



## **TEP Rocky Mountain LLC**

**Garfield County, CO NAD83**

**RU 32-12 Pad**

**SR 441-12 - Slot B9**

**OH**

**Design: OH**

## **Standard Survey Report**

**13 September, 2017**



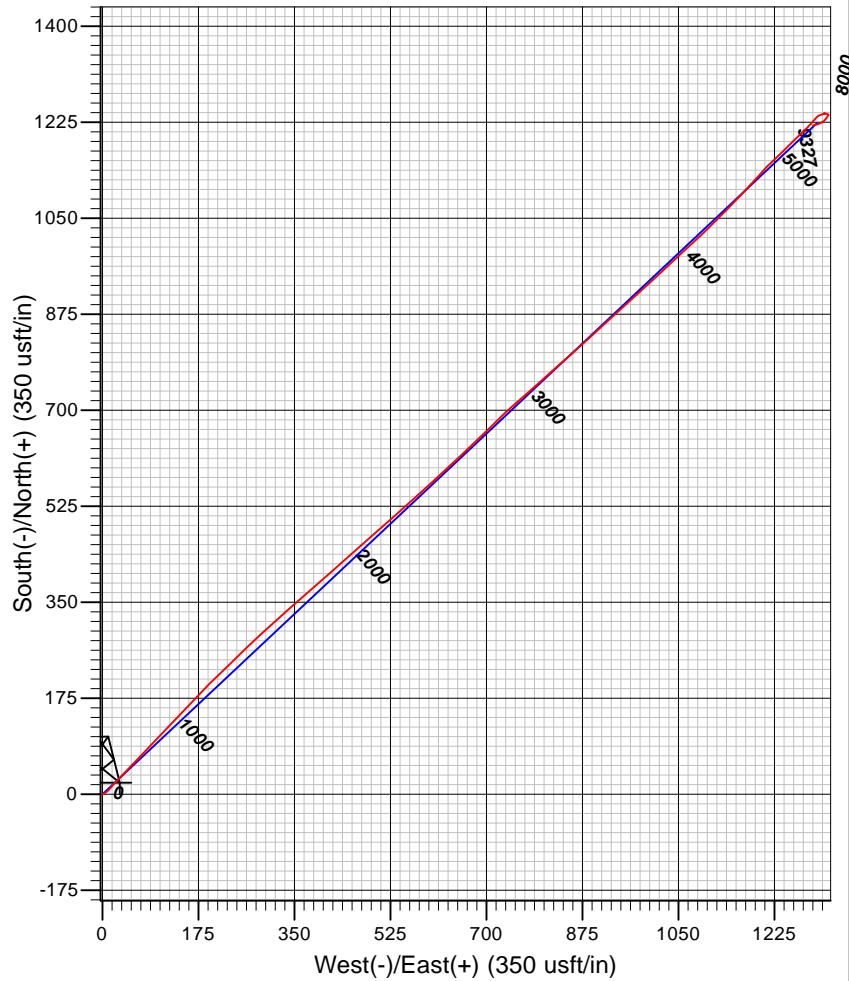
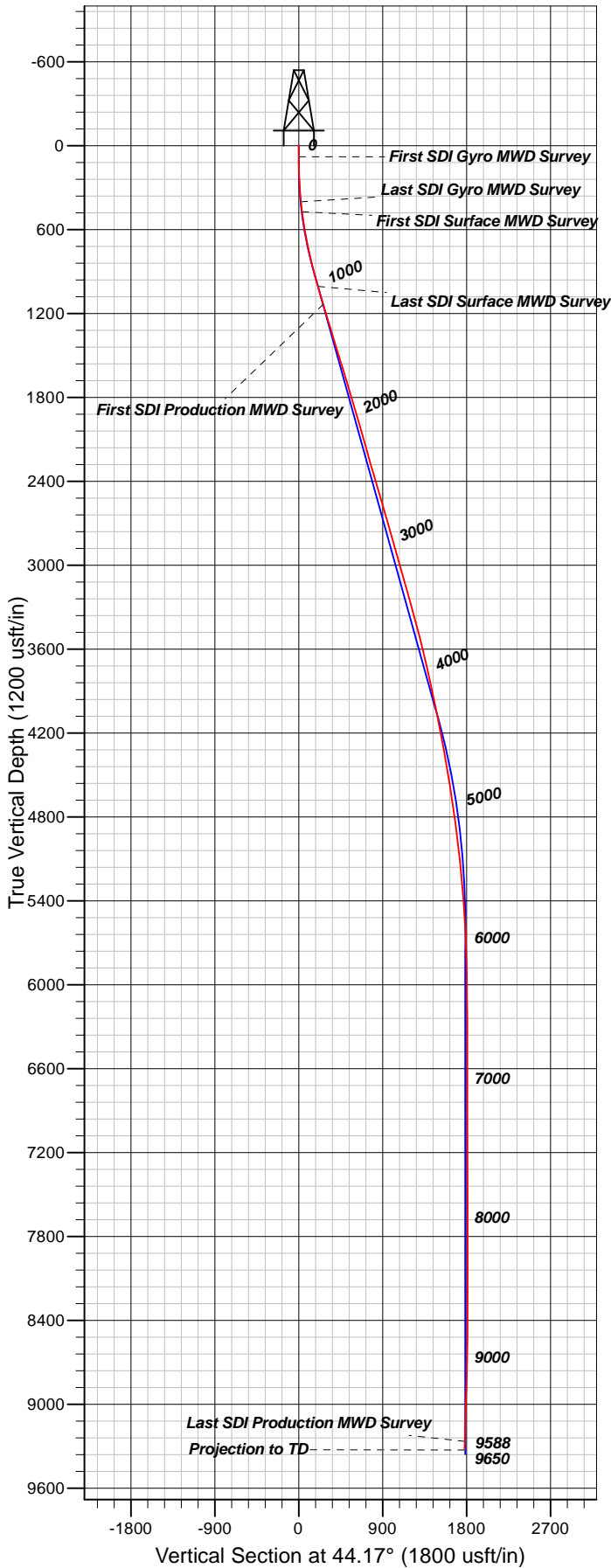
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<b>Well Details: SR 441-12</b>						
TVD Reference: GL 7254' & RKB 24' @ 7278.00usft (H&P 318)   Grid Level: 7254.00						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1599197.20	2341073.40	39.4553284	-107.8338675	B9
<b>REFERENCE INFORMATION</b>						
Co-ordinate (N/E) Reference: Well SR 441-12 - Slot B9, True North						
Vertical (TVD) Reference: GL 7254' & RKB 24' @ 7278.00usft (H&P 318)						
Section (VS) Reference: Slot - B9(0.00N, 0.00E)						
Measured Depth Reference: GL 7254' & RKB 24' @ 7278.00usft (H&P 318)						
Calculation Method: Minimum Curvature						
<b>PROJECT DETAILS: Garfield County, CO NAD83</b>						
Geodetic System: US State Plane 1983						
Datum: North American Datum 1983						
Ellipsoid: GRS 1980						
Zone: Colorado Central Zone						
System Datum: Mean Sea Level						

<b>Company:</b>	TEP Rocky Mountain LLC	<b>Local Co-ordinate Reference:</b>	Well SR 441-12 - Slot B9
<b>Project:</b>	Garfield County, CO NAD83	<b>TVD Reference:</b>	GL 7254' & RKB 24' @ 7278.00usft (H&P 318)
<b>Site:</b>	RU 32-12 Pad	<b>MD Reference:</b>	GL 7254' & RKB 24' @ 7278.00usft (H&P 318)
<b>Well:</b>	SR 441-12	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Grand Junction District

<b>Project</b>	Garfield County, CO NAD83		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Central Zone		

<b>Site</b>	RU 32-12 Pad				
<b>Site Position:</b>		<b>Northing:</b>	1,599,253.30 usft	<b>Latitude:</b>	39.4554808
<b>From:</b>	Map	<b>Easting:</b>	2,341,050.00 usft	<b>Longitude:</b>	-107.8339555
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13.20 in	<b>Grid Convergence:</b>	-1.47 °

<b>Well</b>	SR 441-12 - Slot B9					
<b>Well Position</b>	<b>+N/-S</b>	0.00 usft	<b>Northing:</b>	1,599,197.20 usft	<b>Latitude:</b>	39.4553285
	<b>+E/-W</b>	0.00 usft	<b>Easting:</b>	2,341,073.40 usft	<b>Longitude:</b>	-107.8338675
<b>Position Uncertainty</b>		0.00 usft	<b>Wellhead Elevation:</b>	0.00 usft	<b>Ground Level:</b>	7,254.00 usft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	HDGM	8/28/2017	9.25	65.67	51,675

<b>Design</b>	OH				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	44.17	

<b>Survey Program</b>	<b>Date</b>	9/13/2017			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
79.00	402.00	Survey #1 - Gyro MWD Survey (OH)	SDI Gyro MWD 104	SDI Gyro MWD Error Model Ver 1.0.4	
474.00	1,036.00	Survey #2 - Surface MWD Survey (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	
1,176.00	9,650.00	Survey #3 - Production MWD Survey (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	

<b>Survey</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Vertical Section (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
79.00	0.00	0.00	79.00	0.00	0.00	0.00	0.00	0.00	0.00	
<b>First SDI Gyro MWD Survey</b>										
125.00	0.62	84.29	125.00	0.02	0.25	0.19	1.35	1.35	0.00	
218.00	3.52	59.50	217.93	1.52	3.21	3.33	3.19	3.12	-26.66	
310.00	5.72	48.87	309.63	5.97	9.10	10.62	2.56	2.39	-11.55	
402.00	8.71	39.64	400.89	14.36	17.00	22.14	3.48	3.25	-10.03	
<b>Last SDI Gyro MWD Survey</b>										

<b>Company:</b>	TEP Rocky Mountain LLC	<b>Local Co-ordinate Reference:</b>	Well SR 441-12 - Slot B9
<b>Project:</b>	Garfield County, CO NAD83	<b>TVD Reference:</b>	GL 7254' & RKB 24' @ 7278.00usft (H&P 318)
<b>Site:</b>	RU 32-12 Pad	<b>MD Reference:</b>	GL 7254' & RKB 24' @ 7278.00usft (H&P 318)
<b>Well:</b>	SR 441-12	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Grand Junction District

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
474.00	10.76	44.06	471.85	23.38	25.15	34.30	3.03	2.85	6.14	
<b>First SDI Surface MWD Survey</b>										
567.00	12.93	44.14	562.87	37.09	38.43	53.39	2.33	2.33	0.09	
659.00	15.54	44.11	652.03	53.33	54.18	76.01	2.84	2.84	-0.03	
753.00	18.06	43.75	742.01	72.90	73.03	103.17	2.68	2.68	-0.38	
847.00	20.75	43.16	830.67	95.58	94.50	134.40	2.87	2.86	-0.63	
942.00	21.94	42.75	919.15	120.88	118.06	168.97	1.26	1.25	-0.43	
1,036.00	23.06	44.14	1,005.99	146.99	142.80	204.93	1.32	1.19	1.48	
<b>Last SDI Surface MWD Survey</b>										
1,176.00	24.59	43.52	1,134.06	187.79	181.95	261.48	1.11	1.09	-0.44	
<b>First SDI Production MWD Survey</b>										
1,271.00	24.30	46.34	1,220.54	215.62	209.71	300.78	1.27	-0.31	2.97	
1,365.00	24.35	45.87	1,306.20	242.47	237.61	339.48	0.21	0.05	-0.50	
1,459.00	23.73	45.00	1,392.05	269.34	264.89	377.76	0.76	-0.66	-0.93	
1,554.00	24.45	48.47	1,478.78	295.89	293.13	416.48	1.67	0.76	3.65	
1,648.00	25.22	48.27	1,564.08	322.12	322.64	455.86	0.82	0.82	-0.21	
1,743.00	25.47	48.30	1,649.94	349.18	352.99	496.42	0.26	0.26	0.03	
1,837.00	25.02	49.07	1,734.96	375.65	383.10	536.38	0.59	-0.48	0.82	
1,932.00	24.02	49.11	1,821.39	401.47	412.90	575.66	1.05	-1.05	0.04	
2,026.00	23.49	47.97	1,907.43	426.53	441.27	613.42	0.75	-0.56	-1.21	
2,121.00	22.43	48.18	1,994.90	451.29	468.85	650.39	1.12	-1.12	0.22	
2,215.00	23.38	48.73	2,081.49	475.55	496.23	686.87	1.04	1.01	0.59	
2,310.00	23.25	48.48	2,168.73	500.42	524.44	724.36	0.17	-0.14	-0.26	
2,404.00	22.69	48.01	2,255.28	524.84	551.80	760.95	0.63	-0.60	-0.50	
2,498.00	24.33	48.10	2,341.47	549.91	579.69	798.36	1.75	1.74	0.10	
2,593.00	24.05	47.71	2,428.13	576.00	608.58	837.20	0.34	-0.29	-0.41	
2,688.00	23.89	46.67	2,514.94	602.23	636.89	875.74	0.48	-0.17	-1.09	
2,782.00	23.50	46.85	2,601.01	628.11	664.41	913.48	0.42	-0.41	0.19	
2,876.00	23.08	46.15	2,687.35	653.69	691.37	950.61	0.54	-0.45	-0.74	
2,971.00	22.64	44.95	2,774.89	679.53	717.72	987.51	0.67	-0.46	-1.26	
3,066.00	23.32	48.61	2,862.36	704.90	744.74	1,024.54	1.67	0.72	3.85	
3,160.00	23.17	48.68	2,948.73	729.41	772.59	1,061.52	0.16	-0.16	0.07	
3,255.00	22.72	47.91	3,036.21	754.05	800.24	1,098.46	0.57	-0.47	-0.81	
3,349.00	23.28	48.73	3,122.74	778.47	827.67	1,135.09	0.69	0.60	0.87	
3,444.00	23.34	47.94	3,209.98	803.46	855.76	1,172.59	0.34	0.06	-0.83	
3,538.00	22.51	47.86	3,296.56	828.01	882.92	1,209.12	0.88	-0.88	-0.09	
3,633.00	22.26	47.46	3,384.40	852.38	909.67	1,245.24	0.31	-0.26	-0.42	
3,727.00	21.40	47.82	3,471.66	875.93	935.49	1,280.12	0.93	-0.91	0.38	
3,822.00	20.14	47.75	3,560.48	898.56	960.44	1,313.75	1.33	-1.33	-0.07	
3,916.00	19.36	48.21	3,648.95	919.83	984.04	1,345.44	0.85	-0.83	0.49	
4,011.00	18.96	46.92	3,738.69	940.86	1,007.05	1,376.56	0.61	-0.42	-1.36	
4,105.00	18.34	46.56	3,827.75	961.46	1,028.94	1,406.59	0.67	-0.66	-0.38	
4,199.00	17.42	47.43	3,917.21	981.15	1,050.04	1,435.42	1.02	-0.98	0.93	
4,294.00	17.10	46.65	4,007.93	1,000.36	1,070.67	1,463.57	0.42	-0.34	-0.82	

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<b>Site:</b>	RU 32-12 Pad	<b>MD Reference:</b>	GL 7254' & RKB 24' @ 7278.00usft (H&P 318)
<b>Well:</b>	SR 441-12	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Grand Junction District

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,389.00	16.36	47.04	4,098.91	1,019.06	1,090.62	1,490.88	0.79	-0.78	0.41	
4,483.00	16.09	45.80	4,189.17	1,037.17	1,109.65	1,517.13	0.47	-0.29	-1.32	
4,578.00	15.56	44.23	4,280.57	1,055.47	1,127.97	1,543.03	0.72	-0.56	-1.65	
4,672.00	14.86	44.58	4,371.28	1,073.09	1,145.23	1,567.69	0.75	-0.74	0.37	
4,766.00	14.50	43.29	4,462.21	1,090.25	1,161.76	1,591.51	0.52	-0.38	-1.37	
4,861.00	13.73	43.15	4,554.34	1,107.13	1,177.63	1,614.67	0.81	-0.81	-0.15	
4,955.00	13.03	42.60	4,645.79	1,123.07	1,192.43	1,636.42	0.76	-0.74	-0.59	
5,050.00	12.83	41.50	4,738.38	1,138.85	1,206.67	1,657.66	0.33	-0.21	-1.16	
5,144.00	11.07	46.85	4,830.34	1,152.84	1,220.17	1,677.10	2.21	-1.87	5.69	
5,239.00	10.96	46.81	4,923.59	1,165.26	1,233.40	1,695.24	0.12	-0.12	-0.04	
5,333.00	9.75	44.91	5,016.06	1,177.01	1,245.54	1,712.12	1.34	-1.29	-2.02	
5,427.00	9.49	46.15	5,108.73	1,188.02	1,256.75	1,727.82	0.35	-0.28	1.32	
5,522.00	8.50	44.94	5,202.57	1,198.41	1,267.35	1,742.67	1.06	-1.04	-1.27	
5,616.00	6.29	46.89	5,295.78	1,206.85	1,276.02	1,754.76	2.37	-2.35	2.07	
5,710.00	5.79	45.20	5,389.26	1,213.71	1,283.15	1,764.65	0.56	-0.53	-1.80	
5,805.00	5.02	43.04	5,483.83	1,220.12	1,289.38	1,773.59	0.84	-0.81	-2.27	
5,880.90	4.73	42.87	5,559.45	1,224.85	1,293.78	1,780.04	0.38	-0.38	-0.23	
<b>SR 441-12 MVRD</b>										
5,900.00	4.66	42.82	5,578.49	1,225.99	1,294.84	1,781.61	0.38	-0.38	-0.25	
5,994.00	4.68	38.97	5,672.18	1,231.78	1,299.85	1,789.24	0.33	0.02	-4.10	
6,089.00	2.99	54.87	5,766.97	1,236.21	1,304.31	1,795.54	2.09	-1.78	16.74	
6,183.00	1.93	73.15	5,860.88	1,238.08	1,307.83	1,799.33	1.39	-1.13	19.45	
6,277.00	1.39	74.37	5,954.84	1,238.85	1,310.45	1,801.70	0.58	-0.57	1.30	
6,372.00	1.26	72.38	6,049.82	1,239.48	1,312.55	1,803.62	0.15	-0.14	-2.09	
6,466.00	0.97	67.43	6,143.80	1,240.10	1,314.27	1,805.26	0.32	-0.31	-5.27	
6,560.00	0.46	43.33	6,237.79	1,240.67	1,315.27	1,806.37	0.62	-0.54	-25.64	
6,654.00	0.27	55.60	6,331.79	1,241.07	1,315.71	1,806.96	0.22	-0.20	13.05	
6,749.00	0.35	69.89	6,426.79	1,241.30	1,316.16	1,807.45	0.12	0.08	15.04	
6,844.00	0.18	113.22	6,521.79	1,241.34	1,316.57	1,807.76	0.26	-0.18	45.61	
6,938.00	0.19	309.97	6,615.79	1,241.38	1,316.59	1,807.80	0.39	0.01	-173.67	
7,033.00	0.40	241.01	6,710.79	1,241.32	1,316.18	1,807.47	0.40	0.22	-72.59	
7,127.00	0.30	255.20	6,804.78	1,241.10	1,315.65	1,806.95	0.14	-0.11	15.10	
7,221.00	0.09	66.14	6,898.78	1,241.07	1,315.48	1,806.80	0.41	-0.22	181.85	
7,316.00	0.44	85.83	6,993.78	1,241.13	1,315.92	1,807.15	0.38	0.37	20.73	
7,410.00	0.45	109.84	7,087.78	1,241.03	1,316.62	1,807.57	0.20	0.01	25.54	
7,505.00	0.72	110.65	7,182.77	1,240.69	1,317.53	1,807.96	0.28	0.28	0.85	
7,599.00	0.83	75.79	7,276.77	1,240.65	1,318.75	1,808.78	0.51	0.12	-37.09	
7,694.00	0.98	87.92	7,371.76	1,240.85	1,320.22	1,809.95	0.26	0.16	12.77	
7,788.00	0.44	132.03	7,465.75	1,240.63	1,321.30	1,810.54	0.78	-0.57	46.93	
7,883.00	0.62	144.34	7,560.74	1,239.97	1,321.87	1,810.47	0.22	0.19	12.96	
7,977.00	0.40	140.26	7,654.74	1,239.31	1,322.37	1,810.34	0.24	-0.23	-4.34	
8,072.00	0.47	140.75	7,749.74	1,238.75	1,322.83	1,810.26	0.07	0.07	0.52	
8,166.00	0.26	114.94	7,843.74	1,238.36	1,323.27	1,810.29	0.28	-0.22	-27.46	
8,261.00	0.27	83.34	7,938.73	1,238.30	1,323.69	1,810.53	0.15	0.01	-33.26	

