

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
GM 442-30 BTV	4709.08	-1259.48	-2485.01	611615963.98	2252922.97	39.4947092	-108.1476536	Circle (Radius: 50.00)
<i>- plan misses target center by 42.87usft at 5558.20usft MD (4716.08 TVD, -1240.36 N, -2447.30 E)</i>								
GM 442-30 PBHL	6868.00	-1259.48	-2485.01	611615963.98	2252922.97	39.4947092	-108.1476536	Point
<i>- plan misses target center by 0.01usft at 7712.54usft MD (6868.00 TVD, -1259.48 N, -2485.01 E)</i>								



TEP Rocky Mountain LLC

Garfield County, CO NAD83

GR 12-29 Pad

GM 442-30 - Slot GM 442-30 (B8)

OH

Plan: Plan #2 3May2019 mmsdi

Standard Planning Report

06 May, 2019



Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 442-30 - Slot GM 442-30 (B8)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5849' & RKB 24' @ 5873.00usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 5849' & RKB 24' @ 5873.00usft (H&P 318)
Site:	GR 12-29 Pad	North Reference:	True
Well:	GM 442-30	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 3May2019 mmsdi		

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		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 442-30 - Slot GM 442-30 (B8)					
Well Position	+N/-S	-17.32 usft	Northing:	1,617,150.76 usft	Latitude:	39.4981674
	+E/-W	49.55 usft	Easting:	2,255,443.51 usft	Longitude:	-108.1388480
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	5,849.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	3/20/2019	9.50	65.75	51,558

Design	Plan #2 3May2019 mmsdi			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	243.12

