

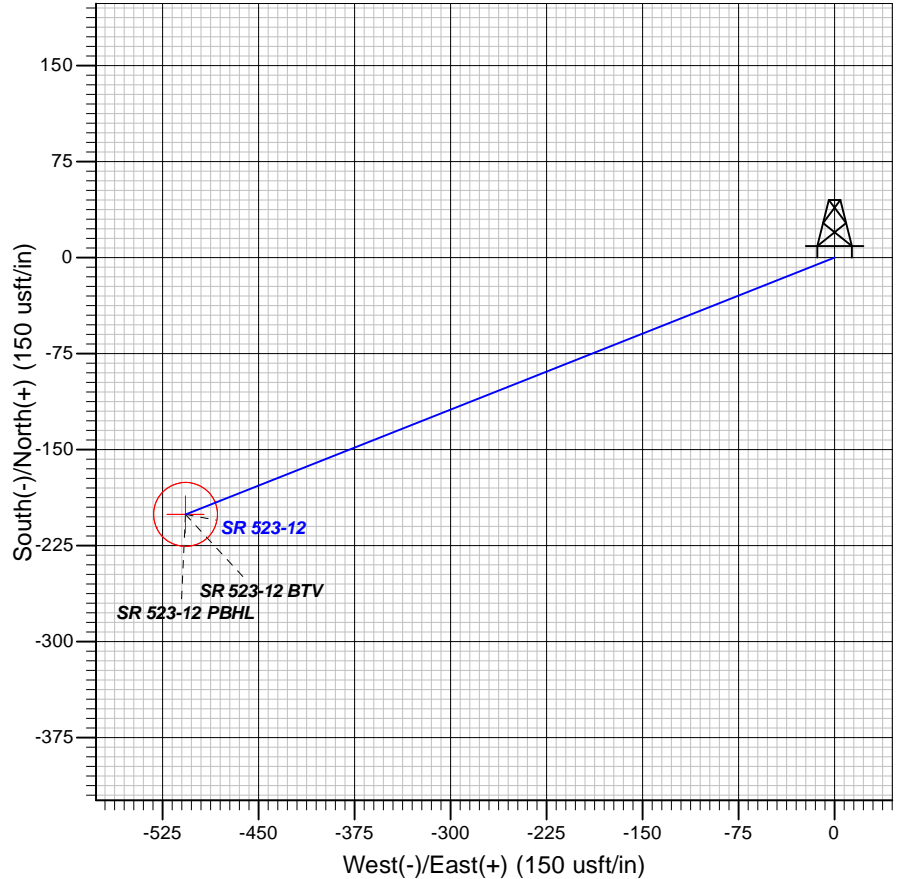
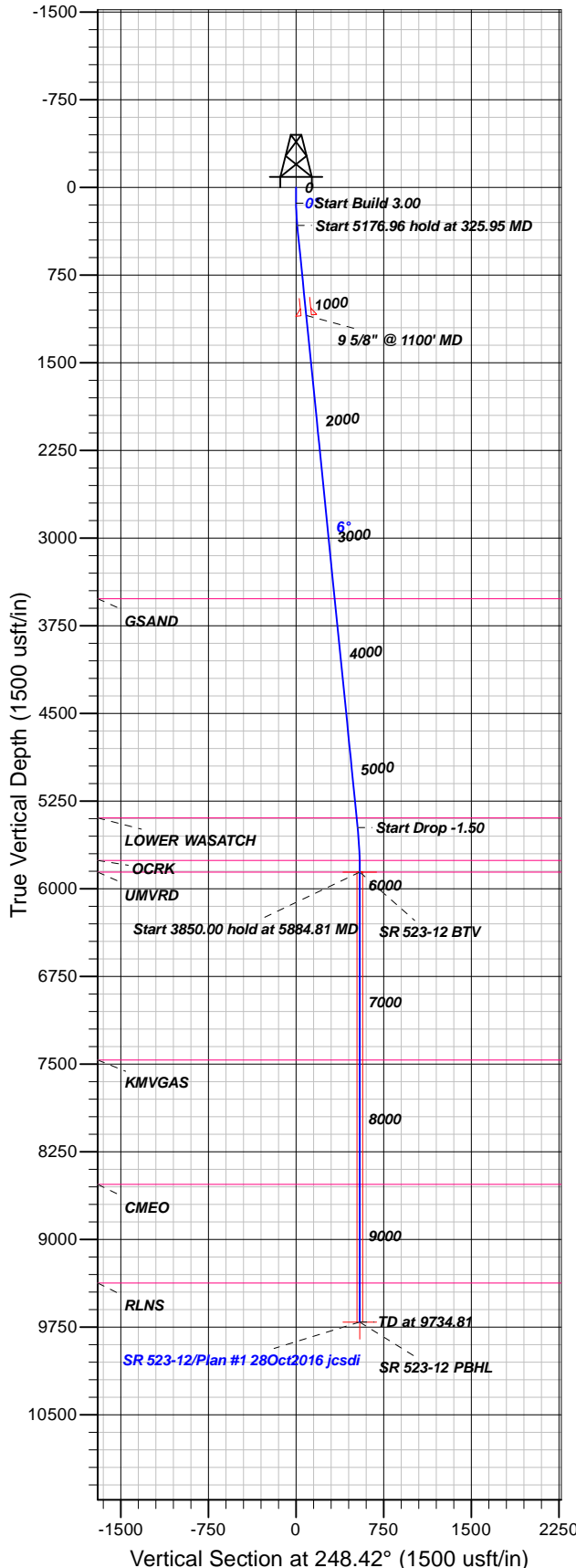
## Well Details: SR 523-12

