

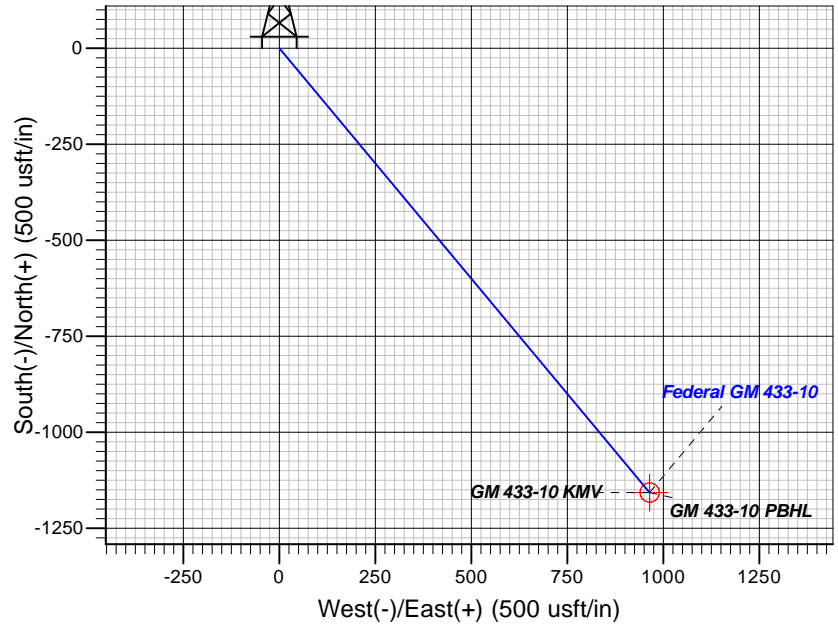
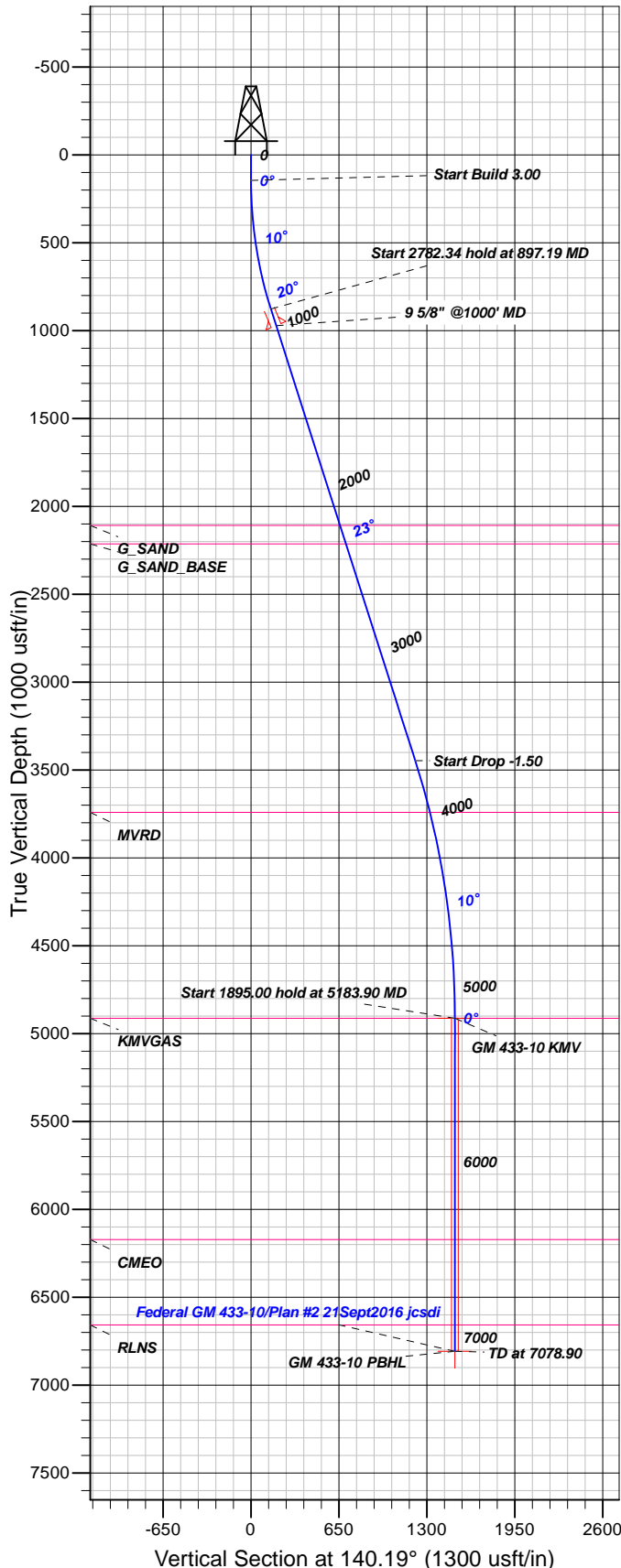
## Well Details: Federal GM 433-10

