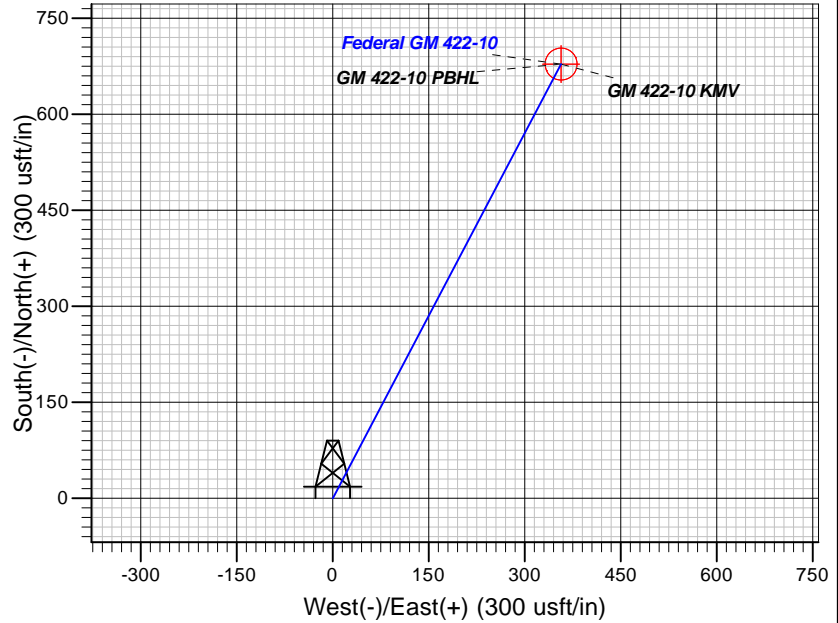
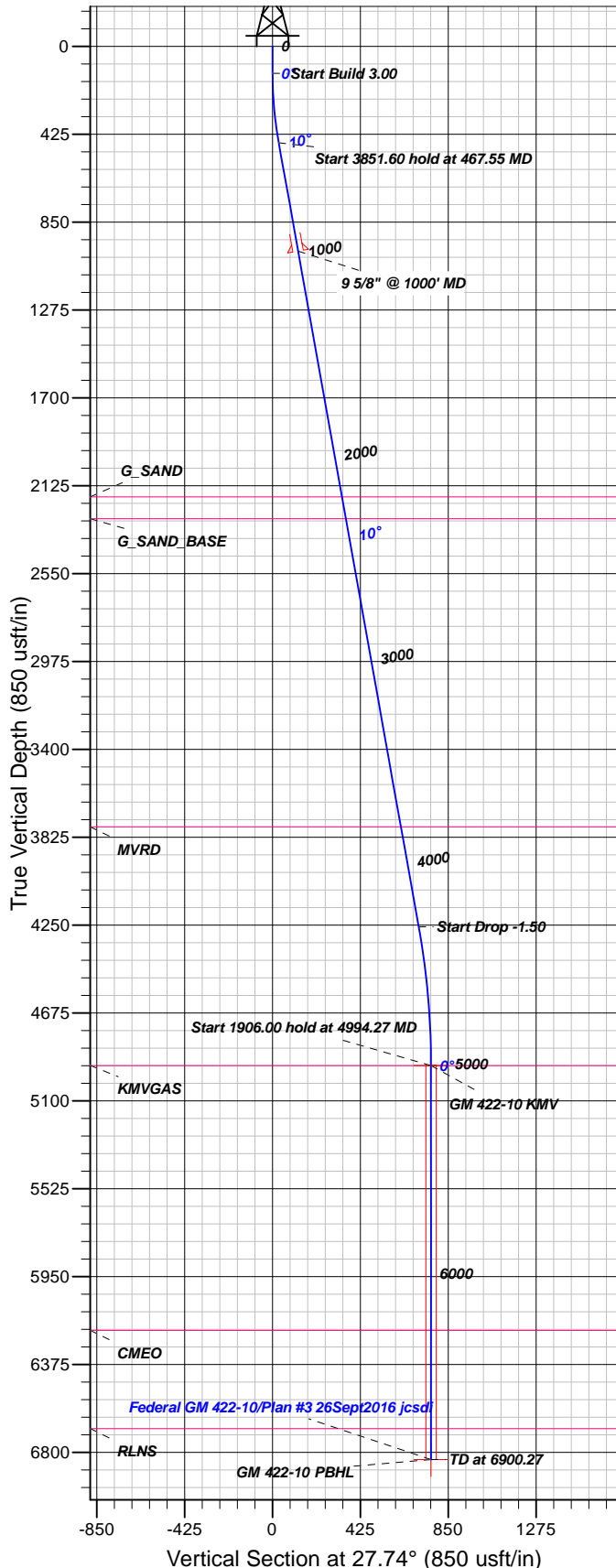


