



## 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.	TR 23-21-597
County & State	Garfield County, CO
SDI Job No.	420217DEF420935
Rig	H&P 271

I, Mel Mireles Jr., having personal knowledge of all the facts, hereby certify that the attached directional survey run from a measured depth of 154 feet to a measured depth of 9,722 feet is true and correct as determined from all available records.

A handwritten signature in black ink, appearing to read 'Mel Mireles Jr.', written over a horizontal line.

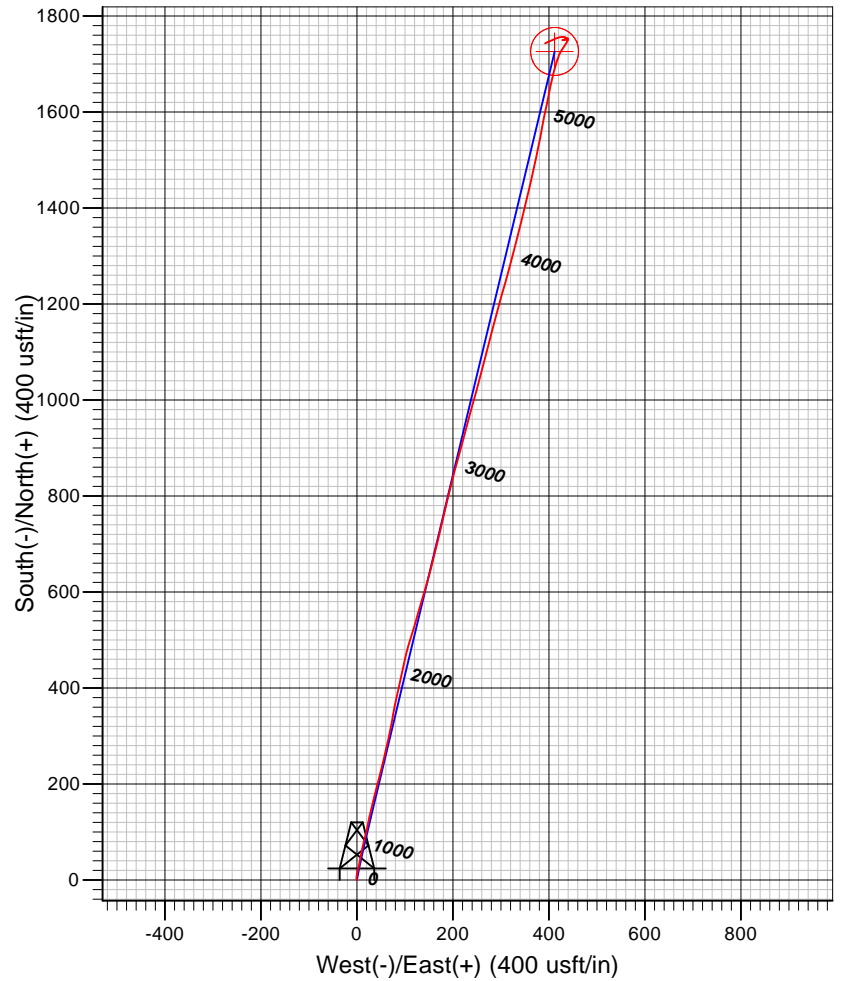
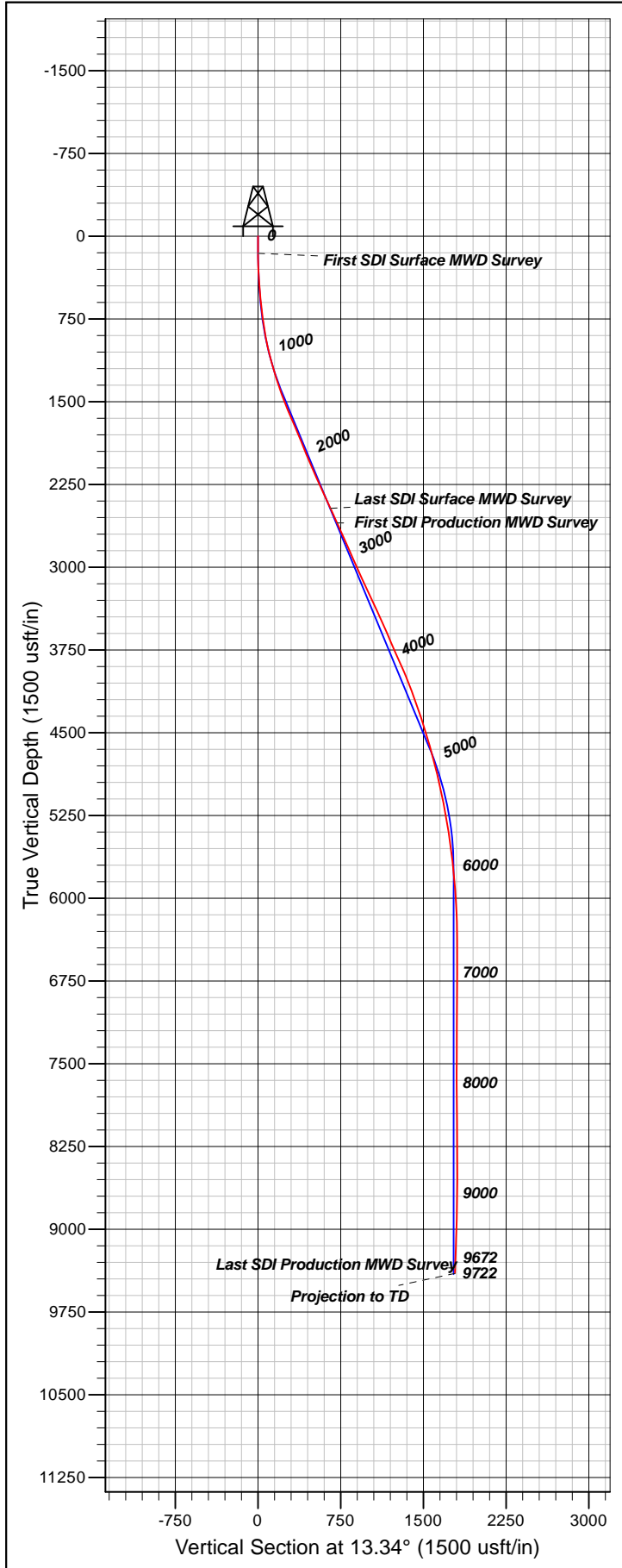
Signature