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<b>Site:</b>	RU 32-12 Pad	<b>MD Reference:</b>	GL 7254' & RKB 24' @ 7278.00usft (H&P 318)
<b>Well:</b>	SR 441-12	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Grand Junction District

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,355.00	0.26	269.85	8,032.73	1,238.32	1,323.69	1,810.55	0.56	-0.01	-184.56
8,449.00	0.18	239.17	8,126.73	1,238.25	1,323.35	1,810.26	0.15	-0.09	-32.64
8,544.00	0.26	261.85	8,221.73	1,238.14	1,323.01	1,809.95	0.12	0.08	23.87
8,638.00	0.18	279.51	8,315.73	1,238.13	1,322.65	1,809.70	0.11	-0.09	18.79
8,732.00	0.20	84.71	8,409.73	1,238.17	1,322.67	1,809.74	0.40	0.02	175.74
8,827.00	0.30	227.29	8,504.73	1,238.02	1,322.65	1,809.61	0.50	0.11	150.08
8,921.00	1.49	203.49	8,598.72	1,236.73	1,321.99	1,808.22	1.30	1.27	-25.32
9,016.00	2.55	213.95	8,693.66	1,233.85	1,320.31	1,804.99	1.18	1.12	11.01
9,110.00	2.73	212.80	8,787.56	1,230.23	1,317.93	1,800.74	0.20	0.19	-1.22
9,205.00	2.81	235.59	8,882.45	1,227.01	1,314.79	1,796.24	1.15	0.08	23.99
9,299.00	2.81	242.07	8,976.34	1,224.63	1,310.85	1,791.78	0.34	0.00	6.89
9,394.00	2.90	242.07	9,071.22	1,222.41	1,306.67	1,787.28	0.09	0.09	0.00
9,488.00	2.46	255.26	9,165.12	1,220.79	1,302.62	1,783.29	0.80	-0.47	14.03
9,588.00	2.64	259.74	9,265.02	1,219.83	1,298.28	1,779.58	0.27	0.18	4.48
<b>Last SDI Production MWD Survey</b>									
9,650.00	2.64	259.74	9,326.95	1,219.32	1,295.47	1,777.26	0.00	0.00	0.00
<b>Projection to TD - SR 441-12 PBHL</b>									

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
79.00	79.00	0.00	0.00	First SDI Gyro MWD Survey
402.00	400.89	14.36	17.00	Last SDI Gyro MWD Survey
474.00	471.85	23.38	25.15	First SDI Surface MWD Survey
1,036.00	1,005.99	146.99	142.80	Last SDI Surface MWD Survey
1,176.00	1,134.06	187.79	181.95	First SDI Production MWD Survey
9,588.00	9,265.02	1,219.83	1,298.28	Last SDI Production MWD Survey
9,650.00	9,326.95	1,219.32	1,295.47	Projection to TD

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



<b>JOB NO.:</b>	OP.003886	<b>Report Time:</b>	2400	1 of 7
<b>COMPANY:</b>	Terra Energy Partners	<b>API JOB #</b>	05-045-23300-00	
<b>LOCATION:</b>	RU 32-12 Pad	<b>WORK ORDER#</b>	OP.003886	
<b>RIG NAME:</b>	H&P 318 (Triple)	<b>FIELD:</b>	RU	
<b>STATE:</b>	Colorado	<b>Township:</b>	7S	
<b>COUNTY:</b>	Garfield	<b>SECTRANGE:</b>	12	94W
<b>WELL NAME:</b>	SR 441-12			

**From Saturday, July 08, 2017 at 0000 to Saturday, July 08, 2017 at 2400**

DRILLING SUMMARY				Drilling Parameters							
Start Depth	87.00	Rotary Hours	5.25	WOB	20	Pick UP	65	Slack Off	61	SPM	
End Depth	1140.00	Circulating Hours	1.00	RAB	63	SPP	2000	FlowRate	0 - 900	200	
Total Drilled:	1053.00	Avg. Total ROP:	157.95	<b>Mud Data</b>							
Total Rotary Drilled:	858.00	Avg. Rotary ROP:	163.43	Type	LSND	PV	13	SOLID	9.4		
Total Drilled Sliding:	195.00	Avg. Slide ROP:	137.65	Weight	9.6	GAS	0	YP	16	BHT°	116
Slide Hours:	1.42	Percent Rotary:	81.48	Viscosity	48	SAND	0.5	PH	9	Flow T°	80
Below Rotary Hrs.	17.75	Percent Slide:	18.52	Chlorides	2000	WL	12	Oil %	0		

PERSONNEL				cASING			BHA
Lead Directional :	Ryan Davis			Size	Lb/ft	Set Depth	BHA # 1:T806F 6x16's, 8" Hybrid ADJ@2.0, 8" Shock sub, 8" NMPC, 8" NMDC, 8" HOS, 8" GAP, 8" NMPC, 8" NMPC, 8" NMDC, NC56 Box X 6 5/8 pin, 8" Steel Drill Collar, X-Over NC 56P x 4 1/2" IF Box, 18 Joints 5" Spiral HWDP, ,
Second Directional :	Todd Steel			9 5/8	29.3	1130	
MWD Operator1	Mike Miller			Signature:			
MWD Operator2							
Directional Company:	SDI						
Geologist:							
Company Man:	Danny Bonnette/Beaude Oaks						
Incl. In:	0	Azm. In:	0	Incl. Out:	22.06	Azm. Out:	44.14

**GENERAL COMMENT**

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
8-Jul-17	00:00	06:15	6.25	87	87	Standby	Casing Ops
8-Jul-17	06:15	06:45	0.50	87	87	Change BHA	Change BHA
8-Jul-17	06:45	07:20	0.58	87	130	Drilling	Drilling
8-Jul-17	07:20	07:30	0.17	130	130	Other	Survey
8-Jul-17	07:30	07:35	0.08	130	143	Sliding	Other
8-Jul-17	07:35	07:45	0.17	143	143	Circulating	Circulating
8-Jul-17	07:45	07:50	0.08	143	155	Sliding	Sliding - (WOB:5;GPM :513;TFO:45))
8-Jul-17	07:50	08:15	0.42	155	176	Drilling	Drilling - (WOB:5;GPM :450;RPM:20)
8-Jul-17	08:15	08:25	0.17	176	176	Survey & Conn.	Survey & Conn. @125' Inc 0.62° Azm 84.29°
8-Jul-17	08:25	08:35	0.17	176	196	Sliding	Sliding - (WOB:15;GPM :700;TFO:30))
8-Jul-17	08:35	08:45	0.17	196	221	Drilling	Drilling - (WOB:15;GPM :700;RPM:30)
8-Jul-17	08:45	08:55	0.17	221	221	Other	Survey
8-Jul-17	08:55	09:20	0.42	221	271	Drilling	Drilling - (WOB:15;GPM :700;RPM:30)
8-Jul-17	09:20	09:30	0.17	271	271	Survey & Conn.	Survey & Conn. @218' Inc 3.52° Azm 59.5°
8-Jul-17	09:30	09:35	0.08	271	281	Drilling	Drilling - (WOB:15;GPM :700;RPM:30)
8-Jul-17	09:35	09:45	0.17	281	306	Sliding	Sliding - (WOB:15;GPM :700;TFO:-45))
8-Jul-17	09:45	10:05	0.33	306	363	Drilling	Drilling - (WOB:20;GPM :900;RPM:35)

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
8-Jul-17	10:05	10:15	0.17	363	363	Survey & Conn.	Survey & Conn. @310' Inc 5.72° Azm 48.87°
8-Jul-17	10:15	10:25	0.17	363	388	Sliding	Sliding - (WOB:20;GPM :900;TFO:-15))
8-Jul-17	10:25	10:45	0.33	388	455	Drilling	Drilling - (WOB:20;GPM :900;RPM:35)
8-Jul-17	10:45	10:55	0.17	455	455	Survey & Conn.	Survey & Conn. @402' Inc 8.71° Azm 39.64°
8-Jul-17	10:55	11:00	0.08	455	470	Sliding	Sliding - (WOB:20;GPM :900;TFO:15))
8-Jul-17	11:00	11:15	0.25	470	547	Drilling	Drilling - (WOB:20;GPM :900;RPM:35)
8-Jul-17	11:15	11:20	0.08	547	547	Survey & Conn.	Survey & Conn. @474' Inc 10.76° Azm 44.06°
8-Jul-17	11:20	11:25	0.08	547	562	Sliding	Sliding - (WOB:20;GPM :900;TFO:0))
8-Jul-17	11:25	11:45	0.33	562	640	Drilling	Drilling - (WOB:20;GPM :900;RPM:35)
8-Jul-17	11:45	11:50	0.08	640	640	Survey & Conn.	Survey & Conn. @567' Inc 12.93° Azm 44.14°
8-Jul-17	11:50	12:00	0.17	640	660	Sliding	Sliding - (WOB:20;GPM :900;TFO:0))
8-Jul-17	12:00	12:25	0.42	660	732	Drilling	Drilling - (WOB:20;GPM :900;RPM:35)
8-Jul-17	12:25	12:30	0.08	732	732	Survey & Conn.	Survey & Conn. @659' Inc 15.54° Azm 44.11°
8-Jul-17	12:30	12:35	0.08	732	752	Sliding	Sliding - (WOB:20;GPM :900;TFO:0)
8-Jul-17	12:35	12:55	0.33	752	826	Drilling	Drilling - (WOB:20;GPM :900;RPM:35)
8-Jul-17	12:55	13:00	0.08	826	826	Survey & Conn.	Survey & Conn. @753' Inc 18.06° Azm 43.75°
8-Jul-17	13:00	13:15	0.25	826	846	Sliding	Sliding - (WOB:20;GPM :900;TFO:0)
8-Jul-17	13:15	13:30	0.25	846	920	Drilling	Drilling - (WOB:20;GPM :900;RPM:35)
8-Jul-17	13:30	13:35	0.08	920	920	Survey & Conn.	Survey & Conn. @847' Inc 20.75° Azm 43.16°
8-Jul-17	13:35	14:15	0.67	920	1015	Drilling	Drilling - (WOB:20;GPM :900;RPM:35)
8-Jul-17	14:15	14:20	0.08	1015	1015	Survey & Conn.	Survey & Conn. @942' Inc 21.94° Azm 42.75°
8-Jul-17	14:20	14:25	0.08	1015	1025	Sliding	Sliding - (WOB:20;GPM :900;TFO:75))
8-Jul-17	14:25	14:50	0.42	1025	1109	Drilling	Drilling - (WOB:20;GPM :900;RPM:35)
8-Jul-17	14:50	14:55	0.08	1109	1109	Survey & Conn.	Survey & Conn. @1036' Inc 22.06° Azm 44.14°
8-Jul-17	14:55	15:10	0.25	1109	1140	Drilling	Drilling - (WOB:20;GPM :900;RPM:35)
8-Jul-17	15:10	16:00	0.83	1140	1140	Circulating	Circulating
8-Jul-17	16:00	18:00	2.00	1140	1140	POOH	POOH
8-Jul-17	18:00	18:30	0.50	1140	1140	Change BHA	Rack Back BHA, L/D Gyro
8-Jul-17	18:30	24:00	5.50	1140	1140	Other	Casing Ops



<b>JOB NO.:</b>	OP.003886	<b>Report Time:</b>	2400	2 of 7
<b>COMPANY:</b>	Terra Energy Partners	<b>API JOB #</b>	05-045-23300-00	
<b>LOCATION:</b>	RU 32-12 Pad	<b>WORK ORDER#</b>	OP.003886	
<b>RIG NAME:</b>	H&P 318 (Triple)	<b>FIELD:</b>	RU	
<b>STATE:</b>	Colorado	<b>Township:</b>	7S	
<b>COUNTY:</b>	Garfield	<b>SECTRANGE:</b>	12	94W
<b>WELL NAME:</b>	SR 441-12			

**From Monday, August 28, 2017 at 0000 to Monday, August 28, 2017 at 2400**

DRILLING SUMMARY				Drilling Parameters							
Start Depth	1140.00	Rotary Hours	2.17	WOB	20	Pick UP	20	Slack Off	20	SPM	
End Depth	1996.00	Circulating Hours	1.00	RAB	20	SPP	1500	FlowRate	0 - 620	120	
Total Drilled:	856.00	Avg. Total ROP:	366.86	<b>Mud Data</b>							
Total Rotary Drilled:	836.00	Avg. Rotary ROP:	385.85	Type	LSND	PV	13	SOLID	9.4		
Total Drilled Sliding:	20.00	Avg. Slide ROP:	120.00	Weight	9.6	GAS	0	YP	16	BHT°	116
Slide Hours:	0.17	Percent Rotary:	97.66	Viscosity	48	SAND	0.5	PH	9	Flow T°	80
Below Rotary Hrs.	23.75	Percent Slide:	2.34	Chlorides	2000	WL	12	Oil %	0		

PERSONNEL				cASING			BHA
Lead Directional :	Todd Steel			Size	Lb/ft	Set Depth	BHA # 2: Hughes T505F w/ 5 22's, 6 1/2" FBH @ 1.83 3.3S 7:8L, 6 1/2 NMPC, 6 1/2 NMPC, 6 1/2 APHOS, 6 1/2 NMDC, 6 1/2 GAP SUB, 6 1/2 NMDC, 6 1/2 XO, 18 Joints 5" Spiral HWDP, ,
Second Directional :	David Hensley			9 5/8	29.3	1130	
MWD Operator1	Tad Heil			Signature:			
MWD Operator2							
Directional Company:	SDI						
Geologist:							
Company Man:	Danny Bonnette/Josh Phillips						
Incl. In:	23.06	Azm. In:	44.14	Incl. Out:	0	Azm. Out:	0

**GENERAL COMMENT**

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
28-Aug-17	00:00	08:00	8.00	1140	1140	Other	Casing Ops f/ SR 12-12P
28-Aug-17	08:00	16:30	8.50	1140	1140	Other	Skid, N/U & Test
28-Aug-17	16:30	17:15	0.75	1140	1140	Change BHA	P/U BHA #2
28-Aug-17	17:15	18:00	0.75	1140	1140	TIH	TIH - 955
28-Aug-17	18:00	19:30	1.50	1140	1140	Other	Slip & Cut Drilling Line
28-Aug-17	19:30	19:45	0.25	1140	1140	Test BOPS	Test BOPS Choke
28-Aug-17	19:45	20:00	0.25	1140	1140	TIH	TIH
28-Aug-17	20:00	21:00	1.00	1140	1140	Circulating	Drill out float collar, cmt thru shoe T/1140'
28-Aug-17	21:00	21:20	0.33	1140	1240	Drilling	Drilling - (WOB:20;GPM :900;RPM:35)
28-Aug-17	21:20	21:25	0.08	1240	1240	Survey & Conn.	Survey & Conn. @1176' Inc 24.59° Azm 43.52°
28-Aug-17	21:25	21:30	0.08	1240	1248	Sliding	Sliding - (WOB:20;GPM :900;TFO:80R)
28-Aug-17	21:30	21:40	0.17	1248	1335	Drilling	Drilling - (WOB:20;GPM :900;RPM:35)
28-Aug-17	21:40	21:45	0.08	1335	1335	Survey & Conn.	Survey & Conn. @1271' Inc 24.3° Azm 46.34°
28-Aug-17	21:45	21:55	0.17	1335	1429	Drilling	Drilling - (WOB:20;GPM :900;RPM:35)
28-Aug-17	21:55	22:00	0.08	1429	1429	Survey & Conn.	Survey & Conn. @1365' Inc 24.35° Azm 45.87°
28-Aug-17	22:00	22:15	0.25	1429	1523	Drilling	Drilling - (WOB:20;GPM :541;RPM:35)
28-Aug-17	22:15	22:20	0.08	1523	1523	Survey & Conn.	Survey & Conn. @1459' Inc 23.73° Azm 45°

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
28-Aug-17	22:20	22:25	0.08	1523	1535	Sliding	Sliding - (WOB:20;GPM :541;TFO:80R))
28-Aug-17	22:25	22:45	0.33	1535	1618	Drilling	Drilling - (WOB:20;GPM :541;RPM:35)
28-Aug-17	22:45	22:50	0.08	1618	1618	Survey & Conn.	Survey & Conn.@1554' Inc 24.45° Azm 48.47°
28-Aug-17	22:50	23:05	0.25	1618	1712	Drilling	Drilling - (WOB:20;GPM :541;RPM:35)
28-Aug-17	23:05	23:10	0.08	1712	1712	Survey & Conn.	Survey & Conn.@1648' Inc 25.22° Azm 48.27°
28-Aug-17	23:10	23:25	0.25	1712	1807	Drilling	Drilling - (WOB:20;GPM :541;RPM:35)
28-Aug-17	23:25	23:30	0.08	1807	1807	Survey & Conn.	Survey & Conn.@1743' Inc 25.47° Azm 48.3°
28-Aug-17	23:30	23:45	0.25	1807	1901	Drilling	Drilling - (WOB:20;GPM :541;RPM:35)
28-Aug-17	23:45	23:50	0.08	1901	1901	Survey & Conn.	Survey & Conn.@1837' Inc 25.02° Azm 49.07°
28-Aug-17	23:50	24:00	0.17	1901	1996	Drilling	Drilling - (WOB:20;GPM :541;RPM:35)



