul	Sliding	12:06	12:17	0.18	14617	14629	12	85	65.5	70	21000	700	5600	150L	91.38	271.79	0.00	
1	20-Jul	Drilling	12:17	12:28	0.18	14629	14712	83	45	452.7	70	21000	700	5600		90.97	271.14	0.00	
1	20-Jul	Sliding	12:33	12:45	0.20	14712	14724	12	85	60.0	70	21000	700	5600	150L	90.97	271.14	0.00	
1	20-Jul	Drilling	12:45	12:56	0.18	14724	14807	83	45	452.7	70	21000	700	5600		90.57	270.50	0.00	
1	20-Jul	Drilling	13:02	13:20	0.30	14807	14902	95	45	316.7	70	21000	700	5600		91.58	270.25	0.00	
1	20-Jul	Sliding	13:25	13:42	0.28	14902	14917	15	85	52.9	70	21000	700	5600	180	91.58	270.25	0.00	
1	20-Jul	Drilling	13:42	13:52	0.17	14917	14998	81	45	486.0	70	21000	700	5600		92.18	271.29	0.00	
1	20-Jul	Sliding	14:10	14:27	0.28	14998	15016	18	85	63.5	70	21000	700	5600	180	92.18	271.29	0.00	
1	20-Jul	Drilling	14:27	14:37	0.17	15016	15093	77	45	462.0	70	21000	700	5600		89.90	270.15	0.00	
1	20-Jul	Drilling	14:52	15:04	0.20	15093	15188	95	45	475.0	70	21000	700	5600		90.47	270.79	0.00	
1	20-Jul	Drilling	15:09	15:23	0.23	15188	15284	96	45	411.4	70	21000	700	5600		91.01	270.75	0.00	
1	20-Jul	Drilling	15:28	15:47	0.32	15284	15379	95	45	300.0	70	21000	700	5600		91.75	271.03	0.00	
1	20-Jul	Drilling	15:53	16:13	0.33	15379	15475	96	45	288.0	70	21000	700	5600		92.65	270.90	0.00	
1	20-Jul	Sliding	16:18	16:40	0.37	15475	15495	20	85	54.5	70	21000	700	5600	180	92.65	270.90	0.00	

