



Company: TEP Rocky Mountain LLC
Project: Garfield County, CO NAD83
Site: RG 41-18-297 Pad
Well: Federal RG 443-18-297

PROJECT DETAILS: Garfield County, CO NAD83

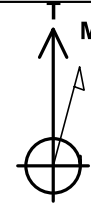
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Central Zone

System Datum: Mean Sea Level

Plan: Plan #2 29March2020 SB-SDI

Well Details: Federal RG 443-18-297

+N/-S +E/-W Northing Easting Longitude
0.00 0.00 1758355.9000 2207909.8000 39.8817164 -108.3227569 Federal RG 443-18-297

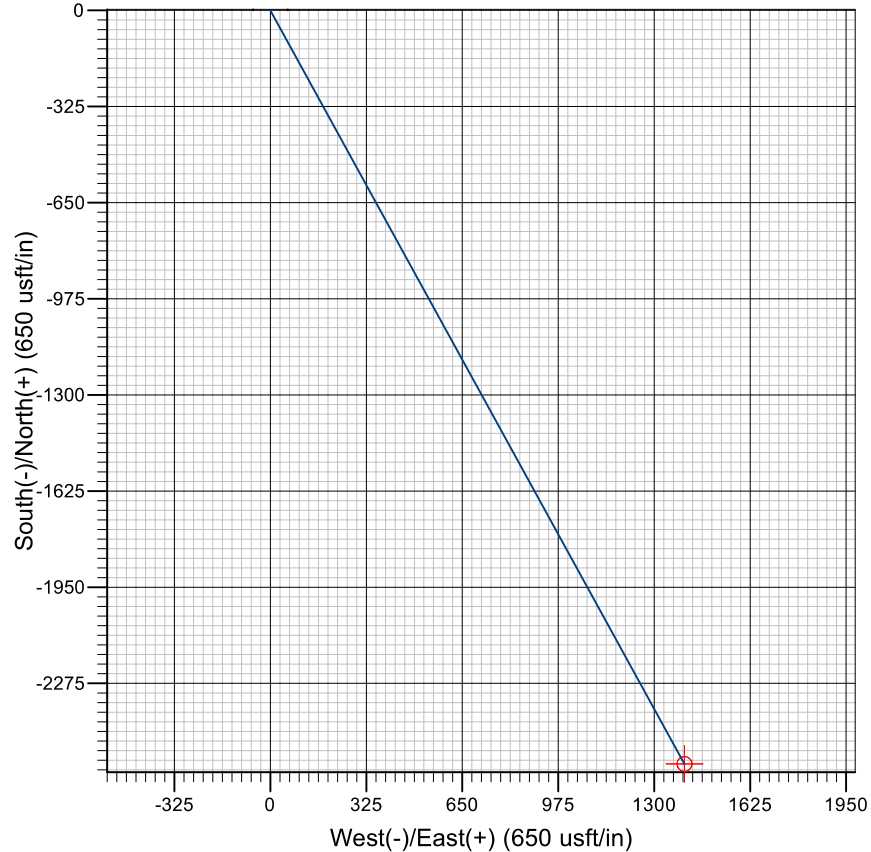
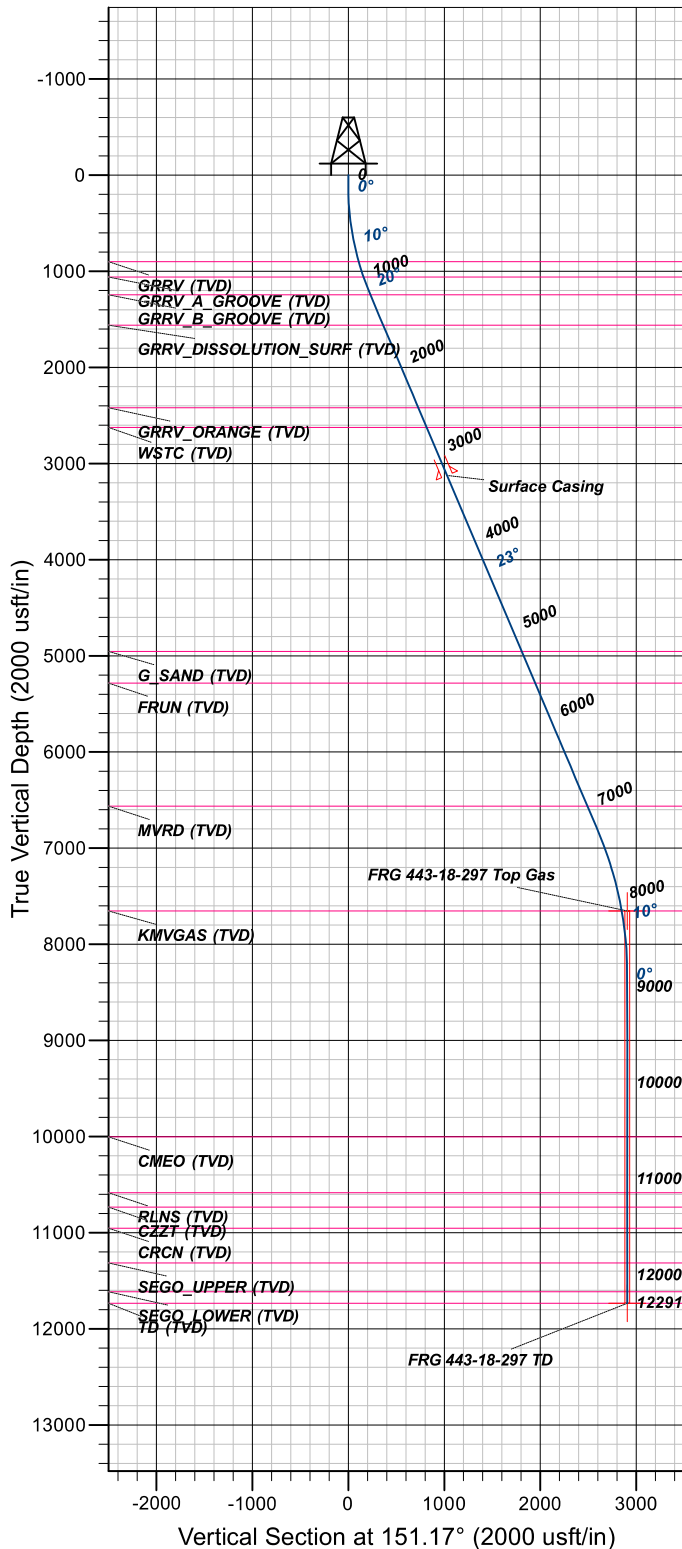