<b>JOB NO.:</b>	OP.003886	<b>Report Time:</b>	2400	3 of 7
<b>COMPANY:</b>	Terra Energy Partners	<b>API JOB #</b>	05-045-23300-00	
<b>LOCATION:</b>	RU 32-12 Pad	<b>WORK ORDER#</b>	OP.003886	
<b>RIG NAME:</b>	H&P 318 (Triple)	<b>FIELD:</b>	RU	
<b>STATE:</b>	Colorado	<b>Township:</b>	7S	
<b>COUNTY:</b>	Garfield	<b>SECTRANGE:</b>	12	94W
<b>WELL NAME:</b>	SR 441-12			

**From Tuesday, August 29, 2017 at 0000 to Tuesday, August 29, 2017 at 2400**

DRILLING SUMMARY				Drilling Parameters										
Start Depth	1996.00	Rotary Hours	15.08	WOB	26	Pick UP	175	Slack Off	98	SPM				
End Depth	6247.00	Circulating Hours	2.25	RAB	126	SPP	2000	FlowRate	550 - 630	122				
Total Drilled:	4251.00	Avg. Total ROP:	240.62	<b>Mud Data</b>										
Total Rotary Drilled:	4101.00	Avg. Rotary ROP:	271.89	Type	LSND	PV	9	SOLID	7.2					
Total Drilled Sliding:	150.00	Avg. Slide ROP:	58.06	Weight	9.3	GAS	0	YP	12	BHT°	111			
Slide Hours:	2.58	Percent Rotary:	96.47	Viscosity	40	SAND	0.5	PH	9.9	Flow T°	94			
Below Rotary Hrs.	24.00	Percent Slide:	3.53	Chlorides	1100	WL	9.6	Oil %	0					
PERSONNEL				cASING			BHA							
Lead Directional :	Todd Steel			Size	Lb/ft	Set Depth	BHA # 2: Hughes T505F w/ 5 22's, 6 1/2" FBH @ 1.83 3.3S 7:8L, 6 1/2 NMPC, 6 1/2 NMPC, 6 1/2 APHOS, 6 1/2 NMDC, 6 1/2 GAP SUB, 6 1/2 NMDC, 6 1/2 XO, 18 Joints 5" Spiral HWDP, ,							
Second Directional :	David Hensley			9 5/8	29.3	1130								
MWD Operator1	Tad Heil			Signature:										
MWD Operator2														
Directional Company:	SDI													
Geologist:														
Company Man:	Danny Bonnette/Josh Phillips													
Incl. In:	25.02	Azm. In:	49.07	Incl. Out:	1.93	Azm. Out:	73.15							

**GENERAL COMMENT**

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
29-Aug-17	00:00	00:10	0.17	1996	1996	Survey & Conn.	Survey & Conn. @1932' Inc 24.02° Azm 49.11°
29-Aug-17	00:10	00:25	0.25	1996	2090	Drilling	Drilling - (WOB:20;GPM :541;RPM:35)
29-Aug-17	00:25	00:30	0.08	2090	2090	Survey & Conn.	Survey & Conn. @2026' Inc 23.49° Azm 47.97°
29-Aug-17	00:30	00:45	0.25	2090	2185	Drilling	Drilling - (WOB:20;GPM :630;RPM:35)
29-Aug-17	00:45	00:50	0.08	2185	2185	Survey & Conn.	Survey & Conn. @2121' Inc 22.43° Azm 48.18°
29-Aug-17	00:50	00:55	0.08	2185	2197	Sliding	Sliding - (WOB:25;GPM :630;TFO:360))
29-Aug-17	00:55	01:15	0.33	2197	2279	Drilling	Drilling - (WOB:20;GPM :630;RPM:35)
29-Aug-17	01:15	01:20	0.08	2279	2279	Survey & Conn.	Survey & Conn. @2215' Inc 23.38° Azm 48.73°
29-Aug-17	01:20	01:30	0.17	2279	2374	Drilling	Drilling - (WOB:20;GPM :630;RPM:35)
29-Aug-17	01:30	01:35	0.08	2374	2374	Survey & Conn.	Survey & Conn. @2310' Inc 23.25° Azm 48.48°
29-Aug-17	01:35	01:45	0.17	2374	2468	Drilling	Drilling - (WOB:20;GPM :630;RPM:35)
29-Aug-17	01:45	01:50	0.08	2468	2468	Survey & Conn.	Survey & Conn. @2404' Inc 22.69° Azm 48.01°
29-Aug-17	01:50	03:50	2.00	2468	2468	Circulating	Rig repair change swab pump
29-Aug-17	03:50	03:55	0.08	2468	2483	Sliding	Sliding - (WOB:25;GPM :630;TFO:360)
29-Aug-17	03:55	04:05	0.17	2483	2562	Drilling	Drilling - (WOB:20;GPM :630;RPM:35)
29-Aug-17	04:05	04:10	0.08	2562	2562	Survey & Conn.	Survey & Conn. @2498' Inc 24.33° Azm 48.1°
29-Aug-17	04:10	04:25	0.25	2562	2657	Drilling	Drilling - (WOB:20;GPM :630;RPM:35)

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
29-Aug-17	04:25	04:30	0.08	2657	2657	Survey & Conn.	Survey & Conn.@2593' Inc 24.05° Azm 47.71°
29-Aug-17	04:30	04:40	0.17	2657	2752	Drilling	Drilling - (WOB:20;GPM :630;RPM:35)
29-Aug-17	04:40	04:45	0.08	2752	2752	Survey & Conn.	Survey & Conn.@2688' Inc 23.89° Azm 46.67°
29-Aug-17	04:45	04:55	0.17	2752	2846	Drilling	Drilling - (WOB:20;GPM :630;RPM:35)
29-Aug-17	04:55	05:00	0.08	2846	2846	Survey & Conn.	Survey & Conn.@2782' Inc 23.5° Azm 46.85°
29-Aug-17	05:00	05:10	0.17	2846	2940	Drilling	Drilling - (WOB:20;GPM :630;RPM:35)
29-Aug-17	05:10	05:15	0.08	2940	2940	Survey & Conn.	Survey & Conn.@2876' Inc 23.08° Azm 46.15°
29-Aug-17	05:15	05:30	0.25	2940	3035	Drilling	Drilling - (WOB:20;GPM :630;RPM:35)
29-Aug-17	05:30	05:35	0.08	3035	3035	Survey & Conn.	Survey & Conn.@2971' Inc 22.64° Azm 44.95°
29-Aug-17	05:35	05:45	0.17	3035	3049	Sliding	Sliding - (WOB:25;GPM :630;TFO:45))
29-Aug-17	05:45	06:00	0.25	3049	3130	Drilling	Drilling - (WOB:20;GPM :630;RPM:35)
29-Aug-17	06:00	06:05	0.08	3130	3130	Survey & Conn.	Survey & Conn.@3066' Inc 23.32° Azm 48.61°
29-Aug-17	06:05	06:15	0.17	3130	3224	Drilling	Drilling - (WOB:20;GPM :630;RPM:35)
29-Aug-17	06:15	06:20	0.08	3224	3224	Survey & Conn.	Survey & Conn.@3160' Inc 23.17° Azm 48.68°
29-Aug-17	06:20	06:40	0.33	3224	3319	Drilling	Drilling - (WOB:20;GPM :630;RPM:35)
29-Aug-17	06:40	06:45	0.08	3319	3319	Survey & Conn.	Survey & Conn.@3255' Inc 22.72° Azm 47.91°
29-Aug-17	06:45	06:50	0.08	3319	3344	Drilling	Drilling - (WOB:20;GPM :630;RPM:35)
29-Aug-17	06:50	06:55	0.08	3344	3360	Sliding	Sliding - (WOB:25;GPM :630;TFO:45)
29-Aug-17	06:55	07:10	0.25	3360	3413	Drilling	Drilling - (WOB:20;GPM :630;RPM:35)
29-Aug-17	07:10	07:15	0.08	3413	3413	Survey & Conn.	Survey & Conn.@3349' Inc 23.28° Azm 48.73°
29-Aug-17	07:15	07:35	0.33	3413	3508	Drilling	Drilling - (WOB:20;GPM :630;RPM:35)
29-Aug-17	07:35	07:40	0.08	3508	3508	Survey & Conn.	Survey & Conn.@3444' Inc 23.34° Azm 47.94°
29-Aug-17	07:40	07:55	0.25	3508	3602	Drilling	Drilling - (WOB:20;GPM :630;RPM:35)
29-Aug-17	07:55	08:00	0.08	3602	3602	Survey & Conn.	Survey & Conn.@3538' Inc 22.51° Azm 47.86°
29-Aug-17	08:00	08:15	0.25	3602	3697	Drilling	Drilling - (WOB:20;GPM :630;RPM:35)
29-Aug-17	08:15	08:20	0.08	3697	3697	Survey & Conn.	Survey & Conn.@3633' Inc 22.26° Azm 47.46°
29-Aug-17	08:20	08:30	0.17	3697	3791	Drilling	Drilling - (WOB:20;GPM :630;RPM:35)
29-Aug-17	08:30	08:35	0.08	3791	3791	Survey & Conn.	Survey & Conn.@3727' Inc 21.4° Azm 47.82°
29-Aug-17	08:35	08:50	0.25	3791	3896	Drilling	Drilling - (WOB:20;GPM :630;RPM:35)
29-Aug-17	08:50	08:55	0.08	3896	3896	Survey & Conn.	Survey & Conn.@3822' Inc 20.14° Azm 47.75°
29-Aug-17	08:55	09:05	0.17	3896	3980	Drilling	Drilling - (WOB:20;GPM :630;RPM:35)
29-Aug-17	09:05	09:10	0.08	3980	3980	Survey & Conn.	Survey & Conn.@3916' Inc 19.36° Azm 48.21°
29-Aug-17	09:10	09:30	0.33	3980	4075	Drilling	Drilling - (WOB:20;GPM :630;RPM:35)
29-Aug-17	09:30	09:35	0.08	4075	4075	Survey & Conn.	Survey & Conn.@4011' Inc 18.96° Azm 46.92°
29-Aug-17	09:35	09:55	0.33	4075	4169	Drilling	Drilling - (WOB:20;GPM :630;RPM:35)
29-Aug-17	10:50	10:55	0.08	4358	4358	Survey & Conn.	Survey & Conn.@4294' Inc 17.1° Azm 46.65°
29-Aug-17	10:55	11:20	0.42	4358	4453	Drilling	Drilling - (WOB:20;GPM :630;RPM:35)
29-Aug-17	11:20	11:25	0.08	4453	4453	Survey & Conn.	Survey & Conn.@4389' Inc 16.36° Azm 47.04°
29-Aug-17	11:25	11:40	0.25	4453	4547	Drilling	Drilling - (WOB:20;GPM :630;RPM:35)
29-Aug-17	11:40	11:45	0.08	4547	4547	Survey & Conn.	Survey & Conn.@4483' Inc 16.09° Azm 45.8°
29-Aug-17	11:45	12:00	0.25	4547	4642	Drilling	Drilling - (WOB:20;GPM :550;RPM:35)
29-Aug-17	12:00	12:05	0.08	4642	4642	Survey & Conn.	Survey & Conn.@4578' Inc 15.56° Azm 44.23°
29-Aug-17	12:05	12:25	0.33	4642	4736	Drilling	Drilling - (WOB:20;GPM :550;RPM:35)
29-Aug-17	12:25	12:30	0.08	4736	4736	Survey & Conn.	Survey & Conn.@4672' Inc 14.86° Azm 44.58°
29-Aug-17	12:30	12:50	0.33	4736	4830	Drilling	Drilling - (WOB:30;GPM :550;RPM:70)
29-Aug-17	12:50	12:55	0.08	4830	4830	Survey & Conn.	Survey & Conn.@4766' Inc 14.5° Azm 43.29°
29-Aug-17	12:55	13:15	0.33	4830	4925	Drilling	Drilling - (WOB:30;GPM :550;RPM:70)
29-Aug-17	13:15	13:20	0.08	4925	4925	Survey & Conn.	Survey & Conn.@4861' Inc 13.73° Azm 43.15°

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
29-Aug-17	13:20	13:40	0.33	4925	5019	Drilling	Drilling - (WOB:30;GPM :550;RPM:70)
29-Aug-17	13:40	13:45	0.08	5019	5019	Survey & Conn.	Survey & Conn.@4955' Inc 13.03° Azm 42.6°
29-Aug-17	13:45	14:05	0.33	5019	5114	Drilling	Drilling - (WOB:30;GPM :550;RPM:70)
29-Aug-17	14:05	14:10	0.08	5114	5114	Survey & Conn.	Survey & Conn.@5050' Inc 12.83° Azm 41.5°
29-Aug-17	14:10	14:20	0.17	5114	5130	Sliding	Sliding - (WOB:30;GPM :630;TFO:130))
29-Aug-17	14:20	14:40	0.33	5130	5208	Drilling	Drilling - (WOB:30;GPM :550;RPM:70)
29-Aug-17	14:40	14:45	0.08	5208	5208	Survey & Conn.	Survey & Conn.@5144' Inc 11.07° Azm 46.85°
29-Aug-17	14:45	15:05	0.33	5208	5303	Drilling	Drilling - (WOB:30;GPM :550;RPM:70)
29-Aug-17	15:05	15:10	0.08	5303	5303	Survey & Conn.	Survey & Conn.@5239' Inc 10.96° Azm 46.81°
29-Aug-17	15:10	15:25	0.25	5303	5315	Sliding	Sliding - (WOB:35;GPM :630;TFO:160))
29-Aug-17	15:25	15:50	0.42	5315	5397	Drilling	Drilling - (WOB:30;GPM :550;RPM:70)
29-Aug-17	15:50	15:55	0.08	5397	5397	Survey & Conn.	Survey & Conn.@5333' Inc 9.75° Azm 44.91°
29-Aug-17	15:55	16:20	0.42	5397	5491	Drilling	Drilling - (WOB:30;GPM :550;RPM:70)
29-Aug-17	16:20	16:25	0.08	5491	5491	Survey & Conn.	Survey & Conn.@5427' Inc 9.49° Azm 46.15°
29-Aug-17	16:25	17:00	0.58	5491	5505	Sliding	Sliding - (WOB:42;GPM :630;TFO:180))
29-Aug-17	17:00	17:40	0.67	5505	5586	Drilling	Drilling - (WOB:30;GPM :550;RPM:70)
29-Aug-17	17:40	17:55	0.25	5586	5586	Rig Service-Inhole	Rig Service-Inhole
29-Aug-17	18:55	19:20	0.42	5680	5774	Drilling	Drilling - (WOB:30;GPM :550;RPM:70)
29-Aug-17	19:20	19:25	0.08	5774	5774	Survey & Conn.	Survey & Conn.@5710' Inc 5.79° Azm 45.2°
29-Aug-17	19:25	19:50	0.42	5774	5869	Drilling	Drilling - (WOB:30;GPM :550;RPM:70)
29-Aug-17	19:50	19:55	0.08	5869	5869	Survey & Conn.	Survey & Conn.@5805' Inc 5.02° Azm 43.04°
29-Aug-17	19:55	20:20	0.42	5869	5964	Drilling	Drilling - (WOB:30;GPM :550;RPM:70)
29-Aug-17	20:20	20:25	0.08	5964	5964	Survey & Conn.	Survey & Conn.@5900' Inc 4.66° Azm 42.82°
29-Aug-17	20:25	21:05	0.67	5964	6058	Drilling	Drilling - (WOB:30;GPM :550;RPM:70)
29-Aug-17	21:05	21:10	0.08	6058	6058	Survey & Conn.	Survey & Conn.@5994' Inc 4.68° Azm 38.97°
29-Aug-17	21:10	21:55	0.75	6058	6078	Sliding	Sliding - (WOB:42;GPM :630;TFO:180))
29-Aug-17	21:55	22:35	0.67	6078	6153	Drilling	Drilling - (WOB:30;GPM :550;RPM:70)
29-Aug-17	22:35	22:45	0.17	6153	6153	Survey & Conn.	Survey & Conn.@6089' Inc 2.99° Azm 54.87°
29-Aug-17	22:45	23:00	0.25	6153	6165	Sliding	Sliding - (WOB:50;GPM :630;TFO:150R))
29-Aug-17	23:00	23:50	0.83	6165	6247	Drilling	Drilling - (WOB:26;GPM :550;RPM:70)
29-Aug-17	23:50	24:00	0.17	6247	6247	Survey & Conn.	Survey & Conn.@6183' Inc 1.93° Azm 73.15°
29-Aug-17	09:55	10:00	0.08	4169	4169	Survey & Conn.	Survey & Conn.@4105' Inc 18.34° Azm 46.56°
29-Aug-17	10:00	10:25	0.42	4169	4263	Drilling	Drilling - (WOB:20;GPM :630;RPM:35)
29-Aug-17	10:25	10:30	0.08	4263	4263	Survey & Conn.	Survey & Conn.@4199' Inc 17.42° Azm 47.43°
29-Aug-17	10:30	10:50	0.33	4263	4358	Drilling	Drilling - (WOB:20;GPM :630;RPM:35)
29-Aug-17	17:55	18:00	0.08	5586	5586	Survey & Conn.	Survey & Conn.@5522' Inc 8.5° Azm 44.94°
29-Aug-17	18:00	18:10	0.17	5586	5605	Sliding	Sliding - (WOB:42;GPM :630;TFO:180)
29-Aug-17	18:10	18:50	0.67	5605	5680	Drilling	Drilling - (WOB:30;GPM :550;RPM:70)
29-Aug-17	18:50	18:55	0.08	5680	5680	Survey & Conn.	Survey & Conn.@5616' Inc 6.29° Azm 46.89°



<b>JOB NO.:</b>	OP.003886	<b>Report Time:</b>	2400	4 of 7
<b>COMPANY:</b>	Terra Energy Partners	<b>API JOB #</b>	05-045-23300-00	
<b>LOCATION:</b>	RU 32-12 Pad	<b>WORK ORDER#</b>	OP.003886	
<b>RIG NAME:</b>	H&P 318 (Triple)	<b>FIELD:</b>	RU	
<b>STATE:</b>	Colorado	<b>Township:</b>	7S	
<b>COUNTY:</b>	Garfield	<b>SECTRANGE:</b>	12	94W
<b>WELL NAME:</b>	SR 441-12			

