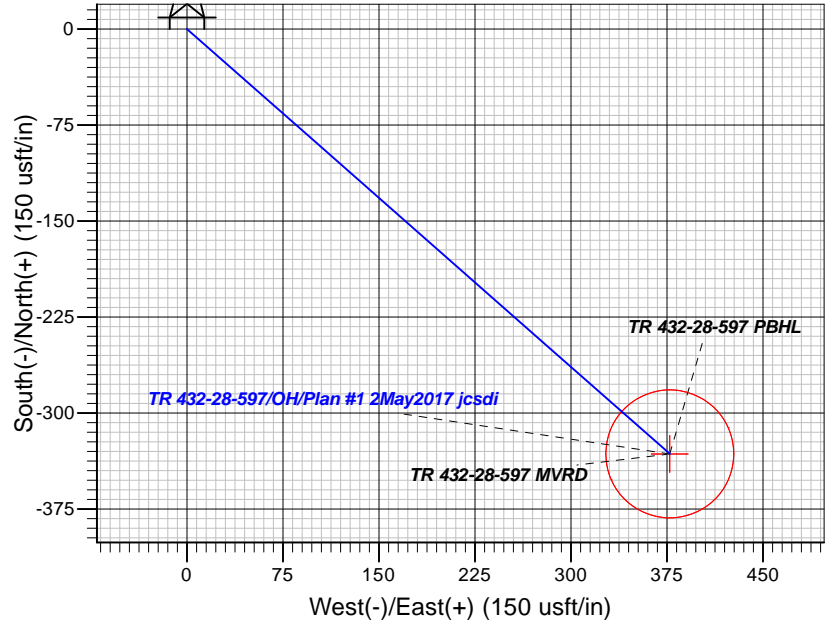
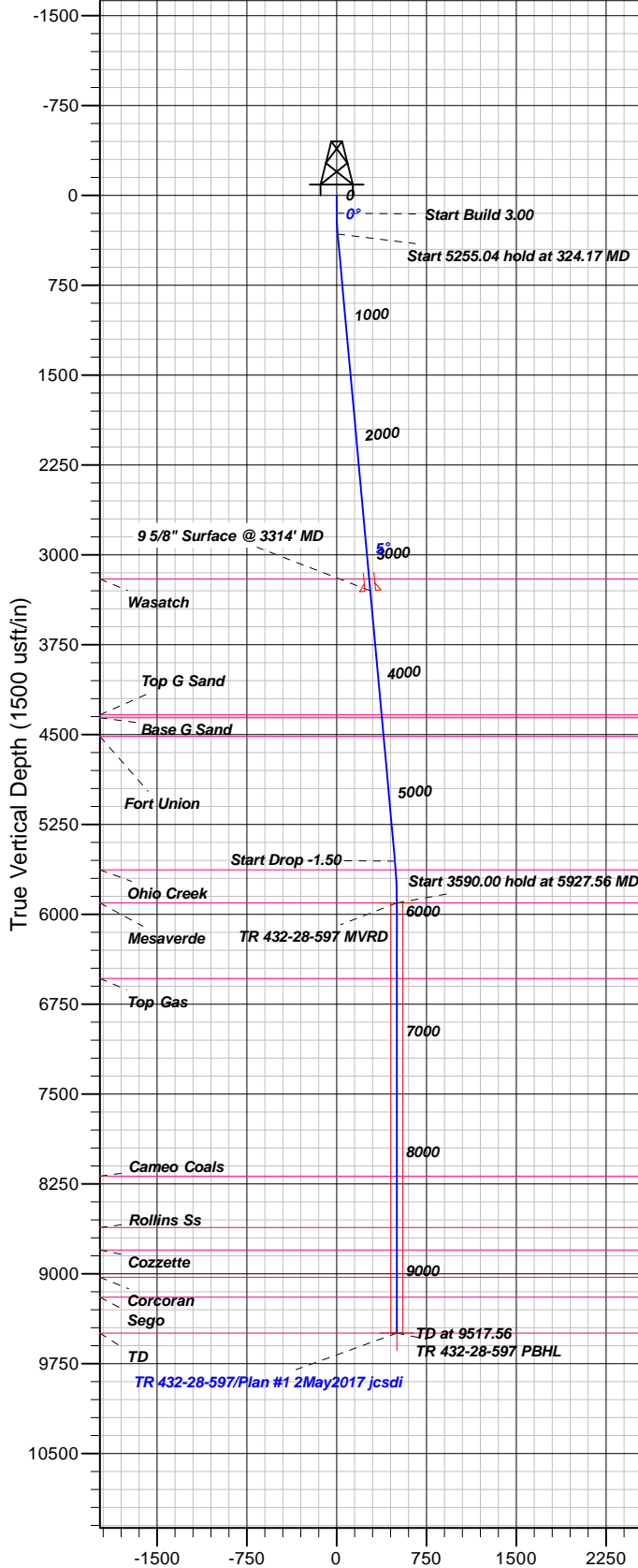


