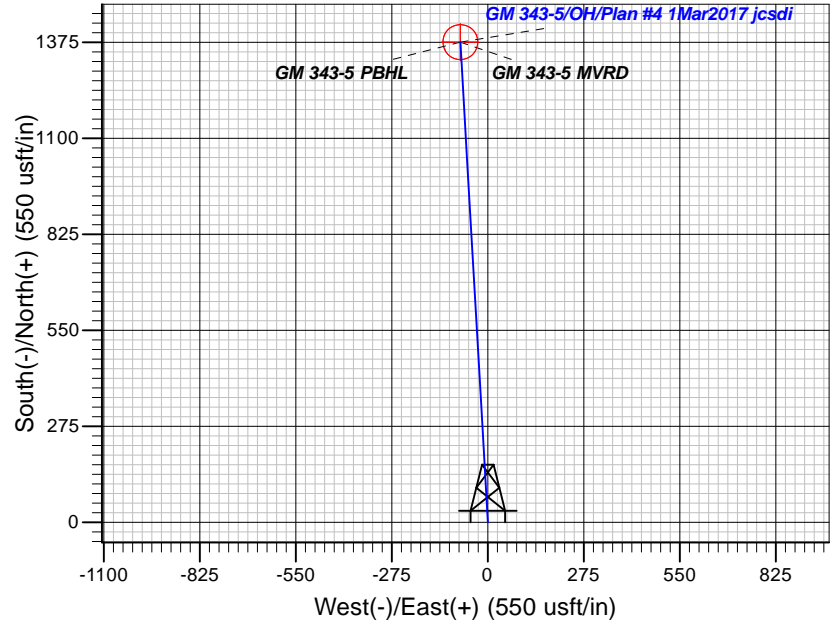
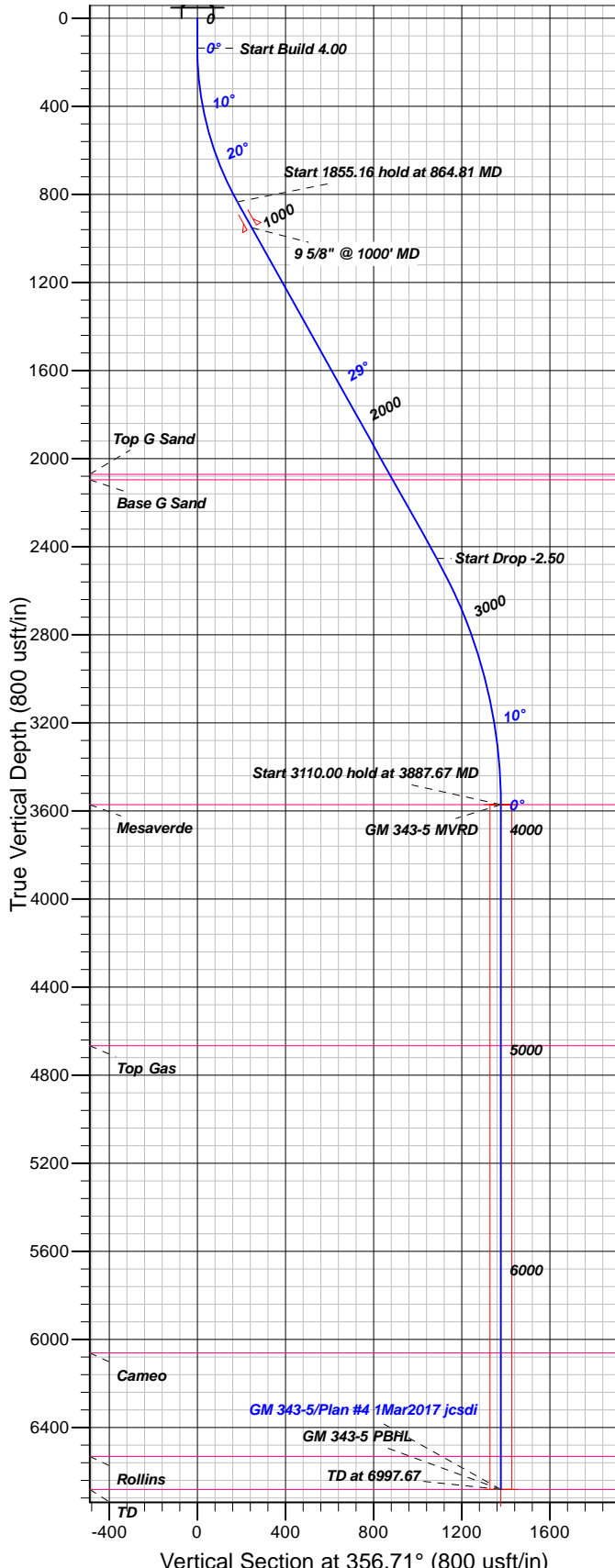