GL 7478' & RKB 24' @ 7502.00usft (H&P 318)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1597664.40	2340248.70	39.4510633	-107.8366476	SR 523-12 (A8)

**T M** Azimuths to True North  
Magnetic North: 9.33°

Magnetic Field  
Strength: 51770.0snT  
Dip Angle: 65.68°  
Date: 10/28/2016  
Model: HDGM



### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3520.00	3536.35	GSAND
5394.00	5419.76	LOWER WASATCH
5758.00	5784.80	OCRK
5858.00	5884.81	UMVRD
7466.00	7492.81	KMGAS
8530.00	8556.81	CMEQ
9372.00	9398.81	RLNS

Plan: Plan #1 28Oct2016 jcsdi

10:24, November 07 2016  
Created By: Janie Collins

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

### CASING DETAILS

TVD	MD	Name	Size
1095.82	1100.00	9 5/8" @ 1100' MD	9.62

### SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	135.00	0.00	0.00	135.00	0.00	0.00	0.00	0.00	0.00	
3	325.95	5.73	248.42	325.63	-3.51	-8.87	3.00	248.42	9.54	
4	5502.91	5.73	248.42	5476.74	-193.59	-489.37	0.00	0.00	526.27	
5	5884.81	0.00	0.00	5858.00	-200.61	-507.11	1.50	180.00	545.35	SR 523-12 BTV
6	9734.81	0.00	0.00	9708.00	-200.61	-507.11	0.00	0.00	545.35	SR 523-12 PBHL

### DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SR 523-12 BTV	5858.00	-200.61	-507.11	1597476.90	2339736.60	39.4505126	-107.8384434	Circle (Radius: 25.00)
SR 523-12 PBHL	9708.00	-200.61	-507.11	1597476.90	2339736.60	39.4505126	-107.8384434	Point



# **TEP Rocky Mountain LLC**

**Garfield County, CO NAD83**

**SR 23-12 Pad**

**SR 523-12 - Slot SR 523-12 (A8)**

**OH**

**Plan: Plan #1 28Oct2016 jcsdi**

## **Standard Planning Report**

**07 November, 2016**



<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well SR 523-12 - Slot SR 523-12 (A8)
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	GL 7478' & RKB 24' @ 7502.00usft (H&P 318)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	GL 7478' & RKB 24' @ 7502.00usft (H&P 318)
<b>Site:</b>	SR 23-12 Pad	<b>North Reference:</b>	True
<b>Well:</b>	SR 523-12	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1 28Oct2016 jcsdi		

