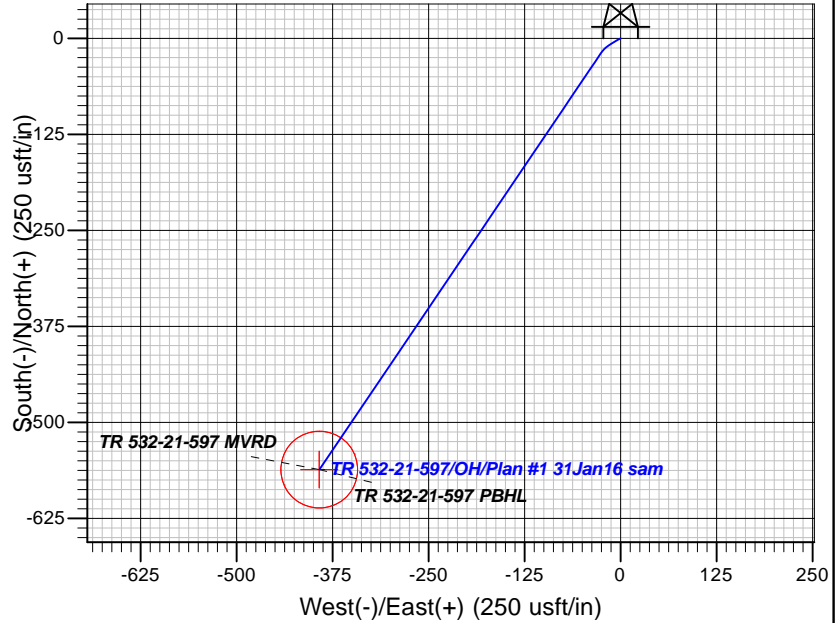
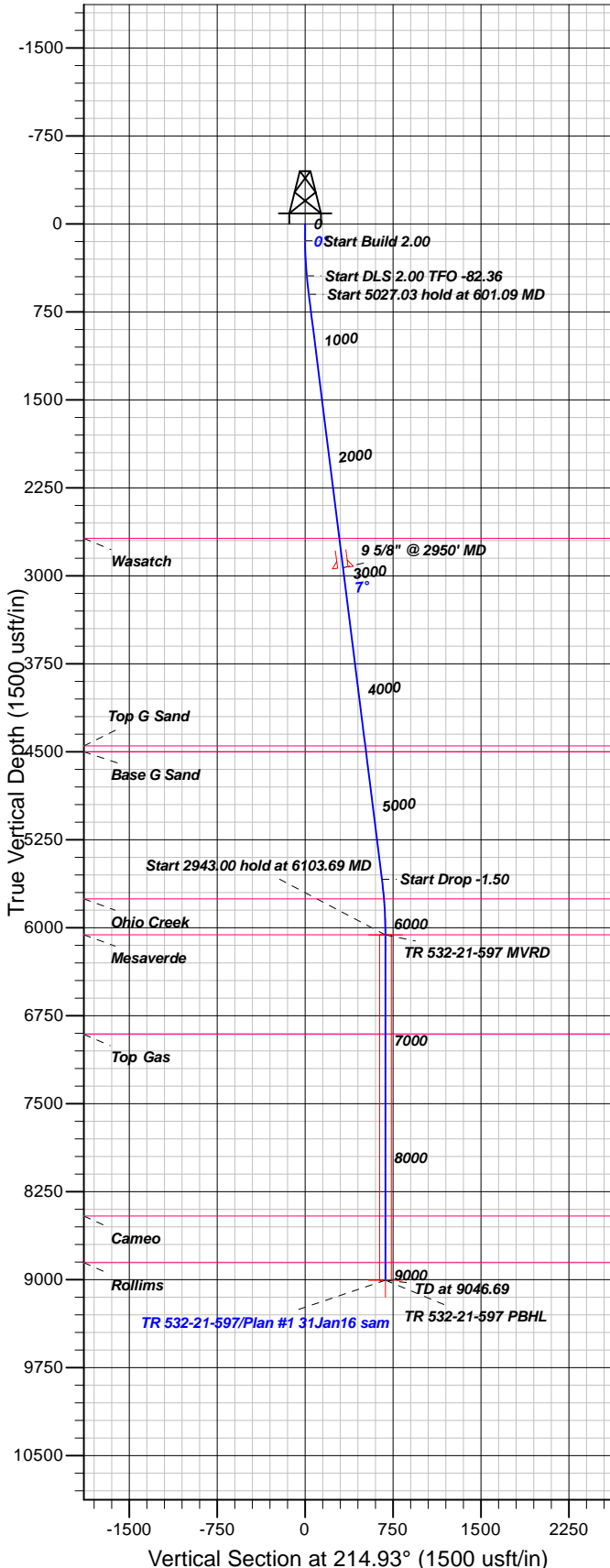
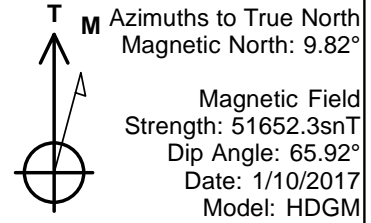


