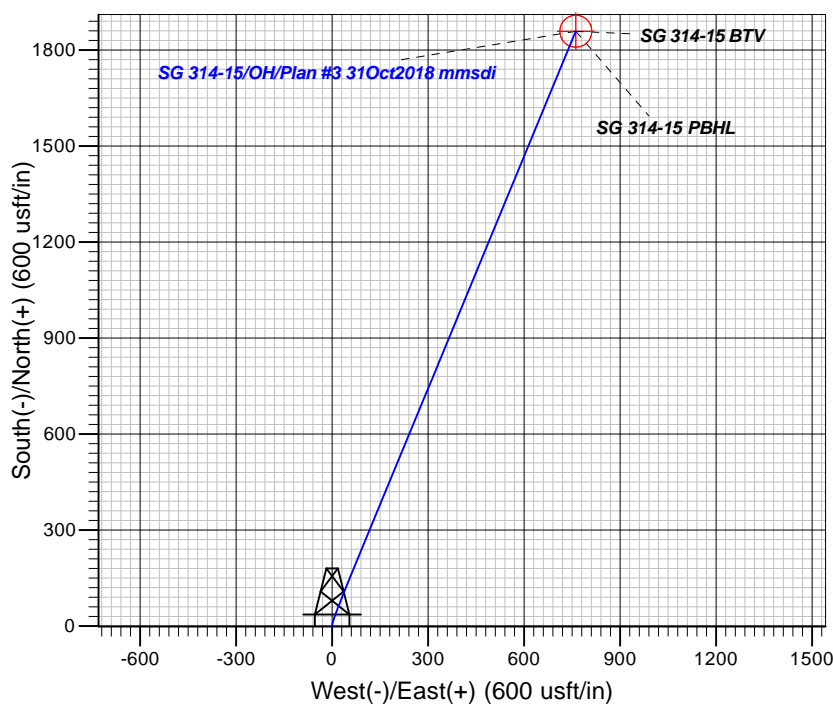




Magnetic Field
Strength: 51724.5nT
Dip Angle: 65.63°
Date: 3/9/2018
Model: HDGM

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1591247.00	2264561.40	39.4278012	-108.1039195	SG 314-15 (A2)



TVDPPath	MDPPath	Formation
1835.00	1996.40	G Sand
1935.00	2111.84	G Sand Base
2057.02	2252.70	FRUN
2874.00	3195.82	OCRK
3254.31	3634.84	MVRD
4404.00	4882.76	KMVGAS
5655.00	6136.30	CMEQ
6113.32	6594.62	RLNS

12:30, October 31 2018
Created By: Mel Mireles

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
970.93	1000.00	5/8" Casing @ 1000' MD	9.62

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	
3	205.71	3.00	9.00	205.68	2.22	0.35	3.50	9.00	2.18	
4	305.71	3.00	9.00	305.54	7.39	1.17	0.00	0.00	7.28	
5	1078.98	29.97	22.47	1040.27	209.65	79.61	3.50	14.81	224.18	
6	3884.09	29.97	22.47	3470.22	1504.72	615.14	2.00	0.001625	60	
7	4882.76	10.00	22.47	4404.00	1818.57	744.93	2.00	180.001625	60.23	
8	5382.76	0.00	0.00	4901.47	1858.79	761.56	2.00	-180.002008	75	
9	6744.62	0.00	0.00	6263.32	1888.79	761.56	2.00	0.002008	75	SG 314-15 PBH

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SG 314-15 BTV	4404.00	1858.79	761.56	1593083.20	2265375.92	39.4329044	-108.1012233	Circle (Radius: 50.00)
- plan misses target center by 42.87usft at 4890.19usft MD (4411.32 TVD, 1819.75 N, 745.42 E)								
SG 314-15 PBHL	6263.32	1858.79	761.56	1593083.20	2265375.92	39.4329044	-108.1012233	Point
- plan hits target center								



TEP Rocky Mountain LLC

Garfield County, CO NAD83

SG 11-22 Pad

SG 314-15 - Slot SG 314-15 (A2)

OH

Plan: Plan #3 31Oct2018 mmsdi

Standard Planning Report

31 October, 2018



Database:	Grand Junction District	Local Co-ordinate Reference:	Well SG 314-15 - Slot SG 314-15 (A2)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 6092.4' & RKB 24' @ 6116.40usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 6092.4' & RKB 24' @ 6116.40usft
Site:	SG 11-22 Pad	North Reference:	True
Well:	SG 314-15	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3 31Oct2018 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 11-22 Pad			
Site Position:		Northing:	1,591,239.00 usft	Latitude:	39.4277783
From:	Map	Easting:	2,264,548.70 usft	Longitude:	-108.1039637
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	-1.64 °