Slide Report for BHA # 1

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
1	20-Jul	Drilling	16:40	16:52	0.20	15495	15570	75	45	375.0	70	21000	700	5600		90.67	270.41	0.00	
1	20-Jul	Drilling	17:03	17:24	0.35	15570	15665	95	45	271.4	70	21000	700	5600		91.54	270.59	0.00	
1	20-Jul	Sliding	17:29	17:53	0.40	15665	15683	18	85	45.0	70	21000	700	5600	180	91.54	270.59	0.00	
1	20-Jul	Drilling	17:53	18:10	0.28	15683	16761	1078	45	3804.7	70	21000	700	5600		90.24	268.86	0.00	
1	20-Jul	Drilling	19:02	19:14	0.20	16761	15856	-905	45	4525.0	70	21000	700	5600		90.20	271.80	0.00	
1	20-Jul	Drilling	20:15	20:33	0.30	15856	15952	96	45	320.0	70	21000	700	5600		91.01	272.85	0.00	
1	20-Jul	Sliding	20:34	21:00	0.43	15952	15962	10	85	23.1	70	21000	700	5600	180	91.01	272.85	0.00	
1	20-Jul	Drilling	21:00	21:10	0.17	15962	16047	85	45	510.0	70	21000	700	5600		91.41	272.09	0.00	
1	20-Jul	Sliding	21:19	21:40	0.35	16047	16059	12	85	34.3	70	21000	700	5600	180	91.41	272.09	0.00	
1	20-Jul	Sliding	21:40	21:50	0.17	16059	16142	83	85	498.0	70	21000	700	5600	180	91.14	270.39	0.00	
1	20-Jul	Drilling	21:57	22:00	0.05	16142	16152	10	45	200.0	70	21000	700	5600		91.14	270.39	0.00	
1	20-Jul	Sliding	22:00	22:23	0.38	16152	16164	12	45	31.3	70	21000	700	5600		91.14	270.39	0.00	
1	20-Jul	Drilling	22:23	22:34	0.18	16164	16238	74	45	403.6	70	21000	700	5600		88.49	267.62	0.00	
1	20-Jul	Drilling	22:39	22:59	0.33	16238	16333	95	45	285.0	70	21000	700	5600		87.95	268.71	0.00	
1	20-Jul	Drilling	23:09	23:15	0.10	16333	16369	36	45	360.0	70	21000	700	5600		87.49	269.23	0.00	
1	20-Jul	Sliding	23:15	23:44	0.48	16369	16384	15	45	31.0	70	21000	700	5600		87.49	269.23	0.00	
1	20-Jul	Drilling	23:44	23:54	0.17	16384	16428	44	45	264.0	70	21000	700	5600		87.49	269.23	0.00	
1	20-Jul	Drilling	23:57	24:00	0.05	16428	16444	16	45	320.0	70	21000	700	5600		87.49	269.23	0.00	
1	21-Jul	Drilling	00:00	00:11	0.18	16444	16523	79	45	430.9	70	21000	700	5600		89.09	268.18	0.00	
1	21-Jul	Drilling	00:16	00:28	0.20	16523	16619	96	45	480.0	70	21000	700	5600		88.83	268.06	0.00	
1	21-Jul	Sliding	00:35	01:06	0.52	16619	16639	20	45	38.7	70	21000	700	5600		88.83	268.06	0.00	
1	21-Jul	Drilling	01:06	01:24	0.30	16639	16714	75	45	250.0	70	21000	700	5600		90.67	268.92	0.00	
1	21-Jul	Drilling	01:28	01:35	0.12	16714	16808	94	45	805.7	70	21000	700	5600		90.24	268.86	0.00	
1	21-Jul	Drilling	01:42	01:49	0.12	16808	16818	10	45	85.7	70	21000	700	5600		90.24	268.86	0.00	
1	21-Jul	Sliding	01:49	02:11	0.37	16818	16826	8	45	21.8	70	21000	700	5600		90.24	268.86	0.00	
1	21-Jul	Drilling	02:11	02:25	0.23	16826	16903	77	45	330.0	70	21000	700	5600		91.07	269.38	0.00	
1	21-Jul	Drilling	02:32	02:47	0.25	16903	16999	96	45	384.0	70	21000	700	5600		91.21	269.54	0.00	
1	21-Jul	Drilling	02:54	03:02	0.13	16999	17094	95	45	712.5	70	21000	700	5600		90.97	270.04	0.00	
1	21-Jul	Drilling	03:08	03:10	0.03	17094	17104	10	45	300.0	70	21000	700	5600		90.97	270.04	0.00	
1	21-Jul	Sliding	03:10	03:36	0.43	17104	17119	15	45	34.6	70	21000	700	5600		90.97	270.04	0.00	
1	21-Jul	Drilling	03:36	03:50	0.23	17119	17189	70	45	300.0	70	21000	700	5600		91.68	267.22	0.00	
1	21-Jul	Drilling	03:57	04:08	0.18	17189	17284	95	45	518.2	70	25000	700	5600		91.47	266.69	0.00	
1	21-Jul	Drilling	04:15	04:28	0.22	17284	17377	93	45	429.2	70	25000	700	5600		91.55	266.86	0.00	
1	21-Jul	Drilling	04:34	04:41	0.12	17377	17387	10	45	85.7	70	25000	700	5600		91.55	266.86	0.00	
1	21-Jul	Sliding	04:41	05:05	0.40	17387	17401	14	45	35.0	70	25000	700	5600		91.55	266.86	0.00	

