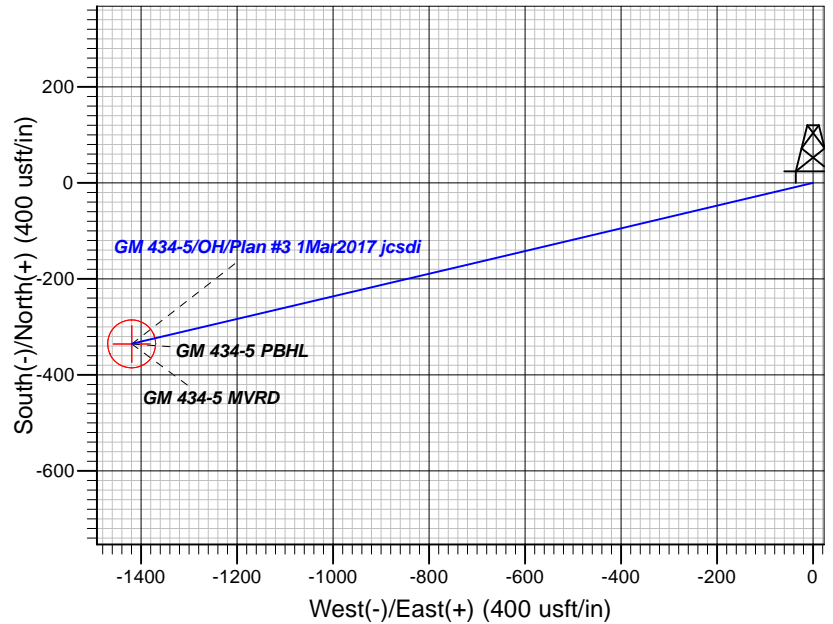
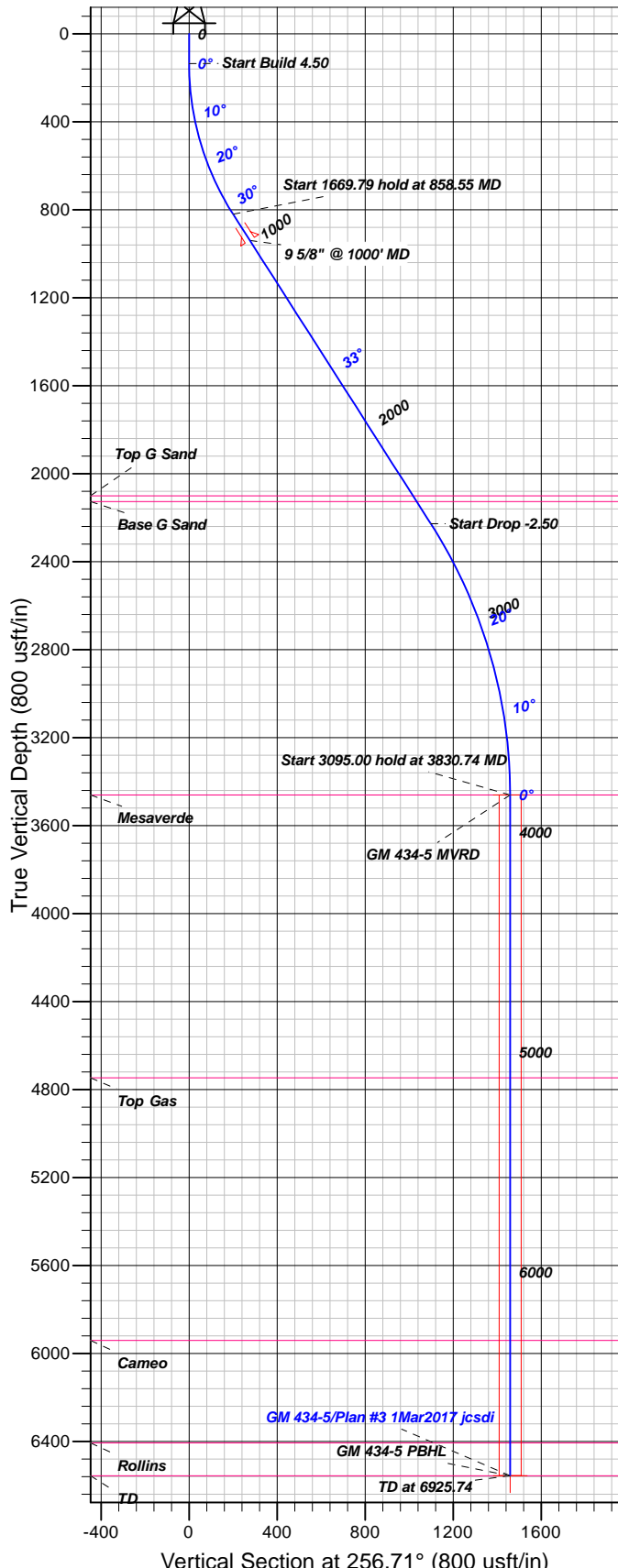