Well	SG 314-15 - Slot SG 314-15 (A2)					
Well Position	+N/-S	8.36 usft	Northing:	1,591,247.00 usft	Latitude:	39.4278012
	+E/-W	12.47 usft	Easting:	2,264,561.40 usft	Longitude:	-108.1039195
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	6,092.40 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	3/9/2018	9.48	65.63	51,725

Design	Plan #3 31Oct2018 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	22.28

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	
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	0.00	
205.71	3.00	9.00	205.68	2.22	0.35	3.50	3.50	0.00	9.00	
305.71	3.00	9.00	305.54	7.39	1.17	0.00	0.00	0.00	0.00	
1,078.98	29.97	22.47	1,040.27	209.65	79.61	3.50	3.49	1.74	14.81	
3,884.09	29.97	22.47	3,470.22	1,504.72	615.14	0.00	0.00	0.00	0.00	
4,882.76	10.00	22.47	4,404.00	1,818.57	744.93	2.00	-2.00	0.00	180.00	
5,382.76	0.00	0.00	4,901.47	1,858.79	761.56	2.00	-2.00	-4.49	-180.00	
6,744.62	0.00	0.00	6,263.32	1,858.79	761.56	0.00	0.00	0.00	0.00	SG 314-15 PBHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well SG 314-15 - Slot SG 314-15 (A2)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 6092.4' & RKB 24' @ 6116.40usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 6092.4' & RKB 24' @ 6116.40usft
Site:	SG 11-22 Pad	North Reference:	True
Well:	SG 314-15	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3 31Oct2018 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)
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
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 3.50									
200.00	2.80	9.00	199.97	1.93	0.31	1.90	3.50	3.50	0.00
205.71	3.00	9.00	205.68	2.22	0.35	2.18	3.50	3.50	0.00
Start 100.00 hold at 205.71 MD									
300.00	3.00	9.00	299.83	7.09	1.12	6.99	0.00	0.00	0.00
305.71	3.00	9.00	305.54	7.39	1.17	7.28	0.00	0.00	0.00
Start DLS 3.50 TFO 14.81									
400.00	6.25	16.77	399.51	14.74	3.04	14.79	3.50	3.44	8.24
500.00	9.73	19.32	498.52	27.92	7.40	28.65	3.50	3.48	2.55
600.00	13.22	20.53	596.51	46.62	14.21	48.52	3.50	3.49	1.21
700.00	16.72	21.24	693.10	70.74	23.44	74.34	3.50	3.50	0.71
800.00	20.21	21.71	787.93	100.20	35.04	106.01	3.50	3.50	0.47
900.00	23.71	22.05	880.66	134.90	48.99	143.40	3.50	3.50	0.34
1,000.00	27.21	22.30	970.93	174.70	65.22	186.39	3.50	3.50	0.25
9 5/8" Casing @ 1000' MD									
1,078.98	29.97	22.47	1,040.27	209.65	79.61	224.18	3.50	3.50	0.20
Start 2805.11 hold at 1078.98 MD									
1,100.00	29.97	22.47	1,058.49	219.35	83.63	234.68	0.00	0.00	0.00
1,200.00	29.97	22.47	1,145.11	265.52	102.72	284.64	0.00	0.00	0.00
1,300.00	29.97	22.47	1,231.74	311.69	121.81	334.60	0.00	0.00	0.00
1,400.00	29.97	22.47	1,318.36	357.86	140.90	384.56	0.00	0.00	0.00
1,500.00	29.97	22.47	1,404.99	404.03	159.99	434.52	0.00	0.00	0.00
1,600.00	29.97	22.47	1,491.61	450.20	179.08	484.48	0.00	0.00	0.00
1,700.00	29.97	22.47	1,578.24	496.36	198.17	534.44	0.00	0.00	0.00
1,800.00	29.97	22.47	1,664.86	542.53	217.26	584.40	0.00	0.00	0.00
1,900.00	29.97	22.47	1,751.49	588.70	236.36	634.36	0.00	0.00	0.00
1,996.40	29.97	22.47	1,835.00	633.21	254.76	682.52	0.00	0.00	0.00
G Sand									
2,000.00	29.97	22.47	1,838.12	634.87	255.45	684.32	0.00	0.00	0.00
2,100.00	29.97	22.47	1,924.74	681.04	274.54	734.28	0.00	0.00	0.00
2,111.84	29.97	22.47	1,935.00	686.51	276.80	740.20	0.00	0.00	0.00
G Sand Base									
2,200.00	29.97	22.47	2,011.37	727.21	293.63	784.24	0.00	0.00	0.00
2,252.70	29.97	22.47	2,057.02	751.54	303.69	810.57	0.00	0.00	0.00
FRUN									
2,300.00	29.97	22.47	2,097.99	773.37	312.72	834.20	0.00	0.00	0.00
2,400.00	29.97	22.47	2,184.62	819.54	331.81	884.16	0.00	0.00	0.00
2,500.00	29.97	22.47	2,271.24	865.71	350.90	934.12	0.00	0.00	0.00
2,600.00	29.97	22.47	2,357.87	911.88	369.99	984.08	0.00	0.00	0.00
2,700.00	29.97	22.47	2,444.50	958.05	389.09	1,034.04	0.00	0.00	0.00
2,800.00	29.97	22.47	2,531.12	1,004.22	408.18	1,084.00	0.00	0.00	0.00
2,900.00	29.97	22.47	2,617.75	1,050.39	427.27	1,133.96	0.00	0.00	0.00
3,000.00	29.97	22.47	2,704.37	1,096.55	446.36	1,183.92	0.00	0.00	0.00
3,100.00	29.97	22.47	2,791.00	1,142.72	465.45	1,233.88	0.00	0.00	0.00
3,195.82	29.97	22.47	2,874.00	1,186.96	483.74	1,281.75	0.00	0.00	0.00
OCRK									
3,200.00	29.97	22.47	2,877.62	1,188.89	484.54	1,283.84	0.00	0.00	0.00
3,300.00	29.97	22.47	2,964.25	1,235.06	503.63	1,333.80	0.00	0.00	0.00
3,400.00	29.97	22.47	3,050.87	1,281.23	522.72	1,383.76	0.00	0.00	0.00
3,500.00	29.97	22.47	3,137.50	1,327.40	541.82	1,433.72	0.00	0.00	0.00

