



Directional Survey Certification

2948 I-70 Business Loop
Grand Junction, CO 81504
(970)-245-9447 Fax (970)-245-9454

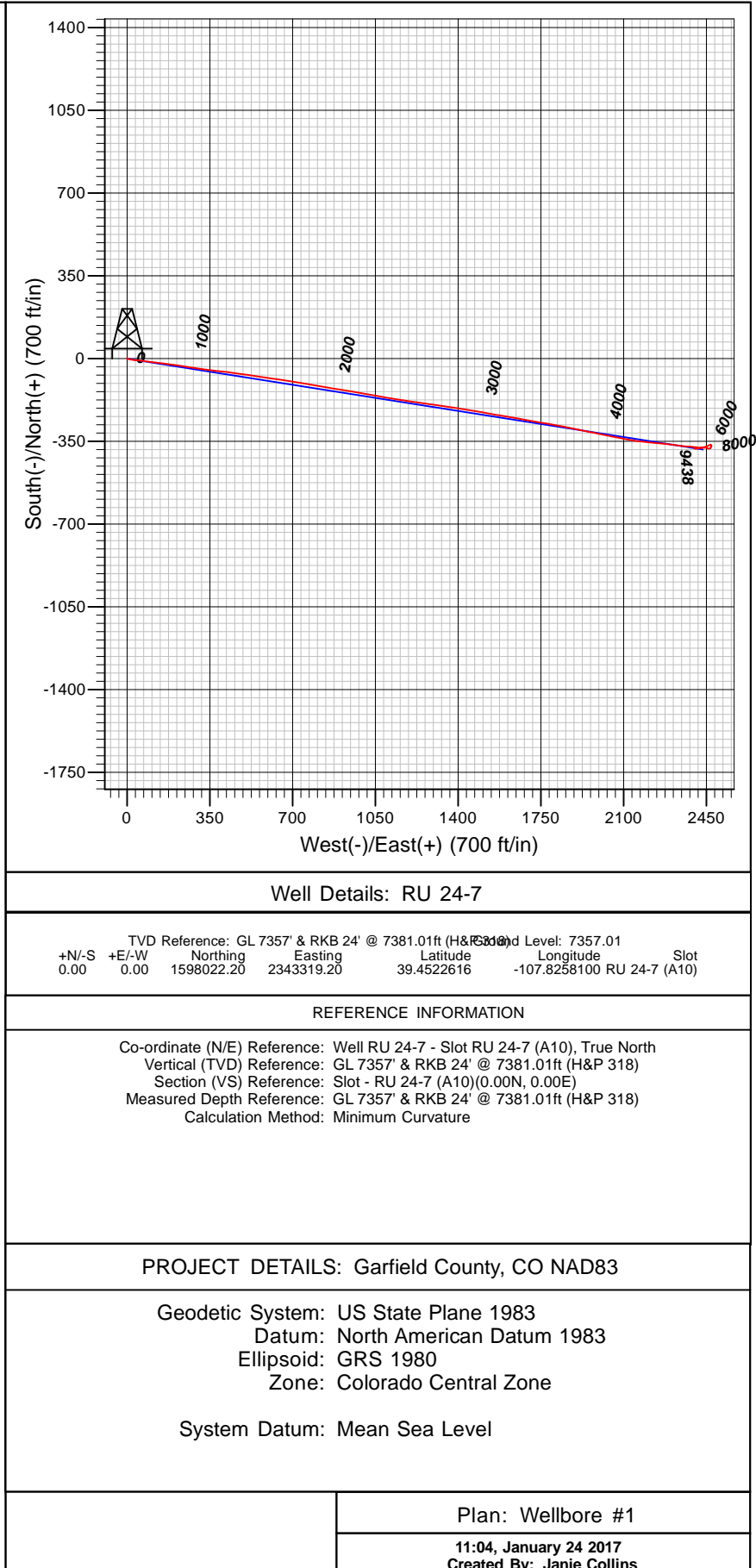