Well Details: GM 434-5

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

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1603471.30	2258780.51	39.4608922	-108.1256268	B15

T M Azimuths to True North
Magnetic North: 9.70°
Magnetic Field
Strength: 51559.5snT
Dip Angle: 65.58°
Date: 1/3/2017
Model: BGGM2016



FORMATION TOP DETAILS

TVDPth	MDPath	Formation
2101.00	2378.16	Top G Sand
2126.00	2407.82	Base G Sand
3461.00	3830.74	Mesaverde
4746.00	5115.74	Top Gas
5941.00	6310.74	Cameo
6406.00	6775.74	Rollins
6556.00	6925.74	TD

Plan: Plan #3 1Mar2017 jcsdi

16:15, 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
939.45	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	135.00	0.00	0.00	135.00	0.00	0.00	0.00	0.00	0.00	
3	858.55	32.56	256.71	820.23	-45.99	-194.76	4.50	256.71	200.11	
4	2528.34	32.56	256.71	2227.58	-252.50	-1069.36	0.00	0.001098.76		
5	3830.74	0.00	0.00	3461.00	-335.27	-1419.92	2.50	180.001458.97		GM 434-5 MVRD
6	6925.74	0.00	0.00	6556.00	-335.27	-1419.92	0.00	0.001458.97		GM 434-5 PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
GM 434-5 MVRD	3461.00	-335.27	-1419.92	1603177.20	2257351.49	39.4599716	-108.1306558	Circle (Radius: 50.00)
- plan hits target center								
GM 434-5 PBHL	6556.00	-335.27	-1419.92	1603177.20	2257351.49	39.4599716	-108.1306558	Point
- plan hits target center								



TEP Rocky Mountain LLC

Garfield County, CO NAD83

MV 34-5 Pad

GM 434-5 - Slot B15

OH

Plan: Plan #3 1Mar2017 jcsdi

Standard Planning Report

06 March, 2017



Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 434-5 - Slot B15
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 434-5	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 434-5 - Slot B15			
Well Position	+N/-S	-5.25 usft	Northing:	1,603,471.30 usft
	+E/-W	8.57 usft	Easting:	2,258,780.51 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)
	BGGM2016	1/3/2017	9.70	65.58	51,559

