

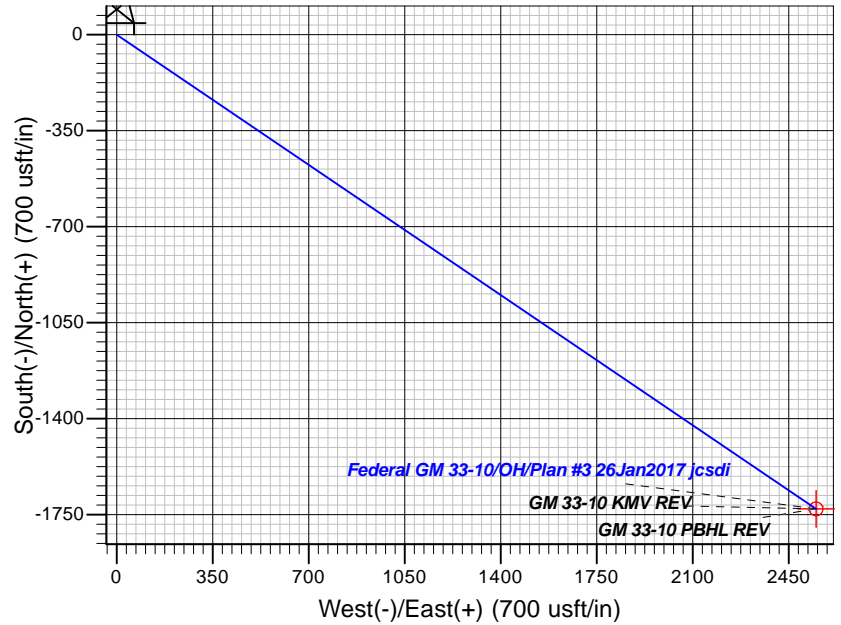
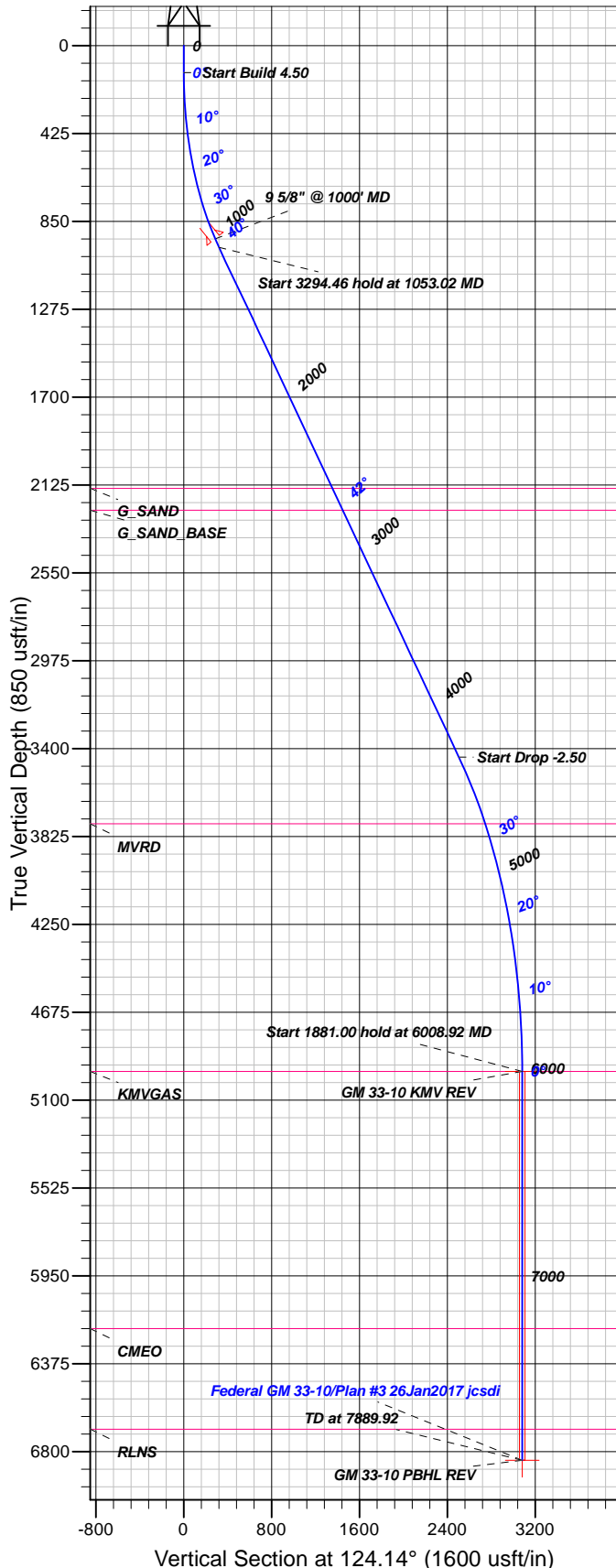
## Well Details: Federal GM 33-10

