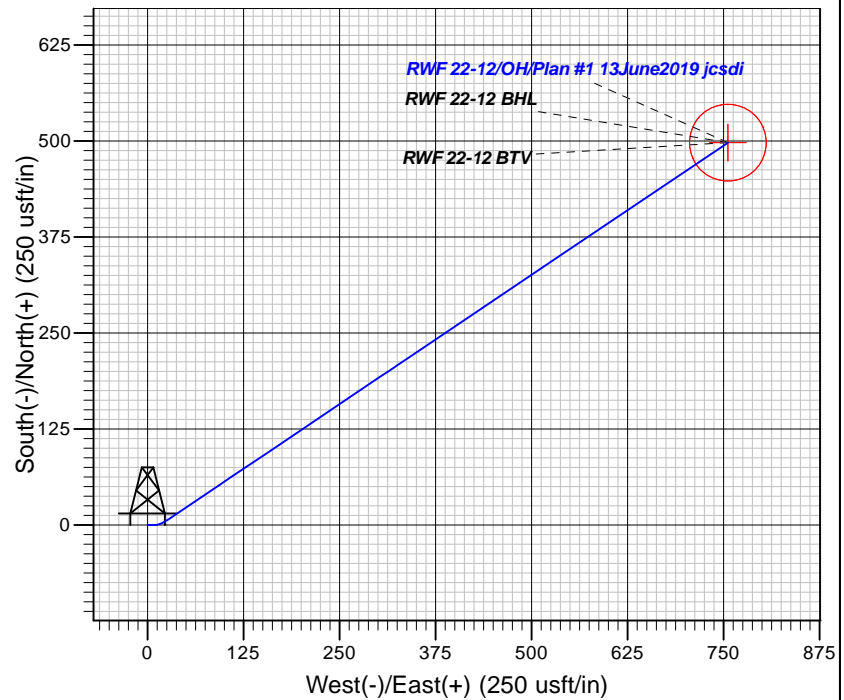
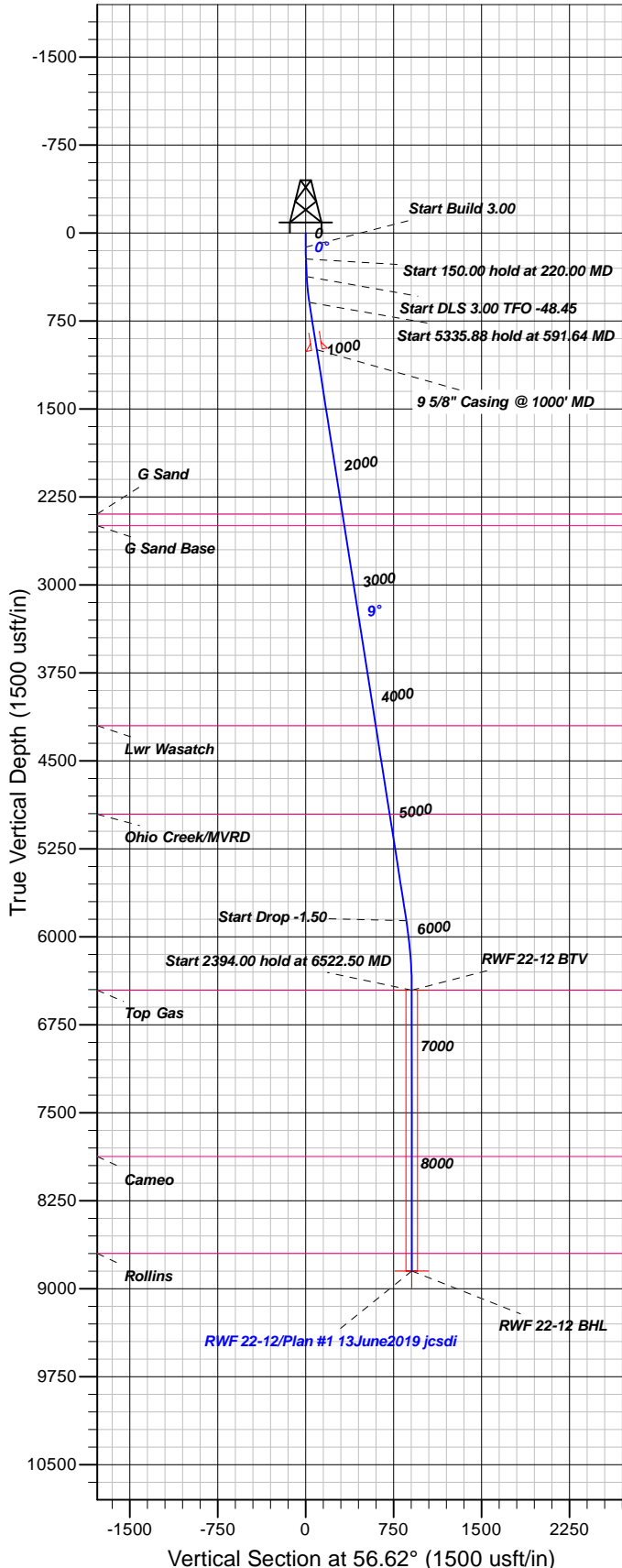