<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		

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

<b>Well</b>	SR 523-12 - Slot SR 523-12 (A8)			
<b>Well Position</b>	<b>+N/-S</b>	-48.50 usft	<b>Northing:</b>	1,597,664.40 usft
	<b>+E/-W</b>	20.25 usft	<b>Easting:</b>	2,340,248.70 usft
<b>Position Uncertainty</b>	0.00 usft		<b>Wellhead Elevation:</b>	0.00 usft
			<b>Ground Level:</b>	7,478.00 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	10/28/2016	9.33	65.68	51,770

<b>Design</b>	Plan #1 28Oct2016 jcsdi			
<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	248.42

<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	
135.00	0.00	0.00	135.00	0.00	0.00	0.00	0.00	0.00	0.00	
325.95	5.73	248.42	325.63	-3.51	-8.87	3.00	3.00	0.00	248.42	
5,502.91	5.73	248.42	5,476.74	-193.59	-489.37	0.00	0.00	0.00	0.00	
5,884.81	0.00	0.00	5,858.00	-200.61	-507.11	1.50	-1.50	0.00	180.00	SR 523-12 BTV
9,734.81	0.00	0.00	9,708.00	-200.61	-507.11	0.00	0.00	0.00	0.00	SR 523-12 PBHL

<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well SR 523-12 - Slot SR 523-12 (A8)
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	GL 7478' & RKB 24' @ 7502.00usft (H&P 318)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	GL 7478' & RKB 24' @ 7502.00usft (H&P 318)
<b>Site:</b>	SR 23-12 Pad	<b>North Reference:</b>	True
<b>Well:</b>	SR 523-12	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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	
135.00	0.00	0.00	135.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	1.95	248.42	199.99	-0.41	-1.03	1.11	3.00	3.00	0.00	
300.00	4.95	248.42	299.79	-2.62	-6.62	7.12	3.00	3.00	0.00	
325.95	5.73	248.42	325.63	-3.51	-8.87	9.54	3.00	3.00	0.00	
400.00	5.73	248.42	399.31	-6.23	-15.74	16.93	0.00	0.00	0.00	
500.00	5.73	248.42	498.81	-9.90	-25.02	26.91	0.00	0.00	0.00	
600.00	5.73	248.42	598.31	-13.57	-34.31	36.89	0.00	0.00	0.00	
700.00	5.73	248.42	697.81	-17.24	-43.59	46.87	0.00	0.00	0.00	
800.00	5.73	248.42	797.31	-20.91	-52.87	56.85	0.00	0.00	0.00	
900.00	5.73	248.42	896.82	-24.59	-62.15	66.84	0.00	0.00	0.00	
1,000.00	5.73	248.42	996.32	-28.26	-71.43	76.82	0.00	0.00	0.00	
1,100.00	5.73	248.42	1,095.82	-31.93	-80.71	86.80	0.00	0.00	0.00	
9 5/8" @ 1100' MD										
1,200.00	5.73	248.42	1,195.32	-35.60	-89.99	96.78	0.00	0.00	0.00	
1,300.00	5.73	248.42	1,294.82	-39.27	-99.28	106.76	0.00	0.00	0.00	