GL 6148' & RKB 24' @ 6172.00usft (H&P 318)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1600356.30	2266917.30	39.4529855	-108.0965042	A14

**T M** Azimuths to True North  
Magnetic North: 9.71°

Magnetic Field  
Strength: 51587.4snT  
Dip Angle: 65.58°  
Date: 9/13/2016  
Model: BGGM2016



### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
2141.00	2611.69	G_SAND
2246.00	2751.97	G_SAND_BASE
3763.00	4749.48	MVRD
4960.00	6008.92	KMVGAS
6205.00	7253.92	CMEO
6691.00	7739.92	RLNS

Plan: Plan #3 26Jan2017 jcsdi

13:10, January 26 2017  
Created By: Janie Collins

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
933.86	1000.00	9 5/8" @ 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	130.00	0.00	0.00	130.00	0.00	0.00	0.00	0.00	0.00	
3	1053.02	41.54	124.14	974.27	-179.70	264.98	4.50	124.14	320.17	
4	4347.49	41.54	124.14	3440.31	-1405.78	2072.99	0.00	0.00	0.00	
5	6008.92	0.00	0.00	4960.00	-1729.24	2549.96	2.50	180.00	3081.00	GM 33-10 KMV REV
6	7889.92	0.00	0.00	6841.00	-1729.24	2549.96	0.00	0.00	3081.00	GM 33-10 PBHL REV

### DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
GM 33-10 KMV REV	4960.00	-1729.24	2549.96	1598554.90	2269416.80	39.4482376	-108.0874744	Circle (Radius: 25.00)
- plan hits target center								
GM 33-10 PBHL REV	6841.00	-1729.24	2549.96	1598554.90	2269416.80	39.4482376	-108.0874744	Point
- plan hits target center								



## **TEP Rocky Mountain LLC**

**Garfield County, CO NAD83**

**MV 5-10 Pad**

**Federal GM 33-10 - Slot A14**

**OH**

**Plan: Plan #3 26Jan2017 jcsdi**

## **Standard Planning Report**

**26 January, 2017**



<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well Federal GM 33-10 - Slot A14
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	GL 6148' & RKB 24' @ 6172.00usft (H&P 318)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	GL 6148' & RKB 24' @ 6172.00usft (H&P 318)
<b>Site:</b>	MV 5-10 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Federal GM 33-10	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #3 26Jan2017 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		MV 5-10 Pad			
Site Position:		Northing:	1,600,344.70 usft	Latitude:	39.4529509
From:	Map	Easting:	2,266,881.70 usft	Longitude:	-108.0966291
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	-1.64 °

Well	Federal GM 33-10 - Slot A14					
Well Position	+N/-S	12.61 usft	Northing:	1,600,356.30 usft	Latitude:	39.4529856
	+E/-W	35.25 usft	Easting:	2,266,917.30 usft	Longitude:	-108.0965043
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	6,148.00 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	9/13/2016	9.72	65.58	51,587

<b>Design</b>	Plan #3 26Jan2017 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	124.14	

<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	
130.00	0.00	0.00	130.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,053.02	41.54	124.14	974.27	-179.70	264.98	4.50	4.50	0.00	124.14	
4,347.49	41.54	124.14	3,440.31	-1,405.78	2,072.99	0.00	0.00	0.00	0.00	
6,008.92	0.00	0.00	4,960.00	-1,729.24	2,549.96	2.50	-2.50	0.00	180.00	GM 33-10 KMW REV
7,889.92	0.00	0.00	6,841.00	-1,729.24	2,549.96	0.00	0.00	0.00	0.00	GM 33-10 PBHL REV