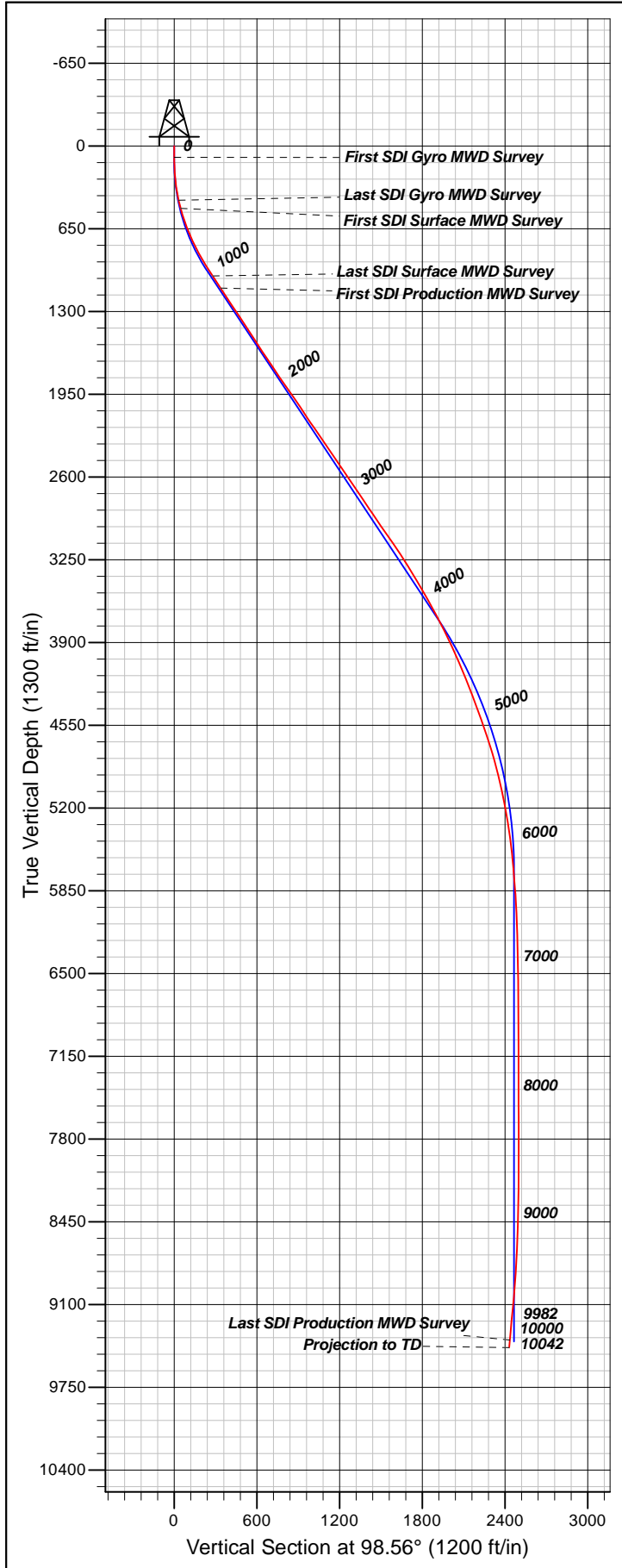
Operator	TEP Rocky Mountain, LLC
Well Name & No.	RU 24-7
County & State	Garfield County, CO
SDI Job No.	420117DEFK410548
Rig	H&P 318

