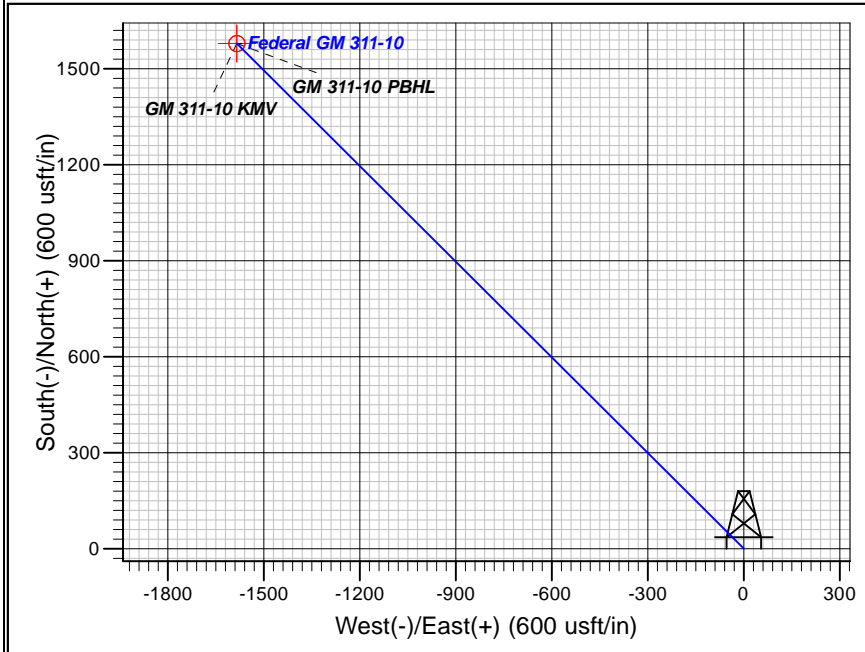
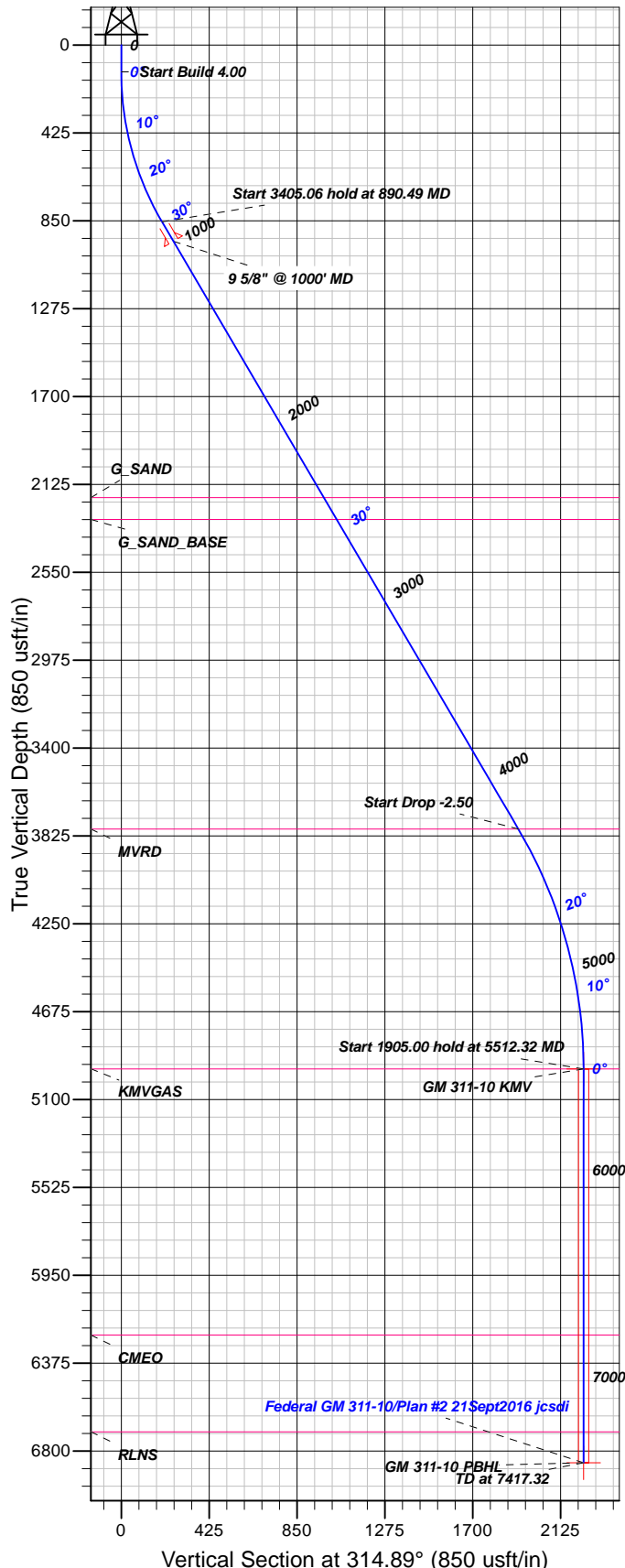


