



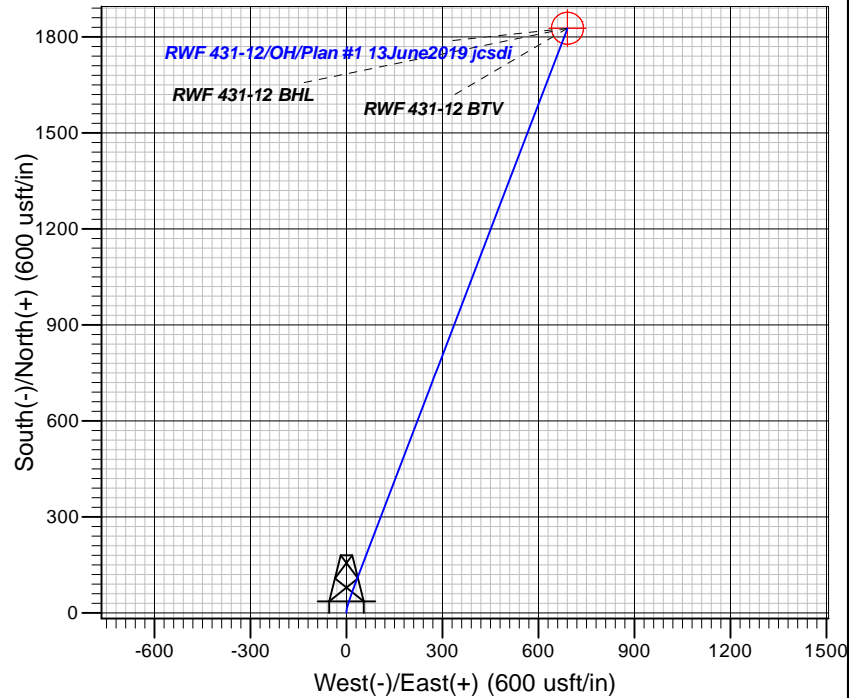
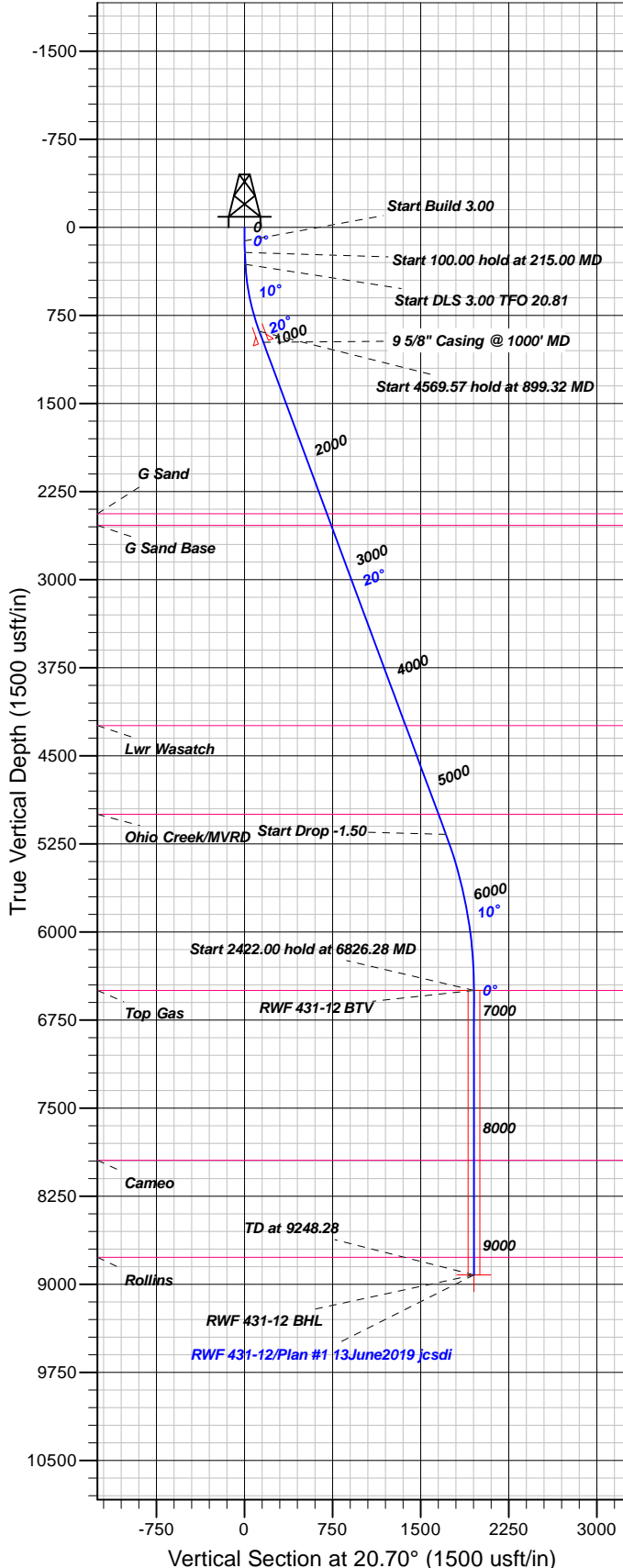
Azimuths to True North
Magnetic North: 9.37°

