



TEP Rocky Mountain LLC

Garfield County, CO NAD83

SR 23-12 Pad

SR 24-12 - Slot SR 24-12 (A11)

OH

Plan: Plan #1 28Oct2016 jcsdi

Standard Planning Report

03 November, 2016



Database:	Grand Junction District	Local Co-ordinate Reference:	Well SR 24-12 - Slot SR 24-12 (A11)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 7478' & RKB 24' @ 7502.00usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 7478' & RKB 24' @ 7502.00usft (H&P 318)
Site:	SR 23-12 Pad	North Reference:	True
Well:	SR 24-12	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 28Oct2016 jcsdi		

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 23-12 Pad			
Site Position:		Northing:	1,597,713.40 usft	Latitude: 39.4511965
From: Map		Easting:	2,340,229.70 usft	Longitude: -107.8367194
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence: -1.47 °

Well	SR 24-12 - Slot SR 24-12 (A11)			
Well Position	+N/-S	-69.18 usft	Northing:	1,597,643.50 usft
	+E/-W	28.89 usft	Easting:	2,340,256.80 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	0.00 usft
			Ground Level:	7,478.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	10/28/2016	9.33	65.68	51,770

Design	Plan #1 28Oct2016 jcsdi			
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	223.05

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	
150.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00	
411.39	7.84	223.05	410.58	-13.05	-12.19	3.00	3.00	0.00	223.05	
5,392.24	7.84	223.05	5,344.85	-509.65	-476.10	0.00	0.00	0.00	0.00	
5,915.02	0.00	0.00	5,866.00	-535.75	-500.49	1.50	-1.50	0.00	180.00	SR 24-12 BTV
9,762.02	0.00	0.00	9,713.00	-535.75	-500.49	0.00	0.00	0.00	0.00	SR 24-12 PBHL

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Project:	Garfield County, CO NAD83	MD Reference:	GL 7478' & RKB 24' @ 7502.00usft (H&P 318)
Site:	SR 23-12 Pad	North Reference:	True
Well:	SR 24-12	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 28Oct2016 jcsdi		

