END OF WELL REPORT

Prepared For:

Extraction Oil & Gas
Winder South 2
Patterson 346
Weld County, CO

Prepared By:

Seth Burstad
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Scientific Drilling

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Scientific Drilling
Rocky Mountain Operations

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Project: Weld County, CO NAD 83
Site: Winder South Pad
Well: Winder South 2
Wellbore: OH
Design: OH

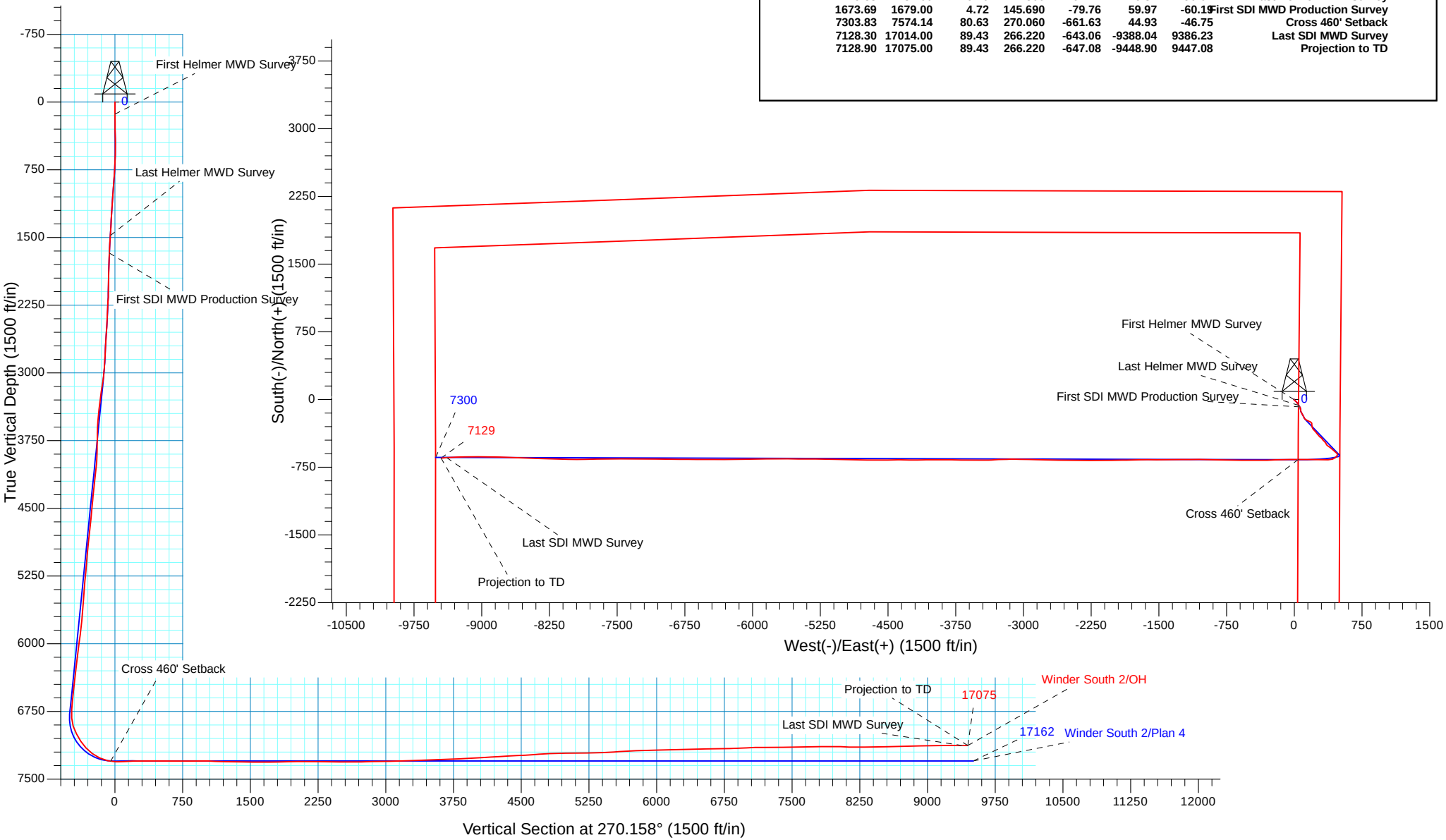
WELL DETAILS: Winder South 2			
GL 4854' & KB 25' @ 4879.00ft (Patterson 346)			4854.00
Northing	Easting	Latitude	Longitude
1426547.11	3169438.29	40° 30' 9.630 N	104° 53' 26.516 W

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 (Winder South 2/OH)	
Created By: Seth Burstad	Date: 8-29-2016

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Annotation
134.00	134.00	0.60	254.800	-0.18	-0.68	0.68	First Helmer MWD Survey
1479.58	1484.00	6.20	147.800	-64.22	49.84	-50.01	Last Helmer MWD Survey
1673.69	1679.00	4.72	145.690	-79.76	59.97	-60.19	First SDI MWD Production Survey
7303.83	7574.14	80.63	270.060	-661.63	44.93	-46.75	Cross 460' Setback
7128.30	17014.00	89.43	266.220	-643.06	-9388.04	9386.23	Last SDI MWD Survey
7128.90	17075.00	89.43	266.220	-647.08	-9448.90	9447.08	Projection to TD



Extraction Oil & Gas

Weld County, CO NAD 83
Winder South Pad
Winder South 2

OH

Design: OH

Standard Survey Report

29 August, 2016

Scientific Drilling

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Survey Report

Company:	Extraction Oil & Gas	**Local Co-ordinate Reference:**	Well Winder South 2
Project:	Weld County, CO NAD 83	**TVD Reference:**	GL 4854' & KB 25' @ 4879.00ft (Patterson 346)
Site:	Winder South Pad	**MD Reference:**	GL 4854' & KB 25' @ 4879.00ft (Patterson 346)
Well:	Winder South 2	**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 Winder South Pad, Site Center: Winder South 2

Site Position:		**Northing:**	1,426,547.14 usft	**Latitude:**	40° 30' 9.630 N
From:	Lat/Long	**Easting:**	3,169,438.29 usft	**Longitude:**	104° 53' 26.516 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.39 °

Well Winder South 2, 2306' FNL 508' FEL Sec 9 T6N R67W

Well Position	**+N/-S**	0.00 ft	**Northing:**	1,426,547.11 usft	**Latitude:**	40° 30' 9.630 N
	+E/-W	0.00 ft	**Easting:**	3,169,438.29 usft	**Longitude:**	104° 53' 26.516 W
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	0.00 ft	**Ground Level:**	4,854.00 ft

Wellbore OH

Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	BGGM2015	8/22/2016	8.52	66.99	52,521

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	270.158

Survey Program **Date** 8/29/2016

From (ft)	**To (ft)**	**Survey (Wellbore)**	**Tool Name**	**Description**
134.00	1,484.00	Survey #1 - Surface (OH)	MWD	MWD - Standard
1,679.00	17,075.00	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)**
1,484.00	6.20	147.800	1,479.58	-64.22	49.84	-50.01	0.14	-0.11	0.78
Last Helmer MWD Survey									
1,679.00	4.72	145.690	1,673.69	-79.76	59.97	-60.19	0.77	-0.76	-1.08
First SDI MWD Production Survey									
1,747.00	4.87	148.230	1,741.46	-84.52	63.07	-63.30	0.38	0.22	3.74
1,841.00	6.52	170.690	1,835.00	-93.18	66.03	-66.29	2.92	1.76	23.89
1,936.00	5.71	168.320	1,929.46	-103.13	67.86	-68.14	0.89	-0.85	-2.49
2,030.00	7.25	169.310	2,022.85	-113.54	69.91	-70.22	1.64	1.64	1.05
2,125.00	6.00	170.060	2,117.22	-124.32	71.88	-72.22	1.32	-1.32	0.79

Company:	Extraction Oil & Gas	**Local Co-ordinate Reference:**	Well Winder South 2
Project:	Weld County, CO NAD 83	**TVD Reference:**	GL 4854' & KB 25' @ 4879.00ft (Patterson 346)
Site:	Winder South Pad	**MD Reference:**	GL 4854' & KB 25' @ 4879.00ft (Patterson 346)
Well:	Winder South 2	**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)
2,219.00	7.01	160.200	2,210.62	-134.56	74.67	-75.04	1.60	1.07	-10.49
2,408.00	6.50	147.430	2,398.31	-154.43	84.33	-84.76	0.84	-0.27	-6.76
2,502.99	6.10	152.670	2,492.73	-163.44	89.55	-90.00	0.74	-0.42	5.52
2,596.99	8.23	149.740	2,585.99	-173.69	95.23	-95.71	2.30	2.27	-3.12
2,691.99	7.35	152.470	2,680.11	-184.95	101.46	-101.97	1.00	-0.93	2.87
2,880.99	5.65	155.540	2,867.89	-204.14	110.91	-111.47	0.92	-0.90	1.62
3,164.00	10.62	115.970	3,148.16	-228.28	140.16	-140.79	2.55	1.76	-13.98
3,353.00	6.92	116.900	3,334.92	-241.06	165.98	-166.64	1.96	-1.96	0.49
3,447.00	6.82	114.370	3,428.25	-245.92	176.11	-176.79	0.34	-0.11	-2.69
3,542.00	6.99	130.700	3,522.57	-252.02	185.63	-186.33	2.07	0.18	17.19
3,637.00	4.65	152.860	3,617.08	-259.22	191.77	-192.49	3.37	-2.46	23.33
3,732.00	6.60	176.670	3,711.63	-268.10	193.85	-194.59	3.16	2.05	25.06
3,827.00	9.45	176.270	3,805.69	-281.33	194.67	-195.45	3.00	3.00	-0.42
3,921.00	10.80	170.900	3,898.23	-297.73	196.57	-197.39	1.75	1.44	-5.71
4,016.00	9.86	155.990	3,991.70	-313.95	201.29	-202.15	2.97	-0.99	-15.69
4,111.00	9.91	145.700	4,085.30	-328.14	209.20	-210.11	1.86	0.05	-10.83
4,205.00	9.86	132.270	4,177.92	-340.24	219.72	-220.66	2.45	-0.05	-14.29
4,300.00	8.58	132.780	4,271.69	-350.52	230.94	-231.90	1.35	-1.35	0.54
4,394.00	8.18	145.020	4,364.69	-360.76	239.92	-240.91	1.94	-0.43	13.02
4,489.00	9.55	141.180	4,458.56	-372.44	248.74	-249.76	1.57	1.44	-4.04
4,583.00	7.48	137.950	4,551.51	-383.06	257.72	-258.78	2.26	-2.20	-3.44
4,677.00	8.51	144.230	4,644.60	-393.25	265.89	-266.97	1.44	1.10	6.68
4,772.00	8.93	137.220	4,738.51	-404.36	275.00	-276.12	1.20	0.44	-7.38
4,867.00	8.86	125.920	4,832.37	-414.07	285.94	-287.08	1.84	-0.07	-11.89
4,962.00	7.47	124.900	4,926.41	-421.89	296.93	-298.09	1.47	-1.46	-1.07
5,056.00	7.88	142.750	5,019.58	-430.52	305.84	-307.03	2.56	0.44	18.99
5,151.00	7.42	149.300	5,113.73	-440.98	312.91	-314.13	1.04	-0.48	6.89
5,246.00	7.98	133.630	5,207.89	-450.80	320.82	-322.06	2.28	0.59	-16.49
5,340.00	8.32	136.700	5,300.94	-460.26	330.21	-331.47	0.59	0.36	3.27
5,435.00	5.92	134.320	5,395.20	-468.68	338.43	-339.72	2.54	-2.53	-2.51
5,530.00	7.23	146.210	5,489.57	-477.07	345.26	-346.57	1.98	1.38	12.52
5,625.00	7.12	155.720	5,583.83	-487.41	351.00	-352.35	1.25	-0.12	10.01
5,744.00	8.81	139.540	5,701.70	-501.07	359.95	-361.33	2.35	1.42	-13.60
5,839.00	8.91	128.950	5,795.57	-511.23	370.39	-371.80	1.72	0.11	-11.15
5,934.00	8.28	124.030	5,889.50	-519.68	381.78	-383.22	1.02	-0.66	-5.18
6,028.00	8.47	124.980	5,982.50	-527.44	393.07	-394.52	0.25	0.20	1.01
6,123.00	9.40	129.340	6,076.35	-536.37	404.80	-406.28	1.21	0.98	4.59
6,217.00	10.13	132.320	6,168.99	-546.80	416.85	-418.35	0.94	0.78	3.17
6,312.00	7.27	130.520	6,262.88	-556.33	427.60	-429.13	3.02	-3.01	-1.89
6,406.00	9.03	130.860	6,355.93	-565.02	437.70	-439.25	1.87	1.87	0.36
6,501.00	7.39	128.130	6,449.95	-573.67	448.14	-449.72	1.77	-1.73	-2.87
6,595.00	9.04	131.750	6,542.99	-582.32	458.41	-460.01	1.84	1.76	3.85
6,690.00	7.35	135.040	6,637.01	-591.59	468.27	-469.90	1.85	-1.78	3.46

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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)
6,785.00	6.15	140.750	6,731.35	-599.83	475.79	-477.44	1.45	-1.26	6.01
6,879.00	15.07	194.940	6,823.83	-615.60	475.82	-477.52	13.28	9.49	57.65
6,974.00	23.02	227.370	6,913.80	-640.22	458.90	-460.66	13.64	8.37	34.14
7,068.00	28.37	253.510	6,998.75	-659.08	423.82	-425.64	13.20	5.69	27.81
7,163.00	33.19	268.000	7,080.45	-666.41	376.10	-377.94	9.28	5.07	15.25
7,257.00	42.93	271.460	7,154.39	-666.49	318.24	-320.08	10.60	10.36	3.68
7,352.00	53.67	270.830	7,217.49	-665.11	247.43	-249.26	11.32	11.31	-0.66
7,446.00	64.93	271.220	7,265.40	-663.65	166.75	-168.58	11.98	11.98	0.41
7,541.00	76.00	271.000	7,297.12	-661.92	77.37	-79.20	11.65	11.65	-0.23
7,574.14	80.63	270.060	7,303.83	-661.63	44.93	-46.75	14.24	13.96	-2.84
Cross 460' Setback									
7,635.00	89.13	268.390	7,309.26	-662.45	-15.63	13.80	14.24	13.97	-2.74
7,667.00	92.59	269.070	7,308.78	-663.16	-47.61	45.78	11.02	10.81	2.13
7,730.00	94.11	268.520	7,305.10	-664.48	-110.49	108.65	2.57	2.41	-0.87
7,825.00	91.31	267.110	7,300.61	-668.10	-205.30	203.46	3.30	-2.95	-1.48
7,919.00	90.34	268.620	7,299.25	-671.60	-299.22	297.37	1.91	-1.03	1.61
8,014.00	89.60	271.160	7,299.30	-671.79	-394.21	392.36	2.78	-0.78	2.67
8,108.00	89.06	269.850	7,300.40	-670.96	-488.20	486.35	1.51	-0.57	-1.39
8,203.00	89.43	270.500	7,301.65	-670.67	-583.19	581.34	0.79	0.39	0.68
8,298.00	90.57	270.740	7,301.65	-669.64	-678.18	676.33	1.23	1.20	0.25
8,392.00	90.64	270.310	7,300.66	-668.78	-772.17	770.33	0.46	0.07	-0.46
8,487.00	90.50	271.590	7,299.72	-667.20	-867.15	865.31	1.36	-0.15	1.35
8,581.00	90.27	272.130	7,299.09	-664.15	-961.10	959.27	0.62	-0.24	0.57
8,675.00	87.74	269.860	7,300.72	-662.52	-1,055.06	1,053.23	3.62	-2.69	-2.41
8,770.00	87.07	269.330	7,305.02	-663.19	-1,149.96	1,148.12	0.90	-0.71	-0.56
8,864.00	88.93	269.170	7,308.30	-664.42	-1,243.89	1,242.05	1.99	1.98	-0.17
8,959.00	90.13	270.290	7,309.08	-664.87	-1,338.88	1,337.04	1.73	1.26	1.18
9,053.00	88.49	268.700	7,310.21	-665.69	-1,432.86	1,431.02	2.43	-1.74	-1.69
9,148.00	89.97	270.760	7,311.49	-666.14	-1,527.85	1,526.00	2.67	1.56	2.17
9,242.00	90.20	269.960	7,311.35	-665.55	-1,621.84	1,620.00	0.89	0.24	-0.85
9,337.00	90.07	269.020	7,311.12	-666.40	-1,716.84	1,714.99	1.00	-0.14	-0.99
9,431.00	90.74	268.350	7,310.46	-668.55	-1,810.81	1,808.96	1.01	0.71	-0.71
9,526.00	91.62	269.810	7,308.50	-670.08	-1,905.78	1,903.92	1.79	0.93	1.54
9,620.00	90.40	268.700	7,306.85	-671.30	-1,999.75	1,997.89	1.75	-1.30	-1.18
9,715.00	90.20	270.370	7,306.35	-672.07	-2,094.74	2,092.88	1.77	-0.21	1.76
9,809.00	89.80	268.590	7,306.35	-672.93	-2,188.73	2,186.87	1.94	-0.43	-1.89
9,904.00	89.03	270.540	7,307.32	-673.65	-2,283.72	2,281.85	2.21	-0.81	2.05
9,998.00	89.06	270.640	7,308.89	-672.68	-2,377.70	2,375.84	0.11	0.03	0.11
10,093.00	88.96	269.640	7,310.53	-672.45	-2,472.69	2,470.82	1.06	-0.11	-1.05
10,188.00	90.54	271.900	7,310.94	-671.17	-2,567.67	2,565.81	2.90	1.66	2.38
10,282.00	90.70	271.130	7,309.92	-668.69	-2,661.63	2,659.77	0.84	0.17	-0.82
10,376.00	91.08	271.100	7,308.46	-666.86	-2,755.60	2,753.75	0.41	0.40	-0.03
10,471.00	92.18	270.830	7,305.76	-665.26	-2,850.55	2,848.70	1.19	1.16	-0.28
10,565.00	90.40	272.290	7,303.65	-662.70	-2,944.48	2,942.64	2.45	-1.89	1.55

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Well:	Winder South 2	**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)
10,660.00	90.54	270.850	7,302.87	-660.10	-3,039.44	3,037.61	1.52	0.15	-1.52
10,754.00	93.30	269.430	7,299.72	-659.87	-3,133.38	3,131.54	3.30	2.94	-1.51
10,849.00	91.04	267.980	7,296.12	-662.01	-3,228.27	3,226.44	2.83	-2.38	-1.53
10,943.00	91.24	266.810	7,294.25	-666.28	-3,322.16	3,320.31	1.26	0.21	-1.24
11,038.00	91.85	268.780	7,291.69	-669.94	-3,417.05	3,415.19	2.17	0.64	2.07
11,132.00	92.02	270.850	7,288.51	-670.24	-3,510.99	3,509.13	2.21	0.18	2.20
11,226.00	92.60	270.110	7,284.73	-669.45	-3,604.91	3,603.05	1.00	0.62	-0.79
11,321.00	92.52	271.450	7,280.48	-668.16	-3,699.80	3,697.94	1.41	-0.08	1.41
11,416.00	93.16	270.740	7,275.78	-666.35	-3,794.67	3,792.81	1.01	0.67	-0.75
11,510.00	92.01	269.560	7,271.54	-666.10	-3,888.57	3,886.72	1.75	-1.22	-1.26
11,605.00	92.82	270.030	7,267.53	-666.44	-3,983.48	3,981.63	0.99	0.85	0.49
11,699.00	93.42	269.320	7,262.42	-666.97	-4,077.34	4,075.48	0.99	0.64	-0.76
11,793.00	94.07	269.440	7,256.28	-667.99	-4,171.13	4,169.27	0.70	0.69	0.13
11,887.00	94.04	271.130	7,249.63	-667.52	-4,264.89	4,263.04	1.79	-0.03	1.80
11,982.00	93.34	270.150	7,243.51	-666.46	-4,359.69	4,357.83	1.27	-0.74	-1.03
12,077.00	91.41	268.210	7,239.58	-667.82	-4,454.59	4,452.73	2.88	-2.03	-2.04
12,171.00	93.59	269.800	7,235.48	-669.46	-4,548.47	4,546.61	2.87	2.32	1.69
12,265.00	94.64	271.160	7,228.73	-668.67	-4,642.23	4,640.36	1.82	1.12	1.45
12,360.00	93.52	270.220	7,221.97	-667.53	-4,736.98	4,735.12	1.54	-1.18	-0.99
12,454.00	93.12	270.500	7,216.53	-666.94	-4,830.82	4,828.96	0.52	-0.43	0.30
12,549.00	91.18	271.460	7,212.97	-665.32	-4,925.73	4,923.88	2.28	-2.04	1.01
12,643.00	89.90	271.280	7,212.08	-663.07	-5,019.70	5,017.85	1.38	-1.36	-0.19
12,738.00	90.13	271.180	7,212.05	-661.03	-5,114.67	5,112.83	0.26	0.24	-0.11
12,832.00	90.87	270.840	7,211.23	-659.37	-5,208.66	5,206.82	0.87	0.79	-0.36
12,927.00	91.58	270.470	7,209.20	-658.29	-5,303.63	5,301.79	0.84	0.75	-0.39
13,021.00	91.78	269.750	7,206.45	-658.11	-5,397.59	5,395.75	0.79	0.21	-0.77
13,116.00	93.94	270.690	7,201.71	-657.74	-5,492.46	5,490.62	2.48	2.27	0.99
13,210.00	93.39	270.590	7,195.70	-656.70	-5,586.26	5,584.43	0.59	-0.59	-0.11
13,305.00	92.91	269.960	7,190.48	-656.24	-5,681.12	5,679.28	0.83	-0.51	-0.66
13,399.00	93.32	270.190	7,185.37	-656.12	-5,774.98	5,773.15	0.50	0.44	0.24
13,493.00	90.50	269.080	7,182.24	-656.72	-5,868.91	5,867.08	3.22	-3.00	-1.18
13,588.00	90.94	269.220	7,181.04	-658.13	-5,963.89	5,962.06	0.49	0.46	0.15
13,682.00	91.71	268.700	7,178.87	-659.83	-6,057.85	6,056.01	0.99	0.82	-0.55
13,776.00	91.91	268.490	7,175.90	-662.13	-6,151.78	6,149.93	0.31	0.21	-0.22
13,870.00	91.74	270.590	7,172.91	-662.89	-6,245.72	6,243.87	2.24	-0.18	2.23
13,965.00	91.71	270.560	7,170.05	-661.94	-6,340.67	6,338.82	0.04	-0.03	-0.03
14,059.00	90.87	269.820	7,167.93	-661.62	-6,434.65	6,432.80	1.19	-0.89	-0.79
14,153.00	90.50	269.250	7,166.81	-662.39	-6,528.64	6,526.78	0.72	-0.39	-0.61
14,248.00	90.77	270.814	7,165.75	-662.33	-6,623.63	6,621.78	1.67	0.28	1.65
14,342.00	90.91	270.250	7,164.38	-661.46	-6,717.61	6,715.76	0.62	0.15	-0.60
14,436.00	91.45	269.950	7,162.44	-661.30	-6,811.59	6,809.74	0.66	0.57	-0.32
14,531.00	92.61	270.890	7,159.08	-660.60	-6,906.53	6,904.68	1.57	1.22	0.99
14,626.00	93.75	270.680	7,153.81	-659.30	-7,001.37	6,999.53	1.22	1.20	-0.22

Company:	Extraction Oil & Gas	**Local Co-ordinate Reference:**	Well Winder South 2
Project:	Weld County, CO NAD 83	**TVD Reference:**	GL 4854' & KB 25' @ 4879.00ft (Patterson 346)
Site:	Winder South Pad	**MD Reference:**	GL 4854' & KB 25' @ 4879.00ft (Patterson 346)
Well:	Winder South 2	**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)
14,720.00	91.07	271.360	7,149.85	-657.63	-7,095.26	7,093.42	2.94	-2.85	0.72
14,815.00	89.63	270.070	7,149.27	-656.44	-7,190.25	7,188.41	2.04	-1.52	-1.36
14,909.00	89.60	268.730	7,149.90	-657.43	-7,284.24	7,282.40	1.43	-0.03	-1.43
15,004.00	90.91	270.950	7,149.48	-657.69	-7,379.23	7,377.39	2.71	1.38	2.34
15,098.00	91.54	270.580	7,147.47	-656.44	-7,473.20	7,471.36	0.78	0.67	-0.39
15,193.00	92.14	269.380	7,144.42	-656.47	-7,568.15	7,566.31	1.41	0.63	-1.26
15,288.00	90.40	269.690	7,142.32	-657.24	-7,663.12	7,661.28	1.86	-1.83	0.33
15,383.00	90.10	268.120	7,141.90	-659.06	-7,758.10	7,756.25	1.68	-0.32	-1.65
15,477.00	89.83	269.470	7,141.96	-661.04	-7,852.07	7,850.22	1.46	-0.29	1.44
15,571.00	91.31	269.850	7,141.02	-661.59	-7,946.07	7,944.21	1.63	1.57	0.40
15,666.00	88.22	270.390	7,141.41	-661.39	-8,041.05	8,039.20	3.30	-3.25	0.57
15,760.00	87.96	271.370	7,144.55	-659.95	-8,134.99	8,133.14	1.08	-0.28	1.04
15,855.00	89.46	272.000	7,146.69	-657.16	-8,229.92	8,228.08	1.71	1.58	0.66
15,949.00	90.81	272.430	7,146.46	-653.53	-8,323.85	8,322.01	1.51	1.44	0.46
16,044.00	92.08	272.480	7,144.07	-649.46	-8,418.73	8,416.90	1.34	1.34	0.05
16,139.00	90.70	272.660	7,141.76	-645.20	-8,513.60	8,511.79	1.46	-1.45	0.19
16,233.00	91.44	272.810	7,140.01	-640.72	-8,607.48	8,605.68	0.80	0.79	0.16
16,328.00	91.21	270.700	7,137.81	-637.81	-8,702.40	8,700.61	2.23	-0.24	-2.22
16,422.00	92.35	270.640	7,134.89	-636.71	-8,796.35	8,794.56	1.21	1.21	-0.06
16,517.00	90.44	270.950	7,132.58	-635.39	-8,891.31	8,889.52	2.04	-2.01	0.33
16,612.00	91.07	270.570	7,131.33	-634.13	-8,986.29	8,984.51	0.77	0.66	-0.40
16,706.00	90.94	270.000	7,129.68	-633.66	-9,080.27	9,078.49	0.62	-0.14	-0.61
16,801.00	90.84	269.400	7,128.20	-634.16	-9,175.26	9,173.48	0.64	-0.11	-0.63
16,896.00	90.03	267.680	7,127.48	-636.58	-9,270.22	9,268.43	2.00	-0.85	-1.81
16,990.00	89.30	266.320	7,128.03	-641.50	-9,364.09	9,362.29	1.64	-0.78	-1.45
17,014.00	89.43	266.220	7,128.30	-643.06	-9,388.04	9,386.23	0.68	0.54	-0.42
Last SDI MWD Survey									
17,075.00	89.43	266.220	7,128.90	-647.08	-9,448.90	9,447.08	0.00	0.00	0.00
Projection to TD									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
134.00	134.00	-0.18	-0.68	First Helmer MWD Survey
1,484.00	1,479.58	-64.22	49.84	Last Helmer MWD Survey
1,679.00	1,673.69	-79.76	59.97	First SDI MWD Production Survey
7,574.14	7,303.83	-661.63	44.93	Cross 460' Setback
17,014.00	7,128.30	-643.06	-9,388.04	Last SDI MWD Survey
17,075.00	7,128.90	-647.08	-9,448.90	Projection to TD

