

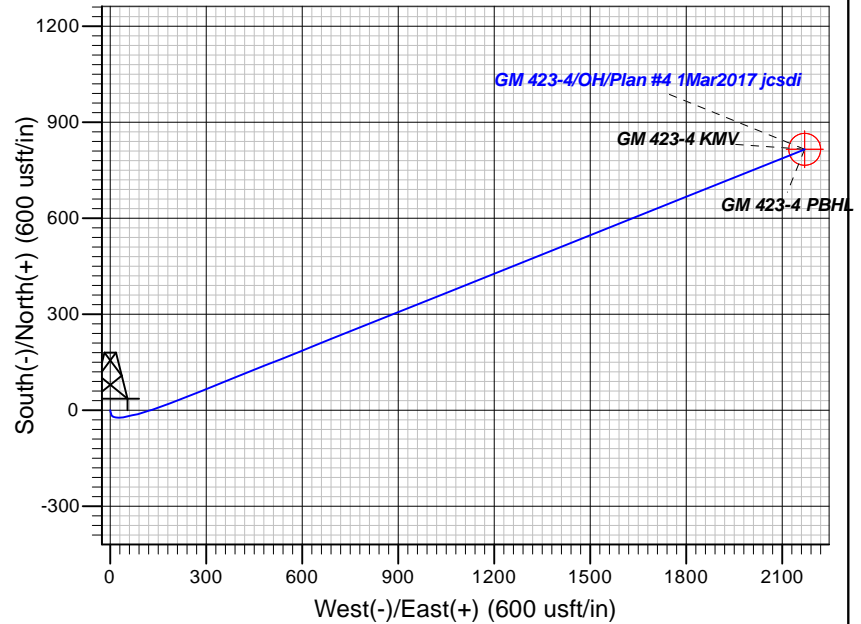
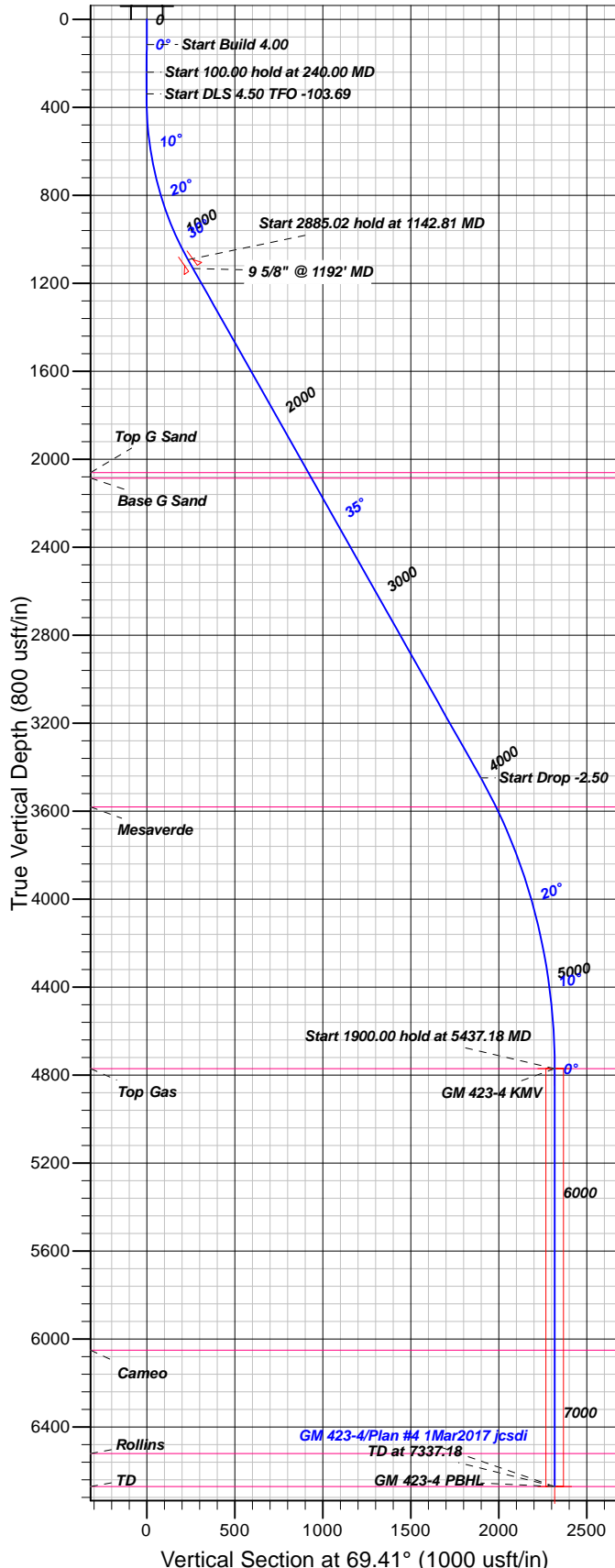
Well Details: GM 423-4