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
150.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	1.50	223.05	199.99	-0.48	-0.45	0.65	3.00	3.00	0.00
300.00	4.50	223.05	299.85	-4.30	-4.02	5.89	3.00	3.00	0.00
400.00	7.50	223.05	399.29	-11.94	-11.15	16.34	3.00	3.00	0.00
411.39	7.84	223.05	410.58	-13.05	-12.19	17.86	3.00	3.00	0.00
500.00	7.84	223.05	498.36	-21.89	-20.44	29.95	0.00	0.00	0.00
600.00	7.84	223.05	597.42	-31.86	-29.76	43.59	0.00	0.00	0.00
700.00	7.84	223.05	696.49	-41.83	-39.07	57.24	0.00	0.00	0.00
800.00	7.84	223.05	795.55	-51.80	-48.39	70.88	0.00	0.00	0.00
900.00	7.84	223.05	894.62	-61.77	-57.70	84.52	0.00	0.00	0.00
1,000.00	7.84	223.05	993.68	-71.74	-67.01	98.17	0.00	0.00	0.00
1,100.00	7.84	223.05	1,092.75	-81.71	-76.33	111.81	0.00	0.00	0.00
9 5/8" @ 1100' MD									
1,200.00	7.84	223.05	1,191.81	-91.68	-85.64	125.46	0.00	0.00	0.00
1,300.00	7.84	223.05	1,290.88	-101.65	-94.96	139.10	0.00	0.00	0.00
1,400.00	7.84	223.05	1,389.94	-111.62	-104.27	152.74	0.00	0.00	0.00
1,500.00	7.84	223.05	1,489.00	-121.59	-113.58	166.39	0.00	0.00	0.00
1,600.00	7.84	223.05	1,588.07	-131.56	-122.90	180.03	0.00	0.00	0.00
1,700.00	7.84	223.05	1,687.13	-141.53	-132.21	193.67	0.00	0.00	0.00
1,800.00	7.84	223.05	1,786.20	-151.50	-141.53	207.32	0.00	0.00	0.00
1,900.00	7.84	223.05	1,885.26	-161.47	-150.84	220.96	0.00	0.00	0.00
2,000.00	7.84	223.05	1,984.33	-171.44	-160.15	234.61	0.00	0.00	0.00
2,100.00	7.84	223.05	2,083.39	-181.41	-169.47	248.25	0.00	0.00	0.00
2,200.00	7.84	223.05	2,182.46	-191.38	-178.78	261.89	0.00	0.00	0.00
2,300.00	7.84	223.05	2,281.52	-201.35	-188.10	275.54	0.00	0.00	0.00
2,400.00	7.84	223.05	2,380.59	-211.32	-197.41	289.18	0.00	0.00	0.00
2,500.00	7.84	223.05	2,479.65	-221.29	-206.72	302.82	0.00	0.00	0.00
2,600.00	7.84	223.05	2,578.72	-231.26	-216.04	316.47	0.00	0.00	0.00
2,700.00	7.84	223.05	2,677.78	-241.23	-225.35	330.11	0.00	0.00	0.00
2,800.00	7.84	223.05	2,776.85	-251.20	-234.66	343.76	0.00	0.00	0.00
2,900.00	7.84	223.05	2,875.91	-261.17	-243.98	357.40	0.00	0.00	0.00
3,000.00	7.84	223.05	2,974.98	-271.14	-253.29	371.04	0.00	0.00	0.00
3,100.00	7.84	223.05	3,074.04	-281.11	-262.61	384.69	0.00	0.00	0.00
3,200.00	7.84	223.05	3,173.11	-291.08	-271.92	398.33	0.00	0.00	0.00
3,300.00	7.84	223.05	3,272.17	-301.05	-281.23	411.97	0.00	0.00	0.00
3,400.00	7.84	223.05	3,371.24	-311.02	-290.55	425.62	0.00	0.00	0.00
3,500.00	7.84	223.05	3,470.30	-320.99	-299.86	439.26	0.00	0.00	0.00
3,551.18	7.84	223.05	3,521.00	-326.09	-304.63	446.24	0.00	0.00	0.00
GSAND									
3,600.00	7.84	223.05	3,569.37	-330.96	-309.18	452.91	0.00	0.00	0.00
3,700.00	7.84	223.05	3,668.43	-340.93	-318.49	466.55	0.00	0.00	0.00
3,800.00	7.84	223.05	3,767.50	-350.90	-327.80	480.19	0.00	0.00	0.00
3,900.00	7.84	223.05	3,866.56	-360.87	-337.12	493.84	0.00	0.00	0.00
4,000.00	7.84	223.05	3,965.63	-370.84	-346.43	507.48	0.00	0.00	0.00
4,100.00	7.84	223.05	4,064.69	-380.81	-355.75	521.12	0.00	0.00	0.00
4,200.00	7.84	223.05	4,163.76	-390.78	-365.06	534.77	0.00	0.00	0.00
4,300.00	7.84	223.05	4,262.82	-400.75	-374.37	548.41	0.00	0.00	0.00
4,400.00	7.84	223.05	4,361.89	-410.72	-383.69	562.06	0.00	0.00	0.00
4,500.00	7.84	223.05	4,460.95	-420.69	-393.00	575.70	0.00	0.00	0.00
4,600.00	7.84	223.05	4,560.02	-430.66	-402.31	589.34	0.00	0.00	0.00

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Wellbore:	OH		
Design:	Plan #1 28Oct2016 jcsdi		