Checked By: _____ Approved By: _____ Date: _____

Extraction Oil & Gas

Weld County, CO NAD 83
Winder South Pad
Winder South 2

OH

Design: OH

Standard Survey Report

29 August, 2016

Scientific Drilling

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Survey Report

Company:	Extraction Oil & Gas	**Local Co-ordinate Reference:**	Well Winder South 2
Project:	Weld County, CO NAD 83	**TVD Reference:**	GL 4854' & KB 25' @ 4879.00ft (Patterson 346)
Site:	Winder South Pad	**MD Reference:**	GL 4854' & KB 25' @ 4879.00ft (Patterson 346)
Well:	Winder South 2	**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 Winder South Pad, Site Center: Winder South 2

Site Position:		**Northing:**	1,426,547.14 usft	**Latitude:**	40° 30' 9.630 N
From:	Lat/Long	**Easting:**	3,169,438.29 usft	**Longitude:**	104° 53' 26.516 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.39 °

Well Winder South 2, 2306' FNL 508' FEL Sec 9 T6N R67W

Well Position	**+N/-S**	0.00 ft	**Northing:**	1,426,547.11 usft	**Latitude:**	40° 30' 9.630 N
	+E/-W	0.00 ft	**Easting:**	3,169,438.29 usft	**Longitude:**	104° 53' 26.516 W
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	0.00 ft	**Ground Level:**	4,854.00 ft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2015	8/22/2016	8.52	66.99	52,521

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	270.158

Survey Program **Date** 8/29/2016

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
134.00	1,484.00	Survey #1 - Surface (OH)	MWD	MWD - Standard
1,679.00	17,075.00	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
134.00	0.60	254.800	134.00	-0.18	-0.68	0.68	0.45	0.45	0.00
First Helmer MWD Survey									
224.00	0.80	310.800	223.99	0.10	-1.61	1.61	0.76	0.22	62.22
314.00	1.20	291.800	313.98	0.86	-2.96	2.96	0.57	0.44	-21.11
404.00	1.10	309.700	403.96	1.77	-4.50	4.50	0.41	-0.11	19.89
494.00	0.20	231.400	493.95	2.22	-5.29	5.29	1.20	-1.00	-87.00
584.00	1.20	139.100	583.95	1.41	-4.79	4.79	1.36	1.11	-102.56
674.00	3.10	134.900	673.88	-1.02	-2.45	2.45	2.12	2.11	-4.67
764.00	5.10	131.700	763.65	-5.40	2.26	-2.28	2.24	2.22	-3.56

Company:	Extraction Oil & Gas	**Local Co-ordinate Reference:**	Well Winder South 2
Project:	Weld County, CO NAD 83	**TVD Reference:**	GL 4854' & KB 25' @ 4879.00ft (Patterson 346)
Site:	Winder South Pad	**MD Reference:**	GL 4854' & KB 25' @ 4879.00ft (Patterson 346)
Well:	Winder South 2	**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)
854.00	5.50	129.900	853.26	-10.83	8.56	-8.59	0.48	0.44	-2.00
944.00	5.80	131.900	942.82	-16.63	15.25	-15.30	0.40	0.33	2.22
1,034.00	6.70	143.700	1,032.29	-23.90	21.74	-21.81	1.74	1.00	13.11
1,124.00	6.60	137.400	1,121.69	-31.94	28.35	-28.44	0.82	-0.11	-7.00
1,214.00	5.90	144.600	1,211.15	-39.52	34.53	-34.64	1.17	-0.78	8.00
1,304.00	6.20	151.300	1,300.65	-47.55	39.55	-39.68	0.85	0.33	7.44
1,394.00	6.30	147.100	1,390.12	-55.96	44.56	-44.72	0.52	0.11	-4.67
1,484.00	6.20	147.800	1,479.58	-64.22	49.84	-50.01	0.14	-0.11	0.78
Last Helmer MWD Survey									
1,679.00	4.72	145.690	1,673.69	-79.76	59.97	-60.19	0.77	-0.76	-1.08
First SDI MWD Production Survey									
1,747.00	4.87	148.230	1,741.46	-84.52	63.07	-63.30	0.38	0.22	3.74
1,841.00	6.52	170.690	1,835.00	-93.18	66.03	-66.29	2.92	1.76	23.89
1,936.00	5.71	168.320	1,929.46	-103.13	67.86	-68.14	0.89	-0.85	-2.49
2,030.00	7.25	169.310	2,022.85	-113.54	69.91	-70.22	1.64	1.64	1.05
2,125.00	6.00	170.060	2,117.22	-124.32	71.88	-72.22	1.32	-1.32	0.79
2,219.00	7.01	160.200	2,210.62	-134.56	74.67	-75.04	1.60	1.07	-10.49
2,408.00	6.50	147.430	2,398.31	-154.43	84.33	-84.76	0.84	-0.27	-6.76
2,502.99	6.10	152.670	2,492.73	-163.44	89.55	-90.00	0.74	-0.42	5.52
2,596.99	8.23	149.740	2,585.99	-173.69	95.23	-95.71	2.30	2.27	-3.12
2,691.99	7.35	152.470	2,680.11	-184.95	101.46	-101.97	1.00	-0.93	2.87
2,880.99	5.65	155.540	2,867.89	-204.14	110.91	-111.47	0.92	-0.90	1.62
3,164.00	10.62	115.970	3,148.16	-228.28	140.16	-140.79	2.55	1.76	-13.98
3,353.00	6.92	116.900	3,334.92	-241.06	165.98	-166.64	1.96	-1.96	0.49
3,447.00	6.82	114.370	3,428.25	-245.92	176.11	-176.79	0.34	-0.11	-2.69
3,542.00	6.99	130.700	3,522.57	-252.02	185.63	-186.33	2.07	0.18	17.19
3,637.00	4.65	152.860	3,617.08	-259.22	191.77	-192.49	3.37	-2.46	23.33
3,732.00	6.60	176.670	3,711.63	-268.10	193.85	-194.59	3.16	2.05	25.06
3,827.00	9.45	176.270	3,805.69	-281.33	194.67	-195.45	3.00	3.00	-0.42
3,921.00	10.80	170.900	3,898.23	-297.73	196.57	-197.39	1.75	1.44	-5.71
4,016.00	9.86	155.990	3,991.70	-313.95	201.29	-202.15	2.97	-0.99	-15.69
4,111.00	9.91	145.700	4,085.30	-328.14	209.20	-210.11	1.86	0.05	-10.83
4,205.00	9.86	132.270	4,177.92	-340.24	219.72	-220.66	2.45	-0.05	-14.29
4,300.00	8.58	132.780	4,271.69	-350.52	230.94	-231.90	1.35	-1.35	0.54
4,394.00	8.18	145.020	4,364.69	-360.76	239.92	-240.91	1.94	-0.43	13.02
4,489.00	9.55	141.180	4,458.56	-372.44	248.74	-249.76	1.57	1.44	-4.04
4,583.00	7.48	137.950	4,551.51	-383.06	257.72	-258.78	2.26	-2.20	-3.44
4,677.00	8.51	144.230	4,644.60	-393.25	265.89	-266.97	1.44	1.10	6.68
4,772.00	8.93	137.220	4,738.51	-404.36	275.00	-276.12	1.20	0.44	-7.38
4,867.00	8.86	125.920	4,832.37	-414.07	285.94	-287.08	1.84	-0.07	-11.89
4,962.00	7.47	124.900	4,926.41	-421.89	296.93	-298.09	1.47	-1.46	-1.07
5,056.00	7.88	142.750	5,019.58	-430.52	305.84	-307.03	2.56	0.44	18.99
5,151.00	7.42	149.300	5,113.73	-440.98	312.91	-314.13	1.04	-0.48	6.89

Company:	Extraction Oil & Gas	**Local Co-ordinate Reference:**	Well Winder South 2
Project:	Weld County, CO NAD 83	**TVD Reference:**	GL 4854' & KB 25' @ 4879.00ft (Patterson 346)
Site:	Winder South Pad	**MD Reference:**	GL 4854' & KB 25' @ 4879.00ft (Patterson 346)
Well:	Winder South 2	**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)
5,246.00	7.98	133.630	5,207.89	-450.80	320.82	-322.06	2.28	0.59	-16.49
5,340.00	8.32	136.700	5,300.94	-460.26	330.21	-331.47	0.59	0.36	3.27
5,435.00	5.92	134.320	5,395.20	-468.68	338.43	-339.72	2.54	-2.53	-2.51
5,530.00	7.23	146.210	5,489.57	-477.07	345.26	-346.57	1.98	1.38	12.52
5,625.00	7.12	155.720	5,583.83	-487.41	351.00	-352.35	1.25	-0.12	10.01
5,744.00	8.81	139.540	5,701.70	-501.07	359.95	-361.33	2.35	1.42	-13.60
5,839.00	8.91	128.950	5,795.57	-511.23	370.39	-371.80	1.72	0.11	-11.15
5,934.00	8.28	124.030	5,889.50	-519.68	381.78	-383.22	1.02	-0.66	-5.18
6,028.00	8.47	124.980	5,982.50	-527.44	393.07	-394.52	0.25	0.20	1.01
6,123.00	9.40	129.340	6,076.35	-536.37	404.80	-406.28	1.21	0.98	4.59
6,217.00	10.13	132.320	6,168.99	-546.80	416.85	-418.35	0.94	0.78	3.17
6,312.00	7.27	130.520	6,262.88	-556.33	427.60	-429.13	3.02	-3.01	-1.89
6,406.00	9.03	130.860	6,355.93	-565.02	437.70	-439.25	1.87	1.87	0.36
6,501.00	7.39	128.130	6,449.95	-573.67	448.14	-449.72	1.77	-1.73	-2.87
6,595.00	9.04	131.750	6,542.99	-582.32	458.41	-460.01	1.84	1.76	3.85
6,690.00	7.35	135.040	6,637.01	-591.59	468.27	-469.90	1.85	-1.78	3.46
6,785.00	6.15	140.750	6,731.35	-599.83	475.79	-477.44	1.45	-1.26	6.01
6,879.00	15.07	194.940	6,823.83	-615.60	475.82	-477.52	13.28	9.49	57.65
6,974.00	23.02	227.370	6,913.80	-640.22	458.90	-460.66	13.64	8.37	34.14
7,068.00	28.37	253.510	6,998.75	-659.08	423.82	-425.64	13.20	5.69	27.81
7,163.00	33.19	268.000	7,080.45	-666.41	376.10	-377.94	9.28	5.07	15.25
7,257.00	42.93	271.460	7,154.39	-666.49	318.24	-320.08	10.60	10.36	3.68
7,352.00	53.67	270.830	7,217.49	-665.11	247.43	-249.26	11.32	11.31	-0.66
7,446.00	64.93	271.220	7,265.40	-663.65	166.75	-168.58	11.98	11.98	0.41
7,541.00	76.00	271.000	7,297.12	-661.92	77.37	-79.20	11.65	11.65	-0.23
7,574.14	80.63	270.060	7,303.83	-661.63	44.93	-46.75	14.24	13.96	-2.84
Cross 460' Setback									
7,635.00	89.13	268.390	7,309.26	-662.45	-15.63	13.80	14.24	13.97	-2.74
7,667.00	92.59	269.070	7,308.78	-663.16	-47.61	45.78	11.02	10.81	2.13
7,730.00	94.11	268.520	7,305.10	-664.48	-110.49	108.65	2.57	2.41	-0.87
7,825.00	91.31	267.110	7,300.61	-668.10	-205.30	203.46	3.30	-2.95	-1.48
7,919.00	90.34	268.620	7,299.25	-671.60	-299.22	297.37	1.91	-1.03	1.61
8,014.00	89.60	271.160	7,299.30	-671.79	-394.21	392.36	2.78	-0.78	2.67
8,108.00	89.06	269.850	7,300.40	-670.96	-488.20	486.35	1.51	-0.57	-1.39
8,203.00	89.43	270.500	7,301.65	-670.67	-583.19	581.34	0.79	0.39	0.68
8,298.00	90.57	270.740	7,301.65	-669.64	-678.18	676.33	1.23	1.20	0.25
8,392.00	90.64	270.310	7,300.66	-668.78	-772.17	770.33	0.46	0.07	-0.46
8,487.00	90.50	271.590	7,299.72	-667.20	-867.15	865.31	1.36	-0.15	1.35
8,581.00	90.27	272.130	7,299.09	-664.15	-961.10	959.27	0.62	-0.24	0.57
8,675.00	87.74	269.860	7,300.72	-662.52	-1,055.06	1,053.23	3.62	-2.69	-2.41
8,770.00	87.07	269.330	7,305.02	-663.19	-1,149.96	1,148.12	0.90	-0.71	-0.56
8,864.00	88.93	269.170	7,308.30	-664.42	-1,243.89	1,242.05	1.99	1.98	-0.17
8,959.00	90.13	270.290	7,309.08	-664.87	-1,338.88	1,337.04	1.73	1.26	1.18
9,053.00	88.49	268.700	7,310.21	-665.69	-1,432.86	1,431.02	2.43	-1.74	-1.69

Company:	Extraction Oil & Gas	**Local Co-ordinate Reference:**	Well Winder South 2
Project:	Weld County, CO NAD 83	**TVD Reference:**	GL 4854' & KB 25' @ 4879.00ft (Patterson 346)
Site:	Winder South Pad	**MD Reference:**	GL 4854' & KB 25' @ 4879.00ft (Patterson 346)
Well:	Winder South 2	**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)
9,148.00	89.97	270.760	7,311.49	-666.14	-1,527.85	1,526.00	2.67	1.56	2.17
9,242.00	90.20	269.960	7,311.35	-665.55	-1,621.84	1,620.00	0.89	0.24	-0.85
9,337.00	90.07	269.020	7,311.12	-666.40	-1,716.84	1,714.99	1.00	-0.14	-0.99
9,431.00	90.74	268.350	7,310.46	-668.55	-1,810.81	1,808.96	1.01	0.71	-0.71
9,526.00	91.62	269.810	7,308.50	-670.08	-1,905.78	1,903.92	1.79	0.93	1.54
9,620.00	90.40	268.700	7,306.85	-671.30	-1,999.75	1,997.89	1.75	-1.30	-1.18
9,715.00	90.20	270.370	7,306.35	-672.07	-2,094.74	2,092.88	1.77	-0.21	1.76
9,809.00	89.80	268.590	7,306.35	-672.93	-2,188.73	2,186.87	1.94	-0.43	-1.89
9,904.00	89.03	270.540	7,307.32	-673.65	-2,283.72	2,281.85	2.21	-0.81	2.05
9,998.00	89.06	270.640	7,308.89	-672.68	-2,377.70	2,375.84	0.11	0.03	0.11
10,093.00	88.96	269.640	7,310.53	-672.45	-2,472.69	2,470.82	1.06	-0.11	-1.05
10,188.00	90.54	271.900	7,310.94	-671.17	-2,567.67	2,565.81	2.90	1.66	2.38
10,282.00	90.70	271.130	7,309.92	-668.69	-2,661.63	2,659.77	0.84	0.17	-0.82
10,376.00	91.08	271.100	7,308.46	-666.86	-2,755.60	2,753.75	0.41	0.40	-0.03
10,471.00	92.18	270.830	7,305.76	-665.26	-2,850.55	2,848.70	1.19	1.16	-0.28
10,565.00	90.40	272.290	7,303.65	-662.70	-2,944.48	2,942.64	2.45	-1.89	1.55
10,660.00	90.54	270.850	7,302.87	-660.10	-3,039.44	3,037.61	1.52	0.15	-1.52
10,754.00	93.30	269.430	7,299.72	-659.87	-3,133.38	3,131.54	3.30	2.94	-1.51
10,849.00	91.04	267.980	7,296.12	-662.01	-3,228.27	3,226.44	2.83	-2.38	-1.53
10,943.00	91.24	266.810	7,294.25	-666.28	-3,322.16	3,320.31	1.26	0.21	-1.24
11,038.00	91.85	268.780	7,291.69	-669.94	-3,417.05	3,415.19	2.17	0.64	2.07
11,132.00	92.02	270.850	7,288.51	-670.24	-3,510.99	3,509.13	2.21	0.18	2.20
11,226.00	92.60	270.110	7,284.73	-669.45	-3,604.91	3,603.05	1.00	0.62	-0.79
11,321.00	92.52	271.450	7,280.48	-668.16	-3,699.80	3,697.94	1.41	-0.08	1.41
11,416.00	93.16	270.740	7,275.78	-666.35	-3,794.67	3,792.81	1.01	0.67	-0.75
11,510.00	92.01	269.560	7,271.54	-666.10	-3,888.57	3,886.72	1.75	-1.22	-1.26
11,605.00	92.82	270.030	7,267.53	-666.44	-3,983.48	3,981.63	0.99	0.85	0.49
11,699.00	93.42	269.320	7,262.42	-666.97	-4,077.34	4,075.48	0.99	0.64	-0.76
11,793.00	94.07	269.440	7,256.28	-667.99	-4,171.13	4,169.27	0.70	0.69	0.13
11,887.00	94.04	271.130	7,249.63	-667.52	-4,264.89	4,263.04	1.79	-0.03	1.80
11,982.00	93.34	270.150	7,243.51	-666.46	-4,359.69	4,357.83	1.27	-0.74	-1.03
12,077.00	91.41	268.210	7,239.58	-667.82	-4,454.59	4,452.73	2.88	-2.03	-2.04
12,171.00	93.59	269.800	7,235.48	-669.46	-4,548.47	4,546.61	2.87	2.32	1.69
12,265.00	94.64	271.160	7,228.73	-668.67	-4,642.23	4,640.36	1.82	1.12	1.45
12,360.00	93.52	270.220	7,221.97	-667.53	-4,736.98	4,735.12	1.54	-1.18	-0.99
12,454.00	93.12	270.500	7,216.53	-666.94	-4,830.82	4,828.96	0.52	-0.43	0.30
12,549.00	91.18	271.460	7,212.97	-665.32	-4,925.73	4,923.88	2.28	-2.04	1.01
12,643.00	89.90	271.280	7,212.08	-663.07	-5,019.70	5,017.85	1.38	-1.36	-0.19
12,738.00	90.13	271.180	7,212.05	-661.03	-5,114.67	5,112.83	0.26	0.24	-0.11
12,832.00	90.87	270.840	7,211.23	-659.37	-5,208.66	5,206.82	0.87	0.79	-0.36
12,927.00	91.58	270.470	7,209.20	-658.29	-5,303.63	5,301.79	0.84	0.75	-0.39
13,021.00	91.78	269.750	7,206.45	-658.11	-5,397.59	5,395.75	0.79	0.21	-0.77
13,116.00	93.94	270.690	7,201.71	-657.74	-5,492.46	5,490.62	2.48	2.27	0.99

Company:	Extraction Oil & Gas	**Local Co-ordinate Reference:**	Well Winder South 2
Project:	Weld County, CO NAD 83	**TVD Reference:**	GL 4854' & KB 25' @ 4879.00ft (Patterson 346)
Site:	Winder South Pad	**MD Reference:**	GL 4854' & KB 25' @ 4879.00ft (Patterson 346)
Well:	Winder South 2	**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)
13,210.00	93.39	270.590	7,195.70	-656.70	-5,586.26	5,584.43	0.59	-0.59	-0.11
13,305.00	92.91	269.960	7,190.48	-656.24	-5,681.12	5,679.28	0.83	-0.51	-0.66
13,399.00	93.32	270.190	7,185.37	-656.12	-5,774.98	5,773.15	0.50	0.44	0.24
13,493.00	90.50	269.080	7,182.24	-656.72	-5,868.91	5,867.08	3.22	-3.00	-1.18
13,588.00	90.94	269.220	7,181.04	-658.13	-5,963.89	5,962.06	0.49	0.46	0.15
13,682.00	91.71	268.700	7,178.87	-659.83	-6,057.85	6,056.01	0.99	0.82	-0.55
13,776.00	91.91	268.490	7,175.90	-662.13	-6,151.78	6,149.93	0.31	0.21	-0.22
13,870.00	91.74	270.590	7,172.91	-662.89	-6,245.72	6,243.87	2.24	-0.18	2.23
13,965.00	91.71	270.560	7,170.05	-661.94	-6,340.67	6,338.82	0.04	-0.03	-0.03
14,059.00	90.87	269.820	7,167.93	-661.62	-6,434.65	6,432.80	1.19	-0.89	-0.79
14,153.00	90.50	269.250	7,166.81	-662.39	-6,528.64	6,526.78	0.72	-0.39	-0.61
14,248.00	90.77	270.814	7,165.75	-662.33	-6,623.63	6,621.78	1.67	0.28	1.65
14,342.00	90.91	270.250	7,164.38	-661.46	-6,717.61	6,715.76	0.62	0.15	-0.60
14,436.00	91.45	269.950	7,162.44	-661.30	-6,811.59	6,809.74	0.66	0.57	-0.32
14,531.00	92.61	270.890	7,159.08	-660.60	-6,906.53	6,904.68	1.57	1.22	0.99
14,626.00	93.75	270.680	7,153.81	-659.30	-7,001.37	6,999.53	1.22	1.20	-0.22
14,720.00	91.07	271.360	7,149.85	-657.63	-7,095.26	7,093.42	2.94	-2.85	0.72
14,815.00	89.63	270.070	7,149.27	-656.44	-7,190.25	7,188.41	2.04	-1.52	-1.36
14,909.00	89.60	268.730	7,149.90	-657.43	-7,284.24	7,282.40	1.43	-0.03	-1.43
15,004.00	90.91	270.950	7,149.48	-657.69	-7,379.23	7,377.39	2.71	1.38	2.34
15,098.00	91.54	270.580	7,147.47	-656.44	-7,473.20	7,471.36	0.78	0.67	-0.39
15,193.00	92.14	269.380	7,144.42	-656.47	-7,568.15	7,566.31	1.41	0.63	-1.26
15,288.00	90.40	269.690	7,142.32	-657.24	-7,663.12	7,661.28	1.86	-1.83	0.33
15,383.00	90.10	268.120	7,141.90	-659.06	-7,758.10	7,756.25	1.68	-0.32	-1.65
15,477.00	89.83	269.470	7,141.96	-661.04	-7,852.07	7,850.22	1.46	-0.29	1.44
15,571.00	91.31	269.850	7,141.02	-661.59	-7,946.07	7,944.21	1.63	1.57	0.40
15,666.00	88.22	270.390	7,141.41	-661.39	-8,041.05	8,039.20	3.30	-3.25	0.57
15,760.00	87.96	271.370	7,144.55	-659.95	-8,134.99	8,133.14	1.08	-0.28	1.04
15,855.00	89.46	272.000	7,146.69	-657.16	-8,229.92	8,228.08	1.71	1.58	0.66
15,949.00	90.81	272.430	7,146.46	-653.53	-8,323.85	8,322.01	1.51	1.44	0.46
16,044.00	92.08	272.480	7,144.07	-649.46	-8,418.73	8,416.90	1.34	1.34	0.05
16,139.00	90.70	272.660	7,141.76	-645.20	-8,513.60	8,511.79	1.46	-1.45	0.19
16,233.00	91.44	272.810	7,140.01	-640.72	-8,607.48	8,605.68	0.80	0.79	0.16
16,328.00	91.21	270.700	7,137.81	-637.81	-8,702.40	8,700.61	2.23	-0.24	-2.22
16,422.00	92.35	270.640	7,134.89	-636.71	-8,796.35	8,794.56	1.21	1.21	-0.06
16,517.00	90.44	270.950	7,132.58	-635.39	-8,891.31	8,889.52	2.04	-2.01	0.33
16,612.00	91.07	270.570	7,131.33	-634.13	-8,986.29	8,984.51	0.77	0.66	-0.40
16,706.00	90.94	270.000	7,129.68	-633.66	-9,080.27	9,078.49	0.62	-0.14	-0.61
16,801.00	90.84	269.400	7,128.20	-634.16	-9,175.26	9,173.48	0.64	-0.11	-0.63
16,896.00	90.03	267.680	7,127.48	-636.58	-9,270.22	9,268.43	2.00	-0.85	-1.81
16,990.00	89.30	266.320	7,128.03	-641.50	-9,364.09	9,362.29	1.64	-0.78	-1.45
17,014.00	89.43	266.220	7,128.30	-643.06	-9,388.04	9,386.23	0.68	0.54	-0.42
Last SDI MWD Survey									
17,075.00	89.43	266.220	7,128.90	-647.08	-9,448.90	9,447.08	0.00	0.00	0.00

Company:	Extraction Oil & Gas	**Local Co-ordinate Reference:**	Well Winder South 2
Project:	Weld County, CO NAD 83	**TVD Reference:**	GL 4854' & KB 25' @ 4879.00ft (Patterson 346)
Site:	Winder South Pad	**MD Reference:**	GL 4854' & KB 25' @ 4879.00ft (Patterson 346)
Well:	Winder South 2	**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)
Projection to TD									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
134.00	134.00	-0.18	-0.68	First Helmer MWD Survey
1,484.00	1,479.58	-64.22	49.84	Last Helmer MWD Survey
1,679.00	1,673.69	-79.76	59.97	First SDI MWD Production Survey
7,574.14	7,303.83	-661.63	44.93	Cross 460' Setback
17,014.00	7,128.30	-643.06	-9,388.04	Last SDI MWD Survey
17,075.00	7,128.90	-647.08	-9,448.90	Projection to TD

Checked By: _____ Approved By: _____ Date: _____

JOB NO.:	380113	Report Time:	2400	1 of 7	
Company:	Extraction Oil & Gas	API JOB #	05-123-43404		
LOCATION:	Winder South Pad	WORK ORDER#			
RIG NAME:	Patterson 346	FIELD:	Wattenburg		
STATE:	Colorado	Township:	6N		
COUNTY:	Weld	Range/Section	67W	9	
WELL NAME:	Winder South 2	Company Man	Hugh McGraw		
Lead Directional :	Chris Apodaca	2nd Dir Hand :	Colby Hansen		