<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well Federal GM 33-10 - Slot A14
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	GL 6148' & RKB 24' @ 6172.00usft (H&P 318)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	GL 6148' & RKB 24' @ 6172.00usft (H&P 318)
<b>Site:</b>	MV 5-10 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Federal GM 33-10	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #3 26Jan2017 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	
130.00	0.00	0.00	130.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	3.15	124.14	199.96	-1.08	1.59	1.92	4.50	4.50	0.00	
300.00	7.65	124.14	299.49	-6.36	9.38	11.33	4.50	4.50	0.00	
400.00	12.15	124.14	397.98	-16.01	23.60	28.52	4.50	4.50	0.00	
500.00	16.65	124.14	494.81	-29.96	44.18	53.38	4.50	4.50	0.00	
600.00	21.15	124.14	589.40	-48.14	70.98	85.77	4.50	4.50	0.00	
700.00	25.65	124.14	681.15	-70.42	103.84	125.47	4.50	4.50	0.00	
800.00	30.15	124.14	769.50	-96.68	142.56	172.25	4.50	4.50	0.00	
900.00	34.65	124.14	853.91	-126.74	186.90	225.82	4.50	4.50	0.00	
1,000.00	39.15	124.14	933.86	-160.43	236.58	285.85	4.50	4.50	0.00	
<b>9 5/8" @ 1000' MD</b>										
1,053.02	41.54	124.14	974.27	-179.70	264.98	320.17	4.50	4.50	0.00	
1,100.00	41.54	124.14	1,009.44	-197.18	290.77	351.32	0.00	0.00	0.00	
1,200.00	41.54	124.14	1,084.29	-234.40	345.65	417.63	0.00	0.00	0.00	
1,300.00	41.54	124.14	1,159.14	-271.61	400.53	483.94	0.00	0.00	0.00	
1,400.00	41.54	124.14	1,234.00	-308.83	455.41	550.25	0.00	0.00	0.00	
1,500.00	41.54	124.14	1,308.85	-346.05	510.29	616.55	0.00	0.00	0.00	
1,600.00	41.54	124.14	1,383.71	-383.26	565.17	682.86	0.00	0.00	0.00	
1,700.00	41.54	124.14	1,458.56	-420.48	620.04	749.17	0.00	0.00	0.00	
1,800.00	41.54	124.14	1,533.41	-457.70	674.92	815.48	0.00	0.00	0.00	
1,900.00	41.54	124.14	1,608.27	-494.91	729.80	881.79	0.00	0.00	0.00	
2,000.00	41.54	124.14	1,683.12	-532.13	784.68	948.10	0.00	0.00	0.00	
2,100.00	41.54	124.14	1,757.97	-569.34	839.56	1,014.41	0.00	0.00	0.00	
2,200.00	41.54	124.14	1,832.83	-606.56	894.44	1,080.72	0.00	0.00	0.00	
2,300.00	41.54	124.14	1,907.68	-643.78	949.32	1,147.02	0.00	0.00	0.00	
2,400.00	41.54	124.14	1,982.54	-680.99	1,004.20	1,213.33	0.00	0.00	0.00	
2,500.00	41.54	124.14	2,057.39	-718.21	1,059.08	1,279.64	0.00	0.00	0.00	
2,599.99	41.54	124.14	2,132.24	-755.43	1,113.96	1,345.95	0.00	0.00	0.00	
2,611.69	41.54	124.14	2,141.00	-759.78	1,120.38	1,353.71	0.00	0.00	0.00	
<b>G_SAND</b>										
2,699.99	41.54	124.14	2,207.10	-792.64	1,168.84	1,412.26	0.00	0.00	0.00	
2,751.97	41.54	124.14	2,246.00	-811.98	1,197.37	1,446.72	0.00	0.00	0.00	
<b>G_SAND_BASE</b>										
2,799.99	41.54	124.14	2,281.95	-829.86	1,223.72	1,478.57	0.00	0.00	0.00	
2,899.99	41.54	124.14	2,356.81	-867.08	1,278.60	1,544.88	0.00	0.00	0.00	
2,999.99	41.54	124.14	2,431.66	-904.29	1,333.48	1,611.19	0.00	0.00	0.00	
3,099.99	41.54	124.14	2,506.51	-941.51	1,388.36	1,677.50	0.00	0.00	0.00	
3,199.99	41.54	124.14	2,581.37	-978.72	1,443.24	1,743.80	0.00	0.00	0.00	
3,299.99	41.54	124.14	2,656.22	-1,015.94	1,498.12	1,810.11	0.00	0.00	0.00	
3,399.99	41.54	124.14	2,731.08	-1,053.16	1,553.00	1,876.42	0.00	0.00	0.00	
3,499.99	41.54	124.14	2,805.93	-1,090.37	1,607.88	1,942.73	0.00	0.00	0.00	
3,599.99	41.54	124.14	2,880.78	-1,127.59	1,662.76	2,009.04	0.00	0.00	0.00	
3,699.99	41.54	124.14	2,955.64	-1,164.81	1,717.64	2,075.35	0.00	0.00	0.00	
3,799.99	41.54	124.14	3,030.49	-1,202.02	1,772.52	2,141.66	0.00	0.00	0.00	
3,899.99	41.54	124.14	3,105.34	-1,239.24	1,827.40	2,207.97	0.00	0.00	0.00	
3,999.99	41.54	124.14	3,180.20	-1,276.46	1,882.28	2,274.27	0.00	0.00	0.00	
4,099.99	41.54	124.14	3,255.05	-1,313.67	1,937.16	2,340.58	0.00	0.00	0.00	
4,199.99	41.54	124.14	3,329.91	-1,350.89	1,992.04	2,406.89	0.00	0.00	0.00	
4,299.99	41.54	124.14	3,404.76	-1,388.10	2,046.92	2,473.20	0.00	0.00	0.00	
4,347.49	41.54	124.14	3,440.31	-1,405.78	2,072.99	2,504.69	0.00	0.00	0.00	