Azimuths to True North
Magnetic North: 9.28°

Magnetic Field
Strength: 51352.9nT
Dip Angle: 65.83°
Date: 3/16/2020
Model: HDGM_FILE

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
FRG 443-18-297 Top Gas	7655.00	-2547.36	1402.42	1755766.2000	2209232.4000	39.8747236	-108.3177604	Circle (Radius: 25.00)
- plan misses target center by 57.17usft at 8216.97usft MD (7664.25 TVD, -2497.94 N, 1375.21 E)								
FRG 443-18-297 TD	11735.00	-2547.36	1402.42	1755766.2000	2209232.4000	39.8747236	-108.3177604	Point
- plan hits target center								



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
900.00	909.97	GRRV (TVD)
1060.00	1077.74	GRRV_A GROOVE (TVD)
1245.00	1276.13	GRRV_B GROOVE (TVD)
1560.00	1618.44	GRRV DISSOLUTION_SURF (TVD)
2420.00	2553.03	GRRV_ORANGE (TVD)
2625.00	2775.81	WSTC (TVD)
4955.00	5307.87	G SAND (TVD)
5285.00	5666.49	FRUN (TVD)
6565.00	7057.50	MVRD (TVD)
7655.00	8207.59	KMGAS (TVD)
10005.00	10560.97	CMEQ (TVD)
10585.00	11140.97	RLNS (TVD)
10735.00	11290.97	CZZT (TVD)
10955.00	11510.97	CRCN (TVD)
11315.00	11870.97	SEGO_UPPER (TVD)
11615.00	12170.97	SEGO_LOWER (TVD)
11735.00	12290.97	TD (TVD)

CASING DETAILS

TVD	MD	Name	Size
3125.00	3319.17	Surface Casing	0.00

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
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
1272.26	23.05	151.17	1241.44	-200.27	110.26	2.00	151.17	228.62
737.91	23.05	151.17	6823.03	-2280.32	1255.40	0.00	0.00	2603.06
8207.59	10.00	151.17	7655.00	-2496.52	1374.43	1.50	180.00	2849.85
8874.25	0.00	0.00	8318.29	-2547.36	1402.42	1.50	180.00	2907.88
12290.97	0.00	0.00	11735.00	-2547.36	1402.42	0.00	0.00	2907.89