## Well Details: TR 532-21-597

+N/-S	+E/-W	Northing	GL 8577' & RKB 24' @ 8601.00usft	Easting	Latitude	Longitude	Slot
0.00	0.00	1656389.83		2216147.65	39.6026280	-108.2822930	TR 532-21-597 (B2)



### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
2681.00	2698.77	Wasatch
4451.00	4482.56	Top G Sand
4501.00	4532.95	Base G Sand
5755.00	5796.32	Ohio Creek
6061.00	6102.65	Mesaverde
6910.00	6951.65	Top Gas
8458.00	8499.65	Cameo
8855.00	8896.65	Rollins

Plan: Plan #1 31Jan16 sam

16:11, January 17 2017  
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
2931.01	2950.73	9 5/8" @ 2950' 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	144.00	0.00	0.00	144.00	0.00	0.00	0.00	0.00	0.00	
3	444.00	6.00	240.00	443.45	-7.85	-13.59	2.00	240.00	14.22	
4	601.09	7.13	214.06	599.54	-20.03	-26.16	2.00	-82.36	31.40	
5	5628.12	7.13	214.06	5587.70	-536.95	-375.62	0.00	0.00	655.29	
6	6103.69	0.00	0.00	6062.04	-561.44	-392.17	1.50	180.00	684.84	
7	9046.69	0.00	0.00	9005.04	-561.44	-392.17	0.00	0.00	684.84	

### DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
TR 532-21-597 MVRD6062.00	-561.51	-392.44	1655840.60	2215738.20	39.6010864	-108.2836857		Circle (Radius: 50.00)
- plan misses target center by 0.28usft at 6103.65usft MD (6062.00 TVD, -561.44 N, -392.17 E)								
TR 532-21-597 PBHL 9005.00	-561.51	-392.44	1655840.60	2215738.20	39.6010864	-108.2836857		Point
- plan misses target center by 0.28usft at 9046.65usft MD (9005.00 TVD, -561.44 N, -392.17 E)								



## **TEP Rocky Mountain LLC**

**Garfield County, CO NAD83**

**TR 32-21-597 Pad**

**TR 532-21-597 - Slot TR 532-21-597 (B2)**

**OH**

**Plan: Plan #1 31Jan16 sam**

## **Standard Planning Report**

**17 January, 2017**



<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well TR 532-21-597 - Slot TR 532-21-597 (B2)
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	GL 8577' & RKB 24' @ 8601.00usft
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	GL 8577' & RKB 24' @ 8601.00usft
<b>Site:</b>	TR 32-21-597 Pad	<b>North Reference:</b>	True
<b>Well:</b>	TR 532-21-597	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1 31Jan16 sam		

<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		TR 32-21-597 Pad			
Site Position:		Northing:	1,656,379.56 usft	Latitude:	39.6026002
From:	Map	Easting:	2,216,152.67 usft	Longitude:	-108.2822741
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	-1.75 °