Scientific Drilling

From Sunday, August 21, 2016 at 0000 to Sunday, August 21, 2016 at 2400

DAILY TOTALS

Start Depth	0.00
End Depth	0.00
Below Rot Hrs.	0.00
Total Drilled:	0.00
Avg. Total ROP:	NA
Slide Footage:	0.00
Slide Hours	0.00
Avg. Slide ROP:	NA
Rotate Footage:	0.00
Rotary Hours	0.00
Avg. Rot ROP:	NA
Circ Hours	0.00
Ream Hours	0.00
Rotary Hrs%:	NA
Slide Hrs%:	NA
Rotary Ftg%:	NA
Slide Ftg%:	NA

CASING

Size	Lb/Ft	MD

ASSEMBLY TOTALS

BHA #	Motor SN / R.S. SN	Slide Ftg	Slide Hrs	Rotate Ftg	Rotate Hrs	Circ Hrs	D & C Hrs	BHA Ftg	Avg ROP

Drilling Parameters

WOB:	0
Rot Wt:	0
Pick UP:	0
Slack Off:	0
SPP:	0
Flow:	0 - 0
SPM:	0
Rot. RPM	-
Mot RPM:	-
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:	
Model	
SN.:	
MFG.	
Type	
IADC	
JETS	
TFA:	
Hole ID:	N/A
Bit Hrs:	
Bit Ftg:	

PUMPS

Liner	0	0
Stroke	0	0
Effic.	95.00%	95.00%
Gal/Stk	0.00	0.00
BBL/Stk	0.000	0.000

Current BHA # 0

COST BREAKDOWN

GENERAL COMMENT

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
00:00	24:00	24.00	0	0	0	.00	Standby	CEMENT, SKID, NIPPLE UP

JOB NO.:	380113	Report Time:	2400	2 of 7	
Company:	Extraction Oil & Gas	API JOB #	05-123-43404		
LOCATION:	Winder South Pad	WORK ORDER#			
RIG NAME:	Patterson 346	FIELD:	Wattenburg		
STATE:	Colorado	Township:	6N		
COUNTY:	Weld	Range/Section	67W	9	
WELL NAME:	Winder South 2	Company Man	Hugh McGraw		
Lead Directional :	Chris Apodaca	2nd Dir Hand :	Colby Hansen		

Scientific Drilling

From Monday, August 22, 2016 at 0000 to Monday, August 22, 2016 at 2400

DAILY TOTALS

Start Depth	1583.00
End Depth	3712.00
Below Rot Hrs.	18.83
Total Drilled:	2129.00
Avg. Total ROP:	443.54
Slide Footage:	207.00
Slide Hours	1.50
Avg. Slide ROP:	138.00
Rotate Footage:	1922.00
Rotary Hours	3.30
Avg. Rot ROP:	582.42
Circ Hours	5.75
Ream Hours	0.00
Rotary Hrs%:	68.75
Slide Hrs%:	31.25
Rotary Ftg%:	90.28
Slide Ftg%:	9.72

CASING

Size	Lb/Ft	MD

ASSEMBLY TOTALS

BHA #	Motor SN / R.S. SN	Slide Ftg	Slide Hrs	Rotate Ftg	Rotate Hrs	Circ Hrs	D & C Hrs	BHA Ftg	Avg ROP
1	13227262	67.00	0.32	1,300.00	1.37	2.53	4.22	1,367.00	334.78
2	13227262	140.00	1.18	622.00	1.35	3.80	6.33	762.00	0.00

Drilling Parameters

WOB:	20
Rot Wt:	0
Pick UP:	0
Slack Off:	0
SPP:	2600
Flow:	0 - 640
SPM:	220
Rot. RPM	20 - 65
Mot RPM:	0 - 65
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

COST BREAKDOWN

Bit Record

Bit No:	
Model	PDC
SN.:	1234
MFG.	
Type	
IADC	
JETS	N/A
TFA:	0
Hole ID:	7.875
Bit Hrs:	1.68
Bit Ftg:	1367.00

PUMPS

Liner	0	0
Stroke	0	0
Effic.	95.00%	95.00%
Gal/Stk	0.00	0.00
BBL/Stk	0.000	0.000

Current BHA # 2

PDC
2.1 ABH
4 1/2 IF / 4 1/2 XH
Non Mag DC
Pony Non Mag DC
Pony Non Mag DC
Hang Off Sub
Gap Sub
Non Mag DC
Filter Sub
3 Stands H.W.D.P.

GENERAL COMMENT

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
00:00	05:10	5.17	1583	1583	0	.00	Standby	Standby
05:10	06:10	1.00	1583	1583	0	.00	Other	Pick Up Directional Tools
06:10	08:05	1.92	1583	1583	0	.00	TIH	TIH
08:05	08:40	0.58	1583	1583	0	.00	Drilling Cement	Drill Cement & Shoe Track
08:40	08:45	0.08	1583	1627	44	528.00	Drilling	
08:45	08:50	0.08	1627	1627	0	.00	Connection	Connection
08:50	08:58	0.13	1627	1722	95	712.50	Drilling	Drilling - (WOB:10;GPM :466;RPM:20)
08:58	09:10	0.20	1722	1722	0	.00	Connection	Connection
09:10	09:12	0.03	1722	1748	26	780.00	Drilling	Drilling - (WOB:10;GPM :466;RPM:20)
09:12	09:20	0.13	1748	1748	0	.00	MWD Survey	MWD Survey@1747' Inc 4.87° Azm 148.23°
09:20	09:24	0.07	1748	1758	10	150.00	Sliding	Drilling - (WOB:20;GPM :466;RPM:20)
09:24	09:28	0.07	1758	1816	58	870.00	Drilling	Drilling - (WOB:32;GPM :640;RPM:50)
09:28	09:33	0.08	1816	1816	0	.00	Survey & Conn.	Survey & Conn.@1747' Inc 4.87° Azm 148.23°
09:33	09:36	0.05	1816	1831	15	300.00	Sliding	Sliding - (WOB:20;GPM :466;TFO:45R)

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
09:36	09:42	0.10	1831	1910	79	790.00	Drilling	Drilling - (WOB:32;GPM :640;RPM:50)
09:42	09:46	0.07	1910	1910	0	.00	Survey & Conn.	Survey & Conn.@1841' Inc 6.52° Azm 170.69°
09:46	09:51	0.08	1910	2005	95	1140.00	Drilling	Drilling - (WOB:32;GPM :640;RPM:65)
09:51	09:56	0.08	2005	2005	0	.00	Survey & Conn.	Survey & Conn.@1936' Inc 5.71° Azm 168.32°
09:56	09:58	0.03	2005	2018	13	390.00	Sliding	Sliding - (WOB:20;GPM :466;TFO:10L)
09:58	10:03	0.08	2018	2099	81	972.00	Drilling	Drilling - (WOB:32;GPM :640;RPM:65)
10:03	10:08	0.08	2099	2099	0	.00	Survey & Conn.	Survey & Conn.@2030' Inc 7.25° Azm 169.31°
10:08	10:14	0.10	2099	2194	95	950.00	Drilling	Drilling - (WOB:32;GPM :640;RPM:65)
10:14	10:45	0.52	2194	2194	0	.00	Circulating	Circulating - Trouble Shoot MWD
10:45	10:49	0.07	2194	2206	12	180.00	Sliding	Sliding - (WOB:20;GPM :466;TFO:60L)
10:49	10:54	0.08	2206	2288	82	984.00	Drilling	Drilling - (WOB:32;GPM :640;RPM:65)
10:54	11:01	0.12	2288	2288	0	.00	Survey & Conn.	Survey & Conn.@2219' Inc 7.01° Azm 160.2°
11:01	11:03	0.03	2288	2295	7	210.00	Sliding	Sliding - (WOB:20;GPM :466;TFO:75L)
11:03	11:08	0.08	2295	2383	88	1056.00	Drilling	Drilling - (WOB:32;GPM :640;RPM:65)
11:08	11:16	0.13	2383	2383	0	.00	Connection	Connection
11:16	11:21	0.08	2383	2477	94	1128.00	Drilling	Drilling - (WOB:32;GPM :640;RPM:65)
11:21	11:26	0.08	2477	2477	0	.00	Survey & Conn.	Survey & Conn.@2408' Inc 6.5° Azm 147.43°
11:26	11:31	0.08	2477	2572	95	1140.00	Drilling	Drilling - (WOB:32;GPM :640;RPM:65)
11:31	11:36	0.08	2572	2572	0	.00	Survey & Conn.	Survey & Conn.@2502.99' Inc 6.1° Azm 152.67°
11:36	11:40	0.07	2572	2582	10	150.00	Sliding	Sliding - (WOB:20;GPM :466;TFO:30L)
11:40	11:45	0.08	2582	2666	84	1008.00	Drilling	Drilling - (WOB:32;GPM :640;RPM:55)
11:45	11:48	0.05	2666	2666	0	.00	Survey & Conn.	Survey & Conn.@2596.99' Inc 8.23° Azm 149.74°
11:48	11:54	0.10	2666	2761	95	950.00	Drilling	Drilling - (WOB:32;GPM :640;RPM:55)
11:54	11:58	0.07	2761	2761	0	.00	Survey & Conn.	Survey & Conn.@2691.99' Inc 7.35° Azm 152.47°
11:58	12:03	0.08	2761	2856	95	1140.00	Drilling	Drilling - (WOB:32;GPM :640;RPM:55)
12:03	12:07	0.07	2856	2856	0	.00	Connection	Connection
12:07	12:20	0.22	2856	2856	0	.00	Circulating	Circulating - Trouble Shoot MWD
12:20	12:25	0.08	2856	2950	94	1128.00	Drilling	Drilling - (WOB:32;GPM :640;RPM:55)
12:25	12:50	0.42	2950	2950	0	.00	Circulating	Circulating - Trouble Shoot MWD
12:50	13:05	0.25	2950	2950	0	.00	Short Trip	Short Trip - Pull 3 Stands
13:05	13:45	0.67	2950	2950	0	.00	Circulating	Circulating - Trouble Shoot MWD
13:45	15:00	1.25	2950	2950	0	.00	POOH	POOH
15:00	15:35	0.58	2950	2950	0	.00	Change BHA	Change BHA
15:35	17:00	1.42	2950	2950	0	.00	TIH	TIH
17:00	19:40	2.67	2950	2950	0	.00	Circulating	Circulating
19:40	19:43	0.05	2950	2969	19	380.00	Sliding	Sliding - (WOB:20; :466;TFO:30L)
19:43	19:50	0.12	2969	3044	75	642.86	Drilling	Drilling - (WOB:32; :640;RPM:55)
19:50	19:55	0.08	3044	3044	0	.00	Connection	Connection
19:55	20:38	0.72	3044	3044	0	.00	Circulating	Trouble shoot MWD
20:38	20:44	0.10	3044	3064	20	200.00	Sliding	Sliding - (WOB:20; :466;TFO:30L)
20:44	20:52	0.13	3064	3086	22	165.00	Drilling	Drilling - (WOB:32; :640;RPM:55)
20:52	21:17	0.42	3086	3086	0	.00	Circulating	Trouble shoot MWD
21:17	21:25	0.13	3086	3098	12	90.00	Sliding	Sliding - (WOB:20; :466;TFO:30L)
21:25	21:36	0.18	3098	3116	18	98.18	Drilling	Drilling - (WOB:32; :640;RPM:55)
21:36	21:48	0.20	3116	3139	23	115.00	Sliding	Sliding - (WOB:20; :466;TFO:30L)
21:48	21:51	0.05	3139	3139	0	.00	Connection	Connection
21:51	22:25	0.57	3139	3327	188	331.76	Drilling	Drilling - (WOB:32;GPM :640;RPM:55)
22:25	22:41	0.27	3327	3327	0	.00	Connection	

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
22:41	22:48	0.12	3327	3337	10	85.71	Sliding	Sliding - (WOB:20;GPM :466;TFO:30L)
22:48	23:00	0.20	3337	3516	179	895.00	Drilling	Drilling - (WOB:32;GPM :640;RPM:55)
23:00	23:03	0.05	3516	3516	0	.00	Connection	Connection
23:03	23:12	0.15	3516	3536	20	133.33	Sliding	Sliding - (WOB:20;GPM :466;TFO:30L)
23:12	23:19	0.12	3536	3611	75	642.86	Drilling	Drilling - (WOB:32;GPM :640;RPM:55)
23:19	23:23	0.07	3611	3611	0	.00	Connection	Connection
23:23	23:47	0.40	3611	3641	30	75.00	Sliding	Sliding - (WOB:20;GPM :466;TFO:30L)
23:47	23:49	0.03	3641	3706	65	1950.00	Drilling	Drilling - (WOB:32;GPM :640;RPM:55)
23:49	23:58	0.15	3706	3706	0	.00	Connection	Connection
23:58	24:00	0.03	3706	3712	6	180.00	Sliding	Sliding - (WOB:20;GPM :466;TFO:30L)

JOB NO.:	380113	Report Time:	2400	3 of 7	
Company:	Extraction Oil & Gas	API JOB #	05-123-43404		
LOCATION:	Winder South Pad	WORK ORDER#			
RIG NAME:	Patterson 346	FIELD:	Wattenburg		
STATE:	Colorado	Township:	6N		
COUNTY:	Weld	Range/Section	67W	9	
WELL NAME:	Winder South 2	Company Man	Hugh McGraw		
Lead Directional :	Chris Apodaca / Scott Sanford	2nd Dir Hand :	Colby Hansen		

Scientific Drilling

From Tuesday, August 23, 2016 at 0000 to Tuesday, August 23, 2016 at 2400

DAILY TOTALS

Start Depth	3712.00
End Depth	7533.00
Below Rot Hrs.	24.00
Total Drilled:	3821.00
Avg. Total ROP:	303.25
Slide Footage:	1292.00
Slide Hours	8.18
Avg. Slide ROP:	157.88
Rotate Footage:	2529.00
Rotary Hours	4.42
Avg. Rot ROP:	572.60
Circ Hours	0.58
Ream Hours	0.25
Rotary Hrs%:	35.05
Slide Hrs%:	64.95
Rotary Ftg%:	66.19
Slide Ftg%:	33.81

CASING

Size	Lb/Ft	MD

ASSEMBLY TOTALS

BHA #	Motor SN / R.S. SN	Slide Ftg	Slide Hrs	Rotate Ftg	Rotate Hrs	Circ Hrs	D & C Hrs	BHA Ftg	Avg ROP
2	13227262	514.00	4.37	2,241.00	4.02	4.20	12.58	2,755.00	220.11
3	G1519	918.00	5.00	910.00	1.75	.18	6.93	1,828.00	0.00

Drilling Parameters

WOB:	25
Rot Wt:	0
Pick UP:	0
Slack Off:	0
SPP:	4550
Flow:	0 - 640
SPM:	220
Rot. RPM	50 - 55
Mot RPM:	50 - 55
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:	
Model	PDC
SN.:	1234
MFG.	
Type	
IADC	
JETS	N/A
TFA:	0
Hole ID:	7.875
Bit Hrs:	1.68
Bit Ftg:	1367.00

PUMPS

Liner	0	0
Stroke	0	0
Effic.	95.00%	95.00%
Gal/Stk	0.00	0.00
BBL/Stk	0.000	0.000

Current BHA # 3

PDC
2.12FBH
Non Mag DC
Pony Non Mag DC
Pony Non Mag DC
Hang Off Sub
Gap Sub
Non Mag DC
Filter Sub
3 Stands H.W.D.P.

COST BREAKDOWN

GENERAL COMMENT

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
00:00	00:06	0.10	3712	3726	14	140.00	Sliding	Sliding - (WOB:20;GPM :466;TFO:30L)
00:06	00:12	0.10	3726	3801	75	750.00	Drilling	Drilling - (WOB:32;GPM :640;RPM:55)
00:12	00:19	0.12	3801	3801	0	.00	Connection	Connection
00:19	00:26	0.12	3801	3821	20	171.43	Sliding	Sliding - (WOB:20;GPM :466;TFO:30L)
00:26	00:35	0.15	3821	3896	75	500.00	Drilling	Drilling - (WOB:32;GPM :640;RPM:55)
00:35	00:40	0.08	3896	3896	0	.00	Connection	Connection
00:40	00:45	0.08	3896	3905	9	108.00	Sliding	Sliding - (WOB:20;GPM :466;TFO:30L)
00:45	00:50	0.08	3905	3990	85	1020.00	Sliding	Sliding - (WOB:20;GPM :466;TFO:30L)
00:50	00:53	0.05	3990	3990	0	.00	Connection	Connection
00:53	01:03	0.17	3990	4000	10	60.00	Sliding	Sliding - (WOB:20;GPM :466;TFO:30L)
01:03	01:10	0.12	4000	4085	85	728.57	Drilling	Drilling - (WOB:32;GPM :640;RPM:55)
01:10	01:14	0.07	4085	4085	0	.00	Connection	Connection
01:14	01:21	0.12	4085	4105	20	171.43	Sliding	Sliding - (WOB:20;GPM :466;TFO:30L)
01:21	01:29	0.13	4105	4180	75	562.50	Drilling	Drilling - (WOB:32;GPM :640;RPM:55)

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
01:29	01:32	0.05	4180	4180	0	.00	Connection	Connection
01:32	01:39	0.12	4180	4200	20	171.43	Sliding	Sliding - (WOB:20;GPM :466;TFO:30L)
01:39	01:46	0.12	4200	4274	74	634.29	Drilling	Drilling - (WOB:32;GPM :640;RPM:55)
01:46	01:50	0.07	4274	4274	0	.00	Connection	Connection
01:50	01:57	0.12	4274	4369	95	814.29	Drilling	Drilling - (WOB:32;GPM :640;RPM:55)
01:57	02:01	0.07	4369	4369	0	.00	Connection	Connection
02:01	02:06	0.08	4369	4379	10	120.00	Sliding	Sliding - (WOB:20;GPM :466;TFO:30L)
02:06	02:12	0.10	4379	4463	84	840.00	Drilling	Drilling - (WOB:32;GPM :640;RPM:55)
02:12	02:16	0.07	4463	4463	0	.00	Connection	Connection
02:16	02:23	0.12	4463	4478	15	128.57	Sliding	Sliding - (WOB:20;GPM :466;TFO:30L)
02:23	02:30	0.12	4478	4558	80	685.71	Drilling	Drilling - (WOB:32;GPM :640;RPM:55)
02:30	02:34	0.07	4558	4558	0	.00	Connection	Connection
02:34	02:44	0.17	4558	4652	94	564.00	Drilling	Drilling - (WOB:32;GPM :640;RPM:55)
02:44	02:47	0.05	4652	4652	0	.00	Connection	Connection
02:47	02:55	0.13	4652	4672	20	150.00	Sliding	Sliding - (WOB:20;GPM :466;TFO:30L)
02:55	03:02	0.12	4672	4746	74	634.29	Drilling	Drilling - (WOB:32;GPM :640;RPM:50)
03:02	03:06	0.07	4746	4746	0	.00	Connection	Connection
03:06	03:27	0.35	4746	4765	19	54.29	Sliding	Sliding - (WOB:20;GPM :466;TFO:30L))
03:27	03:34	0.12	4765	4841	76	651.43	Drilling	Drilling - (WOB:32;GPM :640;RPM:50)
03:34	03:38	0.07	4841	4841	0	.00	Reaming	Drilling - (WOB:32;GPM :640;RPM:50)
03:38	03:41	0.05	4841	4841	0	.00	Connection	Connection
03:41	03:48	0.12	4841	4851	10	85.71	Sliding	Sliding - (WOB:20;GPM :466;TFO:90L)
03:48	03:55	0.12	4851	4936	85	728.57	Drilling	Drilling - (WOB:32;GPM :640;RPM:50)
03:55	04:00	0.08	4936	4936	0	.00	Connection	Connection
04:00	04:09	0.15	4936	5031	95	633.33	Drilling	Drilling - (WOB:32;GPM :640;RPM:50)
04:09	04:14	0.08	5031	5031	0	.00	Connection	Connection
04:14	04:18	0.07	5031	5051	20	300.00	Sliding	Sliding - (WOB:20;GPM :466;TFO:90L)
04:18	04:25	0.12	5051	5125	74	634.29	Drilling	Drilling - (WOB:32;GPM :640;RPM:50)
04:25	04:31	0.10	5125	5125	0	.00	Connection	Connection
04:31	04:41	0.17	5125	5140	15	90.00	Sliding	Sliding - (WOB:20;GPM :466;TFO:90L)
04:41	04:49	0.13	5140	5220	80	600.00	Drilling	Drilling - (WOB:32;GPM :640;RPM:50)
04:49	04:53	0.07	5220	5220	0	.00	Connection	Connection
04:53	05:03	0.17	5220	5240	20	120.00	Sliding	Sliding - (WOB:20;GPM :466;TFO:90L)
05:03	05:15	0.20	5240	5315	75	375.00	Drilling	Drilling - (WOB:32;GPM :640;RPM:50)
05:15	05:21	0.10	5315	5315	0	.00	Connection	Connection
05:21	05:57	0.60	5315	5336	21	35.00	Sliding	Sliding - (WOB:20;GPM :466;TFO:90L)
05:57	06:06	0.15	5336	5409	73	486.67	Drilling	Drilling - (WOB:32;GPM :640;RPM:50)
06:06	06:12	0.10	5409	5409	0	.00	Survey & Conn.	Survey & Conn.@5340' Inc 8.32° Azm 136.7°
06:12	06:20	0.13	5409	5504	95	712.50	Drilling	Drilling - (WOB:32;GPM :640;RPM:50)
06:20	06:25	0.08	5504	5504	0	.00	Survey & Conn.	Survey & Conn.@5435' Inc 5.92° Azm 134.32°
06:25	06:34	0.15	5504	5529	25	166.67	Sliding	Sliding - (WOB:20;GPM :466;TFO:90L))
06:34	06:40	0.10	5529	5599	70	700.00	Drilling	Drilling - (WOB:32;GPM :640;RPM:50)
06:40	06:45	0.08	5599	5599	0	.00	Survey & Conn.	Survey & Conn.@5530' Inc 7.23° Azm 146.21°
06:45	06:59	0.23	5599	5614	15	64.29	Sliding	Sliding - (WOB:20;GPM :466;TFO:20R)
06:59	07:05	0.10	5614	5694	80	800.00	Drilling	Drilling - (WOB:32;GPM :640;RPM:50)
07:05	07:10	0.08	5694	5694	0	.00	Survey & Conn.	Survey & Conn.@5625' Inc 7.12° Azm 155.72°
07:10	07:23	0.22	5694	5700	6	27.69	Sliding	Sliding - (WOB:20;GPM :466;TFO:20R)
07:23	07:30	0.12	5700	5705	5	42.86	Drilling	Drilling - (WOB:32;GPM :640;RPM:50)

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
07:30	07:50	0.33	5705	5705	0	.00	Circulating	Circulating
07:50	10:00	2.17	5705	5705	0	.00	POOH	POOH
10:00	11:00	1.00	5705	5705	0	.00	Rig repair	
11:00	12:00	1.00	5705	5705	0	.00	Change BHA	Change BHA
12:00	14:30	2.50	5705	5705	0	.00	TIH	TIH
14:30	14:41	0.18	5705	5705	0	.00	Reaming	Wash to bottom
14:41	14:43	0.03	5705	5711	6	180.00	Drilling	Drilling - (WOB:32;GPM :640;RPM:50)
14:43	14:48	0.08	5711	5711	0	.00	Survey & Conn.	Survey & Conn.@5625' Inc 7.12° Azm 155.72°
14:48	14:56	0.13	5711	5736	25	187.50	Sliding	Sliding - (WOB:20;GPM :466;TFO:20R))
14:56	15:04	0.13	5736	5805	69	517.50	Drilling	Drilling - (WOB:32;GPM :640;RPM:50)
15:04	15:08	0.07	5805	5805	0	.00	Survey & Conn.	Survey & Conn.@5744' Inc 8.81° Azm 139.54°
15:08	15:14	0.10	5805	5815	10	100.00	Sliding	Sliding - (WOB:20;GPM :466;TFO:45L))
15:14	15:23	0.15	5815	5900	85	566.67	Drilling	Drilling - (WOB:32;GPM :640;RPM:50)
15:23	15:28	0.08	5900	5900	0	.00	Survey & Conn.	Survey & Conn.@5839' Inc 8.91° Azm 128.95°
15:28	15:37	0.15	5900	5910	10	66.67	Sliding	Sliding - (WOB:20;GPM :466;TFO:45L))
15:37	15:46	0.15	5910	5995	85	566.67	Drilling	Drilling - (WOB:32;GPM :640;RPM:50)
15:46	15:50	0.07	5995	5995	0	.00	Survey & Conn.	Survey & Conn.@5934' Inc 8.28° Azm 124.03°
15:50	15:55	0.08	5995	6010	15	180.00	Sliding	Sliding - (WOB:20;GPM :466;TFO:0G))
15:55	16:04	0.15	6010	6089	79	526.67	Drilling	Drilling - (WOB:32;GPM :640;RPM:50)
16:04	16:08	0.07	6089	6089	0	.00	Survey & Conn.	Survey & Conn.@6028' Inc 8.47° Azm 124.98°
16:08	16:14	0.10	6089	6109	20	200.00	Sliding	Sliding - (WOB:20;GPM :466;TFO:20R)
16:14	16:22	0.13	6109	6184	75	562.50	Drilling	Drilling - (WOB:32;GPM :640;RPM:50)
16:22	16:27	0.08	6184	6184	0	.00	Survey & Conn.	Survey & Conn.@6123' Inc 9.4° Azm 129.34°
16:27	16:34	0.12	6184	6199	15	128.57	Sliding	Sliding - (WOB:20;GPM :466;TFO:OG)
16:34	16:42	0.13	6199	6278	79	592.50	Drilling	Drilling - (WOB:32;GPM :640;RPM:50)
16:42	16:46	0.07	6278	6278	0	.00	Survey & Conn.	Survey & Conn.@6217' Inc 10.13° Azm 132.32°
16:46	16:59	0.22	6278	6373	95	438.46	Drilling	Drilling - (WOB:32;GPM :640;RPM:50)
16:59	17:04	0.08	6373	6373	0	.00	Survey & Conn.	Survey & Conn.@6312' Inc 7.27° Azm 130.52°
17:04	17:11	0.12	6373	6398	25	214.29	Sliding	Sliding - (WOB:20;GPM :466;TFO:20R)
17:11	17:19	0.13	6398	6467	69	517.50	Drilling	Drilling - (WOB:32;GPM :640;RPM:50)
17:19	17:24	0.08	6467	6467	0	.00	Survey & Conn.	Survey & Conn.@6406' Inc 9.03° Azm 130.86°
17:24	17:32	0.13	6467	6479	12	90.00	Sliding	Sliding - (WOB:20;GPM :466;TFO:OG)
17:32	17:40	0.13	6479	6562	83	622.50	Drilling	Drilling - (WOB:32;GPM :640;RPM:50)
17:40	17:45	0.08	6562	6562	0	.00	Survey & Conn.	Survey & Conn.@6501' Inc 7.39° Azm 128.13°
17:45	17:54	0.15	6562	6587	25	166.67	Sliding	Sliding - (WOB:20;GPM :466;TFO:0G)
17:54	18:02	0.13	6587	6656	69	517.50	Drilling	Drilling - (WOB:32;GPM :640;RPM:50)
18:02	18:09	0.12	6656	6656	0	.00	Survey & Conn.	Survey & Conn.@6595' Inc 9.04° Azm 131.75°
18:09	18:15	0.10	6656	6667	11	110.00	Sliding	Sliding - (WOB:20;GPM :466;TFO:30R)
18:15	18:25	0.17	6667	6751	84	504.00	Drilling	Drilling - (WOB:32;GPM :640;RPM:50)
18:25	18:30	0.08	6751	6751	0	.00	Survey & Conn.	Survey & Conn.@6690' Inc 7.35° Azm 135.04°
18:30	18:35	0.08	6751	6783	32	384.00	Drilling	Drilling - (WOB:32;GPM :640;RPM:50)
18:35	18:56	0.35	6783	6846	63	180.00	Sliding	Sliding - (WOB:20;GPM :466;TFO:70R)
18:56	19:01	0.08	6846	6846	0	.00	Survey & Conn.	Survey & Conn.@6785' Inc 6.15° Azm 140.75°
19:01	19:28	0.45	6846	6940	94	208.89	Sliding	Sliding - (WOB:20;GPM :466;TFO:70R)
19:28	19:34	0.10	6940	6940	0	.00	Survey & Conn.	Survey & Conn.@6879' Inc 15.07° Azm 194.94°
19:34	20:00	0.43	6940	7035	95	219.23	Sliding	Sliding - (WOB:25;GPM :466;TFO:65R)
20:00	20:04	0.07	7035	7035	0	.00	Survey & Conn.	Survey & Conn.@6974' Inc 23.02° Azm 227.37°
20:04	20:22	0.30	7035	7035	0	.00	Other	Trouble Shoot Topdrive