Slide Report for BHA # 1

Note: Surveys listed are interpolated from the actual surveys

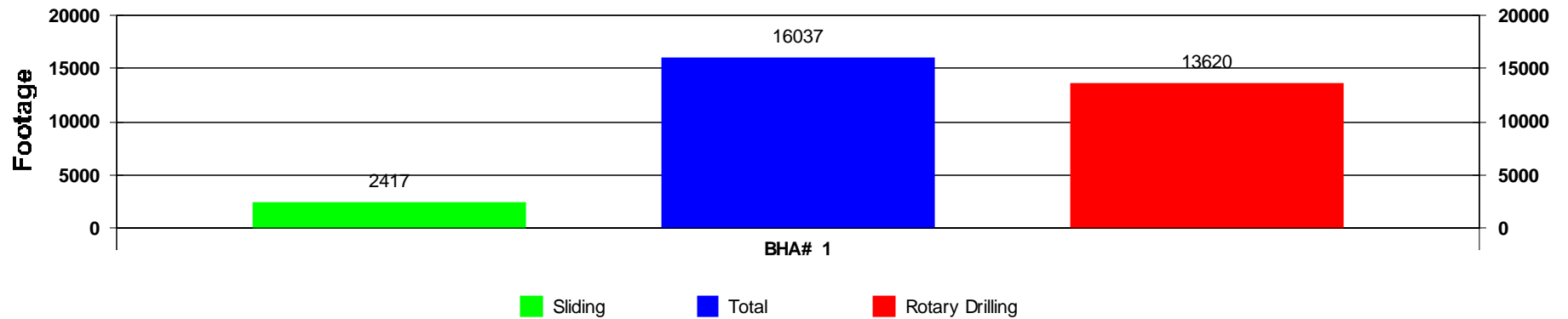
#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
1	21-Jul	Drilling	05:05	05:49	0.73	17401	17590	189	45	257.7	70	25000	700	5600		90.54	266.64	0.00	

Total Drilled:		16037	Avg. Total ROP:		342.18	DEPTH% - TIME %													
Total Rotary Drilled:		13620	Avg. Rotary ROP:		462.48	Percent Rotary:		84.93 - 62.84											
Total Drilled Sliding:		2417	Avg. Slide ROP:		138.78	Percent Slide:		15.07 - 37.16											

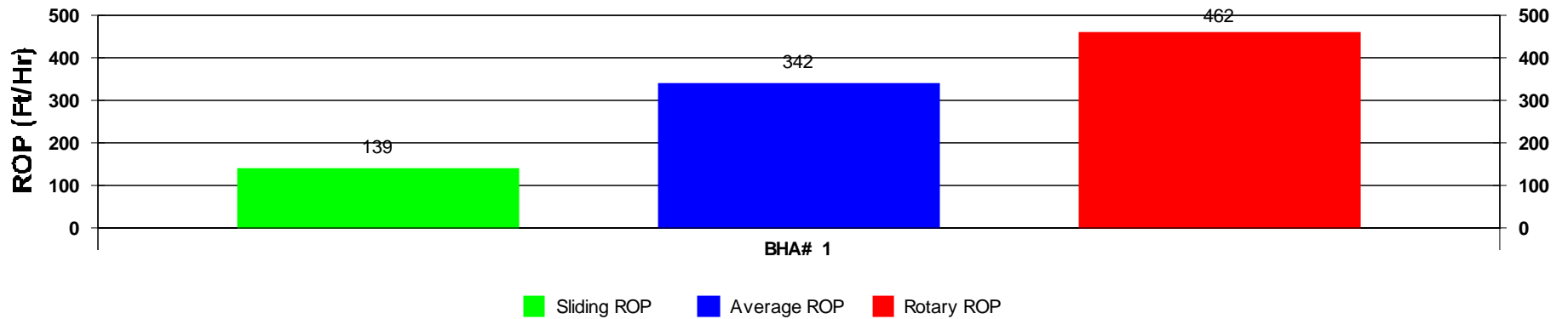


JOB NO.:	373332	FIELD:	Wattenburg	
Company:	Extraction Oil & Gas	Township:	6N	
LOCATION:	Breniman Pad	SECTRANGE:	16	67W
RIG NAME:	Patterson 346	COMMENT		
STATE:	Colorado			
COUNTY:	Weld			
WELL NAME:	Breniman 7			