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

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1600347.20	2266857.20	39.4529558	-108.0967161	B6

**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
2109.00	2230.36	G_SAND
2214.00	2344.07	G_SAND_BASE
3741.00	3992.68	MVRD
4913.00	5183.90	KMVGAS
6172.00	6442.90	CMEO
6658.00	6928.90	RLNS

Plan: Plan #2 21Sept2016 jcsdi

18:24, 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
972.83	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	145.00	0.00	0.00	145.00	0.00	0.00	0.00	0.00	0.00	
3	897.19	22.57	140.19	877.89	-112.32	93.62	3.00	140.19	146.22	
4	3679.53	22.57	140.19	3447.22	-932.47	777.23	0.00	0.001213.92		
5	5183.90	0.00	0.00	4913.00	-1157.11	964.46	1.50	180.001506.35		GM 433-10 KMV
6	7078.90	0.00	0.00	6808.00	-1157.11	964.46	0.00	0.001506.35		GM 433-10 PBHL

### DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
GM 433-10 KMV	4913.00	-1157.11	964.46	1599163.00	2267788.20	39.4497790	-108.0933007	Circle (Radius: 25.00)
- plan hits target center								
GM 433-10 PBHL	6808.00	-1157.11	964.46	1599163.00	2267788.20	39.4497790	-108.0933007	Point
- plan hits target center								



## **TEP Rocky Mountain LLC**

**Garfield County, CO NAD83**

**MV 5-10 Pad**

**Federal GM 433-10 - Slot B6**

**OH**

**Plan: Plan #2 21Sept2016 jcsdi**

## **Standard Planning Report**

**22 September, 2016**



<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well Federal GM 433-10 - Slot B6
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	GL 6148' & RKB 24' @ 6172.00usft (H&P 318)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	GL 6148' & RKB 24' @ 6172.00usft (H&P 318)
<b>Site:</b>	MV 5-10 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Federal GM 433-10	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #2 21Sept2016 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		

<b>Site</b>	MV 5-10 Pad			
<b>Site Position:</b>		<b>Northing:</b>	1,600,344.70 usft	<b>Latitude:</b> 39.4529509
<b>From:</b> Map		<b>Easting:</b>	2,266,881.70 usft	<b>Longitude:</b> -108.0966291
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13.20 in	<b>Grid Convergence:</b> -1.64 °

<b>Well</b>	Federal GM 433-10 - Slot B6			
<b>Well Position</b>	<b>+N/-S</b>	1.80 usft	<b>Northing:</b>	1,600,347.20 usft
	<b>+E/-W</b>	-24.56 usft	<b>Easting:</b>	2,266,857.20 usft
<b>Position Uncertainty</b>	0.00 usft		<b>Wellhead Elevation:</b>	0.00 usft
			<b>Ground Level:</b>	6,148.00 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>
	BGGM2016	9/13/2016	9.72	65.58	51,587