TEP Rocky Mountain LLC

Garfield County, CO NAD83

RG 41-18-297 Pad

Federal RG 443-18-297 - Slot Federal RG 443-18-297

OH

Plan: Plan #2 29March2020 SB-SDI

Standard Planning Report

30 March, 2020



Scientific Drilling, Intl

Planning Report

Database:	Grand Junction	Local Co-ordinate Reference:	Well Federal RG 443-18-297 - Slot Federal RG 443-18-297
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 6620.9' & KB 24' @ 6644.90usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 6620.9' & KB 24' @ 6644.90usft (H&P 318)
Site:	RG 41-18-297 Pad	North Reference:	True
Well:	Federal RG 443-18-297	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 29March2020 SB-SDI		

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		RG 41-18-297 Pad, Site Center : Federal RG 341-18-297			
Site Position:		Northing:	1,758,382.6564 usft	Latitude:	39.8817910
From:	Lat/Long	Easting:	2,207,923.2396 usft	Longitude:	-108.3227120
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	-1.78 °

Well	Federal RG 443-18-297 - Slot Federal RG 443-18-297, 695' FNL 2109' FEL Sec 18 T2S R97W					
Well Position	+N/-S	-27.16 usft	Northing:	1,758,355.9000 usft	Latitude:	39.8817165
	+E/-W	-12.60 usft	Easting:	2,207,909.8000 usft	Longitude:	-108.3227569
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	6,620.90 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM_FILE	3/16/2020	9.28	65.83	51,352.90000000

Design	Plan #2 29March2020 SB-SDI				
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	151.17	

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	
1,272.26	23.05	151.17	1,241.44	-200.27	110.26	2.00	2.00	0.00	151.17	
7,337.91	23.05	151.17	6,823.03	-2,280.32	1,255.41	0.00	0.00	0.00	0.00	
8,207.59	10.00	151.17	7,655.00	-2,496.52	1,374.43	1.50	-1.50	0.00	180.00	
8,874.25	0.00	0.00	8,318.29	-2,547.36	1,402.42	1.50	-1.50	0.00	180.00	
12,290.97	0.00	0.00	11,735.00	-2,547.36	1,402.42	0.00	0.00	0.00	0.00	FRG 443-18-297 TD

Scientific Drilling, Intl

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Well:	Federal RG 443-18-297	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 29March2020 SB-SDI		