Well	TR 532-21-597 - Slot TR 532-21-597 (B2)					
Well Position	+N/-S	10.11 usft	Northing:	1,656,389.83 usft	Latitude:	39.6026280
	+E/-W	-5.33 usft	Easting:	2,216,147.65 usft	Longitude:	-108.2822930
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	8,577.00 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	1/10/2017	9.82	65.92	51,652

<b>Design</b>	Plan #1 31Jan16 sam				
<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	214.93	

<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	
144.00	0.00	0.00	144.00	0.00	0.00	0.00	0.00	0.00	0.00	
444.00	6.00	240.00	443.45	-7.85	-13.59	2.00	2.00	0.00	240.00	
601.09	7.13	214.06	599.54	-20.03	-26.16	2.00	0.72	-16.51	-82.36	
5,628.12	7.13	214.06	5,587.70	-536.95	-375.62	0.00	0.00	0.00	0.00	
6,103.69	0.00	0.00	6,062.04	-561.44	-392.17	1.50	-1.50	0.00	180.00	
9,046.69	0.00	0.00	9,005.04	-561.44	-392.17	0.00	0.00	0.00	0.00	

<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well TR 532-21-597 - Slot TR 532-21-597 (B2)
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	GL 8577' & RKB 24' @ 8601.00usft
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	GL 8577' & RKB 24' @ 8601.00usft
<b>Site:</b>	TR 32-21-597 Pad	<b>North Reference:</b>	True
<b>Well:</b>	TR 532-21-597	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1 31Jan16 sam		