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
20:22	20:55	0.55	7035	7035	0	.00	Other	Change Out Washed Pipe
20:55	21:25	0.50	7035	7129	94	188.00	Sliding	Sliding - (WOB:25;GPM :466;TFO:80R)
21:25	21:30	0.08	7129	7129	0	.00	Survey & Conn.	Survey & Conn.@7068' Inc 28.37° Azm 253.51°
21:30	22:00	0.50	7129	7224	95	190.00	Sliding	Sliding - (WOB:25;GPM :466;TFO:20R)
22:00	22:05	0.08	7224	7224	0	.00	Survey & Conn.	Survey & Conn.@7163' Inc 33.19° Azm 268°
22:05	22:28	0.38	7224	7318	94	245.22	Sliding	Sliding - (WOB:25;GPM :466;TFO:0G)
22:28	22:34	0.10	7318	7318	0	.00	Survey & Conn.	Survey & Conn.@7257' Inc 42.93° Azm 271.46°
22:34	22:58	0.40	7318	7413	95	237.50	Sliding	Sliding - (WOB:25;GPM :466;TFO:0G))
22:58	23:06	0.13	7413	7413	0	.00	Survey & Conn.	Survey & Conn.@7352' Inc 53.67° Azm 270.83°
23:06	23:40	0.57	7413	7507	94	165.88	Sliding	Sliding - (WOB:25;GPM :466;TFO:0G)
23:40	23:46	0.10	7507	7507	0	.00	Survey & Conn.	Survey & Conn.@7446' Inc 64.93° Azm 271.22°
23:46	24:00	0.23	7507	7533	26	111.43	Sliding	Sliding - (WOB:25;GPM :466;TFO:10L)

Scientific Drilling	JOB NO.:	380113	Report Time:	2400	4 of 7
	Company:	Extraction Oil & Gas	API JOB #	05-123-43404	
	LOCATION:	Winder South Pad	WORK ORDER#		
	RIG NAME:	Patterson 346	FIELD:	Wattenburg	
	STATE:	Colorado	Township:	6N	
	COUNTY:	Weld	Range/Section	67W	9
	WELL NAME:	Winder South 2	Company Man	Jose Torres	
	Lead Directional :	Scott Sanford	2nd Dir Hand :	Chris Apodaca	

From Wednesday, August 24, 2016 at 0000 to Wednesday, August 24, 2016 at 2400

DAILY TOTALS

Start Depth	7533.00
End Depth	12622.00
Below Rot Hrs.	24.00
Total Drilled:	5089.00
Avg. Total ROP:	278.85
Slide Footage:	414.00
Slide Hours	7.08
Avg. Slide ROP:	58.45
Rotate Footage:	4675.00
Rotary Hours	11.17
Avg. Rot ROP:	418.66
Circ Hours	1.25
Ream Hours	0.53
Rotary Hrs%:	61.19
Slide Hrs%:	38.81
Rotary Ftg%:	91.86
Slide Ftg%:	8.14

CASING

Size	Lb/Ft	MD

ASSEMBLY TOTALS

BHA #	Motor SN / R.S. SN	Slide Ftg	Slide Hrs	Rotate Ftg	Rotate Hrs	Circ Hrs	D & C Hrs	BHA Ftg	Avg ROP
3	G1519	1,588.00	29.25	9,782.00	26.35	14.40	70.00	11,370.00	201.48

Drilling Parameters

WOB:	45
Rot Wt:	0
Pick UP:	0
Slack Off:	0
SPP:	5425
Flow:	580 - 640
SPM:	220
Rot. RPM	50 - 60
Mot RPM:	50 - 60
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

COST BREAKDOWN

Bit Record

Bit No:	
Model	PDC
SN.:	1234
MFG.	
Type	
IADC	
JETS	N/A
TFA:	0
Hole ID:	7.875
Bit Hrs:	1.68
Bit Ftg:	1367.00

PUMPS

Liner	0	0
Stroke	0	0
Effic.	95.00%	95.00%
Gal/Stk	0.00	0.00
BBL/Stk	0.000	0.000

Current BHA # 3

PDC
2.12FBH
Non Mag DC
Pony Non Mag DC
Pony Non Mag DC
Hang Off Sub
Gap Sub
Non Mag DC
Filter Sub
3 Stands H.W.D.P.

GENERAL COMMENT

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
00:00	00:28	0.47	7533	7602	69	147.86	Sliding	Sliding - (WOB:25;GPM :580;TFO:0G)
00:28	00:38	0.17	7602	7602	0	.00	Survey & Conn.	Survey & Conn.@7541' Inc 76° Azm 271°
00:38	00:51	0.22	7602	7633	31	143.08	Sliding	Sliding - (WOB:25;GPM :580;TFO:10L)
00:51	00:56	0.08	7633	7633	0	.00	MWD Survey	MWD Survey@7541' Inc 76° Azm 271°
00:56	01:10	0.23	7633	7651	18	77.14	Sliding	Sliding - (WOB:50;GPM :580;TFO:10L)
01:10	01:17	0.12	7651	7696	45	385.71	Drilling	Drilling - (WOB:32;GPM :640;RPM:50)
01:17	01:22	0.08	7696	7696	0	.00	Survey & Conn.	Survey & Conn.@7667' Inc 92.59° Azm 269.07°
01:22	01:27	0.08	7696	7728	32	384.00	Drilling	Drilling - (WOB:32;GPM :640;RPM:50)
01:27	01:33	0.10	7728	7728	0	.00	MWD Survey	MWD Survey@7667' Inc 92.59° Azm 269.07°
01:33	01:39	0.10	7728	7791	63	630.00	Drilling	Drilling - (WOB:32;GPM :640;RPM:50)
01:39	01:45	0.10	7791	7791	0	.00	Survey & Conn.	Survey & Conn.@7730' Inc 94.11° Azm 268.52°
01:45	01:52	0.12	7791	7811	20	171.43	Sliding	Sliding - (WOB:50;GPM :640;TFO:180)
01:52	02:12	0.33	7811	7886	75	225.00	Drilling	Drilling - (WOB:32;GPM :640;RPM:60)
02:12	02:17	0.08	7886	7886	0	.00	Survey & Conn.	Survey & Conn.@7825' Inc 91.31° Azm 267.11°

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
02:17	02:28	0.18	7886	7900	14	76.36	Sliding	Sliding - (WOB:50;GPM :640;TFO:130R)
02:28	02:49	0.35	7900	7980	80	228.57	Drilling	Drilling - (WOB:32;GPM :640;RPM:60)
02:49	02:55	0.10	7980	7980	0	.00	Survey & Conn.	Survey & Conn.@7919' Inc 90.34° Azm 268.62°
02:55	02:59	0.07	7980	7980	0	.00	Other	BOP Drill
02:59	03:10	0.18	7980	7994	14	76.36	Sliding	Sliding - (WOB:50;GPM :640;TFO:120R)
03:10	03:26	0.27	7994	8075	81	303.75	Drilling	Drilling - (WOB:32;GPM :640;RPM:60)
03:26	03:31	0.08	8075	8075	0	.00	Survey & Conn.	Survey & Conn.@8014' Inc 89.6° Azm 271.16°
03:31	03:44	0.22	8075	8169	94	433.85	Drilling	Drilling - (WOB:32;GPM :640;RPM:60)
03:44	03:49	0.08	8169	8169	0	.00	Survey & Conn.	Survey & Conn.@8108' Inc 89.06° Azm 269.85°
03:49	04:03	0.23	8169	8264	95	407.14	Drilling	Drilling - (WOB:32;GPM :640;RPM:60)
04:03	04:10	0.12	8264	8264	0	.00	Survey & Conn.	Survey & Conn.@8203' Inc 89.43° Azm 270.5°
04:10	04:22	0.20	8264	8359	95	475.00	Drilling	Drilling - (WOB:32;GPM :640;RPM:60)
04:22	04:27	0.08	8359	8359	0	.00	Survey & Conn.	Survey & Conn.@8298' Inc 90.57° Azm 270.74°
04:27	04:46	0.32	8359	8453	94	296.84	Drilling	Drilling - (WOB:32;GPM :640;RPM:60)
04:46	04:51	0.08	8453	8453	0	.00	Survey & Conn.	Survey & Conn.@8392' Inc 90.64° Azm 270.31°
04:51	05:16	0.42	8453	8548	95	228.00	Drilling	Drilling - (WOB:32;GPM :640;RPM:60)
05:16	05:23	0.12	8548	8548	0	.00	Survey & Conn.	Survey & Conn.@8487' Inc 90.5° Azm 271.59°
05:23	05:34	0.18	8548	8558	10	54.55	Sliding	Sliding - (WOB:50;GPM :640;TFO:160L))
05:34	05:48	0.23	8558	8642	84	360.00	Drilling	Drilling - (WOB:32;GPM :640;RPM:60)
05:48	05:53	0.08	8642	8642	0	.00	Survey & Conn.	Survey & Conn.@8581' Inc 90.27° Azm 272.13°
05:53	06:07	0.23	8642	8657	15	64.29	Sliding	Sliding - (WOB:50;GPM :640;TFO:160L))
06:07	06:23	0.27	8657	8736	79	296.25	Drilling	Drilling - (WOB:45;GPM :640;RPM:60)
06:23	06:28	0.08	8736	8736	0	.00	Survey & Conn.	Survey & Conn.@8675' Inc 87.74° Azm 269.86°
06:28	06:41	0.22	8736	8831	95	438.46	Drilling	Drilling - (WOB:45;GPM :640;RPM:60)
06:41	06:46	0.08	8831	8831	0	.00	Survey & Conn.	Survey & Conn.@8770' Inc 87.07° Azm 269.33°
06:46	06:56	0.17	8831	8841	10	60.00	Sliding	Sliding - (WOB:50;GPM :640;TFO:150L))
06:56	07:06	0.17	8841	8925	84	504.00	Drilling	Drilling - (WOB:45;GPM :640;RPM:60)
07:06	07:11	0.08	8925	8925	0	.00	Survey & Conn.	Survey & Conn.@8864' Inc 88.93° Azm 269.17°
07:11	07:16	0.08	8925	8932	7	84.00	Sliding	Sliding - (WOB:50;GPM :640;TFO:0G))
07:16	07:25	0.15	8932	9020	88	586.67	Drilling	Drilling - (WOB:45;GPM :640;RPM:60)
07:25	07:30	0.08	9020	9020	0	.00	Survey & Conn.	Survey & Conn.@8959' Inc 90.13° Azm 270.29°
07:30	07:38	0.13	9020	9114	94	705.00	Drilling	Drilling - (WOB:45;GPM :640;RPM:60)
07:38	07:43	0.08	9114	9114	0	.00	Survey & Conn.	Survey & Conn.@9053' Inc 88.49° Azm 268.7°
07:43	07:48	0.08	9114	9124	10	120.00	Sliding	Sliding - (WOB:50;GPM :640;TFO:40R))
07:48	07:57	0.15	9124	9209	85	566.67	Drilling	Drilling - (WOB:45;GPM :640;RPM:60)
07:57	08:02	0.08	9209	9209	0	.00	Survey & Conn.	Survey & Conn.@9148' Inc 89.97° Azm 270.76°
08:02	08:10	0.13	9209	9303	94	705.00	Drilling	Drilling - (WOB:45;GPM :640;RPM:60)
08:10	08:15	0.08	9303	9303	0	.00	Survey & Conn.	Survey & Conn.@9242' Inc 90.2° Azm 269.96°
08:15	08:21	0.10	9303	9398	95	950.00	Drilling	Drilling - (WOB:45;GPM :640;RPM:60)
08:21	08:25	0.07	9398	9398	0	.00	Survey & Conn.	Survey & Conn.@9337' Inc 90.07° Azm 269.02°
08:25	08:33	0.13	9398	9492	94	705.00	Drilling	Drilling - (WOB:45;GPM :640;RPM:60)
08:33	08:38	0.08	9492	9492	0	.00	Survey & Conn.	Survey & Conn.@9431' Inc 90.74° Azm 268.35°
08:38	08:47	0.15	9492	9502	10	66.67	Sliding	Sliding - (WOB:45;GPM :640;TFO:0))
08:47	08:56	0.15	9502	9587	85	566.67	Drilling	Drilling - (WOB:45;GPM :640;RPM:60)
08:56	09:00	0.07	9587	9587	0	.00	Survey & Conn.	Survey & Conn.@9526' Inc 91.62° Azm 269.81°
09:00	09:07	0.12	9587	9595	8	68.57	Sliding	Sliding - (WOB:45;GPM :640;TFO:80R))
09:07	09:16	0.15	9595	9681	86	573.33	Drilling	Drilling - (WOB:45;GPM :640;RPM:60)
09:16	09:20	0.07	9681	9681	0	.00	Survey & Conn.	Survey & Conn.@9620' Inc 90.4° Azm 268.7°

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
09:20	09:30	0.17	9681	9691	10	60.00	Sliding	Sliding - (WOB:45;GPM :640;TFO:150R)
09:30	09:39	0.15	9691	9776	85	566.67	Drilling	Drilling - (WOB:45;GPM :640;RPM:60)
09:39	09:43	0.07	9776	9776	0	.00	Survey & Conn.	Survey & Conn.@9715' Inc 90.2° Azm 270.37°
09:43	09:51	0.13	9776	9870	94	705.00	Drilling	Drilling - (WOB:45;GPM :640;RPM:60)
09:51	09:56	0.08	9870	9870	0	.00	Survey & Conn.	Survey & Conn.@9809' Inc 89.8° Azm 268.59°
09:56	10:07	0.18	9870	9882	12	65.45	Sliding	Sliding - (WOB:45;GPM :640;TFO:150R))
10:07	10:16	0.15	9882	9965	83	553.33	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
10:16	10:20	0.07	9965	9965	0	.00	Survey & Conn.	Survey & Conn.@9904' Inc 89.03° Azm 270.54°
10:20	10:27	0.12	9965	10059	94	805.71	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
10:27	10:31	0.07	10059	10059	0	.00	Survey & Conn.	Survey & Conn.@9998' Inc 89.06° Azm 270.64°
10:31	10:41	0.17	10059	10154	95	570.00	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
10:41	10:45	0.07	10154	10154	0	.00	Survey & Conn.	Survey & Conn.@10093' Inc 88.96° Azm 269.64°
10:45	10:59	0.23	10154	10166	12	51.43	Sliding	Sliding - (WOB:45;GPM :640;TFO:100R))
10:59	11:07	0.13	10166	10249	83	622.50	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
11:07	11:12	0.08	10249	10249	0	.00	Survey & Conn.	Survey & Conn.@10188' Inc 90.54° Azm 271.9°
11:12	11:20	0.13	10249	10343	94	705.00	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
11:20	11:24	0.07	10343	10343	0	.00	Survey & Conn.	Survey & Conn.@10282' Inc 90.7° Azm 271.13°
11:24	11:32	0.13	10343	10437	94	705.00	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
11:32	11:36	0.07	10437	10437	0	.00	Survey & Conn.	Survey & Conn.@10376' Inc 91.08° Azm 271.1°
11:36	11:49	0.22	10437	10532	95	438.46	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
11:49	11:53	0.07	10532	10532	0	.00	Survey & Conn.	Survey & Conn.@10471' Inc 92.18° Azm 270.83°
11:53	12:14	0.35	10532	10547	15	42.86	Sliding	Sliding - (WOB:45;GPM :640;TFO:70R))
12:14	12:35	0.35	10547	10626	79	225.71	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
12:35	12:40	0.08	10626	10626	0	.00	Survey & Conn.	Survey & Conn.@10565' Inc 90.4° Azm 272.29°
12:40	12:48	0.13	10626	10721	95	712.50	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
12:48	12:52	0.07	10721	10721	0	.00	Survey & Conn.	Survey & Conn.@10660' Inc 90.54° Azm 270.85°
12:52	12:58	0.10	10721	10726	5	50.00	Sliding	Sliding - (WOB:45;GPM :640;TFO:150R))
12:58	13:10	0.20	10726	10815	89	445.00	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
13:10	13:15	0.08	10815	10815	0	.00	Survey & Conn.	Survey & Conn.@10754' Inc 93.3° Azm 269.43°
13:15	13:28	0.22	10815	10822	7	32.31	Sliding	Sliding - (WOB:45;GPM :640;TFO:20L)
13:28	13:40	0.20	10822	10910	88	440.00	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
13:40	13:45	0.08	10910	10910	0	.00	Survey & Conn.	Survey & Conn.@10849' Inc 91.04° Azm 267.98°
13:45	13:54	0.15	10910	11004	94	626.67	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
13:54	13:58	0.07	11004	11004	0	.00	Survey & Conn.	Survey & Conn.@10943' Inc 91.24° Azm 266.81°
13:58	14:15	0.28	11004	11019	15	52.94	Sliding	Sliding - (WOB:45;GPM :640;TFO:20L))
14:15	14:23	0.13	11019	11099	80	600.00	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
14:23	14:28	0.08	11099	11099	0	.00	Survey & Conn.	Survey & Conn.@11038' Inc 91.85° Azm 268.78°
14:28	14:43	0.25	11099	11114	15	60.00	Sliding	Sliding - (WOB:45;GPM :640;TFO:90R)
14:43	14:53	0.17	11114	11193	79	474.00	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
14:53	14:57	0.07	11193	11193	0	.00	Survey & Conn.	Survey & Conn.@11132' Inc 92.02° Azm 270.85°
14:57	15:06	0.15	11193	11287	94	626.67	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
15:06	15:11	0.08	11287	11287	0	.00	Survey & Conn.	Survey & Conn.@11226' Inc 92.6° Azm 270.11°
15:11	15:20	0.15	11287	11297	10	66.67	Sliding	Sliding - (WOB:45;GPM :640;TFO:90R))
15:20	15:30	0.17	11297	11382	85	510.00	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
15:30	15:34	0.07	11382	11382	0	.00	Survey & Conn.	Survey & Conn.@11321' Inc 92.52° Azm 271.45°
15:34	15:42	0.13	11382	11477	95	712.50	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
15:42	15:47	0.08	11477	11477	0	.00	Survey & Conn.	Survey & Conn.@11416' Inc 93.16° Azm 270.74°
15:47	15:55	0.13	11477	11484	7	52.50	Sliding	Sliding - (WOB:45;GPM :640;TFO:110R))

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
15:55	16:07	0.20	11484	11571	87	435.00	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
16:07	16:11	0.07	11571	11571	0	.00	Survey & Conn.	Survey & Conn.@11510' Inc 92.01° Azm 269.56°
16:11	16:21	0.17	11571	11666	95	570.00	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
16:21	16:53	0.53	11666	11666	0	.00	Rig Service-Inhole	Rig Service-Inhole
16:53	16:57	0.07	11666	11666	0	.00	Survey & Conn.	Survey & Conn.@11605' Inc 92.82° Azm 270.03°
16:57	17:07	0.17	11666	11760	94	564.00	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
17:07	17:11	0.07	11760	11760	0	.00	Survey & Conn.	Survey & Conn.@11699' Inc 93.42° Azm 269.32°
17:11	17:21	0.17	11760	11854	94	564.00	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
17:21	17:26	0.08	11854	11854	0	.00	Survey & Conn.	Survey & Conn.@11793' Inc 94.07° Azm 269.44°
17:26	17:37	0.18	11854	11866	12	65.45	Sliding	Sliding - (WOB:45;GPM :640;TFO:140R))
17:37	17:48	0.18	11866	11948	82	447.27	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
17:48	17:53	0.08	11948	11948	0	.00	Survey & Conn.	Survey & Conn.@11887' Inc 94.04° Azm 271.13°
17:53	18:06	0.22	11948	12043	95	438.46	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
18:06	18:13	0.12	12043	12043	0	.00	Survey & Conn.	Survey & Conn.@11982' Inc 93.34° Azm 270.15°
18:13	18:26	0.22	12043	12138	95	438.46	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
18:26	18:31	0.08	12138	12138	0	.00	Survey & Conn.	Survey & Conn.@12077' Inc 91.41° Azm 268.21°
18:31	18:57	0.43	12138	12155	17	39.23	Sliding	Sliding - (WOB:45;GPM :640;TFO:40R)
18:57	19:08	0.18	12155	12232	77	420.00	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
19:08	19:13	0.08	12232	12232	0	.00	Survey & Conn.	Survey & Conn.@12171' Inc 93.59° Azm 269.8°
19:13	19:28	0.25	12232	12240	8	32.00	Sliding	Sliding - (WOB:45;GPM :640;TFO:80R)
19:28	19:48	0.33	12240	12326	86	258.00	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
19:48	19:57	0.15	12326	12326	0	.00	Reaming	Ream Full Stand
19:57	20:02	0.08	12326	12326	0	.00	Survey & Conn.	Survey & Conn.@12265' Inc 94.64° Azm 271.16°
20:02	20:15	0.22	12326	12360	34	156.92	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
20:15	21:10	0.92	12360	12375	15	16.36	Sliding	Sliding - (WOB:45;GPM :640;TFO:180)
21:10	21:29	0.32	12375	12421	46	145.26	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
21:29	21:37	0.13	12421	12421	0	.00	Reaming	Back Ream Full Stand
21:37	21:42	0.08	12421	12421	0	.00	Survey & Conn.	Survey & Conn.@12360' Inc 93.52° Azm 270.22°
21:42	22:12	0.50	12421	12515	94	188.00	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
22:12	22:19	0.12	12515	12515	0	.00	Reaming	Ream Full Stand
22:19	22:24	0.08	12515	12515	0	.00	Survey & Conn.	Survey & Conn.@12454' Inc 93.12° Azm 270.5°
22:24	23:02	0.63	12515	12531	16	25.26	Sliding	Sliding - (WOB:45;GPM :640;TFO:160R)
23:02	23:32	0.50	12531	12610	79	158.00	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
23:32	23:40	0.13	12610	12610	0	.00	Reaming	Back Ream Full Stand
23:40	23:45	0.08	12610	12610	0	.00	Survey & Conn.	Survey & Conn.@12549' Inc 91.18° Azm 271.46°
23:45	23:49	0.07	12610	12620	10	150.00	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
23:49	24:00	0.18	12620	12622	2	10.91	Sliding	Sliding - (WOB:45;GPM :640;TFO:180)

JOB NO.:	380113	Report Time:	2400	5 of 7	
Company:	Extraction Oil & Gas	API JOB #	05-123-43404		
LOCATION:	Winder South Pad	WORK ORDER#			
RIG NAME:	Patterson 346	FIELD:	Wattenburg		
STATE:	Colorado	Township:	6N		
COUNTY:	Weld	Range/Section	67W	9	
WELL NAME:	Winder South 2	Company Man	Jose Torres		
Lead Directional :	Scott Sanford	2nd Dir Hand :	Chris Apodaca		

Scientific Drilling

From Thursday, August 25, 2016 at 0000 to Thursday, August 25, 2016 at 2400

DAILY TOTALS

Start Depth	12622.00
End Depth	15549.00
Below Rot Hrs.	24.00
Total Drilled:	2927.00
Avg. Total ROP:	166.94
Slide Footage:	169.00
Slide Hours	9.63
Avg. Slide ROP:	17.54
Rotate Footage:	2758.00
Rotary Hours	7.90
Avg. Rot ROP:	349.11
Circ Hours	3.97
Ream Hours	3.58
Rotary Hrs%:	45.06
Slide Hrs%:	54.94
Rotary Ftg%:	94.23
Slide Ftg%:	5.77

CASING

Size	Lb/Ft	MD

ASSEMBLY TOTALS

BHA #	Motor SN / R.S. SN	Slide Ftg	Slide Hrs	Rotate Ftg	Rotate Hrs	Circ Hrs	D & C Hrs	BHA Ftg	Avg ROP
3	G1519	1,588.00	29.25	9,782.00	26.35	14.40	70.00	11,370.00	201.48

Drilling Parameters

WOB:	45
Rot Wt:	0
Pick UP:	0
Slack Off:	0
SPP:	5650
Flow:	640 - 640
SPM:	220
Rot. RPM	60 - 60
Mot RPM:	60 - 60
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

COST BREAKDOWN

Bit Record

Bit No:	
Model	PDC
SN.:	1234
MFG.	
Type	
IADC	
JETS	N/A
TFA:	0
Hole ID:	7.875
Bit Hrs:	1.68
Bit Ftg:	1367.00

PUMPS

Liner	0	0
Stroke	0	0
Effic.	95.00%	95.00%
Gal/Stk	0.00	0.00
BBL/Stk	0.000	0.000

Current BHA # 3

PDC
2.12FBH
Non Mag DC
Pony Non Mag DC
Pony Non Mag DC
Hang Off Sub
Gap Sub
Non Mag DC
Filter Sub
3 Stands H.W.D.P.

