

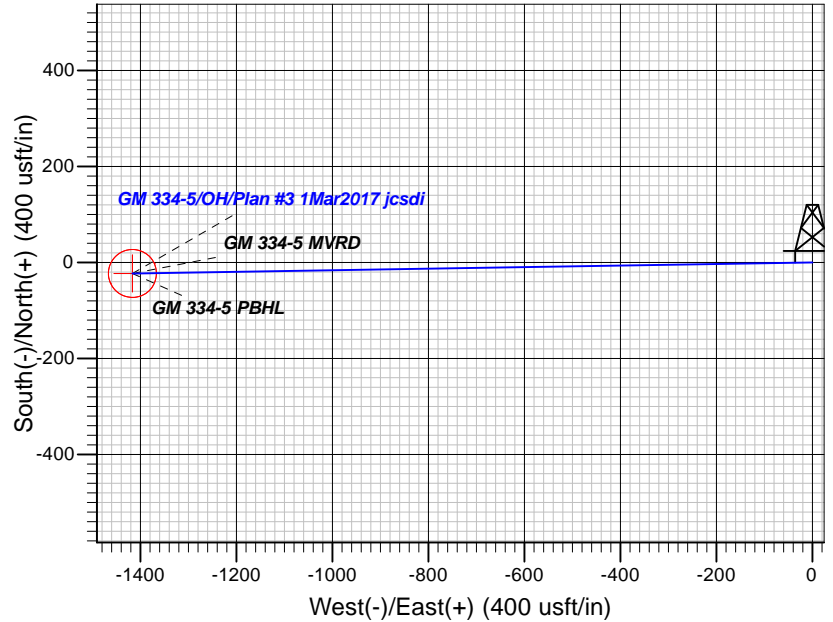
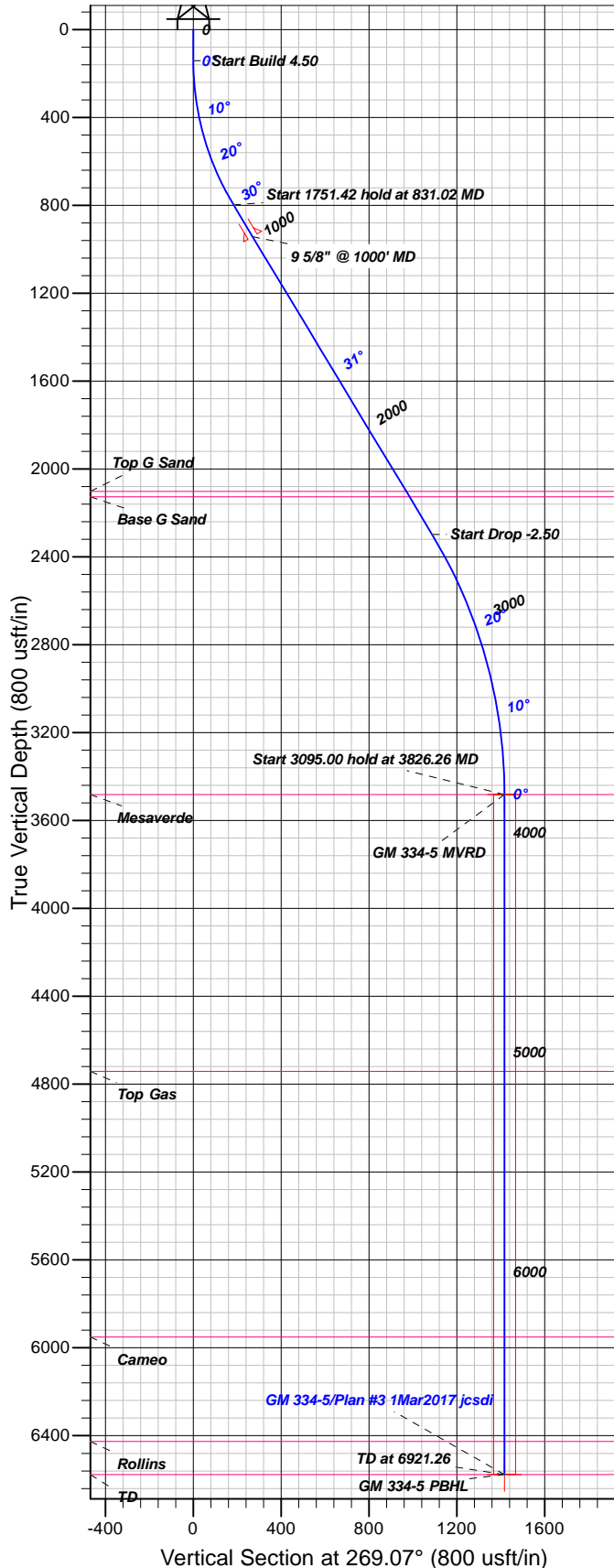
Well Details: GM 334-5

