

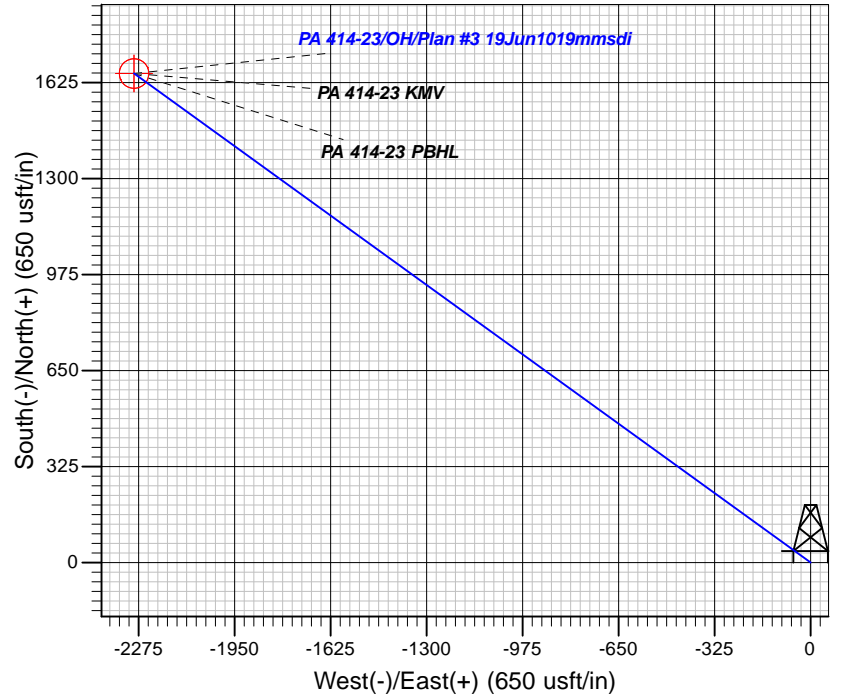
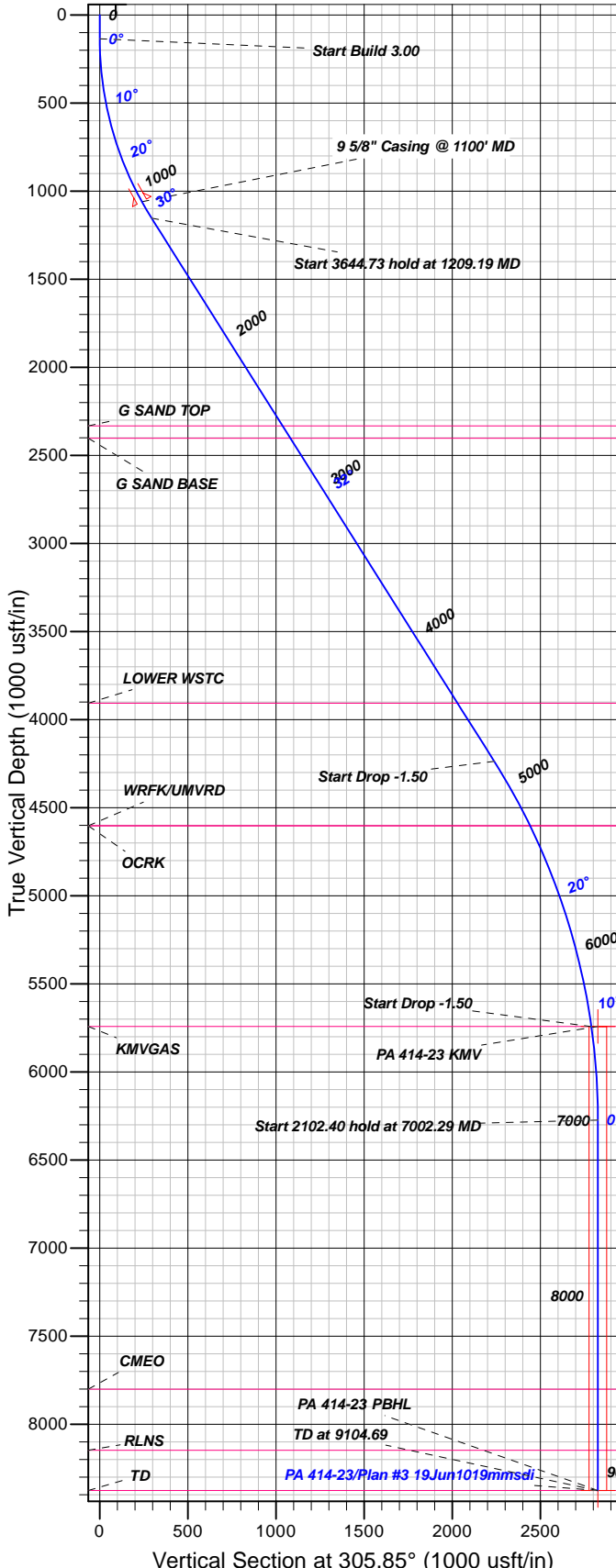