1,400.00	5.73	248.42	1,394.32	-42.94	-108.56	116.74	0.00	0.00	0.00	
1,500.00	5.73	248.42	1,493.82	-46.62	-117.84	126.72	0.00	0.00	0.00	
1,600.00	5.73	248.42	1,593.32	-50.29	-127.12	136.71	0.00	0.00	0.00	
1,700.00	5.73	248.42	1,692.82	-53.96	-136.40	146.69	0.00	0.00	0.00	
1,800.00	5.73	248.42	1,792.32	-57.63	-145.68	156.67	0.00	0.00	0.00	
1,900.00	5.73	248.42	1,891.82	-61.30	-154.97	166.65	0.00	0.00	0.00	
2,000.00	5.73	248.42	1,991.32	-64.97	-164.25	176.63	0.00	0.00	0.00	
2,100.00	5.73	248.42	2,090.82	-68.65	-173.53	186.61	0.00	0.00	0.00	
2,200.00	5.73	248.42	2,190.32	-72.32	-182.81	196.59	0.00	0.00	0.00	
2,300.00	5.73	248.42	2,289.82	-75.99	-192.09	206.58	0.00	0.00	0.00	
2,400.00	5.73	248.42	2,389.32	-79.66	-201.37	216.56	0.00	0.00	0.00	
2,500.00	5.73	248.42	2,488.83	-83.33	-210.65	226.54	0.00	0.00	0.00	
2,600.00	5.73	248.42	2,588.33	-87.00	-219.94	236.52	0.00	0.00	0.00	
2,700.00	5.73	248.42	2,687.83	-90.68	-229.22	246.50	0.00	0.00	0.00	
2,800.00	5.73	248.42	2,787.33	-94.35	-238.50	256.48	0.00	0.00	0.00	
2,900.00	5.73	248.42	2,886.83	-98.02	-247.78	266.46	0.00	0.00	0.00	
3,000.00	5.73	248.42	2,986.33	-101.69	-257.06	276.45	0.00	0.00	0.00	
3,100.00	5.73	248.42	3,085.83	-105.36	-266.34	286.43	0.00	0.00	0.00	
3,200.00	5.73	248.42	3,185.33	-109.04	-275.63	296.41	0.00	0.00	0.00	
3,300.00	5.73	248.42	3,284.83	-112.71	-284.91	306.39	0.00	0.00	0.00	
3,400.00	5.73	248.42	3,384.33	-116.38	-294.19	316.37	0.00	0.00	0.00	
3,500.00	5.73	248.42	3,483.83	-120.05	-303.47	326.35	0.00	0.00	0.00	
3,536.35	5.73	248.42	3,520.00	-121.38	-306.84	329.98	0.00	0.00	0.00	
GSAND										
3,600.00	5.73	248.42	3,583.33	-123.72	-312.75	336.33	0.00	0.00	0.00	
3,700.00	5.73	248.42	3,682.83	-127.39	-322.03	346.32	0.00	0.00	0.00	
3,800.00	5.73	248.42	3,782.33	-131.07	-331.31	356.30	0.00	0.00	0.00	
3,900.00	5.73	248.42	3,881.83	-134.74	-340.60	366.28	0.00	0.00	0.00	
4,000.00	5.73	248.42	3,981.33	-138.41	-349.88	376.26	0.00	0.00	0.00	
4,100.00	5.73	248.42	4,080.83	-142.08	-359.16	386.24	0.00	0.00	0.00	
4,200.00	5.73	248.42	4,180.34	-145.75	-368.44	396.22	0.00	0.00	0.00	
4,300.00	5.73	248.42	4,279.84	-149.42	-377.72	406.20	0.00	0.00	0.00	
4,400.00	5.73	248.42	4,379.34	-153.10	-387.00	416.19	0.00	0.00	0.00	
4,500.00	5.73	248.42	4,478.84	-156.77	-396.29	426.17	0.00	0.00	0.00	
4,600.00	5.73	248.42	4,578.34	-160.44	-405.57	436.15	0.00	0.00	0.00	

