



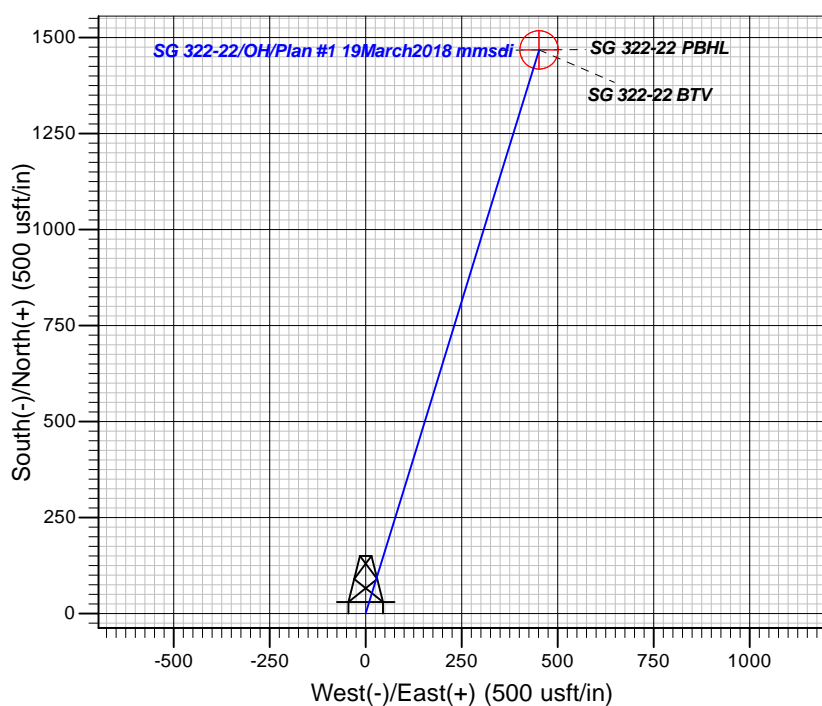
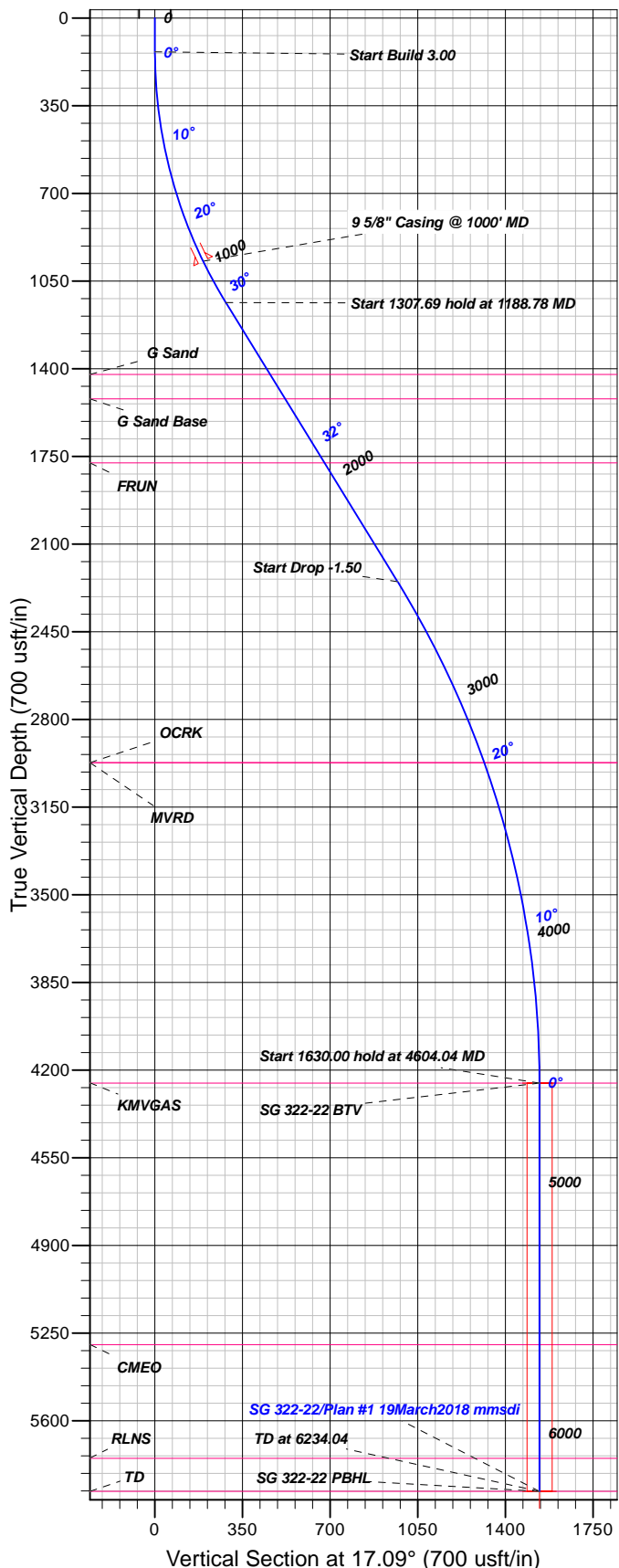
Azimuths to True North
Magnetic North: 9.47°

