

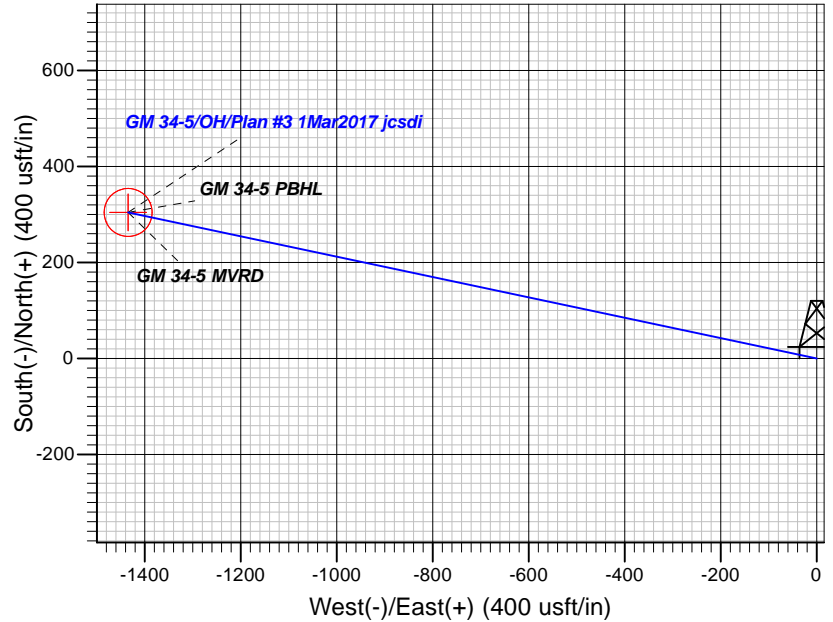
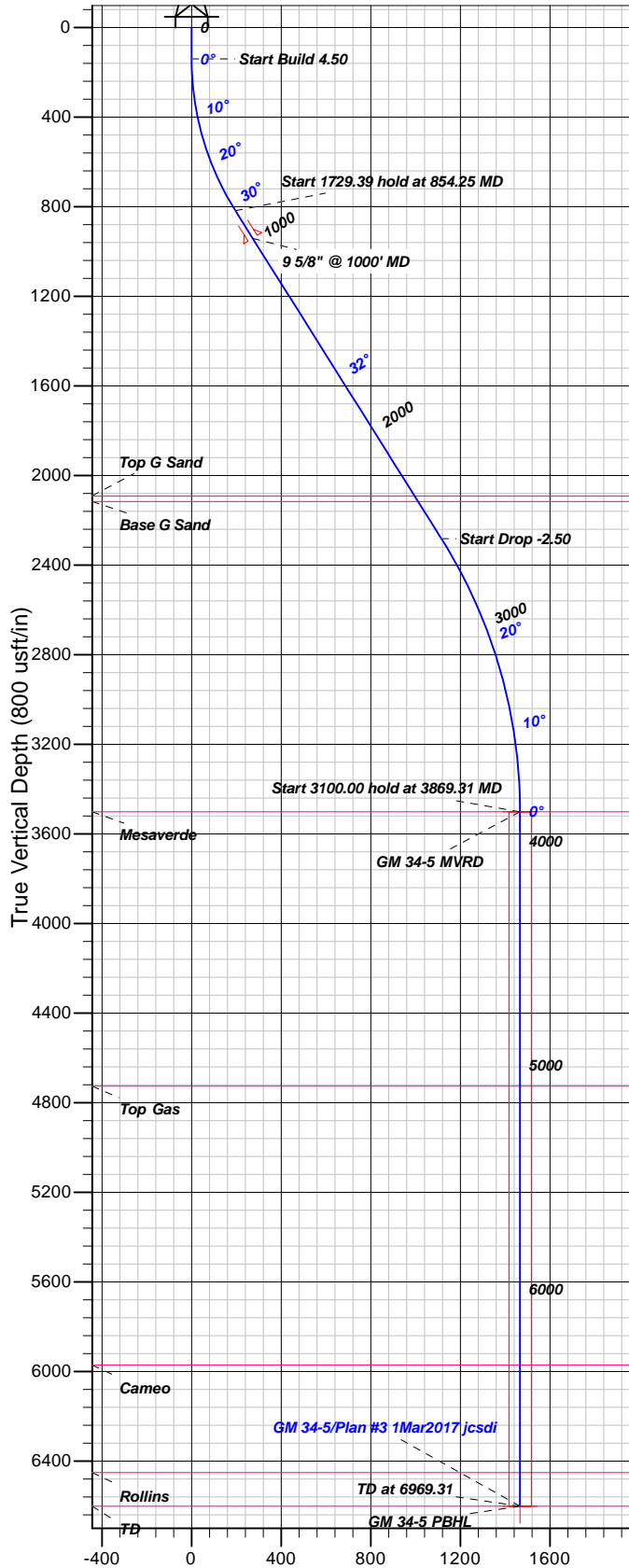
Well Details: GM 34-5