<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well SR 523-12 - Slot SR 523-12 (A8)
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	GL 7478' & RKB 24' @ 7502.00usft (H&P 318)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	GL 7478' & RKB 24' @ 7502.00usft (H&P 318)
<b>Site:</b>	SR 23-12 Pad	<b>North Reference:</b>	True
<b>Well:</b>	SR 523-12	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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	5.73	248.42	4,677.84	-164.11	-414.85	446.13	0.00	0.00	0.00
4,800.00	5.73	248.42	4,777.34	-167.78	-424.13	456.11	0.00	0.00	0.00
4,900.00	5.73	248.42	4,876.84	-171.45	-433.41	466.09	0.00	0.00	0.00
5,000.00	5.73	248.42	4,976.34	-175.13	-442.69	476.07	0.00	0.00	0.00
5,100.00	5.73	248.42	5,075.84	-178.80	-451.97	486.06	0.00	0.00	0.00
5,200.00	5.73	248.42	5,175.34	-182.47	-461.26	496.04	0.00	0.00	0.00
5,300.00	5.73	248.42	5,274.84	-186.14	-470.54	506.02	0.00	0.00	0.00
5,400.00	5.73	248.42	5,374.34	-189.81	-479.82	516.00	0.00	0.00	0.00
5,419.76	5.73	248.42	5,394.00	-190.54	-481.65	517.97	0.00	0.00	0.00
<b>LOWER WASATCH</b>									
5,500.00	5.73	248.42	5,473.84	-193.48	-489.10	525.98	0.00	0.00	0.00
5,502.91	5.73	248.42	5,476.74	-193.59	-489.37	526.27	0.00	0.00	0.00
5,600.00	4.27	248.42	5,573.46	-196.70	-497.24	534.73	1.50	-1.50	0.00
5,700.00	2.77	248.42	5,673.27	-198.96	-502.95	540.88	1.50	-1.50	0.00
5,784.80	1.50	248.42	5,758.00	-200.13	-505.89	544.04	1.50	-1.50	0.00
<b>OCRK</b>									
5,800.00	1.27	248.42	5,773.20	-200.26	-506.23	544.40	1.50	-1.50	0.00
5,884.81	0.00	0.00	5,858.00	-200.61	-507.11	545.35	1.50	-1.50	0.00
<b>UMVRD - SR 523-12 BTV</b>									
5,900.00	0.00	0.00	5,873.19	-200.61	-507.11	545.35	0.00	0.00	0.00
6,000.00	0.00	0.00	5,973.19	-200.61	-507.11	545.35	0.00	0.00	0.00
6,100.00	0.00	0.00	6,073.19	-200.61	-507.11	545.35	0.00	0.00	0.00
6,200.00	0.00	0.00	6,173.19	-200.61	-507.11	545.35	0.00	0.00	0.00
6,300.00	0.00	0.00	6,273.19	-200.61	-507.11	545.35	0.00	0.00	0.00
6,400.00	0.00	0.00	6,373.19	-200.61	-507.11	545.35	0.00	0.00	0.00
6,500.00	0.00	0.00	6,473.19	-200.61	-507.11	545.35	0.00	0.00	0.00
6,600.00	0.00	0.00	6,573.19	-200.61	-507.11	545.35	0.00	0.00	0.00
6,700.00	0.00	0.00	6,673.19	-200.61	-507.11	545.35	0.00	0.00	0.00
6,800.00	0.00	0.00	6,773.19	-200.61	-507.11	545.35	0.00	0.00	0.00
6,900.00	0.00	0.00	6,873.19	-200.61	-507.11	545.35	0.00	0.00	0.00
7,000.00	0.00	0.00	6,973.19	-200.61	-507.11	545.35	0.00	0.00	0.00
7,100.00	0.00	0.00	7,073.19	-200.61	-507.11	545.35	0.00	0.00	0.00
7,200.00	0.00	0.00	7,173.19	-200.61	-507.11	545.35	0.00	0.00	0.00
7,300.00	0.00	0.00	7,273.19	-200.61	-507.11	545.35	0.00	0.00	0.00
7,400.00	0.00	0.00	7,373.19	-200.61	-507.11	545.35	0.00	0.00	0.00
7,492.81	0.00	0.00	7,466.00	-200.61	-507.11	545.35	0.00	0.00	0.00
<b>KMVGAS</b>									
7,500.00	0.00	0.00	7,473.19	-200.61	-507.11	545.35	0.00	0.00	0.00
7,600.00	0.00	0.00	7,573.19	-200.61	-507.11	545.35	0.00	0.00	0.00
7,700.00	0.00	0.00	7,673.19	-200.61	-507.11	545.35	0.00	0.00	0.00
7,800.00	0.00	0.00	7,773.19	-200.61	-507.11	545.35	0.00	0.00	0.00
7,900.00	0.00	0.00	7,873.19	-200.61	-507.11	545.35	0.00	0.00	0.00
8,000.00	0.00	0.00	7,973.19	-200.61	-507.11	545.35	0.00	0.00	0.00
8,100.00	0.00	0.00	8,073.19	-200.61	-507.11	545.35	0.00	0.00	0.00
8,200.00	0.00	0.00	8,173.19	-200.61	-507.11	545.35	0.00	0.00	0.00
8,300.00	0.00	0.00	8,273.19	-200.61	-507.11	545.35	0.00	0.00	0.00
8,400.00	0.00	0.00	8,373.19	-200.61	-507.11	545.35	0.00	0.00	0.00
8,500.00	0.00	0.00	8,473.19	-200.61	-507.11	545.35	0.00	0.00	0.00
8,556.81	0.00	0.00	8,530.00	-200.61	-507.11	545.35	0.00	0.00	0.00
<b>CME0</b>									
8,600.00	0.00	0.00	8,573.19	-200.61	-507.11	545.35	0.00	0.00	0.00