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 2.00									
200.00	1.60	151.17	199.99	-0.98	0.54	1.12	2.00	2.00	0.00
300.00	3.60	151.17	299.88	-4.95	2.73	5.65	2.00	2.00	0.00
400.00	5.60	151.17	399.55	-11.98	6.59	13.67	2.00	2.00	0.00
500.00	7.60	151.17	498.89	-22.05	12.14	25.17	2.00	2.00	0.00
600.00	9.60	151.17	597.76	-35.14	19.35	40.12	2.00	2.00	0.00
700.00	11.60	151.17	696.05	-51.26	28.22	58.51	2.00	2.00	0.00
800.00	13.60	151.17	793.63	-70.37	38.74	80.33	2.00	2.00	0.00
900.00	15.60	151.17	890.40	-92.45	50.90	105.53	2.00	2.00	0.00
909.97	15.80	151.17	900.00	-94.81	52.20	108.23	2.00	2.00	0.00
GRRV (TVD)									
1,000.00	17.60	151.17	986.23	-117.47	64.67	134.10	2.00	2.00	0.00
1,077.74	19.15	151.17	1,060.00	-138.94	76.49	158.61	2.00	2.00	0.00
GRRV_A_GROOVE (TVD)									
1,100.00	19.60	151.17	1,081.00	-145.41	80.06	165.99	2.00	2.00	0.00
1,200.00	21.60	151.17	1,174.60	-176.23	97.02	201.18	2.00	2.00	0.00
1,272.26	23.05	151.17	1,241.44	-200.27	110.26	228.62	2.00	2.00	0.00
Start 6065.65 hold at 1272.26 MD									
1,276.13	23.05	151.17	1,245.00	-201.60	110.99	230.13	0.00	0.00	0.00
GRRV_B_GROOVE (TVD)									
1,300.00	23.05	151.17	1,266.97	-209.79	115.50	239.48	0.00	0.00	0.00
1,400.00	23.05	151.17	1,358.99	-244.08	134.38	278.63	0.00	0.00	0.00
1,500.00	23.05	151.17	1,451.01	-278.37	153.25	317.77	0.00	0.00	0.00
1,600.00	23.05	151.17	1,543.03	-312.66	172.13	356.92	0.00	0.00	0.00
1,618.44	23.05	151.17	1,560.00	-318.99	175.62	364.14	0.00	0.00	0.00
GRRV DISSOLUTION_SURF (TVD)									
1,700.00	23.05	151.17	1,635.05	-346.96	191.01	396.06	0.00	0.00	0.00
1,800.00	23.05	151.17	1,727.07	-381.25	209.89	435.21	0.00	0.00	0.00
1,900.00	23.05	151.17	1,819.09	-415.54	228.77	474.35	0.00	0.00	0.00
2,000.00	23.05	151.17	1,911.11	-449.83	247.65	513.50	0.00	0.00	0.00
2,100.00	23.05	151.17	2,003.13	-484.13	266.53	552.64	0.00	0.00	0.00
2,200.00	23.05	151.17	2,095.15	-518.42	285.41	591.79	0.00	0.00	0.00
2,300.00	23.05	151.17	2,187.17	-552.71	304.29	630.94	0.00	0.00	0.00
2,400.00	23.05	151.17	2,279.18	-587.00	323.17	670.08	0.00	0.00	0.00
2,500.00	23.05	151.17	2,371.20	-621.29	342.05	709.23	0.00	0.00	0.00
2,553.03	23.05	151.17	2,420.00	-639.48	352.06	729.99	0.00	0.00	0.00
GRRV_ORANGE (TVD)									
2,600.00	23.05	151.17	2,463.22	-655.59	360.93	748.37	0.00	0.00	0.00
2,700.00	23.05	151.17	2,555.24	-689.88	379.81	787.52	0.00	0.00	0.00
2,775.81	23.05	151.17	2,625.00	-715.87	394.12	817.19	0.00	0.00	0.00
WSTC (TVD)									
2,800.00	23.05	151.17	2,647.26	-724.17	398.68	826.66	0.00	0.00	0.00
2,900.00	23.05	151.17	2,739.28	-758.46	417.56	865.81	0.00	0.00	0.00
3,000.00	23.05	151.17	2,831.30	-792.76	436.44	904.96	0.00	0.00	0.00
3,100.00	23.05	151.17	2,923.32	-827.05	455.32	944.10	0.00	0.00	0.00
3,200.00	23.05	151.17	3,015.34	-861.34	474.20	983.25	0.00	0.00	0.00
3,300.00	23.05	151.17	3,107.36	-895.63	493.08	1,022.39	0.00	0.00	0.00

Scientific Drilling, Intl

Planning Report

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Site:	RG 41-18-297 Pad	North Reference:	True
Well:	Federal RG 443-18-297	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 29March2020 SB-SDI		