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)
4,700.00	7.84	223.05	4,659.08	-440.63	-411.63	602.99	0.00	0.00	0.00
4,800.00	7.84	223.05	4,758.15	-450.60	-420.94	616.63	0.00	0.00	0.00
4,900.00	7.84	223.05	4,857.21	-460.57	-430.26	630.27	0.00	0.00	0.00
5,000.00	7.84	223.05	4,956.28	-470.54	-439.57	643.92	0.00	0.00	0.00
5,100.00	7.84	223.05	5,055.34	-480.51	-448.88	657.56	0.00	0.00	0.00
5,200.00	7.84	223.05	5,154.41	-490.48	-458.20	671.21	0.00	0.00	0.00
5,300.00	7.84	223.05	5,253.47	-500.45	-467.51	684.85	0.00	0.00	0.00
5,392.24	7.84	223.05	5,344.85	-509.65	-476.10	697.43	0.00	0.00	0.00
5,400.00	7.73	223.05	5,352.54	-510.41	-476.82	698.49	1.50	-1.50	0.00
5,442.82	7.08	223.05	5,395.00	-514.45	-480.59	704.00	1.50	-1.50	0.00
LOWER WASATCH									
5,500.00	6.23	223.05	5,451.79	-519.29	-485.11	710.63	1.50	-1.50	0.00
5,600.00	4.73	223.05	5,551.33	-526.26	-491.62	720.17	1.50	-1.50	0.00
5,700.00	3.23	223.05	5,651.09	-531.33	-496.36	727.10	1.50	-1.50	0.00
5,800.00	1.73	223.05	5,750.99	-534.48	-499.31	731.42	1.50	-1.50	0.00
5,815.01	1.50	223.05	5,766.00	-534.79	-499.59	731.84	1.50	-1.50	0.00
OCRK									
5,900.00	0.23	223.05	5,850.98	-535.73	-500.47	733.12	1.50	-1.50	0.00
5,915.02	0.00	0.00	5,866.00	-535.75	-500.49	733.15	1.50	-1.50	911.57
UMVRD - SR 24-12 BTV									
6,000.00	0.00	0.00	5,950.98	-535.75	-500.49	733.15	0.00	0.00	0.00
6,100.00	0.00	0.00	6,050.98	-535.75	-500.49	733.15	0.00	0.00	0.00
6,200.00	0.00	0.00	6,150.98	-535.75	-500.49	733.15	0.00	0.00	0.00
6,300.00	0.00	0.00	6,250.98	-535.75	-500.49	733.15	0.00	0.00	0.00
6,400.00	0.00	0.00	6,350.98	-535.75	-500.49	733.15	0.00	0.00	0.00
6,500.00	0.00	0.00	6,450.98	-535.75	-500.49	733.15	0.00	0.00	0.00
6,600.00	0.00	0.00	6,550.98	-535.75	-500.49	733.15	0.00	0.00	0.00
6,700.00	0.00	0.00	6,650.98	-535.75	-500.49	733.15	0.00	0.00	0.00
6,800.00	0.00	0.00	6,750.98	-535.75	-500.49	733.15	0.00	0.00	0.00
6,900.00	0.00	0.00	6,850.98	-535.75	-500.49	733.15	0.00	0.00	0.00
7,000.00	0.00	0.00	6,950.98	-535.75	-500.49	733.15	0.00	0.00	0.00
7,100.00	0.00	0.00	7,050.98	-535.75	-500.49	733.15	0.00	0.00	0.00
7,200.00	0.00	0.00	7,150.98	-535.75	-500.49	733.15	0.00	0.00	0.00
7,300.00	0.00	0.00	7,250.98	-535.75	-500.49	733.15	0.00	0.00	0.00
7,400.00	0.00	0.00	7,350.98	-535.75	-500.49	733.15	0.00	0.00	0.00
7,500.00	0.00	0.00	7,450.98	-535.75	-500.49	733.15	0.00	0.00	0.00
7,537.02	0.00	0.00	7,488.00	-535.75	-500.49	733.15	0.00	0.00	0.00
KMGAS									
7,600.00	0.00	0.00	7,550.98	-535.75	-500.49	733.15	0.00	0.00	0.00
7,700.00	0.00	0.00	7,650.98	-535.75	-500.49	733.15	0.00	0.00	0.00
7,800.00	0.00	0.00	7,750.98	-535.75	-500.49	733.15	0.00	0.00	0.00
7,900.00	0.00	0.00	7,850.98	-535.75	-500.49	733.15	0.00	0.00	0.00
8,000.00	0.00	0.00	7,950.98	-535.75	-500.49	733.15	0.00	0.00	0.00
8,100.00	0.00	0.00	8,050.98	-535.75	-500.49	733.15	0.00	0.00	0.00
8,200.00	0.00	0.00	8,150.98	-535.75	-500.49	733.15	0.00	0.00	0.00
8,300.00	0.00	0.00	8,250.98	-535.75	-500.49	733.15	0.00	0.00	0.00
8,400.00	0.00	0.00	8,350.98	-535.75	-500.49	733.15	0.00	0.00	0.00
8,500.00	0.00	0.00	8,450.98	-535.75	-500.49	733.15	0.00	0.00	0.00
8,584.02	0.00	0.00	8,535.00	-535.75	-500.49	733.15	0.00	0.00	0.00
CMEO									
8,600.00	0.00	0.00	8,550.98	-535.75	-500.49	733.15	0.00	0.00	0.00

