

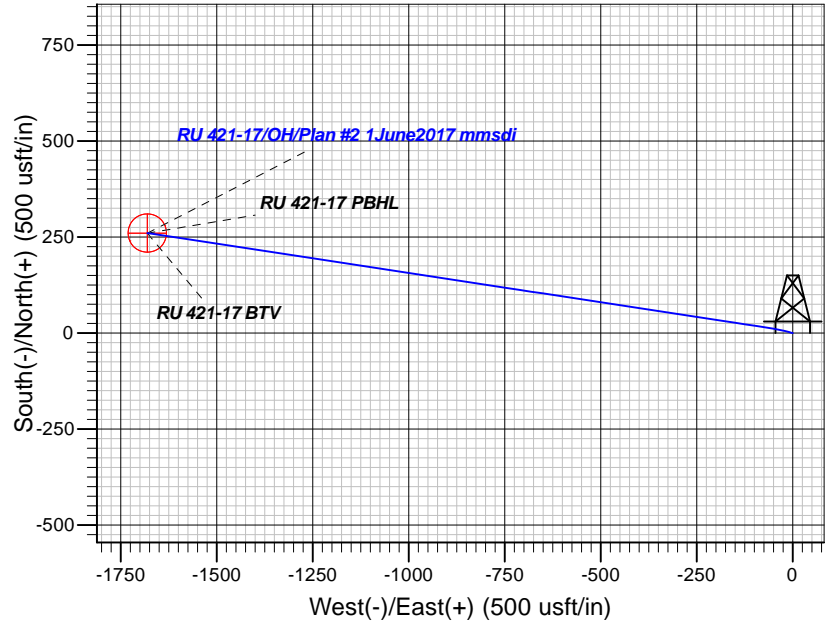
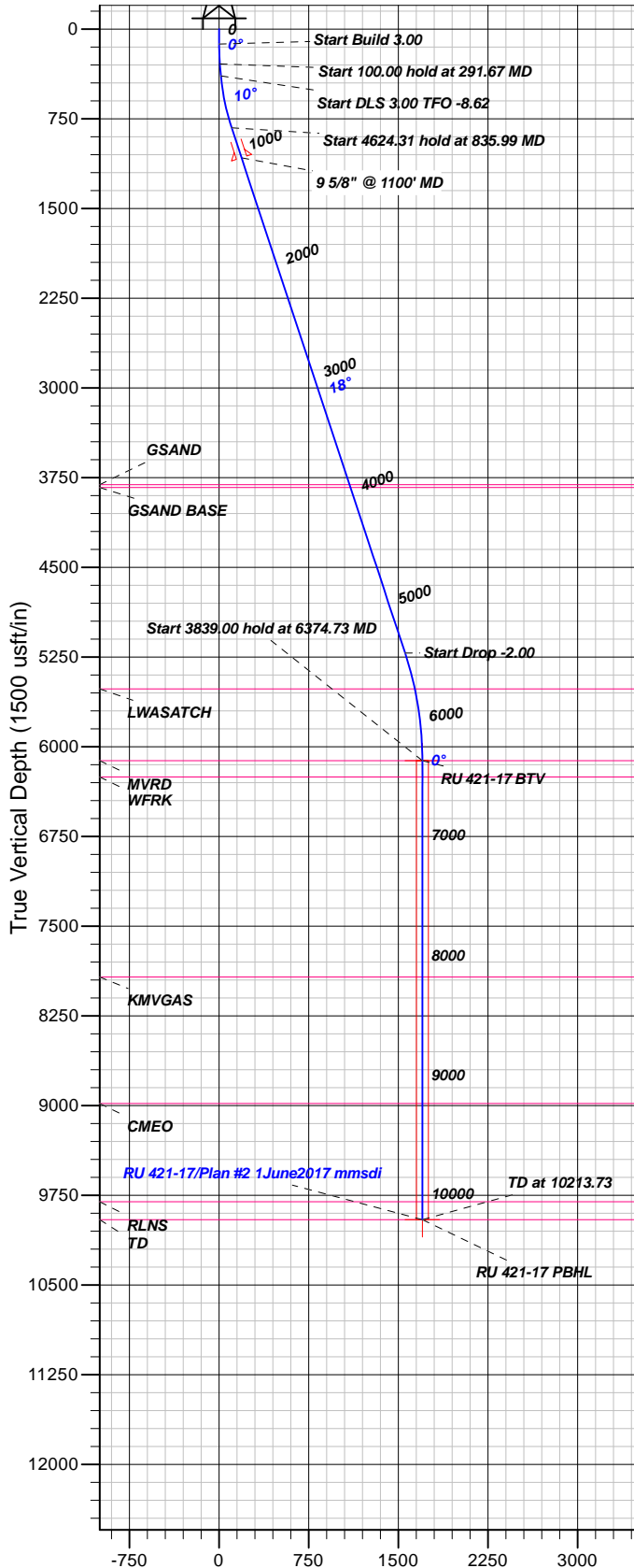
Well Details: RU 421-17