Well Details: TR 432-28-597

+N/-S 0.00 +E/-W 0.00 Northing 1650694.30 Easting 2216054.10 Latitude 39.5869911 Longitude -108.2820059 Slot A4

GL 8481.4' & RKB 24' @ 8505.40usft

T M Azimuths to True North
Magnetic North: 9.80°
Magnetic Field
Strength: 51635.9snT
Dip Angle: 65.90°
Date: 5/2/2017
Model: HDGM



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3202.00	3214.25	Wasatch
4336.00	4352.98	Top G Sand
4360.00	4377.08	Base G Sand
4515.00	4532.73	Fort Union
5628.00	5650.32	Ohio Creek
5905.00	5927.56	Mesaverde
6535.00	6557.56	Top Gas
8184.00	8206.56	Cameo Coals
8614.00	8636.56	Rollins Ss
8801.00	8823.56	Cozzette
9029.00	9051.56	Corcoran
9195.00	9217.56	Sego
9495.00	9517.56	TD

Plan: Plan #1 2May2017 jcsdi

11:45, May 04 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
3301.33	3314.90	5/8" Surface @ 3314' MD	9.62

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSeet	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	150.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	
3	324.17	5.23	131.35	323.93	-5.24	5.96	3.00	131.35	7.94	
4	5579.21	5.23	131.35	5557.13	-321.42	365.22	0.00	0.00	486.52	
5	5927.56	0.00	0.00	5905.00	-331.91	377.14	1.50	180.00	502.39	TR 432-28-597 MVRD
6	9517.56	0.00	0.00	9495.00	-331.91	377.14	0.00	0.00	502.39	TR 432-28-597 PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
TR 432-28-597 MVRD5905.00	-331.91		377.14	1650351.00	2216420.90	39.5860799	-108.2806678	Circle (Radius: 50.00)
- plan hits target center								
TR 432-28-597 PBHL 9495.00	-331.91		377.14	1650351.00	2216420.90	39.5860799	-108.2806678	Point
- plan hits target center								



TEP Rocky Mountain LLC

Garfield County, CO NAD83

TR 32-28-597 Pad

TR 432-28-597 - Slot A4

OH

Plan: Plan #1 2May2017 jcsdi

Standard Planning Report

04 May, 2017



Database:	Grand Junction District	Local Co-ordinate Reference:	Well TR 432-28-597 - Slot A4
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 8481.4' & RKB 24' @ 8505.40usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 8481.4' & RKB 24' @ 8505.40usft
Site:	TR 32-28-597 Pad	North Reference:	True
Well:	TR 432-28-597	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 2May2017 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	TR 32-28-597 Pad			
Site Position:		Northing:	1,650,686.80 usft	Latitude: 39.5869706
From: Map		Easting:	2,216,054.60 usft	Longitude: -108.2820034
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence: -1.75 °

Well	TR 432-28-597 - Slot A4			
Well Position	+N/-S	7.48 usft	Northing:	1,650,694.30 usft
	+E/-W	-0.73 usft	Easting:	2,216,054.10 usft
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft
			Ground Level:	8,481.40 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	5/2/2017	9.80	65.90	51,636