<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well Federal GM 33-10 - Slot A14
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	GL 6148' & RKB 24' @ 6172.00usft (H&P 318)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	GL 6148' & RKB 24' @ 6172.00usft (H&P 318)
<b>Site:</b>	MV 5-10 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Federal GM 33-10	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #3 26Jan2017 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)
4,399.99	40.22	124.14	3,480.01	-1,425.07	2,101.43	2,539.06	2.50	-2.50	0.00
4,499.99	37.72	124.14	3,557.75	-1,460.36	2,153.48	2,601.95	2.50	-2.50	0.00
4,599.99	35.22	124.14	3,638.15	-1,493.73	2,202.67	2,661.39	2.50	-2.50	0.00
4,699.99	32.72	124.14	3,721.08	-1,525.09	2,248.92	2,717.26	2.50	-2.50	0.00
4,749.48	31.49	124.14	3,763.00	-1,539.85	2,270.69	2,743.57	2.50	-2.50	0.00
<b>MVRD</b>									
4,799.99	30.22	124.14	3,806.36	-1,554.39	2,292.13	2,769.47	2.50	-2.50	0.00
4,899.99	27.72	124.14	3,893.84	-1,581.57	2,332.21	2,817.91	2.50	-2.50	0.00
4,999.99	25.22	124.14	3,983.34	-1,606.59	2,369.10	2,862.48	2.50	-2.50	0.00
5,099.99	22.72	124.14	4,074.71	-1,629.39	2,402.73	2,903.11	2.50	-2.50	0.00
5,199.99	20.22	124.14	4,167.76	-1,649.94	2,433.02	2,939.71	2.50	-2.50	0.00
5,299.99	17.72	124.14	4,262.32	-1,668.18	2,459.93	2,972.22	2.50	-2.50	0.00
5,399.99	15.22	124.14	4,358.21	-1,684.10	2,483.40	3,000.58	2.50	-2.50	0.00
5,499.99	12.72	124.14	4,455.24	-1,697.65	2,503.38	3,024.72	2.50	-2.50	0.00
5,599.99	10.22	124.14	4,553.23	-1,708.81	2,519.84	3,044.61	2.50	-2.50	0.00
5,699.99	7.72	124.14	4,652.00	-1,717.57	2,532.75	3,060.21	2.50	-2.50	0.00
5,799.99	5.22	124.14	4,751.36	-1,723.89	2,542.08	3,071.48	2.50	-2.50	0.00
5,899.99	2.72	124.14	4,851.11	-1,727.78	2,547.82	3,078.41	2.50	-2.50	0.00
5,999.99	0.22	124.14	4,951.07	-1,729.23	2,549.94	3,080.98	2.50	-2.50	0.00
6,008.92	0.00	0.00	4,960.00	-1,729.24	2,549.96	3,081.00	2.50	-2.50	-1,389.55
<b>KMVGAS - GM 33-10 KMV REV - GM 33-10 KMV</b>									
6,099.99	0.00	0.00	5,051.07	-1,729.24	2,549.96	3,081.00	0.00	0.00	0.00
6,199.99	0.00	0.00	5,151.07	-1,729.24	2,549.96	3,081.00	0.00	0.00	0.00
6,299.99	0.00	0.00	5,251.07	-1,729.24	2,549.96	3,081.00	0.00	0.00	0.00
6,399.99	0.00	0.00	5,351.07	-1,729.24	2,549.96	3,081.00	0.00	0.00	0.00
6,499.99	0.00	0.00	5,451.07	-1,729.24	2,549.96	3,081.00	0.00	0.00	0.00
6,599.99	0.00	0.00	5,551.06	-1,729.24	2,549.96	3,081.00	0.00	0.00	0.00
6,699.99	0.00	0.00	5,651.06	-1,729.24	2,549.96	3,081.00	0.00	0.00	0.00
6,799.99	0.00	0.00	5,751.06	-1,729.24	2,549.96	3,081.00	0.00	0.00	0.00
6,899.99	0.00	0.00	5,851.06	-1,729.24	2,549.96	3,081.00	0.00	0.00	0.00
6,999.99	0.00	0.00	5,951.06	-1,729.24	2,549.96	3,081.00	0.00	0.00	0.00
7,099.99	0.00	0.00	6,051.06	-1,729.24	2,549.96	3,081.00	0.00	0.00	0.00
7,199.99	0.00	0.00	6,151.06	-1,729.24	2,549.96	3,081.00	0.00	0.00	0.00
7,253.92	0.00	0.00	6,205.00	-1,729.24	2,549.96	3,081.00	0.00	0.00	0.00
<b>CMEO</b>									
7,299.99	0.00	0.00	6,251.06	-1,729.24	2,549.96	3,081.00	0.00	0.00	0.00
7,399.99	0.00	0.00	6,351.06	-1,729.24	2,549.96	3,081.00	0.00	0.00	0.00
7,499.99	0.00	0.00	6,451.06	-1,729.24	2,549.96	3,081.00	0.00	0.00	0.00
7,599.98	0.00	0.00	6,551.06	-1,729.24	2,549.96	3,081.00	0.00	0.00	0.00
7,699.98	0.00	0.00	6,651.06	-1,729.24	2,549.96	3,081.00	0.00	0.00	0.00
7,739.92	0.00	0.00	6,691.00	-1,729.24	2,549.96	3,081.00	0.00	0.00	0.00
<b>RLNS</b>									
7,799.98	0.00	0.00	6,751.06	-1,729.24	2,549.96	3,081.00	0.00	0.00	0.00
7,889.92	0.00	0.00	6,841.00	-1,729.24	2,549.96	3,081.00	0.00	0.00	0.00
<b>GM 33-10 PBHL - GM 33-10 PBHL REV</b>									