## Well Details: RWF 22-12

GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)						Slot
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.00	0.00	1630821.80	2339699.70	39.5420262	-107.8416174	



## FORMATION TOP DETAILS

TVDPth	MDPath	Formation
2394.00	2417.60	G Sand
2494.00	2518.83	G Sand Base
4199.00	4244.73	Lwr Wasatch
4954.00	5008.98	Ohio Creek/MVRD
6454.00	6522.50	Top Gas
7871.00	7939.50	Cameo
8698.00	8766.50	Rollins

Plan: Plan #1 13June2019 jcsdi

12:20, 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
993.56	1000.00	5/8" Casing @ 1000' 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	120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	
3	220.00	3.00	90.00	219.95	0.00	2.62	3.00	90.00	2.19	
4	370.00	3.00	90.00	369.75	0.00	10.47	0.00	0.00	8.74	
5	591.64	8.92	56.04	590.14	9.61	30.55	3.00	-48.45	30.80	
6	5927.52	8.92	56.04	5861.42	472.01	717.16	0.00	0.00	858.55	
7	6522.50	0.00	0.00	6454.00	497.84	755.52	1.50	180.00	904.79	RWF 22-12 BTV
8	8916.50	0.00	0.00	8848.00	497.84	755.52	0.00	0.00	904.79	RWF 22-12 BHL

## DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
RWF 22-12 BTV	6454.00	497.84	755.52	1631300.00	2340467.80	39.5433929	-107.8389384	Circle (Radius: 50.00)
- plan hits target center								
RWF 22-12 BHL	8848.00	497.84	755.52	1631300.00	2340467.80	39.5433929	-107.8389384	Point
- plan hits target center								



# **TEP Rocky Mountain LLC**

**Garfield County, CO NAD83**

**RWF 12-12 Pad**

**RWF 22-12**

**OH**

**Plan: Plan #1 13June2019 jcsdi**

## **Standard Planning Report**

**18 June, 2019**



<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well RWF 22-12
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)
<b>Site:</b>	RWF 12-12 Pad	<b>North Reference:</b>	True
<b>Well:</b>	RWF 22-12	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1 13June2019 jcsdi		

<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		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 22-12					
Well Position	+N/-S	24.62 usft	Northing:	1,630,821.80 usft	Latitude:	39.5420262
	+E/-W	0.47 usft	Easting:	2,339,699.70 usft	Longitude:	-107.8416175
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	5,466.80 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>
	BGGM2016	6/13/2019	9.37	65.62	51,378

<b>Design</b>	Plan #1 13June2019 jcsdi			
<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	56.62

<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	
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	0.00	
220.00	3.00	90.00	219.95	0.00	2.62	3.00	3.00	0.00	90.00	
370.00	3.00	90.00	369.75	0.00	10.47	0.00	0.00	0.00	0.00	
591.64	8.92	56.04	590.14	9.61	30.55	3.00	2.67	-15.32	-48.45	
5,927.52	8.92	56.04	5,861.42	472.01	717.16	0.00	0.00	0.00	0.00	
6,522.50	0.00	0.00	6,454.00	497.84	755.52	1.50	-1.50	0.00	180.00	RWF 22-12 BTV
8,916.50	0.00	0.00	8,848.00	497.84	755.52	0.00	0.00	0.00	0.00	RWF 22-12 BHL