Design	Plan #1 2May2017 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	131.35

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	
324.17	5.23	131.35	323.93	-5.24	5.96	3.00	3.00	0.00	131.35	
5,579.21	5.23	131.35	5,557.13	-321.42	365.22	0.00	0.00	0.00	0.00	
5,927.56	0.00	0.00	5,905.00	-331.91	377.14	1.50	-1.50	0.00	180.00	TR 432-28-597 MVRI
9,517.56	0.00	0.00	9,495.00	-331.91	377.14	0.00	0.00	0.00	0.00	TR 432-28-597 PBHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well TR 432-28-597 - Slot A4
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 8481.4' & RKB 24' @ 8505.40usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 8481.4' & RKB 24' @ 8505.40usft
Site:	TR 32-28-597 Pad	North Reference:	True
Well:	TR 432-28-597	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 2May2017 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	131.35	199.99	-0.43	0.49	0.65	3.00	3.00	0.00
300.00	4.50	131.35	299.85	-3.89	4.42	5.89	3.00	3.00	0.00
324.17	5.23	131.35	323.93	-5.24	5.96	7.94	3.00	3.00	0.00
400.00	5.23	131.35	399.44	-9.81	11.14	14.84	0.00	0.00	0.00
500.00	5.23	131.35	499.03	-15.82	17.98	23.95	0.00	0.00	0.00
600.00	5.23	131.35	598.61	-21.84	24.82	33.06	0.00	0.00	0.00
700.00	5.23	131.35	698.20	-27.86	31.65	42.16	0.00	0.00	0.00
800.00	5.23	131.35	797.78	-33.87	38.49	51.27	0.00	0.00	0.00
900.00	5.23	131.35	897.37	-39.89	45.32	60.38	0.00	0.00	0.00
1,000.00	5.23	131.35	996.95	-45.91	52.16	69.48	0.00	0.00	0.00
1,100.00	5.23	131.35	1,096.53	-51.92	59.00	78.59	0.00	0.00	0.00
1,200.00	5.23	131.35	1,196.12	-57.94	65.83	87.70	0.00	0.00	0.00
1,300.00	5.23	131.35	1,295.70	-63.96	72.67	96.81	0.00	0.00	0.00
1,400.00	5.23	131.35	1,395.29	-69.97	79.51	105.91	0.00	0.00	0.00
1,500.00	5.23	131.35	1,494.87	-75.99	86.34	115.02	0.00	0.00	0.00
1,600.00	5.23	131.35	1,594.46	-82.01	93.18	124.13	0.00	0.00	0.00
1,700.00	5.23	131.35	1,694.04	-88.02	100.02	133.23	0.00	0.00	0.00
1,800.00	5.23	131.35	1,793.63	-94.04	106.85	142.34	0.00	0.00	0.00
1,900.00	5.23	131.35	1,893.21	-100.06	113.69	151.45	0.00	0.00	0.00