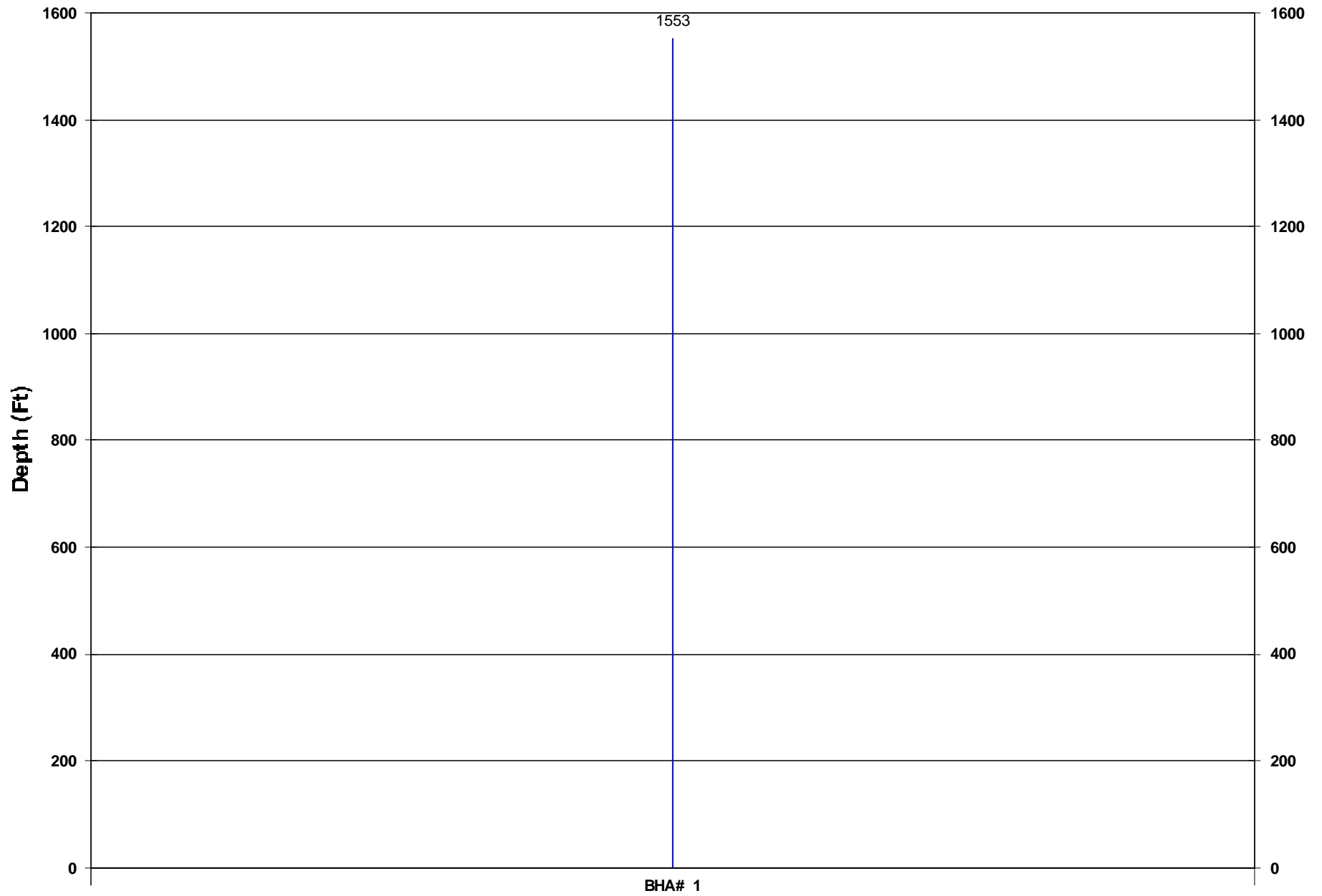
Footage Drilled with BHA



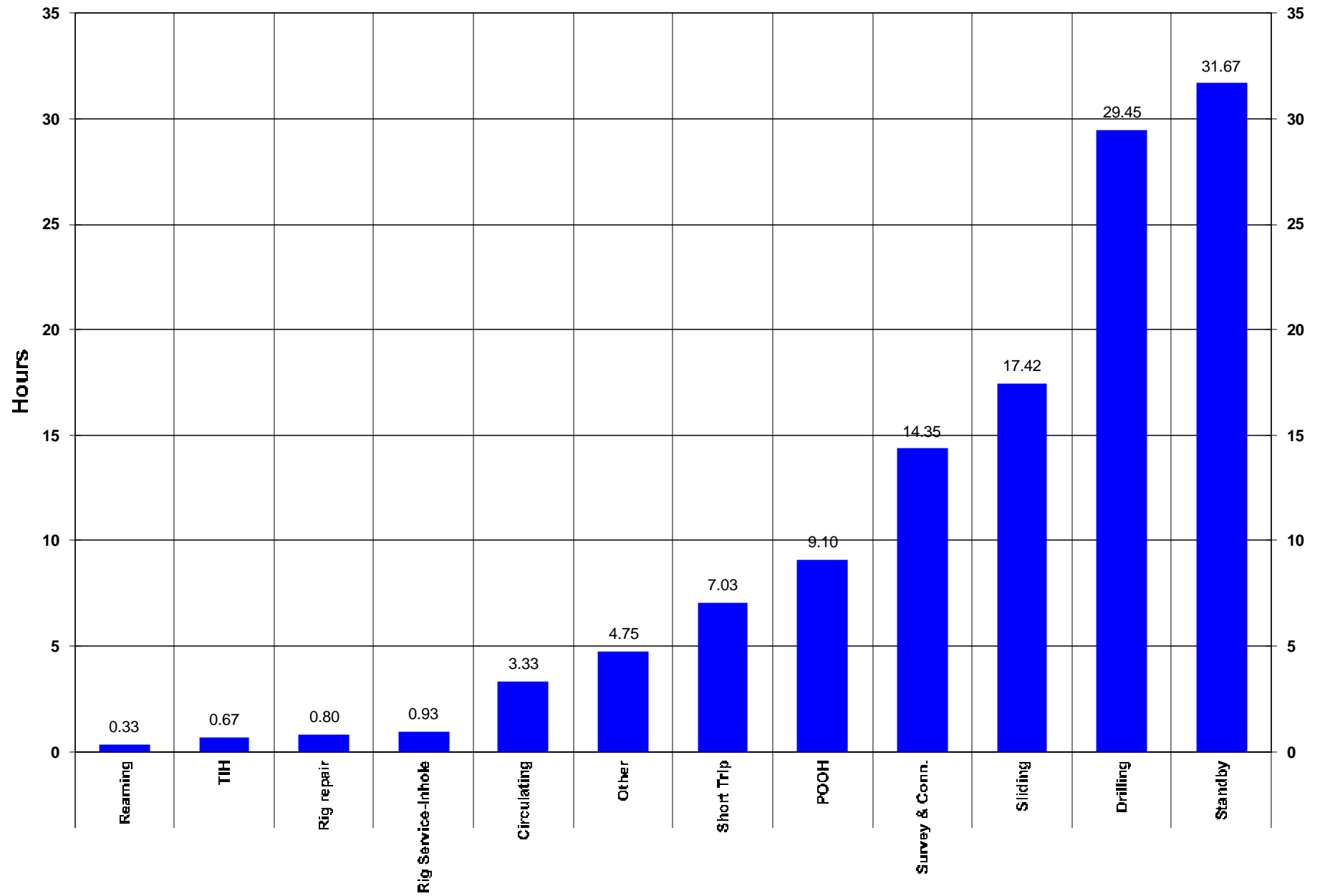
ROP vs BHA