Magnetic Field
Strength: 51377.6snT
Dip Angle: 65.62°
Date: 6/13/2019
Model: BGGM2016

Well Details: RWF 431-12

GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1630857.60	2339728.70	39.5421265	-107.8415179	



FORMATION TOP DETAILS

TVDP	MD	Formation
2438.00	2555.89	G Sand
2538.00	2662.55	G Sand Base
4243.00	4481.18	Lwr Wasatch
4998.00	5286.49	Ohio Creek/MVRD
6498.00	6826.28	Top Gas
7943.00	8271.28	Cameo
8770.00	9098.28	Rollins

Plan: Plan #1 13June2019 jcsdi

16:08, June 18 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
979.33	1000.00	5/8" Casing @ 1000' 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	115.00	0.00	0.00	115.00	0.00	0.00	0.00	0.00	0.00	
3	215.00	3.00	3.00	214.95	2.61	0.14	3.00	3.00	2.49	
4	315.00	3.00	3.00	314.82	7.84	0.41	0.00	0.00	7.48	
5	899.32	20.36	20.91	884.94	118.93	37.79	3.00	20.81	124.61	
6	5468.89	20.36	20.91	5169.00	1604.07	605.35	0.00	0.00	1714.50	
7	6826.28	0.00	0.00	6498.00	1827.00	690.54	1.50	180.00	1953.15	RWF 431-12 BTV
8	9248.28	0.00	0.00	8920.00	1827.00	690.54	0.00	0.00	1953.15	RWF 431-12 BHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
RWF 431-12 BTV	6498.00	1827.00	690.54	1632666.20	2340466.10	39.5471423	-107.8390691	Circle (Radius: 50.00)
- plan hits target center								
RWF 431-12 BHL	8920.00	1827.00	690.54	1632666.20	2340466.10	39.5471423	-107.8390691	Point
- plan hits target center								



TEP Rocky Mountain LLC

Garfield County, CO NAD83

RWF 12-12 Pad

RWF 431-12

OH

Plan: Plan #1 13June2019 jcsdi

Standard Planning Report

18 June, 2019



Database:	Grand Junction District	Local Co-ordinate Reference:	Well RWF 431-12
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)
Site:	RWF 12-12 Pad	North Reference:	True
Well:	RWF 431-12	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 13June2019 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		RWF 12-12 Pad			
Site Position:		Northing:	1,630,797.20 usft	Latitude:	39.5419586
From:	Map	Easting:	2,339,698.60 usft	Longitude:	-107.8416191
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	-1.48 °

Well	RWF 431-12					
Well Position	+N/-S	61.16 usft	Northing:	1,630,857.60 usft	Latitude:	39.5421265
	+E/-W	28.53 usft	Easting:	2,339,728.70 usft	Longitude:	-107.8415179
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	5,466.80 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2016	6/13/2019	9.37	65.62	51,378