10-Mar-17

Date

### Mel Mireles Jr.

Grand Junction Assistant Well Planner  
Scientific Drilling - Colorado District



#### Well Details: Chevron TR 23-21-597

TVD Reference: GL 8292' @ RKB 24' @ 8316.00usft (H&P 318) Level: 8292.00					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1653248.80	2215073.70	39.5939184	-108.2857608 (TR 23-21-597)

#### REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well Chevron TR 23-21-597 - Slot A1 (TR 23-21-597), True North  
 Vertical (TVD) Reference: GL 8292' @ RKB 24' @ 8316.00usft (H&P 318)  
 Section (VS) Reference: Slot - A1 (TR 23-21-597)(0.00N, 0.00E)  
 Measured Depth Reference: GL 8292' @ RKB 24' @ 8316.00usft (H&P 318)  
 Calculation Method: Minimum Curvature

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

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

System Datum: Mean Sea Level

Plan: OH

10:14, March 10 2017  
 Created By: Janie Collins

<b>Company:</b>	TEP Rocky Mountain LLC	<b>Local Co-ordinate Reference:</b>	Well Chevron TR 23-21-597 - Slot A1 (TR 23-21-597)
<b>Project:</b>	Garfield County, CO NAD83	<b>TVD Reference:</b>	GL 8292' @ RKB 24' @ 8316.00usft (H&P 318)
<b>Site:</b>	TR 24-21-597 Pad	<b>MD Reference:</b>	GL 8292' @ RKB 24' @ 8316.00usft (H&P 318)
<b>Well:</b>	Chevron TR 23-21-597	<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		