<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well RWF 22-12
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)
<b>Site:</b>	RWF 12-12 Pad	<b>North Reference:</b>	True
<b>Well:</b>	RWF 22-12	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Start Build 3.00</b>									
200.00	2.40	90.00	199.98	0.00	1.68	1.40	3.00	3.00	0.00
220.00	3.00	90.00	219.95	0.00	2.62	2.19	3.00	3.00	0.00
<b>Start 150.00 hold at 220.00 MD</b>									
300.00	3.00	90.00	299.84	0.00	6.80	5.68	0.00	0.00	0.00
370.00	3.00	90.00	369.75	0.00	10.47	8.74	0.00	0.00	0.00
<b>Start DLS 3.00 TFO -48.45</b>									
400.00	3.66	79.39	399.70	0.18	12.19	10.28	3.00	2.20	-35.38
500.00	6.30	62.38	499.32	3.31	20.20	18.68	3.00	2.64	-17.01
591.64	8.92	56.04	590.14	9.61	30.55	30.80	3.00	2.86	-6.91
<b>Start 5335.88 hold at 591.64 MD</b>									
600.00	8.92	56.04	598.40	10.34	31.63	32.10	0.00	0.00	0.00
700.00	8.92	56.04	697.19	19.00	44.49	47.61	0.00	0.00	0.00
800.00	8.92	56.04	795.98	27.67	57.36	63.12	0.00	0.00	0.00
900.00	8.92	56.04	894.77	36.34	70.23	78.64	0.00	0.00	0.00
1,000.00	8.92	56.04	993.56	45.00	83.10	94.15	0.00	0.00	0.00
<b>9 5/8" Casing @ 1000' MD</b>									
1,100.00	8.92	56.04	1,092.35	53.67	95.97	109.66	0.00	0.00	0.00
1,200.00	8.92	56.04	1,191.14	62.33	108.83	125.17	0.00	0.00	0.00
1,300.00	8.92	56.04	1,289.93	71.00	121.70	140.69	0.00	0.00	0.00
1,400.00	8.92	56.04	1,388.72	79.66	134.57	156.20	0.00	0.00	0.00
1,500.00	8.92	56.04	1,487.51	88.33	147.44	171.71	0.00	0.00	0.00
1,600.00	8.92	56.04	1,586.29	97.00	160.30	187.23	0.00	0.00	0.00
1,700.00	8.92	56.04	1,685.08	105.66	173.17	202.74	0.00	0.00	0.00
1,800.00	8.92	56.04	1,783.87	114.33	186.04	218.25	0.00	0.00	0.00
1,900.00	8.92	56.04	1,882.66	122.99	198.91	233.76	0.00	0.00	0.00
2,000.00	8.92	56.04	1,981.45	131.66	211.78	249.28	0.00	0.00	0.00
2,100.00	8.92	56.04	2,080.24	140.32	224.64	264.79	0.00	0.00	0.00
2,200.00	8.92	56.04	2,179.03	148.99	237.51	280.30	0.00	0.00	0.00
2,300.00	8.92	56.04	2,277.82	157.66	250.38	295.82	0.00	0.00	0.00
2,400.00	8.92	56.04	2,376.61	166.32	263.25	311.33	0.00	0.00	0.00
2,417.60	8.92	56.04	2,394.00	167.85	265.51	314.06	0.00	0.00	0.00
<b>G Sand</b>									
2,500.00	8.92	56.04	2,475.40	174.99	276.11	326.84	0.00	0.00	0.00
2,518.83	8.92	56.04	2,494.00	176.62	278.54	329.76	0.00	0.00	0.00
<b>G Sand Base</b>									
2,600.00	8.92	56.04	2,574.19	183.65	288.98	342.36	0.00	0.00	0.00
2,700.00	8.92	56.04	2,672.98	192.32	301.85	357.87	0.00	0.00	0.00
2,800.00	8.92	56.04	2,771.77	200.98	314.72	373.38	0.00	0.00	0.00
2,900.00	8.92	56.04	2,870.56	209.65	327.59	388.89	0.00	0.00	0.00
3,000.00	8.92	56.04	2,969.34	218.32	340.45	404.41	0.00	0.00	0.00
3,100.00	8.92	56.04	3,068.13	226.98	353.32	419.92	0.00	0.00	0.00
3,200.00	8.92	56.04	3,166.92	235.65	366.19	435.43	0.00	0.00	0.00
3,300.00	8.92	56.04	3,265.71	244.31	379.06	450.95	0.00	0.00	0.00
3,400.00	8.92	56.04	3,364.50	252.98	391.93	466.46	0.00	0.00	0.00
3,500.00	8.92	56.04	3,463.29	261.64	404.79	481.97	0.00	0.00	0.00
3,600.00	8.92	56.04	3,562.08	270.31	417.66	497.48	0.00	0.00	0.00
3,700.00	8.92	56.04	3,660.87	278.98	430.53	513.00	0.00	0.00	0.00
3,800.00	8.92	56.04	3,759.66	287.64	443.40	528.51	0.00	0.00	0.00

