



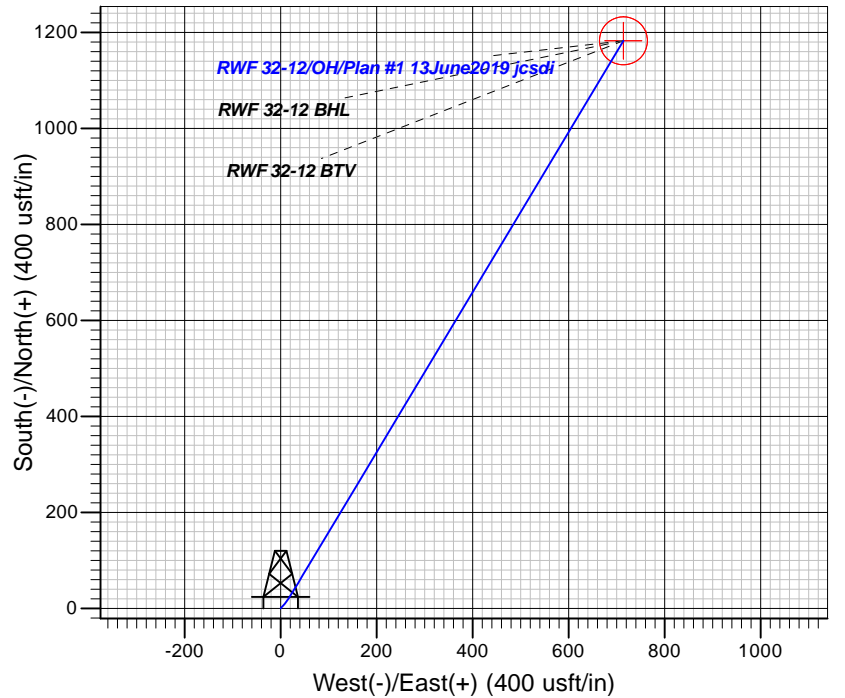
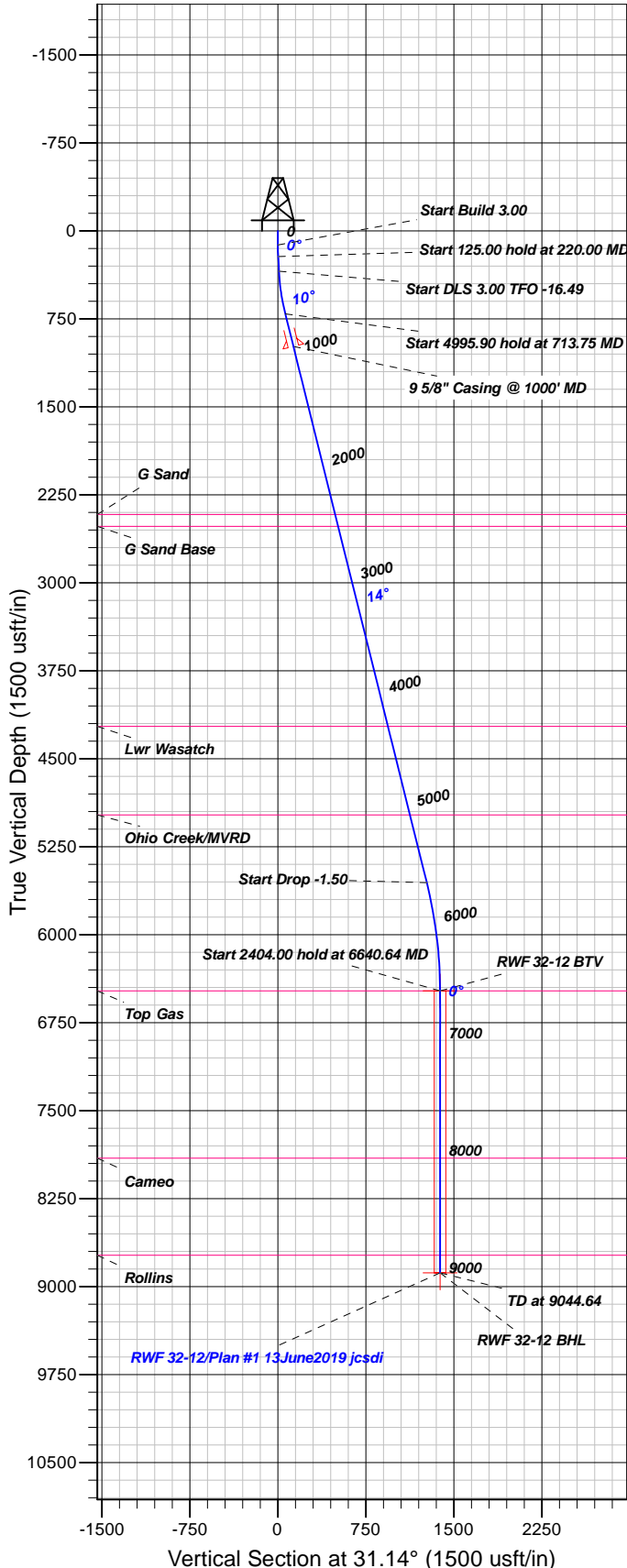
Azimuths to True North
Magnetic North: 9.37°