Magnetic Field
Strength: 51729.1snT
Dip Angle: 65.62°
Date: 3/19/2018
Model: HDGM

Well Details: SG 322-22

GL 5665' & RKB 24' @ 5689.00usft

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1588942.40	2265672.30	39.4215638	-108.0997549	SG 322-22 (B3)



FORMATION TOP DETAILS

TVDP	MD	Formation
1423.00	1525.65	G Sand
1520.00	1639.55	G Sand Base
1776.00	1940.16	FRUN
2973.00	3299.84	MVRD
2973.00	3299.84	OCRK
4252.00	4604.04	KMVGAS
5296.00	5648.04	CMEQ
5750.00	6102.04	RLNS
5882.00	6234.04	TD

Plan: Plan #1 19March2018 mmsdi

16:23, March 20 2018
Created By: Mel Mireles

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
970.73	1000.00	5/8" Casing @ 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	1188.78	31.61	17.09	1136.12	270.90	83.30	3.00	17.09	283.42	
4	2496.48	31.61	17.09	2249.76	926.10	284.76	0.00	0.00	968.89	
5	4604.04	0.00	0.00	4252.00	1467.90	451.35	1.50	180.00	1535.72	SG 322-22 BTV
6	6234.04	0.00	0.00	5882.00	1467.90	451.35	0.00	0.00	1535.72	SG 322-22 PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SG 322-22 BTV	4252.00	1467.90	451.35	1590396.78	2266165.47	39.4255939	-108.0981571	Circle (Radius: 50.00)
- plan hits target center								
SG 322-22 PBHL	5882.00	1467.90	451.35	1590396.78	2266165.47	39.4255939	-108.0981571	Point
- plan hits target center								



TEP Rocky Mountain LLC

Garfield County, CO NAD83

SG 23-22 Pad

SG 322-22 - Slot SG 322-22 (B3)

OH

Plan: Plan #1 19March2018 mmsdi

Standard Planning Report

20 March, 2018



Database:	Grand Junction District	Local Co-ordinate Reference:	Well SG 322-22 - Slot SG 322-22 (B3)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5665' & RKB 24' @ 5689.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 5665' & RKB 24' @ 5689.00usft
Site:	SG 23-22 Pad	North Reference:	True
Well:	SG 322-22	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 19March2018 mmsdi		

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	SG 23-22 Pad			
Site Position:		Northing:	1,588,957.40 usft	Latitude: 39.4216042
From: Map		Easting:	2,265,662.20 usft	Longitude: -108.0997922
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence: -1.64 °

Well	SG 322-22 - Slot SG 322-22 (B3)			
Well Position	+N/-S	-14.70 usft	Northing:	1,588,942.40 usft
	+E/-W	10.53 usft	Easting:	2,265,672.30 usft
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft
			Ground Level:	5,665.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	3/19/2018	9.47	65.62	51,729