Well Details: Federal GM 311-10

GL 6148' & RKB 24' @ 6172.00usft (H&P 318)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1600354.20	2266878.60	39.4529767	-108.0966410	B9

T M Azimuths to True North
 Magnetic North: 9.71°
 Magnetic Field
 Strength: 51587.4snT
 Dip Angle: 65.58°
 Date: 9/13/2016
 Model: BGGM2016



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
2189.00	2437.14	G SAND
2294.00	2558.90	G SAND BASE
3792.00	4296.03	MVRD
4952.00	5512.32	KMVGAS
6239.00	6799.32	CMEQ
6707.00	7267.32	RLNS

Plan: Plan #2 21Sept2016 jcsdi

17:08, September 22 2016
 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
949.70	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	130.00	0.00	0.00	130.00	0.00	0.00	0.00	0.00	0.00	
3	890.49	30.42	314.89	855.26	139.17	-139.69	4.00	314.89	197.18	
4	4295.55	30.42	314.89	3791.59	1355.99	-1361.06	0.00	0.00	1921.25	
5	5512.32	0.00	0.00	4952.00	1578.66	-1584.56	2.50	180.00	2236.74	GM 311-10 KMV
6	7417.32	0.00	0.00	6857.00	1578.66	-1584.56	0.00	0.00	2236.74	GM 311-10 PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
GM 311-10 KMV	4952.00	1578.66	-1584.56	1601977.50	2265339.80	39.4573108	-108.1022530	Circle (Radius: 25.00)
- plan hits target center								
GM 311-10 PBHL	6857.00	1578.66	-1584.56	1601977.50	2265339.80	39.4573108	-108.1022530	Point
- plan hits target center								



TEP Rocky Mountain LLC

Garfield County, CO NAD83

MV 5-10 Pad

Federal GM 311-10 - Slot B9

OH

Plan: Plan #2 21Sept2016 jcsdi

Standard Planning Report

22 September, 2016



Database:	Grand Junction District	Local Co-ordinate Reference:	Well Federal GM 311-10 - Slot B9
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 6148' & RKB 24' @ 6172.00usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 6148' & RKB 24' @ 6172.00usft (H&P 318)
Site:	MV 5-10 Pad	North Reference:	True
Well:	Federal GM 311-10	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 21Sept2016 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 5-10 Pad			
Site Position:		Northing:	1,600,344.70 usft	Latitude:	39.4529509
From:	Map	Easting:	2,266,881.70 usft	Longitude:	-108.0966291
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	-1.64 °

Well	Federal GM 311-10 - Slot B9					
Well Position	+N/-S	9.41 usft	Northing:	1,600,354.20 usft	Latitude:	39.4529768
	+E/-W	-3.37 usft	Easting:	2,266,878.60 usft	Longitude:	-108.0966411
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	6,148.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2016	9/13/2016	9.72	65.58	51,587

Design	Plan #2 21Sept2016 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	314.89