<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well Federal GM 33-10 - Slot A14
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	GL 6148' & RKB 24' @ 6172.00usft (H&P 318)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	GL 6148' & RKB 24' @ 6172.00usft (H&P 318)
<b>Site:</b>	MV 5-10 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Federal GM 33-10	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #3 26Jan2017 jcsdi		

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
GM 33-10 KMV REV - plan hits target center - Circle (radius 25.00)	0.00	0.00	4,960.00	-1,729.24	2,549.96	1,598,554.90	2,269,416.80	39.4482376	-108.0874744
GM 33-10 KMV - plan hits target center - Circle (radius 25.00)	0.00	0.00	4,960.00	-1,729.24	2,549.96	1,598,554.90	2,269,416.80	39.4482376	-108.0874744
GM 33-10 PBHL - plan misses target center by 2110.96usft at 7889.92usft MD (6841.00 TVD, -1729.24 N, 2549.96 E) - Point	0.00	0.00	6,841.00	-393.30	915.51	1,599,937.00	2,267,821.20	39.4519057	-108.0932621
GM 33-10 PBHL REV - plan hits target center - Point	0.00	0.00	6,841.00	-1,729.24	2,549.96	1,598,554.90	2,269,416.80	39.4482376	-108.0874744

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,000.00	933.86	9 5/8" @ 1000' MD	9.62	9.62	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,611.69	2,141.00	G_SAND		0.00	0.00
2,751.97	2,246.00	G_SAND_BASE		0.00	0.00
4,749.48	3,763.00	MVRD		0.00	0.00
6,008.92	4,960.00	KMVGAS		0.00	0.00
7,253.92	6,205.00	CME0		0.00	0.00
7,739.92	6,691.00	RLNS		0.00	0.00