Design	Plan #1 13June2019 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	20.70

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	
115.00	0.00	0.00	115.00	0.00	0.00	0.00	0.00	0.00	0.00	
215.00	3.00	3.00	214.95	2.61	0.14	3.00	3.00	0.00	3.00	
315.00	3.00	3.00	314.82	7.84	0.41	0.00	0.00	0.00	0.00	
899.32	20.36	20.91	884.94	118.93	37.79	3.00	2.97	3.07	20.81	
5,468.89	20.36	20.91	5,169.00	1,604.07	605.35	0.00	0.00	0.00	0.00	
6,826.28	0.00	0.00	6,498.00	1,827.00	690.54	1.50	-1.50	0.00	180.00	RWF 431-12 BTV
9,248.28	0.00	0.00	8,920.00	1,827.00	690.54	0.00	0.00	0.00	0.00	RWF 431-12 BHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well RWF 431-12
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)
Site:	RWF 12-12 Pad	North Reference:	True
Well:	RWF 431-12	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 13June2019 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	
115.00	0.00	0.00	115.00	0.00	0.00	0.00	0.00	0.00	0.00	
Start Build 3.00										
200.00	2.55	3.00	199.97	1.89	0.10	1.80	3.00	3.00	0.00	
215.00	3.00	3.00	214.95	2.61	0.14	2.49	3.00	3.00	0.00	
Start 100.00 hold at 215.00 MD										
300.00	3.00	3.00	299.84	7.06	0.37	6.73	0.00	0.00	0.00	
315.00	3.00	3.00	314.82	7.84	0.41	7.48	0.00	0.00	0.00	
Start DLS 3.00 TFO 20.81										
400.00	5.46	12.57	399.58	14.01	1.41	13.60	3.00	2.89	11.25	
500.00	8.42	16.57	498.84	25.67	4.53	25.62	3.00	2.96	4.01	
600.00	11.40	18.50	597.33	42.07	9.76	42.80	3.00	2.98	1.93	
700.00	14.39	19.63	694.80	63.16	17.07	65.11	3.00	2.99	1.13	
800.00	17.39	20.38	790.97	88.88	26.45	92.49	3.00	2.99	0.75	
899.32	20.36	20.91	884.94	118.93	37.79	124.61	3.00	3.00	0.54	
Start 4569.57 hold at 899.32 MD										
900.00	20.36	20.91	885.57	119.15	37.88	124.85	0.00	0.00	0.00	
1,000.00	20.36	20.91	979.33	151.65	50.30	159.64	0.00	0.00	0.00	
9 5/8" Casing @ 1000' MD										
1,100.00	20.36	20.91	1,073.08	184.15	62.72	194.43	0.00	0.00	0.00	
1,200.00	20.36	20.91	1,166.83	216.65	75.14	229.23	0.00	0.00	0.00	
1,300.00	20.36	20.91	1,260.58	249.16	87.56	264.02	0.00	0.00	0.00	
1,400.00	20.36	20.91	1,354.33	281.66	99.98	298.81	0.00	0.00	0.00	
1,500.00	20.36	20.91	1,448.09	314.16	112.40	333.61	0.00	0.00	0.00	
1,600.00	20.36	20.91	1,541.84	346.66	124.82	368.40	0.00	0.00	0.00	
1,700.00	20.36	20.91	1,635.59	379.16	137.24	403.19	0.00	0.00	0.00	
1,800.00	20.36	20.91	1,729.34	411.66	149.66	437.98	0.00	0.00	0.00	
1,900.00	20.36	20.91	1,823.09	444.16	162.08	472.78	0.00	0.00	0.00	
2,000.00	20.36	20.91	1,916.85	476.66	174.50	507.57	0.00	0.00	0.00	
2,100.00	20.36	20.91	2,010.60	509.16	186.92	542.36	0.00	0.00	0.00	
2,200.00	20.36	20.91	2,104.35	541.66	199.34	577.16	0.00	0.00	0.00	
2,300.00	20.36	20.91	2,198.10	574.16	211.76	611.95	0.00	0.00	0.00	
2,400.00	20.36	20.91	2,291.85	606.66	224.18	646.74	0.00	0.00	0.00	
2,500.00	20.36	20.91	2,385.61	639.16	236.60	681.53	0.00	0.00	0.00	
2,555.89	20.36	20.91	2,438.00	657.33	243.54	700.98	0.00	0.00	0.00	
G Sand										
2,600.00	20.36	20.91	2,479.36	671.66	249.02	716.33	0.00	0.00	0.00	
2,662.55	20.36	20.91	2,538.00	691.99	256.79	738.09	0.00	0.00	0.00	
G Sand Base										
2,700.00	20.36	20.91	2,573.11	704.16	261.44	751.12	0.00	0.00	0.00	
2,800.00	20.36	20.91	2,666.86	736.67	273.86	785.91	0.00	0.00	0.00	
2,900.00	20.36	20.91	2,760.61	769.17	286.28	820.71	0.00	0.00	0.00	
3,000.00	20.36	20.91	2,854.37	801.67	298.70	855.50	0.00	0.00	0.00	
3,100.00	20.36	20.91	2,948.12	834.17	311.12	890.29	0.00	0.00	0.00	
3,200.00	20.36	20.91	3,041.87	866.67	323.54	925.08	0.00	0.00	0.00	
3,300.00	20.36	20.91	3,135.62	899.17	335.96	959.88	0.00	0.00	0.00	
3,400.00	20.36	20.91	3,229.37	931.67	348.39	994.67	0.00	0.00	0.00	
3,500.00	20.36	20.91	3,323.13	964.17	360.81	1,029.46	0.00	0.00	0.00	
3,600.00	20.36	20.91	3,416.88	996.67	373.23	1,064.26	0.00	0.00	0.00	
3,700.00	20.36	20.91	3,510.63	1,029.17	385.65	1,099.05	0.00	0.00	0.00	
3,800.00	20.36	20.91	3,604.38	1,061.67	398.07	1,133.84	0.00	0.00	0.00	