Well Details: Federal GM 422-10

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

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1600363.50	2266907.10	39.4530045	-108.0965411	B13

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
2179.00	2207.87	G_SAND
2284.00	2314.53	G_SAND_BASE
3775.00	3829.12	MVRD
4929.00	4994.27	KMVGAS
6210.00	6275.27	CMEO
6685.00	6750.27	RLNS

Plan: Plan #3 26Sept2016 jcsdi

21:35, September 26 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
989.95	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	467.55	10.13	27.74	465.80	26.33	13.85	3.00	27.74	29.75	
4	4319.16	10.13	27.74	4257.40	625.71	329.06	0.00	0.00	706.96	
5	4994.27	0.00	0.00	4929.00	678.37	356.76	1.50	180.00	766.46	GM 422-10 KMV
6	6900.27	0.00	0.00	6835.00	678.37	356.76	0.00	0.00	766.46	GM 422-10 PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
GM 422-10 KMV	4929.00	678.37	356.76	1601031.40	2267283.10	39.4548669	-108.0952776	Circle (Radius: 25.00)
- plan hits target center								
GM 422-10 PBHL	6835.00	678.37	356.76	1601031.40	2267283.10	39.4548669	-108.0952776	Point
- plan hits target center								



TEP Rocky Mountain LLC

Garfield County, CO NAD83

MV 5-10 Pad

Federal GM 422-10 - Slot B13

OH

Plan: Plan #3 26Sept2016 jcsdi

Standard Planning Report

26 September, 2016



Database:	Grand Junction District	Local Co-ordinate Reference	Well Federal GM 422-10 - Slot B13
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 422-10	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3 26Sept2016 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 422-10 - Slot B13			
Well Position	+N/-S	19.52 usft	Northing:	1,600,363.50 usft
	+E/-W	24.85 usft	Easting:	2,266,907.10 usft
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 #3 26Sept2016 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	27.74

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	
467.55	10.13	27.74	465.80	26.33	13.85	3.00	3.00	0.00	27.74	
4,319.16	10.13	27.74	4,257.40	625.71	329.06	0.00	0.00	0.00	0.00	
4,994.27	0.00	0.00	4,929.00	678.37	356.76	1.50	-1.50	0.00	180.00	GM 422-10 KMV
6,900.27	0.00	0.00	6,835.00	678.37	356.76	0.00	0.00	0.00	0.00	GM 422-10 PBHL