I, Mel Mireles Jr., having personal knowledge of all the facts, hereby certify that the attached directional survey run from a measured depth of 89 feet to a measured depth of 10,042 feet is true and correct as determined from all available records.


Signature

24-Jan-17
Date

Mel Mireles Jr.
Grand Junction Assistant Well Planner
Scientific Drilling - Colorado District



Company:	TEP Rocky Mountain LLC	Local Co-ordinate Reference:	Well RU 24-7 - Slot RU 24-7 (A10)
Project:	Garfield County, CO NAD83	TVD Reference:	GL 7357' & RKB 24' @ 7381.01ft (H&P 318)
Site:	SR 43-12 Pad	MD Reference:	GL 7357' & RKB 24' @ 7381.01ft (H&P 318)
Well:	RU 24-7	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Grand Junction District

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

Site		SR 43-12 Pad					
Site Position:		Northing:	1,598,022.09	usft	Latitude:	39.4522607	
From:	Map	Easting:	2,343,309.20	usft	Longitude:	-107.8258454	
Position Uncertainty:	0.00	ft	Slot Radius:	0.000	in	Grid Convergence:	-1.47 °

Well		RU 24-7 - Slot RU 24-7 (A10)				
Well Position	+N/-S	0.00 ft	Northing:	1,598,022.19 usft	Latitude:	39.4522617
	+E/-W	0.00 ft	Easting:	2,343,319.20 usft	Longitude:	-107.8258100
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	7,357.01 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	1/11/2017	9.30	65.67	51,744

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	98.56	

Survey Program	Date	1/24/2017			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
89.00	428.00	Survey #1 - Gyro Survey (Wellbore #1)	SDI Gyro MWD 104	SDI Gyro MWD Error Model Ver 1.0.4	
492.00	1,075.00	Survey #2 - Surface MWD Survey (Wellbo	SDI MWD	SDI MWD - Standard ver 1.0.1	
1,187.00	10,042.00	Survey #3 - Production MWD Survey (Wel	SDI MWD	SDI MWD - Standard ver 1.0.1	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
89.00	0.09	138.34	89.00	-0.05	0.05	0.05	0.10	0.10	0.00	
First SDI Gyro MWD Survey										
154.00	1.85	102.66	153.99	-0.32	1.10	1.14	2.73	2.71	-54.89	
245.00	4.84	101.87	244.82	-1.43	6.30	6.44	3.29	3.29	-0.87	
336.00	7.92	102.83	335.25	-3.61	16.17	16.53	3.39	3.38	1.05	
428.00	10.82	96.33	426.01	-5.97	30.93	31.48	3.35	3.15	-7.07	
Last SDI Gyro MWD Survey										

Company:	TEP Rocky Mountain LLC	Local Co-ordinate Reference:	Well RU 24-7 - Slot RU 24-7 (A10)
Project:	Garfield County, CO NAD83	TVD Reference:	GL 7357' & RKB 24' @ 7381.01ft (H&P 318)
Site:	SR 43-12 Pad	MD Reference:	GL 7357' & RKB 24' @ 7381.01ft (H&P 318)
Well:	RU 24-7	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Grand Junction District