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Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)
Site:	RWF 12-12 Pad	North Reference:	True
Well:	RWF 431-12	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 13June2019 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)
3,900.00	20.36	20.91	3,698.13	1,094.17	410.49	1,168.63	0.00	0.00	0.00
4,000.00	20.36	20.91	3,791.89	1,126.67	422.91	1,203.43	0.00	0.00	0.00
4,100.00	20.36	20.91	3,885.64	1,159.17	435.33	1,238.22	0.00	0.00	0.00
4,200.00	20.36	20.91	3,979.39	1,191.67	447.75	1,273.01	0.00	0.00	0.00
4,300.00	20.36	20.91	4,073.14	1,224.18	460.17	1,307.81	0.00	0.00	0.00
4,400.00	20.36	20.91	4,166.90	1,256.68	472.59	1,342.60	0.00	0.00	0.00
4,481.18	20.36	20.91	4,243.00	1,283.06	482.67	1,370.84	0.00	0.00	0.00
Lwr Wasatch									
4,500.00	20.36	20.91	4,260.65	1,289.18	485.01	1,377.39	0.00	0.00	0.00
4,600.00	20.36	20.91	4,354.40	1,321.68	497.43	1,412.18	0.00	0.00	0.00
4,700.00	20.36	20.91	4,448.15	1,354.18	509.85	1,446.98	0.00	0.00	0.00
4,800.00	20.36	20.91	4,541.90	1,386.68	522.27	1,481.77	0.00	0.00	0.00
4,900.00	20.36	20.91	4,635.66	1,419.18	534.69	1,516.56	0.00	0.00	0.00
5,000.00	20.36	20.91	4,729.41	1,451.68	547.11	1,551.36	0.00	0.00	0.00
5,100.00	20.36	20.91	4,823.16	1,484.18	559.53	1,586.15	0.00	0.00	0.00
5,200.00	20.36	20.91	4,916.91	1,516.68	571.95	1,620.94	0.00	0.00	0.00
5,286.49	20.36	20.91	4,998.00	1,544.79	582.69	1,651.03	0.00	0.00	0.00
Ohio Creek/MVRD									
5,300.00	20.36	20.91	5,010.66	1,549.18	584.37	1,655.73	0.00	0.00	0.00
5,400.00	20.36	20.91	5,104.42	1,581.68	596.79	1,690.53	0.00	0.00	0.00
5,468.89	20.36	20.91	5,169.00	1,604.07	605.35	1,714.50	0.00	0.00	0.00
Start Drop -1.50									
5,500.00	19.89	20.91	5,198.21	1,614.07	609.17	1,725.20	1.50	-1.50	0.00
5,600.00	18.39	20.91	5,292.68	1,644.71	620.88	1,757.99	1.50	-1.50	0.00
5,700.00	16.89	20.91	5,387.97	1,673.02	631.70	1,788.30	1.50	-1.50	0.00
5,800.00	15.39	20.91	5,484.02	1,698.99	641.62	1,816.11	1.50	-1.50	0.00
5,900.00	13.89	20.91	5,580.77	1,722.61	650.65	1,841.39	1.50	-1.50	0.00
6,000.00	12.39	20.91	5,678.15	1,743.85	658.77	1,864.13	1.50	-1.50	0.00
6,100.00	10.89	20.91	5,776.09	1,762.70	665.97	1,884.31	1.50	-1.50	0.00
6,200.00	9.39	20.91	5,874.52	1,779.15	672.26	1,901.92	1.50	-1.50	0.00
6,300.00	7.89	20.91	5,973.39	1,793.19	677.62	1,916.95	1.50	-1.50	0.00
6,400.00	6.39	20.91	6,072.61	1,804.81	682.06	1,929.39	1.50	-1.50	0.00
6,500.00	4.89	20.91	6,172.12	1,813.99	685.57	1,939.22	1.50	-1.50	0.00
6,600.00	3.39	20.91	6,271.85	1,820.74	688.15	1,946.45	1.50	-1.50	0.00
6,700.00	1.89	20.91	6,371.74	1,825.05	689.80	1,951.06	1.50	-1.50	0.00
6,800.00	0.39	20.91	6,471.72	1,826.92	690.51	1,953.06	1.50	-1.50	0.00
6,826.28	0.00	0.00	6,498.00	1,827.00	690.54	1,953.15	1.50	-1.50	0.00
Start 2422.00 hold at 6826.28 MD - Top Gas - RWF 431-12 BTV									
6,900.00	0.00	0.00	6,571.72	1,827.00	690.54	1,953.15	0.00	0.00	0.00
7,000.00	0.00	0.00	6,671.72	1,827.00	690.54	1,953.15	0.00	0.00	0.00
7,100.00	0.00	0.00	6,771.72	1,827.00	690.54	1,953.15	0.00	0.00	0.00
7,200.00	0.00	0.00	6,871.72	1,827.00	690.54	1,953.15	0.00	0.00	0.00
7,300.00	0.00	0.00	6,971.72	1,827.00	690.54	1,953.15	0.00	0.00	0.00
7,400.00	0.00	0.00	7,071.72	1,827.00	690.54	1,953.15	0.00	0.00	0.00
7,500.00	0.00	0.00	7,171.72	1,827.00	690.54	1,953.15	0.00	0.00	0.00
7,600.00	0.00	0.00	7,271.72	1,827.00	690.54	1,953.15	0.00	0.00	0.00
7,700.00	0.00	0.00	7,371.72	1,827.00	690.54	1,953.15	0.00	0.00	0.00
7,800.00	0.00	0.00	7,471.72	1,827.00	690.54	1,953.15	0.00	0.00	0.00
7,900.00	0.00	0.00	7,571.72	1,827.00	690.54	1,953.15	0.00	0.00	0.00
8,000.00	0.00	0.00	7,671.72	1,827.00	690.54	1,953.15	0.00	0.00	0.00
8,100.00	0.00	0.00	7,771.72	1,827.00	690.54	1,953.15	0.00	0.00	0.00

