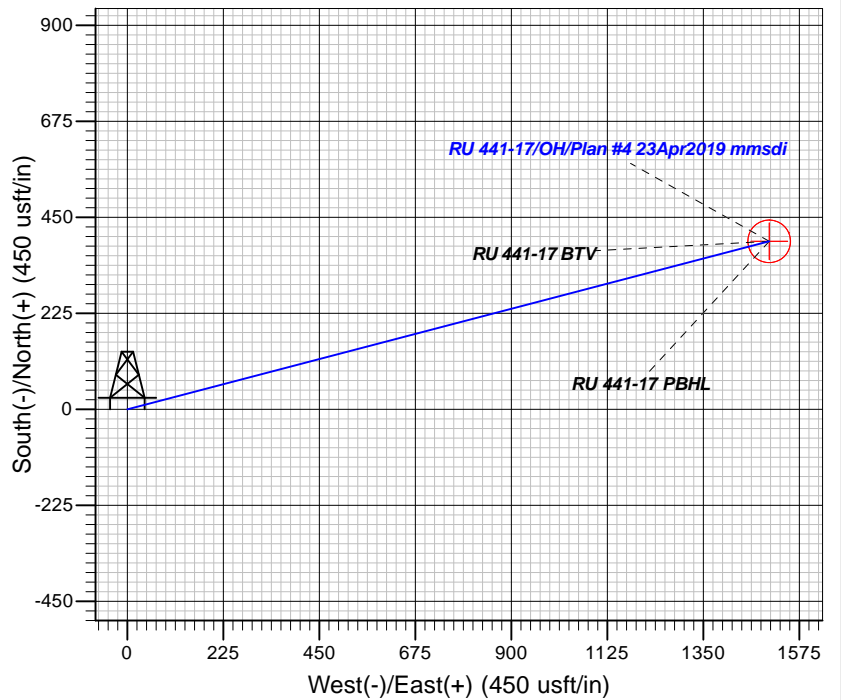
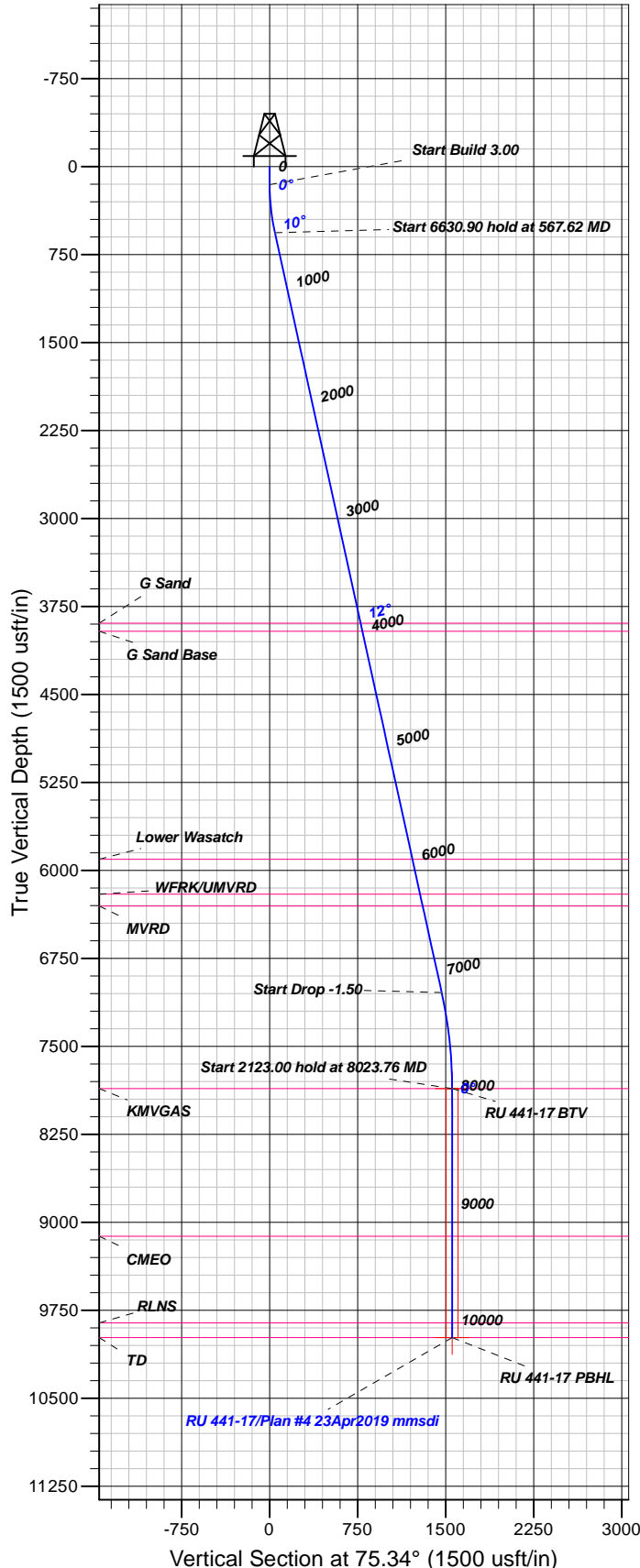