2,000.00	5.23	131.35	1,992.79	-106.07	120.53	160.56	0.00	0.00	0.00
2,100.00	5.23	131.35	2,092.38	-112.09	127.36	169.66	0.00	0.00	0.00
2,200.00	5.23	131.35	2,191.96	-118.11	134.20	178.77	0.00	0.00	0.00
2,300.00	5.23	131.35	2,291.55	-124.12	141.04	187.88	0.00	0.00	0.00
2,400.00	5.23	131.35	2,391.13	-130.14	147.87	196.98	0.00	0.00	0.00
2,500.00	5.23	131.35	2,490.72	-136.16	154.71	206.09	0.00	0.00	0.00
2,600.00	5.23	131.35	2,590.30	-142.17	161.55	215.20	0.00	0.00	0.00
2,700.00	5.23	131.35	2,689.89	-148.19	168.38	224.31	0.00	0.00	0.00
2,800.00	5.23	131.35	2,789.47	-154.21	175.22	233.41	0.00	0.00	0.00
2,900.00	5.23	131.35	2,889.05	-160.22	182.06	242.52	0.00	0.00	0.00
3,000.00	5.23	131.35	2,988.64	-166.24	188.89	251.63	0.00	0.00	0.00
3,100.00	5.23	131.35	3,088.22	-172.26	195.73	260.73	0.00	0.00	0.00
3,200.00	5.23	131.35	3,187.81	-178.27	202.57	269.84	0.00	0.00	0.00
3,214.25	5.23	131.35	3,202.00	-179.13	203.54	271.14	0.00	0.00	0.00
Wasatch									
3,300.00	5.23	131.35	3,287.39	-184.29	209.40	278.95	0.00	0.00	0.00
3,314.00	5.23	131.35	3,301.33	-185.13	210.36	280.22	0.00	0.00	0.00
9 5/8" Surface @ 3314' MD									
3,400.00	5.23	131.35	3,386.98	-190.31	216.24	288.06	0.00	0.00	0.00
3,500.00	5.23	131.35	3,486.56	-196.32	223.08	297.16	0.00	0.00	0.00
3,600.00	5.23	131.35	3,586.15	-202.34	229.91	306.27	0.00	0.00	0.00
3,700.00	5.23	131.35	3,685.73	-208.36	236.75	315.38	0.00	0.00	0.00
3,800.00	5.23	131.35	3,785.31	-214.37	243.59	324.48	0.00	0.00	0.00
3,900.00	5.23	131.35	3,884.90	-220.39	250.42	333.59	0.00	0.00	0.00
4,000.00	5.23	131.35	3,984.48	-226.41	257.26	342.70	0.00	0.00	0.00
4,100.00	5.23	131.35	4,084.07	-232.42	264.10	351.80	0.00	0.00	0.00
4,200.00	5.23	131.35	4,183.65	-238.44	270.93	360.91	0.00	0.00	0.00
4,300.00	5.23	131.35	4,283.24	-244.46	277.77	370.02	0.00	0.00	0.00
4,352.98	5.23	131.35	4,336.00	-247.64	281.39	374.84	0.00	0.00	0.00
Top G Sand									
4,377.08	5.23	131.35	4,360.00	-249.09	283.04	377.04	0.00	0.00	0.00
Base G Sand									

