





## **TEP Rocky Mountain LLC**

**Garfield County, CO NAD83**

**GR 12-29 Pad**

**GM 341-30 - Slot GM 341-30 (A2)**

**OH**

**Plan: Plan #2 3May2019 mmsdi**

## **Standard Planning Report**

**06 May, 2019**



<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well GM 341-30 - Slot GM 341-30 (A2)
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	GL 5849' & RKB 24' @ 5873.00usft (H&P 318)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	GL 5849' & RKB 24' @ 5873.00usft (H&P 318)
<b>Site:</b>	GR 12-29 Pad	<b>North Reference:</b>	True
<b>Well:</b>	GM 341-30	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #2 3May2019 mmsdi		

<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		GR 12-29 Pad			
Site Position:		Northing:	1,617,169.51 usft	Latitude:	39.4982149
From:	Map	Easting:	2,255,394.48 usft	Longitude:	-108.1390236
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	-1.66 °

Well	GM 341-30 - Slot GM 341-30 (A2)					
Well Position	+N/-S	-11.92 usft	Northing:	1,617,157.49 usft	Latitude:	39.4981822
	+E/-W	3.79 usft	Easting:	2,255,397.92 usft	Longitude:	-108.1390102
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	5,849.00 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	3/20/2019	9.50	65.75	51,558

<b>Design</b>	Plan #2 3May2019 mmsdi			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<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	279.07

<b>Plan Sections</b>										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	0.00	
943.32	32.93	279.07	898.73	36.27	-227.30	4.00	4.00	0.00	279.07	
4,298.80	32.93	279.07	3,715.01	323.76	-2,028.72	0.00	0.00	0.00	0.00	
5,445.43	10.00	279.07	4,775.00	389.45	-2,440.33	2.00	-2.00	0.00	180.00	
5,945.43	0.00	0.00	5,272.47	396.31	-2,483.31	2.00	-2.00	16.19	180.00	
7,596.97	0.00	0.00	6,924.00	396.31	-2,483.31	0.00	0.00	0.00	0.00	GM 341-30 PBHL

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<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	GL 5849' & RKB 24' @ 5873.00usft (H&P 318)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	GL 5849' & RKB 24' @ 5873.00usft (H&P 318)
<b>Site:</b>	GR 12-29 Pad	<b>North Reference:</b>	True
<b>Well:</b>	GM 341-30	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #2 3May2019 mmsdi		

Planned 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)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	0.00	
Start Build 4.00										
200.00	3.20	279.07	199.96	0.35	-2.21	2.23	4.00	4.00	0.00	
300.00	7.20	279.07	299.53	1.78	-11.15	11.29	4.00	4.00	0.00	
400.00	11.20	279.07	398.22	4.30	-26.94	27.28	4.00	4.00	0.00	
500.00	15.20	279.07	495.56	7.90	-49.48	50.11	4.00	4.00	0.00	
600.00	19.20	279.07	591.07	12.56	-78.68	79.67	4.00	4.00	0.00	
700.00	23.20	279.07	684.28	18.25	-114.38	115.83	4.00	4.00	0.00	
800.00	27.20	279.07	774.74	24.96	-156.42	158.40	4.00	4.00	0.00	
900.00	31.20	279.07	862.02	32.65	-204.59	207.18	4.00	4.00	0.00	
943.32	32.93	279.07	898.73	36.27	-227.30	230.17	4.00	4.00	0.00	
Start 3355.48 hold at 943.32 MD										
1,000.00	32.93	279.07	946.30	41.13	-257.73	260.99	0.00	0.00	0.00	
1,100.00	32.93	279.07	1,030.23	49.70	-311.41	315.35	0.00	0.00	0.00	
1,200.00	32.93	279.07	1,114.16	58.27	-365.10	369.72	0.00	0.00	0.00	
1,300.00	32.93	279.07	1,198.09	66.83	-418.78	424.08	0.00	0.00	0.00	
1,400.00	32.93	279.07	1,282.02	75.40	-472.47	478.45	0.00	0.00	0.00	
1,500.00	32.93	279.07	1,365.96	83.97	-526.16	532.81	0.00	0.00	0.00	
1,600.00	32.93	279.07	1,449.89	92.54	-579.84	587.18	0.00	0.00	0.00	
1,700.00	32.93	279.07	1,533.82	101.10	-633.53	641.54	0.00	0.00	0.00	
1,800.00	32.93	279.07	1,617.75	109.67	-687.21	695.91	0.00	0.00	0.00	
1,900.00	32.93	279.07	1,701.68	118.24	-740.90	750.28	0.00	0.00	0.00	
2,000.00	32.93	279.07	1,785.61	126.81	-794.59	804.64	0.00	0.00	0.00	
2,100.00	32.93	279.07	1,869.54	135.37	-848.27	859.01	0.00	0.00	0.00	
2,200.00	32.93	279.07	1,953.47	143.94	-901.96	913.37	0.00	0.00	0.00	
2,300.00	32.93	279.07	2,037.40	152.51	-955.64	967.74	0.00	0.00	0.00	
2,400.00	32.93	279.07	2,121.33	161.08	-1,009.33	1,022.10	0.00	0.00	0.00	
2,405.56	32.93	279.07	2,126.00	161.55	-1,012.31	1,025.12	0.00	0.00	0.00	
G Sand										
2,500.00	32.93	279.07	2,205.27	169.65	-1,063.02	1,076.47	0.00	0.00	0.00	
2,524.70	32.93	279.07	2,226.00	171.76	-1,076.28	1,089.90	0.00	0.00	0.00	
G Sand Base										
2,600.00	32.93	279.07	2,289.20	178.21	-1,116.70	1,130.83	0.00	0.00	0.00	
2,700.00	32.93	279.07	2,373.13	186.78	-1,170.39	1,185.20	0.00	0.00	0.00	
2,703.42	32.93	279.07	2,376.00	187.07	-1,172.23	1,187.06	0.00	0.00	0.00	
FRUN										
2,800.00	32.93	279.07	2,457.06	195.35	-1,224.07	1,239.56	0.00	0.00	0.00	
2,900.00	32.93	279.07	2,540.99	203.92	-1,277.76	1,293.93	0.00	0.00	0.00	
3,000.00	32.93	279.07	2,624.92	212.48	-1,331.45	1,348.29	0.00	0.00	0.00	
3,100.00	32.93	279.07	2,708.85	221.05	-1,385.13	1,402.66	0.00	0.00	0.00	
3,200.00	32.93	279.07	2,792.78	229.62	-1,438.82	1,457.03	0.00	0.00	0.00	
3,300.00	32.93	279.07	2,876.71	238.19	-1,492.50	1,511.39	0.00	0.00	0.00	
3,400.00	32.93	279.07	2,960.64	246.76	-1,546.19	1,565.76	0.00	0.00	0.00	
3,500.00	32.93	279.07	3,044.58	255.32	-1,599.88	1,620.12	0.00	0.00	0.00	
3,600.00	32.93	279.07	3,128.51	263.89	-1,653.56	1,674.49	0.00	0.00	0.00	
3,700.00	32.93	279.07	3,212.44	272.46	-1,707.25	1,728.85	0.00	0.00	0.00	
3,800.00	32.93	279.07	3,296.37	281.03	-1,760.93	1,783.22	0.00	0.00	0.00	
3,900.00	32.93	279.07	3,380.30	289.59	-1,814.62	1,837.58	0.00	0.00	0.00	
4,000.00	32.93	279.07	3,464.23	298.16	-1,868.31	1,891.95	0.00	0.00	0.00	