Plan Sections										
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	
135.00	0.00	0.00	135.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,077.56	37.70	243.12	1,010.99	-135.21	-266.78	4.00	4.00	0.00	243.12	
4,165.89	37.70	243.12	3,454.48	-989.05	-1,951.45	0.00	0.00	0.00	0.00	
5,551.01	10.00	243.12	4,709.00	-1,239.80	-2,446.19	2.00	-2.00	0.00	180.00	
6,051.01	0.00	0.00	5,206.47	-1,259.48	-2,485.01	2.00	-2.00	23.38	180.00	
7,712.54	0.00	0.00	6,868.00	-1,259.48	-2,485.01	0.00	0.00	0.00	0.00	GM 442-30 PBHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 442-30 - Slot GM 442-30 (B8)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5849' & RKB 24' @ 5873.00usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 5849' & RKB 24' @ 5873.00usft (H&P 318)
Site:	GR 12-29 Pad	North Reference:	True
Well:	GM 442-30	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	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	
135.00	0.00	0.00	135.00	0.00	0.00	0.00	0.00	0.00	0.00	
Start Build 4.00										
200.00	2.60	243.12	199.98	-0.67	-1.32	1.47	4.00	4.00	0.00	
300.00	6.60	243.12	299.64	-4.29	-8.47	9.49	4.00	4.00	0.00	
400.00	10.60	243.12	398.49	-11.05	-21.80	24.44	4.00	4.00	0.00	
500.00	14.60	243.12	496.06	-20.91	-41.26	46.25	4.00	4.00	0.00	
600.00	18.60	243.12	591.88	-33.82	-66.73	74.82	4.00	4.00	0.00	
700.00	22.60	243.12	685.46	-49.73	-98.11	109.99	4.00	4.00	0.00	
800.00	26.60	243.12	776.37	-68.54	-135.24	151.61	4.00	4.00	0.00	
900.00	30.60	243.12	864.15	-90.18	-177.92	199.47	4.00	4.00	0.00	
1,000.00	34.60	243.12	948.38	-114.53	-225.97	253.34	4.00	4.00	0.00	
1,077.56	37.70	243.12	1,010.99	-135.21	-266.78	299.09	4.00	4.00	0.00	
Start 3088.33 hold at 1077.56 MD										
1,100.00	37.70	243.12	1,028.75	-141.42	-279.02	312.81	0.00	0.00	0.00	
1,200.00	37.70	243.12	1,107.87	-169.06	-333.57	373.97	0.00	0.00	0.00	
1,300.00	37.70	243.12	1,186.99	-196.71	-388.12	435.12	0.00	0.00	0.00	
1,400.00	37.70	243.12	1,266.11	-224.36	-442.67	496.28	0.00	0.00	0.00	
1,500.00	37.70	243.12	1,345.23	-252.00	-497.22	557.43	0.00	0.00	0.00	
1,600.00	37.70	243.12	1,424.35	-279.65	-551.77	618.59	0.00	0.00	0.00	
1,700.00	37.70	243.12	1,503.47	-307.30	-606.32	679.75	0.00	0.00	0.00	
1,800.00	37.70	243.12	1,582.59	-334.95	-660.87	740.90	0.00	0.00	0.00	
1,900.00	37.70	243.12	1,661.71	-362.59	-715.42	802.06	0.00	0.00	0.00	
2,000.00	37.70	243.12	1,740.83	-390.24	-769.97	863.21	0.00	0.00	0.00	
2,100.00	37.70	243.12	1,819.95	-417.89	-824.52	924.37	0.00	0.00	0.00	
2,200.00	37.70	243.12	1,899.07	-445.54	-879.07	985.53	0.00	0.00	0.00	
2,300.00	37.70	243.12	1,978.19	-473.18	-933.62	1,046.68	0.00	0.00	0.00	
2,400.00	37.70	243.12	2,057.31	-500.83	-988.17	1,107.84	0.00	0.00	0.00	
2,402.14	37.70	243.12	2,059.00	-501.42	-989.33	1,109.15	0.00	0.00	0.00	
G Sand										
2,500.00	37.70	243.12	2,136.43	-528.48	-1,042.72	1,168.99	0.00	0.00	0.00	
2,528.53	37.70	243.12	2,159.00	-536.37	-1,058.28	1,186.44	0.00	0.00	0.00	
G Sand Base										
2,600.00	37.70	243.12	2,215.55	-556.13	-1,097.27	1,230.15	0.00	0.00	0.00	
2,700.00	37.70	243.12	2,294.67	-583.77	-1,151.82	1,291.31	0.00	0.00	0.00	
2,718.12	37.70	243.12	2,309.00	-588.78	-1,161.70	1,302.38	0.00	0.00	0.00	
FRUN										
2,800.00	37.70	243.12	2,373.79	-611.42	-1,206.37	1,352.46	0.00	0.00	0.00	
2,900.00	37.70	243.12	2,452.91	-639.07	-1,260.92	1,413.62	0.00	0.00	0.00	
3,000.00	37.70	243.12	2,532.03	-666.72	-1,315.47	1,474.77	0.00	0.00	0.00	
3,100.00	37.70	243.12	2,611.15	-694.36	-1,370.01	1,535.93	0.00	0.00	0.00	
3,200.00	37.70	243.12	2,690.27	-722.01	-1,424.56	1,597.09	0.00	0.00	0.00	
3,300.00	37.70	243.12	2,769.39	-749.66	-1,479.11	1,658.24	0.00	0.00	0.00	
3,400.00	37.70	243.12	2,848.51	-777.31	-1,533.66	1,719.40	0.00	0.00	0.00	
3,500.00	37.70	243.12	2,927.63	-804.95	-1,588.21	1,780.55	0.00	0.00	0.00	
3,600.00	37.70	243.12	3,006.75	-832.60	-1,642.76	1,841.71	0.00	0.00	0.00	
3,700.00	37.70	243.12	3,085.87	-860.25	-1,697.31	1,902.87	0.00	0.00	0.00	
3,800.00	37.70	243.12	3,164.99	-887.89	-1,751.86	1,964.02	0.00	0.00	0.00	
3,900.00	37.70	243.12	3,244.11	-915.54	-1,806.41	2,025.18	0.00	0.00	0.00	
4,000.00	37.70	243.12	3,323.22	-943.19	-1,860.96	2,086.33	0.00	0.00	0.00	