Database:	Grand Junction District	Local Co-ordinate Reference:	Well SG 314-15 - Slot SG 314-15 (A2)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 6092.4' & RKB 24' @ 6116.40usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 6092.4' & RKB 24' @ 6116.40usft
Site:	SG 11-22 Pad	North Reference:	True
Well:	SG 314-15	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3 31Oct2018 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)
3,600.00	29.97	22.47	3,224.13	1,373.56	560.91	1,483.68	0.00	0.00	0.00
3,634.84	29.97	22.47	3,254.31	1,389.65	567.56	1,501.08	0.00	0.00	0.00
MVRD									
3,700.00	29.97	22.47	3,310.75	1,419.73	580.00	1,533.64	0.00	0.00	0.00
3,800.00	29.97	22.47	3,397.38	1,465.90	599.09	1,583.59	0.00	0.00	0.00
3,884.09	29.97	22.47	3,470.22	1,504.72	615.14	1,625.60	0.00	0.00	0.00
Start DLS 2.00 TFO 180.00									
3,900.00	29.66	22.47	3,484.02	1,512.03	618.17	1,633.52	2.00	-2.00	0.00
4,000.00	27.66	22.47	3,571.77	1,556.35	636.49	1,681.47	2.00	-2.00	0.00
4,100.00	25.66	22.47	3,661.14	1,597.80	653.63	1,726.33	2.00	-2.00	0.00
4,200.00	23.66	22.47	3,752.02	1,636.35	669.57	1,768.04	2.00	-2.00	0.00
4,300.00	21.66	22.47	3,844.30	1,671.94	684.29	1,806.56	2.00	-2.00	0.00
4,400.00	19.66	22.47	3,937.87	1,704.54	697.77	1,841.83	2.00	-2.00	0.00
4,500.00	17.66	22.47	4,032.61	1,734.10	709.99	1,873.81	2.00	-2.00	0.00
4,600.00	15.66	22.47	4,128.41	1,760.58	720.95	1,902.47	2.00	-2.00	0.00
4,700.00	13.66	22.47	4,225.15	1,783.96	730.62	1,927.77	2.00	-2.00	0.00
4,800.00	11.66	22.47	4,322.71	1,804.20	738.99	1,949.68	2.00	-2.00	0.00
4,882.76	10.00	22.47	4,404.00	1,818.57	744.93	1,965.23	2.00	-2.00	0.00
Start DLS 2.00 TFO -180.00 - KMGAS									
4,890.19	9.85	22.47	4,411.32	1,819.75	745.42	1,966.51	2.00	-2.00	0.00
SG 314-15 BTV									
4,900.00	9.66	22.47	4,420.98	1,821.29	746.05	1,968.17	2.00	-2.00	0.00
5,000.00	7.66	22.47	4,519.84	1,835.19	751.81	1,983.22	2.00	-2.00	0.00
5,100.00	5.66	22.47	4,619.16	1,845.90	756.24	1,994.81	2.00	-2.00	0.00
5,200.00	3.66	22.47	4,718.83	1,853.40	759.34	2,002.92	2.00	-2.00	0.00
5,300.00	1.66	22.47	4,818.71	1,857.68	761.11	2,007.55	2.00	-2.00	0.00
5,382.76	0.00	0.00	4,901.47	1,858.79	761.56	2,008.75	2.00	-2.00	-27.15
Start 1361.85 hold at 5382.76 MD									
5,400.00	0.00	0.00	4,918.70	1,858.79	761.56	2,008.75	0.00	0.00	0.00
5,500.00	0.00	0.00	5,018.70	1,858.79	761.56	2,008.75	0.00	0.00	0.00
5,600.00	0.00	0.00	5,118.70	1,858.79	761.56	2,008.75	0.00	0.00	0.00
5,700.00	0.00	0.00	5,218.70	1,858.79	761.56	2,008.75	0.00	0.00	0.00
5,800.00	0.00	0.00	5,318.70	1,858.79	761.56	2,008.75	0.00	0.00	0.00
5,900.00	0.00	0.00	5,418.70	1,858.79	761.56	2,008.75	0.00	0.00	0.00
6,000.00	0.00	0.00	5,518.70	1,858.79	761.56	2,008.75	0.00	0.00	0.00
6,100.00	0.00	0.00	5,618.70	1,858.79	761.56	2,008.75	0.00	0.00	0.00
6,136.30	0.00	0.00	5,655.00	1,858.79	761.56	2,008.75	0.00	0.00	0.00
CME0									
6,200.00	0.00	0.00	5,718.70	1,858.79	761.56	2,008.75	0.00	0.00	0.00
6,300.00	0.00	0.00	5,818.70	1,858.79	761.56	2,008.75	0.00	0.00	0.00
6,400.00	0.00	0.00	5,918.70	1,858.79	761.56	2,008.75	0.00	0.00	0.00
6,500.00	0.00	0.00	6,018.70	1,858.79	761.56	2,008.75	0.00	0.00	0.00
6,594.62	0.00	0.00	6,113.32	1,858.79	761.56	2,008.75	0.00	0.00	0.00
RLNS									
6,600.00	0.00	0.00	6,118.70	1,858.79	761.56	2,008.75	0.00	0.00	0.00
6,700.00	0.00	0.00	6,218.70	1,858.79	761.56	2,008.75	0.00	0.00	0.00
6,744.62	0.00	0.00	6,263.32	1,858.79	761.56	2,008.75	0.00	0.00	0.00
TD at 6744.62 - SG 314-15 PBHL									