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	
144.00	0.00	0.00	144.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	1.12	240.00	200.00	-0.27	-0.47	0.50	2.00	2.00	0.00	
300.00	3.12	240.00	299.92	-2.12	-3.68	3.85	2.00	2.00	0.00	
400.00	5.12	240.00	399.66	-5.72	-9.90	10.35	2.00	2.00	0.00	
444.00	6.00	240.00	443.45	-7.85	-13.59	14.22	2.00	2.00	0.00	
500.00	6.25	229.75	499.13	-11.28	-18.45	19.81	2.00	0.44	-18.30	
600.00	7.12	214.21	598.46	-19.92	-26.09	31.27	2.00	0.87	-15.54	
601.09	7.13	214.06	599.54	-20.03	-26.16	31.40	2.00	1.10	-13.47	
700.00	7.13	214.06	697.69	-30.20	-33.04	43.68	0.00	0.00	0.00	
800.00	7.13	214.06	796.92	-40.49	-39.99	56.09	0.00	0.00	0.00	
900.00	7.13	214.06	896.14	-50.77	-46.94	68.50	0.00	0.00	0.00	
1,000.00	7.13	214.06	995.37	-61.05	-53.89	80.91	0.00	0.00	0.00	
1,100.00	7.13	214.06	1,094.60	-71.33	-60.85	93.32	0.00	0.00	0.00	
1,200.00	7.13	214.06	1,193.82	-81.62	-67.80	105.73	0.00	0.00	0.00	
1,300.00	7.13	214.06	1,293.05	-91.90	-74.75	118.14	0.00	0.00	0.00	
1,400.00	7.13	214.06	1,392.28	-102.18	-81.70	130.55	0.00	0.00	0.00	
1,500.00	7.13	214.06	1,491.50	-112.46	-88.65	142.97	0.00	0.00	0.00	
1,600.00	7.13	214.06	1,590.73	-122.75	-95.60	155.38	0.00	0.00	0.00	
1,700.00	7.13	214.06	1,689.96	-133.03	-102.56	167.79	0.00	0.00	0.00	
1,800.00	7.13	214.06	1,789.18	-143.31	-109.51	180.20	0.00	0.00	0.00	
1,900.00	7.13	214.06	1,888.41	-153.60	-116.46	192.61	0.00	0.00	0.00	
2,000.00	7.13	214.06	1,987.64	-163.88	-123.41	205.02	0.00	0.00	0.00	
2,100.00	7.13	214.06	2,086.86	-174.16	-130.36	217.43	0.00	0.00	0.00	
2,200.00	7.13	214.06	2,186.09	-184.44	-137.31	229.84	0.00	0.00	0.00	
2,300.00	7.13	214.06	2,285.32	-194.73	-144.26	242.25	0.00	0.00	0.00	
2,400.00	7.13	214.06	2,384.54	-205.01	-151.22	254.66	0.00	0.00	0.00	
2,500.00	7.13	214.06	2,483.77	-215.29	-158.17	267.07	0.00	0.00	0.00	
2,600.00	7.13	214.06	2,583.00	-225.58	-165.12	279.48	0.00	0.00	0.00	
2,698.77	7.13	214.06	2,681.00	-235.73	-171.99	291.74	0.00	0.00	0.00	
<b>Wasatch</b>										
2,700.00	7.13	214.06	2,682.22	-235.86	-172.07	291.89	0.00	0.00	0.00	
2,800.00	7.13	214.06	2,781.45	-246.14	-179.02	304.30	0.00	0.00	0.00	
2,900.00	7.13	214.06	2,880.68	-256.42	-185.97	316.71	0.00	0.00	0.00	
2,950.73	7.13	214.06	2,931.01	-261.64	-189.50	323.01	0.00	0.00	0.00	
<b>9 5/8" @ 2950' MD</b>										
3,000.00	7.13	214.06	2,979.90	-266.71	-192.93	329.13	0.00	0.00	0.00	
3,100.00	7.13	214.06	3,079.13	-276.99	-199.88	341.54	0.00	0.00	0.00	
3,200.00	7.13	214.06	3,178.36	-287.27	-206.83	353.95	0.00	0.00	0.00	
3,300.00	7.13	214.06	3,277.58	-297.56	-213.78	366.36	0.00	0.00	0.00	
3,400.00	7.13	214.06	3,376.81	-307.84	-220.73	378.77	0.00	0.00	0.00	
3,500.00	7.13	214.06	3,476.04	-318.12	-227.68	391.18	0.00	0.00	0.00	
3,600.00	7.13	214.06	3,575.26	-328.40	-234.63	403.59	0.00	0.00	0.00	
3,700.00	7.13	214.06	3,674.49	-338.69	-241.59	416.00	0.00	0.00	0.00	
3,800.00	7.13	214.06	3,773.72	-348.97	-248.54	428.41	0.00	0.00	0.00	
3,900.00	7.13	214.06	3,872.94	-359.25	-255.49	440.82	0.00	0.00	0.00	
4,000.00	7.13	214.06	3,972.17	-369.54	-262.44	453.23	0.00	0.00	0.00	
4,100.00	7.13	214.06	4,071.40	-379.82	-269.39	465.64	0.00	0.00	0.00	
4,200.00	7.13	214.06	4,170.62	-390.10	-276.34	478.05	0.00	0.00	0.00	
4,300.00	7.13	214.06	4,269.85	-400.38	-283.30	490.46	0.00	0.00	0.00	
4,400.00	7.13	214.06	4,369.08	-410.67	-290.25	502.87	0.00	0.00	0.00	
4,482.56	7.13	214.06	4,451.00	-419.16	-295.99	513.12	0.00	0.00	0.00	

<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well TR 532-21-597 - Slot TR 532-21-597 (B2)
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<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	GL 8577' & RKB 24' @ 8601.00usft
<b>Site:</b>	TR 32-21-597 Pad	<b>North Reference:</b>	True
<b>Well:</b>	TR 532-21-597	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1 31Jan16 sam		