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

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1603483.88	2258788.68	39.4609273	-108.1255991	B13

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
2061.00	2328.75	Top G Sand
2086.00	2359.36	Base G Sand
3581.00	4185.94	Mesaverde
4771.00	5437.18	Top Gas
6051.00	6717.18	Cameo
6521.00	7187.18	Rollins
6671.00	7337.18	TD

Plan: Plan #4 1Mar2017 jcsdi

15:45, 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
1132.50	1192.00	9 5/8" @ 1192' 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	115.00	0.00	0.00	115.00	0.00	0.00	0.00	0.00	0.00	
3	240.00	5.00	165.00	239.84	-5.26	1.41	4.00	165.00	-0.53	
4	340.00	5.00	165.00	339.46	-13.68	3.67	0.00	0.00	-1.38	
5	1142.81	35.23	68.17	1092.31	40.43	235.42	4.50	-103.69	234.60	
6	4027.82	35.23	68.17	3448.81	659.27	1780.51	0.00	0.00	1898.62	
7	5437.18	0.00	0.00	4771.00	815.38	2170.26	2.50	180.00	2318.38	GM 423-4 KMV
8	7337.18	0.00	0.00	6671.00	815.38	2170.26	0.00	0.00	2318.38	GM 423-4 PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
GM 423-4 KMV	4771.00	815.38	2170.26	1604236.20	2260981.60	39.4631657	-108.1179122	Circle (Radius: 50.00)
- plan hits target center								
GM 423-4 PBHL	6671.00	815.38	2170.26	1604236.20	2260981.60	39.4631657	-108.1179122	Point
- plan hits target center								



TEP Rocky Mountain LLC

Garfield County, CO NAD83

MV 34-5 Pad

GM 423-4 - Slot B13

OH

Plan: Plan #4 1Mar2017 jcsdi

Standard Planning Report

06 March, 2017



Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 423-4 - Slot B13
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 423-4	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #4 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 423-4 - Slot B13					
Well Position	+N/-S	7.56 usft	Northing:	1,603,483.88 usft	Latitude:	39.4609274
	+E/-W	16.37 usft	Easting:	2,258,788.68 usft	Longitude:	-108.1255992
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 #4 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	69.41