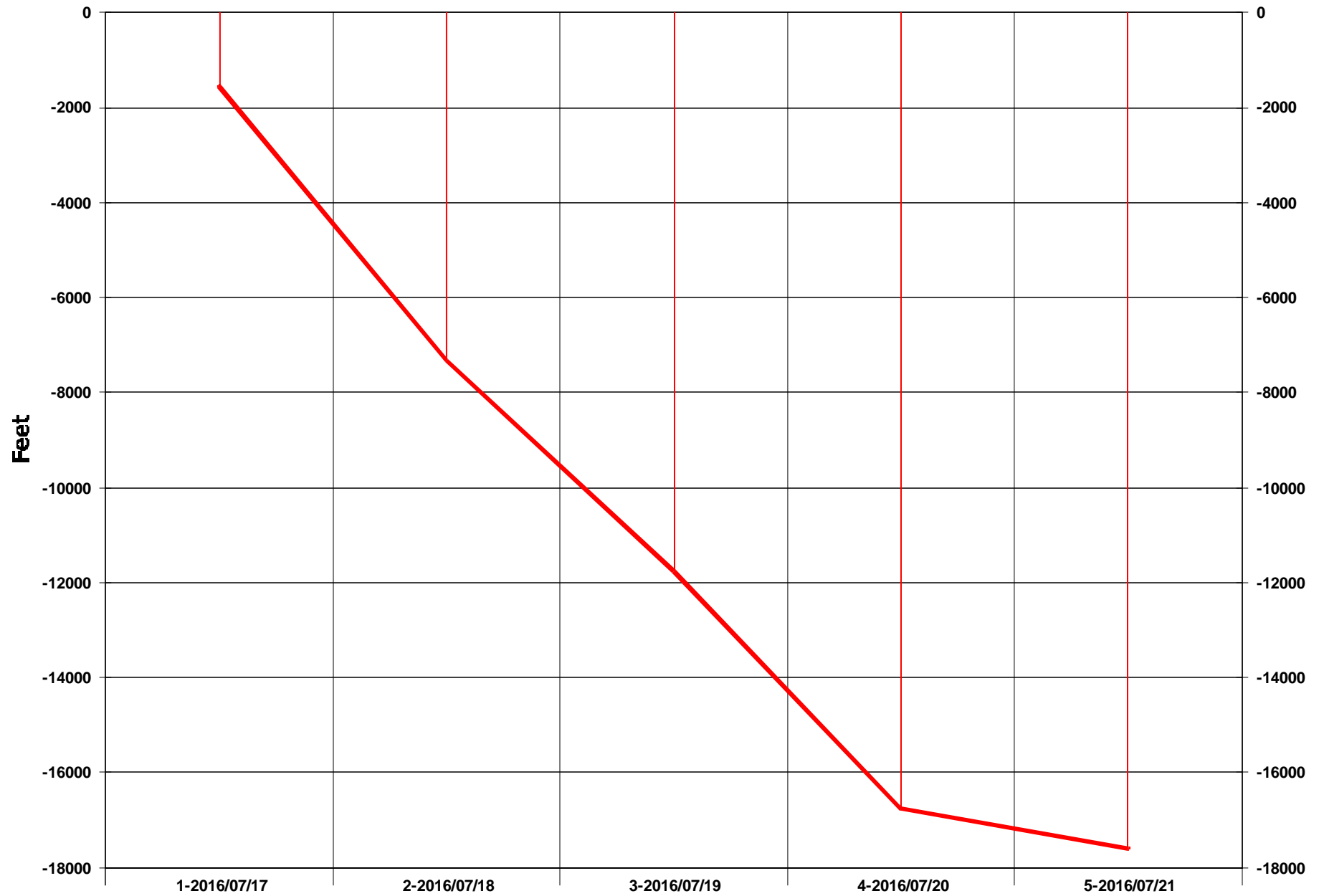
Depth vs BHA



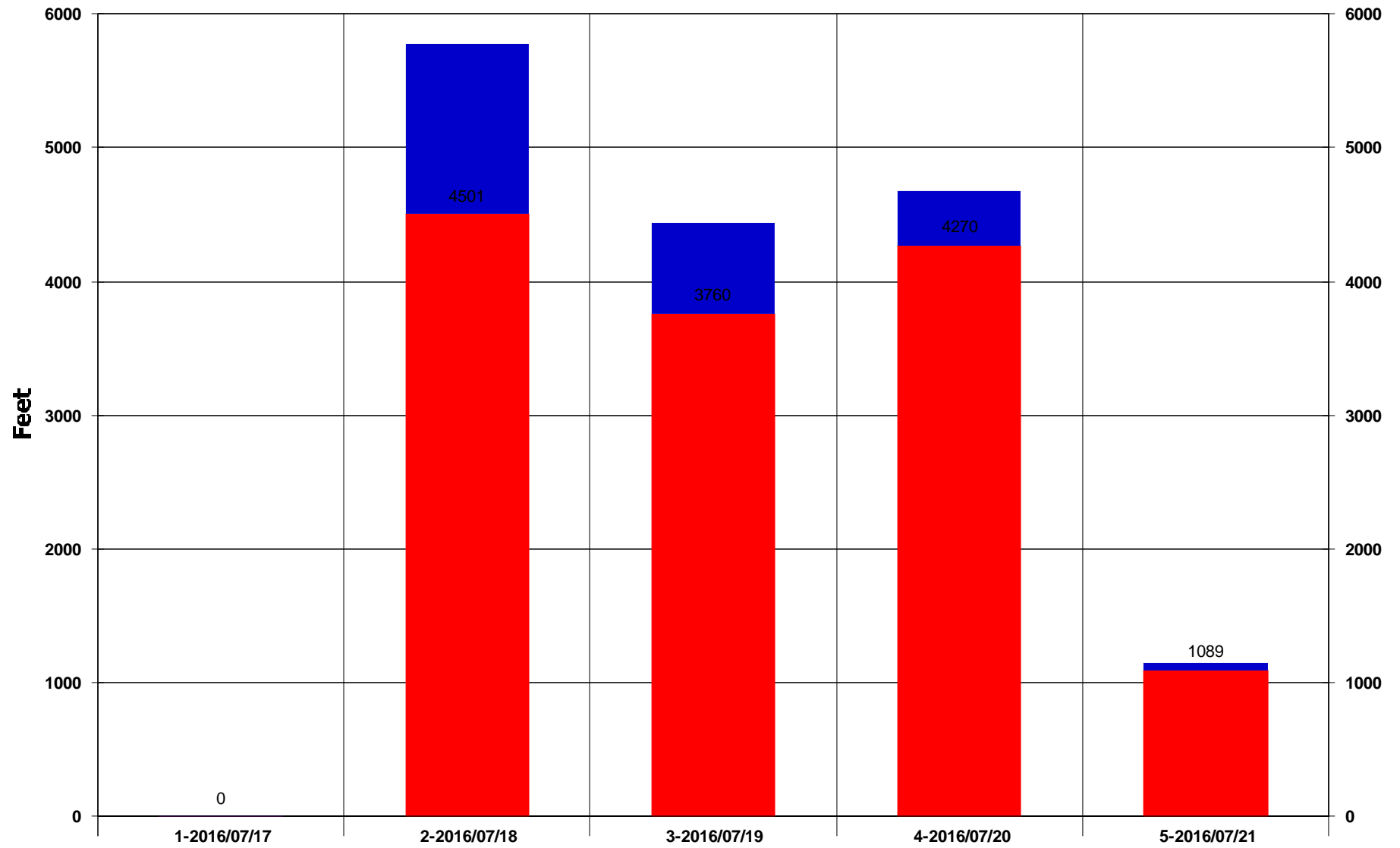
Activity Histogram