Database:	Grand Junction District	Local Co-ordinate Reference	Well Federal GM 422-10 - Slot B13
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 422-10	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3 26Sept2016 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	2.10	27.74	199.98	1.14	0.60	1.28	3.00	3.00	0.00
300.00	5.10	27.74	299.78	6.69	3.52	7.56	3.00	3.00	0.00
400.00	8.10	27.74	399.10	16.86	8.87	19.05	3.00	3.00	0.00
467.55	10.13	27.74	465.80	26.33	13.85	29.75	3.00	3.00	0.00
500.00	10.13	27.74	497.74	31.38	16.50	35.46	0.00	0.00	0.00
600.00	10.13	27.74	596.18	46.94	24.69	53.04	0.00	0.00	0.00
700.00	10.13	27.74	694.62	62.51	32.87	70.62	0.00	0.00	0.00
800.00	10.13	27.74	793.07	78.07	41.06	88.20	0.00	0.00	0.00
900.00	10.13	27.74	891.51	93.63	49.24	105.79	0.00	0.00	0.00
1,000.00	10.13	27.74	989.95	109.19	57.42	123.37	0.00	0.00	0.00
9 5/8" @ 1000' MD									
1,100.00	10.13	27.74	1,088.39	124.75	65.61	140.95	0.00	0.00	0.00
1,200.00	10.13	27.74	1,186.83	140.31	73.79	158.53	0.00	0.00	0.00
1,300.00	10.13	27.74	1,285.28	155.88	81.98	176.12	0.00	0.00	0.00
1,400.00	10.13	27.74	1,383.72	171.44	90.16	193.70	0.00	0.00	0.00
1,500.00	10.13	27.74	1,482.16	187.00	98.34	211.28	0.00	0.00	0.00
1,600.00	10.13	27.74	1,580.60	202.56	106.53	228.86	0.00	0.00	0.00
1,700.00	10.13	27.74	1,679.05	218.12	114.71	246.45	0.00	0.00	0.00
1,800.00	10.13	27.74	1,777.49	233.68	122.90	264.03	0.00	0.00	0.00
1,900.00	10.13	27.74	1,875.93	249.25	131.08	281.61	0.00	0.00	0.00
2,000.00	10.13	27.74	1,974.37	264.81	139.26	299.19	0.00	0.00	0.00
2,100.00	10.13	27.74	2,072.81	280.37	147.45	316.78	0.00	0.00	0.00
2,200.00	10.13	27.74	2,171.26	295.93	155.63	334.36	0.00	0.00	0.00
2,207.87	10.13	27.74	2,179.00	297.15	156.27	335.74	0.00	0.00	0.00
G_SAND									
2,300.00	10.13	27.74	2,269.70	311.49	163.82	351.94	0.00	0.00	0.00
2,314.53	10.13	27.74	2,284.00	313.75	165.00	354.50	0.00	0.00	0.00
G_SAND_BASE									
2,400.00	10.13	27.74	2,368.14	327.05	172.00	369.52	0.00	0.00	0.00
2,500.00	10.13	27.74	2,466.58	342.62	180.18	387.11	0.00	0.00	0.00
2,600.00	10.13	27.74	2,565.03	358.18	188.37	404.69	0.00	0.00	0.00
2,700.00	10.13	27.74	2,663.47	373.74	196.55	422.27	0.00	0.00	0.00
2,800.00	10.13	27.74	2,761.91	389.30	204.73	439.85	0.00	0.00	0.00
2,900.00	10.13	27.74	2,860.35	404.86	212.92	457.44	0.00	0.00	0.00
3,000.00	10.13	27.74	2,958.79	420.42	221.10	475.02	0.00	0.00	0.00
3,100.00	10.13	27.74	3,057.24	435.99	229.29	492.60	0.00	0.00	0.00
3,200.00	10.13	27.74	3,155.68	451.55	237.47	510.18	0.00	0.00	0.00
3,300.00	10.13	27.74	3,254.12	467.11	245.65	527.77	0.00	0.00	0.00
3,400.00	10.13	27.74	3,352.56	482.67	253.84	545.35	0.00	0.00	0.00
3,500.00	10.13	27.74	3,451.00	498.23	262.02	562.93	0.00	0.00	0.00
3,600.00	10.13	27.74	3,549.45	513.79	270.21	580.51	0.00	0.00	0.00
3,700.00	10.13	27.74	3,647.89	529.36	278.39	598.10	0.00	0.00	0.00
3,800.00	10.13	27.74	3,746.33	544.92	286.57	615.68	0.00	0.00	0.00
3,829.12	10.13	27.74	3,775.00	549.45	288.96	620.80	0.00	0.00	0.00
MVRD									
3,900.00	10.13	27.74	3,844.77	560.48	294.76	633.26	0.00	0.00	0.00
4,000.00	10.13	27.74	3,943.22	576.04	302.94	650.84	0.00	0.00	0.00
4,100.00	10.13	27.74	4,041.66	591.60	311.13	668.43	0.00	0.00	0.00