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	256.71

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	
858.55	32.56	256.71	820.23	-45.99	-194.76	4.50	4.50	0.00	256.71	
2,528.34	32.56	256.71	2,227.58	-252.50	-1,069.36	0.00	0.00	0.00	0.00	
3,830.74	0.00	0.00	3,461.00	-335.27	-1,419.92	2.50	-2.50	0.00	180.00	GM 434-5 MVRD
6,925.74	0.00	0.00	6,556.00	-335.27	-1,419.92	0.00	0.00	0.00	0.00	GM 434-5 PBHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 434-5 - Slot B15
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 434-5	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	
135.00	0.00	0.00	135.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	2.93	256.71	199.97	-0.38	-1.61	1.66	4.50	4.50	0.00	
300.00	7.43	256.71	299.54	-2.45	-10.39	10.68	4.50	4.50	0.00	
400.00	11.93	256.71	398.09	-6.31	-26.74	27.48	4.50	4.50	0.00	
500.00	16.43	256.71	495.02	-11.94	-50.57	51.96	4.50	4.50	0.00	
600.00	20.93	256.71	589.73	-19.30	-81.72	83.97	4.50	4.50	0.00	
700.00	25.43	256.71	681.64	-28.34	-120.02	123.32	4.50	4.50	0.00	
800.00	29.93	256.71	770.18	-39.01	-165.21	169.75	4.50	4.50	0.00	
858.55	32.56	256.71	820.23	-45.99	-194.76	200.11	4.50	4.50	0.00	
900.00	32.56	256.71	855.17	-51.11	-216.47	222.42	0.00	0.00	0.00	
1,000.00	32.56	256.71	939.45	-63.48	-268.85	276.24	0.00	0.00	0.00	
9 5/8" @ 1000' MD										
1,100.00	32.56	256.71	1,023.73	-75.85	-321.22	330.06	0.00	0.00	0.00	
1,200.00	32.56	256.71	1,108.01	-88.22	-373.60	383.88	0.00	0.00	0.00	
1,300.00	32.56	256.71	1,192.30	-100.58	-425.98	437.69	0.00	0.00	0.00	
1,400.00	32.56	256.71	1,276.58	-112.95	-478.36	491.51	0.00	0.00	0.00	
1,500.00	32.56	256.71	1,360.86	-125.32	-530.74	545.33	0.00	0.00	0.00	
1,600.00	32.56	256.71	1,445.15	-137.68	-583.11	599.15	0.00	0.00	0.00	
1,700.00	32.56	256.71	1,529.43	-150.05	-635.49	652.97	0.00	0.00	0.00	
1,800.00	32.56	256.71	1,613.71	-162.42	-687.87	706.78	0.00	0.00	0.00	
1,900.00	32.56	256.71	1,698.00	-174.79	-740.25	760.60	0.00	0.00	0.00	
2,000.00	32.56	256.71	1,782.28	-187.15	-792.62	814.42	0.00	0.00	0.00	
2,100.00	32.56	256.71	1,866.56	-199.52	-845.00	868.24	0.00	0.00	0.00	
2,200.00	32.56	256.71	1,950.85	-211.89	-897.38	922.06	0.00	0.00	0.00	
2,300.00	32.56	256.71	2,035.13	-224.26	-949.76	975.87	0.00	0.00	0.00	
2,378.16	32.56	256.71	2,101.00	-233.92	-990.69	1,017.93	0.00	0.00	0.00	
Top G Sand										
2,400.00	32.56	256.71	2,119.41	-236.62	-1,002.13	1,029.69	0.00	0.00	0.00	
2,407.82	32.56	256.71	2,126.00	-237.59	-1,006.23	1,033.90	0.00	0.00	0.00	
Base G Sand										
2,500.00	32.56	256.71	2,203.69	-248.99	-1,054.51	1,083.51	0.00	0.00	0.00	
2,528.34	32.56	256.71	2,227.58	-252.50	-1,069.36	1,098.76	0.00	0.00	0.00	
2,600.00	30.77	256.71	2,288.57	-261.14	-1,105.96	1,136.38	2.50	-2.50	0.00	
2,700.00	28.27	256.71	2,375.58	-272.46	-1,153.91	1,185.64	2.50	-2.50	0.00	
2,800.00	25.77	256.71	2,464.66	-282.90	-1,198.12	1,231.07	2.50	-2.50	0.00	
2,900.00	23.27	256.71	2,555.64	-292.44	-1,238.51	1,272.56	2.50	-2.50	0.00	
3,000.00	20.77	256.71	2,648.34	-301.05	-1,274.99	1,310.05	2.50	-2.50	0.00	
3,100.00	18.27	256.71	2,742.58	-308.73	-1,307.50	1,343.46	2.50	-2.50	0.00	
3,200.00	15.77	256.71	2,838.20	-315.45	-1,335.99	1,372.72	2.50	-2.50	0.00	
3,300.00	13.27	256.71	2,935.00	-321.21	-1,360.38	1,397.79	2.50	-2.50	0.00	
3,400.00	10.77	256.71	3,032.80	-326.00	-1,380.65	1,418.61	2.50	-2.50	0.00	
3,500.00	8.27	256.71	3,131.41	-329.80	-1,396.74	1,435.15	2.50	-2.50	0.00	
3,600.00	5.77	256.71	3,230.65	-332.61	-1,408.63	1,447.36	2.50	-2.50	0.00	
3,700.00	3.27	256.71	3,330.34	-334.42	-1,416.30	1,455.24	2.50	-2.50	0.00	
3,800.00	0.77	256.71	3,430.27	-335.23	-1,419.72	1,458.76	2.50	-2.50	0.00	
3,830.74	0.00	0.00	3,461.00	-335.27	-1,419.92	1,458.97	2.50	-2.50	0.00	
Mesaverde - GM 434-5 MVRD										
3,900.00	0.00	0.00	3,530.26	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	
4,000.00	0.00	0.00	3,630.26	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	