GL 7859' & RKB 24' @ 7883.00usft (H&P 318)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1596965.30	2351766.90	39.4499508	-107.7958085	RU 421-17

T M Azimuths to True North
Magnetic North: 9.28°

Magnetic Field
Strength: 51718.6snT
Dip Angle: 65.65°
Date: 2/9/2017
Model: HDGM



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3808.00	3977.37	GSAND
3833.00	4003.70	GSAND BASE
5515.00	5770.25	LWASATCH
6115.00	6374.73	MVRD
6252.00	6511.73	WFRK
7925.00	8184.73	KMVGAS
8982.00	9241.73	CMEO
9804.00	10063.73	RLNS
9954.00	10213.73	TD

Plan: Plan #2 1June2017 mmsdi

13:32, June 02 2017
Created By: Mel Mireles

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
1075.97	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	125.00	0.00	0.00	125.00	0.00	0.00	0.00	0.00	0.00	
3	291.67	5.00	285.00	291.46	1.88	-7.02	3.00	285.00	7.23	
4	391.67	5.00	285.00	391.07	4.14	-15.44	0.00	0.00	15.89	
5	835.99	18.29	278.67	825.30	19.73	-103.46	3.00	-8.62	105.26	
6	5460.31	18.29	278.67	5216.03	238.58	-1537.97	0.00	0.00	1556.36	
7	6374.73	0.00	0.00	6115.00	260.41	-1681.02	2.00	180.00	1701.07	RU 421-17 BTV
8	10213.73	0.00	0.00	9954.00	260.41	-1681.02	0.00	0.00	1701.07	RU 421-17 PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
RU 421-17 BTV	6115.00	260.41	-1681.02	1597268.10	2350093.00	39.4506656	-107.8017615	Circle (Radius: 50.00)
- plan hits target center								
RU 421-17 PBHL	9954.00	260.41	-1681.02	1597268.10	2350093.00	39.4506656	-107.8017615	Point
- plan hits target center								



TEP Rocky Mountain LLC

Garfield County, CO NAD83

RU 31-17 Pad

RU 421-17 - Slot RU 421-17

OH

Plan: Plan #2 1June2017 mmsdi

Standard Planning Report

02 June, 2017



Database:	Grand Junction District	Local Co-ordinate Reference:	Well RU 421-17 - Slot RU 421-17
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 7859' & RKB 24' @ 7883.00usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 7859' & RKB 24' @ 7883.00usft (H&P 318)
Site:	RU 31-17 Pad	North Reference:	True
Well:	RU 421-17	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 1June2017 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	RU 31-17 Pad			
Site Position:		Northing:	1,596,940.40 usft	Latitude: 39.4498852
From: Map		Easting:	2,351,805.70 usft	Longitude: -107.7956689
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence: -1.45 °