GENERAL COMMENT

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
00:00	00:20	0.33	12622	12628	6	18.00	Sliding	Sliding - (WOB:45;GPM :640;TFO:180
00:20	00:38	0.30	12628	12704	76	253.33	Drilling	Drilling - (WOB:45;GPM :640;RPM:60)
00:38	00:44	0.10	12704	12704	0	.00	Reaming	Ream Full Stand
00:44	00:48	0.07	12704	12704	0	.00	Survey & Conn.	Survey & Conn.@12643' Inc 89.9° Azm 271.28°
00:48	01:00	0.20	12704	12799	95	475.00	Drilling	Drilling - (WOB:45;GPM :640;RPM:60)
01:00	01:06	0.10	12799	12799	0	.00	Reaming	Ream Full Stand
01:06	01:10	0.07	12799	12799	0	.00	Survey & Conn.	Survey & Conn.@12738' Inc 90.13° Azm 271.18°
01:10	01:30	0.33	12799	12806	7	21.00	Sliding	Sliding - (WOB:45;GPM :640;TFO:0)
01:30	01:48	0.30	12806	12893	87	290.00	Drilling	Drilling - (WOB:45;GPM :640;RPM:60)
01:48	01:55	0.12	12893	12893	0	.00	Reaming	Ream Full Stand
01:55	02:00	0.08	12893	12893	0	.00	Survey & Conn.	Survey & Conn.@12832' Inc 90.87° Azm 270.84°
02:00	02:14	0.23	12893	12900	7	30.00	Sliding	Sliding - (WOB:45;GPM :640;TFO:10R)
02:14	02:28	0.23	12900	12988	88	377.14	Drilling	Drilling - (WOB:45;GPM :640;RPM:60)
02:28	02:34	0.10	12988	12988	0	.00	Reaming	Ream Full Stand

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
02:34	02:39	0.08	12988	12988	0	.00	Survey & Conn.	Survey & Conn.@12927' Inc 91.58° Azm 270.47°
02:39	02:51	0.20	12988	12994	6	30.00	Sliding	Sliding - (WOB:45;GPM :640;TFO:10R)
02:51	03:05	0.23	12994	13082	88	377.14	Drilling	Drilling - (WOB:45;GPM :640;RPM:60)
03:05	03:13	0.13	13082	13082	0	.00	Reaming	Ream Full Stand
03:13	03:18	0.08	13082	13082	0	.00	Survey & Conn.	Survey & Conn.@13021' Inc 91.78° Azm 269.75°
03:18	03:37	0.32	13082	13092	10	31.58	Sliding	Sliding - (WOB:45;GPM :640;TFO:10R)
03:37	03:50	0.22	13092	13177	85	392.31	Drilling	Drilling - (WOB:45;GPM :640;RPM:60)
03:50	03:56	0.10	13177	13177	0	.00	Reaming	Ream Full Stand
03:56	04:01	0.08	13177	13177	0	.00	Survey & Conn.	Survey & Conn.@13116' Inc 93.94° Azm 270.69°
04:01	04:06	0.08	13177	13198	21	252.00	Drilling	Drilling - (WOB:45;GPM :640;RPM:60)
04:06	04:35	0.48	13198	13208	10	20.69	Sliding	Sliding - (WOB:45;GPM :640;TFO:180)
04:35	04:45	0.17	13208	13271	63	378.00	Drilling	Drilling - (WOB:45;GPM :640;RPM:60)
04:45	04:51	0.10	13271	13271	0	.00	Reaming	Ream Full Stand
04:51	04:56	0.08	13271	13271	0	.00	Survey & Conn.	Survey & Conn.@13210' Inc 93.39° Azm 270.59°
04:56	05:07	0.18	13271	13366	95	518.18	Drilling	Drilling - (WOB:45;GPM :640;RPM:60)
05:07	05:14	0.12	13366	13366	0	.00	Reaming	Ream Full Stand
05:14	05:18	0.07	13366	13366	0	.00	Survey & Conn.	Survey & Conn.@13305' Inc 92.91° Azm 269.96°
05:18	05:30	0.20	13366	13460	94	470.00	Drilling	Drilling - (WOB:45;GPM :640;RPM:60)
05:30	05:36	0.10	13460	13460	0	.00	Reaming	Ream Full Stand
05:36	05:42	0.10	13460	13460	0	.00	Survey & Conn.	Survey & Conn.@13399' Inc 93.32° Azm 270.19°
05:42	06:06	0.40	13460	13469	9	22.50	Sliding	Sliding - (WOB:45;GPM :640;TFO:180))
06:06	06:19	0.22	13469	13554	85	392.31	Drilling	Drilling - (WOB:45;GPM :640;RPM:60)
06:19	06:24	0.08	13554	13554	0	.00	Reaming	
06:24	06:30	0.10	13554	13554	0	.00	Survey & Conn.	Survey & Conn.@13493' Inc 90.5° Azm 269.08°
06:30	06:43	0.22	13554	13649	95	438.46	Drilling	Drilling - (WOB:45;GPM :640;RPM:60)
06:43	06:48	0.08	13649	13649	0	.00	Reaming	
06:48	06:52	0.07	13649	13649	0	.00	Survey & Conn.	Survey & Conn.@13588' Inc 90.94° Azm 269.22°
06:52	07:10	0.30	13649	13743	94	313.33	Drilling	Drilling - (WOB:45;GPM :640;RPM:60)
07:10	07:15	0.08	13743	13743	0	.00	Reaming	
07:15	07:20	0.08	13743	13743	0	.00	Survey & Conn.	Survey & Conn.@13682' Inc 91.71° Azm 268.7°
07:20	07:35	0.25	13743	13837	94	376.00	Drilling	Drilling - (WOB:45;GPM :640;RPM:60)
07:35	07:40	0.08	13837	13837	0	.00	Reaming	
07:40	07:46	0.10	13837	13837	0	.00	Survey & Conn.	Survey & Conn.@13776' Inc 91.91° Azm 268.49°
07:46	08:24	0.63	13837	13852	15	23.68	Sliding	Sliding - (WOB:45;GPM :640;TFO:160R))
08:24	08:41	0.28	13852	13931	79	278.82	Drilling	Drilling - (WOB:45;GPM :640;RPM:60)
08:41	08:47	0.10	13931	13931	0	.00	Reaming	
08:47	08:51	0.07	13931	13931	0	.00	Survey & Conn.	Survey & Conn.@13870' Inc 91.74° Azm 270.59°
08:51	09:07	0.27	13931	14026	95	356.25	Drilling	Drilling - (WOB:45;GPM :640;RPM:60)
09:07	09:12	0.08	14026	14026	0	.00	Reaming	
09:12	09:18	0.10	14026	14026	0	.00	Survey & Conn.	Survey & Conn.@13965' Inc 91.71° Azm 270.56°
09:18	09:31	0.22	14026	14120	94	433.85	Drilling	Drilling - (WOB:45;GPM :640;RPM:60)
09:31	09:37	0.10	14120	14120	0	.00	Reaming	
09:37	09:44	0.12	14120	14120	0	.00	Survey & Conn.	Survey & Conn.@14059' Inc 90.87° Azm 269.82°
09:44	09:58	0.23	14120	14214	94	402.86	Drilling	Drilling - (WOB:45;GPM :640;RPM:60)
09:58	10:06	0.13	14214	14214	0	.00	Reaming	
10:06	10:09	0.05	14214	14214	0	.00	Survey & Conn.	Survey & Conn.@14153' Inc 90.5° Azm 269.25°
10:09	10:37	0.47	14214	14229	15	32.14	Sliding	Sliding - (WOB:45;GPM :640;TFO:100R))
10:37	10:52	0.25	14229	14309	80	320.00	Drilling	Drilling - (WOB:45;GPM :640;RPM:60)

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
10:52	10:57	0.08	14309	14309	0	.00	Reaming	
10:57	11:04	0.12	14309	14309	0	.00	Survey & Conn.	Survey & Conn.@14248' Inc 90.77° Azm 270.81°
11:04	11:28	0.40	14309	14314	5	12.50	Sliding	Sliding - (WOB:45;GPM :640;TFO:70R))
11:28	11:47	0.32	14314	14403	89	281.05	Drilling	Drilling - (WOB:45;GPM :640;RPM:60)
11:47	11:55	0.13	14403	14403	0	.00	Reaming	
11:55	12:00	0.08	14403	14403	0	.00	Survey & Conn.	Survey & Conn.@14342' Inc 90.91° Azm 270.25°
12:00	12:16	0.27	14403	14497	94	352.50	Drilling	Drilling - (WOB:45;GPM :640;RPM:60)
12:16	12:23	0.12	14497	14497	0	.00	Reaming	
12:23	12:28	0.08	14497	14497	0	.00	Survey & Conn.	Survey & Conn.@14436' Inc 91.45° Azm 269.95°
12:28	13:00	0.53	14497	14507	10	18.75	Sliding	Sliding - (WOB:45;GPM :640;TFO:40R))
13:00	13:14	0.23	14507	14592	85	364.29	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
13:14	13:20	0.10	14592	14592	0	.00	Reaming	
13:20	13:24	0.07	14592	14592	0	.00	Survey & Conn.	Survey & Conn.@14531' Inc 92.61° Azm 270.89°
13:24	13:37	0.22	14592	14687	95	438.46	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
13:37	13:45	0.13	14687	14687	0	.00	Reaming	
13:45	13:49	0.07	14687	14687	0	.00	Survey & Conn.	Survey & Conn.@14626' Inc 93.75° Azm 270.68°
13:49	14:38	0.82	14687	14702	15	18.37	Sliding	Sliding - (WOB:45;GPM :640;TFO:80R))
14:38	14:53	0.25	14702	14781	79	316.00	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
14:53	15:01	0.13	14781	14781	0	.00	Reaming	
15:01	15:05	0.07	14781	14781	0	.00	Survey & Conn.	Survey & Conn.@14720' Inc 91.07° Azm 271.36°
15:05	15:19	0.23	14781	14876	95	407.14	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
15:19	15:26	0.12	14876	14876	0	.00	Reaming	
15:26	15:30	0.07	14876	14876	0	.00	Survey & Conn.	Survey & Conn.@14815' Inc 89.63° Azm 270.07°
15:30	15:44	0.23	14876	14970	94	402.86	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
15:44	15:53	0.15	14970	14970	0	.00	Reaming	
15:53	15:57	0.07	14970	14970	0	.00	Survey & Conn.	Survey & Conn.@14909' Inc 89.6° Azm 268.73°
15:57	16:55	0.97	14970	14988	18	18.62	Sliding	Sliding - (WOB:45;GPM :640;TFO:70R)
16:55	17:08	0.22	14988	15065	77	355.38	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
17:08	17:15	0.12	15065	15065	0	.00	Reaming	
17:15	17:19	0.07	15065	15065	0	.00	Survey & Conn.	Survey & Conn.@15004' Inc 90.91° Azm 270.95°
17:19	17:35	0.27	15065	15159	94	352.50	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
17:35	17:43	0.13	15159	15159	0	.00	Reaming	
17:43	17:47	0.07	15159	15159	0	.00	Survey & Conn.	Survey & Conn.@15098' Inc 91.54° Azm 270.58°
17:47	18:03	0.27	15159	15254	95	356.25	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
18:03	18:11	0.13	15254	15254	0	.00	Reaming	
18:11	18:16	0.08	15254	15254	0	.00	Survey & Conn.	Survey & Conn.@15193' Inc 92.14° Azm 269.38°
18:16	19:22	1.10	15254	15269	15	13.64	Sliding	Sliding - (WOB:45;GPM :640;TFO:140R)
19:22	19:42	0.33	15269	15349	80	240.00	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
19:42	19:56	0.23	15349	15349	0	.00	Reaming	Drilling - (WOB:40;GPM :640;RPM:60)
19:56	20:19	0.38	15349	15349	0	.00	Rig Service-Inhole	Rig Service-Inhole
20:19	20:24	0.08	15349	15349	0	.00	Survey & Conn.	Survey & Conn.@15288' Inc 90.4° Azm 269.69°
20:24	20:41	0.28	15349	15444	95	335.29	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
20:41	20:49	0.13	15444	15444	0	.00	Reaming	
20:49	20:55	0.10	15444	15444	0	.00	Survey & Conn.	Survey & Conn.@15383' Inc 90.1° Azm 268.12°
20:55	22:51	1.93	15444	15464	20	10.34	Sliding	Sliding - (WOB:45;GPM :640;TFO:90R)
22:51	23:11	0.33	15464	15538	74	222.00	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
23:11	23:20	0.15	15538	15538	0	.00	Reaming	
23:20	23:25	0.08	15538	15538	0	.00	Survey & Conn.	Survey & Conn.@15477' Inc 89.83° Azm 269.47°

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
23:25	**23:31**	0.10	**15538**	**15548**	10	**100.00**	**Drilling**	Drilling - (WOB:40;GPM :640;RPM:60)
23:31	**24:00**	0.48	**15548**	**15549**	1	**2.07**	**Sliding**	Sliding - (WOB:45;GPM :640;TFO:90R)

JOB NO.:	380113	Report Time:	2400	6 of 7	
Company:	Extraction Oil & Gas	API JOB #	05-123-43404		
LOCATION:	Winder South Pad	WORK ORDER#			
RIG NAME:	Patterson 346	FIELD:	Wattenburg		
STATE:	Colorado	Township:	6N		
COUNTY:	Weld	Range/Section	67W	9	
WELL NAME:	Winder South 2	Company Man	Jose Torres		
Lead Directional :	Scott Sanford	2nd Dir Hand :	Chris Apodaca		

Scientific Drilling

From Friday, August 26, 2016 at 0000 to Friday, August 26, 2016 at 2400

DAILY TOTALS

Start Depth	15549.00
End Depth	17075.00
Below Rot Hrs.	24.00
Total Drilled:	1526.00
Avg. Total ROP:	116.79
Slide Footage:	87.00
Slide Hours	7.53
Avg. Slide ROP:	11.55
Rotate Footage:	1439.00
Rotary Hours	5.53
Avg. Rot ROP:	260.06
Circ Hours	6.92
Ream Hours	6.52
Rotary Hrs%:	42.35
Slide Hrs%:	57.65
Rotary Ftg%:	94.30
Slide Ftg%:	5.70

CASING

Size	Lb/Ft	MD

ASSEMBLY TOTALS

BHA #	Motor SN / R.S. SN	Slide Ftg	Slide Hrs	Rotate Ftg	Rotate Hrs	Circ Hrs	D & C Hrs	BHA Ftg	Avg ROP
3	G1519	1,588.00	29.25	9,782.00	26.35	14.40	70.00	11,370.00	201.48

Drilling Parameters

WOB:	35
Rot Wt:	0
Pick UP:	0
Slack Off:	0
SPP:	5000
Flow:	580 - 640
SPM:	200
Rot. RPM	60 - 60
Mot RPM:	60 - 60
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

COST BREAKDOWN

Bit Record

Bit No:	
Model	PDC
SN.:	1234
MFG.	
Type	
IADC	
JETS	N/A
TFA:	0
Hole ID:	7.875
Bit Hrs:	1.68
Bit Ftg:	1367.00

PUMPS

Liner	0	0
Stroke	0	0
Effic.	95.00%	95.00%
Gal/Stk	0.00	0.00
BBL/Stk	0.000	0.000

Current BHA # 3

PDC
2.12FBH
Non Mag DC
Pony Non Mag DC
Pony Non Mag DC
Hang Off Sub
Gap Sub
Non Mag DC
Filter Sub
3 Stands H.W.D.P.

GENERAL COMMENT

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
00:00	01:00	1.00	15549	15553	4	4.00	Sliding	Sliding - (WOB:45;GPM :640;TFO:90R)
01:00	01:27	0.45	15553	15586	33	73.33	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
01:27	01:45	0.30	15586	15586	0	.00	Reaming	
01:45	02:05	0.33	15586	15632	46	138.00	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
02:05	02:40	0.58	15632	15632	0	.00	Short Trip	Short Trip - Pull 10 Stands
02:40	04:15	1.58	15632	15632	0	.00	Reaming	Ream To Bottom
04:15	04:20	0.08	15632	15632	0	.00	Survey & Conn.	Survey & Conn.@15571' Inc 91.31° Azm 269.85°
04:20	05:50	1.50	15632	15650	18	12.00	Sliding	Sliding - (WOB:45;GPM :580;TFO:130R)
05:50	06:09	0.32	15650	15727	77	243.16	Drilling	Drilling - (WOB:40;GPM :640;RPM:60)
06:09	06:19	0.17	15727	15727	0	.00	Reaming	
06:19	06:23	0.07	15727	15727	0	.00	Survey & Conn.	Survey & Conn.@15666' Inc 88.22° Azm 270.39°
06:23	07:23	1.00	15727	15742	15	15.00	Sliding	Sliding - (WOB:45;GPM :580;TFO:130R))
07:23	07:38	0.25	15742	15821	79	316.00	Drilling	Drilling - (WOB:35;GPM :580;RPM:60)
07:38	07:44	0.10	15821	15821	0	.00	Reaming	

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
07:44	07:48	0.07	15821	15821	0	.00	Survey & Conn.	Survey & Conn.@15760' Inc 87.96° Azm 271.37°
07:48	08:03	0.25	15821	15916	95	380.00	Drilling	Drilling - (WOB:35;GPM :580;RPM:60)
08:03	08:11	0.13	15916	15916	0	.00	Reaming	
08:11	08:15	0.07	15916	15916	0	.00	Survey & Conn.	Survey & Conn.@15855' Inc 89.46° Azm 272°
08:15	08:34	0.32	15916	16010	94	296.84	Drilling	Drilling - (WOB:35;GPM :580;RPM:60)
08:34	08:41	0.12	16010	16010	0	.00	Reaming	
08:41	08:45	0.07	16010	16010	0	.00	Survey & Conn.	Survey & Conn.@15949' Inc 90.81° Azm 272.43°
08:45	09:01	0.27	16010	16105	95	356.25	Drilling	Drilling - (WOB:35;GPM :580;RPM:60)
09:01	09:07	0.10	16105	16105	0	.00	Reaming	
09:07	09:11	0.07	16105	16105	0	.00	Survey & Conn.	Survey & Conn.@16044' Inc 92.08° Azm 272.48°
09:11	10:19	1.13	16105	16120	15	13.24	Sliding	Sliding - (WOB:45;GPM :580;TFO:70R))
10:19	10:37	0.30	16120	16200	80	266.67	Drilling	Drilling - (WOB:35;GPM :580;RPM:60)
10:37	10:44	0.12	16200	16200	0	.00	Reaming	
10:44	10:48	0.07	16200	16200	0	.00	Survey & Conn.	Survey & Conn.@16139' Inc 90.7° Azm 272.66°
10:48	11:06	0.30	16200	16294	94	313.33	Drilling	Drilling - (WOB:35;GPM :580;RPM:60)
11:06	11:13	0.12	16294	16294	0	.00	Reaming	
11:13	11:17	0.07	16294	16294	0	.00	Survey & Conn.	Survey & Conn.@16233' Inc 91.44° Azm 272.81°
11:17	12:30	1.22	16294	16309	15	12.33	Sliding	Sliding - (WOB:45;GPM :580;TFO:160L))
12:30	12:46	0.27	16309	16389	80	300.00	Drilling	Drilling - (WOB:35;GPM :580;RPM:60)
12:46	12:51	0.08	16389	16389	0	.00	Reaming	
12:51	12:56	0.08	16389	16389	0	.00	Survey & Conn.	Survey & Conn.@16328' Inc 91.21° Azm 270.7°
12:56	13:13	0.28	16389	16483	94	331.76	Drilling	Drilling - (WOB:35;GPM :580;RPM:60)
13:13	13:21	0.13	16483	16483	0	.00	Reaming	
13:21	13:25	0.07	16483	16483	0	.00	Survey & Conn.	Survey & Conn.@16422' Inc 92.35° Azm 270.64°
13:25	15:06	1.68	16483	16503	20	11.88	Sliding	Sliding - (WOB:45;GPM :580;TFO:180)
15:06	15:22	0.27	16503	16578	75	281.25	Drilling	Drilling - (WOB:35;GPM :580;RPM:60)
15:22	15:31	0.15	16578	16578	0	.00	Reaming	
15:31	15:36	0.08	16578	16578	0	.00	Survey & Conn.	Survey & Conn.@16517' Inc 90.44° Azm 270.95°
15:36	15:56	0.33	16578	16673	95	285.00	Drilling	Drilling - (WOB:35;GPM :580;RPM:60)
15:56	16:05	0.15	16673	16673	0	.00	Reaming	
16:05	16:10	0.08	16673	16673	0	.00	Survey & Conn.	Survey & Conn.@16612' Inc 91.07° Azm 270.57°
16:10	16:33	0.38	16673	16767	94	245.22	Drilling	Drilling - (WOB:35;GPM :580;RPM:60)
16:33	16:41	0.13	16767	16767	0	.00	Reaming	
16:41	16:45	0.07	16767	16767	0	.00	Survey & Conn.	Survey & Conn.@16706' Inc 90.94° Azm 270°
16:45	17:09	0.40	16767	16862	95	237.50	Drilling	Drilling - (WOB:35;GPM :580;RPM:60)
17:09	17:19	0.17	16862	16862	0	.00	Reaming	
17:19	17:24	0.08	16862	16862	0	.00	Survey & Conn.	Survey & Conn.@16801' Inc 90.84° Azm 269.4°
17:24	17:47	0.38	16862	16957	95	247.83	Drilling	Drilling - (WOB:35;GPM :580;RPM:60)
17:47	18:06	0.32	16957	16957	0	.00	Reaming	
18:06	18:11	0.08	16957	16957	0	.00	Survey & Conn.	Survey & Conn.@16896' Inc 90.03° Azm 267.68°
18:11	18:32	0.35	16957	17051	94	268.57	Drilling	Drilling - (WOB:35;GPM :580;RPM:60)
18:32	18:41	0.15	17051	17051	0	.00	Reaming	
18:41	18:46	0.08	17051	17051	0	.00	Survey & Conn.	Survey & Conn.@17014' Inc 89.43° Azm 266.22°
18:46	18:51	0.08	17051	17075	24	288.00	Drilling	Drilling - (WOB:35;GPM :580;RPM:60) TD
18:51	18:55	0.07	17075	17075	0	.00	MWD Survey	MWD Survey@17014' Inc 89.43° Azm 266.22°
18:55	19:15	0.33	17075	17075	0	.00	Circulating	Circulating
19:15	21:30	2.25	17075	17075	0	.00	Short Trip	Short Trip Back To 13000'
21:30	24:00	2.50	17075	17075	0	.00	Reaming	Ream To Bottom

JOB NO.:	380113	Report Time:	2400	7 of 7	
Company:	Extraction Oil & Gas	API JOB #	05-123-43404		
LOCATION:	Winder South Pad	WORK ORDER#			
RIG NAME:	Patterson 346	FIELD:	Wattenburg		
STATE:	Colorado	Township:	6N		
COUNTY:	Weld	Range/Section	67W	9	
WELL NAME:	Winder South 2	Company Man	Jose Torres		
Lead Directional :	Scott Sanford	2nd Dir Hand :	Chris Apodaca		

From Saturday, August 27, 2016 at 0000 to Saturday, August 27, 2016 at 2400

DAILY TOTALS

Start Depth	15549.00
End Depth	17075.00
Below Rot Hrs.	24.00
Total Drilled:	1526.00
Avg. Total ROP:	116.79
Slide Footage:	87.00
Slide Hours	7.53
Avg. Slide ROP:	11.55
Rotate Footage:	1439.00
Rotary Hours	5.53
Avg. Rot ROP:	260.06
Circ Hours	6.92
Ream Hours	2.50
Rotary Hrs%:	42.35
Slide Hrs%:	57.65
Rotary Ftg%:	94.30
Slide Ftg%:	5.70

CASING

Size	Lb/Ft	MD

ASSEMBLY TOTALS

BHA #	Motor SN / R.S. SN	Slide Ftg	Slide Hrs	Rotate Ftg	Rotate Hrs	Circ Hrs	D & C Hrs	BHA Ftg	Avg ROP
3	G1519	1,588.00	29.25	9,782.00	26.35	14.40	70.00	11,370.00	201.48

Drilling Parameters

WOB:	35
Rot Wt:	0
Pick UP:	0
Slack Off:	0
SPP:	5000
Flow:	580 - 580
SPM:	200
Rot. RPM	-
Mot RPM:	-
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:	
Model	PDC
SN.:	1234
MFG.	
Type	
IADC	
JETS	N/A
TFA:	0
Hole ID:	7.875
Bit Hrs:	1.68
Bit Ftg:	1367.00

PUMPS

Liner	0	0
Stroke	0	0
Effic.	95.00%	95.00%
Gal/Stk	0.00	0.00
BBL/Stk	0.000	0.000

Current BHA # 3

PDC
2.12FBH
Non Mag DC
Pony Non Mag DC
Pony Non Mag DC
Hang Off Sub
Gap Sub
Non Mag DC
Filter Sub
3 Stands H.W.D.P.