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)
3,319.17	23.05	151.17	3,125.00	-902.21	496.70	1,029.90	0.00	0.00	0.00
Surface Casing									
3,400.00	23.05	151.17	3,199.38	-929.93	511.96	1,061.54	0.00	0.00	0.00
3,500.00	23.05	151.17	3,291.40	-964.22	530.84	1,100.68	0.00	0.00	0.00
3,600.00	23.05	151.17	3,383.42	-998.51	549.72	1,139.83	0.00	0.00	0.00
3,700.00	23.05	151.17	3,475.44	-1,032.80	568.60	1,178.97	0.00	0.00	0.00
3,800.00	23.05	151.17	3,567.46	-1,067.09	587.48	1,218.12	0.00	0.00	0.00
3,900.00	23.05	151.17	3,659.48	-1,101.39	606.36	1,257.27	0.00	0.00	0.00
4,000.00	23.05	151.17	3,751.50	-1,135.68	625.23	1,296.41	0.00	0.00	0.00
4,100.00	23.05	151.17	3,843.52	-1,169.97	644.11	1,335.56	0.00	0.00	0.00
4,200.00	23.05	151.17	3,935.54	-1,204.26	662.99	1,374.70	0.00	0.00	0.00
4,300.00	23.05	151.17	4,027.56	-1,238.56	681.87	1,413.85	0.00	0.00	0.00
4,400.00	23.05	151.17	4,119.58	-1,272.85	700.75	1,452.99	0.00	0.00	0.00
4,500.00	23.05	151.17	4,211.60	-1,307.14	719.63	1,492.14	0.00	0.00	0.00
4,600.00	23.05	151.17	4,303.62	-1,341.43	738.51	1,531.29	0.00	0.00	0.00
4,700.00	23.05	151.17	4,395.64	-1,375.72	757.39	1,570.43	0.00	0.00	0.00
4,800.00	23.05	151.17	4,487.66	-1,410.02	776.27	1,609.58	0.00	0.00	0.00
4,900.00	23.05	151.17	4,579.68	-1,444.31	795.15	1,648.72	0.00	0.00	0.00
5,000.00	23.05	151.17	4,671.70	-1,478.60	814.03	1,687.87	0.00	0.00	0.00
5,100.00	23.05	151.17	4,763.72	-1,512.89	832.91	1,727.01	0.00	0.00	0.00
5,200.00	23.05	151.17	4,855.74	-1,547.19	851.78	1,766.16	0.00	0.00	0.00
5,300.00	23.05	151.17	4,947.76	-1,581.48	870.66	1,805.31	0.00	0.00	0.00
5,307.87	23.05	151.17	4,955.00	-1,584.18	872.15	1,808.39	0.00	0.00	0.00
G_SAND (TVD)									
5,400.00	23.05	151.17	5,039.77	-1,615.77	889.54	1,844.45	0.00	0.00	0.00
5,500.00	23.05	151.17	5,131.79	-1,650.06	908.42	1,883.60	0.00	0.00	0.00
5,600.00	23.05	151.17	5,223.81	-1,684.35	927.30	1,922.74	0.00	0.00	0.00
5,666.49	23.05	151.17	5,285.00	-1,707.16	939.85	1,948.77	0.00	0.00	0.00
FRUN (TVD)									
5,700.00	23.05	151.17	5,315.83	-1,718.65	946.18	1,961.89	0.00	0.00	0.00
5,800.00	23.05	151.17	5,407.85	-1,752.94	965.06	2,001.03	0.00	0.00	0.00
5,900.00	23.05	151.17	5,499.87	-1,787.23	983.94	2,040.18	0.00	0.00	0.00
6,000.00	23.05	151.17	5,591.89	-1,821.52	1,002.82	2,079.32	0.00	0.00	0.00
6,100.00	23.05	151.17	5,683.91	-1,855.82	1,021.70	2,118.47	0.00	0.00	0.00
6,200.00	23.05	151.17	5,775.93	-1,890.11	1,040.58	2,157.62	0.00	0.00	0.00
6,300.00	23.05	151.17	5,867.95	-1,924.40	1,059.46	2,196.76	0.00	0.00	0.00
6,400.00	23.05	151.17	5,959.97	-1,958.69	1,078.34	2,235.91	0.00	0.00	0.00
6,500.00	23.05	151.17	6,051.99	-1,992.98	1,097.21	2,275.05	0.00	0.00	0.00
6,600.00	23.05	151.17	6,144.01	-2,027.28	1,116.09	2,314.20	0.00	0.00	0.00
6,700.00	23.05	151.17	6,236.03	-2,061.57	1,134.97	2,353.34	0.00	0.00	0.00
6,800.00	23.05	151.17	6,328.05	-2,095.86	1,153.85	2,392.49	0.00	0.00	0.00
6,900.00	23.05	151.17	6,420.07	-2,130.15	1,172.73	2,431.64	0.00	0.00	0.00
7,000.00	23.05	151.17	6,512.09	-2,164.45	1,191.61	2,470.78	0.00	0.00	0.00
7,057.50	23.05	151.17	6,565.00	-2,184.16	1,202.47	2,493.29	0.00	0.00	0.00
MVRD (TVD)									
7,100.00	23.05	151.17	6,604.11	-2,198.74	1,210.49	2,509.93	0.00	0.00	0.00
7,200.00	23.05	151.17	6,696.13	-2,233.03	1,229.37	2,549.07	0.00	0.00	0.00
7,300.00	23.05	151.17	6,788.15	-2,267.32	1,248.25	2,588.22	0.00	0.00	0.00
7,337.91	23.05	151.17	6,823.03	-2,280.32	1,255.41	2,603.06	0.00	0.00	0.00
Start Drop -1.50									