Azimuths to True North
Magnetic North: 9.40°

Magnetic Field
Strength: 51650.0snT
Dip Angle: 65.77°
Date: 2/26/2018
Model: HDGM

Well Details: PA 414-23

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1616419.90	2304737.50	39.4999621	-107.9641593	PA 414-23 (A6)



FORMATION TOP DETAILS

TVDPATH	MDPATH	FORMATION
2333.00	2603.54	G SAND TOP
2403.00	2686.29	G SAND BASE
3907.00	4464.16	LOWER WSTC
4603.00	5273.25	OCRK
4603.00	5273.25	WRFK/UMVRD
5742.00	6468.96	KMGAS
7801.00	8529.69	CMEO
8148.00	8876.69	RLNS
8376.00	9104.69	TD

Plan: Plan #3 19Jun1019mmsdi

11:03, June 25 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
1059.46	1100.00	5/8\" Casing @ 1100' 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	135.00	0.00	0.00	135.00	0.00	0.00	0.00	0.00	0.00	
3	1209.19	32.23	305.85	1153.44	172.32	-238.45	3.00	305.85	294.20	
4	4853.92	32.23	305.85	4236.72	1310.73	-1813.73	0.00	0.00	0.00	
5	6468.96	8.00	305.85	5742.00	1633.61	-2260.51	1.50	180.00	2789.01	
6	7002.29	0.00	0.00	6273.60	1655.38	-2290.64	1.50	180.00	2826.19	
7	9104.69	0.00	0.00	8376.00	1655.38	-2290.64	0.00	0.00	2826.19	PA 414-23 PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PA 414-23 KMV	5742.00	1655.38	-2290.64	1618136.80	2302492.60	39.5045066	-107.9722773	Circle (Radius: 50.00)
- plan misses target center by 36.81usft at 6473.98usft MD (5746.98 TVD, 1634.02 N, -2261.07 E)								
PA 414-23 PBHL	8376.00	1655.38	-2290.64	1618136.80	2302492.60	39.5045066	-107.9722773	Point
- plan hits target center								



TEP Rocky Mountain LLC

Garfield County, CO NAD83

PA 31-26 Pad

PA 414-23 - Slot PA 414-23 (A6)

OH

Plan: Plan #3 19Jun1019mmsdi

Standard Planning Report

25 June, 2019



Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 414-23 - Slot PA 414-23 (A6)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5486' & RKB 24' @ 5510.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 5486' & RKB 24' @ 5510.00usft
Site:	PA 31-26 Pad	North Reference:	True
Well:	PA 414-23	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3 19Jun1019mmsdi		

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	PA 31-26 Pad			
Site Position:		Northing:	1,616,455.80 usft	Latitude: 39.5000599
From: Map		Easting:	2,304,726.80 usft	Longitude: -107.9642007
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence: -1.55 °

Well	PA 414-23 - Slot PA 414-23 (A6)			
Well Position	+N/-S	-35.60 usft	Northing:	1,616,419.90 usft
	+E/-W	11.67 usft	Easting:	2,304,737.50 usft
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft
			Ground Level:	5,486.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	2/26/2018	9.40	65.77	51,650

Design	Plan #3 19Jun1019mmsdi			
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	305.85