<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well SR 523-12 - Slot SR 523-12 (A8)
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	GL 7478' & RKB 24' @ 7502.00usft (H&P 318)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	GL 7478' & RKB 24' @ 7502.00usft (H&P 318)
<b>Site:</b>	SR 23-12 Pad	<b>North Reference:</b>	True
<b>Well:</b>	SR 523-12	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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	8,673.19	-200.61	-507.11	545.35	0.00	0.00	0.00
8,800.00	0.00	0.00	8,773.19	-200.61	-507.11	545.35	0.00	0.00	0.00
8,900.00	0.00	0.00	8,873.19	-200.61	-507.11	545.35	0.00	0.00	0.00
9,000.00	0.00	0.00	8,973.19	-200.61	-507.11	545.35	0.00	0.00	0.00
9,100.00	0.00	0.00	9,073.19	-200.61	-507.11	545.35	0.00	0.00	0.00
9,200.00	0.00	0.00	9,173.19	-200.61	-507.11	545.35	0.00	0.00	0.00
9,300.00	0.00	0.00	9,273.19	-200.61	-507.11	545.35	0.00	0.00	0.00
9,398.81	0.00	0.00	9,372.00	-200.61	-507.11	545.35	0.00	0.00	0.00
RLNS									
9,400.00	0.00	0.00	9,373.19	-200.61	-507.11	545.35	0.00	0.00	0.00
9,500.00	0.00	0.00	9,473.19	-200.61	-507.11	545.35	0.00	0.00	0.00
9,600.00	0.00	0.00	9,573.19	-200.61	-507.11	545.35	0.00	0.00	0.00
9,700.00	0.00	0.00	9,673.19	-200.61	-507.11	545.35	0.00	0.00	0.00
9,734.81	0.00	0.00	9,708.00	-200.61	-507.11	545.35	0.00	0.00	0.00
SR 523-12 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 523-12 BTV	0.00	0.00	5,858.00	-200.61	-507.11	1,597,476.90	2,339,736.60	39.4505126	-107.8384435
- plan hits target center									
- Circle (radius 25.00)									
SR 523-12 PBHL	0.00	0.00	9,708.00	-200.61	-507.11	1,597,476.90	2,339,736.60	39.4505126	-107.8384435
- plan hits target center									
- Point									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,100.00	1,095.82	9 5/8" @ 1100' MD	9.62	9.62	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,536.35	3,520.00	GSAND		0.00	0.00
5,419.76	5,394.00	LOWER WASATCH		0.00	0.00
5,784.80	5,758.00	OCRK		0.00	0.00
5,884.81	5,858.00	UMVRD		0.00	0.00
7,492.81	7,466.00	KMVGAS		0.00	0.00
8,556.81	8,530.00	CMEQ		0.00	0.00
9,398.81	9,372.00	RLNS		0.00	0.00

<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well SR 523-12 - Slot SR 523-12 (A8)
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	GL 7478' & RKB 24' @ 7502.00usft (H&P 318)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	GL 7478' & RKB 24' @ 7502.00usft (H&P 318)
<b>Site:</b>	SR 23-12 Pad	<b>North Reference:</b>	True
<b>Well:</b>	SR 523-12	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1 28Oct2016 jcsdi		