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	
115.00	0.00	0.00	115.00	0.00	0.00	0.00	0.00	0.00	0.00	
240.00	5.00	165.00	239.84	-5.26	1.41	4.00	4.00	0.00	165.00	
340.00	5.00	165.00	339.46	-13.68	3.67	0.00	0.00	0.00	0.00	
1,142.81	35.23	68.17	1,092.31	40.43	235.42	4.50	3.77	-12.06	-103.69	
4,027.82	35.23	68.17	3,448.81	659.27	1,780.51	0.00	0.00	0.00	0.00	
5,437.18	0.00	0.00	4,771.00	815.38	2,170.26	2.50	-2.50	0.00	180.00	GM 423-4 KMV
7,337.18	0.00	0.00	6,671.00	815.38	2,170.26	0.00	0.00	0.00	0.00	GM 423-4 PBHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 423-4 - Slot B13
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 423-4	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	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
115.00	0.00	0.00	115.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	3.40	165.00	199.95	-2.44	0.65	-0.25	4.00	4.00	0.00
240.00	5.00	165.00	239.84	-5.26	1.41	-0.53	4.00	4.00	0.00
300.00	5.00	165.00	299.61	-10.32	2.76	-1.04	0.00	0.00	0.00
340.00	5.00	165.00	339.46	-13.68	3.67	-1.38	0.00	0.00	0.00
400.00	5.09	133.93	399.24	-18.06	6.26	-0.49	4.50	0.15	-51.79
500.00	7.73	100.05	498.64	-22.31	16.08	7.20	4.50	2.64	-33.87
600.00	11.57	85.79	597.22	-22.74	32.70	22.62	4.50	3.85	-14.27
700.00	15.76	78.78	694.37	-19.36	56.04	45.65	4.50	4.19	-7.00
800.00	20.09	74.70	789.50	-12.19	85.94	76.17	4.50	4.32	-4.08
900.00	24.47	72.02	882.02	-1.26	122.23	113.98	4.50	4.39	-2.68
1,000.00	28.89	70.12	971.35	13.36	164.67	158.84	4.50	4.42	-1.90
1,100.00	33.33	68.69	1,056.95	31.56	213.00	210.50	4.50	4.44	-1.43
1,142.81	35.23	68.17	1,092.31	40.43	235.42	234.60	4.50	4.45	-1.20
1,192.00	35.23	68.17	1,132.50	50.98	261.77	262.98	0.00	0.00	0.00
9 5/8" @ 1192' MD									
1,200.00	35.23	68.17	1,139.03	52.70	266.05	267.59	0.00	0.00	0.00
1,300.00	35.23	68.17	1,220.71	74.15	319.61	325.27	0.00	0.00	0.00
1,400.00	35.23	68.17	1,302.39	95.60	373.17	382.95	0.00	0.00	0.00
1,500.00	35.23	68.17	1,384.07	117.05	426.72	440.62	0.00	0.00	0.00