GL 5977' & RKB 24' @ 6001.00usft (H&P 271)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1603477.59	2258784.60	39.4609097	-108.1256129	B14

T M Azimuths to True North
Magnetic North: 9.65°

Magnetic Field
Strength: 51850.7snT
Dip Angle: 65.78°
Date: 12/21/2016
Model: HDGM



FORMATION TOP DETAILS

TVDPATH	MDPATH	FORMATION
2091.00	2358.41	Top G Sand
2116.00	2387.93	Base G Sand
3501.00	3869.31	Mesaverde
4726.00	5094.31	Top Gas
5971.00	6339.31	Cameo
6451.00	6819.31	Rollins
6601.00	6969.31	TD

Plan: Plan #3 1Mar2017 jcsdi

15:13, March 06 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
940.79	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	140.00	0.00	0.00	140.00	0.00	0.00	0.00	0.00	0.00	
3	854.25	32.14	281.97	817.38	40.46	-190.90	4.50	281.97	195.14	
4	2583.65	32.14	281.97	2281.72	231.25	-1090.96	0.00	0.00	1115.20	
5	3869.31	0.00	0.00	3501.00	304.08	-1434.58	2.50	180.00	1466.45	GM 34-5 MVRD
6	6969.31	0.00	0.00	6601.00	304.08	-1434.58	0.00	0.00	1466.45	GM 34-5 PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
GM 34-5 MVRD	3501.00	304.08	-1434.58	1603823.002257359.41		39.4617445	-108.1306940	Circle (Radius: 50.00)
- plan hits target center								
GM 34-5 PBHL	6601.00	304.08	-1434.58	1603823.002257359.41		39.4617445	-108.1306940	Point
- plan hits target center								



TEP Rocky Mountain LLC

Garfield County, CO NAD83

MV 34-5 Pad

GM 34-5 - Slot B14

OH

Plan: Plan #3 1Mar2017 jcsdi

Standard Planning Report

06 March, 2017



Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 34-5 - Slot B14
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5977' & RKB 24' @ 6001.00usft (H&P 271)
Project:	Garfield County, CO NAD83	MD Reference:	GL 5977' & RKB 24' @ 6001.00usft (H&P 271)
Site:	MV 34-5 Pad	North Reference:	True
Well:	GM 34-5	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3 1Mar2017 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		MV 34-5 Pad			
Site Position:		Northing:	1,603,476.79 usft	Latitude:	39.4609066
From:	Map	Easting:	2,258,772.10 usft	Longitude:	-108.1256571
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	-1.66 °

Well	GM 34-5 - Slot B14					
Well Position	+N/-S	1.16 usft	Northing:	1,603,477.59 usft	Latitude:	39.4609098
	+E/-W	12.47 usft	Easting:	2,258,784.60 usft	Longitude:	-108.1256130
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	5,977.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	12/21/2016	9.65	65.78	51,851

Design	Plan #3 1Mar2017 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	281.97