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Project:	Garfield County, CO NAD83	MD Reference:	GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)
Site:	RWF 12-12 Pad	North Reference:	True
Well:	RWF 431-12	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 13June2019 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)	
8,200.00	0.00	0.00	7,871.72	1,827.00	690.54	1,953.15	0.00	0.00	0.00	
8,271.28	0.00	0.00	7,943.00	1,827.00	690.54	1,953.15	0.00	0.00	0.00	
Cameo										
8,300.00	0.00	0.00	7,971.72	1,827.00	690.54	1,953.15	0.00	0.00	0.00	
8,400.00	0.00	0.00	8,071.72	1,827.00	690.54	1,953.15	0.00	0.00	0.00	
8,500.00	0.00	0.00	8,171.72	1,827.00	690.54	1,953.15	0.00	0.00	0.00	
8,600.00	0.00	0.00	8,271.72	1,827.00	690.54	1,953.15	0.00	0.00	0.00	
8,700.00	0.00	0.00	8,371.72	1,827.00	690.54	1,953.15	0.00	0.00	0.00	
8,800.00	0.00	0.00	8,471.72	1,827.00	690.54	1,953.15	0.00	0.00	0.00	
8,900.00	0.00	0.00	8,571.72	1,827.00	690.54	1,953.15	0.00	0.00	0.00	
9,000.00	0.00	0.00	8,671.72	1,827.00	690.54	1,953.15	0.00	0.00	0.00	
9,098.28	0.00	0.00	8,770.00	1,827.00	690.54	1,953.15	0.00	0.00	0.00	
Rollins										
9,100.00	0.00	0.00	8,771.72	1,827.00	690.54	1,953.15	0.00	0.00	0.00	
9,200.00	0.00	0.00	8,871.72	1,827.00	690.54	1,953.15	0.00	0.00	0.00	
9,248.28	0.00	0.00	8,920.00	1,827.00	690.54	1,953.15	0.00	0.00	0.00	
TD at 9248.28 - RWF 431-12 BHL										

