



7327 West Barton Road  
Casper, WY 82604  
(307)-472-6621 Fax (307) 472-5439

## Survey Certification

<b>Operator</b>	TEP Rocky Mountain LLC
<b>Well Name &amp; No.</b>	RWF 332-11
<b>API #</b>	05-045-24272
<b>County &amp; State</b>	Garfield County, CO
<b>SDI Job #</b>	OP.023110
<b>Rig</b>	H&P 318
<b>Survey Date</b>	11-Jan-2020

I, Seth M. Burstad, having personal knowledge of all the facts, hereby certify that the attached directional survey run from a measured depth of 0 feet to a measured depth of 9151 feet is true and correct as determined from all available records.

*Seth M. Burstad*

Signature

13-Jan-2020

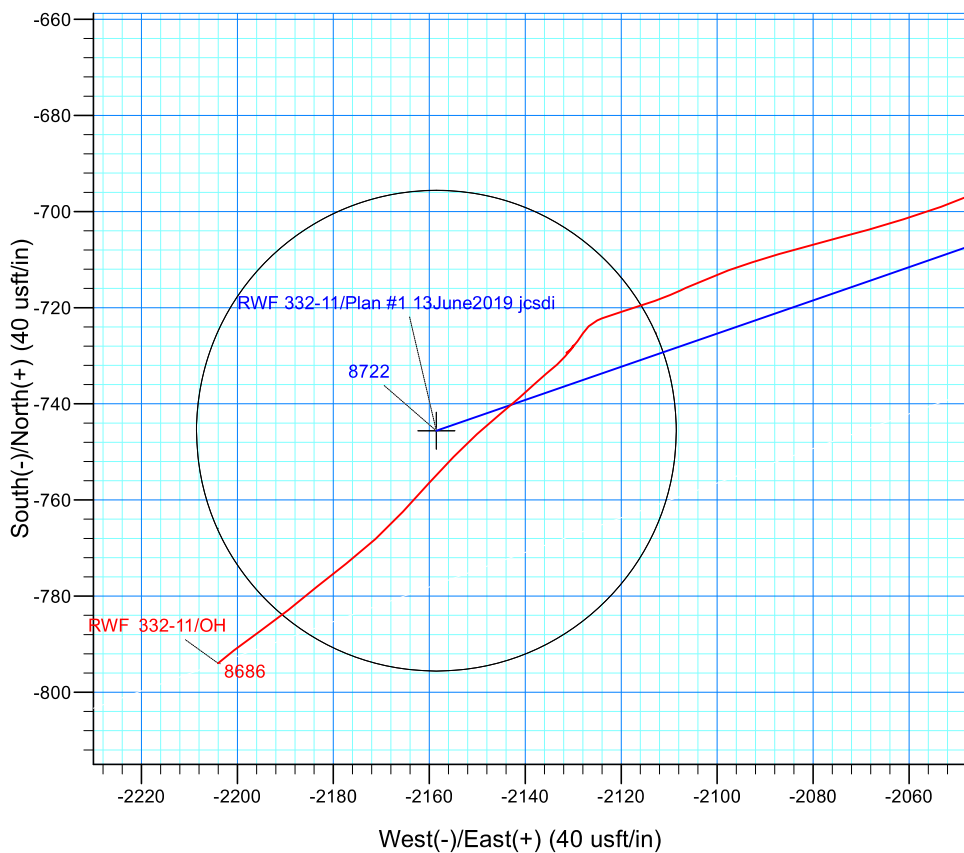
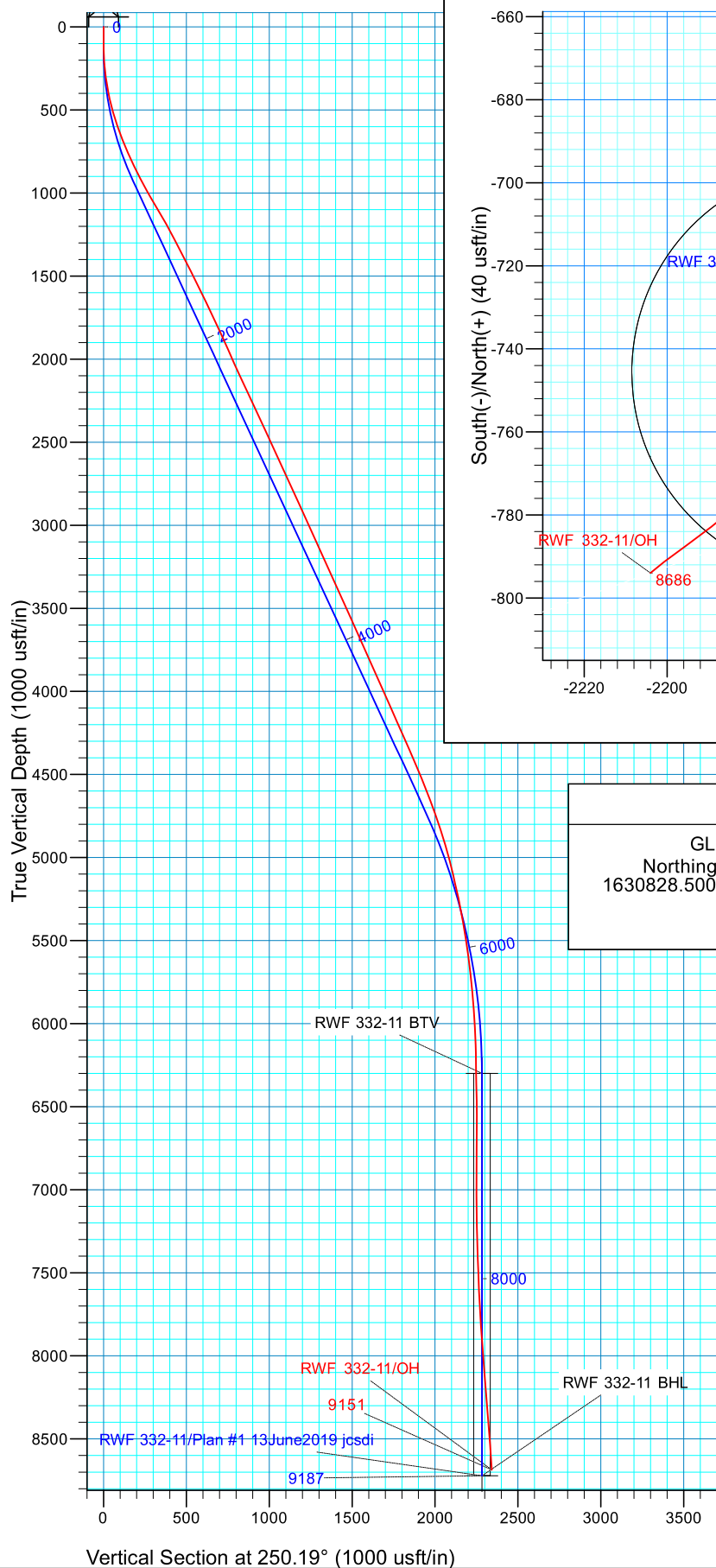
Date