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
492.00	13.76	97.36	488.54	-7.61	44.46	45.09	4.61	4.59	1.61
First SDI Surface MWD Survey									
583.00	17.11	96.43	576.25	-10.50	68.50	69.30	3.69	3.68	-1.02
673.00	20.59	96.85	661.41	-13.87	97.38	98.36	3.87	3.87	0.47
763.00	23.53	96.56	744.81	-17.81	130.94	132.14	3.27	3.27	-0.32
853.00	26.63	97.27	826.31	-22.42	168.81	170.27	3.46	3.44	0.79
945.00	28.73	99.49	907.78	-28.67	211.08	212.99	2.54	2.28	2.41
1,035.00	30.72	98.63	985.94	-35.69	255.14	257.61	2.26	2.21	-0.96
1,075.00	30.86	97.81	1,020.30	-38.62	275.41	278.09	1.11	0.35	-2.05
Last SDI Surface MWD Survey									
1,187.00	31.08	96.95	1,116.33	-46.02	332.56	335.71	0.44	0.20	-0.77
First SDI Production MWD Survey									
1,251.00	31.32	96.61	1,171.07	-49.93	365.48	368.85	0.47	0.38	-0.53
1,345.00	31.63	97.29	1,251.24	-55.87	414.20	417.91	0.50	0.33	0.72
1,440.00	31.67	97.84	1,332.11	-62.43	463.62	467.75	0.31	0.04	0.58
1,534.00	31.33	98.34	1,412.26	-69.34	512.24	516.86	0.46	-0.36	0.53
1,629.00	30.91	98.48	1,493.59	-76.53	560.81	565.96	0.45	-0.44	0.15
1,723.00	30.87	98.16	1,574.26	-83.51	608.57	614.22	0.18	-0.04	-0.34
1,817.00	32.23	98.90	1,654.36	-90.81	657.20	663.40	1.50	1.45	0.79
1,912.00	31.39	98.59	1,735.09	-98.42	706.70	713.47	0.90	-0.88	-0.33
2,006.00	32.59	99.78	1,814.82	-106.38	755.85	763.27	1.44	1.28	1.27
2,100.00	32.51	99.57	1,894.05	-114.88	805.71	813.83	0.15	-0.09	-0.22
2,194.00	32.73	99.48	1,973.22	-123.27	855.68	864.50	0.24	0.23	-0.10
2,289.00	31.63	98.86	2,053.63	-131.33	905.63	915.09	1.21	-1.16	-0.65
2,384.00	31.30	99.86	2,134.66	-139.40	954.55	964.67	0.65	-0.35	1.05
2,478.00	32.93	100.47	2,214.27	-148.22	1,003.74	1,014.62	1.77	1.73	0.65
2,572.00	32.61	100.15	2,293.31	-157.33	1,053.80	1,065.47	0.39	-0.34	-0.34
2,666.00	31.62	100.06	2,372.93	-166.10	1,102.99	1,115.43	1.05	-1.05	-0.10
2,761.00	32.59	98.56	2,453.40	-174.25	1,152.81	1,165.91	1.32	1.02	-1.58
2,855.00	32.38	97.54	2,532.69	-181.32	1,202.80	1,216.39	0.62	-0.22	-1.09
2,949.00	31.71	98.68	2,612.37	-188.36	1,252.17	1,266.26	0.96	-0.71	1.21
3,044.00	32.36	98.50	2,692.91	-195.88	1,302.00	1,316.65	0.69	0.68	-0.19
3,138.00	32.11	98.64	2,772.42	-203.35	1,351.58	1,366.79	0.28	-0.27	0.15
3,232.00	31.15	98.44	2,852.45	-210.67	1,400.33	1,416.09	1.03	-1.02	-0.21
3,327.00	32.39	98.76	2,933.22	-218.16	1,449.78	1,466.11	1.32	1.31	0.34
3,422.00	33.04	100.01	3,013.15	-226.53	1,500.44	1,517.44	0.99	0.68	1.32
3,516.00	32.66	99.75	3,092.12	-235.28	1,550.67	1,568.42	0.43	-0.40	-0.28
3,610.00	31.66	100.06	3,171.69	-243.89	1,599.96	1,618.44	1.08	-1.06	0.33
3,705.00	30.73	100.17	3,252.96	-252.53	1,648.40	1,667.62	0.98	-0.98	0.12
3,799.00	29.22	100.53	3,334.38	-260.96	1,694.60	1,714.56	1.62	-1.61	0.38
3,894.00	29.04	99.33	3,417.37	-268.94	1,740.15	1,760.79	0.64	-0.19	-1.26
3,988.00	28.23	99.67	3,499.87	-276.37	1,784.58	1,805.83	0.88	-0.86	0.36
4,082.00	27.12	101.01	3,583.11	-284.20	1,827.53	1,849.47	1.35	-1.18	1.43
4,177.00	26.07	101.88	3,668.06	-292.63	1,869.21	1,891.94	1.18	-1.11	0.92

Company:	TEP Rocky Mountain LLC	Local Co-ordinate Reference:	Well RU 24-7 - Slot RU 24-7 (A10)
Project:	Garfield County, CO NAD83	TVD Reference:	GL 7357' & RKB 24' @ 7381.01ft (H&P 318)
Site:	SR 43-12 Pad	MD Reference:	GL 7357' & RKB 24' @ 7381.01ft (H&P 318)
Well:	RU 24-7	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Grand Junction District