COST BREAKDOWN

GENERAL COMMENT

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
00:00	02:30	2.50	17075	17075	0	.00	Reaming	Ream to Bottom
02:30	03:00	0.50	17075	17075	0	.00	Circulating	Circulating
03:00	09:00	6.00	17075	17075	0	.00	POOH	POOH
09:00	09:45	0.75	17075	17075	0	.00	Other	L/D Directional tools
09:45	24:00	14.25	17075	17075	0	.00	Standby	Standby

BHA # 1

Scientific Drilling

JOB NO.:	380113	**Work Order:**	**FIELD:**	Wattenburg	
Company:	Extraction Oil & Gas		**Township:**	6N	
LOCATION:	Winder South Pad		**SECT. RANGE:**	9	67W
RIG NAME:	Patterson 346		**Lead DD:**	Chris Apodaca	
STATE:	Colorado		**Co. Man:**	Hugh McGraw	
COUNTY:	Weld		**BHA TYPE:**		
WELL NAME:	Winder South 2		**BHA WT:**	15872	**Wt @ Jars:** N/A

Time and Depths

Date In:	22-Aug-16 @ 05:10
Date Out:	22-Aug-16 @ 15:00
Hrs In Hole:	9.83
Start Depth:	1583.00
End Depth:	2950.00
Total Drilled:	1367.00
Avg. Total ROP:	603.09
Circ Hrs: Tot/Only	4.22 / 1.95
Percent Slide:	4.90
Percent Hrs:	13.97
Slide Hours:	.32
Total Sliding:	67.00
Avg. Slide ROP:	211.58
Percent Rotary:	95.10
Percent Hrs:	86.03
Rotary Hours:	1.95
Total Rotary:	1300.00
Avg. Rotary ROP:	666.67
Reason POOH:	

MOTOR DATA

2.1 ABH Motor	
MFG.:	
Pad OD:	
NB Stab:	0
Bit to Bend:	0
Bent Hsg/Sub°:	2.1 /
Lobe/Stage:	/
Rev/GAL:	0
Rotor Jet:	0
Prop BUR:	
Act BUR:	

Drilling Parameters

SO/PU:	0 - 0 / 0-0
Rot Strg Wt:	0-0
WOB:	10 - 32
TORQ:	3200 - 7500
SPP:	925 - 2600
Motor RPM:	No Rev/Gal Input
Rotary RPM:	20 - 65
Flow Rate:	466 - 640
Avg Diff:	
Stall Pres.:	
Off Bot Pres.:	

Mud Data

Type			
WT:	0	**GAS:**	0
Vis:	0	**PV:**	0
WL:	0	**PH:**	0
SOL:	0	**SAND:**	0
Oil %:	0	**T °:**	0
Chlor:	0	**YP:**	0

Bit Record

	/ PDC
Run #:	
Type Bit:	
IADC#:	**TFA:** 0
JETS:	
Bit Drop:	N/A
Cond.:	

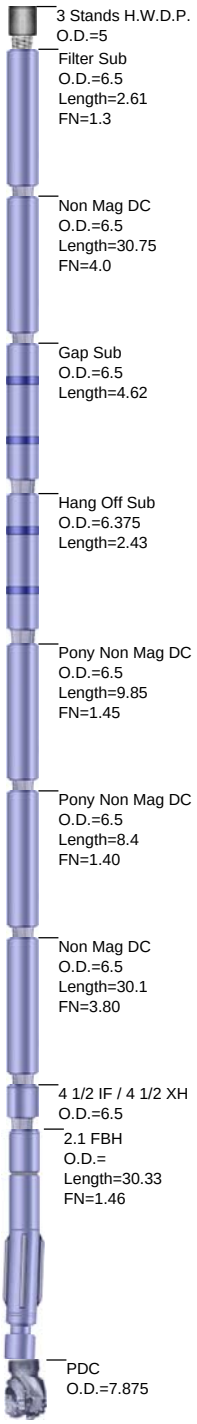
MWD Spacing **Gamma:** 0 **Restiv:** 0 **Sensor:** 0 **GYRO:** 0 **DNSC:** 0 **Sonic:** 0

Last Casing **O.D.** **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.
PDC	1234		7.875	0.75	0.75	4 1/2 REGP	OTHER
2.1 FBH	13227262			30.33	31.08	4 1/2 IFB	OTHER
4 1/2 IF / 4 1/2 XH	R0000346	2 3/4	6.5	2.63	33.71	4 1/2 IFB	OTHER
Non Mag DC	122-978	3.25	6.5	30.10	63.81	4 1/2 IFB	SDI
Pony Non Mag DC	125-218	3.25	6.5	8.40	72.21	4 1/2 IFB	SDI
Pony Non Mag DC	125-297	3.25	6.5	9.85	82.06	4 1/2 IFB	SDI
Hang Off Sub	8-1057	3.25	6.375	2.43	84.49	4 1/2 IFB	SDI
Gap Sub	69-1169	2.8125	6.5	4.62	89.11	4 1/2 IFB	SDI
Non Mag DC	189-012	3.25	6.5	30.75	119.86	4 1/2 IFB	SDI
Filter Sub	DR16287	3.25	6.5	2.61	122.47	4 1/2 IFB	SDI
3 Stands H.W.D.P.	N/A	3.76	5	275.51	397.98	4 1/2 IFB	Other



Scientific Drilling

JOB NO.:	380113	**FIELD:**	Wattenburg
Company:	Extraction Oil & Gas	**Township:**	6N
LOCATION:	Winder South Pad	**Range**	67W
RIG NAME:	Patterson 346		
STATE:	Colorado		
COUNTY:	Country		
WELL NAME:	Winder South 2		

MOTOR INFORMATION

Desc: 2.1 ABH Motor

Bent Hsg/Sub: 2.1 / 0 **Bit to Bend: 0**

Pad OD: **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	22-Aug	Drilling	08:40	08:45	0.08	1583	1627	44	10	528.0	20	3200	466	925		6.20	147.80	0.00	
1	22-Aug	Drilling	08:50	08:58	0.13	1627	1722	95	10	712.5	20	3200	466	925		4.72	145.69	0.00	
1	22-Aug	Drilling	09:10	09:12	0.03	1722	1748	26	10	780.0	20	3200	466	925		4.87	148.23	0.00	
1	22-Aug	Sliding	09:20	09:24	0.07	1748	1758	10	20	150.0	20	3200	466	925	45R	4.87	148.23	0.00	
1	22-Aug	Drilling	09:24	09:28	0.07	1758	1816	58	32	870.0	50	6500	640	2050		4.87	148.23	0.00	
1	22-Aug	Sliding	09:33	09:36	0.05	1816	1831	15	20	300.0	50	6500	466	2050	45R	4.87	148.23	0.00	
1	22-Aug	Drilling	09:36	09:42	0.10	1831	1910	79	32	790.0	50	6500	640	2050		6.52	170.69	0.00	
1	22-Aug	Drilling	09:46	09:51	0.08	1910	2005	95	32	1140.0	65	6500	640	2050		5.71	168.32	0.00	
1	22-Aug	Sliding	09:56	09:58	0.03	2005	2018	13	20	390.0	0	0	466	1575	10L	5.71	168.32	0.00	
1	22-Aug	Drilling	09:58	10:03	0.08	2018	2099	81	32	972.0	65	7000	640	2225		7.25	169.31	0.00	
1	22-Aug	Drilling	10:08	10:14	0.10	2099	2194	95	32	950.0	65	7000	640	2225		6.00	170.06	0.00	
1	22-Aug	Sliding	10:45	10:49	0.07	2194	2206	12	20	180.0	65	7000	466	2225	60L	6.00	170.06	0.00	
1	22-Aug	Drilling	10:49	10:54	0.08	2206	2288	82	32	984.0	65	7000	640	2225		7.01	160.20	0.00	
1	22-Aug	Sliding	11:01	11:03	0.03	2288	2295	7	20	210.0	65	7000	466	2225	75L	7.01	160.20	0.00	
1	22-Aug	Drilling	11:03	11:08	0.08	2295	2383	88	32	1056.0	65	7000	640	2225		7.01	160.20	0.00	
1	22-Aug	Drilling	11:16	11:21	0.08	2383	2477	94	32	1128.0	65	7000	640	2225		6.50	147.43	0.00	
1	22-Aug	Drilling	11:26	11:31	0.08	2477	2572	95	32	1140.0	65	7000	640	2225		6.10	152.67	0.00	
1	22-Aug	Sliding	11:36	11:40	0.07	2572	2582	10	20	150.0	65	7000	466	2225	30L	6.10	152.67	0.00	
1	22-Aug	Drilling	11:40	11:45	0.08	2582	2666	84	32	1008.0	55	7500	640	2600		8.23	149.74	0.00	
1	22-Aug	Drilling	11:48	11:54	0.10	2666	2761	95	32	950.0	55	7500	640	2600		7.35	152.47	0.00	
1	22-Aug	Drilling	11:58	12:03	0.08	2761	2856	95	32	1140.0	55	7500	640	2600		7.35	152.47	0.00	
1	22-Aug	Drilling	12:20	12:25	0.08	2856	2950	94	32	1128.0	55	7500	640	2600		5.65	155.54	0.00	

Total Drilled:	1367	**Avg. Total ROP:**	603.09		**DEPTH% - TIME %**
Total Rotary Drilled:	1300	**Avg. Rotary ROP:**	666.67	**Percent Rotary:**	95.10 - 86.03
Total Drilled Sliding:	67	**Avg. Slide ROP:**	211.58	**Percent Slide:**	4.90 - 13.97

BHA # 2

Scientific Drilling

JOB NO.:	380113 **Work Order:**	**FIELD:**	Wattenburg
Company:	Extraction Oil & Gas	**Township:**	6N
LOCATION:	Winder South Pad	**SECT. RANGE:**	9 67W
RIG NAME:	Patterson 346	**Lead DD:**	Chris Apodaca / Scott Sanford
STATE:	Colorado	**Co. Man:**	Hugh McGraw
COUNTY:	Weld	**BHA TYPE:**	Steerable Assembly
WELL NAME:	Winder South 2	**BHA WT:**	15836 **Wt @ Jars:** N/A

Time and Depths

Date In:	22-Aug-16 @ 15:00
Date Out:	23-Aug-16 @ 11:00
Hrs In Hole:	20.00
Start Depth:	2950.00
End Depth:	5705.00
Total Drilled:	2755.00
Avg. Total ROP:	328.63
Circ Hrs: Tot/Only	12.58 / 4.20
Percent Slide:	18.66
Percent Hrs:	52.09
Slide Hours:	4.37
Total Sliding:	514.00
Avg. Slide ROP:	117.71
Percent Rotary:	81.34
Percent Hrs:	47.91
Rotary Hours:	4.02
Total Rotary:	2241.00
Avg. Rotary ROP:	557.93
Reason POOH:	

MOTOR DATA

2.1 ABH Motor	
MFG.:	
Pad OD:	
NB Stab:	0
Bit to Bend:	2.1
Bent Hsg/Sub°:	0 /
Lobe/Stage:	/
Rev/GAL:	0
Rotor Jet:	0
Prop BUR:	
Act BUR:	

Drilling Parameters

SO/PU:	0 - 0 / 0-0
Rot Strg Wt:	0-0
WOB:	20 - 32
TORQ:	7500 - 11000
SPP:	2600 - 3246
Motor RPM:	No Rev/Gal Input
Rotary RPM:	50 - 55
Flow Rate:	466 - 640
Avg Diff:	
Stall Pres.:	
Off Bot Pres.:	

Mud Data

Type			
WT:	0	**GAS:**	0
Vis:	0	**PV:**	0
WL:	0	**PH:**	0
SOL:	0	**SAND:**	0
Oil %:	0	**T °:**	0
Chlor:	0	**YP:**	0

Bit Record

	/ PDC
Run #:	
Type Bit:	
IADC#:	**TFA:** 0
JETS:	
Bit Drop:	N/A
Cond.:	

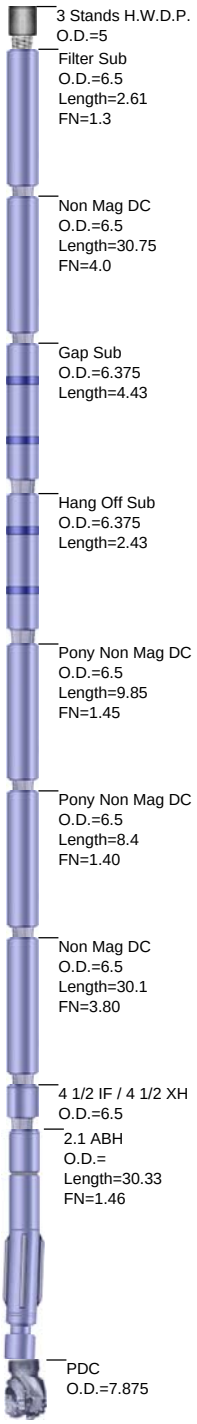
MWD Spacing **Gamma:** 0 **Restiv:** 0 **Sensor:** 0 **GYRO:** 0 **DNSC:** 0 **Sonic:** 0

Last Casing **O.D.** **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.
PDC	1234		7.875	0.75	0.75	4 1/2 REGP	
2.1 ABH	13227262			30.33	31.08	4 1/2 IFB	OTHER
4 1/2 IF / 4 1/2 XH	R0000346	2 3/4	6.5	2.63	33.71	4 1/2 IFB	OTHER
Non Mag DC	122-978	3.25	6.5	30.10	63.81	4 1/2 IFB	SDI
Pony Non Mag DC	125-218	3.25	6.5	8.40	72.21	4 1/2 IFB	SDI
Pony Non Mag DC	125-297	3.25	6.5	9.85	82.06	4 1/2 IFB	SDI
Hang Off Sub	8-1057	3.25	6.375	2.43	84.49	4 1/2 IFB	SDI
Gap Sub	69-1172	2.8125	6.375	4.43	88.92	4 1/2 IFB	SDI
Non Mag DC	189-012	3.25	6.5	30.75	119.67	4 1/2 IFB	SDI
Filter Sub	DR16287	3.25	6.5	2.61	122.28	4 1/2 IFB	SDI
3 Stands H.W.D.P.	N/A	3.76	5	275.51	397.79	4 1/2 IFB	Other



Scientific Drilling

JOB NO.:	380113	**FIELD:**	Wattenburg
Company:	Extraction Oil & Gas	**Township:**	6N
LOCATION:	Winder South Pad	**Range**	67W
RIG NAME:	Patterson 346		
STATE:	Colorado		
COUNTY:	Country		
WELL NAME:	Winder South 2		

MOTOR INFORMATION

Desc: 2.1 ABH Motor

Bent Hsg/Sub: 0 / 0 **Bit to Bend: 2.1**

Pad OD: **NB Stab:**

Slide Report for BHA # 2

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
2	22-Aug	Sliding	19:40	19:43	0.05	2950	2969	19	20	380.0	55	7500	466	2600	30L	5.65	155.54	0.00	
2	22-Aug	Drilling	19:43	19:50	0.12	2969	3044	75	32	642.9	55	7500	640	2600		5.65	155.54	0.00	
2	22-Aug	Sliding	20:38	20:44	0.10	3044	3064	20	20	200.0	55	7500	466	2600	30L	5.65	155.54	0.00	
2	22-Aug	Drilling	20:44	20:52	0.13	3064	3086	22	32	165.0	55	7500	640	2600		5.65	155.54	0.00	
2	22-Aug	Sliding	21:17	21:25	0.13	3086	3098	12	20	90.0	55	7500	466	2600	30L	5.65	155.54	0.00	
2	22-Aug	Drilling	21:25	21:36	0.18	3098	3116	18	32	98.2	55	7500	640	2600		5.65	155.54	0.00	
2	22-Aug	Sliding	21:36	21:48	0.20	3116	3139	23	20	115.0	55	7500	466	2600	30L	5.65	155.54	0.00	
2	22-Aug	Drilling	21:51	22:25	0.57	3139	3327	188	32	331.8	55	7500	640	2600		10.62	115.97	0.00	
2	22-Aug	Sliding	22:41	22:48	0.12	3327	3337	10	20	85.7	55	7500	466	2600	30L	10.62	115.97	0.00	
2	22-Aug	Drilling	22:48	23:00	0.20	3337	3516	179	32	895.0	55	7500	640	2600		6.82	114.37	0.00	
2	22-Aug	Sliding	23:03	23:12	0.15	3516	3536	20	20	133.3	55	7500	466	2600	30L	6.82	114.37	0.00	
2	22-Aug	Drilling	23:12	23:19	0.12	3536	3611	75	32	642.9	55	7500	640	2600		6.99	130.70	0.00	
2	22-Aug	Sliding	23:23	23:47	0.40	3611	3641	30	20	75.0	55	7500	466	2600	30L	4.65	152.86	0.00	
2	22-Aug	Drilling	23:47	23:49	0.03	3641	3706	65	32	1950.0	55	7500	640	2600		4.65	152.86	0.00	
2	22-Aug	Sliding	23:58	24:00	0.03	3706	3712	6	20	180.0	55	7500	466	2600	30L	4.65	152.86	0.00	
2	23-Aug	Sliding	00:00	00:06	0.10	3712	3726	14	20	140.0	55	7500	466	2600	30L	4.65	152.86	0.00	
2	23-Aug	Drilling	00:06	00:12	0.10	3726	3801	75	32	750.0	55	7500	640	2600		6.60	176.67	0.00	
2	23-Aug	Sliding	00:19	00:26	0.12	3801	3821	20	20	171.4	55	7500	466	2600	30L	6.60	176.67	0.00	
2	23-Aug	Drilling	00:26	00:35	0.15	3821	3896	75	32	500.0	55	7500	640	2600		9.45	176.27	0.00	
2	23-Aug	Sliding	00:40	00:45	0.08	3896	3905	9	20	108.0	55	7500	466	2600	30L	9.45	176.27	0.00	
2	23-Aug	Sliding	00:45	00:50	0.08	3905	3990	85	20	1020.0	55	7500	466	2600	30L	10.80	170.90	0.00	
2	23-Aug	Sliding	00:53	01:03	0.17	3990	4000	10	20	60.0	55	7500	466	2600	30L	10.80	170.90	0.00	
2	23-Aug	Drilling	01:03	01:10	0.12	4000	4085	85	32	728.6	55	7500	640	2600		9.86	155.99	0.00	
2	23-Aug	Sliding	01:14	01:21	0.12	4085	4105	20	20	171.4	55	7500	466	2600	30L	9.86	155.99	0.00	
2	23-Aug	Drilling	01:21	01:29	0.13	4105	4180	75	32	562.5	55	7500	640	2600		9.91	145.70	0.00	
2	23-Aug	Sliding	01:32	01:39	0.12	4180	4200	20	20	171.4	55	7500	466	2600	30L	9.91	145.70	0.00	

Slide Report for BHA # 2

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
2	23-Aug	Drilling	01:39	01:46	0.12	4200	4274	74	32	634.3	55	7500	640	3246		9.86	132.27	0.00	
2	23-Aug	Drilling	01:50	01:57	0.12	4274	4369	95	32	814.3	55	7500	640	3246		8.58	132.78	0.00	
2	23-Aug	Sliding	02:01	02:06	0.08	4369	4379	10	20	120.0	55	7500	466	3246	30L	8.58	132.78	0.00	
2	23-Aug	Drilling	02:06	02:12	0.10	4379	4463	84	32	840.0	55	7500	640	3246		8.18	145.02	0.00	
2	23-Aug	Sliding	02:16	02:23	0.12	4463	4478	15	20	128.6	55	7500	466	3246	30L	8.18	145.02	0.00	
2	23-Aug	Drilling	02:23	02:30	0.12	4478	4558	80	32	685.7	55	7500	640	3246		9.55	141.18	0.00	
2	23-Aug	Drilling	02:34	02:44	0.17	4558	4652	94	32	564.0	55	7500	640	3246		7.48	137.95	0.00	
2	23-Aug	Sliding	02:47	02:55	0.13	4652	4672	20	20	150.0	55	7500	466	3246	30L	7.48	137.95	0.00	
2	23-Aug	Drilling	02:55	03:02	0.12	4672	4746	74	32	634.3	50	11000	640	3246		8.51	144.23	0.00	
2	23-Aug	Sliding	03:06	03:27	0.35	4746	4765	19	20	54.3	55	7500	466	3246	90L	8.51	144.23	0.00	
2	23-Aug	Drilling	03:27	03:34	0.12	4765	4841	76	32	651.4	50	7500	640	3246		8.93	137.22	0.00	
2	23-Aug	Sliding	03:41	03:48	0.12	4841	4851	10	20	85.7	50	7500	466	3246	90L	8.93	137.22	0.00	
2	23-Aug	Drilling	03:48	03:55	0.12	4851	4936	85	32	728.6	50	7500	640	3246		8.86	125.92	0.00	
2	23-Aug	Drilling	04:00	04:09	0.15	4936	5031	95	32	633.3	50	7500	640	3246		7.47	124.90	0.00	
2	23-Aug	Sliding	04:14	04:18	0.07	5031	5051	20	20	300.0	50	7500	466	3246	90L	7.47	124.90	0.00	
2	23-Aug	Drilling	04:18	04:25	0.12	5051	5125	74	32	634.3	50	7500	640	3246		7.88	142.75	0.00	
2	23-Aug	Sliding	04:31	04:41	0.17	5125	5140	15	20	90.0	50	7500	466	3246	90L	7.88	142.75	0.00	
2	23-Aug	Drilling	04:41	04:49	0.13	5140	5220	80	32	600.0	50	7500	640	3246		7.42	149.30	0.00	
2	23-Aug	Sliding	04:53	05:03	0.17	5220	5240	20	20	120.0	50	7500	466	3246	90L	7.42	149.30	0.00	
2	23-Aug	Drilling	05:03	05:15	0.20	5240	5315	75	32	375.0	50	7500	640	3246		7.98	133.63	0.00	
2	23-Aug	Sliding	05:21	05:57	0.60	5315	5336	21	20	35.0	50	7500	466	3246	90L	7.98	133.63	0.00	
2	23-Aug	Drilling	05:57	06:06	0.15	5336	5409	73	32	486.7	50	7500	640	3246		8.32	136.70	0.00	
2	23-Aug	Drilling	06:12	06:20	0.13	5409	5504	95	32	712.5	50	7500	640	3246		5.92	134.32	0.00	
2	23-Aug	Sliding	06:25	06:34	0.15	5504	5529	25	20	166.7	50	7500	466	3246	20R	5.92	134.32	0.00	
2	23-Aug	Drilling	06:34	06:40	0.10	5529	5599	70	32	700.0	50	7500	640	3246		7.23	146.21	0.00	
2	23-Aug	Sliding	06:45	06:59	0.23	5599	5614	15	20	64.3	50	7500	466	3246	20R	7.23	146.21	0.00	
2	23-Aug	Drilling	06:59	07:05	0.10	5614	5694	80	32	800.0	50	7500	640	3246		7.12	155.72	0.00	
2	23-Aug	Sliding	07:10	07:23	0.22	5694	5700	6	20	27.7	50	7500	466	3246	20R	7.12	155.72	0.00	
2	23-Aug	Drilling	07:23	07:30	0.12	5700	5705	5	32	42.9	50	7500	640	3246		7.12	155.72	0.00	

Total Drilled:	2755	**Avg. Total ROP:**	328.63	**DEPTH% - TIME %**	
Total Rotary Drilled:	2241	**Avg. Rotary ROP:**	557.93	**Percent Rotary:**	81.34 - 47.91
Total Drilled Sliding:	514	**Avg. Slide ROP:**	117.71	**Percent Slide:**	18.66 - 52.09

BHA # 3

Scientific Drilling

JOB NO.:	380113	**Work Order:**	**FIELD:**	Wattenburg	
Company:	Extraction Oil & Gas		**Township:**	6N	
LOCATION:	Winder South Pad		**SECT. RANGE:**	9	67W
RIG NAME:	Patterson 346		**Lead DD:**	Scott Sanford	
STATE:	Colorado		**Co. Man:**	Jose Torres	
COUNTY:	Weld		**BHA TYPE:**		
WELL NAME:	Winder South 2		**BHA WT:**	17710	**Wt @ Jars:** N/A

Time and Depths

Date In:	23-Aug-16 @ 11:00
Date Out:	27-Aug-16 @ 09:45
Hrs In Hole:	94.75
Start Depth:	5705.00
End Depth:	17075.00
Total Drilled:	11370.00
Avg. Total ROP:	204.50
Circ Hrs: Tot/Only	70.92 / 15.32
Percent Slide:	13.97
Percent Hrs:	52.61
Slide Hours:	29.25
Total Sliding:	1588.00
Avg. Slide ROP:	54.29
Percent Rotary:	86.03
Percent Hrs:	47.39
Rotary Hours:	26.35
Total Rotary:	9782.00
Avg. Rotary ROP:	371.23
Reason POOH:	

MOTOR DATA

2.12 FBH Motor	
MFG.:	
Pad OD:	
NB Stab:	0
Bit to Bend:	0
Bent Hsg/Sub°:	2.12 /
Lobe/Stage:	/
Rev/GAL:	0
Rotor Jet:	0
Prop BUR:	
Act BUR:	

Drilling Parameters

SO/PU:	0 - 0 / 0-0
Rot Strg Wt:	0-0
WOB:	20 - 50
TORQ:	13000 - 27000
SPP:	3725 - 5650
Motor RPM:	No Rev/Gal Input
Rotary RPM:	50 - 60
Flow Rate:	466 - 640
Avg Diff:	
Stall Pres.:	
Off Bot Pres.:	

Mud Data

Type			
WT:	0	**GAS:**	0
Vis:	0	**PV:**	0
WL:	0	**PH:**	0
SOL:	0	**SAND:**	0
Oil %:	0	**T °:**	0
Chlor:	0	**YP:**	0

Bit Record

	/ PDC
Run #:	
Type Bit:	
IADC#:	**TFA:** 0
JETS:	
Bit Drop:	N/A
Cond.:	

MWD Spacing **Gamma:** 0 **Restiv:** 0 **Sensor:** 0 **GYRO:** 0 **DNSC:** 0 **Sonic:** 0

Last Casing **O.D.** **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.
PDC	1234		7.875	0.75	0.75	4 1/2 REGP	OTHER
2.12FBH	G1519		6.5	25.00	25.75	4 1/2 IFB	OTHER
Non Mag DC	122-978	3.25	6.5	30.10	55.85	4 1/2 IFB	SDI
Pony Non Mag DC	125-218	3.25	6.5	8.40	64.25	4 1/2 IFB	SDI
Pony Non Mag DC	125-297	3.25	6.5	9.85	74.10	4 1/2 IFB	SDI
Hang Off Sub	8-1057	3.25	6.375	2.43	76.53	4 1/2 IFB	SDI
Gap Sub	69-1172	2.8125	6.375	4.43	80.96	4 1/2 IFB	SDI
Non Mag DC	189-012	3.25	6.5	30.75	111.71	4 1/2 IFB	SDI
Filter Sub	DR16287	3.25	6.5	2.61	114.32	4 1/2 IF	SDI
3 Stands H.W.D.P.	N/A	3.76	5	275.51	389.83	4 1/2 IF	Other

JOB NO.:	380113	**FIELD:**	Wattenburg
Company:	Extraction Oil & Gas	**Township:**	6N
LOCATION:	Winder South Pad	**Range**	67W
RIG NAME:	Patterson 346		
STATE:	Colorado		
COUNTY:	Country		
WELL NAME:	Winder South 2		