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	
130.00	0.00	0.00	130.00	0.00	0.00	0.00	0.00	0.00	0.00	
890.49	30.42	314.89	855.26	139.17	-139.69	4.00	4.00	0.00	314.89	
4,295.55	30.42	314.89	3,791.59	1,355.99	-1,361.06	0.00	0.00	0.00	0.00	
5,512.32	0.00	0.00	4,952.00	1,578.66	-1,584.56	2.50	-2.50	0.00	180.00	GM 311-10 KMW
7,417.32	0.00	0.00	6,857.00	1,578.66	-1,584.56	0.00	0.00	0.00	0.00	GM 311-10 PBHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well Federal GM 311-10 - Slot B9
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 6148' & RKB 24' @ 6172.00usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 6148' & RKB 24' @ 6172.00usft (H&P 318)
Site:	MV 5-10 Pad	North Reference:	True
Well:	Federal GM 311-10	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 21Sept2016 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	
130.00	0.00	0.00	130.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	2.80	314.89	199.97	1.21	-1.21	1.71	4.00	4.00	0.00	
300.00	6.80	314.89	299.60	7.11	-7.14	10.08	4.00	4.00	0.00	
400.00	10.80	314.89	398.40	17.91	-17.97	25.37	4.00	4.00	0.00	
500.00	14.80	314.89	495.90	33.54	-33.67	47.52	4.00	4.00	0.00	
600.00	18.80	314.89	591.61	53.94	-54.14	76.42	4.00	4.00	0.00	
700.00	22.80	314.89	685.08	78.99	-79.29	111.92	4.00	4.00	0.00	
800.00	26.80	314.89	775.83	108.59	-109.00	153.86	4.00	4.00	0.00	
890.49	30.42	314.89	855.26	139.17	-139.69	197.18	4.00	4.00	0.00	
900.00	30.42	314.89	863.46	142.57	-143.10	202.00	0.00	0.00	0.00	
1,000.00	30.42	314.89	949.70	178.30	-178.97	252.63	0.00	0.00	0.00	
9 5/8" @ 1000' MD										
1,100.00	30.42	314.89	1,035.93	214.04	-214.84	303.26	0.00	0.00	0.00	
1,200.00	30.42	314.89	1,122.17	249.77	-250.71	353.90	0.00	0.00	0.00	
1,300.00	30.42	314.89	1,208.40	285.51	-286.58	404.53	0.00	0.00	0.00	
1,400.00	30.42	314.89	1,294.63	321.25	-322.45	455.16	0.00	0.00	0.00	
1,500.00	30.42	314.89	1,380.87	356.98	-358.32	505.79	0.00	0.00	0.00	
1,600.00	30.42	314.89	1,467.10	392.72	-394.19	556.43	0.00	0.00	0.00	
1,700.00	30.42	314.89	1,553.34	428.45	-430.06	607.06	0.00	0.00	0.00	
1,800.00	30.42	314.89	1,639.57	464.19	-465.93	657.69	0.00	0.00	0.00	
