



#### Well Details: SG 533-26

TVD Reference: GL 5076' & RKB 24' @ 5100.00usft		Ground Level: 5076.00		Slot
+N/-S	+E/-W	Northing	Easting	Latitude
0.00	0.00	1584767.60	2272328.80	39.4106271
				Longitude
				-108.0757825

#### REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well SG 533-26, True North  
 Vertical (TVD) Reference: GL 5076' & RKB 24' @ 5100.00usft  
 Section (VS) Reference: Slot - (0.00N, 0.00E)  
 Measured Depth Reference: GL 5076' & RKB 24' @ 5100.00usft  
 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

18:02, November 14 2018  
 Created By: Mel Mireles Jr.



## 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.	SG 533-26
County & State	Garfield County, CO
SDI Job No.	OP.014273
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 128 feet to a measured depth of 5,934 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

15-Nov-18

Date

### Mel Mireles Jr.

Grand Junction Assistant Well Planner  
Scientific Drilling - Colorado District



# **TEP Rocky Mountain LLC**

**Garfield County, CO NAD83**

**SG 32-26 Pad**

**SG 533-26**

**OH**

**Design: OH**

## **Standard Survey Report**

**14 November, 2018**



<b>Company:</b>	TEP Rocky Mountain LLC	<b>Local Co-ordinate Reference:</b>	Well SG 533-26
<b>Project:</b>	Garfield County, CO NAD83	<b>TVD Reference:</b>	GL 5076' & RKB 24' @ 5100.00usft
<b>Site:</b>	SG 32-26 Pad	<b>MD Reference:</b>	GL 5076' & RKB 24' @ 5100.00usft
<b>Well:</b>	SG 533-26	<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		SG 32-26 Pad			
Site Position:		Northing:	1,584,791.50 usft	Latitude:	39.4106932
From:	Map	Easting:	2,272,334.80 usft	Longitude:	-108.0757637
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	-1.62 °

Well	SG 533-26					
Well Position	+N/-S	0.00 usft	Northing:	1,584,767.60 usft	Latitude:	39.4106271
	+E/-W	0.00 usft	Easting:	2,272,328.80 usft	Longitude:	-108.0757826
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	5,076.00 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	11/1/2018	9.35	65.57	51,662

<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	151.17	

<b>Survey Program</b>	<b>Date</b>	11/14/2018			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
128.00	976.00	Survey #1 - Surface MWD Survey (OH)	MWD+HDGM	OWSG MWD + HDGM	
1,081.00	5,934.00	Survey #2 - Production MWD 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	
128.00	0.62	171.95	128.00	-0.69	0.10	0.65	0.48	0.48	0.00	
<b>First SDI Surface MWD Survey</b>										
193.00	2.20	160.08	192.98	-2.21	0.57	2.21	2.46	2.43	-18.26	
285.00	4.75	153.67	284.80	-7.28	2.86	7.76	2.80	2.77	-6.97	
376.00	8.10	154.29	375.22	-16.44	7.32	17.93	3.68	3.68	0.68	
468.00	12.13	150.94	465.77	-30.73	14.83	34.07	4.43	4.38	-3.64	
557.00	16.71	149.18	551.94	-49.90	25.93	56.22	5.17	5.15	-1.98	
650.00	20.40	150.15	640.09	-75.45	40.85	85.80	3.98	3.97	1.04	
744.00	24.53	151.73	726.94	-106.86	58.26	121.71	4.44	4.39	1.68	