Well Details: RU 441-17

GL 7864' & RKB 24' @ 7888.00usft (H&P 318)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1596988.30	2351758.10	39.4500133	-107.7958417	RU 441-17

T M Azimuths to True North
 Magnetic North: 9.30°
 Magnetic Field
 Strength: 51715.5snT
 Dip Angle: 65.63°
 Date: 2/9/2017
 Model: HDGM



FORMATION TOP DETAILS

TVDPth	MDPath	Formation
3892.00	3974.40	G Sand
3962.00	4046.07	G Sand Base
5906.00	6036.34	Lower Wasatch
6203.00	6340.41	WFRK/UMVRD
6304.00	6443.81	MVRD
7860.00	8023.76	KMGVGS
9119.00	9282.76	CMEO
9858.00	10021.76	RLNS
9983.00	10146.76	TD

Plan: Plan #4 23Apr2019 mmsdi

18:09, April 29 2019
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
1084.42	1100.00	9 5/8" @ 1100' MD	9.62

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VFace	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	155.00	0.00	0.00	155.00	0.00	0.00	0.00	0.00	0.00	
3	567.62	12.38	75.34	564.42	11.24	42.95	3.00	75.34	44.40	
4	7198.52	12.38	75.34	7041.17	371.05	1418.13	0.00	0.001465.87		
5	8023.76	0.00	0.00	7860.00	393.53	1504.04	1.50	180.001554.67		RU 441-17 BTV
6	10146.76	0.00	0.00	9983.00	393.53	1504.04	0.00	0.001554.67		RU 441-17 PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
RU 441-17 BTV	7860.00	393.53	1504.04	1597343.70	2353271.60	39.4510936	-107.7905154	Circle (Radius: 50.00)
- plan hits target center								
RU 441-17 PBHL	9983.00	393.53	1504.04	1597343.70	2353271.60	39.4510936	-107.7905154	Point
- plan hits target center								



TEP Rocky Mountain LLC

Garfield County, CO NAD83

RU 31-17 Pad

RU 441-17 - Slot RU 441-17

OH

Plan: Plan #4 23Apr2019 mmsdi

Standard Planning Report

29 April, 2019



www.scientificdrilling.com



Database:	Grand Junction District	Local Co-ordinate Reference:	Well RU 441-17 - Slot RU 441-17
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 7864' & RKB 24' @ 7888.00usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 7864' & RKB 24' @ 7888.00usft (H&P 318)
Site:	RU 31-17 Pad	North Reference:	True
Well:	RU 441-17	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #4 23Apr2019 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 441-17 - Slot RU 441-17			
Well Position	+N/-S	46.68 usft	Northing:	1,596,988.30 usft
	+E/-W	-48.80 usft	Easting:	2,351,758.10 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	0.00 usft
			Ground Level:	7,864.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	2/9/2017	9.30	65.63	51,716

Design	Plan #4 23Apr2019 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	75.34