1,900.00	30.42	314.89	1,725.81	499.93	-501.79	708.32	0.00	0.00	0.00	
2,000.00	30.42	314.89	1,812.04	535.66	-537.66	758.96	0.00	0.00	0.00	
2,100.00	30.42	314.89	1,898.27	571.40	-573.53	809.59	0.00	0.00	0.00	
2,200.00	30.42	314.89	1,984.51	607.13	-609.40	860.22	0.00	0.00	0.00	
2,300.00	30.42	314.89	2,070.74	642.87	-645.27	910.85	0.00	0.00	0.00	
2,400.00	30.42	314.89	2,156.98	678.60	-681.14	961.49	0.00	0.00	0.00	
2,437.14	30.42	314.89	2,189.00	691.87	-694.46	980.29	0.00	0.00	0.00	
G_SAND										
2,500.00	30.42	314.89	2,243.21	714.34	-717.01	1,012.12	0.00	0.00	0.00	
2,558.90	30.42	314.89	2,294.00	735.39	-738.14	1,041.94	0.00	0.00	0.00	
G_SAND_BASE										
2,600.00	30.42	314.89	2,329.44	750.08	-752.88	1,062.75	0.00	0.00	0.00	
2,700.00	30.42	314.89	2,415.68	785.81	-788.75	1,113.38	0.00	0.00	0.00	
2,800.00	30.42	314.89	2,501.91	821.55	-824.62	1,164.02	0.00	0.00	0.00	
2,900.00	30.42	314.89	2,588.15	857.28	-860.49	1,214.65	0.00	0.00	0.00	
3,000.00	30.42	314.89	2,674.38	893.02	-896.36	1,265.28	0.00	0.00	0.00	
3,100.00	30.42	314.89	2,760.62	928.75	-932.23	1,315.92	0.00	0.00	0.00	
3,200.00	30.42	314.89	2,846.85	964.49	-968.10	1,366.55	0.00	0.00	0.00	
3,300.00	30.42	314.89	2,933.08	1,000.23	-1,003.97	1,417.18	0.00	0.00	0.00	
3,400.00	30.42	314.89	3,019.32	1,035.96	-1,039.84	1,467.81	0.00	0.00	0.00	
3,500.00	30.42	314.89	3,105.55	1,071.70	-1,075.71	1,518.45	0.00	0.00	0.00	
3,600.00	30.42	314.89	3,191.79	1,107.43	-1,111.57	1,569.08	0.00	0.00	0.00	
3,700.00	30.42	314.89	3,278.02	1,143.17	-1,147.44	1,619.71	0.00	0.00	0.00	
3,800.00	30.42	314.89	3,364.26	1,178.90	-1,183.31	1,670.34	0.00	0.00	0.00	
3,900.00	30.42	314.89	3,450.49	1,214.64	-1,219.18	1,720.98	0.00	0.00	0.00	
4,000.00	30.42	314.89	3,536.72	1,250.38	-1,255.05	1,771.61	0.00	0.00	0.00	
4,100.00	30.42	314.89	3,622.96	1,286.11	-1,290.92	1,822.24	0.00	0.00	0.00	
4,200.00	30.42	314.89	3,709.19	1,321.85	-1,326.79	1,872.87	0.00	0.00	0.00	
4,295.55	30.42	314.89	3,791.59	1,355.99	-1,361.06	1,921.25	0.00	0.00	0.00	
4,296.03	30.41	314.89	3,792.00	1,356.16	-1,361.24	1,921.49	2.50	-2.50	0.00	