4,100.00	0.00	0.00	3,730.26	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 434-5 - Slot B15
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 434-5	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)	
4,200.00	0.00	0.00	3,830.26	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	
4,300.00	0.00	0.00	3,930.26	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	
4,400.00	0.00	0.00	4,030.26	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	
4,500.00	0.00	0.00	4,130.26	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	
4,600.00	0.00	0.00	4,230.26	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	
4,700.00	0.00	0.00	4,330.26	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	
4,800.00	0.00	0.00	4,430.26	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	
4,900.00	0.00	0.00	4,530.26	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	
5,000.00	0.00	0.00	4,630.26	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	
5,100.00	0.00	0.00	4,730.26	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	
5,115.74	0.00	0.00	4,746.00	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	
Top Gas										
5,200.00	0.00	0.00	4,830.26	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	
5,300.00	0.00	0.00	4,930.26	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	
5,400.00	0.00	0.00	5,030.26	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	
5,500.00	0.00	0.00	5,130.26	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	
5,600.00	0.00	0.00	5,230.26	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	
5,700.00	0.00	0.00	5,330.26	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,430.26	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,530.26	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	
6,000.00	0.00	0.00	5,630.26	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	
6,100.00	0.00	0.00	5,730.26	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	
6,200.00	0.00	0.00	5,830.26	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	
6,300.00	0.00	0.00	5,930.26	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	
6,310.74	0.00	0.00	5,941.00	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	
Cameo										
6,400.00	0.00	0.00	6,030.26	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,130.26	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,230.26	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,330.26	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	
6,775.74	0.00	0.00	6,406.00	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	
Rollins										
6,800.00	0.00	0.00	6,430.26	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	
6,900.00	0.00	0.00	6,530.26	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	
6,925.74	0.00	0.00	6,556.00	-335.27	-1,419.92	1,458.97	0.00	0.00	0.00	
TD - GM 434-5 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										
GM 434-5 MVRD	0.00	0.00	3,461.00	-335.27	-1,419.92	1,603,177.20	2,257,351.49	39.4599716	-108.1306558	
- plan hits target center										
- Circle (radius 50.00)										
GM 434-5 PBHL	0.00	0.00	6,556.00	-335.27	-1,419.92	1,603,177.20	2,257,351.49	39.4599716	-108.1306558	
- plan hits target center										
- Point										

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 434-5 - Slot B15
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 434-5	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3 1Mar2017 jcsdi		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,000.00	939.45	9 5/8" @ 1000' MD	9.62	9.62	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,378.16	2,101.00	Top G Sand		0.00	0.00	
2,407.82	2,126.00	Base G Sand		0.00	0.00	
3,830.74	3,461.00	Mesaverde		0.00	0.00	
5,115.74	4,746.00	Top Gas		0.00	0.00	
6,310.74	5,941.00	Cameo		0.00	0.00	
6,775.74	6,406.00	Rollins		0.00	0.00	
6,925.74	6,556.00	TD		0.00	0.00	