Design	Plan #1 19March2018 mmsdi			
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	17.09

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	
135.00	0.00	0.00	135.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,188.78	31.61	17.09	1,136.12	270.90	83.30	3.00	3.00	0.00	17.09	
2,496.48	31.61	17.09	2,249.76	926.10	284.76	0.00	0.00	0.00	0.00	
4,604.04	0.00	0.00	4,252.00	1,467.90	451.35	1.50	-1.50	0.00	180.00	SG 322-22 BTV
6,234.04	0.00	0.00	5,882.00	1,467.90	451.35	0.00	0.00	0.00	0.00	SG 322-22 PBHL

Database: Grand Junction District
Company: TEP Rocky Mountain LLC
Project: Garfield County, CO NAD83
Site: SG 23-22 Pad
Well: SG 322-22
Wellbore: OH
Design: Plan #1 19March2018 mmsdi

Local Co-ordinate Reference: Well SG 322-22 - Slot SG 322-22 (B3)
TVD Reference: GL 5665' & RKB 24' @ 5689.00usft
MD Reference: GL 5665' & RKB 24' @ 5689.00usft
North Reference: True
Survey Calculation Method: Minimum Curvature

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
Start Build 3.00									
200.00	1.95	17.09	199.99	1.06	0.33	1.11	3.00	3.00	0.00
300.00	4.95	17.09	299.79	6.81	2.09	7.12	3.00	3.00	0.00
400.00	7.95	17.09	399.15	17.54	5.39	18.36	3.00	3.00	0.00
500.00	10.95	17.09	497.78	33.24	10.22	34.77	3.00	3.00	0.00
600.00	13.95	17.09	595.42	53.84	16.56	56.33	3.00	3.00	0.00
700.00	16.95	17.09	691.79	79.30	24.38	82.97	3.00	3.00	0.00
800.00	19.95	17.09	786.64	109.55	33.68	114.61	3.00	3.00	0.00
900.00	22.95	17.09	879.71	144.50	44.43	151.17	3.00	3.00	0.00
1,000.00	25.95	17.09	970.73	184.05	56.59	192.56	3.00	3.00	0.00
9 5/8" Casing @ 1000' MD									
1,100.00	28.95	17.09	1,059.46	228.11	70.14	238.65	3.00	3.00	0.00
1,188.78	31.61	17.09	1,136.12	270.90	83.30	283.42	3.00	3.00	0.00
Start 1307.69 hold at 1188.78 MD									
1,200.00	31.61	17.09	1,145.67	276.52	85.03	289.30	0.00	0.00	0.00
1,300.00	31.61	17.09	1,230.84	326.62	100.43	341.71	0.00	0.00	0.00
1,400.00	31.61	17.09	1,316.00	376.73	115.84	394.13	0.00	0.00	0.00
1,500.00	31.61	17.09	1,401.16	426.83	131.24	446.55	0.00	0.00	0.00