Well	RU 421-17 - Slot RU 421-17			
Well Position	+N/-S	23.91 usft	Northing:	1,596,965.30 usft
	+E/-W	-39.42 usft	Easting:	2,351,766.90 usft
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft
			Ground Level:	7,859.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	2/9/2017	9.28	65.65	51,719

Design	Plan #2 1June2017 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	278.81

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	
125.00	0.00	0.00	125.00	0.00	0.00	0.00	0.00	0.00	0.00	
291.67	5.00	285.00	291.46	1.88	-7.02	3.00	3.00	0.00	285.00	
391.67	5.00	285.00	391.07	4.14	-15.44	0.00	0.00	0.00	0.00	
835.99	18.29	278.67	825.30	19.73	-103.46	3.00	2.99	-1.42	-8.62	
5,460.31	18.29	278.67	5,216.03	238.58	-1,537.97	0.00	0.00	0.00	0.00	
6,374.73	0.00	0.00	6,115.00	260.41	-1,681.02	2.00	-2.00	0.00	180.00	RU 421-17 BTV

Database:	Grand Junction District	Local Co-ordinate Reference:	Well RU 421-17 - Slot RU 421-17
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 7859' & RKB 24' @ 7883.00usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 7859' & RKB 24' @ 7883.00usft (H&P 318)
Site:	RU 31-17 Pad	North Reference:	True
Well:	RU 421-17	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 1June2017 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	
125.00	0.00	0.00	125.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	2.25	285.00	199.98	0.38	-1.42	1.46	3.00	3.00	0.00	
291.67	5.00	285.00	291.46	1.88	-7.02	7.23	3.00	3.00	0.00	
300.00	5.00	285.00	299.76	2.07	-7.72	7.95	0.00	0.00	0.00	
391.67	5.00	285.00	391.07	4.14	-15.44	15.89	0.00	0.00	0.00	
400.00	5.25	284.59	399.37	4.33	-16.16	16.63	3.00	2.97	-4.92	
500.00	8.23	281.59	498.67	6.92	-27.60	28.33	3.00	2.98	-3.00	
600.00	11.22	280.19	597.23	10.08	-44.18	45.20	3.00	2.99	-1.41	
700.00	14.21	279.37	694.76	13.80	-65.87	67.21	3.00	2.99	-0.82	
800.00	17.21	278.83	791.02	18.06	-92.61	94.29	3.00	3.00	-0.54	
835.99	18.29	278.67	825.30	19.73	-103.46	105.26	3.00	3.00	-0.42	
900.00	18.29	278.67	886.07	22.76	-123.31	125.34	0.00	0.00	0.00	
1,000.00	18.29	278.67	981.02	27.49	-154.33	156.72	0.00	0.00	0.00	
1,100.00	18.29	278.67	1,075.97	32.23	-185.35	188.10	0.00	0.00	0.00	
9 5/8" @ 1100' MD										
1,200.00	18.29	278.67	1,170.91	36.96	-216.38	219.48	0.00	0.00	0.00	