<b>Design</b>	Plan #2 21Sept2016 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	140.19

<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	
145.00	0.00	0.00	145.00	0.00	0.00	0.00	0.00	0.00	0.00	
897.19	22.57	140.19	877.89	-112.32	93.62	3.00	3.00	0.00	140.19	
3,679.53	22.57	140.19	3,447.22	-932.47	777.23	0.00	0.00	0.00	0.00	
5,183.90	0.00	0.00	4,913.00	-1,157.11	964.46	1.50	-1.50	0.00	180.00	GM 433-10 KMV
7,078.90	0.00	0.00	6,808.00	-1,157.11	964.46	0.00	0.00	0.00	0.00	GM 433-10 PBHL

<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well Federal GM 433-10 - Slot B6
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	GL 6148' & RKB 24' @ 6172.00usft (H&P 318)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	GL 6148' & RKB 24' @ 6172.00usft (H&P 318)
<b>Site:</b>	MV 5-10 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Federal GM 433-10	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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
145.00	0.00	0.00	145.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	1.65	140.19	199.99	-0.61	0.51	0.79	3.00	3.00	0.00
300.00	4.65	140.19	299.83	-4.83	4.02	6.29	3.00	3.00	0.00
400.00	7.65	140.19	399.24	-13.06	10.88	17.00	3.00	3.00	0.00
500.00	10.65	140.19	497.96	-25.27	21.06	32.90	3.00	3.00	0.00
600.00	13.65	140.19	595.71	-41.44	34.54	53.94	3.00	3.00	0.00
700.00	16.65	140.19	692.22	-61.51	51.27	80.07	3.00	3.00	0.00
800.00	19.65	140.19	787.24	-85.44	71.21	111.22	3.00	3.00	0.00
897.19	22.57	140.19	877.89	-112.32	93.62	146.22	3.00	3.00	0.00
900.00	22.57	140.19	880.49	-113.15	94.31	147.30	0.00	0.00	0.00
1,000.00	22.57	140.19	972.83	-142.62	118.88	185.67	0.00	0.00	0.00
<b>9 5/8" @1000' MD</b>									
1,100.00	22.57	140.19	1,065.18	-172.10	143.45	224.05	0.00	0.00	0.00
1,200.00	22.57	140.19	1,157.52	-201.58	168.02	262.42	0.00	0.00	0.00
1,300.00	22.57	140.19	1,249.87	-231.06	192.59	300.79	0.00	0.00	0.00
1,400.00	22.57	140.19	1,342.21	-260.53	217.16	339.17	0.00	0.00	0.00
1,500.00	22.57	140.19	1,434.55	-290.01	241.73	377.54	0.00	0.00	0.00
1,600.00	22.57	140.19	1,526.90	-319.49	266.30	415.92	0.00	0.00	0.00