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	
140.00	0.00	0.00	140.00	0.00	0.00	0.00	0.00	0.00	0.00	
854.25	32.14	281.97	817.38	40.46	-190.90	4.50	4.50	0.00	281.97	
2,583.65	32.14	281.97	2,281.72	231.25	-1,090.96	0.00	0.00	0.00	0.00	
3,869.31	0.00	0.00	3,501.00	304.08	-1,434.58	2.50	-2.50	0.00	180.00	GM 34-5 MVRD
6,969.31	0.00	0.00	6,601.00	304.08	-1,434.58	0.00	0.00	0.00	0.00	GM 34-5 PBHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 34-5 - Slot B14
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5977' & RKB 24' @ 6001.00usft (H&P 271)
Project:	Garfield County, CO NAD83	MD Reference:	GL 5977' & RKB 24' @ 6001.00usft (H&P 271)
Site:	MV 34-5 Pad	North Reference:	True
Well:	GM 34-5	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3 1Mar2017 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	
140.00	0.00	0.00	140.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	2.70	281.97	199.98	0.29	-1.38	1.41	4.50	4.50	0.00	
300.00	7.20	281.97	299.58	2.08	-9.82	10.04	4.50	4.50	0.00	
400.00	11.70	281.97	398.20	5.49	-25.88	26.45	4.50	4.50	0.00	
500.00	16.20	281.97	495.22	10.48	-49.46	50.56	4.50	4.50	0.00	
600.00	20.70	281.97	590.06	17.04	-80.41	82.20	4.50	4.50	0.00	
700.00	25.20	281.97	682.12	25.13	-118.54	121.18	4.50	4.50	0.00	
800.00	29.70	281.97	770.84	34.68	-163.63	167.26	4.50	4.50	0.00	
854.25	32.14	281.97	817.38	40.46	-190.90	195.14	4.50	4.50	0.00	
900.00	32.14	281.97	856.11	45.51	-214.71	219.48	0.00	0.00	0.00	
1,000.00	32.14	281.97	940.79	56.54	-266.75	272.68	0.00	0.00	0.00	
9 5/8" @ 1000' MD										
1,100.00	32.14	281.97	1,025.46	67.57	-318.80	325.88	0.00	0.00	0.00	
1,200.00	32.14	281.97	1,110.13	78.61	-370.84	379.08	0.00	0.00	0.00	
1,300.00	32.14	281.97	1,194.81	89.64	-422.89	432.28	0.00	0.00	0.00	
1,400.00	32.14	281.97	1,279.48	100.67	-474.93	485.48	0.00	0.00	0.00	
1,500.00	32.14	281.97	1,364.15	111.70	-526.98	538.68	0.00	0.00	0.00	
1,600.00	32.14	281.97	1,448.83	122.73	-579.02	591.89	0.00	0.00	0.00	
1,700.00	32.14	281.97	1,533.50	133.76	-631.07	645.09	0.00	0.00	0.00	
1,800.00	32.14	281.97	1,618.18	144.80	-683.11	698.29	0.00	0.00	0.00	
1,900.00	32.14	281.97	1,702.85	155.83	-735.16	751.49	0.00	0.00	0.00	
2,000.00	32.14	281.97	1,787.52	166.86	-787.20	804.69	0.00	0.00	0.00	
2,100.00	32.14	281.97	1,872.20	177.89	-839.24	857.89	0.00	0.00	0.00	
2,200.00	32.14	281.97	1,956.87	188.92	-891.29	911.09	0.00	0.00	0.00	
2,300.00	32.14	281.97	2,041.54	199.95	-943.33	964.29	0.00	0.00	0.00	
2,358.41	32.14	281.97	2,091.00	206.40	-973.73	995.37	0.00	0.00	0.00	
Top G Sand										
2,387.93	32.14	281.97	2,116.00	209.66	-989.10	1,011.07	0.00	0.00	0.00	
Base G Sand										
2,400.00	32.14	281.97	2,126.22	210.99	-995.38	1,017.49	0.00	0.00	0.00	
2,500.00	32.14	281.97	2,210.89	222.02	-1,047.42	1,070.70	0.00	0.00	0.00	
2,583.65	32.14	281.97	2,281.72	231.25	-1,090.96	1,115.20	0.00	0.00	0.00	
2,600.00	31.73	281.97	2,295.60	233.04	-1,099.42	1,123.85	2.50	-2.50	0.00	
2,700.00	29.23	281.97	2,381.77	243.56	-1,149.04	1,174.57	2.50	-2.50	0.00	
2,800.00	26.73	281.97	2,470.07	253.29	-1,194.94	1,221.49	2.50	-2.50	0.00	
2,900.00	24.23	281.97	2,560.33	262.21	-1,237.02	1,264.51	2.50	-2.50	0.00	
3,000.00	21.73	281.97	2,652.39	270.30	-1,275.22	1,303.55	2.50	-2.50	0.00	
3,100.00	19.23	281.97	2,746.06	277.56	-1,309.45	1,338.54	2.50	-2.50	0.00	
3,200.00	16.73	281.97	2,841.17	283.96	-1,339.65	1,369.41	2.50	-2.50	0.00	
3,300.00	14.23	281.97	2,937.53	289.49	-1,365.76	1,396.10	2.50	-2.50	0.00	
3,400.00	11.73	281.97	3,034.97	294.15	-1,387.73	1,418.57	2.50	-2.50	0.00	
3,500.00	9.23	281.97	3,133.29	297.92	-1,405.53	1,436.76	2.50	-2.50	0.00	
3,600.00	6.73	281.97	3,232.31	300.80	-1,419.12	1,450.65	2.50	-2.50	0.00	
3,700.00	4.23	281.97	3,331.85	302.78	-1,428.46	1,460.20	2.50	-2.50	0.00	
3,800.00	1.73	281.97	3,431.70	303.86	-1,433.55	1,465.40	2.50	-2.50	0.00	
3,848.20	0.53	281.97	3,479.89	304.06	-1,434.48	1,466.35	2.50	-2.50	0.00	
GM 334-5 MVRD										
3,869.31	0.00	0.00	3,501.00	304.08	-1,434.58	1,466.45	2.50	-2.50	369.67	
Mesaverde - GM 34-5 MVRD										