Site		TR 24-21-597 Pad			
Site Position:		Northing:	1,653,248.80 usft	Latitude:	39.5939185
From:	Map	Easting:	2,215,073.70 usft	Longitude:	-108.2857609
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	-1.76 °

Well		Chevron TR 23-21-597 - Slot A1 (TR 23-21-597)				
Well Position	+N/-S	0.00 usft	Northing:	1,653,248.80 usft	Latitude:	39.5939185
	+E/-W	0.00 usft	Easting:	2,215,073.70 usft	Longitude:	-108.2857609
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	8,292.00 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	12/21/2016	9.83	65.92	51,672

<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	13.34	

<b>Survey Program</b>	<b>Date</b>	3/10/2017			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
154.00	2,582.00	Survey #1 - Surface MWD Survey (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	
2,726.00	9,722.00	Survey #2 - Production MWD (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	
154.00	0.42	291.05	154.00	0.20	-0.53	0.08	0.27	0.27	0.00	
<b>First SDI Surface MWD Survey</b>										
245.00	1.85	349.60	244.98	1.77	-1.10	1.47	1.83	1.57	64.34	
335.00	3.37	4.32	334.89	5.83	-1.17	5.41	1.83	1.69	16.36	
424.00	4.28	16.70	423.69	11.62	-0.01	11.31	1.38	1.02	13.91	
516.00	4.51	12.36	515.42	18.45	1.75	18.35	0.44	0.25	-4.72	
609.00	5.69	10.12	608.05	26.56	3.34	26.61	1.29	1.27	-2.41	
701.00	7.83	9.57	699.40	37.23	5.18	37.42	2.33	2.33	-0.60	