1,600.00	35.23	68.17	1,465.75	138.50	480.28	498.30	0.00	0.00	0.00
1,700.00	35.23	68.17	1,547.43	159.95	533.83	555.98	0.00	0.00	0.00
1,800.00	35.23	68.17	1,629.11	181.40	587.39	613.66	0.00	0.00	0.00
1,900.00	35.23	68.17	1,710.79	202.85	640.94	671.34	0.00	0.00	0.00
2,000.00	35.23	68.17	1,792.47	224.30	694.50	729.02	0.00	0.00	0.00
2,100.00	35.23	68.17	1,874.15	245.75	748.05	786.69	0.00	0.00	0.00
2,200.00	35.23	68.17	1,955.83	267.20	801.61	844.37	0.00	0.00	0.00
2,300.00	35.23	68.17	2,037.51	288.65	855.17	902.05	0.00	0.00	0.00
2,328.75	35.23	68.17	2,061.00	294.82	870.56	918.63	0.00	0.00	0.00
Top G Sand									
2,359.36	35.23	68.17	2,086.00	301.38	886.96	936.29	0.00	0.00	0.00
Base G Sand									
2,400.00	35.23	68.17	2,119.20	310.10	908.72	959.73	0.00	0.00	0.00
2,500.00	35.23	68.17	2,200.88	331.55	962.28	1,017.41	0.00	0.00	0.00
2,600.00	35.23	68.17	2,282.56	353.00	1,015.83	1,075.08	0.00	0.00	0.00
2,700.00	35.23	68.17	2,364.24	374.45	1,069.39	1,132.76	0.00	0.00	0.00
2,800.00	35.23	68.17	2,445.92	395.90	1,122.94	1,190.44	0.00	0.00	0.00
2,900.00	35.23	68.17	2,527.60	417.35	1,176.50	1,248.12	0.00	0.00	0.00
3,000.00	35.23	68.17	2,609.28	438.80	1,230.05	1,305.80	0.00	0.00	0.00
3,100.00	35.23	68.17	2,690.96	460.25	1,283.61	1,363.47	0.00	0.00	0.00
3,200.00	35.23	68.17	2,772.64	481.70	1,337.16	1,421.15	0.00	0.00	0.00
3,300.00	35.23	68.17	2,854.32	503.15	1,390.72	1,478.83	0.00	0.00	0.00
3,400.00	35.23	68.17	2,936.00	524.60	1,444.28	1,536.51	0.00	0.00	0.00
3,500.00	35.23	68.17	3,017.68	546.05	1,497.83	1,594.19	0.00	0.00	0.00
3,600.00	35.23	68.17	3,099.36	567.50	1,551.39	1,651.86	0.00	0.00	0.00
3,700.00	35.23	68.17	3,181.04	588.95	1,604.94	1,709.54	0.00	0.00	0.00
3,800.00	35.23	68.17	3,262.72	610.40	1,658.50	1,767.22	0.00	0.00	0.00
3,900.00	35.23	68.17	3,344.40	631.85	1,712.05	1,824.90	0.00	0.00	0.00
4,000.00	35.23	68.17	3,426.08	653.30	1,765.61	1,882.58	0.00	0.00	0.00
4,027.82	35.23	68.17	3,448.81	659.27	1,780.51	1,898.62	0.00	0.00	0.00