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)	
Top G Sand										
4,500.00	7.13	214.06	4,468.30	-420.95	-297.20	515.29	0.00	0.00	0.00	
4,532.95	7.13	214.06	4,501.00	-424.34	-299.49	519.37	0.00	0.00	0.00	
Base G Sand										
4,600.00	7.13	214.06	4,567.53	-431.23	-304.15	527.70	0.00	0.00	0.00	
4,700.00	7.13	214.06	4,666.76	-441.52	-311.10	540.11	0.00	0.00	0.00	
4,800.00	7.13	214.06	4,765.98	-451.80	-318.05	552.52	0.00	0.00	0.00	
4,900.00	7.13	214.06	4,865.21	-462.08	-325.00	564.93	0.00	0.00	0.00	
5,000.00	7.13	214.06	4,964.44	-472.36	-331.96	577.34	0.00	0.00	0.00	
5,100.00	7.13	214.06	5,063.66	-482.65	-338.91	589.75	0.00	0.00	0.00	
5,200.00	7.13	214.06	5,162.89	-492.93	-345.86	602.16	0.00	0.00	0.00	
5,300.00	7.13	214.06	5,262.12	-503.21	-352.81	614.57	0.00	0.00	0.00	
5,400.00	7.13	214.06	5,361.34	-513.50	-359.76	626.98	0.00	0.00	0.00	
5,500.00	7.13	214.06	5,460.57	-523.78	-366.71	639.39	0.00	0.00	0.00	
5,600.00	7.13	214.06	5,559.80	-534.06	-373.67	651.80	0.00	0.00	0.00	
5,628.12	7.13	214.06	5,587.70	-536.95	-375.62	655.29	0.00	0.00	0.00	
5,700.00	6.05	214.06	5,659.10	-543.79	-380.24	663.54	1.50	-1.50	0.00	
5,796.32	4.61	214.06	5,755.00	-551.20	-385.25	672.49	1.50	-1.50	0.00	
Ohio Creek										
5,800.00	4.55	214.06	5,758.67	-551.44	-385.42	672.78	1.50	-1.50	0.00	
5,900.00	3.05	214.06	5,858.45	-556.94	-389.13	679.41	1.50	-1.50	0.00	
6,000.00	1.55	214.06	5,958.37	-560.27	-391.38	683.43	1.50	-1.50	0.00	
6,100.00	0.06	214.06	6,058.35	-561.43	-392.17	684.84	1.50	-1.50	0.00	
6,102.65	0.02	214.06	6,061.00	-561.43	-392.17	684.84	1.50	-1.50	0.00	
Mesaverde										
6,103.65	0.00	214.06	6,062.00	-561.44	-392.17	684.84	1.50	-1.50	0.00	
TR 532-21-597 MVRD										
6,103.69	0.00	0.00	6,062.04	-561.44	-392.17	684.84	1.50	-1.50	0.00	
6,200.00	0.00	0.00	6,158.35	-561.44	-392.17	684.84	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,258.35	-561.44	-392.17	684.84	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,358.35	-561.44	-392.17	684.84	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,458.35	-561.44	-392.17	684.84	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,558.35	-561.44	-392.17	684.84	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,658.35	-561.44	-392.17	684.84	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,758.35	-561.44	-392.17	684.84	0.00	0.00	0.00	
6,900.00	0.00	0.00	6,858.35	-561.44	-392.17	684.84	0.00	0.00	0.00	
6,951.65	0.00	0.00	6,910.00	-561.44	-392.17	684.84	0.00	0.00	0.00	
Top Gas										
7,000.00	0.00	0.00	6,958.35	-561.44	-392.17	684.84	0.00	0.00	0.00	
7,100.00	0.00	0.00	7,058.35	-561.44	-392.17	684.84	0.00	0.00	0.00	
7,200.00	0.00	0.00	7,158.35	-561.44	-392.17	684.84	0.00	0.00	0.00	
7,300.00	0.00	0.00	7,258.35	-561.44	-392.17	684.84	0.00	0.00	0.00	
7,400.00	0.00	0.00	7,358.35	-561.44	-392.17	684.84	0.00	0.00	0.00	
7,500.00	0.00	0.00	7,458.35	-561.44	-392.17	684.84	0.00	0.00	0.00	
7,600.00	0.00	0.00	7,558.35	-561.44	-392.17	684.84	0.00	0.00	0.00	
7,700.00	0.00	0.00	7,658.35	-561.44	-392.17	684.84	0.00	0.00	0.00	
7,800.00	0.00	0.00	7,758.35	-561.44	-392.17	684.84	0.00	0.00	0.00	
7,900.00	0.00	0.00	7,858.35	-561.44	-392.17	684.84	0.00	0.00	0.00	
8,000.00	0.00	0.00	7,958.35	-561.44	-392.17	684.84	0.00	0.00	0.00	
8,100.00	0.00	0.00	8,058.35	-561.44	-392.17	684.84	0.00	0.00	0.00	
8,200.00	0.00	0.00	8,158.35	-561.44	-392.17	684.84	0.00	0.00	0.00	
8,300.00	0.00	0.00	8,258.35	-561.44	-392.17	684.84	0.00	0.00	0.00	