<b>Company:</b>	TEP Rocky Mountain LLC	<b>Local Co-ordinate Reference:</b>	Well Chevron TR 23-21-597 - Slot A1 (TR 23-21-597)
<b>Project:</b>	Garfield County, CO NAD83	<b>TVD Reference:</b>	GL 8292' @ RKB 24' @ 8316.00usft (H&P 318)
<b>Site:</b>	TR 24-21-597 Pad	<b>MD Reference:</b>	GL 8292' @ RKB 24' @ 8316.00usft (H&P 318)
<b>Well:</b>	Chevron TR 23-21-597	<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)
795.00	8.31	12.34	792.47	50.18	7.70	50.60	0.66	0.51	2.95
888.00	9.91	12.08	884.30	64.57	10.81	65.32	1.72	1.72	-0.28
981.00	11.43	14.05	975.69	81.33	14.72	82.54	1.68	1.63	2.12
1,073.00	14.01	13.67	1,065.42	101.00	19.57	102.79	2.81	2.80	-0.41
1,167.00	15.74	11.41	1,156.27	124.56	24.78	126.91	1.94	1.84	-2.40
1,259.00	17.06	12.73	1,244.52	149.95	30.22	152.88	1.49	1.43	1.43
1,353.00	18.13	15.31	1,334.12	177.51	37.12	181.29	1.41	1.14	2.74
1,448.00	19.79	13.70	1,423.97	207.39	44.83	212.14	1.83	1.75	-1.69
1,542.00	21.50	12.99	1,511.93	239.64	52.48	245.28	1.84	1.82	-0.76
1,637.00	23.54	13.90	1,599.68	275.02	60.95	281.67	2.18	2.15	0.96
1,732.00	22.42	11.32	1,687.14	311.21	69.06	318.74	1.59	-1.18	-2.72
1,826.00	23.63	10.04	1,773.65	347.33	75.86	355.47	1.39	1.29	-1.36
1,921.00	22.90	12.94	1,860.93	384.10	83.32	392.96	1.43	-0.77	3.05
2,015.00	22.00	11.49	1,947.81	419.18	90.93	428.85	1.12	-0.96	-1.54
2,110.00	22.39	12.40	2,035.77	454.29	98.36	464.72	0.55	0.41	0.96
2,204.00	22.88	16.64	2,122.53	489.28	107.43	500.87	1.81	0.52	4.51
2,299.00	24.36	16.95	2,209.57	525.72	118.43	538.86	1.56	1.56	0.33
2,394.00	25.41	15.98	2,295.75	564.06	129.76	578.78	1.19	1.11	-1.02
2,488.00	25.24	16.75	2,380.72	602.63	141.09	618.93	0.39	-0.18	0.82
2,582.00	24.49	14.93	2,466.00	640.65	151.88	658.41	1.14	-0.80	-1.94
Last SDI Surface MWD Survey									
2,726.00	23.73	13.15	2,597.44	697.71	166.16	717.22	0.73	-0.53	-1.24
First SDI Production MWD Survey									
2,789.00	25.05	13.94	2,654.82	723.00	172.26	743.24	2.16	2.10	1.25
2,883.00	23.77	12.37	2,740.41	760.82	181.11	782.08	1.53	-1.36	-1.67
2,978.00	23.64	14.54	2,827.40	797.96	190.00	820.26	0.93	-0.14	2.28
3,072.00	23.59	13.56	2,913.53	834.48	199.14	857.92	0.42	-0.05	-1.04
3,167.00	24.83	15.41	3,000.17	872.20	208.90	896.86	1.53	1.31	1.95
3,261.00	24.75	14.91	3,085.51	910.24	219.20	936.25	0.24	-0.09	-0.53
3,356.00	24.06	14.54	3,172.02	948.20	229.18	975.49	0.74	-0.73	-0.39
3,450.00	26.12	16.35	3,257.15	986.61	239.82	1,015.32	2.34	2.19	1.93
3,545.00	25.37	15.42	3,342.72	1,026.29	251.12	1,056.54	0.90	-0.79	-0.98
3,639.00	23.39	14.45	3,428.33	1,063.78	261.13	1,095.32	2.15	-2.11	-1.03
3,734.00	23.70	13.05	3,515.43	1,100.64	270.15	1,133.27	0.67	0.33	-1.47
3,828.00	24.13	15.35	3,601.36	1,137.57	279.50	1,171.37	1.09	0.46	2.45
3,923.00	22.97	15.77	3,688.44	1,174.14	289.68	1,209.29	1.23	-1.22	0.44
4,017.00	23.96	15.53	3,774.67	1,210.18	299.77	1,246.69	1.06	1.05	-0.26
4,112.00	24.64	15.18	3,861.25	1,247.88	310.12	1,285.76	0.73	0.72	-0.37
4,206.00	23.51	14.71	3,947.07	1,284.92	320.01	1,324.09	1.22	-1.20	-0.50
4,301.00	22.24	14.43	4,034.60	1,320.66	329.31	1,361.01	1.34	-1.34	-0.29
4,395.00	20.72	14.20	4,122.07	1,354.01	337.82	1,395.42	1.62	-1.62	-0.24
4,490.00	19.32	13.92	4,211.33	1,385.56	345.72	1,427.94	1.48	-1.47	-0.29
4,584.00	18.73	14.03	4,300.19	1,415.30	353.12	1,458.58	0.63	-0.63	0.12

