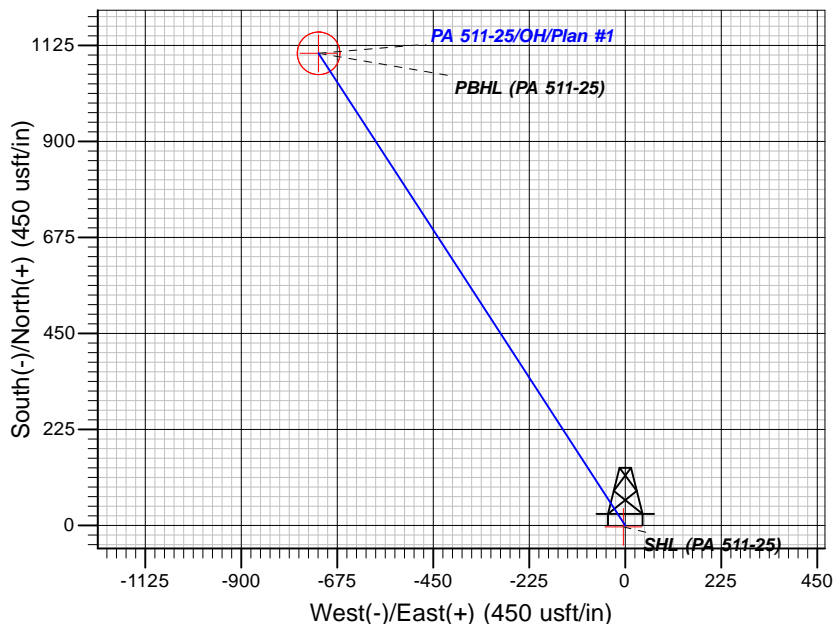


Magnetic Field  
Strength: 51743.4snT  
Dip Angle: 65.82°  
Date: 5/23/2017  
Model: HDGM



Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SHL (PA 511-25)	0.00	-3.31	-4.55	1615195.57	2308780.88	39.4969022	-107.9497186	Point
- plan misses target center by 5.63usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)								
PBHL (PA 511-25)	7978.00	1106.63	-718.73	1616324.37	2308096.88	39.4999495	-107.9522496	Circle (Radius: 50.00)
- plan hits target center.								



# **TEP Rocky Mountain LLC**

**Garfield County, CO NAD83**

**PA 22-25 Pad**

**PA 511-25 - Slot PA 511-25 (B8)**

**OH**

**Plan: Plan #1**

## **Standard Planning Report**

**04 June, 2017**



<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well PA 511-25 - Slot PA 511-25 (B8)
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	WELL @ 5248.00usft (Original Well Elev)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	WELL @ 5248.00usft (Original Well Elev)
<b>Site:</b>	PA 22-25 Pad	<b>North Reference:</b>	True
<b>Well:</b>	PA 511-25	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1		

<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>	PA 22-25 Pad			
<b>Site Position:</b>		<b>Northing:</b>	1,615,186.77 usft	<b>Latitude:</b> 39.4968742
<b>From:</b> Map		<b>Easting:</b>	2,308,728.18 usft	<b>Longitude:</b> -107.9499045
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13.20 in	<b>Grid Convergence:</b> -1.55 °

<b>Well</b>	PA 511-25 - Slot PA 511-25 (B8), B8			
<b>Well Position</b>	<b>+N/-S</b>	13.53 usft	<b>Northing:</b>	1,615,198.75 usft
	<b>+E/-W</b>	56.99 usft	<b>Easting:</b>	2,308,785.52 usft
<b>Position Uncertainty</b>		0.00 usft	<b>Wellhead Elevation:</b>	0.00 usft
			<b>Ground Level:</b>	5,224.00 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>
	HDGM	5/23/2017	9.45	65.82	51,743

<b>Design</b>	Plan #1			
<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	327.00

<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	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	
723.38	14.20	327.00	718.55	48.95	-31.79	3.00	3.00	0.00	327.00	
5,388.30	14.20	327.00	5,240.90	1,008.74	-655.15	0.00	0.00	0.00	0.00	
6,335.06	0.00	0.00	6,178.00	1,106.63	-718.73	1.50	-1.50	0.00	180.00	
8,135.06	0.00	0.00	7,978.00	1,106.63	-718.73	0.00	0.00	0.00	0.00	PBHL (PA 511-25)