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Project:	Garfield County, CO NAD83	MD Reference:	GL 5849' & RKB 24' @ 5873.00usft (H&P 318)
Site:	GR 12-29 Pad	North Reference:	True
Well:	GM 442-30	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	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	37.70	243.12	3,402.34	-970.84	-1,915.51	2,147.49	0.00	0.00	0.00	
4,165.89	37.70	243.12	3,454.48	-989.05	-1,951.45	2,187.78	0.00	0.00	0.00	
Start Drop -2.00										
4,200.00	37.02	243.12	3,481.59	-998.41	-1,969.92	2,208.48	2.00	-2.00	0.00	
4,300.00	35.02	243.12	3,562.47	-1,025.00	-2,022.37	2,267.29	2.00	-2.00	0.00	
4,400.00	33.02	243.12	3,645.34	-1,050.29	-2,072.27	2,323.23	2.00	-2.00	0.00	
4,475.28	31.51	243.12	3,709.00	-1,068.46	-2,108.12	2,363.42	2.00	-2.00	0.00	
Ohio Creek - MVRD										
4,500.00	31.02	243.12	3,730.13	-1,074.26	-2,119.56	2,376.25	2.00	-2.00	0.00	
4,600.00	29.02	243.12	3,816.71	-1,096.87	-2,164.19	2,426.28	2.00	-2.00	0.00	
4,700.00	27.02	243.12	3,904.98	-1,118.11	-2,206.09	2,473.26	2.00	-2.00	0.00	
4,800.00	25.02	243.12	3,994.84	-1,137.94	-2,245.22	2,517.12	2.00	-2.00	0.00	
4,900.00	23.02	243.12	4,086.18	-1,156.34	-2,281.52	2,557.83	2.00	-2.00	0.00	
5,000.00	21.02	243.12	4,178.88	-1,173.29	-2,314.97	2,595.32	2.00	-2.00	0.00	
5,100.00	19.02	243.12	4,272.83	-1,188.77	-2,345.50	2,629.55	2.00	-2.00	0.00	
5,200.00	17.02	243.12	4,367.92	-1,202.75	-2,373.09	2,660.49	2.00	-2.00	0.00	
5,300.00	15.02	243.12	4,464.03	-1,215.23	-2,397.71	2,688.08	2.00	-2.00	0.00	
5,400.00	13.02	243.12	4,561.05	-1,226.18	-2,419.32	2,712.31	2.00	-2.00	0.00	
5,500.00	11.02	243.12	4,658.85	-1,235.59	-2,437.89	2,733.13	2.00	-2.00	0.00	
5,551.01	10.00	243.12	4,709.00	-1,239.80	-2,446.19	2,742.44	2.00	-2.00	0.00	
Start DLS 2.00 TFO 180.00 - KMGAS										
5,558.20	9.86	243.12	4,716.08	-1,240.36	-2,447.30	2,743.67	2.00	-2.00	0.00	
GM 442-30 BTW										
5,600.00	9.02	243.12	4,757.32	-1,243.46	-2,453.41	2,750.53	2.00	-2.00	0.00	
5,700.00	7.02	243.12	4,856.34	-1,249.77	-2,465.85	2,764.48	2.00	-2.00	0.00	
5,800.00	5.02	243.12	4,955.78	-1,254.51	-2,475.21	2,774.97	2.00	-2.00	0.00	
5,900.00	3.02	243.12	5,055.53	-1,257.68	-2,481.46	2,781.98	2.00	-2.00	0.00	
6,000.00	1.02	243.12	5,155.46	-1,259.27	-2,484.61	2,785.50	2.00	-2.00	0.00	
6,051.01	0.00	0.00	5,206.47	-1,259.48	-2,485.01	2,785.96	2.00	-2.00	229.14	
Start 1661.53 hold at 6051.01 MD										
6,100.00	0.00	0.00	5,255.46	-1,259.48	-2,485.01	2,785.96	0.00	0.00	0.00	
6,200.00	0.00	0.00	5,355.46	-1,259.48	-2,485.01	2,785.96	0.00	0.00	0.00	
6,300.00	0.00	0.00	5,455.46	-1,259.48	-2,485.01	2,785.96	0.00	0.00	0.00	
6,400.00	0.00	0.00	5,555.46	-1,259.48	-2,485.01	2,785.96	0.00	0.00	0.00	
6,500.00	0.00	0.00	5,655.46	-1,259.48	-2,485.01	2,785.96	0.00	0.00	0.00	
6,600.00	0.00	0.00	5,755.46	-1,259.48	-2,485.01	2,785.96	0.00	0.00	0.00	
6,700.00	0.00	0.00	5,855.46	-1,259.48	-2,485.01	2,785.96	0.00	0.00	0.00	
6,800.00	0.00	0.00	5,955.46	-1,259.48	-2,485.01	2,785.96	0.00	0.00	0.00	
6,900.00	0.00	0.00	6,055.46	-1,259.48	-2,485.01	2,785.96	0.00	0.00	0.00	
7,000.00	0.00	0.00	6,155.46	-1,259.48	-2,485.01	2,785.96	0.00	0.00	0.00	
7,046.54	0.00	0.00	6,202.00	-1,259.48	-2,485.01	2,785.96	0.00	0.00	0.00	
CMEO										
7,100.00	0.00	0.00	6,255.46	-1,259.48	-2,485.01	2,785.96	0.00	0.00	0.00	
7,200.00	0.00	0.00	6,355.46	-1,259.48	-2,485.01	2,785.96	0.00	0.00	0.00	
7,300.00	0.00	0.00	6,455.46	-1,259.48	-2,485.01	2,785.96	0.00	0.00	0.00	
7,400.00	0.00	0.00	6,555.46	-1,259.48	-2,485.01	2,785.96	0.00	0.00	0.00	
7,500.00	0.00	0.00	6,655.46	-1,259.48	-2,485.01	2,785.96	0.00	0.00	0.00	
7,562.54	0.00	0.00	6,718.00	-1,259.48	-2,485.01	2,785.96	0.00	0.00	0.00	
RLNS										
7,600.00	0.00	0.00	6,755.46	-1,259.48	-2,485.01	2,785.96	0.00	0.00	0.00	
7,700.00	0.00	0.00	6,855.46	-1,259.48	-2,485.01	2,785.96	0.00	0.00	0.00	