**From Wednesday, August 30, 2017 at 0000 to Wednesday, August 30, 2017 at 2400**

DRILLING SUMMARY				Drilling Parameters									
Start Depth	6247.00	Rotary Hours	19.50	WOB	26	Pick UP	238	Slack Off	140	SPM			
End Depth	7888.00	Circulating Hours	2.83	RAB	183	SPP	2000	FlowRate	550 - 550	122			
Total Drilled:	1641.00	Avg. Total ROP:	83.09	<b>Mud Data</b>									
Total Rotary Drilled:	1632.00	Avg. Rotary ROP:	83.69	Type	LSND	PV	9	SOLID	7.2				
Total Drilled Sliding:	9.00	Avg. Slide ROP:	36.00	Weight	9.3	GAS	0	YP	12	BHT°	111		
Slide Hours:	0.25	Percent Rotary:	99.45	Viscosity	40	SAND	0.5	PH	9.9	Flow T°	94		
Below Rotary Hrs.	24.00	Percent Slide:	.55	Chlorides	1100	WL	9.6	Oil %	0				
PERSONNEL				cASING			BHA						
Lead Directional :	Todd Steel			Size	Lb/ft	Set Depth	BHA # 2: Hughes T505F w/ 5 22's, 6 1/2" FBH @ 1.83 3.3S 7-8L, 6 1/2 NMPC, 6 1/2 NMPC, 6 1/2 APHOS, 6 1/2 NMDC, 6 1/2 GAP SUB, 6 1/2 NMDC, 6 1/2 XO, 18 Joints 5" Spiral HWDP, ,						
Second Directional :	David Hensley			9 5/8	29.3	1130							
MWD Operator1	Tad Heil			Signature:									
MWD Operator2													
Directional Company:	SDI												
Geologist:													
Company Man:	Danny Bonnette/Josh Phillips												
Incl. In:	1.93	Azm. In:	73.15	Incl. Out:	0	Azm. Out:	0						

**GENERAL COMMENT**

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
30-Aug-17	00:00	00:50	0.83	6247	6341	Drilling	Drilling - (WOB:26;GPM :550;RPM:55)
30-Aug-17	00:50	00:55	0.08	6341	6341	Survey & Conn.	Survey & Conn. @6277' Inc 1.39° Azm 74.37°
30-Aug-17	00:55	01:45	0.83	6341	6436	Drilling	Drilling - (WOB:26;GPM :550;RPM:55)
30-Aug-17	01:45	01:50	0.08	6436	6436	Survey & Conn.	Survey & Conn. @6372' Inc 1.26° Azm 72.38°
30-Aug-17	01:50	02:40	0.83	6436	6530	Drilling	Drilling - (WOB:26;GPM :550;RPM:55)
30-Aug-17	02:40	02:45	0.08	6530	6530	Survey & Conn.	Survey & Conn. @6466' Inc 0.97° Azm 67.43°
30-Aug-17	02:45	03:30	0.75	6530	6624	Drilling	Drilling - (WOB:26;GPM :550;RPM:55)
30-Aug-17	03:30	03:35	0.08	6624	6624	Survey & Conn.	Survey & Conn. @6560' Inc 0.46° Azm 43.33°
30-Aug-17	03:35	04:15	0.67	6624	6718	Drilling	Drilling - (WOB:26;GPM :550;RPM:55)
30-Aug-17	04:15	04:20	0.08	6718	6718	Survey & Conn.	Survey & Conn. @6654' Inc 0.27° Azm 55.6°
30-Aug-17	04:20	05:25	1.08	6718	6813	Drilling	Drilling - (WOB:26;GPM :550;RPM:55)
30-Aug-17	05:25	05:30	0.08	6813	6813	Survey & Conn.	Survey & Conn. @6749' Inc 0.35° Azm 69.89°
30-Aug-17	05:30	06:10	0.67	6813	6908	Drilling	Drilling - (WOB:26;GPM :550;RPM:55)
30-Aug-17	06:10	06:15	0.08	6908	6908	Survey & Conn.	Survey & Conn. @6844' Inc 0.18° Azm 113.22°
30-Aug-17	06:15	07:05	0.83	6908	7002	Drilling	Drilling - (WOB:26;GPM :550;RPM:55)
30-Aug-17	07:05	07:10	0.08	7002	7002	Survey & Conn.	Survey & Conn. @6938' Inc 0.19° Azm 309.97°
30-Aug-17	07:10	08:00	0.83	7002	7097	Drilling	Drilling - (WOB:26;GPM :550;RPM:55)

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
30-Aug-17	08:00	08:05	0.08	7097	7097	Survey & Conn.	Survey & Conn.@7033' Inc 0.4° Azm 241.01°
30-Aug-17	08:05	08:55	0.83	7097	7191	Drilling	Drilling - (WOB:26;GPM :550;RPM:55)
30-Aug-17	08:55	09:00	0.08	7191	7191	Survey & Conn.	Survey & Conn.@7127' Inc 0.3° Azm 255.2°
30-Aug-17	09:00	10:00	1.00	7191	7285	Drilling	Drilling - (WOB:26;GPM :550;RPM:55)
30-Aug-17	10:00	10:05	0.08	7285	7285	Survey & Conn.	Survey & Conn.@7221' Inc 0.09° Azm 66.14°
30-Aug-17	10:05	11:20	1.25	7285	7380	Drilling	Drilling - (WOB:26;GPM :550;RPM:55)
30-Aug-17	11:20	11:25	0.08	7380	7380	Survey & Conn.	Survey & Conn.@7316' Inc 0.44° Azm 85.83°
30-Aug-17	11:25	13:15	1.83	7380	7474	Drilling	Drilling - (WOB:26;GPM :550;RPM:55)
30-Aug-17	13:15	13:20	0.08	7474	7474	Survey & Conn.	Survey & Conn.@7410' Inc 0.45° Azm 109.84°
30-Aug-17	13:20	15:00	1.67	7474	7569	Drilling	Drilling - (WOB:26;GPM :550;RPM:55)
30-Aug-17	15:00	15:05	0.08	7569	7569	Survey & Conn.	Survey & Conn.@7505' Inc 0.72° Azm 110.65°
30-Aug-17	15:05	16:10	1.08	7569	7663	Drilling	Drilling - (WOB:26;GPM :550;RPM:55)
30-Aug-17	16:10	16:15	0.08	7663	7663	Survey & Conn.	Survey & Conn.@7599' Inc 0.83° Azm 75.79°
30-Aug-17	16:15	18:10	1.92	7663	7758	Drilling	Drilling - (WOB:26;GPM :550;RPM:55)
30-Aug-17	18:10	18:15	0.08	7758	7758	Survey & Conn.	Survey & Conn.@7694' Inc 0.98° Azm 87.92°
30-Aug-17	18:15	18:30	0.25	7758	7767	Sliding	Sliding - (WOB:50;GPM :630;TFO:150R))
30-Aug-17	18:30	20:20	1.83	7767	7852	Drilling	Drilling - (WOB:26;GPM :550;RPM:55)
30-Aug-17	20:20	20:25	0.08	7852	7852	Survey & Conn.	Survey & Conn.@7788' Inc 0.44° Azm 132.03°
30-Aug-17	20:25	21:10	0.75	7852	7888	Drilling	Drilling - (WOB:26;GPM :550;RPM:55)
30-Aug-17	21:10	24:00	2.83	7888	7888	Circulating	Circulating



<b>JOB NO.:</b>	OP.003886	<b>Report Time:</b>	2400	5 of 7
<b>COMPANY:</b>	Terra Energy Partners	<b>API JOB #</b>	05-045-23300-00	
<b>LOCATION:</b>	RU 32-12 Pad	<b>WORK ORDER#</b>	OP.003886	
<b>RIG NAME:</b>	H&P 318 (Triple)	<b>FIELD:</b>	RU	
<b>STATE:</b>	Colorado	<b>Township:</b>	7S	
<b>COUNTY:</b>	Garfield	<b>SECTRANGE:</b>	12	94W
<b>WELL NAME:</b>	SR 441-12			

From Thursday, August 31, 2017 at 0000 to Thursday, August 31, 2017 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	7888.00	Rotary Hours	2.67	WOB	26	Pick UP	260	Slack Off	145	SPM	
End Depth	8136.00	Circulating Hours	2.92	RAB	192	SPP	2000	FlowRate	550 - 550	122	
Total Drilled:	248.00	Avg. Total ROP:	93.00	<b>Mud Data</b>							
Total Rotary Drilled:	248.00	Avg. Rotary ROP:	93.00	Type	LSND	PV	9	SOLID	7.2		
Total Drilled Sliding:	0.00	Avg. Slide ROP:	NA	Weight	9.3	GAS	0	YP	12	BHT°	111
Slide Hours:	0.00	Percent Rotary:	100.00	Viscosity	40	SAND	0.5	PH	9.9	Flow T°	94
Below Rotary Hrs.	24.00	Percent Slide:	.00	Chlorides	1100	WL	9.6	Oil %	0		

PERSONNEL				cASING			BHA
Lead Directional :	Ryan Davis			Size	Lb/ft	Set Depth	BHA # 3:MM55 5x22's, 6 1/2" FBH @ 1.83 3.3S 7:8L, 6 1/2 NMPC, 6 1/2 NMPC, 6 1/2 APHOS, 6 1/2 NMDC, 6 1/2 GAP SUB, 6 1/2 NMDC, 6 1/2 XO, 18 Joints 5" Spiral HWDP, ,
Second Directional :	David Hensley			9 5/8	29.3	1130	
MWD Operator1	Tad Heil			Signature:			
MWD Operator2							
Directional Company:	SDI						
Geologist:							
Company Man:	Danny Bonnette/Josh Phillips						
Incl. In:	0	Azm. In:	0	Incl. Out:	0	Azm. Out:	0

**GENERAL COMMENT**

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
31-Aug-17	00:00	09:30	9.50	7888	7888	POOH	POOH
31-Aug-17	09:30	10:30	1.00	7888	7888	Other	break bit, test motor, lay down motor
31-Aug-17	10:30	11:00	0.50	7888	7888	Rig Service-Inhole	Top Drive
31-Aug-17	11:00	12:00	1.00	7888	7888	Change BHA	Change BHA
31-Aug-17	12:00	18:30	6.50	7888	7888	TIH	TIH T/7759
31-Aug-17	18:30	19:40	1.17	7888	7888	Circulating	Ream T/ Bottom
31-Aug-17	19:40	20:15	0.58	7888	7947	Drilling	Drilling - (WOB:26;GPM :550;RPM:55)
31-Aug-17	20:15	20:20	0.08	7947	7947	Survey & Conn.	Survey & Conn. @7883' Inc 0.62° Azm 144.34°
31-Aug-17	20:20	21:30	1.17	7947	8041	Drilling	Drilling - (WOB:26;GPM :550;RPM:55)
31-Aug-17	21:30	21:35	0.08	8041	8041	Survey & Conn.	Survey & Conn. @7977' Inc 0.4° Azm 140.26°
31-Aug-17	21:35	22:30	0.92	8041	8136	Drilling	Drilling - (WOB:26;GPM :550;RPM:55)
31-Aug-17	22:30	22:45	0.25	8136	8136	POOH	POOH T/ 7943'
31-Aug-17	22:45	24:00	1.25	8136	8136	Circulating	Rig repair top drive



<b>JOB NO.:</b>	OP.003886	<b>Report Time:</b>	2400	6 of 7
<b>COMPANY:</b>	Terra Energy Partners	<b>API JOB #</b>	05-045-23300-00	
<b>LOCATION:</b>	RU 32-12 Pad	<b>WORK ORDER#</b>	OP.003886	
<b>RIG NAME:</b>	H&P 318 (Triple)	<b>FIELD:</b>	RU	
<b>STATE:</b>	Colorado	<b>Township:</b>	7S	
<b>COUNTY:</b>	Garfield	<b>SECTRANGE:</b>	12	94W
<b>WELL NAME:</b>	SR 441-12			

**From Friday, September 01, 2017 at 0000 to Friday, September 01, 2017 at 2400**

DRILLING SUMMARY				Drilling Parameters							
Start Depth	8136.00	Rotary Hours	13.00	WOB	25	Pick UP	287	Slack Off	165	SPM	
End Depth	9650.00	Circulating Hours	3.67	RAB	211	SPP	2000	FlowRate	550 - 550	122	
Total Drilled:	1514.00	Avg. Total ROP:	116.46	Mud Data							
Total Rotary Drilled:	1514.00	Avg. Rotary ROP:	116.46	Type	LSND	PV	9	SOLID	7.2		
Total Drilled Sliding:	0.00	Avg. Slide ROP:	NA	Weight	9.3	GAS	0	YP	12	BHT°	111
Slide Hours:	0.00	Percent Rotary:	100.00	Viscosity	40	SAND	0.5	PH	9.9	Flow T°	94
Below Rotary Hrs.	24.00	Percent Slide:	.00	Chlorides	1100	WL	9.6	Oil %	0		

PERSONNEL				cASING			BHA
Lead Directional :	Todd Steel			Size	Lb/ft	Set Depth	BHA # 3:MM55 5x22's, 6 1/2" FBH @ 1.83 3.3S 7:8L, 6 1/2 NMPC, 6 1/2 NMPC, 6 1/2 APHOS, 6 1/2 NMDC, 6 1/2 GAP SUB, 6 1/2 NMDC, 6 1/2 XO, 18 Joints 5" Spiral HWDP, ,
Second Directional :	David Hensley / Ryan Davis			9 5/8	29.3	1130	
MWD Operator1	Tad Heil			Signature:			
MWD Operator2							
Directional Company:	SDI						
Geologist:							
Company Man:	Danny Bonnette/Josh Phillips						
Incl. In:	0	Azm. In:	0	Incl. Out:	0	Azm. Out:	0

**GENERAL COMMENT**

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
1-Sep-17	00:00	00:10	0.17	8136	8136	Circulating	Ream T/8136'
1-Sep-17	00:10	00:15	0.08	8136	8136	Survey & Conn.	Survey & Conn. @8072' Inc 0.47° Azm 140.75°
1-Sep-17	00:15	01:20	1.08	8136	8230	Drilling	Drilling - (WOB:26; :550;RPM:55)
1-Sep-17	01:20	01:25	0.08	8230	8230	Survey & Conn.	Survey & Conn. @8166' Inc 0.26° Azm 114.94°
1-Sep-17	01:25	02:05	0.67	8230	8325	Drilling	Drilling - (WOB:26; :550;RPM:55)
1-Sep-17	02:05	02:10	0.08	8325	8325	Survey & Conn.	Survey & Conn. @8261' Inc 0.27° Azm 83.34°
1-Sep-17	02:10	02:50	0.67	8325	8419	Drilling	Drilling - (WOB:26; :550;RPM:50)
1-Sep-17	02:50	02:55	0.08	8419	8419	Survey & Conn.	Survey & Conn. @8355' Inc 0.26° Azm 269.85°
1-Sep-17	02:55	03:35	0.67	8419	8513	Drilling	Drilling - (WOB:26; :550;RPM:50)
1-Sep-17	03:35	03:40	0.08	8513	8513	Survey & Conn.	Survey & Conn. @8449' Inc 0.18° Azm 239.17°
1-Sep-17	03:40	04:20	0.67	8513	8608	Drilling	Drilling - (WOB:25; :550;RPM:50)
1-Sep-17	04:20	04:25	0.08	8608	8608	Survey & Conn.	Survey & Conn. @8544' Inc 0.26° Azm 261.85°
1-Sep-17	04:25	05:00	0.58	8608	8702	Drilling	Drilling - (WOB:25; :550;RPM:50)
1-Sep-17	05:00	05:05	0.08	8702	8702	Survey & Conn.	Survey & Conn. @8638' Inc 0.18° Azm 279.51°
1-Sep-17	05:05	05:45	0.67	8702	8796	Drilling	Drilling - (WOB:25; :550;RPM:50)
1-Sep-17	05:45	05:50	0.08	8796	8796	Survey & Conn.	Survey & Conn. @8732' Inc 0.2° Azm 84.71°
1-Sep-17	05:50	06:30	0.67	8796	8891	Drilling	Drilling - (WOB:25;GPM :550;RPM:50)

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
1-Sep-17	06:30	06:35	0.08	8891	8891	Survey & Conn.	Survey & Conn.@8827' Inc 0.3° Azm 227.29°
1-Sep-17	06:35	07:15	0.67	8891	8985	Drilling	Drilling - (WOB:25;GPM :550;RPM:50)
1-Sep-17	07:15	07:20	0.08	8985	8985	Survey & Conn.	Survey & Conn.@8921' Inc 1.49° Azm 203.49°
1-Sep-17	07:20	08:10	0.83	8985	9080	Drilling	Drilling - (WOB:25;GPM :550;RPM:50)
1-Sep-17	08:10	08:15	0.08	9080	9080	Survey & Conn.	Survey & Conn.@9016' Inc 2.55° Azm 213.95°
1-Sep-17	08:15	09:10	0.92	9080	9174	Drilling	Drilling - (WOB:25;GPM :550;RPM:50)
1-Sep-17	09:10	09:15	0.08	9174	9174	Survey & Conn.	Survey & Conn.@9110' Inc 2.73° Azm 212.8°
1-Sep-17	09:15	10:05	0.83	9174	9269	Drilling	Drilling - (WOB:25;GPM :550;RPM:50)
1-Sep-17	10:05	10:10	0.08	9269	9269	Survey & Conn.	Survey & Conn.@9205' Inc 2.81° Azm 235.59°
1-Sep-17	10:10	10:55	0.75	9269	9363	Drilling	Drilling - (WOB:25;GPM :550;RPM:50)
1-Sep-17	10:55	11:00	0.08	9363	9363	Survey & Conn.	Survey & Conn.@9299' Inc 2.81° Azm 242.07°
1-Sep-17	11:00	12:00	1.00	9363	9458	Drilling	Drilling - (WOB:25;GPM :550;RPM:50)
1-Sep-17	12:00	12:05	0.08	9458	9458	Survey & Conn.	Survey & Conn.@9394' Inc 2.9° Azm 242.07°
1-Sep-17	12:05	13:05	1.00	9458	9552	Drilling	Drilling - (WOB:25;GPM :550;RPM:50)
1-Sep-17	13:05	13:10	0.08	9552	9552	Survey & Conn.	Survey & Conn.@9488' Inc 2.46° Azm 255.26°
1-Sep-17	13:10	14:30	1.33	9552	9650	Drilling	Drilling - (WOB:25;GPM :550;RPM:50)
1-Sep-17	14:30	14:35	0.08	9650	9650	MWD Survey	MWD Survey@9588' Inc 2.64° Azm 259.74°
1-Sep-17	14:35	18:00	3.42	9650	9650	Circulating	Circulating
1-Sep-17	18:00	24:00	6.00	9650	9650	POOH	POOH