Database:	Grand Junction District	Local Co-ordinate Reference:	Well TR 432-28-597 - Slot A4
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 8481.4' & RKB 24' @ 8505.40usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 8481.4' & RKB 24' @ 8505.40usft
Site:	TR 32-28-597 Pad	North Reference:	True
Well:	TR 432-28-597	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 2May2017 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)
4,400.00	5.23	131.35	4,382.82	-250.47	284.61	379.13	0.00	0.00	0.00
4,500.00	5.23	131.35	4,482.41	-256.49	291.44	388.23	0.00	0.00	0.00
4,532.73	5.23	131.35	4,515.00	-258.46	293.68	391.21	0.00	0.00	0.00
Fort Union									
4,600.00	5.23	131.35	4,581.99	-262.51	298.28	397.34	0.00	0.00	0.00
4,700.00	5.23	131.35	4,681.57	-268.52	305.12	406.45	0.00	0.00	0.00
4,800.00	5.23	131.35	4,781.16	-274.54	311.95	415.55	0.00	0.00	0.00
4,900.00	5.23	131.35	4,880.74	-280.56	318.79	424.66	0.00	0.00	0.00
5,000.00	5.23	131.35	4,980.33	-286.57	325.63	433.77	0.00	0.00	0.00
5,100.00	5.23	131.35	5,079.91	-292.59	332.46	442.88	0.00	0.00	0.00
5,200.00	5.23	131.35	5,179.50	-298.61	339.30	451.98	0.00	0.00	0.00
5,300.00	5.23	131.35	5,279.08	-304.62	346.13	461.09	0.00	0.00	0.00
5,400.00	5.23	131.35	5,378.67	-310.64	352.97	470.20	0.00	0.00	0.00
5,500.00	5.23	131.35	5,478.25	-316.66	359.81	479.30	0.00	0.00	0.00
5,579.21	5.23	131.35	5,557.13	-321.42	365.22	486.52	0.00	0.00	0.00
5,600.00	4.91	131.35	5,577.84	-322.63	366.60	488.35	1.50	-1.50	0.00
5,650.32	4.16	131.35	5,628.00	-325.26	369.59	492.33	1.50	-1.50	0.00
Ohio Creek									
5,700.00	3.41	131.35	5,677.57	-327.43	372.05	495.61	1.50	-1.50	0.00
5,800.00	1.91	131.35	5,777.46	-330.50	375.54	500.26	1.50	-1.50	0.00
5,900.00	0.41	131.35	5,877.44	-331.84	377.06	502.29	1.50	-1.50	0.00
5,927.56	0.00	0.00	5,905.00	-331.91	377.14	502.39	1.50	-1.50	0.00
Mesaverde - TR 432-28-597 MVRD									
6,000.00	0.00	0.00	5,977.44	-331.91	377.14	502.39	0.00	0.00	0.00
6,100.00	0.00	0.00	6,077.44	-331.91	377.14	502.39	0.00	0.00	0.00
6,200.00	0.00	0.00	6,177.44	-331.91	377.14	502.39	0.00	0.00	0.00
6,300.00	0.00	0.00	6,277.44	-331.91	377.14	502.39	0.00	0.00	0.00
6,400.00	0.00	0.00	6,377.44	-331.91	377.14	502.39	0.00	0.00	0.00
6,500.00	0.00	0.00	6,477.44	-331.91	377.14	502.39	0.00	0.00	0.00
6,557.56	0.00	0.00	6,535.00	-331.91	377.14	502.39	0.00	0.00	0.00
Top Gas									
6,600.00	0.00	0.00	6,577.44	-331.91	377.14	502.39	0.00	0.00	0.00
6,700.00	0.00	0.00	6,677.44	-331.91	377.14	502.39	0.00	0.00	0.00
6,800.00	0.00	0.00	6,777.44	-331.91	377.14	502.39	0.00	0.00	0.00
6,900.00	0.00	0.00	6,877.44	-331.91	377.14	502.39	0.00	0.00	0.00
7,000.00	0.00	0.00	6,977.44	-331.91	377.14	502.39	0.00	0.00	0.00
7,100.00	0.00	0.00	7,077.44	-331.91	377.14	502.39	0.00	0.00	0.00
7,200.00	0.00	0.00	7,177.44	-331.91	377.14	502.39	0.00	0.00	0.00
7,300.00	0.00	0.00	7,277.44	-331.91	377.14	502.39	0.00	0.00	0.00
7,400.00	0.00	0.00	7,377.44	-331.91	377.14	502.39	0.00	0.00	0.00
7,500.00	0.00	0.00	7,477.44	-331.91	377.14	502.39	0.00	0.00	0.00
7,600.00	0.00	0.00	7,577.44	-331.91	377.14	502.39	0.00	0.00	0.00
7,700.00	0.00	0.00	7,677.44	-331.91	377.14	502.39	0.00	0.00	0.00
7,800.00	0.00	0.00	7,777.44	-331.91	377.14	502.39	0.00	0.00	0.00
7,900.00	0.00	0.00	7,877.44	-331.91	377.14	502.39	0.00	0.00	0.00
8,000.00	0.00	0.00	7,977.44	-331.91	377.14	502.39	0.00	0.00	0.00
8,100.00	0.00	0.00	8,077.44	-331.91	377.14	502.39	0.00	0.00	0.00
8,200.00	0.00	0.00	8,177.44	-331.91	377.14	502.39	0.00	0.00	0.00
8,206.56	0.00	0.00	8,184.00	-331.91	377.14	502.39	0.00	0.00	0.00
Cameo Coals									
8,300.00	0.00	0.00	8,277.44	-331.91	377.14	502.39	0.00	0.00	0.00
8,400.00	0.00	0.00	8,377.44	-331.91	377.14	502.39	0.00	0.00	0.00
8,500.00	0.00	0.00	8,477.44	-331.91	377.14	502.39	0.00	0.00	0.00