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

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1603476.75	2258772.13	39.4609065	-108.1256570	A12

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
2101.00	2353.15	Top G Sand
2126.00	2382.34	Base G Sand
3481.00	3826.26	Mesaverde
4741.00	5086.26	Top Gas
5951.00	6296.26	Cameo
6426.00	6771.26	Rollins
6576.00	6921.26	TD

Plan: Plan #3 1Mar2017 jcsdi

15:04, 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
942.29	1000.00	9 5/8" @ 1000' MD	9.62

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VFace	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	831.02	31.10	269.07	797.59	-2.96	-182.93	4.50	269.07	182.96	
4	2582.44	31.10	269.07	2297.34	-17.58	-1087.37	0.00	0.001087.51		
5	3826.26	0.00	0.00	3481.00	-22.90	-1416.65	2.50	180.001416.83		GM 334-5 MVRD
6	6921.26	0.00	0.00	6576.00	-22.90	-1416.65	0.00	0.001416.83		GM 334-5 PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
GM 334-5 MVRD	3481.00	-22.90	-1416.65	1603494.80	2257355.41	39.4608435	-108.1306745	Circle (Radius: 50.00)
- plan hits target center								
GM 334-5 PBHL	6576.00	-22.90	-1416.65	1603494.80	2257355.41	39.4608435	-108.1306745	Point
- plan hits target center								



TEP Rocky Mountain LLC

Garfield County, CO NAD83

MV 34-5 Pad

GM 334-5 - Slot A12

OH

Plan: Plan #3 1Mar2017 jcsdi

Standard Planning Report

06 March, 2017



Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 334-5 - Slot A12
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 334-5	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 334-5 - Slot A12			
Well Position	+N/-S	-0.04 usft	Northing:	1,603,476.75 usft
	+E/-W	0.03 usft	Easting:	2,258,772.13 usft
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	269.07

