

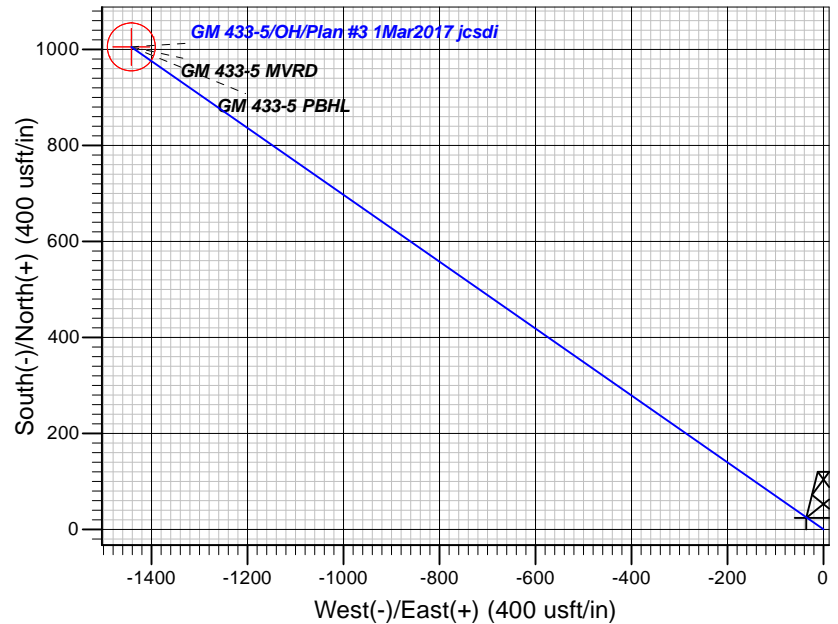
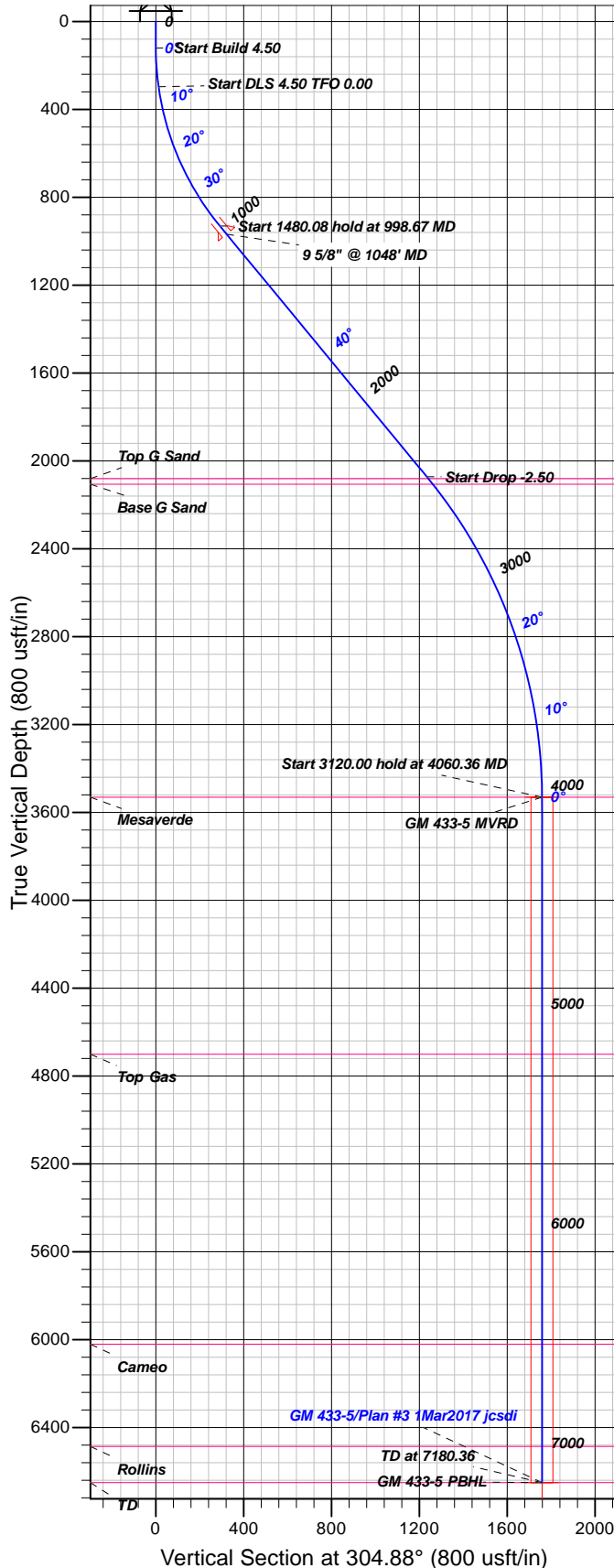
## Well Details: GM 433-5