1,700.00	22.57	140.19	1,619.24	-348.96	290.87	454.29	0.00	0.00	0.00
1,800.00	22.57	140.19	1,711.59	-378.44	315.44	492.66	0.00	0.00	0.00
1,900.00	22.57	140.19	1,803.93	-407.92	340.01	531.04	0.00	0.00	0.00
2,000.00	22.57	140.19	1,896.27	-437.40	364.57	569.41	0.00	0.00	0.00
2,100.00	22.57	140.19	1,988.62	-466.87	389.14	607.79	0.00	0.00	0.00
2,200.00	22.57	140.19	2,080.96	-496.35	413.71	646.16	0.00	0.00	0.00
2,230.36	22.57	140.19	2,109.00	-505.30	421.17	657.81	0.00	0.00	0.00
<b>G_SAND</b>									
2,300.00	22.57	140.19	2,173.31	-525.83	438.28	684.53	0.00	0.00	0.00
2,344.07	22.57	140.19	2,214.00	-538.82	449.11	701.44	0.00	0.00	0.00
<b>G_SAND_BASE</b>									
2,400.00	22.57	140.19	2,265.65	-555.30	462.85	722.91	0.00	0.00	0.00
2,500.00	22.57	140.19	2,357.99	-584.78	487.42	761.28	0.00	0.00	0.00
2,600.00	22.57	140.19	2,450.34	-614.26	511.99	799.66	0.00	0.00	0.00
2,700.00	22.57	140.19	2,542.68	-643.74	536.56	838.03	0.00	0.00	0.00
2,800.00	22.57	140.19	2,635.03	-673.21	561.13	876.40	0.00	0.00	0.00
2,900.00	22.57	140.19	2,727.37	-702.69	585.70	914.78	0.00	0.00	0.00
3,000.00	22.57	140.19	2,819.71	-732.17	610.27	953.15	0.00	0.00	0.00
3,100.00	22.57	140.19	2,912.06	-761.65	634.84	991.53	0.00	0.00	0.00
3,200.00	22.57	140.19	3,004.40	-791.12	659.41	1,029.90	0.00	0.00	0.00
3,300.00	22.57	140.19	3,096.75	-820.60	683.98	1,068.28	0.00	0.00	0.00
3,400.00	22.57	140.19	3,189.09	-850.08	708.55	1,106.65	0.00	0.00	0.00
3,500.00	22.57	140.19	3,281.44	-879.55	733.12	1,145.02	0.00	0.00	0.00
3,600.00	22.57	140.19	3,373.78	-909.03	757.69	1,183.40	0.00	0.00	0.00
3,679.53	22.57	140.19	3,447.22	-932.47	777.23	1,213.92	0.00	0.00	0.00
3,700.00	22.26	140.19	3,466.14	-938.47	782.23	1,221.72	1.50	-1.50	0.00
3,800.00	20.76	140.19	3,559.18	-966.63	805.70	1,258.38	1.50	-1.50	0.00
3,900.00	19.26	140.19	3,653.14	-992.91	827.61	1,292.60	1.50	-1.50	0.00
3,992.69	17.87	140.19	3,741.00	-1,015.58	846.50	1,322.10	1.50	-1.50	0.00
<b>MVRD</b>									
4,000.00	17.76	140.19	3,747.96	-1,017.30	847.93	1,324.34	1.50	-1.50	0.00
4,100.00	16.26	140.19	3,843.59	-1,039.77	866.66	1,353.59	1.50	-1.50	0.00