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7,400.00	22.11	151.17	6,880.36	-2,301.21	1,266.90	2,626.90	1.50	-1.50	0.00
7,500.00	20.61	151.17	6,973.49	-2,333.12	1,284.47	2,663.33	1.50	-1.50	0.00
7,600.00	19.11	151.17	7,067.54	-2,362.88	1,300.86	2,697.30	1.50	-1.50	0.00
7,700.00	17.61	151.17	7,162.44	-2,390.48	1,316.05	2,728.81	1.50	-1.50	0.00
7,800.00	16.11	151.17	7,258.14	-2,415.89	1,330.04	2,757.82	1.50	-1.50	0.00
7,900.00	14.61	151.17	7,354.56	-2,439.10	1,342.82	2,784.31	1.50	-1.50	0.00
8,000.00	13.11	151.17	7,451.65	-2,460.09	1,354.38	2,808.27	1.50	-1.50	0.00
8,100.00	11.61	151.17	7,549.32	-2,478.85	1,364.70	2,829.68	1.50	-1.50	0.00
8,200.00	10.11	151.17	7,647.53	-2,495.36	1,373.79	2,848.53	1.50	-1.50	0.00
8,207.59	10.00	151.17	7,655.00	-2,496.52	1,374.43	2,849.85	1.50	-1.50	0.00
Start Drop -1.50 - KMGAS (TVD)									
8,300.00	8.61	151.17	7,746.19	-2,509.61	1,381.64	2,864.80	1.50	-1.50	0.00
8,400.00	7.11	151.17	7,845.25	-2,521.60	1,388.24	2,878.48	1.50	-1.50	0.00
8,500.00	5.61	151.17	7,944.63	-2,531.31	1,393.58	2,889.56	1.50	-1.50	0.00
8,600.00	4.11	151.17	8,044.27	-2,538.73	1,397.67	2,898.04	1.50	-1.50	0.00
8,700.00	2.61	151.17	8,144.09	-2,543.87	1,400.50	2,903.91	1.50	-1.50	0.00
8,800.00	1.11	151.17	8,244.04	-2,546.72	1,402.07	2,907.16	1.50	-1.50	0.00
8,874.25	0.00	0.00	8,318.29	-2,547.36	1,402.42	2,907.88	1.50	-1.50	0.00
Start 3416.71 hold at 8874.25 MD									
8,900.00	0.00	0.00	8,344.03	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
9,000.00	0.00	0.00	8,444.03	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
9,100.00	0.00	0.00	8,544.03	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
9,200.00	0.00	0.00	8,644.03	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
9,300.00	0.00	0.00	8,744.03	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
9,400.00	0.00	0.00	8,844.03	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
9,500.00	0.00	0.00	8,944.03	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
9,600.00	0.00	0.00	9,044.03	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
9,700.00	0.00	0.00	9,144.03	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
9,800.00	0.00	0.00	9,244.03	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
9,900.00	0.00	0.00	9,344.03	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
10,000.00	0.00	0.00	9,444.03	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
10,100.00	0.00	0.00	9,544.03	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
10,200.00	0.00	0.00	9,644.03	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
10,300.00	0.00	0.00	9,744.03	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
10,400.00	0.00	0.00	9,844.03	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
10,500.00	0.00	0.00	9,944.03	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
10,560.97	0.00	0.00	10,005.00	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
CMEQ (TVD)									
10,600.00	0.00	0.00	10,044.03	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
10,700.00	0.00	0.00	10,144.03	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
10,800.00	0.00	0.00	10,244.03	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
10,900.00	0.00	0.00	10,344.03	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
11,000.00	0.00	0.00	10,444.03	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
11,100.00	0.00	0.00	10,544.03	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
11,140.97	0.00	0.00	10,585.00	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
RLNS (TVD)									
11,200.00	0.00	0.00	10,644.03	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
11,290.97	0.00	0.00	10,735.00	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
CZZT (TVD)									
11,300.00	0.00	0.00	10,744.03	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00