<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well PA 511-25 - Slot PA 511-25 (B8)
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	WELL @ 5248.00usft (Original Well Elev)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	WELL @ 5248.00usft (Original Well Elev)
<b>Site:</b>	PA 22-25 Pad	<b>North Reference:</b>	True
<b>Well:</b>	PA 511-25	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1		

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
<b>SHL (PA 511-25)</b>									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	1.50	327.00	299.99	0.55	-0.36	0.65	3.00	3.00	0.00
400.00	4.50	327.00	399.85	4.94	-3.21	5.89	3.00	3.00	0.00
500.00	7.50	327.00	499.29	13.70	-8.90	16.34	3.00	3.00	0.00
600.00	10.50	327.00	598.04	26.82	-17.42	31.98	3.00	3.00	0.00
700.00	13.50	327.00	695.85	44.25	-28.74	52.77	3.00	3.00	0.00
723.38	14.20	327.00	718.55	48.95	-31.79	58.37	3.00	3.00	0.00
800.00	14.20	327.00	792.83	64.71	-42.03	77.16	0.00	0.00	0.00
900.00	14.20	327.00	889.77	85.29	-55.39	101.70	0.00	0.00	0.00
1,000.00	14.20	327.00	986.71	105.86	-68.75	126.23	0.00	0.00	0.00
1,100.00	14.20	327.00	1,083.66	126.44	-82.12	150.76	0.00	0.00	0.00
<b>9 5/8" @ 1100' MD</b>									
1,200.00	14.20	327.00	1,180.60	147.01	-95.48	175.30	0.00	0.00	0.00
1,300.00	14.20	327.00	1,277.55	167.59	-108.84	199.83	0.00	0.00	0.00
1,400.00	14.20	327.00	1,374.49	188.16	-122.21	224.36	0.00	0.00	0.00
1,500.00	14.20	327.00	1,471.43	208.73	-135.57	248.90	0.00	0.00	0.00
1,600.00	14.20	327.00	1,568.38	229.31	-148.93	273.43	0.00	0.00	0.00
1,700.00	14.20	327.00	1,665.32	249.88	-162.29	297.96	0.00	0.00	0.00
1,800.00	14.20	327.00	1,762.27	270.46	-175.66	322.50	0.00	0.00	0.00
1,900.00	14.20	327.00	1,859.21	291.03	-189.02	347.03	0.00	0.00	0.00
2,000.00	14.20	327.00	1,956.15	311.61	-202.38	371.56	0.00	0.00	0.00
2,100.00	14.20	327.00	2,053.10	332.18	-215.74	396.09	0.00	0.00	0.00
2,200.00	14.20	327.00	2,150.04	352.76	-229.11	420.63	0.00	0.00	0.00
2,300.00	14.20	327.00	2,246.99	373.33	-242.47	445.16	0.00	0.00	0.00
2,400.00	14.20	327.00	2,343.93	393.91	-255.83	469.69	0.00	0.00	0.00
2,500.00	14.20	327.00	2,440.87	414.48	-269.20	494.23	0.00	0.00	0.00
2,600.00	14.20	327.00	2,537.82	435.06	-282.56	518.76	0.00	0.00	0.00
2,700.00	14.20	327.00	2,634.76	455.63	-295.92	543.29	0.00	0.00	0.00
2,800.00	14.20	327.00	2,731.70	476.20	-309.28	567.83	0.00	0.00	0.00
2,900.00	14.20	327.00	2,828.65	496.78	-322.65	592.36	0.00	0.00	0.00
3,000.00	14.20	327.00	2,925.59	517.35	-336.01	616.89	0.00	0.00	0.00
3,100.00	14.20	327.00	3,022.54	537.93	-349.37	641.43	0.00	0.00	0.00
3,200.00	14.20	327.00	3,119.48	558.50	-362.73	665.96	0.00	0.00	0.00
3,300.00	14.20	327.00	3,216.42	579.08	-376.10	690.49	0.00	0.00	0.00
3,400.00	14.20	327.00	3,313.37	599.65	-389.46	715.02	0.00	0.00	0.00
3,500.00	14.20	327.00	3,410.31	620.23	-402.82	739.56	0.00	0.00	0.00
3,600.00	14.20	327.00	3,507.26	640.80	-416.18	764.09	0.00	0.00	0.00
3,700.00	14.20	327.00	3,604.20	661.38	-429.55	788.62	0.00	0.00	0.00
3,800.00	14.20	327.00	3,701.14	681.95	-442.91	813.16	0.00	0.00	0.00
3,900.00	14.20	327.00	3,798.09	702.52	-456.27	837.69	0.00	0.00	0.00
4,000.00	14.20	327.00	3,895.03	723.10	-469.64	862.22	0.00	0.00	0.00
4,100.00	14.20	327.00	3,991.98	743.67	-483.00	886.76	0.00	0.00	0.00
4,200.00	14.20	327.00	4,088.92	764.25	-496.36	911.29	0.00	0.00	0.00
4,300.00	14.20	327.00	4,185.86	784.82	-509.72	935.82	0.00	0.00	0.00
4,400.00	14.20	327.00	4,282.81	805.40	-523.09	960.36	0.00	0.00	0.00
4,420.83	14.20	327.00	4,303.00	809.68	-525.87	965.47	0.00	0.00	0.00
<b>Ohio Creek</b>									
4,498.19	14.20	327.00	4,378.00	825.60	-536.21	984.45	0.00	0.00	0.00
<b>Upper MVRD</b>									
4,500.00	14.20	327.00	4,379.75	825.97	-536.45	984.89	0.00	0.00	0.00