1,300.00	18.29	278.67	1,265.86	41.69	-247.40	250.86	0.00	0.00	0.00	
1,400.00	18.29	278.67	1,360.81	46.42	-278.42	282.24	0.00	0.00	0.00	
1,500.00	18.29	278.67	1,455.76	51.16	-309.44	313.62	0.00	0.00	0.00	
1,600.00	18.29	278.67	1,550.71	55.89	-340.46	345.00	0.00	0.00	0.00	
1,700.00	18.29	278.67	1,645.66	60.62	-371.48	376.38	0.00	0.00	0.00	
1,800.00	18.29	278.67	1,740.61	65.36	-402.50	407.76	0.00	0.00	0.00	
1,900.00	18.29	278.67	1,835.56	70.09	-433.52	439.14	0.00	0.00	0.00	
2,000.00	18.29	278.67	1,930.51	74.82	-464.54	470.52	0.00	0.00	0.00	
2,100.00	18.29	278.67	2,025.46	79.55	-495.57	501.90	0.00	0.00	0.00	
2,200.00	18.29	278.67	2,120.40	84.29	-526.59	533.28	0.00	0.00	0.00	
2,300.00	18.29	278.67	2,215.35	89.02	-557.61	564.66	0.00	0.00	0.00	
2,400.00	18.29	278.67	2,310.30	93.75	-588.63	596.04	0.00	0.00	0.00	
2,500.00	18.29	278.67	2,405.25	98.48	-619.65	627.42	0.00	0.00	0.00	
2,600.00	18.29	278.67	2,500.20	103.22	-650.67	658.80	0.00	0.00	0.00	
2,700.00	18.29	278.67	2,595.15	107.95	-681.69	690.18	0.00	0.00	0.00	
2,800.00	18.29	278.67	2,690.10	112.68	-712.71	721.56	0.00	0.00	0.00	
2,900.00	18.29	278.67	2,785.05	117.41	-743.73	752.94	0.00	0.00	0.00	
3,000.00	18.29	278.67	2,880.00	122.15	-774.75	784.32	0.00	0.00	0.00	
3,100.00	18.29	278.67	2,974.94	126.88	-805.78	815.70	0.00	0.00	0.00	
3,200.00	18.29	278.67	3,069.89	131.61	-836.80	847.08	0.00	0.00	0.00	
3,300.00	18.29	278.67	3,164.84	136.34	-867.82	878.46	0.00	0.00	0.00	
3,400.00	18.29	278.67	3,259.79	141.08	-898.84	909.84	0.00	0.00	0.00	
3,500.00	18.29	278.67	3,354.74	145.81	-929.86	941.22	0.00	0.00	0.00	
3,600.00	18.29	278.67	3,449.69	150.54	-960.88	972.60	0.00	0.00	0.00	
3,700.00	18.29	278.67	3,544.64	155.27	-991.90	1,003.98	0.00	0.00	0.00	
3,800.00	18.29	278.67	3,639.59	160.01	-1,022.92	1,035.36	0.00	0.00	0.00	
3,900.00	18.29	278.67	3,734.54	164.74	-1,053.94	1,066.74	0.00	0.00	0.00	
3,977.37	18.29	278.67	3,808.00	168.40	-1,077.95	1,091.02	0.00	0.00	0.00	
GSAND										
4,000.00	18.29	278.67	3,829.48	169.47	-1,084.97	1,098.12	0.00	0.00	0.00	
4,003.70	18.29	278.67	3,833.00	169.65	-1,086.11	1,099.28	0.00	0.00	0.00	
GSAND BASE										
4,100.00	18.29	278.67	3,924.43	174.20	-1,115.99	1,129.50	0.00	0.00	0.00	
4,200.00	18.29	278.67	4,019.38	178.94	-1,147.01	1,160.88	0.00	0.00	0.00	