<b>Company:</b>	TEP Rocky Mountain LLC	<b>Local Co-ordinate Reference:</b>	Well Chevron TR 23-21-597 - Slot A1 (TR 23-21-597)
<b>Project:</b>	Garfield County, CO NAD83	<b>TVD Reference:</b>	GL 8292' @ RKB 24' @ 8316.00usft (H&P 318)
<b>Site:</b>	TR 24-21-597 Pad	<b>MD Reference:</b>	GL 8292' @ RKB 24' @ 8316.00usft (H&P 318)
<b>Well:</b>	Chevron TR 23-21-597	<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)
4,679.00	18.00	13.12	4,390.35	1,444.39	360.15	1,488.51	0.83	-0.77	-0.96
4,773.00	16.69	12.25	4,480.08	1,471.73	366.31	1,516.54	1.42	-1.39	-0.93
4,868.00	15.57	9.80	4,571.34	1,497.62	371.38	1,542.90	1.38	-1.18	-2.58
4,962.00	15.88	13.13	4,661.82	1,522.58	376.45	1,568.35	1.02	0.33	3.54
5,057.00	14.86	12.11	4,753.42	1,547.15	381.95	1,593.53	1.11	-1.07	-1.07
5,151.00	13.28	8.94	4,844.60	1,569.60	386.16	1,616.35	1.87	-1.68	-3.37
5,246.00	12.93	11.76	4,937.13	1,590.78	390.02	1,637.85	0.77	-0.37	2.97
5,340.00	12.27	12.14	5,028.86	1,610.85	394.27	1,658.35	0.71	-0.70	0.40
5,435.00	11.78	12.28	5,121.78	1,630.19	398.45	1,678.14	0.52	-0.52	0.15
5,529.00	11.56	10.10	5,213.83	1,648.84	402.14	1,697.14	0.52	-0.23	-2.32
5,624.00	9.32	14.01	5,307.26	1,665.68	405.68	1,714.33	2.47	-2.36	4.12
5,719.00	9.08	12.26	5,401.03	1,680.46	409.13	1,729.52	0.39	-0.25	-1.84
5,813.00	7.45	17.85	5,494.06	1,693.51	412.57	1,743.01	1.93	-1.73	5.95
5,908.00	6.69	19.27	5,588.33	1,704.60	416.29	1,754.66	0.82	-0.80	1.49
6,002.00	6.43	17.11	5,681.72	1,714.80	419.64	1,765.35	0.38	-0.28	-2.30
6,097.00	5.27	31.76	5,776.23	1,723.59	423.51	1,774.80	1.98	-1.22	15.42
6,191.00	4.92	31.62	5,869.86	1,730.70	427.89	1,782.73	0.37	-0.37	-0.15
6,285.00	4.40	31.36	5,963.54	1,737.21	431.88	1,789.98	0.55	-0.55	-0.28
6,380.00	3.74	32.49	6,058.30	1,742.93	435.44	1,796.37	0.70	-0.69	1.19
6,475.00	3.25	31.18	6,153.13	1,747.85	438.50	1,801.86	0.52	-0.52	-1.38
6,569.00	1.02	20.35	6,247.06	1,750.92	440.17	1,805.23	2.40	-2.37	-11.52
6,664.00	0.70	347.41	6,342.05	1,752.28	440.34	1,806.59	0.61	-0.34	-34.67
6,758.00	0.70	320.60	6,436.04	1,753.28	439.85	1,807.46	0.35	0.00	-28.52
6,853.00	0.79	285.97	6,531.03	1,753.91	438.85	1,807.84	0.48	0.09	-36.45
6,947.00	1.06	275.96	6,625.02	1,754.18	437.36	1,807.76	0.33	0.29	-10.65
7,042.00	1.23	187.27	6,720.01	1,753.26	436.36	1,806.63	1.69	0.18	-93.36
7,137.00	1.58	152.91	6,814.98	1,751.08	436.83	1,804.62	0.94	0.37	-36.17
7,231.00	0.70	34.08	6,908.97	1,750.40	437.74	1,804.17	2.14	-0.94	-126.41
7,326.00	0.18	53.59	7,003.96	1,750.97	438.19	1,804.83	0.56	-0.55	20.54
7,420.00	0.44	317.44	7,097.96	1,751.32	438.06	1,805.14	0.52	0.28	-102.29
7,515.00	0.57	281.53	7,192.96	1,751.69	437.35	1,805.33	0.35	0.14	-37.80
7,609.00	0.97	265.06	7,286.95	1,751.71	436.10	1,805.07	0.48	0.43	-17.52
7,704.00	1.49	258.11	7,381.93	1,751.39	434.09	1,804.29	0.57	0.55	-7.32
7,798.00	1.85	244.93	7,475.89	1,750.49	431.52	1,802.82	0.56	0.38	-14.02
7,893.00	0.97	253.02	7,570.86	1,749.61	429.36	1,801.47	0.95	-0.93	8.52
7,988.00	0.70	333.00	7,665.85	1,749.89	428.33	1,801.50	1.15	-0.28	84.19
8,082.00	1.49	84.97	7,759.84	1,750.51	429.29	1,802.33	1.99	0.84	119.12
8,177.00	1.06	100.26	7,854.82	1,750.46	431.38	1,802.76	0.57	-0.45	16.09
8,271.00	1.32	55.00	7,948.80	1,750.93	433.12	1,803.62	1.01	0.28	-48.15
8,366.00	0.97	39.88	8,043.78	1,752.17	434.53	1,805.15	0.48	-0.37	-15.92
8,460.00	0.79	17.64	8,137.77	1,753.40	435.24	1,806.51	0.41	-0.19	-23.66
8,555.00	0.79	329.48	8,232.76	1,754.59	435.11	1,807.64	0.68	0.00	-50.69