<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well TR 532-21-597 - Slot TR 532-21-597 (B2)
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	GL 8577' & RKB 24' @ 8601.00usft
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	GL 8577' & RKB 24' @ 8601.00usft
<b>Site:</b>	TR 32-21-597 Pad	<b>North Reference:</b>	True
<b>Well:</b>	TR 532-21-597	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1 31Jan16 sam		

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)	
8,400.00	0.00	0.00	8,358.35	-561.44	-392.17	684.84	0.00	0.00	0.00	
8,499.65	0.00	0.00	8,458.00	-561.44	-392.17	684.84	0.00	0.00	0.00	
<b>Cameo</b>										
8,500.00	0.00	0.00	8,458.35	-561.44	-392.17	684.84	0.00	0.00	0.00	
8,600.00	0.00	0.00	8,558.35	-561.44	-392.17	684.84	0.00	0.00	0.00	
8,700.00	0.00	0.00	8,658.35	-561.44	-392.17	684.84	0.00	0.00	0.00	
8,800.00	0.00	0.00	8,758.35	-561.44	-392.17	684.84	0.00	0.00	0.00	
8,896.65	0.00	0.00	8,855.00	-561.44	-392.17	684.84	0.00	0.00	0.00	
<b>Rollims</b>										
8,900.00	0.00	0.00	8,858.35	-561.44	-392.17	684.84	0.00	0.00	0.00	
9,000.00	0.00	0.00	8,958.35	-561.44	-392.17	684.84	0.00	0.00	0.00	
9,046.65	0.00	0.00	9,005.00	-561.44	-392.17	684.84	0.00	0.00	0.00	
<b>TR 532-21-597 PBHL</b>										
9,046.69	0.00	0.00	9,005.04	-561.44	-392.17	684.84	0.00	0.00	0.00	

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										
TR 532-21-597 MVRD	0.00	0.00	6,062.00	-561.51	-392.44	1,655,840.60	2,215,738.20	39.6010864	-108.2836858	
- plan misses target center by 0.28usft at 6103.65usft MD (6062.00 TVD, -561.44 N, -392.17 E)										
- Circle (radius 50.00)										
TR 532-21-597 PBHL	0.00	0.00	9,005.00	-561.51	-392.44	1,655,840.60	2,215,738.20	39.6010864	-108.2836858	
- plan misses target center by 0.28usft at 9046.65usft MD (9005.00 TVD, -561.44 N, -392.17 E)										
- Point										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
2,950.73	2,931.01	9 5/8" @ 2950' MD	9.62	14.75	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,698.77	2,681.00	Wasatch		0.00	0.00	
4,482.56	4,451.00	Top G Sand		0.00	0.00	
4,532.95	4,501.00	Base G Sand		0.00	0.00	
5,796.32	5,755.00	Ohio Creek		0.00	0.00	
6,102.65	6,061.00	Mesaverde		0.00	0.00	
6,951.65	6,910.00	Top Gas		0.00	0.00	
8,499.65	8,458.00	Cameo		0.00	0.00	
8,896.65	8,855.00	Rollims		0.00	0.00	

<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well TR 532-21-597 - Slot TR 532-21-597 (B2)
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	GL 8577' & RKB 24' @ 8601.00usft
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	GL 8577' & RKB 24' @ 8601.00usft
<b>Site:</b>	TR 32-21-597 Pad	<b>North Reference:</b>	True
<b>Well:</b>	TR 532-21-597	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1 31Jan16 sam		