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

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1603533.00	2258808.70	39.4610637	-108.1255333	A3

**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
2081.00	2490.43	Top G Sand
2106.00	2522.53	Base G Sand
3531.00	4060.36	Mesaverde
4701.00	5230.36	Top Gas
6021.00	6550.36	Cameo
6486.00	7015.36	Rollins

Plan: Plan #3 1Mar2017 jcsdi

16:06, 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
968.61	1048.00	9 5/8" @ 1048' MD	9.62

### SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSeet	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	
3	297.78	8.00	304.88	297.20	7.09	-10.17	4.50	304.88	12.39	
4	998.67	39.54	304.88	930.57	166.60	-239.02	4.50	0.00	291.35	
5	2478.75	39.54	304.88	2071.97	705.38	-1012.03	0.00	0.00	1233.59	
6	4060.36	0.00	0.00	3531.00	1005.24	-1442.26	2.50	180.00	1758.02	GM 433-5 MVRD
7	7180.36	0.00	0.00	6651.00	1005.24	-1442.26	0.00	0.00	1758.02	GM 433-5 PBHL

### DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
GM 433-5 MVRD	3531.00	1005.24	-1442.26	1604579.50	2257396.09	39.4638235	-108.1306417	Circle (Radius: 50.00)
- plan hits target center								
GM 433-5 PBHL	6651.00	1005.24	-1442.26	1604579.50	2257396.09	39.4638235	-108.1306417	Point
- plan hits target center								



# **TEP Rocky Mountain LLC**

**Garfield County, CO NAD83**

**MV 34-5 Pad**

**GM 433-5 - Slot A3**

**OH**

**Plan: Plan #3 1Mar2017 jcsdi**

## **Standard Planning Report**

**06 March, 2017**



<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well GM 433-5 - Slot A3
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	GL 5977' & RKB 24' @ 6001.00usft (H&P 271)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	GL 5977' & RKB 24' @ 6001.00usft (H&P 271)
<b>Site:</b>	MV 34-5 Pad	<b>North Reference:</b>	True
<b>Well:</b>	GM 433-5	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #3 1Mar2017 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 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 433-5 - Slot A3					
Well Position	+N/-S	57.24 usft	Northing:	1,603,533.00 usft	Latitude:	39.4610638
	+E/-W	34.96 usft	Easting:	2,258,808.70 usft	Longitude:	-108.1255333
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	5,977.00 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>
	HDGM	12/21/2016	9.65	65.78	51,851

<b>Design</b>	Plan #3 1Mar2017 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	304.88

<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	
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	0.00	
297.78	8.00	304.88	297.20	7.09	-10.17	4.50	4.50	0.00	304.88	
998.67	39.54	304.88	930.57	166.60	-239.02	4.50	4.50	0.00	0.00	
2,478.75	39.54	304.88	2,071.97	705.38	-1,012.03	0.00	0.00	0.00	0.00	
4,060.36	0.00	0.00	3,531.00	1,005.24	-1,442.26	2.50	-2.50	0.00	180.00	GM 433-5 MVRD
7,180.36	0.00	0.00	6,651.00	1,005.24	-1,442.26	0.00	0.00	0.00	0.00	GM 433-5 PBHL