MOTOR INFORMATION

Desc: 2.12 FBH Motor

Bent Hsg/Sub: 2.12 / **0** **Bit to Bend: 0**

Pad OD: **NB Stab:**

Slide Report for BHA # 3

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
3	23-Aug	Drilling	14:41	14:43	0.03	5705	5711	6	32	180.0	50	13000	640	4550		7.12	155.72	0.00	
3	23-Aug	Sliding	14:48	14:56	0.13	5711	5736	25	20	187.5	50	13000	466	4550	45L	7.12	155.72	0.00	
3	23-Aug	Drilling	14:56	15:04	0.13	5736	5805	69	32	517.5	50	13000	640	4550		8.81	139.54	0.00	
3	23-Aug	Sliding	15:08	15:14	0.10	5805	5815	10	20	100.0	50	13000	466	4550	45L	8.81	139.54	0.00	
3	23-Aug	Drilling	15:14	15:23	0.15	5815	5900	85	32	566.7	50	13000	640	4550		8.91	128.95	0.00	
3	23-Aug	Sliding	15:28	15:37	0.15	5900	5910	10	20	66.7	50	13000	466	4550	0G	8.91	128.95	0.00	
3	23-Aug	Drilling	15:37	15:46	0.15	5910	5995	85	32	566.7	50	13000	640	4550		8.28	124.03	0.00	
3	23-Aug	Sliding	15:50	15:55	0.08	5995	6010	15	20	180.0	50	13000	466	4550	20R	8.28	124.03	0.00	
3	23-Aug	Drilling	15:55	16:04	0.15	6010	6089	79	32	526.7	50	13000	640	4550		8.47	124.98	0.00	
3	23-Aug	Sliding	16:08	16:14	0.10	6089	6109	20	20	200.0	50	13000	466	4550	20R	8.47	124.98	0.00	
3	23-Aug	Drilling	16:14	16:22	0.13	6109	6184	75	32	562.5	50	13000	640	4550		9.40	129.34	0.00	
3	23-Aug	Sliding	16:27	16:34	0.12	6184	6199	15	20	128.6	50	13000	466	4550	0G	9.40	129.34	0.00	
3	23-Aug	Drilling	16:34	16:42	0.13	6199	6278	79	32	592.5	50	13000	640	4550		10.13	132.32	0.00	
3	23-Aug	Drilling	16:46	16:59	0.22	6278	6373	95	32	438.5	50	13000	640	4550		7.27	130.52	0.00	
3	23-Aug	Sliding	17:04	17:11	0.12	6373	6398	25	20	214.3	50	13000	466	4550	20R	7.27	130.52	0.00	
3	23-Aug	Drilling	17:11	17:19	0.13	6398	6467	69	32	517.5	50	13000	640	4550		9.03	130.86	0.00	
3	23-Aug	Sliding	17:24	17:32	0.13	6467	6479	12	20	90.0		13000	466	4550	0G	9.03	130.86	0.00	
3	23-Aug	Drilling	17:32	17:40	0.13	6479	6562	83	32	622.5	50	13000	640	4550		7.39	128.13	0.00	
3	23-Aug	Sliding	17:45	17:54	0.15	6562	6587	25	20	166.7	50	13000	466	4550	30R	7.39	128.13	0.00	
3	23-Aug	Drilling	17:54	18:02	0.13	6587	6656	69	32	517.5	50	13000	640	4550		9.04	131.75	0.00	
3	23-Aug	Sliding	18:09	18:15	0.10	6656	6667	11	20	110.0	50	13000	466	4550	30R	9.04	131.75	0.00	
3	23-Aug	Drilling	18:15	18:25	0.17	6667	6751	84	32	504.0	50	13000	640	4550		7.35	135.04	0.00	
3	23-Aug	Drilling	18:30	18:35	0.08	6751	6783	32	32	384.0	50	13000	640	4550		7.35	135.04	0.00	
3	23-Aug	Sliding	18:35	18:56	0.35	6783	6846	63	20	180.0	50	13000	466	4550	70R	6.15	140.75	0.00	
3	23-Aug	Sliding	19:01	19:28	0.45	6846	6940	94	20	208.9	50	13000	466	4550	70R	15.07	194.94	0.00	
3	23-Aug	Sliding	19:34	20:00	0.43	6940	7035	95	25	219.2	50	13000	466	4550	65R	23.02	227.37	0.00	

Slide Report for BHA # 3

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
3	23-Aug	Sliding	20:55	21:25	0.50	7035	7129	94	25	188.0	50	13000	466	4550	80R	28.37	253.51	0.00	
3	23-Aug	Sliding	21:30	22:00	0.50	7129	7224	95	25	190.0	50	13000	466	4550	20R	33.19	268.00	0.00	
3	23-Aug	Sliding	22:05	22:28	0.38	7224	7318	94	25	245.2	50	13000	466	4550	0G	42.93	271.46	0.00	
3	23-Aug	Sliding	22:34	22:58	0.40	7318	7413	95	25	237.5	50	13000	466	4550	0G	53.67	270.83	0.00	
3	23-Aug	Sliding	23:06	23:40	0.57	7413	7507	94	25	165.9	50	13000	466	4550	0G	64.93	271.22	0.00	
3	23-Aug	Sliding	23:46	24:00	0.23	7507	7533	26	25	111.4	50	13000	466	4550	10L	64.93	271.22	0.00	
3	24-Aug	Sliding	00:00	00:28	0.47	7533	7602	69	25	147.9	50	13000	580	3725	0G	76.00	271.00	0.00	
3	24-Aug	Sliding	00:38	00:51	0.22	7602	7633	31	25	143.1	50	13000	580	3725	10L	76.00	271.00	0.00	
3	24-Aug	Sliding	00:56	01:10	0.23	7633	7651	18	50	77.1	50	13000	580	3725	10L	89.13	268.39	0.00	
3	24-Aug	Drilling	01:10	01:17	0.12	7651	7696	45	32	385.7	50	13000	640	4650		92.59	269.07	0.00	
3	24-Aug	Drilling	01:22	01:27	0.08	7696	7728	32	32	384.0	50	13000	640	4650		92.59	269.07	0.00	
3	24-Aug	Drilling	01:33	01:39	0.10	7728	7791	63	32	630.0	50	13000	640	4650		94.11	268.52	0.00	
3	24-Aug	Sliding	01:45	01:52	0.12	7791	7811	20	50	171.4	50	13000	640	4650	180	94.11	268.52	0.00	
3	24-Aug	Drilling	01:52	02:12	0.33	7811	7886	75	32	225.0	60	17000	640	4650		91.31	267.11	0.00	
3	24-Aug	Sliding	02:17	02:28	0.18	7886	7900	14	50	76.4	60	17000	640	4650	130R	91.31	267.11	0.00	
3	24-Aug	Drilling	02:28	02:49	0.35	7900	7980	80	32	228.6	60	17000	640	4650		90.34	268.62	0.00	
3	24-Aug	Sliding	02:59	03:10	0.18	7980	7994	14	50	76.4	60	17000	640	4650	120R	90.34	268.62	0.00	
3	24-Aug	Drilling	03:10	03:26	0.27	7994	8075	81	32	303.8	60	17000	640	4650		89.60	271.16	0.00	
3	24-Aug	Drilling	03:31	03:44	0.22	8075	8169	94	32	433.8	60	17000	640	4650		89.06	269.85	0.00	
3	24-Aug	Drilling	03:49	04:03	0.23	8169	8264	95	32	407.1	60	17000	640	4650		89.43	270.50	0.00	
3	24-Aug	Drilling	04:10	04:22	0.20	8264	8359	95	32	475.0	60	17000	640	4650		90.57	270.74	0.00	
3	24-Aug	Drilling	04:27	04:46	0.32	8359	8453	94	32	296.8	60	17000	640	4650		90.64	270.31	0.00	
3	24-Aug	Drilling	04:51	05:16	0.42	8453	8548	95	32	228.0	60	17000	640	4650		90.50	271.59	0.00	
3	24-Aug	Sliding	05:23	05:34	0.18	8548	8558	10	50	54.5	60	17000	640	4650	160L	90.50	271.59	0.00	
3	24-Aug	Drilling	05:34	05:48	0.23	8558	8642	84	32	360.0	60	17000	640	4650		90.27	272.13	0.00	
3	24-Aug	Sliding	05:53	06:07	0.23	8642	8657	15	50	64.3	60	17000	640	4650	150L	90.27	272.13	0.00	
3	24-Aug	Drilling	06:07	06:23	0.27	8657	8736	79	45	296.3	60	20000	640	4850		87.74	269.86	0.00	
3	24-Aug	Drilling	06:28	06:41	0.22	8736	8831	95	45	438.5	60	20000	640	4850		87.07	269.33	0.00	
3	24-Aug	Sliding	06:46	06:56	0.17	8831	8841	10	50	60.0	60	20000	640	4850	0G	87.07	269.33	0.00	
3	24-Aug	Drilling	06:56	07:06	0.17	8841	8925	84	45	504.0	60	20000	640	4850		88.93	269.17	0.00	
3	24-Aug	Sliding	07:11	07:16	0.08	8925	8932	7	50	84.0	60	20000	640	4850	40R	88.93	269.17	0.00	
3	24-Aug	Drilling	07:16	07:25	0.15	8932	9020	88	45	586.7	60	20000	640	4850		90.13	270.29	0.00	
3	24-Aug	Drilling	07:30	07:38	0.13	9020	9114	94	45	705.0	60	20000	640	4850		88.49	268.70	0.00	
3	24-Aug	Sliding	07:43	07:48	0.08	9114	9124	10	50	120.0	60	20000	640	4850	50R	88.49	268.70	0.00	
3	24-Aug	Drilling	07:48	07:57	0.15	9124	9209	85	45	566.7	60	20000	640	4850		89.97	270.76	0.00	

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Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
3	24-Aug	Drilling	08:02	08:10	0.13	9209	9303	94	45	705.0	60	20000	640	4850		90.20	269.96	0.00	
3	24-Aug	Drilling	08:15	08:21	0.10	9303	9398	95	45	950.0	60	20000	640	4850		90.07	269.02	0.00	
3	24-Aug	Drilling	08:25	08:33	0.13	9398	9492	94	45	705.0	60	20000	640	4850		90.74	268.35	0.00	
3	24-Aug	Sliding	08:38	08:47	0.15	9492	9502	10	45	66.7	60	20000	640	4850	80R	90.74	268.35	0.00	
3	24-Aug	Drilling	08:47	08:56	0.15	9502	9587	85	45	566.7	60	20000	640	4850		91.62	269.81	0.00	
3	24-Aug	Sliding	09:00	09:07	0.12	9587	9595	8	45	68.6	60	20000	640	4850	150R	91.62	269.81	0.00	
3	24-Aug	Drilling	09:07	09:16	0.15	9595	9681	86	45	573.3	60	20000	640	4850		90.40	268.70	0.00	
3	24-Aug	Sliding	09:20	09:30	0.17	9681	9691	10	45	60.0	60	20000	640	4850	150R	90.40	268.70	0.00	
3	24-Aug	Drilling	09:30	09:39	0.15	9691	9776	85	45	566.7	60	20000	640	4850		90.20	270.37	0.00	
3	24-Aug	Drilling	09:43	09:51	0.13	9776	9870	94	45	705.0	60	20000	640	4850		89.80	268.59	0.00	
3	24-Aug	Sliding	09:56	10:07	0.18	9870	9882	12	45	65.5	60	20000	640	4850	100R	89.80	268.59	0.00	
3	24-Aug	Drilling	10:07	10:16	0.15	9882	9965	83	40	553.3	60	22500	640	5200		89.03	270.54	0.00	
3	24-Aug	Drilling	10:20	10:27	0.12	9965	10059	94	40	805.7	60	22500	640	5200		89.06	270.64	0.00	
3	24-Aug	Drilling	10:31	10:41	0.17	10059	10154	95	40	570.0	60	22500	640	5200		88.96	269.64	0.00	
3	24-Aug	Sliding	10:45	10:59	0.23	10154	10166	12	45	51.4	60	22500	640	5200	70R	88.96	269.64	0.00	
3	24-Aug	Drilling	10:59	11:07	0.13	10166	10249	83	40	622.5	60	22500	640	5200		90.54	271.90	0.00	
3	24-Aug	Drilling	11:12	11:20	0.13	10249	10343	94	40	705.0	60	22500	640	5200		90.70	271.13	0.00	
3	24-Aug	Drilling	11:24	11:32	0.13	10343	10437	94	40	705.0	60	22500	640	5200		91.08	271.10	0.00	
3	24-Aug	Drilling	11:36	11:49	0.22	10437	10532	95	40	438.5	60	22500	640	5200		92.18	270.83	0.00	
3	24-Aug	Sliding	11:53	12:14	0.35	10532	10547	15	45	42.9	60	22500	640	5200	150R	92.18	270.83	0.00	
3	24-Aug	Drilling	12:14	12:35	0.35	10547	10626	79	40	225.7	60	22500	640	5200		90.40	272.29	0.00	
3	24-Aug	Drilling	12:40	12:48	0.13	10626	10721	95	40	712.5	60	22500	640	5200		90.54	270.85	0.00	
3	24-Aug	Sliding	12:52	12:58	0.10	10721	10726	5	45	50.0	60	22500	640	5200	20L	90.54	270.85	0.00	
3	24-Aug	Drilling	12:58	13:10	0.20	10726	10815	89	40	445.0	60	22500	640	5200		93.30	269.43	0.00	
3	24-Aug	Sliding	13:15	13:28	0.22	10815	10822	7	45	32.3	60	22500	640	5200	20L	93.30	269.43	0.00	
3	24-Aug	Drilling	13:28	13:40	0.20	10822	10910	88	40	440.0	60	22500	640	5200		91.04	267.98	0.00	
3	24-Aug	Drilling	13:45	13:54	0.15	10910	11004	94	40	626.7	60	22500	640	5200		91.24	266.81	0.00	
3	24-Aug	Sliding	13:58	14:15	0.28	11004	11019	15	45	52.9	60	22500	640	5200	90R	91.24	266.81	0.00	
3	24-Aug	Drilling	14:15	14:23	0.13	11019	11099	80	40	600.0	60	22500	640	5200		91.85	268.78	0.00	
3	24-Aug	Sliding	14:28	14:43	0.25	11099	11114	15	45	60.0	60	22500	640	5200	90R	91.85	268.78	0.00	
3	24-Aug	Drilling	14:43	14:53	0.17	11114	11193	79	40	474.0	60	22500	640	5200		92.02	270.85	0.00	
3	24-Aug	Drilling	14:57	15:06	0.15	11193	11287	94	40	626.7	60	22500	640	5200		92.60	270.11	0.00	
3	24-Aug	Sliding	15:11	15:20	0.15	11287	11297	10	45	66.7	60	22500	640	5200	110R	92.60	270.11	0.00	
3	24-Aug	Drilling	15:20	15:30	0.17	11297	11382	85	40	510.0	60	22500	640	5200		92.52	271.45	0.00	
3	24-Aug	Drilling	15:34	15:42	0.13	11382	11477	95	40	712.5	60	22500	640	5200		93.16	270.74	0.00	

Slide Report for BHA # 3

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
3	24-Aug	Sliding	15:47	15:55	0.13	11477	11484	7	45	52.5	60	22500	640	5200	140R	93.16	270.74	0.00	
3	24-Aug	Drilling	15:55	16:07	0.20	11484	11571	87	40	435.0	60	22500	640	5200		92.01	269.56	0.00	
3	24-Aug	Drilling	16:11	16:21	0.17	11571	11666	95	40	570.0	60	22500	640	5200		92.82	270.03	0.00	
3	24-Aug	Drilling	16:57	17:07	0.17	11666	11760	94	40	564.0	60	22500	640	5200		93.42	269.32	0.00	
3	24-Aug	Drilling	17:11	17:21	0.17	11760	11854	94	40	564.0	60	22500	640	5200		94.07	269.44	0.00	
3	24-Aug	Sliding	17:26	17:37	0.18	11854	11866	12	45	65.5	60	22500	640	5200	110R	94.07	269.44	0.00	
3	24-Aug	Drilling	17:37	17:48	0.18	11866	11948	82	40	447.3	60	22500	640	5200		94.04	271.13	0.00	
3	24-Aug	Drilling	17:53	18:06	0.22	11948	12043	95	40	438.5	60	22500	640	5200		93.34	270.15	0.00	
3	24-Aug	Drilling	18:13	18:26	0.22	12043	12138	95	40	438.5	60	22500	640	5200		91.41	268.21	0.00	
3	24-Aug	Sliding	18:31	18:57	0.43	12138	12155	17	45	39.2	60	25000	640	5425	40R	91.41	268.21	0.00	
3	24-Aug	Drilling	18:57	19:08	0.18	12155	12232	77	40	420.0	60	25000	640	5425		93.59	269.80	0.00	
3	24-Aug	Sliding	19:13	19:28	0.25	12232	12240	8	45	32.0	60	25000	640	5425	80R	93.59	269.80	0.00	
3	24-Aug	Drilling	19:28	19:48	0.33	12240	12326	86	40	258.0	60	25000	640	5425		94.64	271.16	0.00	
3	24-Aug	Drilling	20:02	20:15	0.22	12326	12360	34	40	156.9	60	25000	640	5425		94.64	271.16	0.00	
3	24-Aug	Sliding	20:15	21:10	0.92	12360	12375	15	45	16.4	60	25000	640	5425	180	93.52	270.22	0.00	
3	24-Aug	Drilling	21:10	21:29	0.32	12375	12421	46	40	145.3	60	25000	640	5425		93.52	270.22	0.00	
3	24-Aug	Drilling	21:42	22:12	0.50	12421	12515	94	40	188.0	60	25000	640	5425		93.12	270.50	0.00	
3	24-Aug	Sliding	22:24	23:02	0.63	12515	12531	16	45	25.3	60	25000	640	5425	160R	93.12	270.50	0.00	
3	24-Aug	Drilling	23:02	23:32	0.50	12531	12610	79	40	158.0	60	25000	640	5425		91.18	271.46	0.00	
3	24-Aug	Drilling	23:45	23:49	0.07	12610	12620	10	40	150.0	60	25000	640	5425		91.18	271.46	0.00	
3	24-Aug	Sliding	23:49	24:00	0.18	12620	12622	2	45	10.9	60	25000	640	5425	180	91.18	271.46	0.00	
3	25-Aug	Sliding	00:00	00:20	0.33	12622	12628	6	45	18.0	60	24000	640	5425	180	91.18	271.46	0.00	
3	25-Aug	Drilling	00:20	00:38	0.30	12628	12704	76	45	253.3	60	24000	640	5425		89.90	271.28	0.00	
3	25-Aug	Drilling	00:48	01:00	0.20	12704	12799	95	45	475.0	60	24000	640	5425		90.13	271.18	0.00	
3	25-Aug	Sliding	01:10	01:30	0.33	12799	12806	7	45	21.0	60	24000	640	5500		90.13	271.18	0.00	
3	25-Aug	Drilling	01:30	01:48	0.30	12806	12893	87	45	290.0	60	24000	640	5500		90.87	270.84	0.00	
3	25-Aug	Sliding	02:00	02:14	0.23	12893	12900	7	45	30.0	60	24000	640	5500	10R	90.87	270.84	0.00	
3	25-Aug	Drilling	02:14	02:28	0.23	12900	12988	88	45	377.1	60	24000	640	5500		91.58	270.47	0.00	
3	25-Aug	Sliding	02:39	02:51	0.20	12988	12994	6	45	30.0	60	24000	640	5500	10R	91.58	270.47	0.00	
3	25-Aug	Drilling	02:51	03:05	0.23	12994	13082	88	45	377.1	60	24000	640	5500		91.78	269.75	0.00	
3	25-Aug	Sliding	03:18	03:37	0.32	13082	13092	10	45	31.6	60	24000	640	5500	10R	91.78	269.75	0.00	
3	25-Aug	Drilling	03:37	03:50	0.22	13092	13177	85	45	392.3	60	24500	640	5500		93.94	270.69	0.00	
3	25-Aug	Drilling	04:01	04:06	0.08	13177	13198	21	45	252.0	60	24500	640	5500		93.94	270.69	0.00	
3	25-Aug	Sliding	04:06	04:35	0.48	13198	13208	10	45	20.7	60	24500	640	5500	180	93.94	270.69	0.00	
3	25-Aug	Drilling	04:35	04:45	0.17	13208	13271	63	45	378.0	60	24500	640	5500		93.39	270.59	0.00	

Slide Report for BHA # 3

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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
3	25-Aug	Drilling	04:56	05:07	0.18	13271	13366	95	45	518.2	60	24500	640	5500		92.91	269.96	0.00	
3	25-Aug	Drilling	05:18	05:30	0.20	13366	13460	94	45	470.0	60	24500	640	5500		93.32	270.19	0.00	
3	25-Aug	Sliding	05:42	06:06	0.40	13460	13469	9	45	22.5	60	24500	640	5500	160R	93.32	270.19	0.00	
3	25-Aug	Drilling	06:06	06:19	0.22	13469	13554	85	45	392.3	60	24500	640	5500		90.50	269.08	0.00	
3	25-Aug	Drilling	06:30	06:43	0.22	13554	13649	95	45	438.5	60	24500	640	5500		90.94	269.22	0.00	
3	25-Aug	Drilling	06:52	07:10	0.30	13649	13743	94	45	313.3	60	24500	640	5500		91.71	268.70	0.00	
3	25-Aug	Drilling	07:20	07:35	0.25	13743	13837	94	45	376.0	60	24500	640	5500		91.91	268.49	0.00	
3	25-Aug	Sliding	07:46	08:24	0.63	13837	13852	15	45	23.7	60	24500	640	5500	100R	91.91	268.49	0.00	
3	25-Aug	Drilling	08:24	08:41	0.28	13852	13931	79	45	278.8	60	24500	640	5500		91.74	270.59	0.00	
3	25-Aug	Drilling	08:51	09:07	0.27	13931	14026	95	45	356.3	60	24500	640	5500		91.71	270.56	0.00	
3	25-Aug	Drilling	09:18	09:31	0.22	14026	14120	94	45	433.8	60	24500	640	5500		90.87	269.82	0.00	
3	25-Aug	Drilling	09:44	09:58	0.23	14120	14214	94	45	402.9	60	24500	640	5500		90.50	269.25	0.00	
3	25-Aug	Sliding	10:09	10:37	0.47	14214	14229	15	45	32.1	60	24500	640	5500	70R	90.50	269.25	0.00	
3	25-Aug	Drilling	10:37	10:52	0.25	14229	14309	80	45	320.0	60	24500	640	5500		90.77	270.81	0.00	
3	25-Aug	Sliding	11:04	11:28	0.40	14309	14314	5	45	12.5	60	24500	640	5500	40R	90.77	270.81	0.00	
3	25-Aug	Drilling	11:28	11:47	0.32	14314	14403	89	45	281.1	60	24500	640	5500		90.91	270.25	0.00	
3	25-Aug	Drilling	12:00	12:16	0.27	14403	14497	94	45	352.5	60	24500	640	5500		91.45	269.95	0.00	
3	25-Aug	Sliding	12:28	13:00	0.53	14497	14507	10	45	18.8	60	24500	640	5500	80R	91.45	269.95	0.00	
3	25-Aug	Drilling	13:00	13:14	0.23	14507	14592	85	40	364.3	60	26500	640	5500		92.61	270.89	0.00	
3	25-Aug	Drilling	13:24	13:37	0.22	14592	14687	95	40	438.5	60	26500	640	5500		93.75	270.68	0.00	
3	25-Aug	Sliding	13:49	14:38	0.82	14687	14702	15	45	18.4	60	26500	640	5500	160R	93.75	270.68	0.00	
3	25-Aug	Drilling	14:38	14:53	0.25	14702	14781	79	40	316.0	60	26500	640	5500		91.07	271.36	0.00	
3	25-Aug	Drilling	15:05	15:19	0.23	14781	14876	95	40	407.1	60	26500	640	5500		89.63	270.07	0.00	
3	25-Aug	Drilling	15:30	15:44	0.23	14876	14970	94	40	402.9	60	26500	640	5500		89.60	268.73	0.00	
3	25-Aug	Sliding	15:57	16:55	0.97	14970	14988	18	45	18.6	60	26500	640	5500	70R	89.60	268.73	0.00	
3	25-Aug	Drilling	16:55	17:08	0.22	14988	15065	77	40	355.4	60	26500	640	5500		90.91	270.95	0.00	
3	25-Aug	Drilling	17:19	17:35	0.27	15065	15159	94	40	352.5	60	26500	640	5500		91.54	270.58	0.00	
3	25-Aug	Drilling	17:47	18:03	0.27	15159	15254	95	40	356.3	60	26500	640	5500		92.14	269.38	0.00	
3	25-Aug	Sliding	18:16	19:22	1.10	15254	15269	15	45	13.6	60	26500	640	5500	140R	92.14	269.38	0.00	
3	25-Aug	Drilling	19:22	19:42	0.33	15269	15349	80	40	240.0	60	26500	640	5500		90.40	269.69	0.00	
3	25-Aug	Drilling	20:24	20:41	0.28	15349	15444	95	40	335.3	60	26500	640	5500		90.10	268.12	0.00	
3	25-Aug	Sliding	20:55	22:51	1.93	15444	15464	20	45	10.3	60	26500	640	5500	90R	90.10	268.12	0.00	
3	25-Aug	Drilling	22:51	23:11	0.33	15464	15538	74	40	222.0	60	27000	640	5650		89.83	269.47	0.00	
3	25-Aug	Drilling	23:25	23:31	0.10	15538	15548	10	40	100.0	60	27000	640	5650		89.83	269.47	0.00	
3	25-Aug	Sliding	23:31	24:00	0.48	15548	15549	1	45	2.1	60	27000	640	5650	90R	89.83	269.47	0.00	

Slide Report for BHA # 3

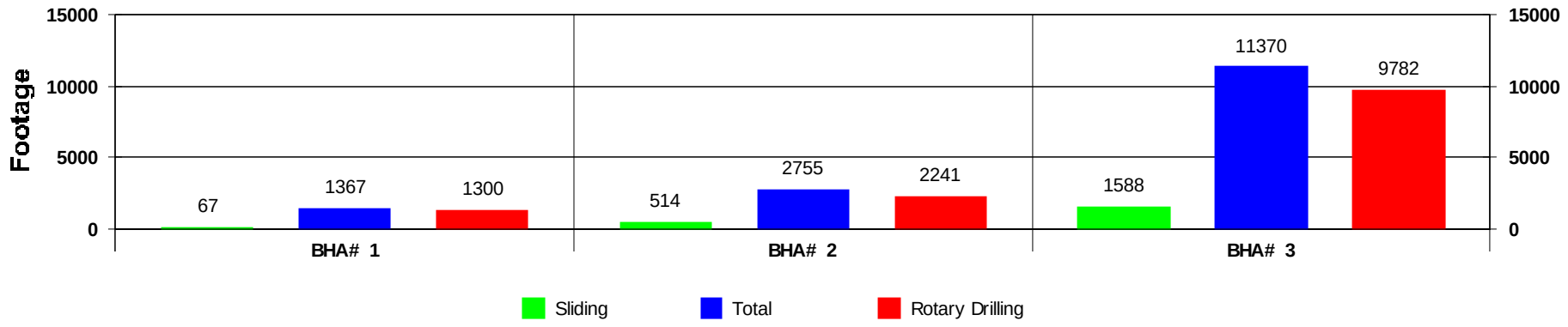
Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
3	26-Aug	Sliding	00:00	01:00	1.00	15549	15553	4	45	4.0	60	27000	640	5650	90R	89.83	269.47	0.00	
3	26-Aug	Drilling	01:00	01:27	0.45	15553	15586	33	40	73.3	60	27000	640	5650		91.31	269.85	0.00	
3	26-Aug	Drilling	01:45	02:05	0.33	15586	15632	46	40	138.0	60	27000	640	5650		91.31	269.85	0.00	
3	26-Aug	Sliding	04:20	05:50	1.50	15632	15650	18	45	12.0	60	27000	580	4875	130R	91.31	269.85	0.00	
3	26-Aug	Drilling	05:50	06:09	0.32	15650	15727	77	40	243.2	60	27000	640	4875		88.22	270.39	0.00	
3	26-Aug	Sliding	06:23	07:23	1.00	15727	15742	15	45	15.0	60	27000	580	4875	70R	88.22	270.39	0.00	
3	26-Aug	Drilling	07:23	07:38	0.25	15742	15821	79	35	316.0	60	27000	580	5000		87.96	271.37	0.00	
3	26-Aug	Drilling	07:48	08:03	0.25	15821	15916	95	35	380.0	60	27000	580	5000		89.46	272.00	0.00	
3	26-Aug	Drilling	08:15	08:34	0.32	15916	16010	94	35	296.8	60	27000	580	5000		90.81	272.43	0.00	
3	26-Aug	Drilling	08:45	09:01	0.27	16010	16105	95	35	356.3	60	27000	580	5000		92.08	272.48	0.00	
3	26-Aug	Sliding	09:11	10:19	1.13	16105	16120	15	45	13.2	60	27000	580	5000	160L	92.08	272.48	0.00	
3	26-Aug	Drilling	10:19	10:37	0.30	16120	16200	80	35	266.7	60	27000	580	5000		90.70	272.66	0.00	
3	26-Aug	Drilling	10:48	11:06	0.30	16200	16294	94	35	313.3	60	27000	580	5000		91.44	272.81	0.00	
3	26-Aug	Sliding	11:17	12:30	1.22	16294	16309	15	45	12.3	60	27000	580	5000	120L	91.44	272.81	0.00	
3	26-Aug	Drilling	12:30	12:46	0.27	16309	16389	80	35	300.0	60	27000	580	5000		91.21	270.70	0.00	
3	26-Aug	Drilling	12:56	13:13	0.28	16389	16483	94	35	331.8	60	27000	580	5000		92.35	270.64	0.00	
3	26-Aug	Sliding	13:25	15:06	1.68	16483	16503	20	45	11.9	60	27000	580	5000	180	92.35	270.64	0.00	
3	26-Aug	Drilling	15:06	15:22	0.27	16503	16578	75	35	281.3	60	27000	580	5000		90.44	270.95	0.00	
3	26-Aug	Drilling	15:36	15:56	0.33	16578	16673	95	35	285.0	60	27000	580	5000		91.07	270.57	0.00	
3	26-Aug	Drilling	16:10	16:33	0.38	16673	16767	94	35	245.2	60	27000	580	5000		90.94	270.00	0.00	
3	26-Aug	Drilling	16:45	17:09	0.40	16767	16862	95	35	237.5	60	27000	580	5000		90.84	269.40	0.00	
3	26-Aug	Drilling	17:24	17:47	0.38	16862	16957	95	35	247.8	60	27000	580	5000		90.03	267.68	0.00	
3	26-Aug	Drilling	18:11	18:32	0.35	16957	17051	94	35	268.6	60	27000	580	5000		89.43	266.22	0.00	
3	26-Aug	Drilling	18:46	18:51	0.08	17051	17075	24	35	288.0	60	27000	580	5000		89.43	266.22	0.00	