### Seth M. Burstad

Rockies Region Well Planner  
Scientific Drilling - Rocky Mountain District



Project: Garfield County, CO NAD83  
Site: RWF 12-12 Pad  
Well: RWF 332-11  
Wellbore: OH  
Design: OH



#### WELL DETAILS: RWF 332-11

GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)  
Northing 1630828.5000 Easting 2339703.1000 Latitude 39.5420448 Longitude -107.8416060

#### PROJECT DETAILS: Garfield County, CO NAD83

Geodetic System: US State Plane 1983  
Datum: North American Datum 1983  
Ellipsoid: GRS 1980  
Zone: Colorado Central Zone

#### REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well RWF 332-11 - Slot RWF 332-11, True North  
Vertical (TVD) Reference: GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)  
Section (VS) Reference: Slot - RWF 332-11(0.00N, 0.00E)  
Measured Depth Reference: GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)  
Calculation Method: Minimum Curvature  
Local North: True  
Location:

# **TEP Rocky Mountain LLC**

**Garfield County, CO NAD83**

**RWF 12-12 Pad**

**RWF 332-11 - Slot RWF 332-11**

**OH**

**Design: OH**

## **Standard Survey Report**

**13 January, 2020**



# Scientific Drilling, Intl

## Survey Report

<b>Company:</b>	TEP Rocky Mountain LLC	<b>Local Co-ordinate Reference:</b>	Well RWF 332-11 - Slot RWF 332-11
<b>Project:</b>	Garfield County, CO NAD83	<b>TVD Reference:</b>	GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)
<b>Site:</b>	RWF 12-12 Pad	<b>MD Reference:</b>	GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)
<b>Well:</b>	RWF 332-11	<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

<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		

Site	RWF 12-12 Pad				
Site Position:		Northing:	1,630,797.2000 usft	Latitude:	39.5419586
From:	Map	Easting:	2,339,698.6000 usft	Longitude:	-107.8416191
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	-1.48 °

Well	RWF 332-11 - Slot RWF 332-11					
Well Position	+N/-S	0.00 usft	Northing:	1,630,828.5000 usft	Latitude:	39.5420448
	+E/-W	0.00 usft	Easting:	2,339,703.1000 usft	Longitude:	-107.8416060
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	5,466.80 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_FILE	1/6/2020	9.25	65.72	51,428.20000000

<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	250.19	

<b>Survey Program</b>	<b>Date</b>	1/13/2020			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
122.00	486.00	Survey #1 - Surface Gyro Survey (OH)	Gyro MWD 105	Gyro MWD Error Model Ver 1.0.5	
558.00	986.00	Survey #2 - Surface MWD Survey (OH)	MWD+HDGM	OWSG MWD + HDGM	
1,077.00	9,151.00	Survey #3 - Production Survey (OH)	MWD+HDGM	OWSG MWD + HDGM	

<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	
122.00	0.79	265.17	122.00	-0.07	-0.84	0.81	0.65	0.65	0.00	
<b>First SDI Gyro Surface Survey</b>										
214.00	4.40	247.15	213.89	-1.50	-4.72	4.95	3.97	3.92	-19.59	
304.00	7.57	261.65	303.39	-3.70	-13.77	14.21	3.88	3.52	16.11	
395.00	11.61	259.45	393.10	-6.25	-28.71	29.13	4.46	4.44	-2.42	
486.00	14.34	253.65	481.77	-11.10	-48.53	49.42	3.32	3.00	-6.37	
<b>Last SDI Gyro Surface Survey</b>										

# Scientific Drilling, Intl

## Survey Report

<b>Company:</b>	TEP Rocky Mountain LLC	<b>Local Co-ordinate Reference:</b>	Well RWF 332-11 - Slot RWF 332-11
<b>Project:</b>	Garfield County, CO NAD83	<b>TVD Reference:</b>	GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)
<b>Site:</b>	RWF 12-12 Pad	<b>MD Reference:</b>	GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)
<b>Well:</b>	RWF 332-11	<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