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	
135.00	0.00	0.00	135.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,209.19	32.23	305.85	1,153.44	172.32	-238.45	3.00	3.00	0.00	305.85	
4,853.92	32.23	305.85	4,236.72	1,310.73	-1,813.73	0.00	0.00	0.00	0.00	
6,468.96	8.00	305.85	5,742.00	1,633.61	-2,260.51	1.50	-1.50	0.00	180.00	
7,002.29	0.00	0.00	6,273.60	1,655.38	-2,290.64	1.50	-1.50	0.00	180.00	
9,104.69	0.00	0.00	8,376.00	1,655.38	-2,290.64	0.00	0.00	0.00	0.00	PA 414-23 PBHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 414-23 - Slot PA 414-23 (A6)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5486' & RKB 24' @ 5510.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 5486' & RKB 24' @ 5510.00usft
Site:	PA 31-26 Pad	North Reference:	True
Well:	PA 414-23	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3 19Jun1019mmsdi		

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
135.00	0.00	0.00	135.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 3.00									
200.00	1.95	305.85	199.99	0.65	-0.90	1.11	3.00	3.00	0.00
300.00	4.95	305.85	299.79	4.17	-5.77	7.12	3.00	3.00	0.00
400.00	7.95	305.85	399.15	10.75	-14.88	18.36	3.00	3.00	0.00
500.00	10.95	305.85	497.78	20.37	-28.18	34.77	3.00	3.00	0.00
600.00	13.95	305.85	595.42	32.99	-45.65	56.33	3.00	3.00	0.00
700.00	16.95	305.85	691.79	48.60	-67.24	82.97	3.00	3.00	0.00
800.00	19.95	305.85	786.64	67.13	-92.89	114.61	3.00	3.00	0.00
900.00	22.95	305.85	879.71	88.55	-122.53	151.17	3.00	3.00	0.00
1,000.00	25.95	305.85	970.73	112.79	-156.07	192.56	3.00	3.00	0.00
1,100.00	28.95	305.85	1,059.46	139.79	-193.43	238.65	3.00	3.00	0.00
9 5/8" Casing @ 1100' MD									
1,200.00	31.95	305.85	1,145.66	169.47	-234.50	289.32	3.00	3.00	0.00
1,209.19	32.23	305.85	1,153.44	172.32	-238.45	294.20	3.00	3.00	0.00
Start 3644.73 hold at 1209.19 MD									
1,300.00	32.23	305.85	1,230.26	200.69	-277.70	342.63	0.00	0.00	0.00
1,400.00	32.23	305.85	1,314.86	231.92	-320.92	395.96	0.00	0.00	0.00
1,500.00	32.23	305.85	1,399.46	263.16	-364.15	449.28	0.00	0.00	0.00
1,600.00	32.23	305.85	1,484.05	294.39	-407.37	502.61	0.00	0.00	0.00
1,700.00	32.23	305.85	1,568.65	325.63	-450.59	555.93	0.00	0.00	0.00
1,800.00	32.23	305.85	1,653.24	356.86	-493.81	609.26	0.00	0.00	0.00
1,900.00	32.23	305.85	1,737.84	388.10	-537.03	662.58	0.00	0.00	0.00
2,000.00	32.23	305.85	1,822.43	419.33	-580.25	715.91	0.00	0.00	0.00
2,100.00	32.23	305.85	1,907.03	450.56	-623.47	769.23	0.00	0.00	0.00
2,200.00	32.23	305.85	1,991.62	481.80	-666.69	822.56	0.00	0.00	0.00
2,300.00	32.23	305.85	2,076.22	513.03	-709.91	875.89	0.00	0.00	0.00
2,400.00	32.23	305.85	2,160.81	544.27	-753.13	929.21	0.00	0.00	0.00
2,500.00	32.23	305.85	2,245.41	575.50	-796.35	982.54	0.00	0.00	0.00
2,600.00	32.23	305.85	2,330.01	606.74	-839.57	1,035.86	0.00	0.00	0.00
2,603.54	32.23	305.85	2,333.00	607.84	-841.10	1,037.75	0.00	0.00	0.00
G SAND TOP									
2,686.29	32.23	305.85	2,403.00	633.69	-876.87	1,081.87	0.00	0.00	0.00
G SAND BASE									
2,700.00	32.23	305.85	2,414.60	637.97	-882.79	1,089.19	0.00	0.00	0.00
2,800.00	32.23	305.85	2,499.20	669.21	-926.01	1,142.51	0.00	0.00	0.00
2,900.00	32.23	305.85	2,583.79	700.44	-969.23	1,195.84	0.00	0.00	0.00
3,000.00	32.23	305.85	2,668.39	731.67	-1,012.45	1,249.16	0.00	0.00	0.00
3,100.00	32.23	305.85	2,752.98	762.91	-1,055.68	1,302.49	0.00	0.00	0.00
3,200.00	32.23	305.85	2,837.58	794.14	-1,098.90	1,355.82	0.00	0.00	0.00
3,300.00	32.23	305.85	2,922.17	825.38	-1,142.12	1,409.14	0.00	0.00	0.00
3,400.00	32.23	305.85	3,006.77	856.61	-1,185.34	1,462.47	0.00	0.00	0.00
3,500.00	32.23	305.85	3,091.36	887.85	-1,228.56	1,515.79	0.00	0.00	0.00
3,600.00	32.23	305.85	3,175.96	919.08	-1,271.78	1,569.12	0.00	0.00	0.00
3,700.00	32.23	305.85	3,260.56	950.31	-1,315.00	1,622.44	0.00	0.00	0.00
3,800.00	32.23	305.85	3,345.15	981.55	-1,358.22	1,675.77	0.00	0.00	0.00
3,900.00	32.23	305.85	3,429.75	1,012.78	-1,401.44	1,729.09	0.00	0.00	0.00
4,000.00	32.23	305.85	3,514.34	1,044.02	-1,444.66	1,782.42	0.00	0.00	0.00
4,100.00	32.23	305.85	3,598.94	1,075.25	-1,487.88	1,835.74	0.00	0.00	0.00
4,200.00	32.23	305.85	3,683.53	1,106.49	-1,531.10	1,889.07	0.00	0.00	0.00
4,300.00	32.23	305.85	3,768.13	1,137.72	-1,574.32	1,942.40	0.00	0.00	0.00
4,400.00	32.23	305.85	3,852.72	1,168.96	-1,617.54	1,995.72	0.00	0.00	0.00

Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 414-23 - Slot PA 414-23 (A6)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5486' & RKB 24' @ 5510.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 5486' & RKB 24' @ 5510.00usft
Site:	PA 31-26 Pad	North Reference:	True
Well:	PA 414-23	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3 19Jun1019mmsdi		

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)
4,464.16	32.23	305.85	3,907.00	1,188.99	-1,645.27	2,029.93	0.00	0.00	0.00
LOWER WSTC									
4,500.00	32.23	305.85	3,937.32	1,200.19	-1,660.76	2,049.05	0.00	0.00	0.00
4,600.00	32.23	305.85	4,021.92	1,231.42	-1,703.98	2,102.37	0.00	0.00	0.00
4,700.00	32.23	305.85	4,106.51	1,262.66	-1,747.21	2,155.70	0.00	0.00	0.00
4,800.00	32.23	305.85	4,191.11	1,293.89	-1,790.43	2,209.02	0.00	0.00	0.00
4,853.92	32.23	305.85	4,236.72	1,310.73	-1,813.73	2,237.78	0.00	0.00	0.00
Start Drop -1.50									
4,900.00	31.53	305.85	4,275.85	1,324.99	-1,833.46	2,262.11	1.50	-1.50	0.00
5,000.00	30.03	305.85	4,361.76	1,354.97	-1,874.94	2,313.29	1.50	-1.50	0.00
5,100.00	28.53	305.85	4,448.97	1,383.62	-1,914.58	2,362.21	1.50	-1.50	0.00
5,200.00	27.03	305.85	4,537.44	1,410.92	-1,952.36	2,408.82	1.50	-1.50	0.00
5,273.25	25.94	305.85	4,603.00	1,430.05	-1,978.84	2,441.48	1.50	-1.50	0.00
OCRK - WRFK/UMVRD									
5,300.00	25.53	305.85	4,627.10	1,436.86	-1,988.25	2,453.10	1.50	-1.50	0.00
5,400.00	24.03	305.85	4,717.89	1,461.41	-2,022.23	2,495.02	1.50	-1.50	0.00
5,500.00	22.53	305.85	4,809.74	1,484.56	-2,054.27	2,534.55	1.50	-1.50	0.00
5,600.00	21.03	305.85	4,902.60	1,506.30	-2,084.34	2,571.66	1.50	-1.50	0.00
5,700.00	19.53	305.85	4,996.39	1,526.60	-2,112.44	2,606.33	1.50	-1.50	0.00
5,800.00	18.03	305.85	5,091.06	1,545.47	-2,138.54	2,638.53	1.50	-1.50	0.00
5,900.00	16.53	305.85	5,186.54	1,562.87	-2,162.62	2,668.24	1.50	-1.50	0.00
6,000.00	15.03	305.85	5,282.77	1,578.80	-2,184.67	2,695.44	1.50	-1.50	0.00
6,100.00	13.53	305.85	5,379.68	1,593.25	-2,204.66	2,720.11	1.50	-1.50	0.00