1,525.65	31.61	17.09	1,423.00	439.68	135.19	460.00	0.00	0.00	0.00
G Sand									
1,600.00	31.61	17.09	1,486.32	476.93	146.65	498.97	0.00	0.00	0.00
1,639.55	31.61	17.09	1,520.00	496.75	152.74	519.70	0.00	0.00	0.00
G Sand Base									
1,700.00	31.61	17.09	1,571.48	527.04	162.06	551.39	0.00	0.00	0.00
1,800.00	31.61	17.09	1,656.64	577.14	177.46	603.81	0.00	0.00	0.00
1,900.00	31.61	17.09	1,741.80	627.24	192.87	656.23	0.00	0.00	0.00
1,940.16	31.61	17.09	1,776.00	647.37	199.05	677.28	0.00	0.00	0.00
FRUN									
2,000.00	31.61	17.09	1,826.96	677.35	208.27	708.64	0.00	0.00	0.00
2,100.00	31.61	17.09	1,912.12	727.45	223.68	761.06	0.00	0.00	0.00
2,200.00	31.61	17.09	1,997.28	777.55	239.09	813.48	0.00	0.00	0.00
2,300.00	31.61	17.09	2,082.44	827.66	254.49	865.90	0.00	0.00	0.00
2,400.00	31.61	17.09	2,167.60	877.76	269.90	918.32	0.00	0.00	0.00
2,496.48	31.61	17.09	2,249.76	926.10	284.76	968.89	0.00	0.00	0.00
Start Drop -1.50									
2,500.00	31.56	17.09	2,252.76	927.86	285.30	970.74	1.50	-1.50	0.00
2,600.00	30.06	17.09	2,338.65	976.82	300.36	1,021.95	1.50	-1.50	0.00
2,700.00	28.56	17.09	2,425.84	1,023.61	314.74	1,070.91	1.50	-1.50	0.00
2,800.00	27.06	17.09	2,514.29	1,068.20	328.46	1,117.56	1.50	-1.50	0.00
2,900.00	25.56	17.09	2,603.93	1,110.57	341.48	1,161.88	1.50	-1.50	0.00
3,000.00	24.06	17.09	2,694.69	1,150.68	353.81	1,203.84	1.50	-1.50	0.00
3,100.00	22.56	17.09	2,786.53	1,188.50	365.44	1,243.41	1.50	-1.50	0.00
3,200.00	21.06	17.09	2,879.37	1,224.01	376.36	1,280.57	1.50	-1.50	0.00
3,299.84	19.56	17.09	2,973.00	1,257.14	386.55	1,315.23	1.50	-1.50	0.00
OCRK - MVRD									
3,300.00	19.56	17.09	2,973.15	1,257.19	386.56	1,315.28	1.50	-1.50	0.00
3,400.00	18.06	17.09	3,067.80	1,288.01	396.04	1,347.52	1.50	-1.50	0.00
3,500.00	16.56	17.09	3,163.27	1,316.45	404.79	1,377.27	1.50	-1.50	0.00
3,600.00	15.06	17.09	3,259.48	1,342.49	412.79	1,404.52	1.50	-1.50	0.00
3,700.00	13.56	17.09	3,356.38	1,366.11	420.06	1,429.24	1.50	-1.50	0.00