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)	
558.00	17.41	250.77	551.02	-17.15	-67.26	69.10	4.40	4.26	-4.00	
First SDI MWD Surface Survey										
649.00	20.66	250.25	637.03	-27.07	-95.23	98.77	3.58	3.57	-0.57	
742.00	23.08	247.82	723.33	-39.49	-127.56	133.40	2.78	2.60	-2.61	
837.00	24.64	251.85	810.22	-52.69	-163.63	171.80	2.37	1.64	4.24	
931.00	26.81	252.61	894.90	-65.14	-202.48	212.57	2.33	2.31	0.81	
986.00	28.58	252.53	943.59	-72.79	-226.87	238.11	3.22	3.22	-0.15	
Last SDI MWD Surface Survey										
1,077.00	30.42	250.21	1,022.80	-87.13	-269.31	282.90	2.38	2.02	-2.55	
First SDI MWD Production Survey										
1,171.00	30.99	250.60	1,103.62	-103.22	-314.53	330.90	0.64	0.61	0.41	
1,266.00	28.67	248.38	1,186.03	-119.75	-358.79	378.14	2.70	-2.44	-2.34	
1,360.00	27.44	249.54	1,268.98	-135.63	-400.05	422.34	1.43	-1.31	1.23	
1,455.00	27.61	250.25	1,353.23	-150.72	-441.28	466.24	0.39	0.18	0.75	
1,549.00	27.06	250.25	1,436.73	-165.30	-481.90	509.40	0.59	-0.59	0.00	
1,642.00	26.68	249.27	1,519.69	-179.84	-521.34	551.44	0.63	-0.41	-1.05	
1,736.00	26.18	248.98	1,603.87	-194.75	-560.43	593.27	0.55	-0.53	-0.31	
1,831.00	25.56	249.87	1,689.34	-209.32	-599.24	634.71	0.77	-0.65	0.94	
1,925.00	25.05	249.25	1,774.32	-223.35	-636.89	674.89	0.61	-0.54	-0.66	
2,019.00	24.83	250.37	1,859.56	-237.03	-674.09	714.52	0.55	-0.23	1.19	
2,114.00	24.19	251.01	1,946.00	-250.06	-711.28	753.93	0.73	-0.67	0.67	
2,208.00	23.49	251.04	2,031.98	-262.42	-747.21	791.92	0.74	-0.74	0.03	
2,303.00	25.68	252.46	2,118.36	-274.78	-784.74	831.43	2.39	2.31	1.49	
2,397.00	25.51	252.72	2,203.14	-286.93	-823.49	872.00	0.22	-0.18	0.28	
2,491.00	24.85	251.93	2,288.20	-299.06	-861.60	911.96	0.79	-0.70	-0.84	
2,586.00	24.45	251.52	2,374.55	-311.49	-899.22	951.57	0.46	-0.42	-0.43	
2,680.00	23.67	251.00	2,460.38	-323.80	-935.51	989.89	0.86	-0.83	-0.55	
2,775.00	25.68	251.87	2,546.70	-336.41	-973.11	1,029.53	2.15	2.12	0.92	
2,870.00	25.48	251.56	2,632.39	-349.28	-1,012.06	1,070.54	0.25	-0.21	-0.33	
2,964.00	24.99	251.90	2,717.42	-361.85	-1,050.11	1,110.60	0.54	-0.52	0.36	
3,058.00	24.68	251.83	2,802.73	-374.13	-1,087.63	1,150.06	0.33	-0.33	-0.07	
3,153.00	23.97	250.80	2,889.29	-386.67	-1,124.70	1,189.18	0.87	-0.75	-1.08	
3,247.00	23.27	251.24	2,975.42	-398.92	-1,160.31	1,226.84	0.77	-0.74	0.47	
3,341.00	25.26	252.87	3,061.11	-410.80	-1,197.07	1,265.45	2.23	2.12	1.73	
3,436.00	24.88	252.11	3,147.16	-422.91	-1,235.45	1,305.67	0.52	-0.40	-0.80	
3,530.00	24.44	251.28	3,232.59	-435.22	-1,272.69	1,344.87	0.60	-0.47	-0.88	
3,625.00	24.34	251.85	3,319.11	-447.63	-1,309.91	1,384.09	0.27	-0.11	0.60	
3,719.00	24.17	252.03	3,404.81	-459.60	-1,346.62	1,422.69	0.20	-0.18	0.19	
3,813.00	23.57	251.74	3,490.77	-471.42	-1,382.77	1,460.71	0.65	-0.64	-0.31	
3,908.00	24.72	253.45	3,577.46	-483.03	-1,419.85	1,499.53	1.42	1.21	1.80	
4,002.00	24.80	253.15	3,662.82	-494.35	-1,457.56	1,538.84	0.16	0.09	-0.32	
4,096.00	24.22	251.60	3,748.35	-506.15	-1,494.72	1,577.80	0.92	-0.62	-1.65	
4,191.00	24.16	251.60	3,835.00	-518.44	-1,531.66	1,616.72	0.06	-0.06	0.00	
4,285.00	23.83	251.30	3,920.88	-530.60	-1,567.90	1,654.94	0.37	-0.35	-0.32	