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 34-5 - Slot B14
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5977' & RKB 24' @ 6001.00usft (H&P 271)
Project:	Garfield County, CO NAD83	MD Reference:	GL 5977' & RKB 24' @ 6001.00usft (H&P 271)
Site:	MV 34-5 Pad	North Reference:	True
Well:	GM 34-5	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3 1Mar2017 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	0.00	0.00	3,531.69	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
4,000.00	0.00	0.00	3,631.69	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
4,100.00	0.00	0.00	3,731.69	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
4,200.00	0.00	0.00	3,831.69	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
4,300.00	0.00	0.00	3,931.69	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
4,400.00	0.00	0.00	4,031.69	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
4,500.00	0.00	0.00	4,131.69	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
4,600.00	0.00	0.00	4,231.69	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
4,700.00	0.00	0.00	4,331.69	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
4,800.00	0.00	0.00	4,431.69	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
4,900.00	0.00	0.00	4,531.69	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
5,000.00	0.00	0.00	4,631.69	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
5,094.31	0.00	0.00	4,726.00	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
Top Gas										
5,100.00	0.00	0.00	4,731.69	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
5,200.00	0.00	0.00	4,831.69	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
5,300.00	0.00	0.00	4,931.69	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
5,400.00	0.00	0.00	5,031.69	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
5,500.00	0.00	0.00	5,131.69	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
5,600.00	0.00	0.00	5,231.69	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
5,700.00	0.00	0.00	5,331.69	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,431.69	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,531.69	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
6,000.00	0.00	0.00	5,631.69	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
6,100.00	0.00	0.00	5,731.69	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
6,200.00	0.00	0.00	5,831.69	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
6,300.00	0.00	0.00	5,931.69	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
6,339.31	0.00	0.00	5,971.00	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
Cameo										
6,400.00	0.00	0.00	6,031.69	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,131.69	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,231.69	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,331.69	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,431.69	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
6,819.31	0.00	0.00	6,451.00	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
Rollins										
6,900.00	0.00	0.00	6,531.69	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
6,944.31	0.00	0.00	6,576.00	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
GM 334-5 PBHL										
6,969.31	0.00	0.00	6,601.00	304.08	-1,434.58	1,466.45	0.00	0.00	0.00	
TD - GM 34-5 PBHL										

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 34-5 - Slot B14
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5977' & RKB 24' @ 6001.00usft (H&P 271)
Project:	Garfield County, CO NAD83	MD Reference:	GL 5977' & RKB 24' @ 6001.00usft (H&P 271)
Site:	MV 34-5 Pad	North Reference:	True
Well:	GM 34-5	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3 1Mar2017 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 34-5 MVRD - plan hits target center - Circle (radius 50.00)	0.00	0.00	3,501.00	304.08	-1,434.58	1,603,823.00	2,257,359.41	39.4617445	-108.1306940
GM 34-5 PBHL - plan hits target center - Point	0.00	0.00	6,601.00	304.08	-1,434.58	1,603,823.00	2,257,359.41	39.4617445	-108.1306940

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,000.00	940.79	9 5/8" @ 1000' MD	9.62	9.62	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,358.41	2,091.00	Top G Sand		0.00	0.00
2,387.93	2,116.00	Base G Sand		0.00	0.00
3,869.31	3,501.00	Mesaverde		0.00	0.00
5,094.31	4,726.00	Top Gas		0.00	0.00
6,339.31	5,971.00	Cameo		0.00	0.00
6,819.31	6,451.00	Rollins		0.00	0.00
6,969.31	6,601.00	TD		0.00	0.00