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,271.00	25.51	100.98	3,752.70	-300.74	1,909.29	1,932.79	0.73	-0.60	-0.96
4,365.00	24.86	101.47	3,837.76	-308.52	1,948.53	1,972.75	0.73	-0.69	0.52
4,460.00	22.87	101.35	3,924.63	-316.13	1,986.20	2,011.13	2.10	-2.09	-0.13
4,554.00	22.12	100.92	4,011.48	-323.08	2,021.49	2,047.06	0.82	-0.80	-0.46
4,649.00	20.96	101.51	4,099.85	-329.85	2,055.70	2,081.90	1.24	-1.22	0.62
4,743.00	20.40	100.79	4,187.79	-336.28	2,088.27	2,115.06	0.65	-0.60	-0.77
4,838.00	19.77	102.05	4,277.01	-342.73	2,120.25	2,147.64	0.80	-0.66	1.33
4,932.00	19.30	96.27	4,365.61	-347.75	2,151.24	2,179.04	2.12	-0.50	-6.15
5,026.00	18.94	97.26	4,454.42	-351.37	2,181.81	2,209.81	0.52	-0.38	1.05
5,121.00	17.99	95.54	4,544.53	-354.74	2,211.71	2,239.87	1.15	-1.00	-1.81
5,215.00	16.31	95.14	4,634.35	-357.32	2,239.31	2,267.55	1.79	-1.79	-0.43
5,309.00	16.46	94.61	4,724.53	-359.57	2,265.73	2,294.01	0.23	0.16	-0.56
5,404.00	14.84	96.63	4,816.01	-362.06	2,291.23	2,319.60	1.80	-1.71	2.13
5,498.00	13.27	97.73	4,907.19	-364.90	2,313.88	2,342.42	1.69	-1.67	1.17
5,592.00	11.68	98.53	4,998.97	-367.76	2,333.98	2,362.72	1.70	-1.69	0.85
5,686.00	10.98	94.98	5,091.14	-369.95	2,352.31	2,381.17	1.05	-0.74	-3.78
5,777.00	9.42	95.97	5,180.70	-371.48	2,368.35	2,397.26	1.73	-1.71	1.09
5,868.00	9.06	94.29	5,270.52	-372.79	2,382.90	2,411.84	0.49	-0.40	-1.85
5,963.00	8.26	93.48	5,364.43	-373.76	2,397.17	2,426.10	0.85	-0.84	-0.85
6,057.00	7.40	99.22	5,457.56	-375.14	2,409.89	2,438.88	1.24	-0.91	6.11
6,152.00	5.19	94.22	5,551.98	-376.44	2,420.21	2,449.28	2.39	-2.33	-5.26
6,245.00	4.73	93.62	5,644.63	-376.99	2,428.23	2,457.30	0.50	-0.49	-0.65
6,339.00	4.55	84.79	5,738.32	-376.90	2,435.81	2,464.78	0.78	-0.19	-9.39
6,434.00	4.16	84.28	5,833.05	-376.21	2,442.99	2,471.78	0.41	-0.41	-0.54
6,528.00	3.03	106.99	5,926.87	-376.60	2,448.76	2,477.54	1.91	-1.20	24.16
6,623.00	2.99	115.87	6,021.74	-378.41	2,453.39	2,482.39	0.49	-0.04	9.35
6,717.00	1.67	111.17	6,115.66	-379.98	2,456.88	2,486.07	1.42	-1.40	-5.00
6,811.00	1.52	91.83	6,209.62	-380.51	2,459.40	2,488.64	0.59	-0.16	-20.57
6,906.00	0.98	70.02	6,304.60	-380.27	2,461.42	2,490.61	0.75	-0.57	-22.96
7,000.00	1.22	81.32	6,398.58	-379.85	2,463.17	2,492.27	0.34	0.26	12.02
7,095.00	0.70	66.54	6,493.57	-379.46	2,464.70	2,493.73	0.60	-0.55	-15.56
7,189.00	0.59	71.51	6,587.56	-379.08	2,465.69	2,494.64	0.13	-0.12	5.29
7,284.00	0.76	73.19	6,682.55	-378.74	2,466.75	2,495.65	0.18	0.18	1.77
7,378.00	0.32	32.77	6,776.55	-378.34	2,467.49	2,496.32	0.59	-0.47	-43.00
7,472.00	0.80	18.71	6,870.55	-377.50	2,467.85	2,496.54	0.53	0.51	-14.96
7,566.00	0.67	11.91	6,964.54	-376.34	2,468.17	2,496.69	0.17	-0.14	-7.23
7,661.00	0.81	11.38	7,059.53	-375.14	2,468.42	2,496.76	0.15	0.15	-0.56
7,755.00	0.39	357.45	7,153.52	-374.17	2,468.53	2,496.73	0.47	-0.45	-14.82
7,849.00	0.18	347.10	7,247.52	-373.71	2,468.49	2,496.61	0.23	-0.22	-11.01
7,944.00	0.60	39.75	7,342.52	-373.18	2,468.77	2,496.82	0.54	0.44	55.42
8,038.00	0.34	7.05	7,436.52	-372.52	2,469.12	2,497.06	0.39	-0.28	-34.79
8,133.00	0.28	79.15	7,531.52	-372.20	2,469.38	2,497.27	0.39	-0.06	75.89
8,227.00	0.76	53.86	7,625.51	-371.79	2,470.11	2,497.93	0.55	0.51	-26.90