# Scientific Drilling, Intl

## Survey Report

<b>Company:</b>	TEP Rocky Mountain LLC	<b>Local Co-ordinate Reference:</b>	Well RWF 332-11 - Slot RWF 332-11
<b>Project:</b>	Garfield County, CO NAD83	<b>TVD Reference:</b>	GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)
<b>Site:</b>	RWF 12-12 Pad	<b>MD Reference:</b>	GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)
<b>Well:</b>	RWF 332-11	<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

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)	
4,380.00	23.97	252.02	4,007.74	-542.71	-1,604.43	1,693.41	0.34	0.15	0.76	
4,474.00	24.01	252.37	4,093.62	-554.39	-1,640.82	1,731.61	0.16	0.04	0.37	
4,568.00	24.00	251.99	4,179.49	-566.10	-1,677.23	1,769.82	0.16	-0.01	-0.40	
4,662.00	23.79	251.16	4,265.43	-578.13	-1,713.35	1,807.89	0.42	-0.22	-0.88	
4,756.00	23.57	251.48	4,351.51	-590.22	-1,749.11	1,845.63	0.27	-0.23	0.34	
4,851.00	23.64	251.30	4,438.57	-602.36	-1,785.17	1,883.66	0.11	0.07	-0.19	
4,945.00	21.98	248.31	4,525.21	-614.91	-1,819.37	1,920.09	2.15	-1.77	-3.18	
5,039.00	21.07	250.00	4,612.66	-627.19	-1,851.59	1,954.57	1.17	-0.97	1.80	
5,133.00	19.98	248.26	4,700.69	-638.91	-1,882.39	1,987.52	1.33	-1.16	-1.85	
5,228.00	19.05	249.06	4,790.23	-650.47	-1,911.94	2,019.24	1.02	-0.98	0.84	
5,322.00	17.67	253.32	4,879.45	-660.05	-1,939.94	2,048.83	2.05	-1.47	4.53	
5,416.00	15.65	251.21	4,969.50	-668.22	-1,965.61	2,075.75	2.24	-2.15	-2.24	
5,510.00	13.46	252.96	5,060.48	-675.52	-1,988.08	2,099.36	2.38	-2.33	1.86	
5,604.00	13.10	250.69	5,151.97	-682.24	-2,008.59	2,120.94	0.67	-0.38	-2.41	
5,699.00	11.60	250.04	5,244.76	-689.06	-2,027.73	2,141.26	1.59	-1.58	-0.68	
5,793.00	11.22	247.55	5,336.91	-695.78	-2,045.07	2,159.84	0.66	-0.40	-2.65	
5,887.00	9.76	253.11	5,429.34	-701.59	-2,061.14	2,176.94	1.89	-1.55	5.91	
5,981.00	7.85	255.69	5,522.22	-705.49	-2,074.99	2,191.29	2.07	-2.03	2.74	
6,076.00	7.41	253.45	5,616.38	-708.84	-2,087.15	2,203.86	0.56	-0.46	-2.36	
6,171.00	5.91	250.52	5,710.74	-712.22	-2,097.63	2,214.87	1.62	-1.58	-3.08	
6,265.00	5.84	245.09	5,804.25	-715.85	-2,106.53	2,224.47	0.60	-0.07	-5.78	
6,359.00	4.49	251.04	5,897.86	-719.06	-2,114.35	2,232.91	1.54	-1.44	6.33	
6,453.00	3.76	253.59	5,991.62	-721.12	-2,120.78	2,239.67	0.80	-0.78	2.71	
6,547.00	1.69	243.72	6,085.51	-722.61	-2,124.98	2,244.12	2.25	-2.20	-10.50	
6,641.00	1.02	219.97	6,179.48	-723.86	-2,126.76	2,246.22	0.92	-0.71	-25.27	
6,735.00	1.23	217.99	6,273.46	-725.30	-2,127.92	2,247.80	0.23	0.22	-2.11	
6,830.00	1.23	212.54	6,368.44	-726.96	-2,129.10	2,249.47	0.12	0.00	-5.74	
6,924.00	1.44	224.57	6,462.42	-728.65	-2,130.47	2,251.33	0.37	0.22	12.80	
7,018.00	0.11	355.69	6,556.41	-729.40	-2,131.31	2,252.38	1.61	-1.41	139.49	
7,112.00	0.12	257.72	6,650.41	-729.34	-2,131.41	2,252.45	0.18	0.01	-104.22	
7,207.00	0.79	57.94	6,745.40	-729.01	-2,130.95	2,251.91	0.95	0.71	168.65	
7,301.00	0.48	33.65	6,839.40	-728.34	-2,130.18	2,250.96	0.43	-0.33	-25.84	
7,395.00	0.20	8.55	6,933.40	-727.85	-2,129.94	2,250.56	0.33	-0.30	-26.70	
7,490.00	0.43	196.13	7,028.40	-728.03	-2,130.02	2,250.69	0.66	0.24	-181.49	
7,584.00	0.87	224.50	7,122.39	-728.87	-2,130.61	2,251.54	0.57	0.47	30.18	
7,678.00	1.16	216.53	7,216.38	-730.15	-2,131.68	2,252.98	0.34	0.31	-8.48	
7,773.00	1.69	229.90	7,311.35	-731.82	-2,133.32	2,255.09	0.65	0.56	14.07	
7,867.00	1.92	231.10	7,405.30	-733.70	-2,135.61	2,257.88	0.25	0.24	1.28	
7,962.00	2.31	226.61	7,500.23	-736.02	-2,138.24	2,261.14	0.45	0.41	-4.73	
8,056.00	2.76	228.98	7,594.14	-738.80	-2,141.32	2,264.99	0.49	0.48	2.52	
8,150.00	3.61	230.56	7,688.00	-742.17	-2,145.32	2,269.88	0.91	0.90	1.68	
8,245.00	4.00	227.64	7,782.79	-746.30	-2,150.08	2,275.76	0.46	0.41	-3.07	
8,339.00	4.26	223.90	7,876.54	-751.03	-2,154.92	2,281.92	0.40	0.28	-3.98	