Database:	Grand Junction District	Local Co-ordinate Reference:	Well RU 421-17 - Slot RU 421-17
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 7859' & RKB 24' @ 7883.00usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 7859' & RKB 24' @ 7883.00usft (H&P 318)
Site:	RU 31-17 Pad	North Reference:	True
Well:	RU 421-17	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 1June2017 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)	
4,300.00	18.29	278.67	4,114.33	183.67	-1,178.03	1,192.26	0.00	0.00	0.00	
4,400.00	18.29	278.67	4,209.28	188.40	-1,209.05	1,223.64	0.00	0.00	0.00	
4,500.00	18.29	278.67	4,304.23	193.14	-1,240.07	1,255.02	0.00	0.00	0.00	
4,600.00	18.29	278.67	4,399.18	197.87	-1,271.09	1,286.40	0.00	0.00	0.00	
4,700.00	18.29	278.67	4,494.13	202.60	-1,302.11	1,317.78	0.00	0.00	0.00	
4,800.00	18.29	278.67	4,589.08	207.33	-1,333.13	1,349.16	0.00	0.00	0.00	
4,900.00	18.29	278.67	4,684.02	212.07	-1,364.16	1,380.54	0.00	0.00	0.00	
5,000.00	18.29	278.67	4,778.97	216.80	-1,395.18	1,411.92	0.00	0.00	0.00	
5,100.00	18.29	278.67	4,873.92	221.53	-1,426.20	1,443.30	0.00	0.00	0.00	
5,200.00	18.29	278.67	4,968.87	226.26	-1,457.22	1,474.68	0.00	0.00	0.00	
5,300.00	18.29	278.67	5,063.82	231.00	-1,488.24	1,506.06	0.00	0.00	0.00	
5,400.00	18.29	278.67	5,158.77	235.73	-1,519.26	1,537.44	0.00	0.00	0.00	
5,460.31	18.29	278.67	5,216.03	238.58	-1,537.97	1,556.36	0.00	0.00	0.00	
5,500.00	17.49	278.67	5,253.80	240.42	-1,550.02	1,568.56	2.00	-2.00	0.00	
5,600.00	15.49	278.67	5,349.68	244.70	-1,578.09	1,596.95	2.00	-2.00	0.00	
5,700.00	13.49	278.67	5,446.50	248.48	-1,602.83	1,621.98	2.00	-2.00	0.00	
5,770.25	12.09	278.67	5,515.00	250.82	-1,618.21	1,637.53	2.00	-2.00	0.00	
LWASATCH										
5,800.00	11.49	278.67	5,544.12	251.74	-1,624.22	1,643.61	2.00	-2.00	0.00	
5,900.00	9.49	278.67	5,642.44	254.49	-1,642.22	1,661.82	2.00	-2.00	0.00	
6,000.00	7.49	278.67	5,741.34	256.72	-1,656.82	1,676.59	2.00	-2.00	0.00	
6,100.00	5.49	278.67	5,840.70	258.42	-1,668.00	1,687.90	2.00	-2.00	0.00	
6,200.00	3.49	278.67	5,940.38	259.60	-1,675.75	1,695.74	2.00	-2.00	0.00	
6,300.00	1.49	278.67	6,040.28	260.26	-1,680.05	1,700.09	2.00	-2.00	0.00	
6,374.73	0.00	0.00	6,115.00	260.41	-1,681.02	1,701.07	2.00	-2.00	0.00	
MVRD - RU 421-17 PBHL - RU 421-17 BTV										

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
RU 421-17 BTV	0.00	0.00	6,115.00	260.41	-1,681.02	1,597,268.10	2,350,093.00	39.4506656	-107.8017615
- hit/miss target									
- Shape									
- plan hits target center									
- Circle (radius 50.00)									
RU 421-17 PBHL	0.00	0.00	9,954.00	260.41	-1,681.02	1,597,268.10	2,350,093.00	39.4506656	-107.8017615
- plan misses target center by 3839.00usft at 6374.73usft MD (6115.00 TVD, 260.41 N, -1681.02 E)									
- Point									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,100.00	1,075.97	9 5/8" @ 1100' MD	9.62	9.62	

Database:	Grand Junction District	Local Co-ordinate Reference:	Well RU 421-17 - Slot RU 421-17
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 7859' & RKB 24' @ 7883.00usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 7859' & RKB 24' @ 7883.00usft (H&P 318)
Site:	RU 31-17 Pad	North Reference:	True
Well:	RU 421-17	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 1June2017 mmsdi		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,977.37	3,808.00	GSAND		0.00	0.00	
4,003.70	3,833.00	GSAND BASE		0.00	0.00	
5,770.25	5,515.00	LWASATCH		0.00	0.00	
6,374.73	6,115.00	MVRD		0.00	0.00	