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

Well Details: RWF 32-12

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

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1630837.40	2339718.70	39.5420703	-107.8415515	



FORMATION TOP DETAILS

TVDPATH	MDPATH	FORMATION
2419.00	2475.87	G Sand
2519.00	2578.91	G Sand Base
4224.00	4335.84	Lwr Wasatch
4979.00	5113.84	Ohio Creek/MVRD
6479.00	6640.64	Top Gas
7906.00	8067.64	Cameo
8733.00	8894.64	Rollins

Plan: Plan #1 13June2019 jcsdi

12:33, 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

TVDP	MD	Name	Size
986.75	1000.00	5/8" Casing @ 1000' 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	120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	
3	220.00	3.00	44.00	219.95	1.88	1.82	3.00	44.00	2.55	
4	345.00	3.00	44.00	344.78	6.59	6.36	0.00	0.00	8.93	
5	713.75	13.96	30.96	708.96	51.83	36.05	3.00	-16.49	63.00	
6	5709.65	13.96	30.96	5557.20	1085.69	656.28	0.00	0.00	1268.64	
7	6640.64	0.00	0.00	6479.00	1182.50	714.36	1.50	180.00	1381.53	RWF 32-12 BTV
8	9044.64	0.00	0.00	8883.00	1182.50	714.36	0.00	0.00	1381.53	RWF 32-12 BHL

DESIGN TARGET DETAILS

Name	TVDP	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
RWF 32-12 BTV	6479.00	1182.50	714.36	1632001.10	2340463.30	39.5453167	-107.8390183	Circle (Radius: 50.00)
- plan hits target center								
RWF 32-12 BHL	8883.00	1182.50	714.36	1632001.10	2340463.30	39.5453167	-107.8390183	Point
- plan hits target center								



TEP Rocky Mountain LLC

Garfield County, CO NAD83

RWF 12-12 Pad

RWF 32-12

OH

Plan: Plan #1 13June2019 jcsdi

Standard Planning Report

18 June, 2019



Database:	Grand Junction District	Local Co-ordinate Reference:	Well RWF 32-12
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 32-12	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 32-12			
Well Position	+N/-S	40.70 usft	Northing:	1,630,837.40 usft
	+E/-W	19.06 usft	Easting:	2,339,718.70 usft
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	31.14