<b>JOB NO.:</b>	OP.003886	<b>Report Time:</b>	2400	7 of 7
<b>COMPANY:</b>	Terra Energy Partners	<b>API JOB #</b>	05-045-23300-00	
<b>LOCATION:</b>	RU 32-12 Pad	<b>WORK ORDER#</b>	OP.003886	
<b>RIG NAME:</b>	H&P 318 (Triple)	<b>FIELD:</b>	RU	
<b>STATE:</b>	Colorado	<b>Township:</b>	7S	
<b>COUNTY:</b>	Garfield	<b>SECTRANGE:</b>	12	94W
<b>WELL NAME:</b>	SR 441-12			

**From Saturday, September 02, 2017 at 0000 to Saturday, September 02, 2017 at 2400**

DRILLING SUMMARY				Drilling Parameters							
Start Depth	8136.00	Rotary Hours	13.00	WOB	25	Pick UP	287	Slack Off	165	SPM	
End Depth	9650.00	Circulating Hours	3.67	RAB	211	SPP	2000	FlowRate	550 - 550	122	
Total Drilled:	1514.00	Avg. Total ROP:	116.46	Mud Data							
Total Rotary Drilled:	1514.00	Avg. Rotary ROP:	116.46	Type	LSND	PV	9	SOLID	7.2		
Total Drilled Sliding:	0.00	Avg. Slide ROP:	NA	Weight	9.3	GAS	0	YP	12	BHT°	111
Slide Hours:	0.00	Percent Rotary:	100.00	Viscosity	40	SAND	0.5	PH	9.9	Flow T°	94
Below Rotary Hrs.	24.00	Percent Slide:	.00	Chlorides	1100	WL	9.6	Oil %	0		

PERSONNEL				cASING			BHA
Lead Directional :	Todd Steel			Size	Lb/ft	Set Depth	BHA # 3:MM55 5x22's, 6 1/2" FBH @ 1.83 3.3S 7:8L, 6 1/2 NMPC, 6 1/2 NMPC, 6 1/2 APHOS, 6 1/2 NMDC, 6 1/2 GAP SUB, 6 1/2 NMDC, 6 1/2 XO, 18 Joints 5" Spiral HWDP, ,
Second Directional :	Ryan Davis			9 5/8	29.3	1130	
MWD Operator1	Tad Heil			Signature:			
MWD Operator2							
Directional Company:	SDI						
Geologist:							
Company Man:	Danny Bonnette/Josh Phillips						
Incl. In:	0	Azm. In:	0	Incl. Out:	0	Azm. Out:	0

**GENERAL COMMENT**

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
2-Sep-17	00:00	05:00	5.00	9650	9650	POOH	POOH
2-Sep-17	05:00	05:30	0.50	9650	9650	Change BHA	Lay down directional tools
2-Sep-17	05:30	24:00	18.50	9650	9650	Other	Rig Ops

**BHA # 1**

**SDI**



<b>JOB NO.:</b> OP.003886	<b>Work Order:</b> OP.003886	<b>FIELD:</b> RU
<b>COMPANY:</b> Terra Energy Partners		<b>Township:</b> 7S
<b>LOCATION:</b> RU 32-12 Pad		<b>SECT. RANGE:</b> 12 94W
<b>RIG NAME:</b> H&P 318 (Triple)		<b>Lead DD:</b> Ryan Davis
<b>STATE:</b> Colorado		<b>Co. Man:</b> Danny Bonnette/Beaude Oaks
<b>COUNTY:</b> Garfield		<b>BHA TYPE:</b> Steerable Assembly
<b>WELL NAME:</b> SR 441-12		<b>BHA WT:</b> 41089 <b>Wt @ Jars:</b> N/A

Time and Depths	MOTOR DATA	Drilling Parameters
<b>Date In:</b> 08-Jul-17 @ 06:45	Alliance Hybrid 8" * 9 5/8", 7:8,	<b>SO/PU:</b> 50 - 61 / 50-65
<b>Date Out:</b> 08-Jul-17 @ 18:30	<b>MFG.:</b> Alliance	<b>Rot Strg Wt:</b> 50-63
<b>Hrs In Hole:</b> 11.75	<b>Pad OD:</b> 10.25	<b>WOB:</b> 5 - 20
<b>Start Depth:</b> 87.00	<b>NB Stab:</b> 0	<b>TORQ:</b> 5000 - 15000
<b>End Depth:</b> 1140.00	<b>Bit to Bend:</b> 8.16	<b>SPP:</b> 500 - 2000
<b>Total Drilled:</b> 1053.00	<b>Bent Hsg/Sub°:</b> 2 /	<b>Motor RPM:</b> 82 - 144
<b>Avg. Total ROP:</b> 157.95	<b>Lobe/Stage:</b> 7:8 / 4	<b>Rotary RPM:</b> 20 - 35
<b>Circ Hrs: Tot/Only</b> 7.67 / 1.00	<b>Rev/GAL:</b> 0.16	<b>Flow Rate:</b> 450 - 900
<b>Percent Slide:</b> 18.52	<b>Rotor Jet:</b> 0	<b>Avg Diff:</b> 450
<b>Percent Hrs:</b> 21.25	<b>Prop BUR:</b> 10	<b>Stall Pres.:</b>
<b>Slide Hours:</b> 1.42	<b>Act BUR:</b> 12	<b>Off Bot Pres.:</b>
<b>Total Sliding:</b> 195.00		
<b>Avg. Slide ROP:</b> 137.65		
<b>Percent Rotary:</b> 81.48		
<b>Percent Hrs:</b> 78.75		
<b>Rotary Hours:</b> 5.25		
<b>Total Rotary:</b> 858.00		
<b>Avg. Rotary ROP:</b> 163.43		
<b>Reason POOH:</b> TD		

Mud Data		Bit Record	
<b>Type</b> LSND		BAKER / T806F 6x16's	
<b>WT:</b> 9.6	<b>GAS:</b> 0	<b>Run #:</b> 1	
<b>Vis:</b> 48	<b>PV:</b> 13	<b>Type Bit:</b> PDC	
<b>WL:</b> 12	<b>PH:</b> 9	<b>IADC#:</b>	<b>TFA:</b> 1.178
<b>SOL:</b> 9.4	<b>SAND:</b> 0.5	<b>JETS:</b> 6-16	
<b>Oil %:</b> 0	<b>T °:</b> 116	<b>Bit Drop:</b> 516 PSI @ 900 GPM	
<b>Chlor:</b> 2000	<b>YP:</b> 16	<b>Cond.:</b> Green	

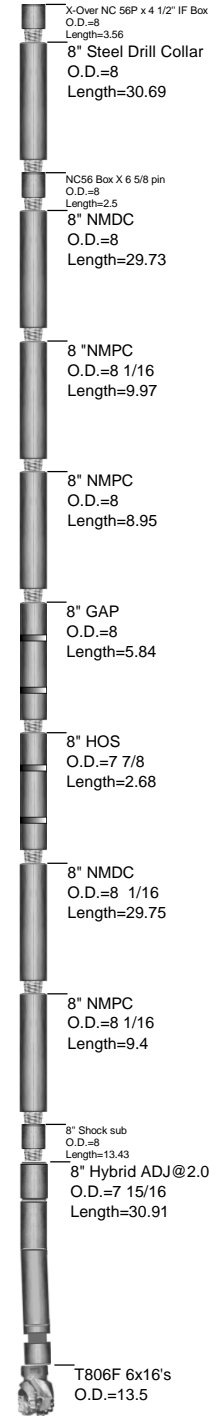
<b>MWD Spacing</b>	<b>Gamma:</b> 0	<b>Restiv:</b> 0	<b>Sensor:</b> 71	<b>Last Casing</b> n n .
	<b>GYRO:</b> 51	<b>DNSC:</b> 0	<b>Sonic:</b> 0	<b>Shoe @:</b> <b>Hanger @:</b>

**INC IN:** .8 **INC OUT:** .0 **AZM IN:** 90.00 **AZM OUT:** .00

8" Alliance Hybrid FT96209 w/ Baker T806F w/6x16's  
 Max Flow Rate 900 GPM, Max Differential 900, PSI Optimum 100-500 PSI, Stall 1350  
 Rotary 20-30 RPM / .16 RPG  
 Previous Run's D&C hrs: 9.25  
 This Run D&C hrs: 7.67  
 Total D&C hrs: 16.92

**BHA Detail**

Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn	MFG.
T806F 6x16's	7160869		13.5	1.50	1.50	6 5/8 REGP	BAKER
8" Hybrid ADJ@2.0	FT96209		7 15/16	30.91	32.41	6 5/8 REGB	Alliance
8" Shock sub	43927J	3	8	13.43	45.84	6 5/8 REGB	Other
8" NMPC	126-099	3 3/4	8 1/16	9.40	55.24	6 5/8 REGB	SDI
8" NMDC	84-302	3 3/4	8 1/16	29.75	84.99	6 5/8 REGB	SDI
8" HOS	89-048	3 3/4	7 7/8	2.68	87.67	6 5/8 REGB	SDI
8" GAP	69-1164	3 1/4	8	5.84	93.51	6 5/8 REGB	SDI
8" NMPC	126-038	3 5/8	8	8.95	102.46	6 5/8 REGB	SDI
8" NMPC	126-106	3 5/8	8 1/16	9.97	112.43	6 5/8 REGB	SDI
8" NMDC	94-393	3 3/4	8	29.73	142.16	6 5/8 REGB	SDI
NC56 Box X 6 5/8 pin	1-518	3	8	2.50	144.66	NC 56B	SDI
8" Steel Drill Collar	Rig 1	3.75	8	30.69	175.35	NC 56B	RIG
X-Over NC 56P x 4 1/2" IF Box	Rig 2	2 7/8	8	3.56	178.91	4 1/2 IFB	
18 Joints 5" Spiral HWDP	RIG	3	5	553.14	732.05	4 1/2 IF	Rig
				0.00	732.05		





**JOB NO.:** OP.003886  
**COMPANY:** Terra Energy Partners  
**LOCATION:** RU 32-12 Pad  
**RIG NAME:** H&P 318 (Triple)  
**STATE:** Colorado  
**COUNTY:** Country  
**WELL NAME:** SR 441-12

**FIELD:** RU  
**Township:** 7S  
**Range** 94W

MOTOR INFORMATION	
Desc:	Amance Hybrid 8 9/16, 1.0, 4.0 AD @ 2.0°
Bent Hsg/Sub:	2 / 0 Bit to Bend: 8.16
Pad OD:	10.25 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	8-Jul	Drilling	06:45	07:20	0.58	87	130	43	5	73.7	20	5000	450	500		0.76	90.00	3.19	
1	8-Jul	Sliding	07:30	07:35	0.08	130	143	13	5	156.0	20	5000	513	600		1.15	99.00	3.19	
1	8-Jul	Sliding	07:45	07:50	0.08	143	155	12	5	144.0	20	5000	513	600	45	1.53	102.00	3.19	
1	8-Jul	Drilling	07:50	08:15	0.42	155	176	21	5	50.4	20	5000	450	600		2.19	106.00	3.19	
1	8-Jul	Sliding	08:25	08:35	0.17	176	196	20	15	120.0	30	8000	700	900	30	2.82	108.00	3.19	
1	8-Jul	Drilling	08:35	08:45	0.17	196	221	25	15	150.0	30	8000	700	900		3.59	60.00	2.56	
1	8-Jul	Drilling	08:55	09:20	0.42	221	271	50	15	120.0	30	8000	700	900		4.77	67.00	2.56	
1	8-Jul	Drilling	09:30	09:35	0.08	271	281	10	15	120.0	30	8000	700	900		5.01	68.00	2.56	
1	8-Jul	Sliding	09:35	09:45	0.17	281	306	25	15	150.0	30	8000	700	900	-45	5.62	70.00	2.56	
1	8-Jul	Drilling	09:45	10:05	0.33	306	363	57	20	171.0	35	15000	900	1600		7.42	55.00	3.48	
1	8-Jul	Sliding	10:15	10:25	0.17	363	388	25	20	150.0	35	15000	900	1600	-15	8.25	57.00	3.48	
1	8-Jul	Drilling	10:25	10:45	0.33	388	455	67	20	201.0	35	15000	900	1600		10.21	43.00	3.03	
1	8-Jul	Sliding	10:55	11:00	0.08	455	470	15	20	180.0	35	15000	900	1600	15	10.64	44.00	3.03	
1	8-Jul	Drilling	11:00	11:15	0.25	470	547	77	20	308.0	35	15000	900	1600		12.46	44.00	2.33	
1	8-Jul	Sliding	11:20	11:25	0.08	547	562	15	20	180.0	35	15000	900	1600		12.81	44.00	2.33	
1	8-Jul	Drilling	11:25	11:45	0.33	562	640	78	20	234.0	35	15000	900	1600		15.00	44.00	2.84	
1	8-Jul	Sliding	11:50	12:00	0.17	640	660	20	20	120.0	35	15000	900	2000		15.57	44.00	2.68	
1	8-Jul	Drilling	12:00	12:25	0.42	660	732	72	20	172.8	35	15000	900	2000		17.50	44.00	2.68	
1	8-Jul	Sliding	12:30	12:35	0.08	732	752	20	20	240.0	35	15000	900	2000		18.03	44.00	2.68	
1	8-Jul	Drilling	12:35	12:55	0.33	752	826	74	20	222.0	35	15000	900	2000		20.15	44.00	2.87	
1	8-Jul	Sliding	13:00	13:15	0.25	826	846	20	20	80.0	35	15000	900	2000		20.72	44.00	2.87	
1	8-Jul	Drilling	13:15	13:30	0.25	846	920	74	20	296.0	35	15000	900	2000		21.66	43.00	1.26	
1	8-Jul	Drilling	13:35	14:15	0.67	920	1015	95	20	142.5	35	15000	900	2000		22.81	44.00	1.32	
1	8-Jul	Sliding	14:20	14:25	0.08	1015	1025	10	20	120.0	35	15000	900	2000	75	22.93	44.00	1.32	
1	8-Jul	Drilling	14:25	14:50	0.42	1025	1109	84	20	201.6	35	15000	900	2000		23.86	44.00	1.11	
1	8-Jul	Drilling	14:55	15:10	0.25	1109	1140	31	20	124.0	35	15000	900	2000		24.20	45.00	1.11	

# 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
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<b>Total Drilled:</b>						1053	<b>Avg. Total ROP:</b>				157.95	<b>DEPTH% - TIME %</b>									
<b>Total Rotary Drilled:</b>						858	<b>Avg. Rotary ROP:</b>				163.43	<b>Percent Rotary:</b>		81.48 - 78.75							
<b>Total Drilled Sliding:</b>						195	<b>Avg. Slide ROP:</b>				137.65	<b>Percent Slide:</b>		18.52 - 21.25							

**BHA # 2**

**SDI**



**JOB NO.:** OP.003886      **Work Order:** OP.003886      **FIELD:** RU  
**COMPANY:** Terra Energy Partners      **Township:** 7S  
**LOCATION:** RU 32-12 Pad      **SECT. RANGE:** 12      94W  
**RIG NAME:** H&P 318 (Triple)      **Lead DD:** Ryan Davis  
**STATE:** Colorado      **Co. Man:** Danny Bonnette/Josh Phillips  
**COUNTY:** Garfield      **BHA TYPE:** Steerable Assembly  
**WELL NAME:** SR 441-12      **BHA WT:** 29226      **Wt @ Jars:** N/A

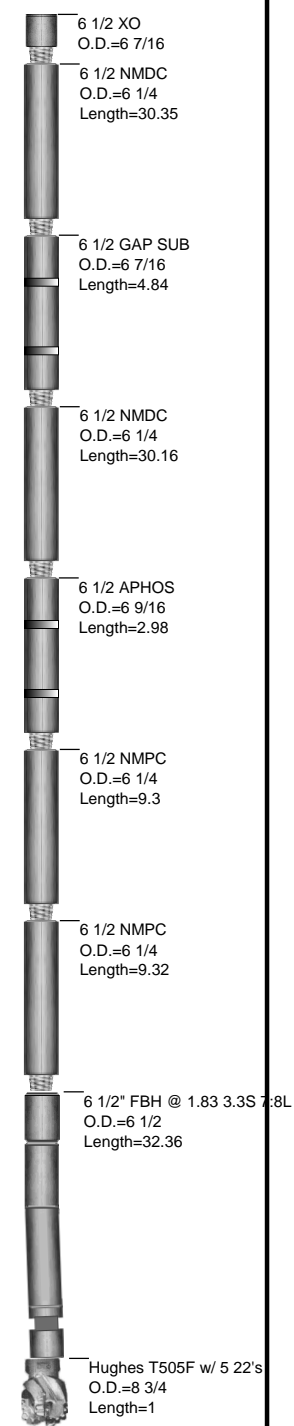
Time and Depths	MOTOR DATA	Drilling Parameters
<b>Date In:</b> 28-Aug-17 @ 16:30	6 1/2", 7:8 3.3, FBH @ 1.83°	<b>SO/PU:</b> 20 - 166 / 20-238
<b>Date Out:</b> 31-Aug-17 @ 11:00	<b>MFG.:</b> Hunting	<b>Rot Strg Wt:</b> 20-183
<b>Hrs In Hole:</b> 66.25	<b>Pad OD:</b> 6 11/16	<b>WOB:</b> 20 - 50
<b>Start Depth:</b> 1140.00	<b>NB Stab:</b> 0	<b>TORQ:</b> 15 - 23000
<b>End Depth:</b> 7888.00	<b>Bit to Bend:</b> 6.2	<b>SPP:</b> 1500 - 2100
<b>Total Drilled:</b> 6748.00	<b>Bent Hsg/Sub°:</b> 1.83 /	<b>Motor RPM:</b> 87 - 101
<b>Avg. Total ROP:</b> 169.76	<b>Lobe/Stage:</b> 7:8 / 3.3	<b>Rotary RPM:</b> 35 - 70
<b>Circ Hrs: Tot/Only</b> 46.33 / 6.58	<b>Rev/GAL:</b> 0.16	<b>Flow Rate:</b> 541 - 630
<b>Percent Slide:</b> 2.65	<b>Rotor Jet:</b> 0	<b>Avg Diff:</b>
<b>Percent Hrs:</b> 7.55	<b>Prop BUR:</b> 10	<b>Stall Pres.:</b>
<b>Slide Hours:</b> 3.00	<b>Act BUR:</b>	<b>Off Bot Pres.:</b>
<b>Total Sliding:</b> 179.00	<b>Mud Data</b>	
<b>Avg. Slide ROP:</b> 59.67	<b>Bit Record</b>	
<b>Percent Rotary:</b> 97.35	<b>Type</b> LSND	BAKER / Hughes T505F w/ 5 22's
<b>Percent Hrs:</b> 92.45	<b>WT:</b> 9.3	<b>Run #:</b> 2
<b>Rotary Hours:</b> 36.75	<b>Vis:</b> 40	<b>Type Bit:</b> PDC
<b>Total Rotary:</b> 6569.00	<b>WL:</b> 9.6	<b>IADC#:</b> TFA: 1.855
<b>Avg. Rotary ROP:</b> 178.75	<b>SOL:</b> 7.2	<b>JETS:</b> 5-22
<b>Reason POOH:</b>	<b>Oil %:</b> 0	<b>Bit Drop:</b> 99 PSI @ 630 GPM
	<b>Chlor:</b> 1100	<b>Cond.:</b>