Database:	Grand Junction District	Local Co-ordinate Reference:	Well SG 314-15 - Slot SG 314-15 (A2)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 6092.4' & RKB 24' @ 6116.40usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 6092.4' & RKB 24' @ 6116.40usft
Site:	SG 11-22 Pad	North Reference:	True
Well:	SG 314-15	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3 31Oct2018 mmsdi		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
SG 314-15 BTV	0.00	0.00	4,404.00	1,858.79	761.56	1,593,083.20	2,265,375.92	39.4329045	-108.1012233
- plan misses target center by 42.87usft at 4890.19usft MD (4411.32 TVD, 1819.75 N, 745.42 E)									
- Circle (radius 50.00)									
SG 314-15 PBHL	0.00	0.00	6,263.32	1,858.79	761.56	1,593,083.20	2,265,375.92	39.4329045	-108.1012233
- plan hits target center									
- Point									

Casing Points				
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter
(usft)	(usft)		(in)	(in)
1,000.00	970.93	9 5/8" Casing @ 1000' MD	9.62	13.50

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(usft)	(usft)			(°)	(°)
1,996.40	1,835.00	G Sand		0.00	0.00
2,111.84	1,935.00	G Sand Base		0.00	0.00
2,252.70	2,057.02	FRUN		0.00	0.00
3,195.82	2,874.00	OCRK		0.00	0.00
3,634.84	3,254.31	MVRD		0.00	0.00
4,882.76	4,404.00	KMVGAS		0.00	0.00
6,136.30	5,655.00	CME0		0.00	0.00
6,594.62	6,113.32	RLNS		0.00	0.00

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	
120.00	120.00	0.00	0.00	Start Build 3.50
205.71	205.68	2.22	0.35	Start 100.00 hold at 205.71 MD
305.71	305.54	7.39	1.17	Start DLS 3.50 TFO 14.81
1,078.98	1,040.27	209.65	79.61	Start 2805.11 hold at 1078.98 MD
3,884.09	3,470.22	1,504.72	615.14	Start DLS 2.00 TFO 180.00
4,882.76	4,404.00	1,818.57	744.93	Start DLS 2.00 TFO -180.00
5,382.76	4,901.47	1,858.79	761.56	Start 1361.85 hold at 5382.76 MD
6,744.62	6,263.32	1,858.79	761.56	TD at 6744.62