<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well RWF 22-12
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)
<b>Site:</b>	RWF 12-12 Pad	<b>North Reference:</b>	True
<b>Well:</b>	RWF 22-12	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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	8.92	56.04	3,858.45	296.31	456.26	544.02	0.00	0.00	0.00
4,000.00	8.92	56.04	3,957.24	304.97	469.13	559.54	0.00	0.00	0.00
4,100.00	8.92	56.04	4,056.03	313.64	482.00	575.05	0.00	0.00	0.00
4,200.00	8.92	56.04	4,154.82	322.30	494.87	590.56	0.00	0.00	0.00
4,244.73	8.92	56.04	4,199.00	326.18	500.62	597.50	0.00	0.00	0.00
<b>Lwr Wasatch</b>									
4,300.00	8.92	56.04	4,253.61	330.97	507.74	606.08	0.00	0.00	0.00
4,400.00	8.92	56.04	4,352.39	339.64	520.60	621.59	0.00	0.00	0.00
4,500.00	8.92	56.04	4,451.18	348.30	533.47	637.10	0.00	0.00	0.00
4,600.00	8.92	56.04	4,549.97	356.97	546.34	652.61	0.00	0.00	0.00
4,700.00	8.92	56.04	4,648.76	365.63	559.21	668.13	0.00	0.00	0.00
4,800.00	8.92	56.04	4,747.55	374.30	572.07	683.64	0.00	0.00	0.00
4,900.00	8.92	56.04	4,846.34	382.96	584.94	699.15	0.00	0.00	0.00
5,000.00	8.92	56.04	4,945.13	391.63	597.81	714.67	0.00	0.00	0.00
5,008.98	8.92	56.04	4,954.00	392.41	598.97	716.06	0.00	0.00	0.00
<b>Ohio Creek/MVRD</b>									
5,100.00	8.92	56.04	5,043.92	400.29	610.68	730.18	0.00	0.00	0.00
5,200.00	8.92	56.04	5,142.71	408.96	623.55	745.69	0.00	0.00	0.00
5,300.00	8.92	56.04	5,241.50	417.63	636.41	761.20	0.00	0.00	0.00
5,400.00	8.92	56.04	5,340.29	426.29	649.28	776.72	0.00	0.00	0.00
5,500.00	8.92	56.04	5,439.08	434.96	662.15	792.23	0.00	0.00	0.00
5,600.00	8.92	56.04	5,537.87	443.62	675.02	807.74	0.00	0.00	0.00
5,700.00	8.92	56.04	5,636.66	452.29	687.89	823.26	0.00	0.00	0.00
5,800.00	8.92	56.04	5,735.44	460.95	700.75	838.77	0.00	0.00	0.00
5,900.00	8.92	56.04	5,834.23	469.62	713.62	854.28	0.00	0.00	0.00
5,927.52	8.92	56.04	5,861.42	472.01	717.16	858.55	0.00	0.00	0.00
<b>Start Drop -1.50</b>									
6,000.00	7.84	56.04	5,933.13	477.91	725.92	869.12	1.50	-1.50	0.00
6,100.00	6.34	56.04	6,032.36	484.80	736.16	881.45	1.50	-1.50	0.00
6,200.00	4.84	56.04	6,131.88	490.24	744.23	891.19	1.50	-1.50	0.00
6,300.00	3.34	56.04	6,231.62	494.22	750.15	898.32	1.50	-1.50	0.00
6,400.00	1.84	56.04	6,331.52	496.74	753.89	902.83	1.50	-1.50	0.00
6,500.00	0.34	56.04	6,431.50	497.80	755.47	904.73	1.50	-1.50	0.00
6,522.50	0.00	0.00	6,454.00	497.84	755.52	904.79	1.50	-1.50	0.00
<b>Start 2394.00 hold at 6522.50 MD - Top Gas - RWF 22-12 BTV</b>									
6,600.00	0.00	0.00	6,531.50	497.84	755.52	904.79	0.00	0.00	0.00
6,700.00	0.00	0.00	6,631.50	497.84	755.52	904.79	0.00	0.00	0.00
6,800.00	0.00	0.00	6,731.50	497.84	755.52	904.79	0.00	0.00	0.00
6,900.00	0.00	0.00	6,831.50	497.84	755.52	904.79	0.00	0.00	0.00
7,000.00	0.00	0.00	6,931.50	497.84	755.52	904.79	0.00	0.00	0.00
7,100.00	0.00	0.00	7,031.50	497.84	755.52	904.79	0.00	0.00	0.00
7,200.00	0.00	0.00	7,131.50	497.84	755.52	904.79	0.00	0.00	0.00
7,300.00	0.00	0.00	7,231.50	497.84	755.52	904.79	0.00	0.00	0.00
7,400.00	0.00	0.00	7,331.50	497.84	755.52	904.79	0.00	0.00	0.00
7,500.00	0.00	0.00	7,431.50	497.84	755.52	904.79	0.00	0.00	0.00
7,600.00	0.00	0.00	7,531.50	497.84	755.52	904.79	0.00	0.00	0.00
7,700.00	0.00	0.00	7,631.50	497.84	755.52	904.79	0.00	0.00	0.00
7,800.00	0.00	0.00	7,731.50	497.84	755.52	904.79	0.00	0.00	0.00
7,900.00	0.00	0.00	7,831.50	497.84	755.52	904.79	0.00	0.00	0.00
7,939.50	0.00	0.00	7,871.00	497.84	755.52	904.79	0.00	0.00	0.00
<b>Cameo</b>									