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	
831.02	31.10	269.07	797.59	-2.96	-182.93	4.50	4.50	0.00	269.07	
2,582.44	31.10	269.07	2,297.34	-17.58	-1,087.37	0.00	0.00	0.00	0.00	
3,826.26	0.00	0.00	3,481.00	-22.90	-1,416.65	2.50	-2.50	0.00	180.00	GM 334-5 MVRD
6,921.26	0.00	0.00	6,576.00	-22.90	-1,416.65	0.00	0.00	0.00	0.00	GM 334-5 PBHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 334-5 - Slot A12
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 334-5	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	269.07	199.98	-0.02	-1.41	1.41	4.50	4.50	0.00	
300.00	7.20	269.07	299.58	-0.16	-10.04	10.04	4.50	4.50	0.00	
400.00	11.70	269.07	398.20	-0.43	-26.45	26.45	4.50	4.50	0.00	
500.00	16.20	269.07	495.22	-0.82	-50.55	50.56	4.50	4.50	0.00	
600.00	20.70	269.07	590.06	-1.33	-82.18	82.20	4.50	4.50	0.00	
700.00	25.20	269.07	682.12	-1.96	-121.16	121.18	4.50	4.50	0.00	
800.00	29.70	269.07	770.84	-2.70	-167.24	167.26	4.50	4.50	0.00	
831.02	31.10	269.07	797.59	-2.96	-182.93	182.96	4.50	4.50	0.00	
900.00	31.10	269.07	856.66	-3.53	-218.56	218.59	0.00	0.00	0.00	
1,000.00	31.10	269.07	942.29	-4.37	-270.20	270.23	0.00	0.00	0.00	
9 5/8" @ 1000' MD										
1,100.00	31.10	269.07	1,027.92	-5.20	-321.84	321.88	0.00	0.00	0.00	
1,200.00	31.10	269.07	1,113.55	-6.04	-373.48	373.53	0.00	0.00	0.00	
1,300.00	31.10	269.07	1,199.18	-6.87	-425.12	425.17	0.00	0.00	0.00	
1,400.00	31.10	269.07	1,284.81	-7.71	-476.76	476.82	0.00	0.00	0.00	
1,500.00	31.10	269.07	1,370.44	-8.54	-528.40	528.47	0.00	0.00	0.00	
1,600.00	31.10	269.07	1,456.07	-9.38	-580.04	580.11	0.00	0.00	0.00	
1,700.00	31.10	269.07	1,541.71	-10.21	-631.68	631.76	0.00	0.00	0.00	
1,800.00	31.10	269.07	1,627.34	-11.04	-683.32	683.41	0.00	0.00	0.00	
1,900.00	31.10	269.07	1,712.97	-11.88	-734.96	735.05	0.00	0.00	0.00	
2,000.00	31.10	269.07	1,798.60	-12.71	-786.60	786.70	0.00	0.00	0.00	
2,100.00	31.10	269.07	1,884.23	-13.55	-838.24	838.35	0.00	0.00	0.00	
2,200.00	31.10	269.07	1,969.86	-14.38	-889.88	890.00	0.00	0.00	0.00	
2,300.00	31.10	269.07	2,055.49	-15.22	-941.52	941.64	0.00	0.00	0.00	
2,353.15	31.10	269.07	2,101.00	-15.66	-968.97	969.09	0.00	0.00	0.00	
Top G Sand										
2,382.34	31.10	269.07	2,126.00	-15.91	-984.04	984.17	0.00	0.00	0.00	
Base G Sand										
2,400.00	31.10	269.07	2,141.12	-16.05	-993.16	993.29	0.00	0.00	0.00	
2,500.00	31.10	269.07	2,226.75	-16.89	-1,044.80	1,044.94	0.00	0.00	0.00	
2,582.44	31.10	269.07	2,297.34	-17.58	-1,087.37	1,087.51	0.00	0.00	0.00	
2,600.00	30.66	269.07	2,312.41	-17.72	-1,096.38	1,096.53	2.50	-2.50	0.00	
2,700.00	28.16	269.07	2,399.52	-18.52	-1,145.47	1,145.62	2.50	-2.50	0.00	
2,800.00	25.66	269.07	2,488.69	-19.25	-1,190.72	1,190.87	2.50	-2.50	0.00	
2,900.00	23.16	269.07	2,579.75	-19.91	-1,232.03	1,232.19	2.50	-2.50	0.00	
3,000.00	20.66	269.07	2,672.52	-20.52	-1,269.33	1,269.50	2.50	-2.50	0.00	
3,100.00	18.16	269.07	2,766.83	-21.05	-1,302.55	1,302.72	2.50	-2.50	0.00	
3,200.00	15.66	269.07	2,862.50	-21.52	-1,331.63	1,331.80	2.50	-2.50	0.00	
3,300.00	13.16	269.07	2,959.35	-21.93	-1,356.50	1,356.68	2.50	-2.50	0.00	
3,400.00	10.66	269.07	3,057.19	-22.26	-1,377.13	1,377.31	2.50	-2.50	0.00	
3,500.00	8.16	269.07	3,155.84	-22.52	-1,393.47	1,393.65	2.50	-2.50	0.00	
3,600.00	5.66	269.07	3,255.10	-22.72	-1,405.49	1,405.67	2.50	-2.50	0.00	
3,700.00	3.16	269.07	3,354.80	-22.84	-1,413.17	1,413.36	2.50	-2.50	0.00	
3,800.00	0.66	269.07	3,454.74	-22.90	-1,416.50	1,416.68	2.50	-2.50	0.00	
3,806.26	0.50	269.07	3,461.00	-22.90	-1,416.56	1,416.75	2.50	-2.50	0.00	
GM 434-5 MVRD										
3,826.26	0.00	0.00	3,481.00	-22.90	-1,416.65	1,416.84	2.50	-2.50	454.62	
Mesaverde - GM 334-5 MVRD										