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	
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	0.00	
220.00	3.00	44.00	219.95	1.88	1.82	3.00	3.00	0.00	44.00	
345.00	3.00	44.00	344.78	6.59	6.36	0.00	0.00	0.00	0.00	
713.75	13.96	30.96	708.96	51.83	36.05	3.00	2.97	-3.54	-16.49	
5,709.65	13.96	30.96	5,557.20	1,085.69	656.28	0.00	0.00	0.00	0.00	
6,640.64	0.00	0.00	6,479.00	1,182.50	714.36	1.50	-1.50	0.00	180.00	RWF 32-12 BTV
9,044.64	0.00	0.00	8,883.00	1,182.50	714.36	0.00	0.00	0.00	0.00	RWF 32-12 BHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well RWF 32-12
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 32-12	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
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 3.00									
200.00	2.40	44.00	199.98	1.21	1.16	1.63	3.00	3.00	0.00
220.00	3.00	44.00	219.95	1.88	1.82	2.55	3.00	3.00	0.00
Start 125.00 hold at 220.00 MD									
300.00	3.00	44.00	299.84	4.89	4.73	6.63	0.00	0.00	0.00
345.00	3.00	44.00	344.78	6.59	6.36	8.93	0.00	0.00	0.00
Start DLS 3.00 TFO -16.49									
400.00	4.61	38.16	399.66	9.36	8.73	12.52	3.00	2.92	-10.62
500.00	7.57	33.95	499.09	17.99	14.89	23.10	3.00	2.97	-4.21
600.00	10.56	32.11	597.82	31.22	23.44	38.84	3.00	2.99	-1.84
700.00	13.55	31.07	695.61	49.02	34.36	59.73	3.00	2.99	-1.04
713.75	13.96	30.96	708.96	51.83	36.05	63.00	3.00	2.99	-0.79
Start 4995.90 hold at 713.75 MD									
800.00	13.96	30.96	792.66	69.67	46.76	83.81	0.00	0.00	0.00
900.00	13.96	30.96	889.71	90.37	59.17	107.95	0.00	0.00	0.00
1,000.00	13.96	30.96	986.75	111.06	71.59	132.08	0.00	0.00	0.00
9 5/8" Casing @ 1000' MD									
1,100.00	13.96	30.96	1,083.80	131.76	84.00	156.21	0.00	0.00	0.00
1,200.00	13.96	30.96	1,180.84	152.45	96.42	180.34	0.00	0.00	0.00
1,300.00	13.96	30.96	1,277.89	173.15	108.83	204.48	0.00	0.00	0.00
1,400.00	13.96	30.96	1,374.93	193.84	121.25	228.61	0.00	0.00	0.00
1,500.00	13.96	30.96	1,471.97	214.53	133.66	252.74	0.00	0.00	0.00
1,600.00	13.96	30.96	1,569.02	235.23	146.07	276.87	0.00	0.00	0.00
1,700.00	13.96	30.96	1,666.06	255.92	158.49	301.01	0.00	0.00	0.00
1,800.00	13.96	30.96	1,763.11	276.62	170.90	325.14	0.00	0.00	0.00
1,900.00	13.96	30.96	1,860.15	297.31	183.32	349.27	0.00	0.00	0.00
2,000.00	13.96	30.96	1,957.20	318.01	195.73	373.40	0.00	0.00	0.00
2,100.00	13.96	30.96	2,054.24	338.70	208.15	397.54	0.00	0.00	0.00
2,200.00	13.96	30.96	2,151.29	359.40	220.56	421.67	0.00	0.00	0.00
2,300.00	13.96	30.96	2,248.33	380.09	232.98	445.80	0.00	0.00	0.00
2,400.00	13.96	30.96	2,345.37	400.78	245.39	469.93	0.00	0.00	0.00
2,475.87	13.96	30.96	2,419.00	416.48	254.81	488.24	0.00	0.00	0.00
G Sand									
2,500.00	13.96	30.96	2,442.42	421.48	257.81	494.07	0.00	0.00	0.00
2,578.91	13.96	30.96	2,519.00	437.81	267.61	513.11	0.00	0.00	0.00
G Sand Base									
2,600.00	13.96	30.96	2,539.46	442.17	270.22	518.20	0.00	0.00	0.00
2,700.00	13.96	30.96	2,636.51	462.87	282.64	542.33	0.00	0.00	0.00
2,800.00	13.96	30.96	2,733.55	483.56	295.05	566.46	0.00	0.00	0.00
2,900.00	13.96	30.96	2,830.60	504.26	307.47	590.60	0.00	0.00	0.00
3,000.00	13.96	30.96	2,927.64	524.95	319.88	614.73	0.00	0.00	0.00
3,100.00	13.96	30.96	3,024.69	545.64	332.30	638.86	0.00	0.00	0.00
3,200.00	13.96	30.96	3,121.73	566.34	344.71	662.99	0.00	0.00	0.00
3,300.00	13.96	30.96	3,218.77	587.03	357.13	687.13	0.00	0.00	0.00
3,400.00	13.96	30.96	3,315.82	607.73	369.54	711.26	0.00	0.00	0.00
3,500.00	13.96	30.96	3,412.86	628.42	381.96	735.39	0.00	0.00	0.00
3,600.00	13.96	30.96	3,509.91	649.12	394.37	759.52	0.00	0.00	0.00
3,700.00	13.96	30.96	3,606.95	669.81	406.79	783.66	0.00	0.00	0.00
3,800.00	13.96	30.96	3,704.00	690.50	419.20	807.79	0.00	0.00	0.00