<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well GM 433-5 - Slot A3
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	GL 5977' & RKB 24' @ 6001.00usft (H&P 271)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	GL 5977' & RKB 24' @ 6001.00usft (H&P 271)
<b>Site:</b>	MV 34-5 Pad	<b>North Reference:</b>	True
<b>Well:</b>	GM 433-5	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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	
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	3.60	304.88	199.95	1.44	-2.06	2.51	4.50	4.50	0.00	
297.78	8.00	304.88	297.20	7.09	-10.17	12.39	4.50	4.50	0.00	
300.00	8.10	304.88	299.40	7.26	-10.42	12.70	4.50	4.50	0.00	
400.00	12.60	304.88	397.75	17.54	-25.16	30.66	4.50	4.50	0.00	
500.00	17.10	304.88	494.38	32.19	-46.18	56.29	4.50	4.50	0.00	
600.00	21.60	304.88	588.71	51.13	-73.35	89.41	4.50	4.50	0.00	
700.00	26.10	304.88	680.15	74.24	-106.51	129.84	4.50	4.50	0.00	
800.00	30.60	304.88	768.13	101.39	-145.46	177.31	4.50	4.50	0.00	
900.00	35.10	304.88	852.12	132.40	-189.95	231.54	4.50	4.50	0.00	
998.67	39.54	304.88	930.57	166.60	-239.02	291.35	4.50	4.50	0.00	
1,000.00	39.54	304.88	931.59	167.08	-239.71	292.19	0.00	0.00	0.00	
1,048.00	39.54	304.88	968.61	184.55	-264.78	322.75	0.00	0.00	0.00	
9 5/8" @ 1048' MD										
1,100.00	39.54	304.88	1,008.71	203.48	-291.94	355.85	0.00	0.00	0.00	
1,200.00	39.54	304.88	1,085.83	239.88	-344.16	419.52	0.00	0.00	0.00	
1,300.00	39.54	304.88	1,162.95	276.29	-396.39	483.18	0.00	0.00	0.00	
1,400.00	39.54	304.88	1,240.06	312.69	-448.62	546.84	0.00	0.00	0.00	
1,500.00	39.54	304.88	1,317.18	349.09	-500.85	610.50	0.00	0.00	0.00	
1,600.00	39.54	304.88	1,394.30	385.49	-553.08	674.16	0.00	0.00	0.00	
1,700.00	39.54	304.88	1,471.42	421.89	-605.30	737.83	0.00	0.00	0.00	
1,800.00	39.54	304.88	1,548.54	458.30	-657.53	801.49	0.00	0.00	0.00	
1,900.00	39.54	304.88	1,625.65	494.70	-709.76	865.15	0.00	0.00	0.00	
2,000.00	39.54	304.88	1,702.77	531.10	-761.99	928.81	0.00	0.00	0.00	
2,100.00	39.54	304.88	1,779.89	567.50	-814.21	992.47	0.00	0.00	0.00	
2,200.00	39.54	304.88	1,857.01	603.90	-866.44	1,056.14	0.00	0.00	0.00	
2,300.00	39.54	304.88	1,934.12	640.31	-918.67	1,119.80	0.00	0.00	0.00	
2,400.00	39.54	304.88	2,011.24	676.71	-970.90	1,183.46	0.00	0.00	0.00	
2,478.75	39.54	304.88	2,071.97	705.38	-1,012.03	1,233.59	0.00	0.00	0.00	
2,490.43	39.25	304.88	2,081.00	709.62	-1,018.11	1,241.01	2.50	-2.50	0.00	
Top G Sand										
2,500.00	39.01	304.88	2,088.42	713.07	-1,023.06	1,247.05	2.50	-2.50	0.00	
2,522.53	38.45	304.88	2,106.00	721.13	-1,034.63	1,261.14	2.50	-2.50	0.00	
Base G Sand										
2,600.00	36.51	304.88	2,167.47	748.08	-1,073.30	1,308.28	2.50	-2.50	0.00	
2,700.00	34.01	304.88	2,249.12	781.08	-1,120.65	1,366.00	2.50	-2.50	0.00	
2,800.00	31.51	304.88	2,333.21	812.02	-1,165.04	1,420.10	2.50	-2.50	0.00	
2,900.00	29.01	304.88	2,419.58	840.83	-1,206.38	1,470.49	2.50	-2.50	0.00	
3,000.00	26.51	304.88	2,508.07	867.46	-1,244.58	1,517.06	2.50	-2.50	0.00	
3,100.00	24.01	304.88	2,598.50	891.86	-1,279.59	1,559.73	2.50	-2.50	0.00	
3,200.00	21.51	304.88	2,690.70	913.98	-1,311.32	1,598.41	2.50	-2.50	0.00	
3,300.00	19.01	304.88	2,784.51	933.78	-1,339.73	1,633.04	2.50	-2.50	0.00	
3,400.00	16.51	304.88	2,879.74	951.22	-1,364.75	1,663.54	2.50	-2.50	0.00	
3,500.00	14.01	304.88	2,976.20	966.27	-1,386.34	1,689.85	2.50	-2.50	0.00	
3,600.00	11.51	304.88	3,073.73	978.89	-1,404.46	1,711.94	2.50	-2.50	0.00	
3,700.00	9.01	304.88	3,172.12	989.08	-1,419.07	1,729.75	2.50	-2.50	0.00	
3,800.00	6.51	304.88	3,271.20	996.80	-1,430.14	1,743.25	2.50	-2.50	0.00	
3,900.00	4.01	304.88	3,370.77	1,002.04	-1,437.66	1,752.41	2.50	-2.50	0.00	
4,000.00	1.51	304.88	3,470.64	1,004.79	-1,441.61	1,757.22	2.50	-2.50	0.00	
4,037.52	0.57	304.88	3,508.16	1,005.18	-1,442.17	1,757.90	2.50	-2.50	0.00	