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Site:	SR 23-12 Pad	North Reference:	True
Well:	SR 24-12	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 28Oct2016 jcsdi		

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)	
8,700.00	0.00	0.00	8,650.98	-535.75	-500.49	733.15	0.00	0.00	0.00	
8,800.00	0.00	0.00	8,750.98	-535.75	-500.49	733.15	0.00	0.00	0.00	
8,900.00	0.00	0.00	8,850.98	-535.75	-500.49	733.15	0.00	0.00	0.00	
9,000.00	0.00	0.00	8,950.98	-535.75	-500.49	733.15	0.00	0.00	0.00	
9,100.00	0.00	0.00	9,050.98	-535.75	-500.49	733.15	0.00	0.00	0.00	
9,200.00	0.00	0.00	9,150.98	-535.75	-500.49	733.15	0.00	0.00	0.00	
9,300.00	0.00	0.00	9,250.98	-535.75	-500.49	733.15	0.00	0.00	0.00	
9,400.00	0.00	0.00	9,350.98	-535.75	-500.49	733.15	0.00	0.00	0.00	
9,424.02	0.00	0.00	9,375.00	-535.75	-500.49	733.15	0.00	0.00	0.00	
RLNS										
9,500.00	0.00	0.00	9,450.98	-535.75	-500.49	733.15	0.00	0.00	0.00	
9,600.00	0.00	0.00	9,550.98	-535.75	-500.49	733.15	0.00	0.00	0.00	
9,700.00	0.00	0.00	9,650.98	-535.75	-500.49	733.15	0.00	0.00	0.00	
9,762.02	0.00	0.00	9,713.00	-535.75	-500.49	733.15	0.00	0.00	0.00	
SR 24-12 PBHL										

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
SR 24-12 BTV	0.00	0.00	5,866.00	-535.75	-500.49	1,597,120.80	2,339,742.70	39.4495357	-107.8383894
- plan hits target center									
- Circle (radius 25.00)									
SR 24-12 PBHL	0.00	0.00	9,713.00	-535.75	-500.49	1,597,120.80	2,339,742.70	39.4495357	-107.8383894
- plan hits target center									
- Point									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,100.00	1,092.75	9 5/8" @ 1100' MD	9.62	9.62	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,551.18	3,521.00	GSAND		0.00	0.00
5,442.82	5,395.00	LOWER WASATCH		0.00	0.00
5,815.01	5,766.00	OCRK		0.00	0.00
5,915.02	5,866.00	UMVRD		0.00	0.00
7,537.02	7,488.00	KMVGAS		0.00	0.00
8,584.02	8,535.00	CME0		0.00	0.00
9,424.02	9,375.00	RLNS		0.00	0.00

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Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 7478' & RKB 24' @ 7502.00usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 7478' & RKB 24' @ 7502.00usft (H&P 318)
Site:	SR 23-12 Pad	North Reference:	True
Well:	SR 24-12	Survey Calculation Method:	Minimum Curvature
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Design:	Plan #1 28Oct2016 jcsdi		