# Scientific Drilling, Intl

## Survey Report

<b>Company:</b>	TEP Rocky Mountain LLC	<b>Local Co-ordinate Reference:</b>	Well RWF 332-11 - Slot RWF 332-11
<b>Project:</b>	Garfield County, CO NAD83	<b>TVD Reference:</b>	GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)
<b>Site:</b>	RWF 12-12 Pad	<b>MD Reference:</b>	GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)
<b>Well:</b>	RWF 332-11	<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

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)	
8,434.00	4.84	222.91	7,971.24	-756.51	-2,160.09	2,288.64	0.62	0.61	-1.04	
8,528.00	4.96	222.05	8,064.90	-762.43	-2,165.52	2,295.75	0.15	0.13	-0.91	
8,623.00	4.72	227.90	8,159.56	-768.10	-2,171.17	2,302.99	0.58	-0.25	6.16	
8,717.00	5.03	232.36	8,253.22	-773.21	-2,177.30	2,310.49	0.52	0.33	4.74	
8,811.00	4.54	231.17	8,346.89	-778.06	-2,183.46	2,317.93	0.53	-0.52	-1.27	
8,906.00	4.69	230.74	8,441.59	-782.87	-2,189.40	2,325.15	0.16	0.16	-0.45	
9,001.00	4.27	235.60	8,536.30	-787.33	-2,195.32	2,332.23	0.60	-0.44	5.12	
9,091.00	4.13	231.53	8,626.05	-791.24	-2,200.62	2,338.55	0.37	-0.16	-4.52	
Last SDI MWD Production Survey										
9,151.00	4.13	231.53	8,685.90	-793.92	-2,204.01	2,342.64	0.00	0.00	0.00	
Projection to TD										

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
122.00	122.00	-0.07	-0.84	First SDI Gyro Surface Survey	
486.00	481.77	-11.10	-48.53	Last SDI Gyro Surface Survey	
558.00	551.02	-17.15	-67.26	First SDI MWD Surface Survey	
986.00	943.59	-72.79	-226.87	Last SDI MWD Surface Survey	
1,077.00	1,022.80	-87.13	-269.31	First SDI MWD Production Survey	
9,091.00	8,626.05	-791.24	-2,200.62	Last SDI MWD Production Survey	
9,151.00	8,685.90	-793.92	-2,204.01	Projection to TD	

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