6,200.00	12.03	305.85	5,477.19	1,606.21	-2,222.60	2,742.24	1.50	-1.50	0.00
6,300.00	10.53	305.85	5,575.26	1,617.67	-2,238.46	2,761.80	1.50	-1.50	0.00
6,400.00	9.03	305.85	5,673.80	1,627.63	-2,252.23	2,778.80	1.50	-1.50	0.00
6,468.96	8.00	305.85	5,742.00	1,633.61	-2,260.51	2,789.01	1.50	-1.50	0.00
Start Drop -1.50 - KMGAS									
6,473.99	7.92	305.85	5,746.98	1,634.02	-2,261.07	2,789.71	1.50	-1.50	0.00
PA 414-23 KMV									
6,500.00	7.53	305.85	5,772.75	1,636.07	-2,263.91	2,793.21	1.50	-1.50	0.00
6,600.00	6.03	305.85	5,872.05	1,642.99	-2,273.48	2,805.02	1.50	-1.50	0.00
6,700.00	4.53	305.85	5,971.62	1,648.38	-2,280.95	2,814.23	1.50	-1.50	0.00
6,800.00	3.03	305.85	6,071.40	1,652.25	-2,286.30	2,820.83	1.50	-1.50	0.00
6,900.00	1.53	305.85	6,171.32	1,654.58	-2,289.53	2,824.82	1.50	-1.50	0.00
7,000.00	0.03	305.85	6,271.31	1,655.38	-2,290.64	2,826.18	1.50	-1.50	0.00
7,002.29	0.00	0.00	6,273.60	1,655.38	-2,290.64	2,826.19	1.50	-1.50	0.00
Start 2102.40 hold at 7002.29 MD									
7,100.00	0.00	0.00	6,371.31	1,655.38	-2,290.64	2,826.19	0.00	0.00	0.00
7,200.00	0.00	0.00	6,471.31	1,655.38	-2,290.64	2,826.19	0.00	0.00	0.00
7,300.00	0.00	0.00	6,571.31	1,655.38	-2,290.64	2,826.19	0.00	0.00	0.00
7,400.00	0.00	0.00	6,671.31	1,655.38	-2,290.64	2,826.19	0.00	0.00	0.00
7,500.00	0.00	0.00	6,771.31	1,655.38	-2,290.64	2,826.19	0.00	0.00	0.00
7,600.00	0.00	0.00	6,871.31	1,655.38	-2,290.64	2,826.19	0.00	0.00	0.00
7,700.00	0.00	0.00	6,971.31	1,655.38	-2,290.64	2,826.19	0.00	0.00	0.00
7,800.00	0.00	0.00	7,071.31	1,655.38	-2,290.64	2,826.19	0.00	0.00	0.00
7,900.00	0.00	0.00	7,171.31	1,655.38	-2,290.64	2,826.19	0.00	0.00	0.00
8,000.00	0.00	0.00	7,271.31	1,655.38	-2,290.64	2,826.19	0.00	0.00	0.00
8,100.00	0.00	0.00	7,371.31	1,655.38	-2,290.64	2,826.19	0.00	0.00	0.00
8,200.00	0.00	0.00	7,471.31	1,655.38	-2,290.64	2,826.19	0.00	0.00	0.00
8,300.00	0.00	0.00	7,571.31	1,655.38	-2,290.64	2,826.19	0.00	0.00	0.00
8,400.00	0.00	0.00	7,671.31	1,655.38	-2,290.64	2,826.19	0.00	0.00	0.00
8,500.00	0.00	0.00	7,771.31	1,655.38	-2,290.64	2,826.19	0.00	0.00	0.00