## Well Details: GM 343-5

GL 5977' & RKB 24' @ 6001.00usft (H&P 271)  
+N/-S +E/-W Northing Easting Latitude Longitude Slot  
0.00 0.00 1603539.29 2258812.78 39.4610813 -108.1255195 A2

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

TVDPth	MDPath	Formation
2071.00	2282.20	Top G Sand
2096.00	2310.83	Base G Sand
3571.00	3887.67	Mesaverde
4666.00	4982.67	Top Gas
6061.00	6377.67	Cameo
6531.00	6847.67	Rollins

Plan: Plan #4 1Mar2017 jcsdi

15:22, 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
951.66	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	864.81	29.19	356.71	833.64	181.63	-10.45	4.00	356.71	181.93	
4	2719.97	29.19	356.71	2453.17	1084.98	-62.45	0.00	0.001086.78		
5	3887.67	0.00	0.00	3571.00	1375.60	-79.17	2.50	180.001377.87		GM 343-5 MVRD
6	6997.67	0.00	0.00	6681.00	1375.60	-79.17	0.00	0.001377.87		GM 343-5 PBHL

### DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
GM 343-5 MVRD	3571.00	1375.60	-79.171604916.60	2258773.39	39.4648580	-108.1257999		Circle (Radius: 50.00)
- plan hits target center								
GM 343-5 PBHL	6681.00	1375.60	-79.171604916.60	2258773.39	39.4648580	-108.1257999		Point
- plan hits target center								



# **TEP Rocky Mountain LLC**

**Garfield County, CO NAD83**

**MV 34-5 Pad**

**GM 343-5 - Slot A2**

**OH**

**Plan: Plan #4 1Mar2017 jcsdi**

## **Standard Planning Report**

**06 March, 2017**



<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well GM 343-5 - Slot A2
<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 343-5	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #4 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 343-5 - Slot A2					
Well Position	+N/-S	63.64 usft	Northing:	1,603,539.29 usft	Latitude:	39.4610813
	+E/-W	38.86 usft	Easting:	2,258,812.78 usft	Longitude:	-108.1255195
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 #4 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	356.71

<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	
135.00	0.00	0.00	135.00	0.00	0.00	0.00	0.00	0.00	0.00	
864.81	29.19	356.71	833.64	181.63	-10.45	4.00	4.00	0.00	356.71	
2,719.97	29.19	356.71	2,453.17	1,084.98	-62.45	0.00	0.00	0.00	0.00	
3,887.67	0.00	0.00	3,571.00	1,375.60	-79.17	2.50	-2.50	0.00	180.00	GM 343-5 MVRD
6,997.67	0.00	0.00	6,681.00	1,375.60	-79.17	0.00	0.00	0.00	0.00	GM 343-5 PBHL