Database:	Grand Junction District	Local Co-ordinate Reference:	Well SG 322-22 - Slot SG 322-22 (B3)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5665' & RKB 24' @ 5689.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 5665' & RKB 24' @ 5689.00usft
Site:	SG 23-22 Pad	North Reference:	True
Well:	SG 322-22	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 19March2018 mmsdi		

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)
3,800.00	12.06	17.09	3,453.89	1,387.31	426.57	1,451.41	1.50	-1.50	0.00
3,900.00	10.56	17.09	3,551.94	1,406.05	432.34	1,471.02	1.50	-1.50	0.00
4,000.00	9.06	17.09	3,650.48	1,422.34	437.35	1,488.06	1.50	-1.50	0.00
4,100.00	7.56	17.09	3,749.42	1,436.15	441.59	1,502.51	1.50	-1.50	0.00
4,200.00	6.06	17.09	3,848.72	1,447.49	445.08	1,514.37	1.50	-1.50	0.00
4,300.00	4.56	17.09	3,948.28	1,456.34	447.80	1,523.63	1.50	-1.50	0.00
4,400.00	3.06	17.09	4,048.06	1,462.69	449.75	1,530.27	1.50	-1.50	0.00
4,500.00	1.56	17.09	4,147.98	1,466.54	450.94	1,534.30	1.50	-1.50	0.00
4,600.00	0.06	17.09	4,247.96	1,467.89	451.35	1,535.72	1.50	-1.50	0.00
4,604.04	0.00	0.00	4,252.00	1,467.90	451.35	1,535.72	1.50	-1.50	0.00
Start 1630.00 hold at 4604.04 MD - KMGAS - SG 322-22 BTV									
4,700.00	0.00	0.00	4,347.96	1,467.90	451.35	1,535.72	0.00	0.00	0.00
4,800.00	0.00	0.00	4,447.96	1,467.90	451.35	1,535.72	0.00	0.00	0.00
4,900.00	0.00	0.00	4,547.96	1,467.90	451.35	1,535.72	0.00	0.00	0.00
5,000.00	0.00	0.00	4,647.96	1,467.90	451.35	1,535.72	0.00	0.00	0.00
5,100.00	0.00	0.00	4,747.96	1,467.90	451.35	1,535.72	0.00	0.00	0.00
5,200.00	0.00	0.00	4,847.96	1,467.90	451.35	1,535.72	0.00	0.00	0.00
5,300.00	0.00	0.00	4,947.96	1,467.90	451.35	1,535.72	0.00	0.00	0.00
5,400.00	0.00	0.00	5,047.96	1,467.90	451.35	1,535.72	0.00	0.00	0.00
5,500.00	0.00	0.00	5,147.96	1,467.90	451.35	1,535.72	0.00	0.00	0.00
5,600.00	0.00	0.00	5,247.96	1,467.90	451.35	1,535.72	0.00	0.00	0.00
5,648.04	0.00	0.00	5,296.00	1,467.90	451.35	1,535.72	0.00	0.00	0.00
CME0									
5,700.00	0.00	0.00	5,347.96	1,467.90	451.35	1,535.72	0.00	0.00	0.00
5,800.00	0.00	0.00	5,447.96	1,467.90	451.35	1,535.72	0.00	0.00	0.00
5,900.00	0.00	0.00	5,547.96	1,467.90	451.35	1,535.72	0.00	0.00	0.00
6,000.00	0.00	0.00	5,647.96	1,467.90	451.35	1,535.72	0.00	0.00	0.00
6,100.00	0.00	0.00	5,747.96	1,467.90	451.35	1,535.72	0.00	0.00	0.00
6,102.04	0.00	0.00	5,750.00	1,467.90	451.35	1,535.72	0.00	0.00	0.00
RLNS									
6,200.00	0.00	0.00	5,847.96	1,467.90	451.35	1,535.72	0.00	0.00	0.00
6,234.04	0.00	0.00	5,882.00	1,467.90	451.35	1,535.72	0.00	0.00	0.00
TD at 6234.04 - TD - SG 322-22 PBHL									

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
SG 322-22 BTV - plan hits target center - Circle (radius 50.00)	0.00	0.00	4,252.00	1,467.90	451.35	1,590,396.78	2,266,165.47	39.4255940	-108.0981571
SG 322-22 PBHL - plan hits target center - Point	0.00	0.00	5,882.00	1,467.90	451.35	1,590,396.78	2,266,165.47	39.4255940	-108.0981571

Database:	Grand Junction District	Local Co-ordinate Reference:	Well SG 322-22 - Slot SG 322-22 (B3)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5665' & RKB 24' @ 5689.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 5665' & RKB 24' @ 5689.00usft
Site:	SG 23-22 Pad	North Reference:	True
Well:	SG 322-22	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 19March2018 mmsdi		

Casing Points				
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
1,000.00	970.73	9 5/8" Casing @ 1000' MD	9.62	13.50

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,525.65	1,423.00	G Sand		0.00	0.00
1,639.55	1,520.00	G Sand Base		0.00	0.00
1,940.16	1,776.00	FRUN		0.00	0.00
3,299.84	2,973.00	OCRK		0.00	0.00
3,299.84	2,973.00	MVRD		0.00	0.00
4,604.04	4,252.00	KMVGAS		0.00	0.00
5,648.04	5,296.00	CME0		0.00	0.00
6,102.04	5,750.00	RLNS		0.00	0.00
6,234.04	5,882.00	TD		0.00	0.00

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
135.00	135.00	0.00	0.00	Start Build 3.00
1,188.78	1,136.12	270.90	83.30	Start 1307.69 hold at 1188.78 MD
2,496.48	2,249.76	926.10	284.76	Start Drop -1.50
4,604.04	4,252.00	1,467.90	451.35	Start 1630.00 hold at 4604.04 MD
6,234.04	5,882.00	1,467.90	451.35	TD at 6234.04