Database:	Grand Junction District	Local Co-ordinate Reference:	Well RWF 32-12
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 32-12	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	13.96	30.96	3,801.04	711.20	431.62	831.92	0.00	0.00	0.00
4,000.00	13.96	30.96	3,898.08	731.89	444.03	856.05	0.00	0.00	0.00
4,100.00	13.96	30.96	3,995.13	752.59	456.45	880.19	0.00	0.00	0.00
4,200.00	13.96	30.96	4,092.17	773.28	468.86	904.32	0.00	0.00	0.00
4,300.00	13.96	30.96	4,189.22	793.98	481.28	928.45	0.00	0.00	0.00
4,335.84	13.96	30.96	4,224.00	801.39	485.73	937.10	0.00	0.00	0.00
Lwr Wasatch									
4,400.00	13.96	30.96	4,286.26	814.67	493.69	952.58	0.00	0.00	0.00
4,500.00	13.96	30.96	4,383.31	835.36	506.11	976.72	0.00	0.00	0.00
4,600.00	13.96	30.96	4,480.35	856.06	518.52	1,000.85	0.00	0.00	0.00
4,700.00	13.96	30.96	4,577.40	876.75	530.94	1,024.98	0.00	0.00	0.00
4,800.00	13.96	30.96	4,674.44	897.45	543.35	1,049.11	0.00	0.00	0.00
4,900.00	13.96	30.96	4,771.48	918.14	555.77	1,073.25	0.00	0.00	0.00
5,000.00	13.96	30.96	4,868.53	938.84	568.18	1,097.38	0.00	0.00	0.00
5,100.00	13.96	30.96	4,965.57	959.53	580.60	1,121.51	0.00	0.00	0.00
5,113.84	13.96	30.96	4,979.00	962.39	582.31	1,124.85	0.00	0.00	0.00
Ohio Creek/MVRD									
5,200.00	13.96	30.96	5,062.62	980.22	593.01	1,145.64	0.00	0.00	0.00
5,300.00	13.96	30.96	5,159.66	1,000.92	605.43	1,169.78	0.00	0.00	0.00
5,400.00	13.96	30.96	5,256.71	1,021.61	617.84	1,193.91	0.00	0.00	0.00
5,500.00	13.96	30.96	5,353.75	1,042.31	630.26	1,218.04	0.00	0.00	0.00
5,600.00	13.96	30.96	5,450.80	1,063.00	642.67	1,242.18	0.00	0.00	0.00
5,700.00	13.96	30.96	5,547.84	1,083.70	655.09	1,266.31	0.00	0.00	0.00
5,709.65	13.96	30.96	5,557.20	1,085.69	656.28	1,268.64	0.00	0.00	0.00
Start Drop -1.50									
5,800.00	12.61	30.96	5,645.13	1,103.50	666.97	1,289.40	1.50	-1.50	0.00
5,900.00	11.11	30.96	5,743.00	1,121.12	677.54	1,309.95	1.50	-1.50	0.00
6,000.00	9.61	30.96	5,841.36	1,136.54	686.79	1,327.93	1.50	-1.50	0.00
6,100.00	8.11	30.96	5,940.17	1,149.75	694.71	1,343.33	1.50	-1.50	0.00
6,200.00	6.61	30.96	6,039.34	1,160.73	701.30	1,356.14	1.50	-1.50	0.00
6,300.00	5.11	30.96	6,138.82	1,169.49	706.55	1,366.35	1.50	-1.50	0.00
6,400.00	3.61	30.96	6,238.52	1,176.01	710.46	1,373.95	1.50	-1.50	0.00
6,500.00	2.11	30.96	6,338.40	1,180.28	713.03	1,378.94	1.50	-1.50	0.00
6,600.00	0.61	30.96	6,438.36	1,182.32	714.25	1,381.31	1.50	-1.50	0.00
6,640.64	0.00	0.00	6,479.00	1,182.50	714.36	1,381.53	1.50	-1.50	0.00
Start 2404.00 hold at 6640.64 MD - Top Gas - RWF 32-12 BTV									
6,700.00	0.00	0.00	6,538.36	1,182.50	714.36	1,381.53	0.00	0.00	0.00
6,800.00	0.00	0.00	6,638.36	1,182.50	714.36	1,381.53	0.00	0.00	0.00
6,900.00	0.00	0.00	6,738.36	1,182.50	714.36	1,381.53	0.00	0.00	0.00
7,000.00	0.00	0.00	6,838.36	1,182.50	714.36	1,381.53	0.00	0.00	0.00
7,100.00	0.00	0.00	6,938.36	1,182.50	714.36	1,381.53	0.00	0.00	0.00
7,200.00	0.00	0.00	7,038.36	1,182.50	714.36	1,381.53	0.00	0.00	0.00