<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well GM 433-5 - Slot A3
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	GL 5977' & RKB 24' @ 6001.00usft (H&P 271)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	GL 5977' & RKB 24' @ 6001.00usft (H&P 271)
<b>Site:</b>	MV 34-5 Pad	<b>North Reference:</b>	True
<b>Well:</b>	GM 433-5	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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)
<b>GM 533-5 MVRD</b>									
4,060.36	0.00	0.00	3,531.00	1,005.24	-1,442.26	1,758.02	2.50	-2.50	0.00
<b>Mesaverde - GM 433-5 MVRD</b>									
4,100.00	0.00	0.00	3,570.64	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
4,200.00	0.00	0.00	3,670.64	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
4,300.00	0.00	0.00	3,770.64	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
4,400.00	0.00	0.00	3,870.64	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
4,500.00	0.00	0.00	3,970.64	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
4,600.00	0.00	0.00	4,070.64	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
4,700.00	0.00	0.00	4,170.64	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
4,800.00	0.00	0.00	4,270.64	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
4,900.00	0.00	0.00	4,370.64	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
5,000.00	0.00	0.00	4,470.64	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
5,100.00	0.00	0.00	4,570.64	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
5,200.00	0.00	0.00	4,670.64	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
5,230.36	0.00	0.00	4,701.00	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
<b>Top Gas</b>									
5,300.00	0.00	0.00	4,770.64	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
5,400.00	0.00	0.00	4,870.64	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
5,500.00	0.00	0.00	4,970.64	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
5,600.00	0.00	0.00	5,070.64	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
5,700.00	0.00	0.00	5,170.64	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
5,800.00	0.00	0.00	5,270.64	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
5,900.00	0.00	0.00	5,370.64	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
6,000.00	0.00	0.00	5,470.64	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
6,100.00	0.00	0.00	5,570.64	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
6,200.00	0.00	0.00	5,670.64	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
6,300.00	0.00	0.00	5,770.64	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
6,400.00	0.00	0.00	5,870.64	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
6,500.00	0.00	0.00	5,970.64	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
6,550.36	0.00	0.00	6,021.00	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
<b>Cameo</b>									
6,600.00	0.00	0.00	6,070.64	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
6,700.00	0.00	0.00	6,170.64	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
6,800.00	0.00	0.00	6,270.64	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
6,900.00	0.00	0.00	6,370.64	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
7,000.00	0.00	0.00	6,470.64	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
7,015.36	0.00	0.00	6,486.00	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
<b>Rollins</b>									
7,100.00	0.00	0.00	6,570.64	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
7,155.36	0.00	0.00	6,626.00	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
<b>GM 533-5 PBHL</b>									
7,180.36	0.00	0.00	6,651.00	1,005.24	-1,442.26	1,758.02	0.00	0.00	0.00
<b>GM 433-5 PBHL</b>									

<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well GM 433-5 - Slot A3
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	GL 5977' & RKB 24' @ 6001.00usft (H&P 271)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	GL 5977' & RKB 24' @ 6001.00usft (H&P 271)
<b>Site:</b>	MV 34-5 Pad	<b>North Reference:</b>	True
<b>Well:</b>	GM 433-5	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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 433-5 MVRD - plan hits target center - Circle (radius 50.00)	0.00	0.00	3,531.00	1,005.24	-1,442.26	1,604,579.50	2,257,396.09	39.4638235	-108.1306417
GM 433-5 PBHL - plan hits target center - Point	0.00	0.00	6,651.00	1,005.24	-1,442.26	1,604,579.50	2,257,396.09	39.4638235	-108.1306417

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,048.00	968.61	9 5/8" @ 1048' MD	9.62	9.62	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,490.43	2,081.00	Top G Sand		0.00	0.00	
2,522.53	2,106.00	Base G Sand		0.00	0.00	
4,060.36	3,531.00	Mesaverde		0.00	0.00	
5,230.36	4,701.00	Top Gas		0.00	0.00	
6,550.36	6,021.00	Cameo		0.00	0.00	
7,015.36	6,486.00	Rollins		0.00	0.00	