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	
155.00	0.00	0.00	155.00	0.00	0.00	0.00	0.00	0.00	0.00	
567.62	12.38	75.34	564.42	11.24	42.95	3.00	3.00	0.00	75.34	
7,198.52	12.38	75.34	7,041.17	371.05	1,418.13	0.00	0.00	0.00	0.00	
8,023.76	0.00	0.00	7,860.00	393.53	1,504.04	1.50	-1.50	0.00	180.00	RU 441-17 BTW
10,146.76	0.00	0.00	9,983.00	393.53	1,504.04	0.00	0.00	0.00	0.00	RU 441-17 PBHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well RU 441-17 - Slot RU 441-17
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 7864' & RKB 24' @ 7888.00usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 7864' & RKB 24' @ 7888.00usft (H&P 318)
Site:	RU 31-17 Pad	North Reference:	True
Well:	RU 441-17	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #4 23Apr2019 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
155.00	0.00	0.00	155.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 3.00									
200.00	1.35	75.34	200.00	0.13	0.51	0.53	3.00	3.00	0.00
300.00	4.35	75.34	299.86	1.39	5.32	5.50	3.00	3.00	0.00
400.00	7.35	75.34	399.33	3.97	15.18	15.69	3.00	3.00	0.00
500.00	10.35	75.34	498.13	7.87	30.06	31.08	3.00	3.00	0.00
567.62	12.38	75.34	564.42	11.24	42.95	44.40	3.00	3.00	0.00
Start 6630.90 hold at 567.62 MD									
600.00	12.38	75.34	596.04	13.00	49.67	51.34	0.00	0.00	0.00
700.00	12.38	75.34	693.72	18.42	70.41	72.78	0.00	0.00	0.00
800.00	12.38	75.34	791.40	23.85	91.15	94.22	0.00	0.00	0.00
900.00	12.38	75.34	889.07	29.27	111.89	115.65	0.00	0.00	0.00
1,000.00	12.38	75.34	986.75	34.70	132.62	137.09	0.00	0.00	0.00
1,100.00	12.38	75.34	1,084.42	40.13	153.36	158.53	0.00	0.00	0.00
9 5/8" @ 1100' MD									
1,200.00	12.38	75.34	1,182.10	45.55	174.10	179.96	0.00	0.00	0.00
1,300.00	12.38	75.34	1,279.77	50.98	194.84	201.40	0.00	0.00	0.00
1,400.00	12.38	75.34	1,377.45	56.41	215.58	222.84	0.00	0.00	0.00
1,500.00	12.38	75.34	1,475.12	61.83	236.32	244.27	0.00	0.00	0.00
1,600.00	12.38	75.34	1,572.80	67.26	257.06	265.71	0.00	0.00	0.00
1,700.00	12.38	75.34	1,670.47	72.69	277.80	287.15	0.00	0.00	0.00
1,800.00	12.38	75.34	1,768.15	78.11	298.54	308.59	0.00	0.00	0.00
1,900.00	12.38	75.34	1,865.82	83.54	319.27	330.02	0.00	0.00	0.00
2,000.00	12.38	75.34	1,963.50	88.96	340.01	351.46	0.00	0.00	0.00
2,100.00	12.38	75.34	2,061.17	94.39	360.75	372.90	0.00	0.00	0.00
2,200.00	12.38	75.34	2,158.85	99.82	381.49	394.33	0.00	0.00	0.00
2,300.00	12.38	75.34	2,256.52	105.24	402.23	415.77	0.00	0.00	0.00
2,400.00	12.38	75.34	2,354.20	110.67	422.97	437.21	0.00	0.00	0.00
2,500.00	12.38	75.34	2,451.87	116.10	443.71	458.64	0.00	0.00	0.00
2,600.00	12.38	75.34	2,549.55	121.52	464.45	480.08	0.00	0.00	0.00
2,700.00	12.38	75.34	2,647.22	126.95	485.19	501.52	0.00	0.00	0.00
2,800.00	12.38	75.34	2,744.90	132.38	505.92	522.96	0.00	0.00	0.00
2,900.00	12.38	75.34	2,842.58	137.80	526.66	544.39	0.00	0.00	0.00
3,000.00	12.38	75.34	2,940.25	143.23	547.40	565.83	0.00	0.00	0.00
3,100.00	12.38	75.34	3,037.93	148.65	568.14	587.27	0.00	0.00	0.00
3,200.00	12.38	75.34	3,135.60	154.08	588.88	608.70	0.00	0.00	0.00
3,300.00	12.38	75.34	3,233.28	159.51	609.62	630.14	0.00	0.00	0.00
3,400.00	12.38	75.34	3,330.95	164.93	630.36	651.58	0.00	0.00	0.00
3,500.00	12.38	75.34	3,428.63	170.36	651.10	673.02	0.00	0.00	0.00
3,600.00	12.38	75.34	3,526.30	175.79	671.84	694.45	0.00	0.00	0.00
3,700.00	12.38	75.34	3,623.98	181.21	692.57	715.89	0.00	0.00	0.00
3,800.00	12.38	75.34	3,721.65	186.64	713.31	737.33	0.00	0.00	0.00
3,900.00	12.38	75.34	3,819.33	192.06	734.05	758.76	0.00	0.00	0.00
3,974.40	12.38	75.34	3,892.00	196.10	749.48	774.71	0.00	0.00	0.00
G Sand									
4,000.00	12.38	75.34	3,917.00	197.49	754.79	780.20	0.00	0.00	0.00
4,046.07	12.38	75.34	3,962.00	199.99	764.35	790.08	0.00	0.00	0.00
G Sand Base									
4,100.00	12.38	75.34	4,014.68	202.92	775.53	801.64	0.00	0.00	0.00