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<b>Site:</b>	GR 12-29 Pad	<b>North Reference:</b>	True
<b>Well:</b>	GM 341-30	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #2 3May2019 mmsdi		

Planned 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)
4,100.00	32.93	279.07	3,548.16	306.73	-1,921.99	1,946.31	0.00	0.00	0.00
4,200.00	32.93	279.07	3,632.09	315.30	-1,975.68	2,000.68	0.00	0.00	0.00
4,298.80	32.93	279.07	3,715.01	323.76	-2,028.72	2,054.39	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
4,300.00	32.91	279.07	3,716.02	323.86	-2,029.36	2,055.04	2.00	-2.00	0.00
4,369.71	31.51	279.07	3,775.00	329.72	-2,066.06	2,092.20	2.00	-2.00	0.00
<b>Ohio Creek - MVRD</b>									
4,400.00	30.91	279.07	3,800.91	332.19	-2,081.56	2,107.90	2.00	-2.00	0.00
4,500.00	28.91	279.07	3,887.59	340.05	-2,130.79	2,157.76	2.00	-2.00	0.00
4,600.00	26.91	279.07	3,975.95	347.43	-2,177.01	2,204.56	2.00	-2.00	0.00
4,700.00	24.91	279.07	4,065.90	354.31	-2,220.16	2,248.25	2.00	-2.00	0.00
4,800.00	22.91	279.07	4,157.31	360.70	-2,260.18	2,288.78	2.00	-2.00	0.00
4,900.00	20.91	279.07	4,250.08	366.58	-2,297.02	2,326.09	2.00	-2.00	0.00
5,000.00	18.91	279.07	4,344.10	371.95	-2,330.65	2,360.14	2.00	-2.00	0.00
5,100.00	16.91	279.07	4,439.25	376.79	-2,361.01	2,390.89	2.00	-2.00	0.00
5,200.00	14.91	279.07	4,535.42	381.11	-2,388.08	2,418.30	2.00	-2.00	0.00
5,300.00	12.91	279.07	4,632.48	384.90	-2,411.81	2,442.33	2.00	-2.00	0.00
5,400.00	10.91	279.07	4,730.32	388.15	-2,432.19	2,462.97	2.00	-2.00	0.00
5,445.43	10.00	279.07	4,775.00	389.45	-2,440.33	2,471.21	2.00	-2.00	0.00
<b>Start DLS 2.00 TFO 180.00 - KMGAS</b>									
5,452.58	9.86	279.07	4,782.04	389.64	-2,441.55	2,472.44	2.00	-2.00	0.00
<b>GM 341-30 BTV</b>									
5,500.00	8.91	279.07	4,828.83	390.86	-2,449.18	2,480.17	2.00	-2.00	0.00
5,600.00	6.91	279.07	4,927.87	393.03	-2,462.77	2,493.93	2.00	-2.00	0.00
5,700.00	4.91	279.07	5,027.33	394.65	-2,472.93	2,504.23	2.00	-2.00	0.00
5,800.00	2.91	279.07	5,127.10	395.73	-2,479.66	2,511.04	2.00	-2.00	0.00
5,900.00	0.91	279.07	5,227.04	396.25	-2,482.95	2,514.37	2.00	-2.00	0.00
5,945.43	0.00	0.00	5,272.47	396.31	-2,483.31	2,514.73	2.00	-2.00	178.14
<b>Start 1651.53 hold at 5945.43 MD</b>									
6,000.00	0.00	0.00	5,327.03	396.31	-2,483.31	2,514.73	0.00	0.00	0.00
6,100.00	0.00	0.00	5,427.03	396.31	-2,483.31	2,514.73	0.00	0.00	0.00
6,200.00	0.00	0.00	5,527.03	396.31	-2,483.31	2,514.73	0.00	0.00	0.00
6,300.00	0.00	0.00	5,627.03	396.31	-2,483.31	2,514.73	0.00	0.00	0.00