<b>Company:</b>	TEP Rocky Mountain LLC	<b>Local Co-ordinate Reference:</b>	Well Chevron TR 23-21-597 - Slot A1 (TR 23-21-597)
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<b>Site:</b>	TR 24-21-597 Pad	<b>MD Reference:</b>	GL 8292' @ RKB 24' @ 8316.00usft (H&P 318)
<b>Well:</b>	Chevron TR 23-21-597	<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)
8,649.00	1.06	315.15	8,326.75	1,755.76	434.17	1,808.56	0.38	0.29	-15.24
8,744.00	1.67	279.21	8,421.72	1,756.61	432.18	1,808.93	1.08	0.64	-37.83
8,838.00	2.37	262.77	8,515.67	1,756.58	428.90	1,808.15	0.96	0.74	-17.49
8,933.00	2.29	265.67	8,610.59	1,756.19	425.06	1,806.88	0.15	-0.08	3.05
9,027.00	2.11	254.33	8,704.52	1,755.58	421.52	1,805.47	0.50	-0.19	-12.06
9,122.00	2.11	253.46	8,799.45	1,754.61	418.16	1,803.75	0.03	0.00	-0.92
9,217.00	2.55	248.62	8,894.38	1,753.34	414.51	1,801.68	0.51	0.46	-5.09
9,311.00	2.59	245.39	8,988.28	1,751.70	410.64	1,799.18	0.16	0.04	-3.44
9,406.00	2.99	244.23	9,083.17	1,749.73	406.45	1,796.30	0.43	0.42	-1.22
9,500.00	2.57	245.63	9,177.06	1,747.79	402.33	1,793.46	0.45	-0.45	1.49
9,595.00	2.92	250.13	9,271.95	1,746.09	398.11	1,790.83	0.43	0.37	4.74
9,672.00	3.08	244.84	9,348.84	1,744.54	394.39	1,788.47	0.42	0.21	-6.87
<b>Last SDI Production MWD Survey</b>									
9,722.00	3.08	244.84	9,398.77	1,743.40	391.96	1,786.80	0.00	0.00	0.00
<b>Projection to TD</b>									

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
154.00	154.00	0.20	-0.53	First SDI Surface MWD Survey
2,582.00	2,466.00	640.65	151.88	Last SDI Surface MWD Survey

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