Database:	Grand Junction District	Local Co-ordinate Reference	Well Federal GM 422-10 - Slot B13
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 422-10	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3 26Sept2016 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	10.13	27.74	4,140.10	607.16	319.31	686.01	0.00	0.00	0.00
4,300.00	10.13	27.74	4,238.54	622.73	327.49	703.59	0.00	0.00	0.00
4,319.16	10.13	27.74	4,257.40	625.71	329.06	706.96	0.00	0.00	0.00
4,400.00	8.91	27.74	4,337.13	637.54	335.29	720.33	1.50	-1.50	0.00
4,500.00	7.41	27.74	4,436.11	650.11	341.90	734.53	1.50	-1.50	0.00
4,600.00	5.91	27.74	4,535.43	660.38	347.30	746.13	1.50	-1.50	0.00
4,700.00	4.41	27.74	4,635.03	668.35	351.49	755.13	1.50	-1.50	0.00
4,800.00	2.91	27.74	4,734.82	674.00	354.46	761.52	1.50	-1.50	0.00
4,900.00	1.41	27.74	4,834.74	677.34	356.22	765.30	1.50	-1.50	0.00
4,994.27	0.00	0.00	4,929.00	678.37	356.76	766.46	1.50	-1.50	0.00
KMGAS - GM 422-10 KMW									
5,000.00	0.00	0.00	4,934.73	678.37	356.76	766.46	0.00	0.00	0.00
5,100.00	0.00	0.00	5,034.73	678.37	356.76	766.46	0.00	0.00	0.00
5,200.00	0.00	0.00	5,134.73	678.37	356.76	766.46	0.00	0.00	0.00
5,300.00	0.00	0.00	5,234.73	678.37	356.76	766.46	0.00	0.00	0.00
5,400.00	0.00	0.00	5,334.73	678.37	356.76	766.46	0.00	0.00	0.00
5,500.00	0.00	0.00	5,434.73	678.37	356.76	766.46	0.00	0.00	0.00
5,600.00	0.00	0.00	5,534.73	678.37	356.76	766.46	0.00	0.00	0.00
5,700.00	0.00	0.00	5,634.73	678.37	356.76	766.46	0.00	0.00	0.00
5,800.00	0.00	0.00	5,734.73	678.37	356.76	766.46	0.00	0.00	0.00
5,900.00	0.00	0.00	5,834.73	678.37	356.76	766.46	0.00	0.00	0.00
6,000.00	0.00	0.00	5,934.73	678.37	356.76	766.46	0.00	0.00	0.00
6,100.00	0.00	0.00	6,034.73	678.37	356.76	766.46	0.00	0.00	0.00
6,200.00	0.00	0.00	6,134.73	678.37	356.76	766.46	0.00	0.00	0.00
6,275.27	0.00	0.00	6,210.00	678.37	356.76	766.46	0.00	0.00	0.00
CMEO									
6,300.00	0.00	0.00	6,234.73	678.37	356.76	766.46	0.00	0.00	0.00
6,400.00	0.00	0.00	6,334.73	678.37	356.76	766.46	0.00	0.00	0.00
6,500.00	0.00	0.00	6,434.73	678.37	356.76	766.46	0.00	0.00	0.00
6,600.00	0.00	0.00	6,534.73	678.37	356.76	766.46	0.00	0.00	0.00
6,700.00	0.00	0.00	6,634.73	678.37	356.76	766.46	0.00	0.00	0.00
6,750.27	0.00	0.00	6,685.00	678.37	356.76	766.46	0.00	0.00	0.00
RLNS									
6,800.00	0.00	0.00	6,734.73	678.37	356.76	766.46	0.00	0.00	0.00
6,900.00	0.00	0.00	6,834.73	678.37	356.76	766.46	0.00	0.00	0.00
6,900.27	0.00	0.00	6,835.00	678.37	356.76	766.46	0.00	0.00	0.00
GM 422-10 PBHL									

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 422-10 KMW	0.00	0.00	4,929.00	678.37	356.76	1,601,031.40	2,267,283.10	39.4548670	-108.0952777
- plan hits target center									
- Circle (radius 25.00)									
GM 422-10 PBHL	0.00	0.00	6,835.00	678.37	356.76	1,601,031.40	2,267,283.10	39.4548670	-108.0952777
- plan hits target center									
- Point									

Database:	Grand Junction District	Local Co-ordinate Reference	Well Federal GM 422-10 - Slot B13
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 422-10	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3 26Sept2016 jcsdi		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,000.00	989.95	9 5/8" @ 1000' MD	9.62	9.62	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,207.87	2,179.00	G_SAND		0.00	0.00
2,314.53	2,284.00	G_SAND_BASE		0.00	0.00
3,829.12	3,775.00	MVRD		0.00	0.00
4,994.27	4,929.00	KMVGAS		0.00	0.00
6,275.27	6,210.00	CMEO		0.00	0.00
6,750.27	6,685.00	RLNS		0.00	0.00