<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well GM 343-5 - Slot A2
<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 343-5	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #4 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	2.60	356.71	199.98	1.47	-0.08	1.47	4.00	4.00	0.00	
300.00	6.60	356.71	299.64	9.48	-0.55	9.49	4.00	4.00	0.00	
400.00	10.60	356.71	398.49	24.40	-1.40	24.44	4.00	4.00	0.00	
500.00	14.60	356.71	496.06	46.18	-2.66	46.25	4.00	4.00	0.00	
600.00	18.60	356.71	591.88	74.69	-4.30	74.82	4.00	4.00	0.00	
700.00	22.60	356.71	685.46	109.81	-6.32	109.99	4.00	4.00	0.00	
800.00	26.60	356.71	776.37	151.36	-8.71	151.61	4.00	4.00	0.00	
864.81	29.19	356.71	833.64	181.63	-10.45	181.93	4.00	4.00	0.00	
900.00	29.19	356.71	864.36	198.77	-11.44	199.10	0.00	0.00	0.00	
1,000.00	29.19	356.71	951.66	247.46	-14.24	247.87	0.00	0.00	0.00	
<b>9 5/8" @ 1000' MD</b>										
1,100.00	29.19	356.71	1,038.96	296.16	-17.05	296.65	0.00	0.00	0.00	
1,200.00	29.19	356.71	1,126.26	344.85	-19.85	345.42	0.00	0.00	0.00	
1,300.00	29.19	356.71	1,213.56	393.54	-22.65	394.19	0.00	0.00	0.00	
1,400.00	29.19	356.71	1,300.86	442.24	-25.45	442.97	0.00	0.00	0.00	
1,500.00	29.19	356.71	1,388.15	490.93	-28.26	491.74	0.00	0.00	0.00	
1,600.00	29.19	356.71	1,475.45	539.63	-31.06	540.52	0.00	0.00	0.00	
1,700.00	29.19	356.71	1,562.75	588.32	-33.86	589.29	0.00	0.00	0.00	
1,800.00	29.19	356.71	1,650.05	637.01	-36.66	638.07	0.00	0.00	0.00	
1,900.00	29.19	356.71	1,737.35	685.71	-39.47	686.84	0.00	0.00	0.00	
2,000.00	29.19	356.71	1,824.65	734.40	-42.27	735.62	0.00	0.00	0.00	
2,100.00	29.19	356.71	1,911.95	783.10	-45.07	784.39	0.00	0.00	0.00	
2,200.00	29.19	356.71	1,999.24	831.79	-47.87	833.17	0.00	0.00	0.00	
2,282.20	29.19	356.71	2,071.00	871.81	-50.18	873.26	0.00	0.00	0.00	
<b>Top G Sand</b>										
2,300.00	29.19	356.71	2,086.54	880.48	-50.68	881.94	0.00	0.00	0.00	
2,310.83	29.19	356.71	2,096.00	885.76	-50.98	887.22	0.00	0.00	0.00	
<b>Base G Sand</b>										
2,400.00	29.19	356.71	2,173.84	929.18	-53.48	930.71	0.00	0.00	0.00	
2,500.00	29.19	356.71	2,261.14	977.87	-56.28	979.49	0.00	0.00	0.00	
2,600.00	29.19	356.71	2,348.44	1,026.56	-59.08	1,028.26	0.00	0.00	0.00	
2,700.00	29.19	356.71	2,435.74	1,075.26	-61.89	1,077.04	0.00	0.00	0.00	
2,719.97	29.19	356.71	2,453.17	1,084.98	-62.45	1,086.78	0.00	0.00	0.00	
2,800.00	27.19	356.71	2,523.70	1,122.73	-64.62	1,124.59	2.50	-2.50	0.00	
2,900.00	24.69	356.71	2,613.62	1,166.40	-67.13	1,168.33	2.50	-2.50	0.00	
3,000.00	22.19	356.71	2,705.36	1,206.11	-69.42	1,208.11	2.50	-2.50	0.00	
3,100.00	19.69	356.71	2,798.75	1,241.79	-71.47	1,243.84	2.50	-2.50	0.00	
3,200.00	17.19	356.71	2,893.60	1,273.37	-73.29	1,275.48	2.50	-2.50	0.00	
3,300.00	14.69	356.71	2,989.75	1,300.79	-74.87	1,302.94	2.50	-2.50	0.00	
3,400.00	12.19	356.71	3,087.00	1,323.99	-76.20	1,326.18	2.50	-2.50	0.00	
3,500.00	9.69	356.71	3,185.18	1,342.94	-77.29	1,345.16	2.50	-2.50	0.00	
3,600.00	7.19	356.71	3,284.09	1,357.60	-78.14	1,359.84	2.50	-2.50	0.00	
3,700.00	4.69	356.71	3,383.54	1,367.93	-78.73	1,370.19	2.50	-2.50	0.00	
3,800.00	2.19	356.71	3,483.35	1,373.92	-79.08	1,376.20	2.50	-2.50	0.00	
3,860.45	0.68	356.71	3,543.78	1,375.44	-79.16	1,377.71	2.50	-2.50	0.00	
<b>GM 443-5 MVRD</b>										
3,887.67	0.00	0.00	3,571.00	1,375.60	-79.17	1,377.87	2.50	-2.50	0.00	
<b>Mesaverde - GM 343-5 MVRD</b>										