<b>MWD Spacing</b>	<b>Gamma:</b> 0	<b>Restiv:</b> 0	<b>Sensor:</b> 60	<b>Last Casing</b> 9 5/8
	<b>GYRO:</b> 0	<b>DNCS:</b> 1140	<b>Sonic:</b> 0	<b>Shoe @:</b> 1116
				<b>Hanger @:</b>

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

New 6 1/2" Hunting 6164-HR w/ New 8 3/4" PDC, Hughes T505F w/ 5 22's  
 Max Flow Rate: 600 GPM - 0.16 RPG, Max Continuous Rotary: 60 RPM - 1.83° FBH  
 Max Operating Differential: 740 PSI, Stall Differential: 1110 PSI  
 Previous Run D&C hrs: 0  
 This Run D&C hrs: 45.58  
 Total D&C hrs: 45.58

BHA Detail							
Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn	MFG.
Hughes T505F w/ 5 22's	5272722	2	8 3/4	1.00	1.00	4 1/2 REGP	BAKER
6 1/2" FBH @ 1.83 3.3S 7:8L	6164	2	6 1/2	32.36	33.36	4 1/2 XHB	Hunting
6 1/2 NMPC	125-094	3 1/4	6 1/4	9.32	42.68	4 1/2 XHB	SDI
6 1/2 NMPC	125-110	3 1/4	6 1/4	9.30	51.98	4 1/2 XHB	SDI
6 1/2 APHOS	82-113	3 1/4	6 9/16	2.98	54.96	4 1/2 XHB	SDI
6 1/2 NMDC	122-851	3 1/4	6 1/4	30.16	85.12	4 1/2 XHB	SDI
6 1/2 GAP SUB	69-845	2 3/4	6 7/16	4.84	89.96	4 1/2 XHB	SDI
6 1/2 NMDC	122-522	3 1/4	6 1/4	30.35	120.31	4 1/2 XHB	SDI
6 1/2 XO	1-699	2 1/4	6 7/16	2.54	122.85	4 1/2 IFB	SDI
18 Joints 5" Spiral HWDP	RIG	3	5	551.66	674.51	4 1/2 IF	Rig
				0.00	674.51		





**JOB NO.:** OP.003886  
**COMPANY:** Terra Energy Partners  
**LOCATION:** RU 32-12 Pad  
**RIG NAME:** H&P 318 (Triple)  
**STATE:** Colorado  
**COUNTY:** Country  
**WELL NAME:** SR 441-12

**FIELD:** RU  
**Township:** 7S  
**Range** 94W

MOTOR INFORMATION	
Desc: 6 1/2", 7:8 3.3, FBH @ 1.83°	
Bent Hsg/Sub: 1.83/ 0	Bit to Bend: 6.2
Pad OD: 6 11/16	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	28-Aug	Drilling	21:00	21:20	0.33	1140	1240	100	20	300.0	35	15	541	1500		24.39	45.00	1.27	
2	28-Aug	Sliding	21:25	21:30	0.08	1240	1248	8	20	96.0	35	15	541	1500	80R	24.37	46.00	1.27	
2	28-Aug	Drilling	21:30	21:40	0.17	1248	1335	87	20	522.0	35	15	541	1500		24.33	47.00	0.21	
2	28-Aug	Drilling	21:45	21:55	0.17	1335	1429	94	20	564.0	35	15	541	1500		23.93	46.00	0.76	
2	28-Aug	Drilling	22:00	22:15	0.25	1429	1523	94	20	376.0	35	15000	541	1500		24.21	47.00	1.67	
2	28-Aug	Sliding	22:20	22:25	0.08	1523	1535	12	20	144.0	35	15000	541	1500	45R	24.30	48.00	1.67	
2	28-Aug	Drilling	22:25	22:45	0.33	1535	1618	83	20	249.0	35	15000	541	1500		24.97	49.00	0.82	
2	28-Aug	Drilling	22:50	23:05	0.25	1618	1712	94	20	376.0	35	15000	541	1500		25.39	48.00	0.26	
2	28-Aug	Drilling	23:10	23:25	0.25	1712	1807	95	20	380.0	35	15000	541	1500		25.16	49.00	0.59	
2	28-Aug	Drilling	23:30	23:45	0.25	1807	1901	94	20	376.0	35	15000	541	1500		24.35	49.00	1.05	
2	28-Aug	Drilling	23:50	24:00	0.17	1901	1996	95	20	570.0	35	15000	541	1500		23.66	50.00	0.75	
2	29-Aug	Drilling	00:10	00:25	0.25	1996	2090	94	20	376.0	35	15000	630	1500		22.78	48.00	1.12	
2	29-Aug	Drilling	00:30	00:45	0.25	2090	2185	95	20	380.0	35	15000	630	1500		23.08	49.00	1.04	
2	29-Aug	Sliding	00:50	00:55	0.08	2185	2197	12	25	144.0	35	15000	630	1500	360	23.20	49.00	1.04	
2	29-Aug	Drilling	00:55	01:15	0.33	2197	2279	82	20	246.0	35	15000	630	1500		23.29	49.00	0.17	
2	29-Aug	Drilling	01:20	01:30	0.17	2279	2374	95	20	570.0	35	15000	630	1500		22.87	49.00	0.63	
2	29-Aug	Drilling	01:35	01:45	0.17	2374	2468	94	20	564.0	35	15000	630	1500		23.81	48.00	1.75	
2	29-Aug	Sliding	03:50	03:55	0.08	2468	2483	15	25	180.0	35	15000	630	1500	360	24.07	48.00	1.75	
2	29-Aug	Drilling	03:55	04:05	0.17	2483	2562	79	20	474.0	35	15000	630	1500		24.14	48.00	0.34	
2	29-Aug	Drilling	04:10	04:25	0.25	2562	2657	95	20	380.0	35	15000	630	1500		23.94	48.00	0.48	
2	29-Aug	Drilling	04:30	04:40	0.17	2657	2752	95	20	570.0	35	15000	630	1500		23.62	47.00	0.42	
2	29-Aug	Drilling	04:45	04:55	0.17	2752	2846	94	20	564.0	35	15000	630	1500		23.21	47.00	0.54	
2	29-Aug	Drilling	05:00	05:10	0.17	2846	2940	94	20	564.0	35	15000	630	2100		22.78	47.00	0.67	
2	29-Aug	Drilling	05:15	05:30	0.25	2940	3035	95	20	380.0	35	15000	630	2100		23.09	47.00	1.67	
2	29-Aug	Sliding	05:35	05:45	0.17	3035	3049	14	25	84.0	35	15000	630	2100	45	23.19	48.00	1.67	
2	29-Aug	Drilling	05:45	06:00	0.25	3049	3130	81	20	324.0	35	15000	630	2100		23.22	49.00	0.16	

# 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	29-Aug	Drilling	06:05	06:15	0.17	3130	3224	94	20	564.0	35	15000	630	2100		22.87	49.00	0.57	
2	29-Aug	Drilling	06:20	06:40	0.33	3224	3319	95	20	285.0	35	15000	630	2100		23.10	48.00	0.69	
2	29-Aug	Drilling	06:45	06:50	0.08	3319	3344	25	20	300.0	35	15000	630	2100		23.25	49.00	0.69	
2	29-Aug	Sliding	06:50	06:55	0.08	3344	3360	16	25	192.0	35	15000	630	2100	45	23.29	49.00	0.34	
2	29-Aug	Drilling	06:55	07:10	0.25	3360	3413	53	20	212.0	35	15000	630	2100		23.32	49.00	0.34	
2	29-Aug	Drilling	07:15	07:35	0.33	3413	3508	95	20	285.0	35	15000	630	2100		22.77	48.00	0.88	
2	29-Aug	Drilling	07:40	07:55	0.25	3508	3602	94	20	376.0	35	15000	630	2100		22.34	48.00	0.31	
2	29-Aug	Drilling	08:00	08:15	0.25	3602	3697	95	20	380.0	35	15000	630	2100		21.67	48.00	0.93	
2	29-Aug	Drilling	08:20	08:30	0.17	3697	3791	94	20	564.0	35	15000	630	2100		20.55	48.00	1.33	
2	29-Aug	Drilling	08:35	08:50	0.25	3791	3896	105	20	420.0	35	15000	630	2100		19.53	48.00	0.85	
2	29-Aug	Drilling	08:55	09:05	0.17	3896	3980	84	20	504.0	35	15000	630	2100		19.09	49.00	0.61	
2	29-Aug	Drilling	09:10	09:30	0.33	3980	4075	95	20	285.0	35	15000	630	2100		18.54	47.00	0.67	
2	29-Aug	Drilling	09:35	09:55	0.33	4075	4169	94	20	282.0	35	15000	630	2100		17.71	47.00	1.02	
2	29-Aug	Drilling	10:00	10:25	0.42	4169	4263	94	20	225.6	35	15000	630	2100		17.20	48.00	0.42	
2	29-Aug	Drilling	10:30	10:50	0.33	4263	4358	95	20	285.0	35	15000	630	2100		16.60	47.00	0.79	
2	29-Aug	Drilling	10:55	11:20	0.42	4358	4453	95	20	228.0	35	15000	630	2100		16.18	48.00	0.47	
2	29-Aug	Drilling	11:25	11:40	0.25	4453	4547	94	20	376.0	35	15000	630	2100		15.73	47.00	0.72	
2	29-Aug	Drilling	11:45	12:00	0.25	4547	4642	95	20	380.0	35	19500	550	2000		15.08	44.00	0.75	
2	29-Aug	Drilling	12:05	12:25	0.33	4642	4736	94	20	282.0	35	19500	550	2000		14.61	45.00	0.52	
2	29-Aug	Drilling	12:30	12:50	0.33	4736	4830	94	30	282.0	70	19500	550	2000		13.98	43.00	0.81	
2	29-Aug	Drilling	12:55	13:15	0.33	4830	4925	95	30	285.0	70	19500	550	2000		13.25	44.00	0.76	
2	29-Aug	Drilling	13:20	13:40	0.33	4925	5019	94	30	282.0	70	19500	550	2000		12.89	43.00	0.33	
2	29-Aug	Drilling	13:45	14:05	0.33	5019	5114	95	30	285.0	70	19500	550	2000		11.62	45.00	2.21	
2	29-Aug	Sliding	14:10	14:20	0.17	5114	5130	16	30	96.0	70	19500	630	2000	130	11.33	46.00	2.21	
2	29-Aug	Drilling	14:20	14:40	0.33	5130	5208	78	30	234.0	70	19500	550	2000		11.00	47.00	0.12	
2	29-Aug	Drilling	14:45	15:05	0.33	5208	5303	95	30	285.0	70	19500	550	2000		10.13	48.00	1.34	
2	29-Aug	Sliding	15:10	15:25	0.25	5303	5315	12	35	48.0	70	19500	630	2000	160	9.98	48.00	1.34	
2	29-Aug	Drilling	15:25	15:50	0.42	5315	5397	82	30	196.8	70	19500	550	2000		9.57	46.00	0.35	
2	29-Aug	Drilling	15:55	16:20	0.42	5397	5491	94	30	225.6	70	19500	550	2000		8.82	47.00	1.06	
2	29-Aug	Sliding	16:25	17:00	0.58	5491	5505	14	42	24.0	70	19500	630	2000	180	8.68	47.00	1.06	
2	29-Aug	Drilling	17:00	17:40	0.67	5505	5586	81	30	121.5	70	23000	550	2000		6.99	46.00	2.37	
2	29-Aug	Sliding	18:00	18:10	0.17	5586	5605	19	42	114.0	70	23000	630	2000	180	6.55	47.00	2.37	
2	29-Aug	Drilling	18:10	18:50	0.67	5605	5680	75	30	112.5	70	23000	550	2000		5.95	48.00	0.56	
2	29-Aug	Drilling	18:55	19:20	0.42	5680	5774	94	30	225.6	70	23000	550	2000		5.27	47.00	0.84	
2	29-Aug	Drilling	19:25	19:50	0.42	5774	5869	95	30	228.0	70	23000	550	2000		4.78	43.00	0.38	

# 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	29-Aug	Drilling	19:55	20:20	0.42	5869	5964	95	30	228.0	70	23000	550	2000		4.67	45.00	0.33	
2	29-Aug	Drilling	20:25	21:05	0.67	5964	6058	94	30	141.0	70	23000	550	2000		3.51	48.00	2.09	
2	29-Aug	Sliding	21:10	21:55	0.75	6058	6078	20	42	26.7	70	23000	630	2000	150R	3.17	52.00	2.09	
2	29-Aug	Drilling	21:55	22:35	0.67	6078	6153	75	30	112.5	55	23000	550	2000		2.24	65.00	1.39	
2	29-Aug	Sliding	22:45	23:00	0.25	6153	6165	12	50	48.0	55	23000	630	2000	150R	2.11	68.00	1.39	
2	29-Aug	Drilling	23:00	23:50	0.83	6165	6247	82	26	98.4	55	23000	550	2000		1.56	74.00	0.58	
2	30-Aug	Drilling	00:00	00:50	0.83	6247	6341	94	26	112.8	55	19000	550	2000		1.30	76.00	0.15	
2	30-Aug	Drilling	00:55	01:45	0.83	6341	6436	95	26	114.0	55	19000	550	2000		1.06	75.00	0.32	
2	30-Aug	Drilling	01:50	02:40	0.83	6436	6530	94	26	112.8	55	19000	550	2000		0.61	80.00	0.62	
2	30-Aug	Drilling	02:45	03:30	0.75	6530	6624	94	26	125.3	55	19000	550	2000		0.33	50.00	0.22	
2	30-Aug	Drilling	03:35	04:15	0.67	6624	6718	94	26	141.0	55	20000	550	2000		0.32	66.00	0.12	
2	30-Aug	Drilling	04:20	05:25	1.08	6718	6813	95	26	87.7	55	20000	550	2000		0.22	92.00	0.26	
2	30-Aug	Drilling	05:30	06:10	0.67	6813	6908	95	26	142.5	55	20000	550	2000		0.08	264.00	0.39	
2	30-Aug	Drilling	06:15	07:05	0.83	6908	7002	94	26	112.8	55	20000	550	2000		0.30	8.00	0.40	
2	30-Aug	Drilling	07:10	08:00	0.83	7002	7097	95	26	114.0	55	20000	550	2000		0.33	250.00	0.14	
2	30-Aug	Drilling	08:05	08:55	0.83	7097	7191	94	26	112.8	55	20000	550	2000		0.04	271.00	0.41	
2	30-Aug	Drilling	09:00	10:00	1.00	7191	7285	94	26	94.0	55	20000	550	2000		0.32	84.00	0.38	
2	30-Aug	Drilling	10:05	11:20	1.25	7285	7380	95	26	76.0	55	20000	550	2000		0.44	102.00	0.20	
2	30-Aug	Drilling	11:25	13:15	1.83	7380	7474	94	26	51.3	55	20000	550	2000		0.63	110.00	0.28	
2	30-Aug	Drilling	13:20	15:00	1.67	7474	7569	95	26	57.0	55	20000	550	2000		0.77	136.00	0.51	
2	30-Aug	Drilling	15:05	16:10	1.08	7569	7663	94	26	86.8	55	20000	550	2000		0.93	84.00	0.26	
2	30-Aug	Drilling	16:15	18:10	1.92	7663	7758	95	26	49.6	55	20000	550	2000		0.57	109.00	0.78	
2	30-Aug	Sliding	18:15	18:30	0.25	7758	7767	9	50	36.0	55	20000	550	2000	270M	0.52	115.00	0.78	
2	30-Aug	Drilling	18:30	20:20	1.83	7767	7852	85	26	46.4	55	20000	550	2000		0.56	141.00	0.22	
2	30-Aug	Drilling	20:25	21:10	0.75	7852	7888	36	26	48.0	55	20000	550	2000		0.61	144.00	0.24	

<b>Total Drilled:</b>	6748	<b>Avg. Total ROP:</b>	169.76	<b>DEPTH% - TIME %</b>
<b>Total Rotary Drilled:</b>	6569	<b>Avg. Rotary ROP:</b>	178.75	<b>Percent Rotary:</b> 97.35 - 92.45
<b>Total Drilled Sliding:</b>	179	<b>Avg. Slide ROP:</b>	59.67	<b>Percent Slide:</b> 2.65 - 7.55

**BHA # 3**

**SDI**



**JOB NO.:** OP.003886      **Work Order:** OP.003886      **FIELD:** RU  
**COMPANY:** Terra Energy Partners      **Township:** 7S  
**LOCATION:** RU 32-12 Pad      **SECT. RANGE:** 12      94W  
**RIG NAME:** H&P 318 (Triple)      **Lead DD:** Todd Steel  
**STATE:** Colorado      **Co. Man:** Danny Bonnette/Josh Phillips  
**COUNTY:** Garfield      **BHA TYPE:** Steerable Assembly  
**WELL NAME:** SR 441-12      **BHA WT:** 28714      **Wt @ Jars:** N/A