Database:	Grand Junction District	Local Co-ordinate Reference:	Well TR 432-28-597 - Slot A4
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 8481.4' & RKB 24' @ 8505.40usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 8481.4' & RKB 24' @ 8505.40usft
Site:	TR 32-28-597 Pad	North Reference:	True
Well:	TR 432-28-597	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 2May2017 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)
8,600.00	0.00	0.00	8,577.44	-331.91	377.14	502.39	0.00	0.00	0.00
8,636.56	0.00	0.00	8,614.00	-331.91	377.14	502.39	0.00	0.00	0.00
Rollins Ss									
8,700.00	0.00	0.00	8,677.44	-331.91	377.14	502.39	0.00	0.00	0.00
8,800.00	0.00	0.00	8,777.44	-331.91	377.14	502.39	0.00	0.00	0.00
8,823.56	0.00	0.00	8,801.00	-331.91	377.14	502.39	0.00	0.00	0.00
Cozzette									
8,900.00	0.00	0.00	8,877.44	-331.91	377.14	502.39	0.00	0.00	0.00
9,000.00	0.00	0.00	8,977.44	-331.91	377.14	502.39	0.00	0.00	0.00
9,051.56	0.00	0.00	9,029.00	-331.91	377.14	502.39	0.00	0.00	0.00
Corcoran									
9,100.00	0.00	0.00	9,077.44	-331.91	377.14	502.39	0.00	0.00	0.00
9,200.00	0.00	0.00	9,177.44	-331.91	377.14	502.39	0.00	0.00	0.00
9,217.56	0.00	0.00	9,195.00	-331.91	377.14	502.39	0.00	0.00	0.00
Sego									
9,300.00	0.00	0.00	9,277.44	-331.91	377.14	502.39	0.00	0.00	0.00
9,400.00	0.00	0.00	9,377.44	-331.91	377.14	502.39	0.00	0.00	0.00
9,500.00	0.00	0.00	9,477.44	-331.91	377.14	502.39	0.00	0.00	0.00
9,517.56	0.00	0.00	9,495.00	-331.91	377.14	502.39	0.00	0.00	0.00
TD - TR 432-28-597 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									
TR 432-28-597 MVRD	0.00	0.00	5,905.00	-331.91	377.14	1,650,351.00	2,216,420.90	39.5860800	-108.2806678
- plan hits target center									
- Circle (radius 50.00)									
TR 432-28-597 PBHL	0.00	0.00	9,495.00	-331.91	377.14	1,650,351.00	2,216,420.90	39.5860800	-108.2806678
- plan hits target center									
- Point									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
3,314.00	3,301.33	9 5/8" Surface @ 3314' MD	9.62	9.62	

Database:	Grand Junction District	Local Co-ordinate Reference:	Well TR 432-28-597 - Slot A4
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 8481.4' & RKB 24' @ 8505.40usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 8481.4' & RKB 24' @ 8505.40usft
Site:	TR 32-28-597 Pad	North Reference:	True
Well:	TR 432-28-597	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 2May2017 jcsdi		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,214.25	3,202.00	Wasatch		0.00	0.00	
4,352.98	4,336.00	Top G Sand		0.00	0.00	
4,377.08	4,360.00	Base G Sand		0.00	0.00	
4,532.73	4,515.00	Fort Union		0.00	0.00	
5,650.32	5,628.00	Ohio Creek		0.00	0.00	
5,927.56	5,905.00	Mesaverde		0.00	0.00	
6,557.56	6,535.00	Top Gas		0.00	0.00	
8,206.56	8,184.00	Cameo Coals		0.00	0.00	
8,636.56	8,614.00	Rollins Ss		0.00	0.00	
8,823.56	8,801.00	Cozzette		0.00	0.00	
9,051.56	9,029.00	Corcoran		0.00	0.00	
9,217.56	9,195.00	Sego		0.00	0.00	
9,517.56	9,495.00	TD		0.00	0.00	