6,400.00	0.00	0.00	5,727.03	396.31	-2,483.31	2,514.73	0.00	0.00	0.00
6,500.00	0.00	0.00	5,827.03	396.31	-2,483.31	2,514.73	0.00	0.00	0.00
6,600.00	0.00	0.00	5,927.03	396.31	-2,483.31	2,514.73	0.00	0.00	0.00
6,700.00	0.00	0.00	6,027.03	396.31	-2,483.31	2,514.73	0.00	0.00	0.00
6,800.00	0.00	0.00	6,127.03	396.31	-2,483.31	2,514.73	0.00	0.00	0.00
6,900.00	0.00	0.00	6,227.03	396.31	-2,483.31	2,514.73	0.00	0.00	0.00
6,931.97	0.00	0.00	6,259.00	396.31	-2,483.31	2,514.73	0.00	0.00	0.00
<b>CMEO</b>									
7,000.00	0.00	0.00	6,327.03	396.31	-2,483.31	2,514.73	0.00	0.00	0.00
7,100.00	0.00	0.00	6,427.03	396.31	-2,483.31	2,514.73	0.00	0.00	0.00
7,200.00	0.00	0.00	6,527.03	396.31	-2,483.31	2,514.73	0.00	0.00	0.00
7,300.00	0.00	0.00	6,627.03	396.31	-2,483.31	2,514.73	0.00	0.00	0.00
7,400.00	0.00	0.00	6,727.03	396.31	-2,483.31	2,514.73	0.00	0.00	0.00
7,446.97	0.00	0.00	6,774.00	396.31	-2,483.31	2,514.73	0.00	0.00	0.00
<b>RLNS</b>									
7,500.00	0.00	0.00	6,827.03	396.31	-2,483.31	2,514.73	0.00	0.00	0.00
7,596.97	0.00	0.00	6,924.00	396.31	-2,483.31	2,514.73	0.00	0.00	0.00
<b>TD at 7596.97 - TD - GM 341-30 PBHL</b>									

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<b>Well:</b>	GM 341-30	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #2 3May2019 mmsdi		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
GM 341-30 BTV	0.00	0.00	4,775.00	396.31	-2,483.31	1,617,625.76	2,252,927.17	39.4992700	-108.1478104
- plan misses target center by 42.87usft at 5452.58usft MD (4782.04 TVD, 389.64 N, -2441.55 E)									
- Circle (radius 50.00)									
GM 341-30 PBHL	0.00	0.00	6,924.00	396.31	-2,483.31	1,617,625.76	2,252,927.17	39.4992700	-108.1478104
- plan hits target center									
- Point									

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(°)	
2,405.56	2,126.00	G Sand		0.00	0.00	
2,524.70	2,226.00	G Sand Base		0.00	0.00	
2,703.42	2,376.00	FRUN		0.00	0.00	
4,369.71	3,775.00	Ohio Creek		0.00	0.00	
4,369.71	3,775.00	MVRD		0.00	0.00	
5,445.43	4,775.00	KMVGAS		0.00	0.00	
6,931.97	6,259.00	CMEO		0.00	0.00	
7,446.97	6,774.00	RLNS		0.00	0.00	
7,596.97	6,924.00	TD		0.00	0.00	

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	
120.00	120.00	0.00	0.00	Start Build 4.00
943.32	898.73	36.27	-227.30	Start 3355.48 hold at 943.32 MD
4,298.80	3,715.01	323.76	-2,028.72	Start Drop -2.00
5,445.43	4,775.00	389.45	-2,440.33	Start DLS 2.00 TFO 180.00
5,945.43	5,272.47	396.31	-2,483.31	Start 1651.53 hold at 5945.43 MD
7,596.97	6,924.00	396.31	-2,483.31	TD at 7596.97