Measured Depth vs Days

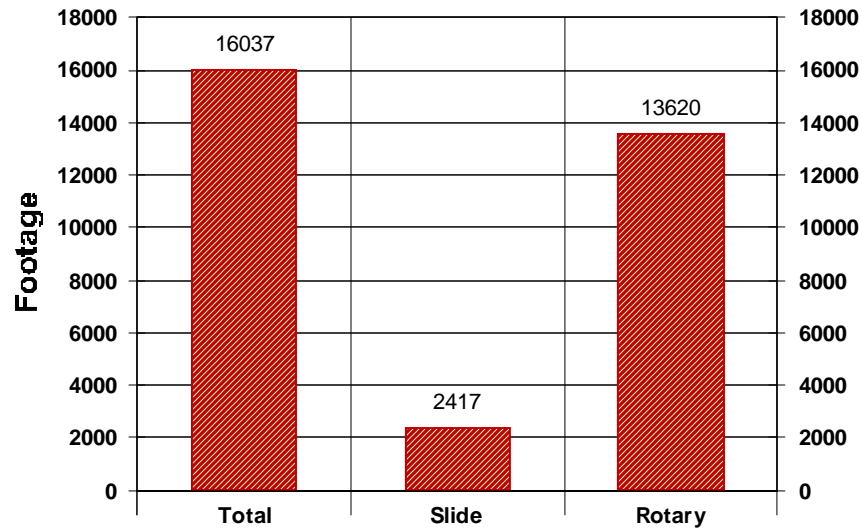


Daily Footage

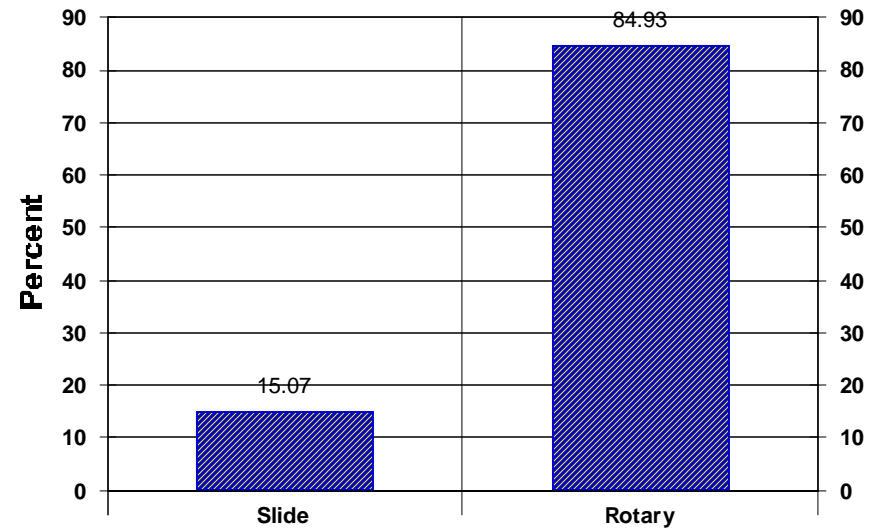


Rotary Drilling Sliding