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Project:	Garfield County, CO NAD83	MD Reference:	GL 5486' & RKB 24' @ 5510.00usft
Site:	PA 31-26 Pad	North Reference:	True
Well:	PA 414-23	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3 19Jun1019mmsdi		

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)
8,529.69	0.00	0.00	7,801.00	1,655.38	-2,290.64	2,826.19	0.00	0.00	0.00
CMEO									
8,600.00	0.00	0.00	7,871.31	1,655.38	-2,290.64	2,826.19	0.00	0.00	0.00
8,700.00	0.00	0.00	7,971.31	1,655.38	-2,290.64	2,826.19	0.00	0.00	0.00
8,800.00	0.00	0.00	8,071.31	1,655.38	-2,290.64	2,826.19	0.00	0.00	0.00
8,876.69	0.00	0.00	8,148.00	1,655.38	-2,290.64	2,826.19	0.00	0.00	0.00
RLNS									
8,900.00	0.00	0.00	8,171.31	1,655.38	-2,290.64	2,826.19	0.00	0.00	0.00
9,000.00	0.00	0.00	8,271.31	1,655.38	-2,290.64	2,826.19	0.00	0.00	0.00
9,100.00	0.00	0.00	8,371.31	1,655.38	-2,290.64	2,826.19	0.00	0.00	0.00
9,104.69	0.00	0.00	8,376.00	1,655.38	-2,290.64	2,826.19	0.00	0.00	0.00
TD at 9104.69 - TD - PA 314-23 PBHL - PA 414-23 PBHL									

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									
PA 414-23 KMV	0.00	0.00	5,742.00	1,655.38	-2,290.64	1,618,136.80	2,302,492.60	39.5045066	-107.9722774
- plan misses target center by 36.81usft at 6473.98usft MD (5746.98 TVD, 1634.02 N, -2261.07 E)									
- Circle (radius 50.00)									
PA 414-23 PBHL	0.00	0.00	8,376.00	1,655.38	-2,290.64	1,618,136.80	2,302,492.60	39.5045066	-107.9722774
- plan hits target center									
- Point									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,100.00	1,059.46	9 5/8" Casing @ 1100' MD	9.62	13.50	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,603.54	2,333.00	G SAND TOP		0.00	0.00
2,686.29	2,403.00	G SAND BASE		0.00	0.00
4,464.16	3,907.00	LOWER WSTC		0.00	0.00
5,273.25	4,603.00	OCRK		0.00	0.00
5,273.25	4,603.00	WRFK/UMVRD		0.00	0.00
6,468.96	5,742.00	KMVGAS		0.00	0.00
8,529.69	7,801.00	CMEO		0.00	0.00
8,876.69	8,148.00	RLNS		0.00	0.00
9,104.69	8,376.00	TD		0.00	0.00

Database:	Grand Junction District	Local Co-ordinate Reference:	Well PA 414-23 - Slot PA 414-23 (A6)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5486' & RKB 24' @ 5510.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 5486' & RKB 24' @ 5510.00usft
Site:	PA 31-26 Pad	North Reference:	True
Well:	PA 414-23	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3 19Jun1019mmsdi		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
135.00	135.00	0.00	0.00	Start Build 3.00
1,209.19	1,153.44	172.32	-238.45	Start 3644.73 hold at 1209.19 MD
4,853.92	4,236.72	1,310.73	-1,813.73	Start Drop -1.50
6,468.96	5,742.00	1,633.61	-2,260.51	Start Drop -1.50
7,002.29	6,273.60	1,655.38	-2,290.64	Start 2102.40 hold at 7002.29 MD
9,104.69	8,376.00	1,655.38	-2,290.64	TD at 9104.69