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Site:	GR 12-29 Pad	North Reference:	True
Well:	GM 442-30	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	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)
7,712.54	0.00	0.00	6,868.00	-1,259.48	-2,485.01	2,785.96	0.00	0.00	0.00
TD at 7712.54 - TD - GM 442-30 PBHL									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
GM 442-30 BTV - plan misses target center by 42.87usft at 5558.20usft MD (4716.08 TVD, -1240.36 N, -2447.30 E) - Circle (radius 50.00)	0.00	0.00	4,709.00	-1,259.48	-2,485.01	1,615,963.98	2,252,922.97	39.4947092	-108.1476537
GM 442-30 PBHL - plan misses target center by 0.01usft at 7712.54usft MD (6868.00 TVD, -1259.48 N, -2485.01 E) - Point	0.00	0.00	6,868.00	-1,259.48	-2,485.01	1,615,963.98	2,252,922.97	39.4947092	-108.1476537

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,402.14	2,059.00	G Sand		0.00	0.00	
2,528.53	2,159.00	G Sand Base		0.00	0.00	
2,718.12	2,309.00	FRUN		0.00	0.00	
4,475.28	3,709.00	Ohio Creek		0.00	0.00	
4,475.28	3,709.00	MVRD		0.00	0.00	
5,551.01	4,709.00	KMVGAS		0.00	0.00	
7,046.54	6,202.00	CMEO		0.00	0.00	
7,562.54	6,718.00	RLNS		0.00	0.00	
7,712.54	6,868.00	TD		0.00	0.00	

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
135.00	135.00	0.00	0.00	Start Build 4.00
1,077.56	1,010.99	-135.21	-266.78	Start 3088.33 hold at 1077.56 MD
4,165.89	3,454.48	-989.05	-1,951.45	Start Drop -2.00
5,551.01	4,709.00	-1,239.80	-2,446.19	Start DLS 2.00 TFO 180.00
6,051.01	5,206.47	-1,259.48	-2,485.01	Start 1661.53 hold at 6051.01 MD
7,712.54	6,868.00	-1,259.48	-2,485.01	TD at 7712.54