Database:	Grand Junction District	Local Co-ordinate Reference:	Well RU 441-17 - Slot RU 441-17
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 7864' & RKB 24' @ 7888.00usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 7864' & RKB 24' @ 7888.00usft (H&P 318)
Site:	RU 31-17 Pad	North Reference:	True
Well:	RU 441-17	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #4 23Apr2019 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)
4,200.00	12.38	75.34	4,112.35	208.34	796.27	823.07	0.00	0.00	0.00
4,300.00	12.38	75.34	4,210.03	213.77	817.01	844.51	0.00	0.00	0.00
4,400.00	12.38	75.34	4,307.70	219.20	837.75	865.95	0.00	0.00	0.00
4,500.00	12.38	75.34	4,405.38	224.62	858.49	887.39	0.00	0.00	0.00
4,600.00	12.38	75.34	4,503.05	230.05	879.22	908.82	0.00	0.00	0.00
4,700.00	12.38	75.34	4,600.73	235.48	899.96	930.26	0.00	0.00	0.00
4,800.00	12.38	75.34	4,698.41	240.90	920.70	951.70	0.00	0.00	0.00
4,900.00	12.38	75.34	4,796.08	246.33	941.44	973.13	0.00	0.00	0.00
5,000.00	12.38	75.34	4,893.76	251.75	962.18	994.57	0.00	0.00	0.00
5,100.00	12.38	75.34	4,991.43	257.18	982.92	1,016.01	0.00	0.00	0.00
5,200.00	12.38	75.34	5,089.11	262.61	1,003.66	1,037.44	0.00	0.00	0.00
5,300.00	12.38	75.34	5,186.78	268.03	1,024.40	1,058.88	0.00	0.00	0.00
5,400.00	12.38	75.34	5,284.46	273.46	1,045.14	1,080.32	0.00	0.00	0.00
5,500.00	12.38	75.34	5,382.13	278.89	1,065.87	1,101.76	0.00	0.00	0.00
5,600.00	12.38	75.34	5,479.81	284.31	1,086.61	1,123.19	0.00	0.00	0.00
5,700.00	12.38	75.34	5,577.48	289.74	1,107.35	1,144.63	0.00	0.00	0.00
5,800.00	12.38	75.34	5,675.16	295.17	1,128.09	1,166.07	0.00	0.00	0.00
5,900.00	12.38	75.34	5,772.83	300.59	1,148.83	1,187.50	0.00	0.00	0.00
6,000.00	12.38	75.34	5,870.51	306.02	1,169.57	1,208.94	0.00	0.00	0.00
6,036.34	12.38	75.34	5,906.00	307.99	1,177.10	1,216.73	0.00	0.00	0.00
Lower Wasatch									
6,100.00	12.38	75.34	5,968.18	311.44	1,190.31	1,230.38	0.00	0.00	0.00
6,200.00	12.38	75.34	6,065.86	316.87	1,211.05	1,251.82	0.00	0.00	0.00
6,300.00	12.38	75.34	6,163.53	322.30	1,231.79	1,273.25	0.00	0.00	0.00
6,340.41	12.38	75.34	6,203.00	324.49	1,240.17	1,281.91	0.00	0.00	0.00
WFRK/UMVRD									
6,400.00	12.38	75.34	6,261.21	327.72	1,252.52	1,294.69	0.00	0.00	0.00
6,443.81	12.38	75.34	6,304.00	330.10	1,261.61	1,304.08	0.00	0.00	0.00
MVRD									
6,500.00	12.38	75.34	6,358.88	333.15	1,273.26	1,316.13	0.00	0.00	0.00
6,600.00	12.38	75.34	6,456.56	338.58	1,294.00	1,337.56	0.00	0.00	0.00
6,700.00	12.38	75.34	6,554.23	344.00	1,314.74	1,359.00	0.00	0.00	0.00
6,800.00	12.38	75.34	6,651.91	349.43	1,335.48	1,380.44	0.00	0.00	0.00
6,900.00	12.38	75.34	6,749.59	354.85	1,356.22	1,401.87	0.00	0.00	0.00
7,000.00	12.38	75.34	6,847.26	360.28	1,376.96	1,423.31	0.00	0.00	0.00
7,100.00	12.38	75.34	6,944.94	365.71	1,397.70	1,444.75	0.00	0.00	0.00
7,198.52	12.38	75.34	7,041.17	371.05	1,418.13	1,465.87	0.00	0.00	0.00
Start Drop -1.50									
7,200.00	12.36	75.34	7,042.61	371.13	1,418.44	1,466.19	1.50	-1.50	0.00
7,300.00	10.86	75.34	7,140.56	376.23	1,437.90	1,486.30	1.50	-1.50	0.00
7,400.00	9.36	75.34	7,239.01	380.67	1,454.87	1,503.85	1.50	-1.50	0.00
7,500.00	7.86	75.34	7,337.88	384.46	1,469.35	1,518.81	1.50	-1.50	0.00
7,600.00	6.36	75.34	7,437.11	387.59	1,481.32	1,531.19	1.50	-1.50	0.00
7,700.00	4.86	75.34	7,536.63	390.06	1,490.77	1,540.95	1.50	-1.50	0.00
7,800.00	3.36	75.34	7,636.37	391.87	1,497.70	1,548.12	1.50	-1.50	0.00
7,900.00	1.86	75.34	7,736.26	393.02	1,502.10	1,552.66	1.50	-1.50	0.00
8,000.00	0.36	75.34	7,836.24	393.51	1,503.96	1,554.59	1.50	-1.50	0.00
8,023.76	0.00	0.00	7,860.00	393.53	1,504.04	1,554.67	1.50	-1.50	0.00
Start 2123.00 hold at 8023.76 MD - KMGAS - RU 441-17 BTV									
8,100.00	0.00	0.00	7,936.24	393.53	1,504.04	1,554.67	0.00	0.00	0.00
8,200.00	0.00	0.00	8,036.24	393.53	1,504.04	1,554.67	0.00	0.00	0.00