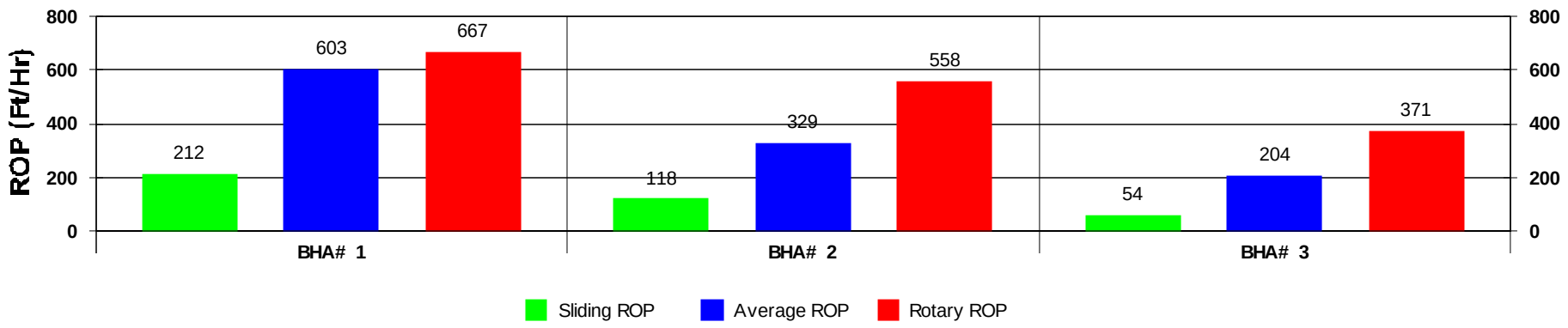
Total Drilled:	11370	**Avg. Total ROP:**	204.50		**DEPTH% - TIME %**
Total Rotary Drilled:	9782	**Avg. Rotary ROP:**	371.23	**Percent Rotary:**	86.03 - 47.39
Total Drilled Sliding:	1588	**Avg. Slide ROP:**	54.29	**Percent Slide:**	13.97 - 52.61

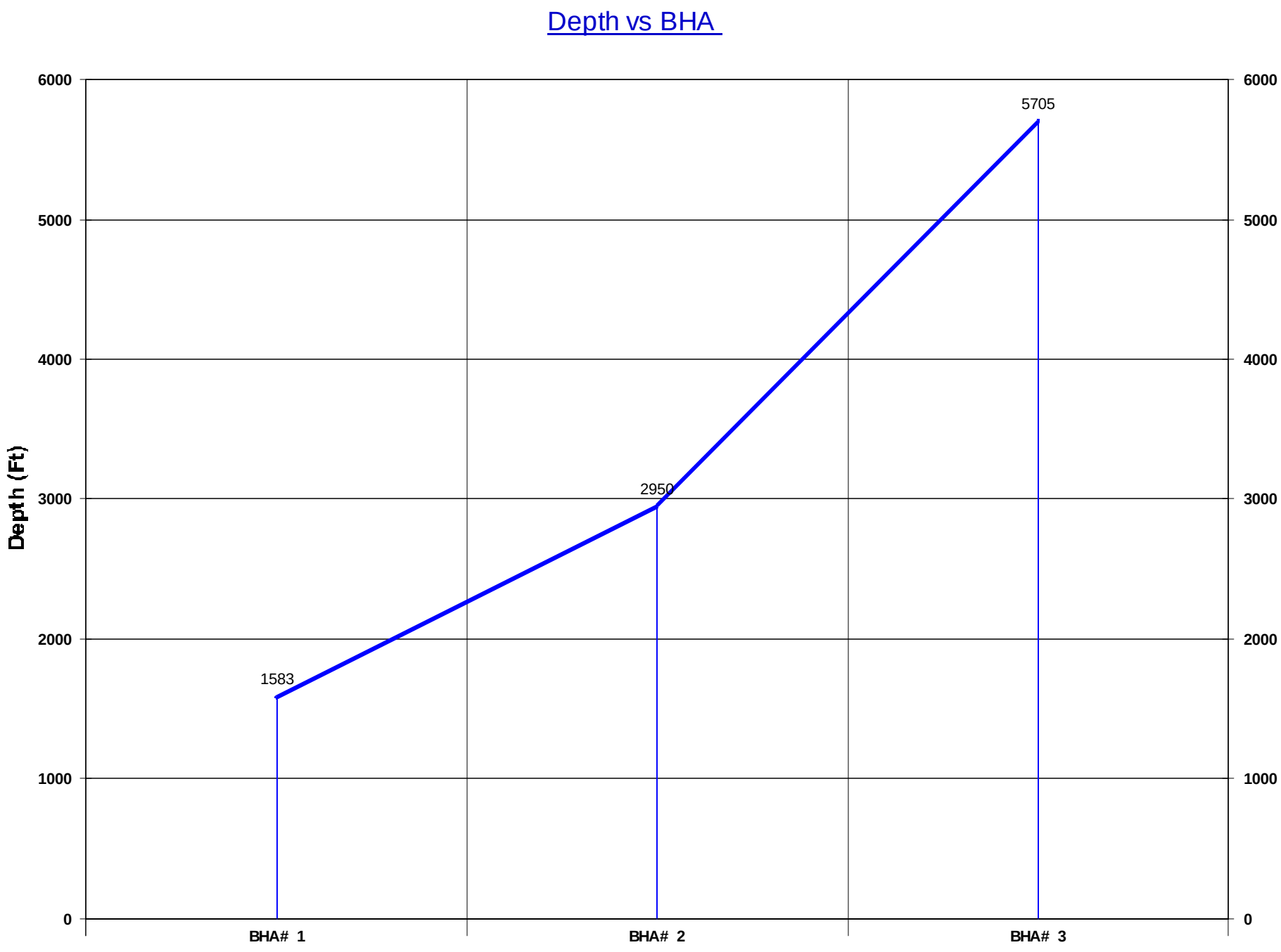
JOB NO.:	380113	FIELD:	Wattenburg	
Company:	Extraction Oil & Gas	Township:	6N	
LOCATION:	Winder South Pad	SECT\RANGE:	9	67W
RIG NAME:	Patterson 346	COMMENT		
STATE:	Colorado			
COUNTY:	Weld			
WELL NAME:	Winder South 2			

Footage Drilled with BHA

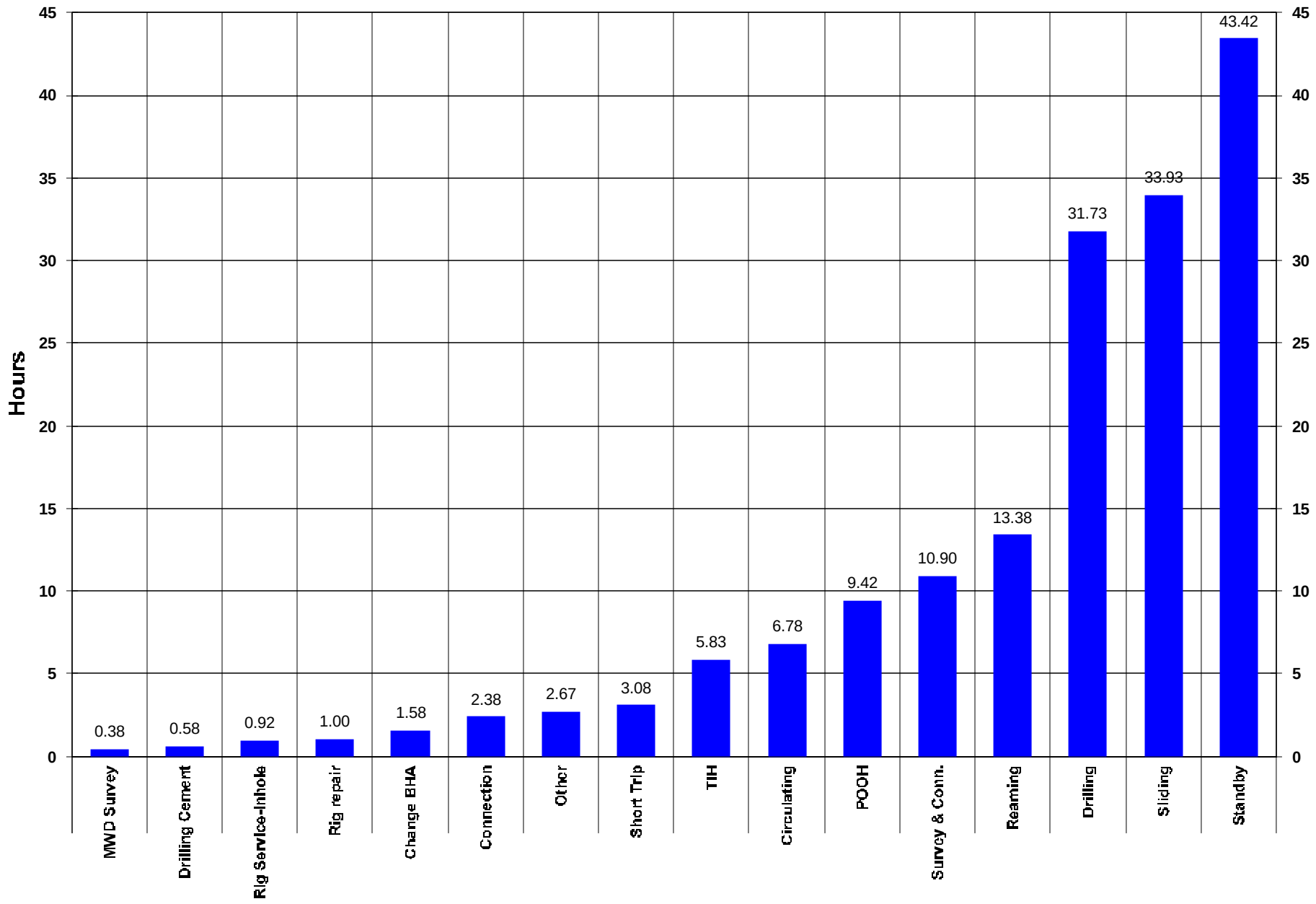


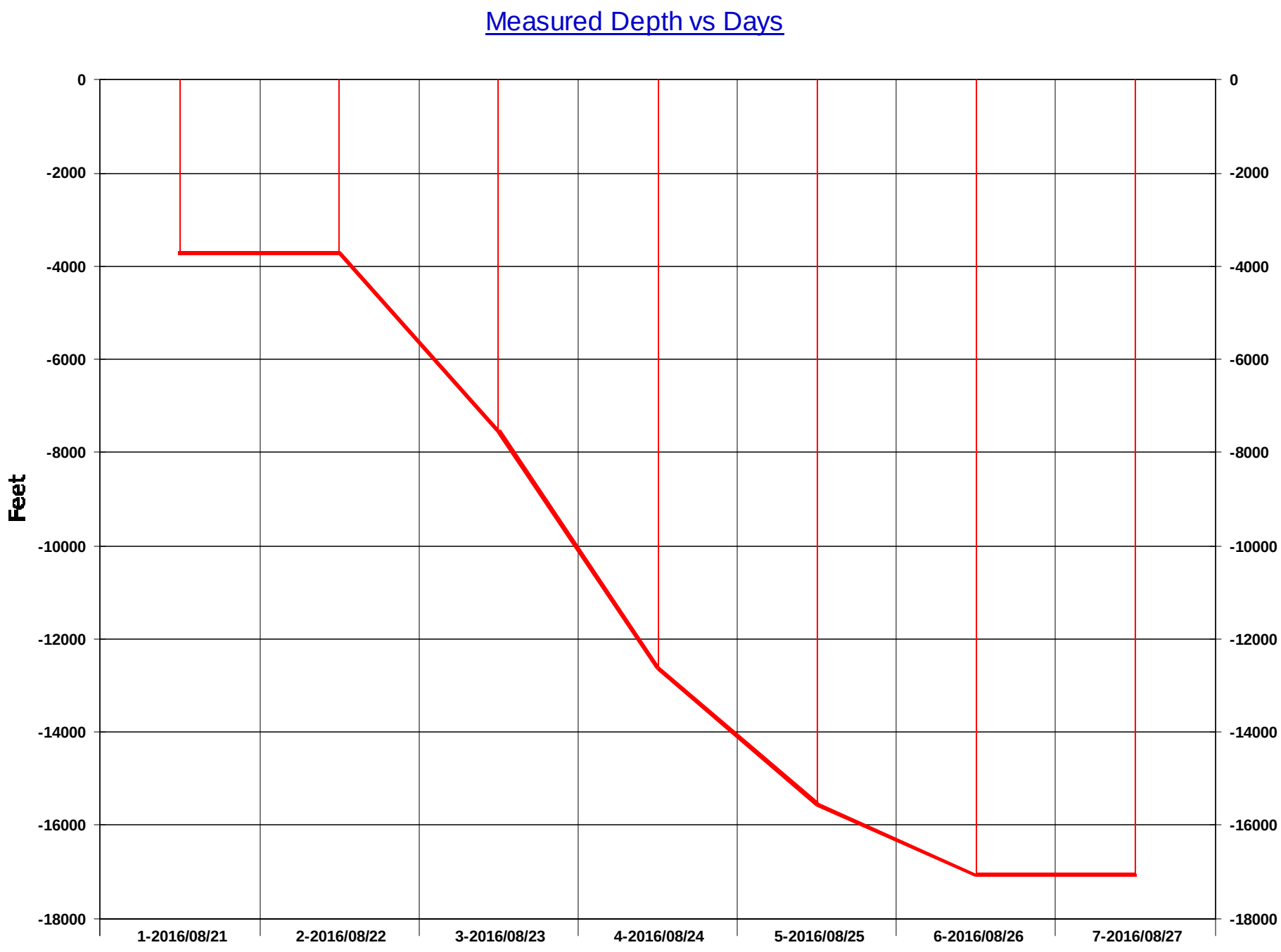
ROP vs BHA

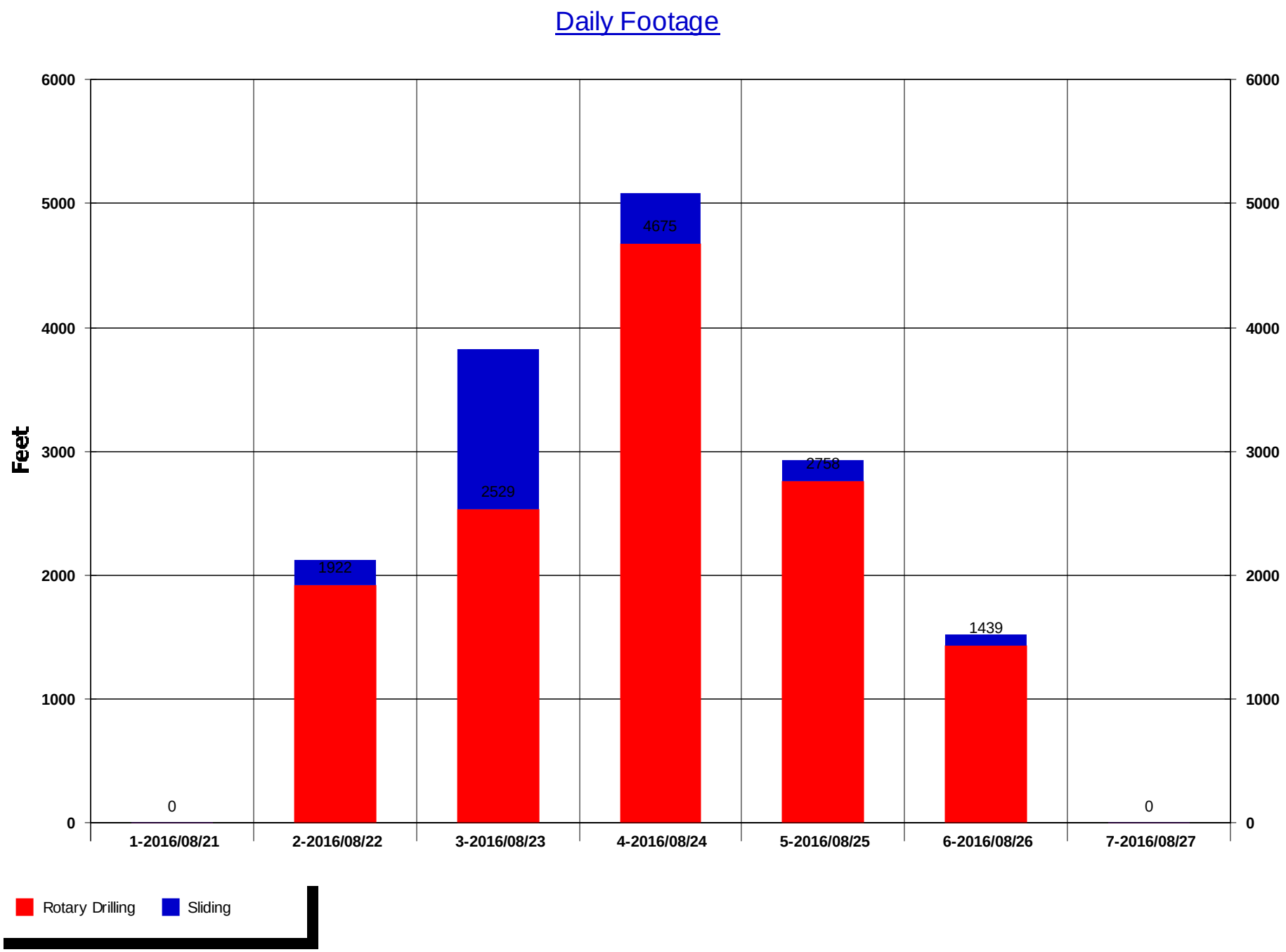



Depth vs BHA
Depth (Ft)
6000
5000
4000
3000
2000
1000
0
1583
2950
5705
BHA# 1
BHA# 2
BHA# 3

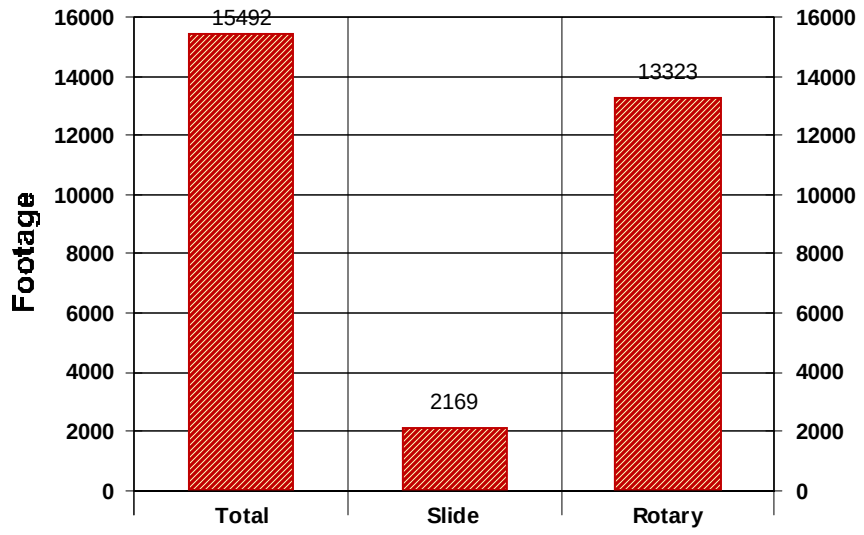
Activity Histograph



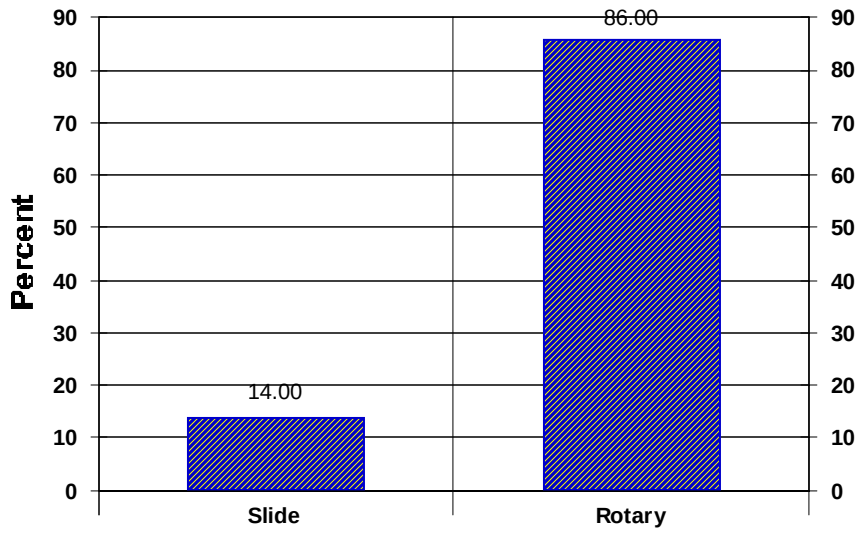

Measured Depth vs Days
Feet
0
-2000
-4000
-6000
-8000
-10000
-12000
-14000
-16000
-18000
1-2016/08/21
2-2016/08/22
3-2016/08/23
4-2016/08/24
5-2016/08/25
6-2016/08/26
7-2016/08/27


Daily Footage
Feet
6000
5000
4000
3000
2000
1000
0
0
1922
2529
4675
2758
1439
0
1-2016/08/21
2-2016/08/22
3-2016/08/23
4-2016/08/24
5-2016/08/25
6-2016/08/26
7-2016/08/27
Rotary Drilling
Sliding

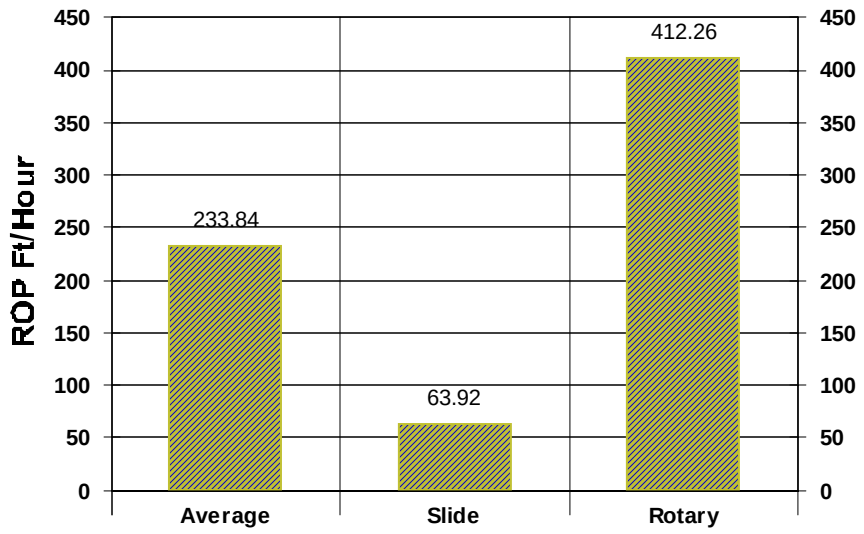
Footage Drilled Totals



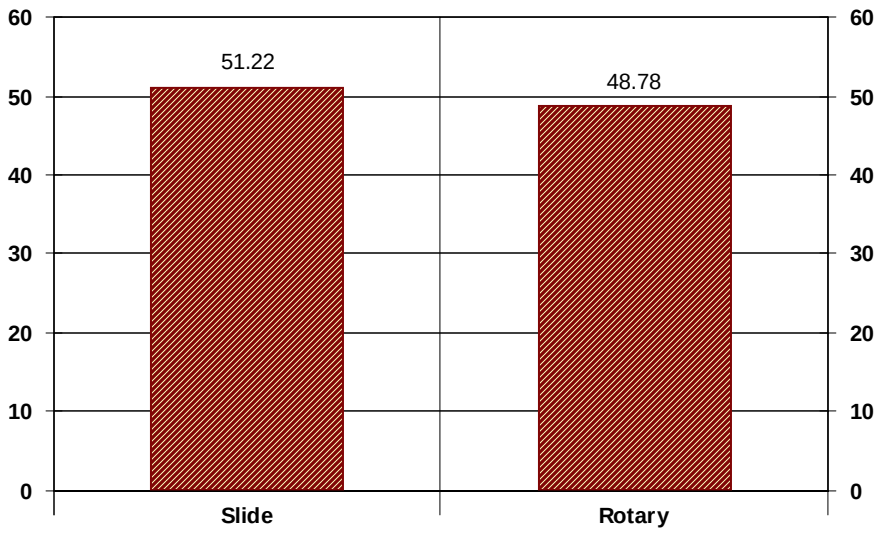
Footage Percent



Rate of Penetration Totals



Time Percent



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