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 334-5 - Slot A12
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 334-5	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	3,554.74	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
4,000.00	0.00	0.00	3,654.74	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
4,100.00	0.00	0.00	3,754.74	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
4,200.00	0.00	0.00	3,854.74	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
4,300.00	0.00	0.00	3,954.74	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
4,400.00	0.00	0.00	4,054.74	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
4,500.00	0.00	0.00	4,154.74	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
4,600.00	0.00	0.00	4,254.74	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
4,700.00	0.00	0.00	4,354.74	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
4,800.00	0.00	0.00	4,454.74	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
4,900.00	0.00	0.00	4,554.74	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
5,000.00	0.00	0.00	4,654.74	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
5,086.26	0.00	0.00	4,741.00	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
Top Gas									
5,100.00	0.00	0.00	4,754.74	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
5,200.00	0.00	0.00	4,854.74	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
5,300.00	0.00	0.00	4,954.74	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
5,400.00	0.00	0.00	5,054.74	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
5,500.00	0.00	0.00	5,154.74	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
5,600.00	0.00	0.00	5,254.74	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
5,700.00	0.00	0.00	5,354.74	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
5,800.00	0.00	0.00	5,454.74	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
5,900.00	0.00	0.00	5,554.74	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
6,000.00	0.00	0.00	5,654.74	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
6,100.00	0.00	0.00	5,754.74	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
6,200.00	0.00	0.00	5,854.74	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
6,296.26	0.00	0.00	5,951.00	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
Cameo									
6,300.00	0.00	0.00	5,954.74	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
6,400.00	0.00	0.00	6,054.74	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
6,500.00	0.00	0.00	6,154.74	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
6,600.00	0.00	0.00	6,254.74	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
6,700.00	0.00	0.00	6,354.74	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
6,771.26	0.00	0.00	6,426.00	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
Rollins									
6,800.00	0.00	0.00	6,454.74	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
6,900.00	0.00	0.00	6,554.74	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
GM 434-5 PBHL									
6,921.26	0.00	0.00	6,576.00	-22.90	-1,416.65	1,416.84	0.00	0.00	0.00
TD - GM 334-5 PBHL									

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 334-5 - Slot A12
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 334-5	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 334-5 MVRD - plan hits target center - Circle (radius 50.00)	0.00	0.00	3,481.00	-22.90	-1,416.65	1,603,494.80	2,257,355.41	39.4608435	-108.1306745
GM 334-5 PBHL - plan hits target center - Point	0.00	0.00	6,576.00	-22.90	-1,416.65	1,603,494.80	2,257,355.41	39.4608435	-108.1306745

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,000.00	942.29	9 5/8" @ 1000' MD	9.62	9.62	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,353.15	2,101.00	Top G Sand		0.00	0.00	
2,382.34	2,126.00	Base G Sand		0.00	0.00	
3,826.26	3,481.00	Mesaverde		0.00	0.00	
5,086.26	4,741.00	Top Gas		0.00	0.00	
6,296.26	5,951.00	Cameo		0.00	0.00	
6,771.26	6,426.00	Rollins		0.00	0.00	
6,921.26	6,576.00	TD		0.00	0.00	