<b>Company:</b>	TEP Rocky Mountain LLC	<b>Local Co-ordinate Reference:</b>	Well SG 533-26
<b>Project:</b>	Garfield County, CO NAD83	<b>TVD Reference:</b>	GL 5076' & RKB 24' @ 5100.00usft
<b>Site:</b>	SG 32-26 Pad	<b>MD Reference:</b>	GL 5076' & RKB 24' @ 5100.00usft
<b>Well:</b>	SG 533-26	<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)
838.00	28.75	150.59	810.94	-143.76	78.61	163.85	4.52	4.49	-1.21
932.00	31.83	149.62	892.10	-184.85	102.25	211.24	3.32	3.28	-1.03
976.00	33.85	149.10	929.07	-205.37	114.41	235.09	4.64	4.59	-1.18
Last SDI Surface MWD Survey									
1,081.00	36.10	149.61	1,015.10	-257.16	145.08	295.24	2.16	2.14	0.49
First SDI Production MWD Survey									
1,175.00	38.16	152.61	1,090.04	-306.84	172.46	351.97	2.92	2.19	3.19
1,269.00	42.08	155.71	1,161.92	-361.36	198.79	412.43	4.68	4.17	3.30
1,364.00	44.08	155.07	1,231.30	-420.34	225.81	477.13	2.15	2.11	-0.67
1,458.00	45.62	152.28	1,297.95	-479.74	255.22	543.35	2.66	1.64	-2.97
1,552.00	48.78	152.08	1,361.81	-540.73	287.41	612.30	3.37	3.36	-0.21
1,646.00	49.07	152.78	1,423.57	-603.54	320.21	683.14	0.64	0.31	0.74
1,741.00	49.18	151.79	1,485.74	-667.13	353.61	754.96	0.80	0.12	-1.04
1,835.00	47.92	152.02	1,547.97	-729.28	386.80	825.41	1.35	-1.34	0.24
1,930.00	47.45	150.88	1,611.92	-790.99	420.37	895.66	1.02	-0.49	-1.20
2,024.00	46.26	151.97	1,676.20	-851.21	453.17	964.24	1.52	-1.27	1.16
2,118.00	45.69	150.24	1,741.53	-910.39	485.83	1,031.82	1.46	-0.61	-1.84
2,213.00	44.27	150.62	1,808.73	-968.79	518.97	1,098.96	1.52	-1.49	0.40
2,307.00	45.91	149.39	1,875.09	-1,026.44	552.25	1,165.52	1.98	1.74	-1.31
2,402.00	45.25	149.84	1,941.58	-1,084.97	586.58	1,233.34	0.77	-0.69	0.47
2,496.00	45.57	151.70	2,007.58	-1,143.38	619.26	1,300.28	1.45	0.34	1.98
2,591.00	44.56	150.38	2,074.68	-1,202.22	651.81	1,367.53	1.45	-1.06	-1.39
2,685.00	43.06	150.33	2,142.51	-1,258.78	684.00	1,432.59	1.60	-1.60	-0.05
2,779.00	43.20	152.23	2,211.11	-1,315.13	714.88	1,496.85	1.39	0.15	2.02
2,874.00	42.62	151.17	2,280.69	-1,372.08	745.54	1,561.52	0.97	-0.61	-1.12
2,968.00	42.43	151.02	2,349.97	-1,427.70	776.25	1,625.06	0.23	-0.20	-0.16
3,062.00	39.27	151.09	2,421.07	-1,481.50	806.00	1,686.54	3.36	-3.36	0.07
3,157.00	36.99	149.91	2,495.79	-1,532.55	834.87	1,745.18	2.52	-2.40	-1.24
3,251.00	33.49	149.66	2,572.55	-1,579.42	862.15	1,799.40	3.73	-3.72	-0.27
3,345.00	30.44	150.38	2,652.29	-1,622.51	887.03	1,849.14	3.27	-3.24	0.77
3,439.00	26.94	150.16	2,734.74	-1,661.69	909.40	1,894.26	3.73	-3.72	-0.23
3,533.00	24.15	149.63	2,819.54	-1,696.76	929.72	1,934.78	2.98	-2.97	-0.56
3,628.00	21.66	148.88	2,907.04	-1,728.54	948.61	1,971.73	2.64	-2.62	-0.79
3,722.00	19.90	147.67	2,994.92	-1,756.91	966.13	2,005.03	1.93	-1.87	-1.29
3,816.00	17.47	145.16	3,083.97	-1,782.02	982.75	2,035.04	2.72	-2.59	-2.67
3,911.00	15.73	143.34	3,175.00	-1,804.05	998.59	2,061.98	1.91	-1.83	-1.92
4,005.00	12.47	139.40	3,266.16	-1,821.98	1,012.81	2,084.54	3.61	-3.47	-4.19
4,099.00	9.56	141.33	3,358.42	-1,835.79	1,024.29	2,102.17	3.12	-3.10	2.05
4,113.20	9.04	141.63	3,372.43	-1,837.58	1,025.72	2,104.44	3.70	-3.68	2.14
SG 533-26 KMW									
4,194.00	6.07	144.35	3,452.52	-1,846.03	1,032.15	2,114.94	3.70	-3.67	3.36
4,288.00	2.66	153.45	3,546.24	-1,852.02	1,036.02	2,122.05	3.69	-3.63	9.68
4,383.00	1.41	153.84	3,641.18	-1,855.04	1,037.52	2,125.43	1.32	-1.32	0.41
4,477.00	0.62	312.41	3,735.17	-1,855.74	1,037.66	2,126.10	2.13	-0.84	168.69