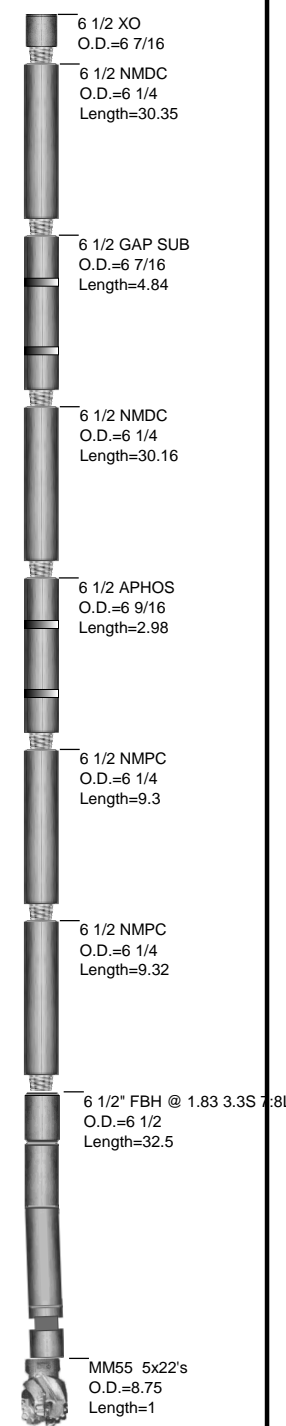
Time and Depths	MOTOR DATA	Drilling Parameters
<b>Date In:</b> 31-Aug-17 @ 11:00	6 1/2", 7:8 3.3, FBH @ 1.83°	<b>SO/PU:</b> 140 - 165 / 238-287
<b>Date Out:</b> 02-Sep-17 @ 05:30	<b>MFG.:</b> Hunting	<b>Rot Strg Wt:</b> 183-211
<b>Hrs In Hole:</b> 42.50	<b>Pad OD:</b> 6 11/16	<b>WOB:</b> 25 - 26
<b>Start Depth:</b> 7888.00	<b>NB Stab:</b> 0	<b>TORQ:</b> 20000 - 25000
<b>End Depth:</b> 9650.00	<b>Bit to Bend:</b> 6.2	<b>SPP:</b> 2000 - 2000
<b>Total Drilled:</b> 1762.00	<b>Bent Hsg/Sub°:</b> 1.83 /	<b>Motor RPM:</b> -
<b>Avg. Total ROP:</b> 112.47	<b>Lobe/Stage:</b> 7:8 / 3.3	<b>Rotary RPM:</b> 50 - 55
<b>Circ Hrs: Tot/Only</b> 21.75 / 6.08	<b>Rev/GAL:</b> 0.16	<b>Flow Rate:</b> 550 - 550
<b>Percent Slide:</b> .00	<b>Rotor Jet:</b> 0	<b>Avg Diff:</b> 300
<b>Percent Hrs:</b> .00	<b>Prop BUR:</b> 10	<b>Stall Pres.:</b>
<b>Slide Hours:</b> .00	<b>Act BUR:</b>	<b>Off Bot Pres.:</b>
<b>Total Sliding:</b> .00	<b>Mud Data</b>	
<b>Avg. Slide ROP:</b> NA	<b>Bit Record</b>	
<b>Percent Rotary:</b> 100.00	<b>Type</b> LSND	Security / MM55 5x22's
<b>Percent Hrs:</b> 100.00	<b>WT:</b> 9.3	<b>Run #:</b> 3
<b>Rotary Hours:</b> 15.67	<b>Vis:</b> 40	<b>Type Bit:</b> PDC
<b>Total Rotary:</b> 1762.00	<b>WL:</b> 9.6	<b>IADC#:</b> TFA: 1.855
<b>Avg. Rotary ROP:</b> 112.47	<b>SOL:</b> 7.2	<b>JETS:</b> 5-22
<b>Reason POOH:</b> TD	<b>Oil %:</b> 0	<b>Bit Drop:</b> 75 PSI @ 550 GPM
	<b>Chlor:</b> 1100	<b>Cond.:</b> Chipped gauge

<b>MWD Spacing</b>	<b>Gamma:</b> 0	<b>Restiv:</b> 0	<b>Sensor:</b> 0	<b>Last Casing</b> 9 5/8
	<b>GYRO:</b> 0	<b>DNCS:</b> 7888	<b>Sonic:</b> 0	<b>Shoe @:</b> 1130
				<b>Hanger @:</b>

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

New 6 1/2" Hunting 6414-HR w/ New 8 3/4" PDC, Security M55 w/ 5 22's  
 Max Flow Rate: 600 GPM - 0.16 RPG, Max Continuous Rotary: 60 RPM - 1.83° FBH  
 Max Operating Differential: 740 PSI, Stall Differential: 1110 PSI  
 Previous Run D&C hrs: 0  
 This Run D&C hrs: 21.75  
 Total D&C hrs: 21.75

BHA Detail							
Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn	MFG.
MM55 5x22's	12864643		8.75	1.00	1.00	4 1/2 REGP	Security
6 1/2" FBH @ 1.83 3.3S 7:8L	Hunt 6414		6 1/2	32.50	33.50	4 1/2 XHB	Hunting
6 1/2 NMPC	125-094	3 1/4	6 1/4	9.32	42.82	4 1/2 XHB	SDI
6 1/2 NMPC	125-110	3 1/4	6 1/4	9.30	52.12	4 1/2 XHB	SDI
6 1/2 APHOS	82-113	3 1/4	6 9/16	2.98	55.10	4 1/2 XHB	SDI
6 1/2 NMDC	122-851	3 1/4	6 1/4	30.16	85.26	4 1/2 XHB	SDI
6 1/2 GAP SUB	69-845	2 3/4	6 7/16	4.84	90.10	4 1/2 XHB	SDI
6 1/2 NMDC	122-522	3 1/4	6 1/4	30.35	120.45	4 1/2 XHB	SDI
6 1/2 XO	1-699	2 1/4	6 7/16	2.54	122.99	4 1/2 IFB	SDI
18 Joints 5" Spiral HWDP	RIG	3	5	551.66	674.65	4 1/2 IF	Rig
				0.00	674.65		





**JOB NO.:** OP.003886  
**COMPANY:** Terra Energy Partners  
**LOCATION:** RU 32-12 Pad  
**RIG NAME:** H&P 318 (Triple)  
**STATE:** Colorado  
**COUNTY:** Country  
**WELL NAME:** SR 441-12

**FIELD:** RU  
**Township:** 7S  
**Range** 94W

MOTOR INFORMATION	
Desc: 6 1/2", 7:8 3.3, FBH @ 1.83°	
Bent Hsg/Sub: 1.83/ 0	Bit to Bend: 6.2
Pad OD: 6 11/16	NB Stab:

### Slide Report for BHA # 3

Note: Surveys listed are interpolated from the actual surveys

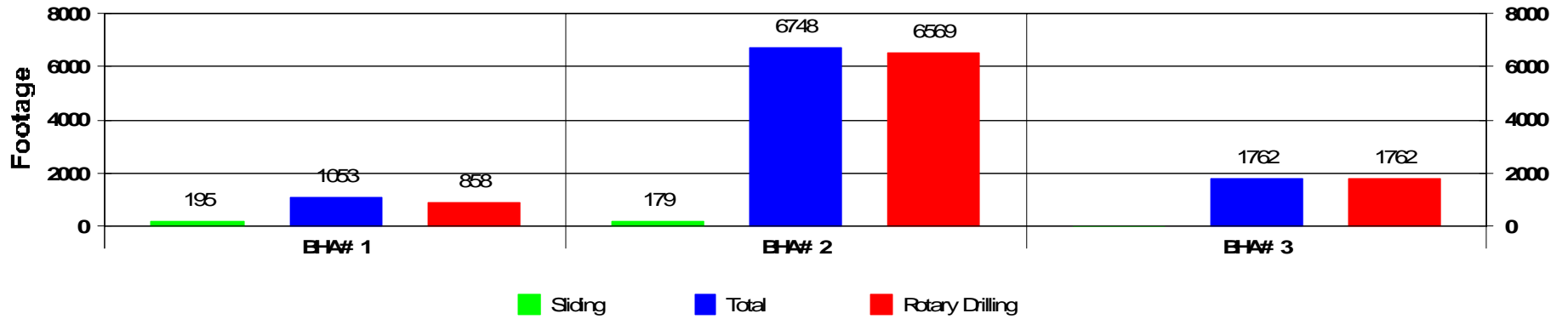
#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
3	31-Aug	Drilling	19:40	20:15	0.58	7888	7947	59	26	101.1	55	20000	550	2000		0.47	147.00	0.24	
3	31-Aug	Drilling	20:20	21:30	1.17	7947	8041	94	26	80.6	55	20000	550	2000		0.45	141.00	0.07	
3	31-Aug	Drilling	21:35	22:30	0.92	8041	8136	95	26	103.6	55	20000	550	2000		0.32	155.00	0.28	
3	1-Sep	Drilling	00:15	01:20	1.08	8136	8230	94	26	86.8	55	20000	550	2000		0.26	137.00	0.15	
3	1-Sep	Drilling	01:25	02:05	0.67	8230	8325	95	26	142.5	55	20000	550	2000		0.09	251.00	0.56	
3	1-Sep	Drilling	02:10	02:50	0.67	8325	8419	94	25	141.0	50	25000	550	2000		0.20	288.00	0.15	
3	1-Sep	Drilling	02:55	03:35	0.67	8419	8513	94	25	141.0	50	25000	550	2000		0.23	256.00	0.12	
3	1-Sep	Drilling	03:40	04:20	0.67	8513	8608	95	25	142.5	50	25000	550	2000		0.20	272.00	0.11	
3	1-Sep	Drilling	04:25	05:00	0.58	8608	8702	94	25	161.1	50	25000	550	2000		0.08	74.00	0.40	
3	1-Sep	Drilling	05:05	05:45	0.67	8702	8796	94	25	141.0	50	25000	550	2000		0.16	213.00	0.50	
3	1-Sep	Drilling	05:50	06:30	0.67	8796	8891	95	25	142.5	50	25000	550	2000		1.10	249.00	1.30	
3	1-Sep	Drilling	06:35	07:15	0.67	8891	8985	94	25	141.0	50	25000	550	2000		2.20	212.00	1.18	
3	1-Sep	Drilling	07:20	08:10	0.83	8985	9080	95	25	114.0	50	25000	550	2000		2.67	215.00	0.20	
3	1-Sep	Drilling	08:15	09:10	0.92	9080	9174	94	25	102.5	50	25000	550	2000		2.74	228.00	1.15	
3	1-Sep	Drilling	09:15	10:05	0.83	9174	9269	95	25	114.0	50	25000	550	2000		2.81	240.00	0.34	
3	1-Sep	Drilling	10:10	10:55	0.75	9269	9363	94	25	125.3	50	25000	550	2000		2.87	242.00	0.09	
3	1-Sep	Drilling	11:00	12:00	1.00	9363	9458	95	25	95.0	50	25000	550	2000		2.58	251.00	0.80	
3	1-Sep	Drilling	12:05	13:05	1.00	9458	9552	94	25	94.0	50	25000	550	2000		2.57	258.00	0.27	
3	1-Sep	Drilling	13:10	14:30	1.33	9552	9650	98	25	73.5	50	25000	550	2000		2.64	260.00	0.00	

<b>Total Drilled:</b>	1762	<b>Avg. Total ROP:</b>	112.47	<b>DEPTH% - TIME %</b>
<b>Total Rotary Drilled:</b>	1762	<b>Avg. Rotary ROP:</b>	112.47	<b>Percent Rotary:</b> 100.00 - 100.00
<b>Total Drilled Sliding:</b>	0	<b>Avg. Slide ROP:</b>	NA	<b>Percent Slide:</b> .00 - .00

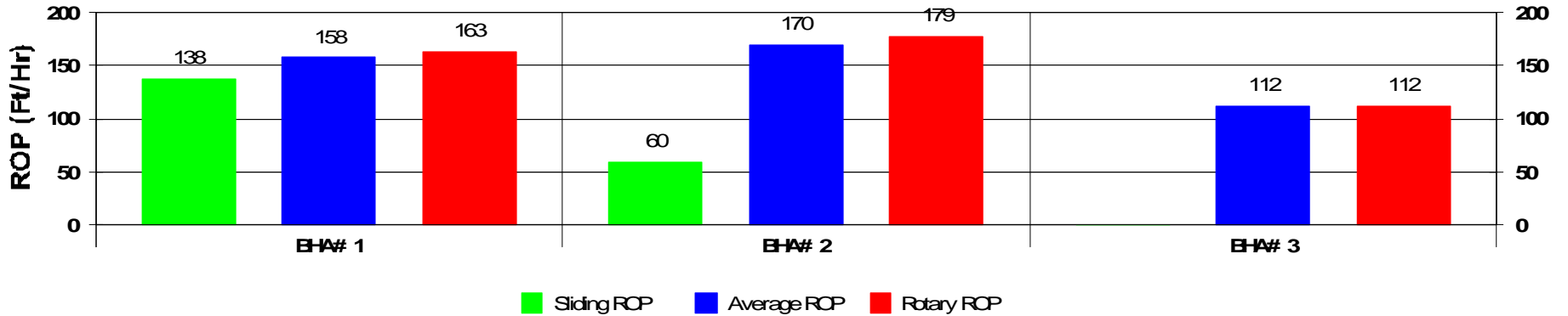


JOB NO.:	OP.003886	FIELD:	RU
COMPANY:	Terra Energy Partners	Township:	7S
LOCATION:	RU 32-12 Pad	SECT/RANGE:	12 94W
RIG NAME:	H&P 318 (Triple)	<b>COMMENT</b>	
STATE:	Colorado		
COUNTY:	Garfield		
WELL NAME:	SR 441-12		