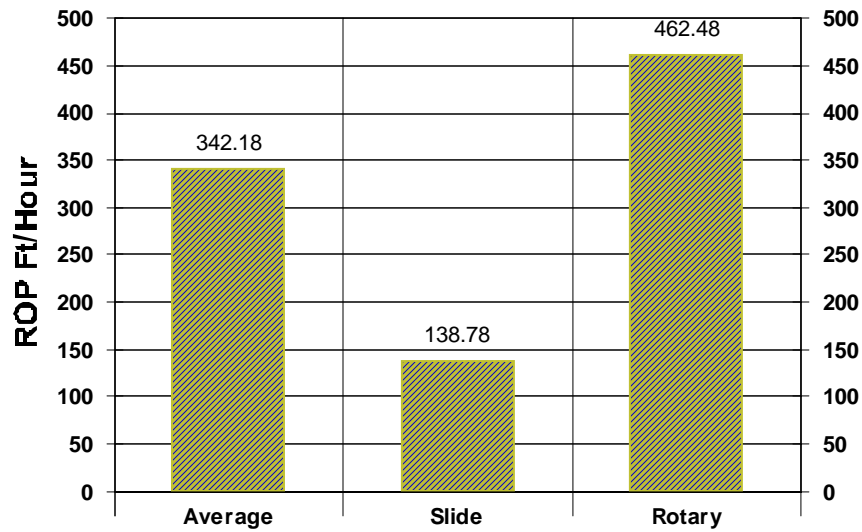
Footage Drilled Totals



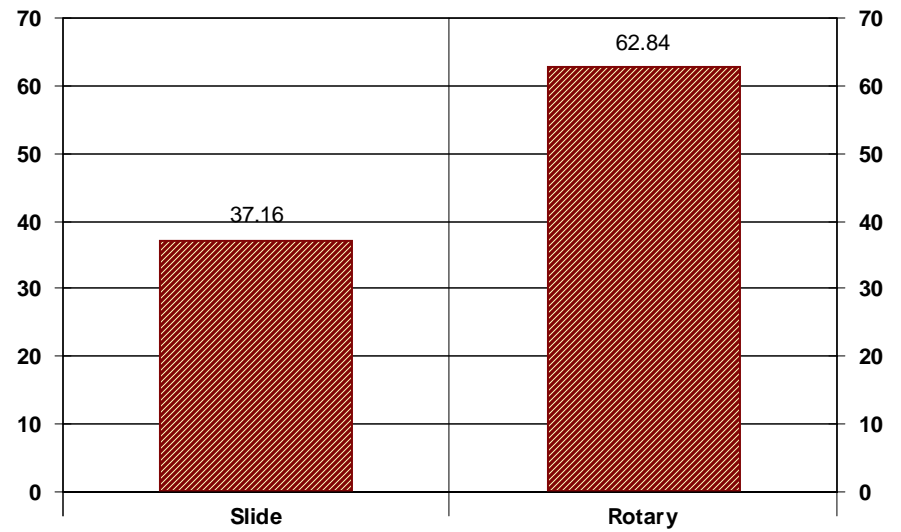
Footage Percent



Rate of Penetration Totals



Time Percent





SUPPORT STAFF

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