<b>Company:</b>	TEP Rocky Mountain LLC	<b>Local Co-ordinate Reference:</b>	Well SG 533-26
<b>Project:</b>	Garfield County, CO NAD83	<b>TVD Reference:</b>	GL 5076' & RKB 24' @ 5100.00usft
<b>Site:</b>	SG 32-26 Pad	<b>MD Reference:</b>	GL 5076' & RKB 24' @ 5100.00usft
<b>Well:</b>	SG 533-26	<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)
4,572.00	0.93	291.71	3,830.16	-1,855.11	1,036.56	2,125.02	0.43	0.33	-21.79
4,666.00	1.27	277.11	3,924.14	-1,854.70	1,034.82	2,123.82	0.47	0.36	-15.53
4,761.00	1.68	271.31	4,019.11	-1,854.53	1,032.38	2,122.50	0.46	0.43	-6.11
4,855.00	0.32	42.05	4,113.10	-1,854.31	1,031.18	2,121.72	2.03	-1.45	139.09
4,949.00	0.41	2.82	4,207.10	-1,853.78	1,031.37	2,121.35	0.28	0.10	-41.73
5,044.00	0.65	12.87	4,302.09	-1,852.91	1,031.51	2,120.66	0.27	0.25	10.58
5,138.00	0.64	335.71	4,396.09	-1,851.91	1,031.41	2,119.74	0.44	-0.01	-39.53
5,232.00	1.08	6.08	4,490.08	-1,850.55	1,031.29	2,118.49	0.66	0.47	32.31
5,327.00	1.27	5.42	4,585.06	-1,848.62	1,031.48	2,116.88	0.20	0.20	-0.69
5,421.00	1.90	11.14	4,679.02	-1,846.05	1,031.88	2,114.83	0.69	0.67	6.09
5,515.00	2.11	13.31	4,772.96	-1,842.84	1,032.58	2,112.35	0.24	0.22	2.31
5,610.00	0.55	36.80	4,867.93	-1,840.77	1,033.26	2,110.86	1.71	-1.64	24.73
5,704.00	1.14	243.71	4,961.93	-1,840.82	1,032.69	2,110.64	1.75	0.63	-162.86
5,799.00	2.50	251.94	5,056.88	-1,841.88	1,029.87	2,110.21	1.45	1.43	8.66
5,874.00	2.81	258.52	5,131.80	-1,842.76	1,026.52	2,109.35	0.58	0.41	8.77
Last SDI Production MWD Survey									
5,934.00	2.81	258.52	5,191.73	-1,843.34	1,023.63	2,108.48	0.00	0.00	0.00
Projection to TD - SG 533-26 PBHL									

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
128.00	128.00	-0.69	0.10	First SDI Surface MWD Survey
976.00	929.07	-205.37	114.41	Last SDI Surface MWD Survey
1,081.00	1,015.10	-257.16	145.08	First SDI Production MWD Survey
5,874.00	5,131.80	-1,842.76	1,026.52	Last SDI Production MWD Survey
5,934.00	5,191.73	-1,843.34	1,023.63	Projection to TD

Checked By: _____	Approved By: _____	Date: _____
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