7,300.00	0.00	0.00	7,138.36	1,182.50	714.36	1,381.53	0.00	0.00	0.00
7,400.00	0.00	0.00	7,238.36	1,182.50	714.36	1,381.53	0.00	0.00	0.00
7,500.00	0.00	0.00	7,338.36	1,182.50	714.36	1,381.53	0.00	0.00	0.00
7,600.00	0.00	0.00	7,438.36	1,182.50	714.36	1,381.53	0.00	0.00	0.00
7,700.00	0.00	0.00	7,538.36	1,182.50	714.36	1,381.53	0.00	0.00	0.00
7,800.00	0.00	0.00	7,638.36	1,182.50	714.36	1,381.53	0.00	0.00	0.00
7,900.00	0.00	0.00	7,738.36	1,182.50	714.36	1,381.53	0.00	0.00	0.00
8,000.00	0.00	0.00	7,838.36	1,182.50	714.36	1,381.53	0.00	0.00	0.00
8,067.64	0.00	0.00	7,906.00	1,182.50	714.36	1,381.53	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 32-12	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)
Cameo									
8,100.00	0.00	0.00	7,938.36	1,182.50	714.36	1,381.53	0.00	0.00	0.00
8,200.00	0.00	0.00	8,038.36	1,182.50	714.36	1,381.53	0.00	0.00	0.00
8,300.00	0.00	0.00	8,138.36	1,182.50	714.36	1,381.53	0.00	0.00	0.00
8,400.00	0.00	0.00	8,238.36	1,182.50	714.36	1,381.53	0.00	0.00	0.00
8,500.00	0.00	0.00	8,338.36	1,182.50	714.36	1,381.53	0.00	0.00	0.00
8,600.00	0.00	0.00	8,438.36	1,182.50	714.36	1,381.53	0.00	0.00	0.00
8,700.00	0.00	0.00	8,538.36	1,182.50	714.36	1,381.53	0.00	0.00	0.00
8,800.00	0.00	0.00	8,638.36	1,182.50	714.36	1,381.53	0.00	0.00	0.00
8,894.64	0.00	0.00	8,733.00	1,182.50	714.36	1,381.53	0.00	0.00	0.00
Rollins									
8,900.00	0.00	0.00	8,738.36	1,182.50	714.36	1,381.53	0.00	0.00	0.00
9,000.00	0.00	0.00	8,838.36	1,182.50	714.36	1,381.53	0.00	0.00	0.00
9,044.64	0.00	0.00	8,883.00	1,182.50	714.36	1,381.53	0.00	0.00	0.00
TD at 9044.64 - RWF 32-12 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 32-12 BTV	0.00	0.00	6,479.00	1,182.50	714.36	1,632,001.10	2,340,463.30	39.5453168	-107.8390184
- plan hits target center									
- Circle (radius 50.00)									
RWF 32-12 BHL	0.00	0.00	8,883.00	1,182.50	714.36	1,632,001.10	2,340,463.30	39.5453168	-107.8390184
- plan hits target center									
- Point									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,000.00	986.75	9 5/8" Casing @ 1000' MD	9.62	12.25	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,475.87	2,419.00	G Sand		0.00	0.00
2,578.91	2,519.00	G Sand Base		0.00	0.00
4,335.84	4,224.00	Lwr Wasatch		0.00	0.00
5,113.84	4,979.00	Ohio Creek/MVRD		0.00	0.00
6,640.64	6,479.00	Top Gas		0.00	0.00
8,067.64	7,906.00	Cameo		0.00	0.00
8,894.64	8,733.00	Rollins		0.00	0.00

Database:	Grand Junction District	Local Co-ordinate Reference:	Well RWF 32-12
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 32-12	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	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	1.88	1.82	Start 125.00 hold at 220.00 MD
345.00	344.78	6.59	6.36	Start DLS 3.00 TFO -16.49
713.75	708.96	51.83	36.05	Start 4995.90 hold at 713.75 MD
5,709.65	5,557.20	1,085.69	656.28	Start Drop -1.50
6,640.64	6,479.00	1,182.50	714.36	Start 2404.00 hold at 6640.64 MD
9,044.64	8,883.00	1,182.50	714.36	TD at 9044.64