Scientific Drilling, Intl

Planning Report

Database:	Grand Junction	Local Co-ordinate Reference:	Well Federal RG 443-18-297 - Slot Federal RG 443-18-297
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 6620.9' & KB 24' @ 6644.90usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 6620.9' & KB 24' @ 6644.90usft (H&P 318)
Site:	RG 41-18-297 Pad	North Reference:	True
Well:	Federal RG 443-18-297	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 29March2020 SB-SDI		

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)
11,400.00	0.00	0.00	10,844.03	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
11,500.00	0.00	0.00	10,944.03	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
11,510.97	0.00	0.00	10,955.00	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
CRCN (TVD)									
11,600.00	0.00	0.00	11,044.03	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
11,700.00	0.00	0.00	11,144.03	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
11,800.00	0.00	0.00	11,244.03	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
11,870.97	0.00	0.00	11,315.00	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
SEGO_UPPER (TVD)									
11,900.00	0.00	0.00	11,344.03	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
12,000.00	0.00	0.00	11,444.03	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
12,100.00	0.00	0.00	11,544.03	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
12,170.97	0.00	0.00	11,615.00	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
SEGO_LOWER (TVD)									
12,200.00	0.00	0.00	11,644.03	-2,547.36	1,402.42	2,907.88	0.00	0.00	0.00
12,290.97	0.00	0.00	11,735.00	-2,547.36	1,402.42	2,907.89	0.00	0.00	0.00
TD at 12290.97 - TD (TVD)									

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									
FRG 443-18-297 Top Gε	0.00	0.00	7,655.00	-2,547.36	1,402.42	1,755,766.2000	2,209,232.4000	39.8747237	-108.3177605
- plan misses target center by 57.17usft at 8216.97usft MD (7664.25 TVD, -2497.94 N, 1375.21 E)									
- Circle (radius 25.00)									
FRG 443-18-297 TD	0.00	0.00	11,735.00	-2,547.36	1,402.42	1,755,766.2000	2,209,232.4000	39.8747237	-108.3177605
- plan hits target center									
- Point									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
3,319.17	3,125.00	Surface Casing	0.00	0.00	

Scientific Drilling, Intl

Planning Report

Database:	Grand Junction	Local Co-ordinate Reference:	Well Federal RG 443-18-297 - Slot Federal RG 443-18-297
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 6620.9' & KB 24' @ 6644.90usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 6620.9' & KB 24' @ 6644.90usft (H&P 318)
Site:	RG 41-18-297 Pad	North Reference:	True
Well:	Federal RG 443-18-297	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 29March2020 SB-SDI		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
909.97	900.00	GRRV (TVD)		0.00		
1,077.74	1,060.00	GRRV_A_GROOVE (TVD)		0.00		
1,276.13	1,245.00	GRRV_B_GROOVE (TVD)		0.00		
1,618.44	1,560.00	GRRV DISSOLUTION_SURF (TVD)		0.00		
2,553.03	2,420.00	GRRV_ORANGE (TVD)		0.00		
2,775.81	2,625.00	WSTC (TVD)		0.00		
5,307.87	4,955.00	G_SAND (TVD)		0.00		
5,666.49	5,285.00	FRUN (TVD)		0.00		
7,057.50	6,565.00	MVRD (TVD)		0.00		
8,207.59	7,655.00	KMVGAS (TVD)		0.00		
10,560.97	10,005.00	CME0 (TVD)		0.00		
11,140.97	10,585.00	RLNS (TVD)		0.00		
11,290.97	10,735.00	CZZT (TVD)		0.00		
11,510.97	10,955.00	CRCN (TVD)		0.00		
11,870.97	11,315.00	SEGO_UPPER (TVD)		0.00		
12,170.97	11,615.00	SEGO_LOWER (TVD)		0.00		
12,290.97	11,735.00	TD (TVD)		0.00		

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
120.00	120.00	0.00	0.00	Start Build 2.00	
1,272.26	1,241.44	-200.27	110.26	Start 6065.65 hold at 1272.26 MD	
7,337.91	6,823.03	-2,280.32	1,255.41	Start Drop -1.50	
8,207.59	7,655.00	-2,496.52	1,374.43	Start Drop -1.50	
8,874.25	8,318.29	-2,547.36	1,402.42	Start 3416.71 hold at 8874.25 MD	
12,290.97	11,735.00	-2,547.36	1,402.42	TD at 12290.97	