Database:	Grand Junction District	Local Co-ordinate Reference:	Well Federal GM 311-10 - Slot B9
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 6148' & RKB 24' @ 6172.00usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 6148' & RKB 24' @ 6172.00usft (H&P 318)
Site:	MV 5-10 Pad	North Reference:	True
Well:	Federal GM 311-10	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 21Sept2016 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)
MVRD									
4,300.00	30.31	314.89	3,795.43	1,357.58	-1,362.66	1,923.50	2.50	-2.50	0.00
4,400.00	27.81	314.89	3,882.83	1,391.86	-1,397.06	1,972.07	2.50	-2.50	0.00
4,500.00	25.31	314.89	3,972.28	1,423.41	-1,428.73	2,016.78	2.50	-2.50	0.00
4,600.00	22.81	314.89	4,063.58	1,452.18	-1,457.61	2,057.54	2.50	-2.50	0.00
4,700.00	20.31	314.89	4,156.58	1,478.11	-1,483.64	2,094.28	2.50	-2.50	0.00
4,800.00	17.81	314.89	4,251.09	1,501.16	-1,506.77	2,126.93	2.50	-2.50	0.00
4,900.00	15.31	314.89	4,346.94	1,521.27	-1,526.96	2,155.43	2.50	-2.50	0.00
5,000.00	12.81	314.89	4,443.93	1,538.41	-1,544.17	2,179.72	2.50	-2.50	0.00
5,100.00	10.31	314.89	4,541.90	1,552.55	-1,558.36	2,199.75	2.50	-2.50	0.00
5,200.00	7.81	314.89	4,640.64	1,563.66	-1,569.51	2,215.49	2.50	-2.50	0.00
5,300.00	5.31	314.89	4,739.98	1,571.72	-1,577.60	2,226.91	2.50	-2.50	0.00
5,400.00	2.81	314.89	4,839.72	1,576.72	-1,582.61	2,233.99	2.50	-2.50	0.00
5,500.00	0.31	314.89	4,939.68	1,578.64	-1,584.54	2,236.71	2.50	-2.50	0.00
5,512.32	0.00	0.00	4,952.00	1,578.66	-1,584.56	2,236.74	2.50	-2.50	0.00
KMVGAS - GM 311-10 KMW									
5,600.00	0.00	0.00	5,039.68	1,578.66	-1,584.56	2,236.74	0.00	0.00	0.00
5,700.00	0.00	0.00	5,139.68	1,578.66	-1,584.56	2,236.74	0.00	0.00	0.00
5,800.00	0.00	0.00	5,239.68	1,578.66	-1,584.56	2,236.74	0.00	0.00	0.00
5,900.00	0.00	0.00	5,339.68	1,578.66	-1,584.56	2,236.74	0.00	0.00	0.00
6,000.00	0.00	0.00	5,439.68	1,578.66	-1,584.56	2,236.74	0.00	0.00	0.00
6,100.00	0.00	0.00	5,539.68	1,578.66	-1,584.56	2,236.74	0.00	0.00	0.00
6,200.00	0.00	0.00	5,639.68	1,578.66	-1,584.56	2,236.74	0.00	0.00	0.00
6,300.00	0.00	0.00	5,739.68	1,578.66	-1,584.56	2,236.74	0.00	0.00	0.00
6,400.00	0.00	0.00	5,839.68	1,578.66	-1,584.56	2,236.74	0.00	0.00	0.00
6,500.00	0.00	0.00	5,939.68	1,578.66	-1,584.56	2,236.74	0.00	0.00	0.00
6,600.00	0.00	0.00	6,039.68	1,578.66	-1,584.56	2,236.74	0.00	0.00	0.00
6,700.00	0.00	0.00	6,139.68	1,578.66	-1,584.56	2,236.74	0.00	0.00	0.00
6,799.32	0.00	0.00	6,239.00	1,578.66	-1,584.56	2,236.74	0.00	0.00	0.00
CME0									
6,800.00	0.00	0.00	6,239.68	1,578.66	-1,584.56	2,236.74	0.00	0.00	0.00
6,900.00	0.00	0.00	6,339.68	1,578.66	-1,584.56	2,236.74	0.00	0.00	0.00
7,000.00	0.00	0.00	6,439.68	1,578.66	-1,584.56	2,236.74	0.00	0.00	0.00
7,100.00	0.00	0.00	6,539.68	1,578.66	-1,584.56	2,236.74	0.00	0.00	0.00
7,200.00	0.00	0.00	6,639.68	1,578.66	-1,584.56	2,236.74	0.00	0.00	0.00
7,267.32	0.00	0.00	6,707.00	1,578.66	-1,584.56	2,236.74	0.00	0.00	0.00
RLNS									
7,300.00	0.00	0.00	6,739.68	1,578.66	-1,584.56	2,236.74	0.00	0.00	0.00
7,400.00	0.00	0.00	6,839.68	1,578.66	-1,584.56	2,236.74	0.00	0.00	0.00
7,417.32	0.00	0.00	6,857.00	1,578.66	-1,584.56	2,236.74	0.00	0.00	0.00
GM 311-10 PBHL									

Database:	Grand Junction District	Local Co-ordinate Reference:	Well Federal GM 311-10 - Slot B9
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 6148' & RKB 24' @ 6172.00usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 6148' & RKB 24' @ 6172.00usft (H&P 318)
Site:	MV 5-10 Pad	North Reference:	True
Well:	Federal GM 311-10	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 21Sept2016 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 311-10 KMV - plan hits target center - Circle (radius 25.00)	0.00	0.00	4,952.00	1,578.66	-1,584.56	1,601,977.50	2,265,339.80	39.4573108	-108.1022530
GM 311-10 PBHL - plan hits target center - Point	0.00	0.00	6,857.00	1,578.66	-1,584.56	1,601,977.50	2,265,339.80	39.4573108	-108.1022530

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,000.00	949.70	9 5/8" @ 1000' MD	9.62	9.62	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,437.14	2,189.00	G_SAND		0.00	0.00	
2,558.90	2,294.00	G_SAND_BASE		0.00	0.00	
4,296.03	3,792.00	MVRD		0.00	0.00	
5,512.32	4,952.00	KMVGAS		0.00	0.00	
6,799.32	6,239.00	CME0		0.00	0.00	
7,267.32	6,707.00	RLNS		0.00	0.00	