<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well GM 343-5 - Slot A2
<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 343-5	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #4 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	3,583.33	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
4,000.00	0.00	0.00	3,683.33	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
4,100.00	0.00	0.00	3,783.33	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
4,200.00	0.00	0.00	3,883.33	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
4,300.00	0.00	0.00	3,983.33	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
4,400.00	0.00	0.00	4,083.33	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
4,500.00	0.00	0.00	4,183.33	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
4,600.00	0.00	0.00	4,283.33	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
4,700.00	0.00	0.00	4,383.33	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
4,800.00	0.00	0.00	4,483.33	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
4,900.00	0.00	0.00	4,583.33	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
4,982.67	0.00	0.00	4,666.00	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
<b>Top Gas</b>									
5,000.00	0.00	0.00	4,683.33	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
5,100.00	0.00	0.00	4,783.33	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
5,200.00	0.00	0.00	4,883.33	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
5,300.00	0.00	0.00	4,983.33	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
5,400.00	0.00	0.00	5,083.33	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
5,500.00	0.00	0.00	5,183.33	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
5,600.00	0.00	0.00	5,283.33	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
5,700.00	0.00	0.00	5,383.33	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
5,800.00	0.00	0.00	5,483.33	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
5,900.00	0.00	0.00	5,583.33	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
6,000.00	0.00	0.00	5,683.33	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
6,100.00	0.00	0.00	5,783.33	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
6,200.00	0.00	0.00	5,883.33	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
6,300.00	0.00	0.00	5,983.33	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
6,377.67	0.00	0.00	6,061.00	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
<b>Cameo</b>									
6,400.00	0.00	0.00	6,083.33	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
6,500.00	0.00	0.00	6,183.33	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
6,600.00	0.00	0.00	6,283.33	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
6,700.00	0.00	0.00	6,383.33	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
6,800.00	0.00	0.00	6,483.33	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
6,847.67	0.00	0.00	6,531.00	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
<b>Rollins</b>									
6,872.67	0.00	0.00	6,556.00	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
<b>GM 443-5 PBHL</b>									
6,900.00	0.00	0.00	6,583.33	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
6,997.67	0.00	0.00	6,681.00	1,375.60	-79.17	1,377.87	0.00	0.00	0.00
<b>GM 343-5 PBHL</b>									

<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well GM 343-5 - Slot A2
<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 343-5	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #4 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 343-5 MVRD - plan hits target center - Circle (radius 50.00)	0.00	0.00	3,571.00	1,375.60	-79.17	1,604,916.60	2,258,773.39	39.4648580	-108.1257999
GM 343-5 PBHL - plan hits target center - Point	0.00	0.00	6,681.00	1,375.60	-79.17	1,604,916.60	2,258,773.39	39.4648580	-108.1257999

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,000.00	951.66	9 5/8" @ 1000' MD	9.62	9.62	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,282.20	2,071.00	Top G Sand		0.00	0.00
2,310.83	2,096.00	Base G Sand		0.00	0.00
3,887.67	3,571.00	Mesaverde		0.00	0.00
4,982.67	4,666.00	Top Gas		0.00	0.00
6,377.67	6,061.00	Cameo		0.00	0.00
6,847.67	6,531.00	Rollins		0.00	0.00