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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 423-4	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	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)
4,100.00	33.43	68.17	3,508.41	674.41	1,818.30	1,939.32	2.50	-2.50	0.00
4,185.94	31.28	68.17	3,581.00	691.50	1,860.99	1,985.30	2.50	-2.50	0.00
Mesaverde									
4,200.00	30.93	68.17	3,593.04	694.21	1,867.73	1,992.56	2.50	-2.50	0.00
4,300.00	28.43	68.17	3,679.91	712.61	1,913.69	2,042.06	2.50	-2.50	0.00
4,338.26	27.47	68.17	3,713.71	719.28	1,930.34	2,059.99	2.50	-2.50	0.00
GM 423-4 MVRD									
4,400.00	25.93	68.17	3,768.87	729.60	1,956.09	2,087.72	2.50	-2.50	0.00
4,500.00	23.43	68.17	3,859.72	745.12	1,994.85	2,129.46	2.50	-2.50	0.00
4,600.00	20.93	68.17	3,952.32	759.15	2,029.89	2,167.20	2.50	-2.50	0.00
4,700.00	18.43	68.17	4,046.47	771.67	2,061.15	2,200.87	2.50	-2.50	0.00
4,800.00	15.93	68.17	4,142.00	782.65	2,088.57	2,230.39	2.50	-2.50	0.00
4,900.00	13.43	68.17	4,238.73	792.08	2,112.09	2,255.73	2.50	-2.50	0.00
5,000.00	10.93	68.17	4,336.47	799.92	2,131.67	2,276.82	2.50	-2.50	0.00
5,100.00	8.43	68.17	4,435.04	806.17	2,147.28	2,293.63	2.50	-2.50	0.00
5,200.00	5.93	68.17	4,534.25	810.82	2,158.88	2,306.12	2.50	-2.50	0.00
5,300.00	3.43	68.17	4,633.90	813.85	2,166.45	2,314.28	2.50	-2.50	0.00
5,400.00	0.93	68.17	4,733.82	815.26	2,169.98	2,318.08	2.50	-2.50	0.00
5,437.18	0.00	0.00	4,771.00	815.38	2,170.26	2,318.38	2.50	-2.50	0.00
Top Gas - GM 423-4 KMW									
5,500.00	0.00	0.00	4,833.82	815.38	2,170.26	2,318.38	0.00	0.00	0.00
5,600.00	0.00	0.00	4,933.82	815.38	2,170.26	2,318.38	0.00	0.00	0.00
5,700.00	0.00	0.00	5,033.82	815.38	2,170.26	2,318.38	0.00	0.00	0.00
5,800.00	0.00	0.00	5,133.82	815.38	2,170.26	2,318.38	0.00	0.00	0.00
5,900.00	0.00	0.00	5,233.82	815.38	2,170.26	2,318.38	0.00	0.00	0.00
6,000.00	0.00	0.00	5,333.82	815.38	2,170.26	2,318.38	0.00	0.00	0.00
6,100.00	0.00	0.00	5,433.82	815.38	2,170.26	2,318.38	0.00	0.00	0.00
6,200.00	0.00	0.00	5,533.82	815.38	2,170.26	2,318.38	0.00	0.00	0.00
6,300.00	0.00	0.00	5,633.82	815.38	2,170.26	2,318.38	0.00	0.00	0.00
6,400.00	0.00	0.00	5,733.82	815.38	2,170.26	2,318.38	0.00	0.00	0.00
6,500.00	0.00	0.00	5,833.82	815.38	2,170.26	2,318.38	0.00	0.00	0.00
6,600.00	0.00	0.00	5,933.82	815.38	2,170.26	2,318.38	0.00	0.00	0.00
6,700.00	0.00	0.00	6,033.82	815.38	2,170.26	2,318.38	0.00	0.00	0.00
6,717.18	0.00	0.00	6,051.00	815.38	2,170.26	2,318.38	0.00	0.00	0.00
Cameo									
6,800.00	0.00	0.00	6,133.82	815.38	2,170.26	2,318.38	0.00	0.00	0.00
6,900.00	0.00	0.00	6,233.82	815.38	2,170.26	2,318.38	0.00	0.00	0.00
7,000.00	0.00	0.00	6,333.82	815.38	2,170.26	2,318.38	0.00	0.00	0.00
7,100.00	0.00	0.00	6,433.82	815.38	2,170.26	2,318.38	0.00	0.00	0.00
7,187.18	0.00	0.00	6,521.00	815.38	2,170.26	2,318.38	0.00	0.00	0.00
Rollins									
7,200.00	0.00	0.00	6,533.82	815.38	2,170.26	2,318.38	0.00	0.00	0.00
7,300.00	0.00	0.00	6,633.82	815.38	2,170.26	2,318.38	0.00	0.00	0.00
7,337.18	0.00	0.00	6,671.00	815.38	2,170.26	2,318.38	0.00	0.00	0.00
TD - GM 423-4 PBHL									

Database:	Grand Junction District	Local Co-ordinate Reference:	Well GM 423-4 - Slot B13
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 423-4	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	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 423-4 KMV - plan hits target center - Circle (radius 50.00)	0.00	0.00	4,771.00	815.38	2,170.26	1,604,236.20	2,260,981.60	39.4631657	-108.1179122
GM 423-4 PBHL - plan hits target center - Point	0.00	0.00	6,671.00	815.38	2,170.26	1,604,236.20	2,260,981.60	39.4631657	-108.1179122

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,192.00	1,132.50	9 5/8" @ 1192' MD	9.62	9.62	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,328.75	2,061.00	Top G Sand		0.00	0.00	
2,359.36	2,086.00	Base G Sand		0.00	0.00	
4,185.94	3,581.00	Mesaverde		0.00	0.00	
5,437.18	4,771.00	Top Gas		0.00	0.00	
6,717.18	6,051.00	Cameo		0.00	0.00	
7,187.18	6,521.00	Rollins		0.00	0.00	
7,337.18	6,671.00	TD		0.00	0.00	