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Project:	Garfield County, CO NAD83	MD Reference:	GL 7864' & RKB 24' @ 7888.00usft (H&P 318)
Site:	RU 31-17 Pad	North Reference:	True
Well:	RU 441-17	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #4 23Apr2019 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)	
8,300.00	0.00	0.00	8,136.24	393.53	1,504.04	1,554.67	0.00	0.00	0.00	
8,400.00	0.00	0.00	8,236.24	393.53	1,504.04	1,554.67	0.00	0.00	0.00	
8,500.00	0.00	0.00	8,336.24	393.53	1,504.04	1,554.67	0.00	0.00	0.00	
8,600.00	0.00	0.00	8,436.24	393.53	1,504.04	1,554.67	0.00	0.00	0.00	
8,700.00	0.00	0.00	8,536.24	393.53	1,504.04	1,554.67	0.00	0.00	0.00	
8,800.00	0.00	0.00	8,636.24	393.53	1,504.04	1,554.67	0.00	0.00	0.00	
8,900.00	0.00	0.00	8,736.24	393.53	1,504.04	1,554.67	0.00	0.00	0.00	
9,000.00	0.00	0.00	8,836.24	393.53	1,504.04	1,554.67	0.00	0.00	0.00	
9,100.00	0.00	0.00	8,936.24	393.53	1,504.04	1,554.67	0.00	0.00	0.00	
9,200.00	0.00	0.00	9,036.24	393.53	1,504.04	1,554.67	0.00	0.00	0.00	
9,282.76	0.00	0.00	9,119.00	393.53	1,504.04	1,554.67	0.00	0.00	0.00	
CMEO										
9,300.00	0.00	0.00	9,136.24	393.53	1,504.04	1,554.67	0.00	0.00	0.00	
9,400.00	0.00	0.00	9,236.24	393.53	1,504.04	1,554.67	0.00	0.00	0.00	
9,500.00	0.00	0.00	9,336.24	393.53	1,504.04	1,554.67	0.00	0.00	0.00	
9,600.00	0.00	0.00	9,436.24	393.53	1,504.04	1,554.67	0.00	0.00	0.00	
9,700.00	0.00	0.00	9,536.24	393.53	1,504.04	1,554.67	0.00	0.00	0.00	
9,800.00	0.00	0.00	9,636.24	393.53	1,504.04	1,554.67	0.00	0.00	0.00	
9,900.00	0.00	0.00	9,736.24	393.53	1,504.04	1,554.67	0.00	0.00	0.00	
10,000.00	0.00	0.00	9,836.24	393.53	1,504.04	1,554.67	0.00	0.00	0.00	
10,021.76	0.00	0.00	9,858.00	393.53	1,504.04	1,554.67	0.00	0.00	0.00	
RLNS										
10,100.00	0.00	0.00	9,936.24	393.53	1,504.04	1,554.67	0.00	0.00	0.00	
10,146.76	0.00	0.00	9,983.00	393.53	1,504.04	1,554.67	0.00	0.00	0.00	
TD at 10146.76 - TD - RU 441-17 PBHL										