Company:	TEP Rocky Mountain LLC	Local Co-ordinate Reference:	Well RU 24-7 - Slot RU 24-7 (A10)
Project:	Garfield County, CO NAD83	TVD Reference:	GL 7357' & RKB 24' @ 7381.01ft (H&P 318)
Site:	SR 43-12 Pad	MD Reference:	GL 7357' & RKB 24' @ 7381.01ft (H&P 318)
Well:	RU 24-7	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Grand Junction District

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
8,322.00	0.79	49.82	7,720.50	-370.99	2,471.12	2,498.81	0.07	0.03	-4.25	
8,416.00	0.80	348.75	7,814.50	-369.93	2,471.49	2,499.02	0.86	0.01	-64.97	
8,510.00	0.84	338.15	7,908.49	-368.65	2,471.10	2,498.45	0.17	0.04	-11.28	
8,604.00	0.79	349.17	8,002.48	-367.37	2,470.72	2,497.88	0.17	-0.05	11.72	
8,698.00	0.79	350.67	8,096.47	-366.10	2,470.50	2,497.47	0.02	0.00	1.60	
8,793.00	0.82	336.68	8,191.46	-364.83	2,470.12	2,496.91	0.21	0.03	-14.73	
8,887.00	0.74	283.52	8,285.45	-364.07	2,469.27	2,495.95	0.75	-0.09	-56.55	
8,982.00	0.88	263.81	8,380.44	-364.00	2,467.94	2,494.63	0.33	0.15	-20.75	
9,076.00	1.76	243.18	8,474.42	-364.73	2,465.94	2,492.76	1.05	0.94	-21.95	
9,170.00	2.11	249.51	8,568.36	-365.99	2,463.03	2,490.07	0.44	0.37	6.73	
9,265.00	2.63	250.19	8,663.28	-367.34	2,459.34	2,486.62	0.55	0.55	0.72	
9,359.00	3.37	249.40	8,757.15	-369.04	2,454.73	2,482.31	0.79	0.79	-0.84	
9,454.00	3.85	250.08	8,851.96	-371.11	2,449.11	2,477.07	0.51	0.51	0.72	
9,548.00	4.61	250.67	8,945.71	-373.44	2,442.58	2,470.96	0.81	0.81	0.63	
9,643.00	5.75	254.92	9,040.32	-375.94	2,434.38	2,463.22	1.27	1.20	4.47	
9,737.00	5.35	259.97	9,133.88	-377.93	2,425.52	2,454.75	0.67	-0.43	5.37	
9,831.00	4.99	261.99	9,227.50	-379.26	2,417.16	2,446.68	0.43	-0.38	2.15	
9,925.00	4.59	264.57	9,321.17	-380.19	2,409.37	2,439.11	0.48	-0.43	2.74	
9,982.00	4.57	265.24	9,377.98	-380.59	2,404.83	2,434.69	0.10	-0.04	1.18	
Last SDI Production MWD Survey										
10,042.00	4.57	265.24	9,437.79	-380.99	2,400.07	2,430.04	0.00	0.00	0.00	
Projection to TD										

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
89.00	89.00	-0.05	0.05	First SDI Gyro MWD Survey
428.00	426.01	-5.97	30.93	Last SDI Gyro MWD Survey
492.00	488.54	-7.61	44.46	First SDI Surface MWD Survey
1,075.00	1,020.30	-38.62	275.41	Last SDI Surface MWD Survey
1,187.00	1,116.33	-46.02	332.56	First SDI Production MWD Survey
9,982.00	9,377.98	-380.59	2,404.83	Last SDI Production MWD Survey
10,042.00	9,437.79	-380.99	2,400.07	Projection to TD

Checked By: _____	Approved By: _____	Date: _____
-------------------	--------------------	-------------