<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well Federal GM 433-10 - Slot B6
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<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	GL 6148' & RKB 24' @ 6172.00usft (H&P 318)
<b>Site:</b>	MV 5-10 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Federal GM 433-10	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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)	
4,200.00	14.76	140.19	3,939.94	-1,060.31	883.78	1,380.33	1.50	-1.50	0.00	
4,300.00	13.26	140.19	4,036.97	-1,078.90	899.28	1,404.54	1.50	-1.50	0.00	
4,400.00	11.76	140.19	4,134.59	-1,095.54	913.14	1,426.19	1.50	-1.50	0.00	
4,500.00	10.26	140.19	4,232.75	-1,110.20	925.37	1,445.29	1.50	-1.50	0.00	
4,600.00	8.76	140.19	4,331.37	-1,122.89	935.95	1,461.81	1.50	-1.50	0.00	
4,700.00	7.26	140.19	4,430.39	-1,133.60	944.87	1,475.74	1.50	-1.50	0.00	
4,800.00	5.76	140.19	4,529.75	-1,142.30	952.12	1,487.07	1.50	-1.50	0.00	
4,900.00	4.26	140.19	4,629.36	-1,149.01	957.71	1,495.80	1.50	-1.50	0.00	
5,000.00	2.76	140.19	4,729.17	-1,153.71	961.63	1,501.92	1.50	-1.50	0.00	
5,100.00	1.26	140.19	4,829.11	-1,156.40	963.87	1,505.43	1.50	-1.50	0.00	
5,183.90	0.00	0.00	4,913.00	-1,157.11	964.46	1,506.35	1.50	-1.50	-167.09	
<b>KMVGAS - GM 433-10 KMV</b>										
5,200.00	0.00	0.00	4,929.10	-1,157.11	964.46	1,506.35	0.00	0.00	0.00	
5,300.00	0.00	0.00	5,029.10	-1,157.11	964.46	1,506.35	0.00	0.00	0.00	
5,400.00	0.00	0.00	5,129.10	-1,157.11	964.46	1,506.35	0.00	0.00	0.00	
5,500.00	0.00	0.00	5,229.10	-1,157.11	964.46	1,506.35	0.00	0.00	0.00	
5,600.00	0.00	0.00	5,329.10	-1,157.11	964.46	1,506.35	0.00	0.00	0.00	
5,700.00	0.00	0.00	5,429.10	-1,157.11	964.46	1,506.35	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,529.10	-1,157.11	964.46	1,506.35	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,629.10	-1,157.11	964.46	1,506.35	0.00	0.00	0.00	
6,000.00	0.00	0.00	5,729.10	-1,157.11	964.46	1,506.35	0.00	0.00	0.00	
6,100.00	0.00	0.00	5,829.10	-1,157.11	964.46	1,506.35	0.00	0.00	0.00	
6,200.00	0.00	0.00	5,929.10	-1,157.11	964.46	1,506.35	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,029.10	-1,157.11	964.46	1,506.35	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,129.10	-1,157.11	964.46	1,506.35	0.00	0.00	0.00	
6,442.90	0.00	0.00	6,172.00	-1,157.11	964.46	1,506.35	0.00	0.00	0.00	
<b>CME0</b>										
6,500.00	0.00	0.00	6,229.10	-1,157.11	964.46	1,506.35	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,329.10	-1,157.11	964.46	1,506.35	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,429.10	-1,157.11	964.46	1,506.35	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,529.10	-1,157.11	964.46	1,506.35	0.00	0.00	0.00	
6,900.00	0.00	0.00	6,629.10	-1,157.11	964.46	1,506.35	0.00	0.00	0.00	
6,928.90	0.00	0.00	6,658.00	-1,157.11	964.46	1,506.35	0.00	0.00	0.00	
<b>RLNS</b>										
7,000.00	0.00	0.00	6,729.10	-1,157.11	964.46	1,506.35	0.00	0.00	0.00	
7,078.90	0.00	0.00	6,808.00	-1,157.11	964.46	1,506.35	0.00	0.00	0.00	
<b>GM 433-10 PBHL</b>										

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 433-10 KMV	0.00	0.00	4,913.00	-1,157.11	964.46	1,599,163.00	2,267,788.20	39.4497790	-108.0933007
- plan hits target center									
- Circle (radius 25.00)									
GM 433-10 PBHL	0.00	0.00	6,808.00	-1,157.11	964.46	1,599,163.00	2,267,788.20	39.4497790	-108.0933007
- plan hits target center									
- Point									

<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well Federal GM 433-10 - Slot B6
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	GL 6148' & RKB 24' @ 6172.00usft (H&P 318)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	GL 6148' & RKB 24' @ 6172.00usft (H&P 318)
<b>Site:</b>	MV 5-10 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Federal GM 433-10	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #2 21Sept2016 jcsdi		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,000.00	972.83	9 5/8" @1000' MD	9.62	9.62	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,230.36	2,109.00	G_SAND		0.00	0.00	
2,344.07	2,214.00	G_SAND_BASE		0.00	0.00	
3,992.69	3,741.00	MVRD		0.00	0.00	
5,183.90	4,913.00	KMVGAS		0.00	0.00	
6,442.90	6,172.00	CMEO		0.00	0.00	
6,928.90	6,658.00	RLNS		0.00	0.00	