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
RU 441-17 BTV	0.00	0.00	7,860.00	393.53	1,504.04	1,597,343.70	2,353,271.60	39.4510936	-107.7905154
- hit/miss target									
- Shape									
- plan hits target center									
- Circle (radius 50.00)									
RU 441-17 PBHL	0.00	0.00	9,983.00	393.53	1,504.04	1,597,343.70	2,353,271.60	39.4510936	-107.7905154
- plan hits target center									
- Point									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,100.00	1,084.42	9 5/8" @ 1100' MD	9.62	9.62	

Database:	Grand Junction District	Local Co-ordinate Reference:	Well RU 441-17 - Slot RU 441-17
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 7864' & RKB 24' @ 7888.00usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 7864' & RKB 24' @ 7888.00usft (H&P 318)
Site:	RU 31-17 Pad	North Reference:	True
Well:	RU 441-17	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #4 23Apr2019 mmsdi		

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,974.40	3,892.00	G Sand		0.00	0.00
4,046.07	3,962.00	G Sand Base		0.00	0.00
6,036.34	5,906.00	Lower Wasatch		0.00	0.00
6,340.41	6,203.00	WFRK/UMVRD		0.00	0.00
6,443.81	6,304.00	MVRD		0.00	0.00
8,023.76	7,860.00	KMVGAS		0.00	0.00
9,282.76	9,119.00	CMEO		0.00	0.00
10,021.76	9,858.00	RLNS		0.00	0.00
10,146.76	9,983.00	TD		0.00	0.00

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
155.00	155.00	0.00	0.00	Start Build 3.00
567.62	564.42	11.24	42.95	Start 6630.90 hold at 567.62 MD
7,198.52	7,041.17	371.05	1,418.13	Start Drop -1.50
8,023.76	7,860.00	393.53	1,504.04	Start 2123.00 hold at 8023.76 MD
10,146.76	9,983.00	393.53	1,504.04	TD at 10146.76