<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well RWF 22-12
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)
<b>Site:</b>	RWF 12-12 Pad	<b>North Reference:</b>	True
<b>Well:</b>	RWF 22-12	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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)	
8,000.00	0.00	0.00	7,931.50	497.84	755.52	904.79	0.00	0.00	0.00	
8,100.00	0.00	0.00	8,031.50	497.84	755.52	904.79	0.00	0.00	0.00	
8,200.00	0.00	0.00	8,131.50	497.84	755.52	904.79	0.00	0.00	0.00	
8,300.00	0.00	0.00	8,231.50	497.84	755.52	904.79	0.00	0.00	0.00	
8,400.00	0.00	0.00	8,331.50	497.84	755.52	904.79	0.00	0.00	0.00	
8,500.00	0.00	0.00	8,431.50	497.84	755.52	904.79	0.00	0.00	0.00	
8,600.00	0.00	0.00	8,531.50	497.84	755.52	904.79	0.00	0.00	0.00	
8,700.00	0.00	0.00	8,631.50	497.84	755.52	904.79	0.00	0.00	0.00	
8,766.50	0.00	0.00	8,698.00	497.84	755.52	904.79	0.00	0.00	0.00	
Rollins										
8,800.00	0.00	0.00	8,731.50	497.84	755.52	904.79	0.00	0.00	0.00	
8,900.00	0.00	0.00	8,831.50	497.84	755.52	904.79	0.00	0.00	0.00	
8,916.50	0.00	0.00	8,848.00	497.84	755.52	904.79	0.00	0.00	0.00	
TD at 8916.50 - RWF 22-12 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 22-12 BTV	0.00	0.00	6,454.00	497.84	755.52	1,631,300.00	2,340,467.80	39.5433929	-107.8389384
- plan hits target center									
- Circle (radius 50.00)									
RWF 22-12 BHL	0.00	0.00	8,848.00	497.84	755.52	1,631,300.00	2,340,467.80	39.5433929	-107.8389384
- plan hits target center									
- Point									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,000.00	993.56	9 5/8" Casing @ 1000' MD	9.62	12.25	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,417.60	2,394.00	G Sand		0.00	0.00
2,518.83	2,494.00	G Sand Base		0.00	0.00
4,244.73	4,199.00	Lwr Wasatch		0.00	0.00
5,008.98	4,954.00	Ohio Creek/MVRD		0.00	0.00
6,522.50	6,454.00	Top Gas		0.00	0.00
7,939.50	7,871.00	Cameo		0.00	0.00
8,766.50	8,698.00	Rollins		0.00	0.00

<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well RWF 22-12
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)
<b>Site:</b>	RWF 12-12 Pad	<b>North Reference:</b>	True
<b>Well:</b>	RWF 22-12	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1 13June2019 jcsdi		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
120.00	120.00	0.00	0.00	Start Build 3.00
220.00	219.95	0.00	2.62	Start 150.00 hold at 220.00 MD
370.00	369.75	0.00	10.47	Start DLS 3.00 TFO -48.45
591.64	590.14	9.61	30.55	Start 5335.88 hold at 591.64 MD
5,927.52	5,861.42	472.01	717.16	Start Drop -1.50
6,522.50	6,454.00	497.84	755.52	Start 2394.00 hold at 6522.50 MD
8,916.50	8,848.00	497.84	755.52	TD at 8916.50