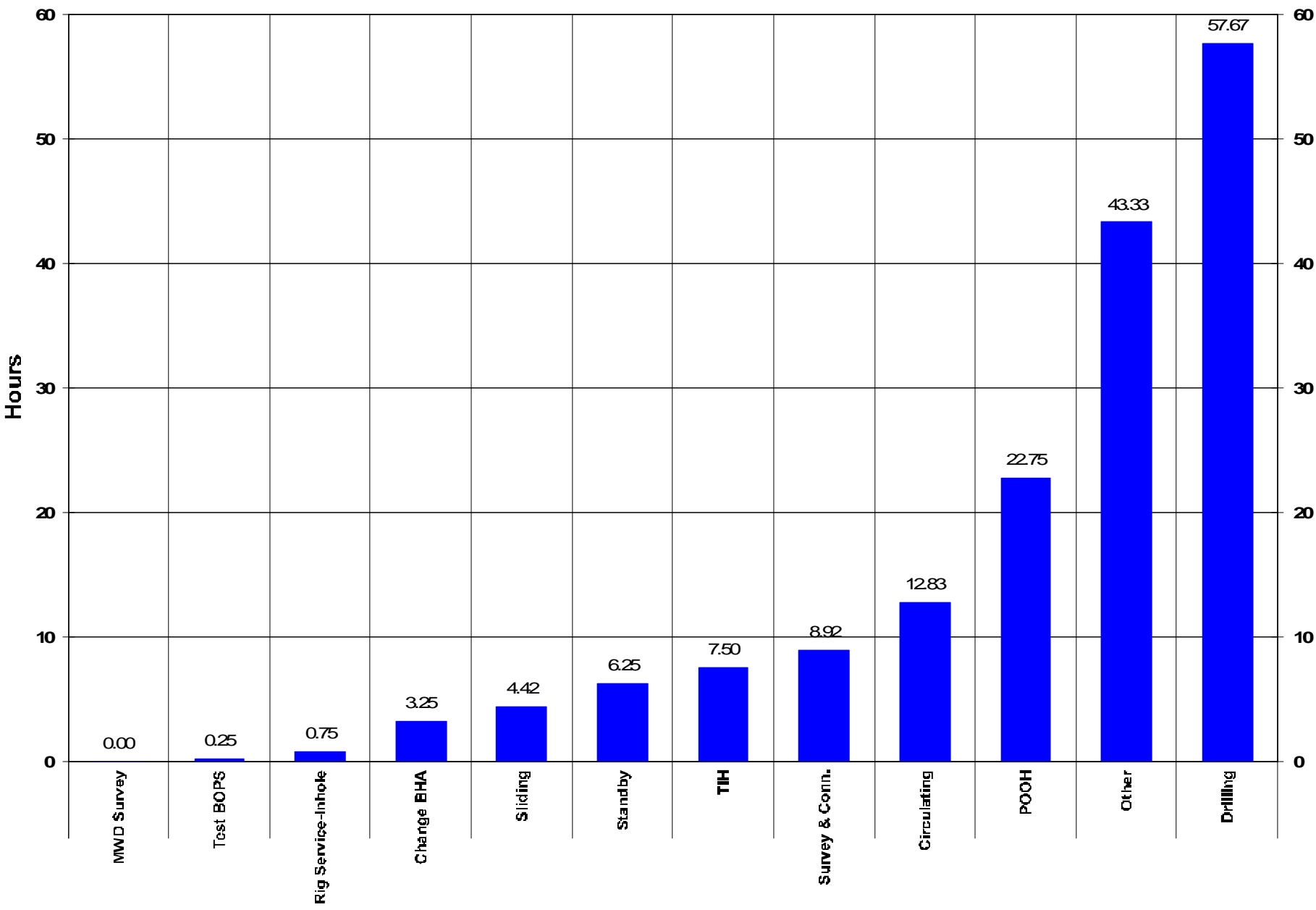
### Footage Drilled with BHA



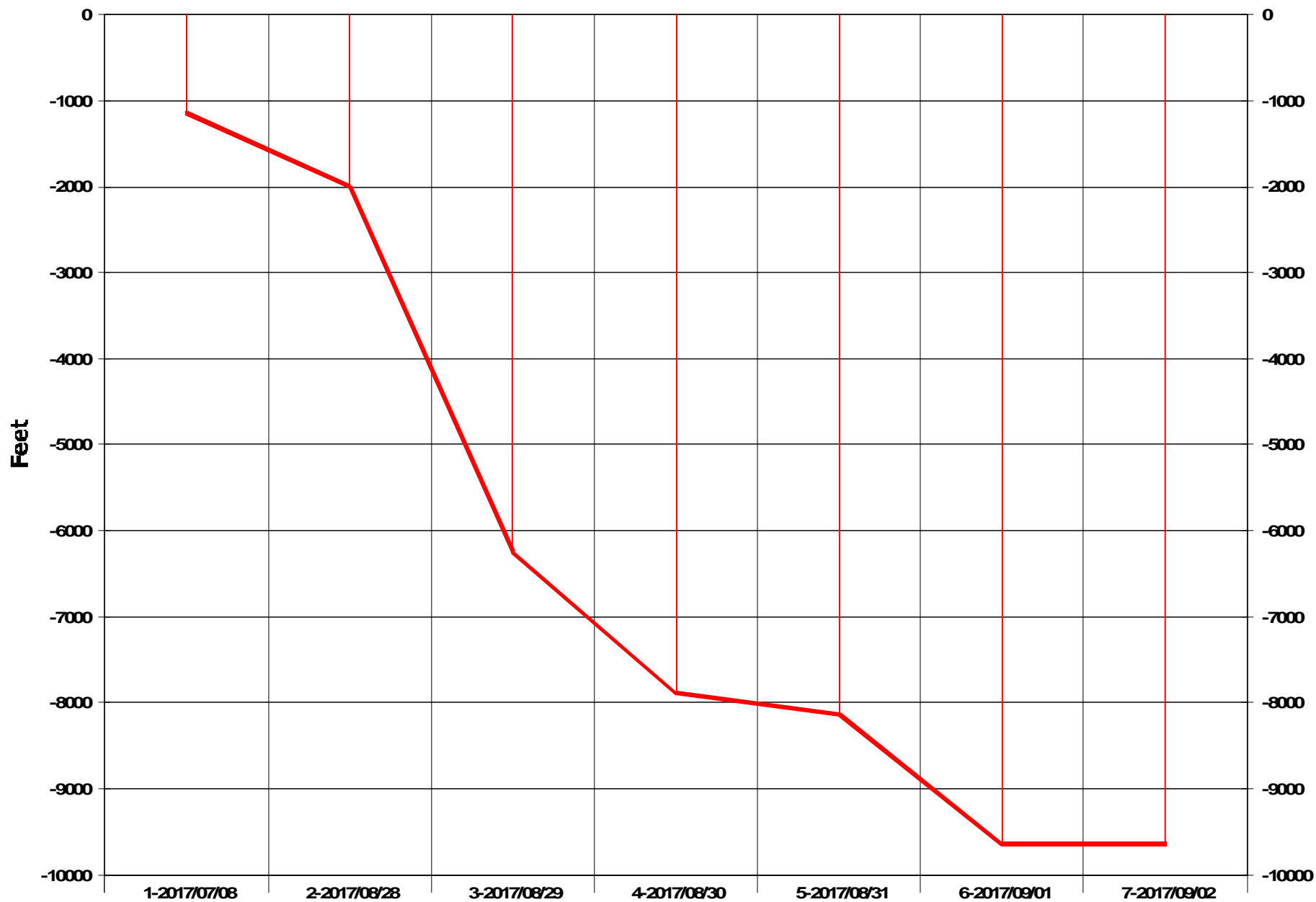
### ROP vs BHA



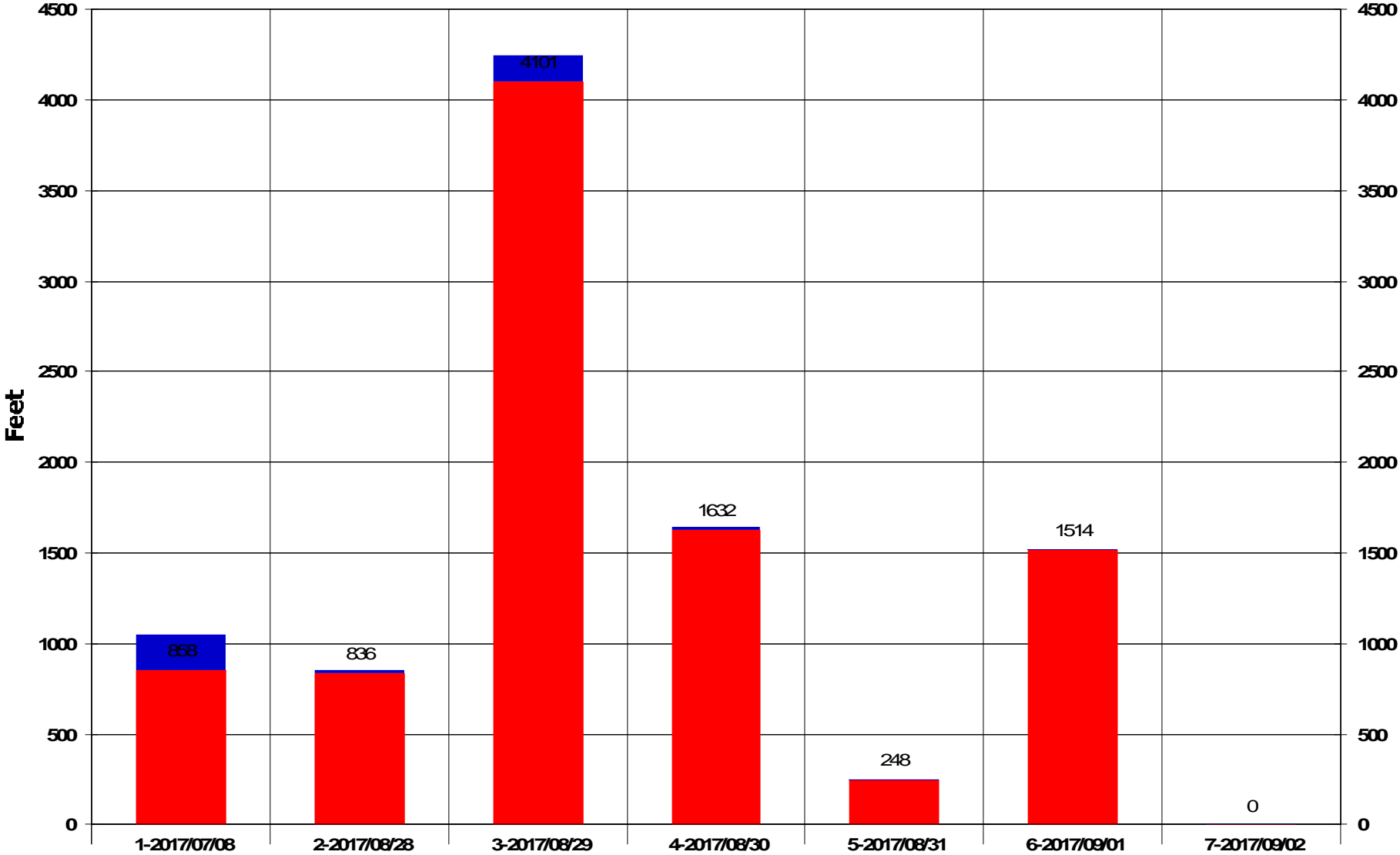
Activity Histogram



### Measured Depth vs Days

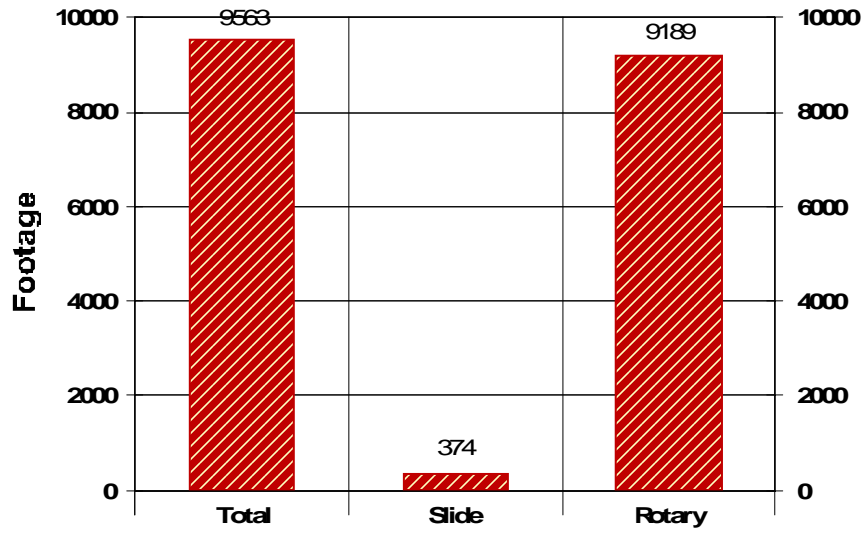


Daily Footage

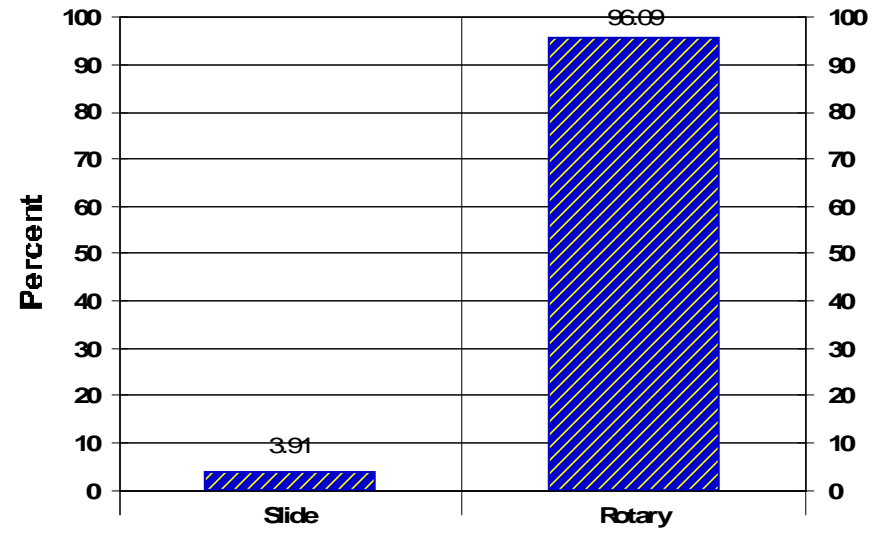


Rotary Drilling Sliding

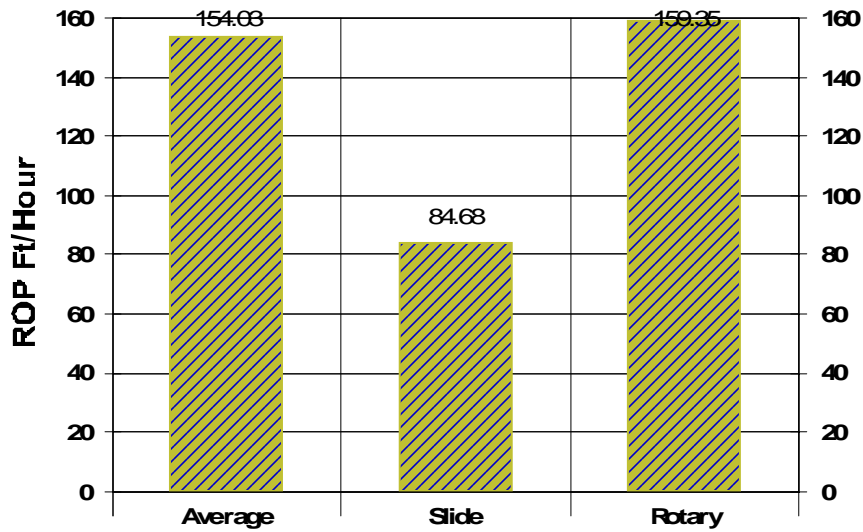
Footage Drilled Totals



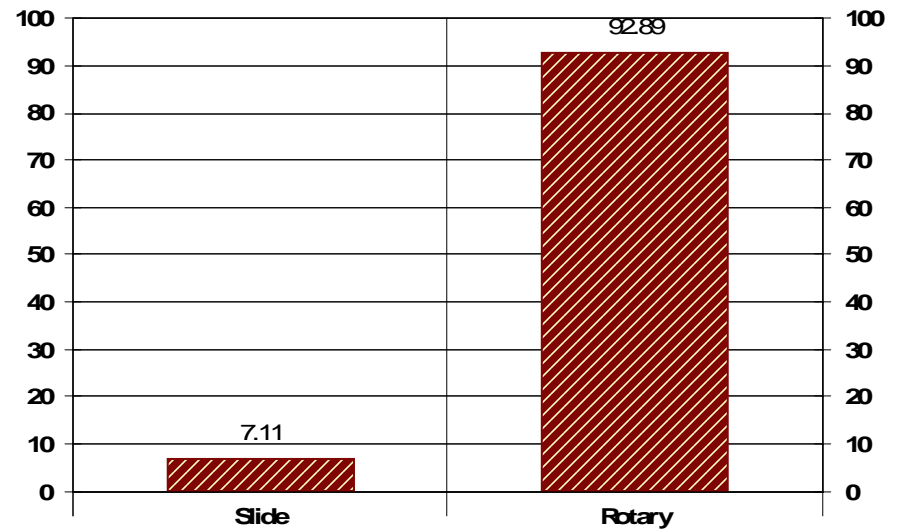
Footage Percent



Rate of Penetration Totals



Time Percent



# SUPPORT STAFF

**Dee Bailey – Rockies Base Manager**  
Grand Junction, CO & Farmington, NM  
(307) 472-6621  
[dee.bailey@scientificdrilling.com](mailto:dee.bailey@scientificdrilling.com)

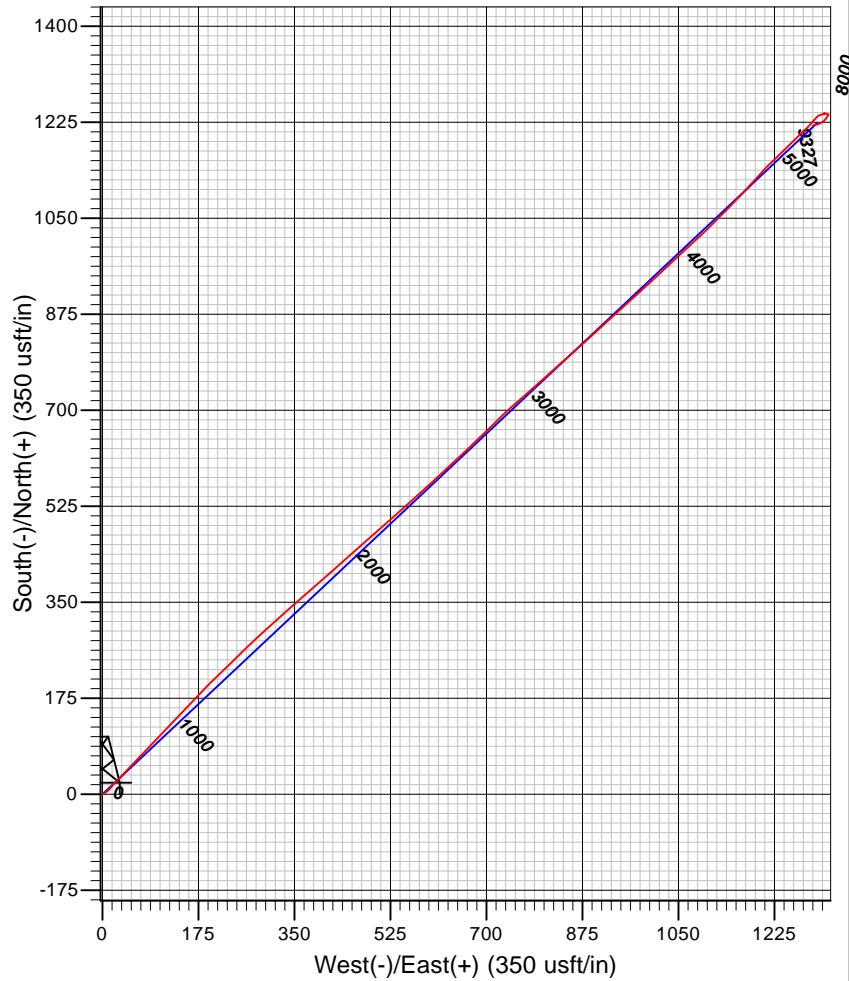
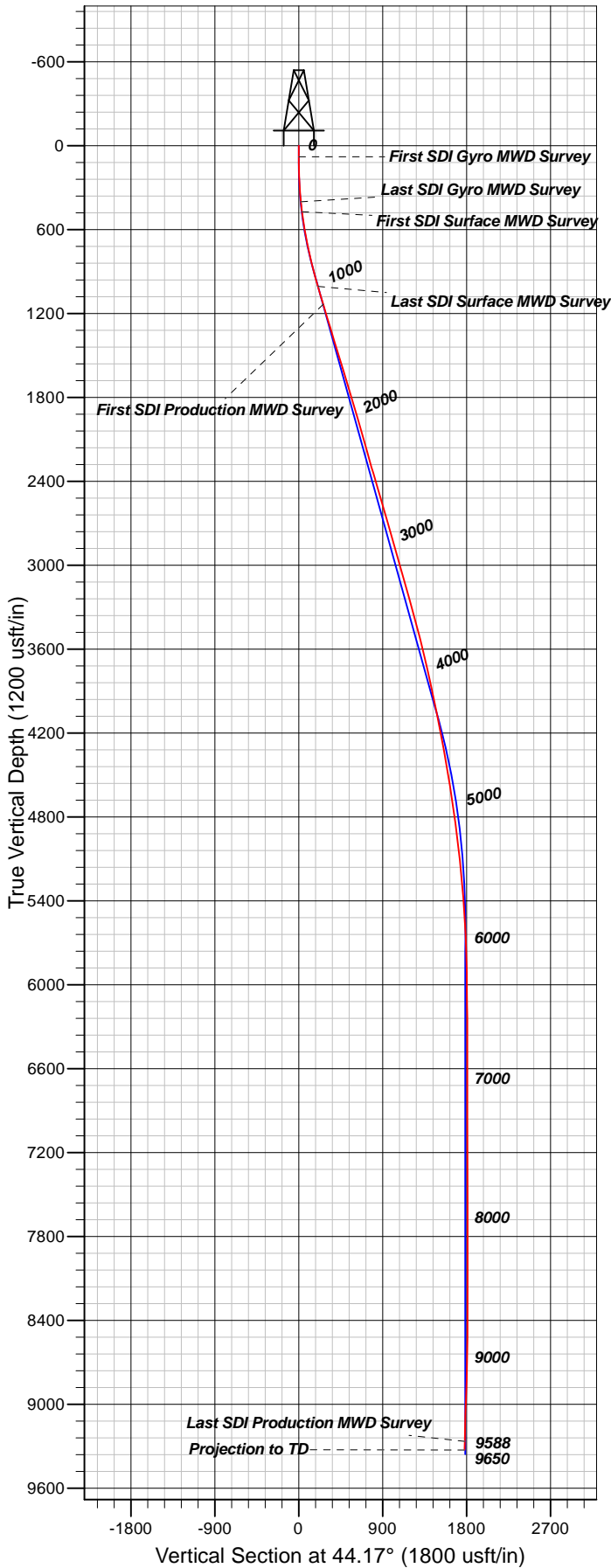
**Colorado District Well Planner:**  
**Janie Collins**

**Directional Drillers:**  
**R. Davis, T. Steel**

**MWD Operators:**  
**K. Harvey, T. Heil, and M. Miller**

2948 I-70 Bus. Loop  
Grand Junction, CO 81504  
(970) 245-9447





<b>Well Details: SR 441-12</b>						
TVD Reference: GL 7254' & RKB 24' @ 7278.00usft (H&P 318)   Grid Level: 7254.00						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1599197.20	2341073.40	39.4553284	-107.8338675	B9
<b>REFERENCE INFORMATION</b>						
Co-ordinate (N/E) Reference: Well SR 441-12 - Slot B9, True North						
Vertical (TVD) Reference: GL 7254' & RKB 24' @ 7278.00usft (H&P 318)						
Section (VS) Reference: Slot - B9(0.00N, 0.00E)						
Measured Depth Reference: GL 7254' & RKB 24' @ 7278.00usft (H&P 318)						
Calculation Method: Minimum Curvature						
<b>PROJECT DETAILS: Garfield County, CO NAD83</b>						
Geodetic System: US State Plane 1983						
Datum: North American Datum 1983						
Ellipsoid: GRS 1980						
Zone: Colorado Central Zone						
System Datum: Mean Sea Level						