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										
RWF 431-12 BTV	0.00	0.00	6,498.00	1,827.00	690.54	1,632,666.20	2,340,466.10	39.5471423	-107.8390692	
- plan hits target center										
- Circle (radius 50.00)										
RWF 431-12 BHL	0.00	0.00	8,920.00	1,827.00	690.54	1,632,666.20	2,340,466.10	39.5471423	-107.8390692	
- plan hits target center										
- Point										

Casing Points						
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)		
1,000.00	979.33	9 5/8" Casing @ 1000' MD	9.62	12.25		

Database:	Grand Junction District	Local Co-ordinate Reference:	Well RWF 431-12
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)
Site:	RWF 12-12 Pad	North Reference:	True
Well:	RWF 431-12	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 13June2019 jcsdi		

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,555.89	2,438.00	G Sand		0.00	0.00
2,662.55	2,538.00	G Sand Base		0.00	0.00
4,481.18	4,243.00	Lwr Wasatch		0.00	0.00
5,286.49	4,998.00	Ohio Creek/MVRD		0.00	0.00
6,826.28	6,498.00	Top Gas		0.00	0.00
8,271.28	7,943.00	Cameo		0.00	0.00
9,098.28	8,770.00	Rollins		0.00	0.00

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
115.00	115.00	0.00	0.00	Start Build 3.00
215.00	214.95	2.61	0.14	Start 100.00 hold at 215.00 MD
315.00	314.82	7.84	0.41	Start DLS 3.00 TFO 20.81
899.32	884.94	118.93	37.79	Start 4569.57 hold at 899.32 MD
5,468.89	5,169.00	1,604.07	605.35	Start Drop -1.50
6,826.28	6,498.00	1,827.00	690.54	Start 2422.00 hold at 6826.28 MD
9,248.28	8,920.00	1,827.00	690.54	TD at 9248.28