<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well PA 511-25 - Slot PA 511-25 (B8)
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	WELL @ 5248.00usft (Original Well Elev)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	WELL @ 5248.00usft (Original Well Elev)
<b>Site:</b>	PA 22-25 Pad	<b>North Reference:</b>	True
<b>Well:</b>	PA 511-25	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1		

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)
4,580.40	14.20	327.00	4,457.70	842.51	-547.19	1,004.62	0.00	0.00	0.00
<b>PA 511-25 MVRD</b>									
4,600.00	14.20	327.00	4,476.70	846.55	-549.81	1,009.42	0.00	0.00	0.00
4,700.00	14.20	327.00	4,573.64	867.12	-563.17	1,033.96	0.00	0.00	0.00
4,800.00	14.20	327.00	4,670.58	887.70	-576.54	1,058.49	0.00	0.00	0.00
4,900.00	14.20	327.00	4,767.53	908.27	-589.90	1,083.02	0.00	0.00	0.00
5,000.00	14.20	327.00	4,864.47	928.84	-603.26	1,107.55	0.00	0.00	0.00
5,100.00	14.20	327.00	4,961.42	949.42	-616.62	1,132.09	0.00	0.00	0.00
5,200.00	14.20	327.00	5,058.36	969.99	-629.99	1,156.62	0.00	0.00	0.00
5,300.00	14.20	327.00	5,155.30	990.57	-643.35	1,181.15	0.00	0.00	0.00
5,388.30	14.20	327.00	5,240.90	1,008.74	-655.15	1,202.82	0.00	0.00	0.00
5,400.00	14.03	327.00	5,252.25	1,011.13	-656.70	1,205.67	1.50	-1.50	0.00
5,500.00	12.53	327.00	5,349.58	1,030.39	-669.21	1,228.63	1.50	-1.50	0.00
5,600.00	11.03	327.00	5,447.47	1,047.50	-680.33	1,249.04	1.50	-1.50	0.00
5,681.88	9.80	327.00	5,528.00	1,059.91	-688.39	1,263.84	1.50	-1.50	0.00
<b>Top of Gas</b>									
5,700.00	9.53	327.00	5,545.86	1,062.46	-690.04	1,266.88	1.50	-1.50	0.00
5,800.00	8.03	327.00	5,644.69	1,075.26	-698.35	1,282.14	1.50	-1.50	0.00
5,900.00	6.53	327.00	5,743.88	1,085.88	-705.25	1,294.80	1.50	-1.50	0.00
6,000.00	5.03	327.00	5,843.37	1,094.32	-710.73	1,304.86	1.50	-1.50	0.00
6,100.00	3.53	327.00	5,943.09	1,100.57	-714.79	1,312.32	1.50	-1.50	0.00
6,200.00	2.03	327.00	6,042.97	1,104.63	-717.43	1,317.16	1.50	-1.50	0.00
6,300.00	0.53	327.00	6,142.94	1,106.50	-718.64	1,319.39	1.50	-1.50	0.00
6,335.06	0.00	0.00	6,178.00	1,106.63	-718.73	1,319.55	1.50	-1.50	0.00
6,400.00	0.00	0.00	6,242.94	1,106.63	-718.73	1,319.55	0.00	0.00	0.00
6,500.00	0.00	0.00	6,342.94	1,106.63	-718.73	1,319.55	0.00	0.00	0.00
6,600.00	0.00	0.00	6,442.94	1,106.63	-718.73	1,319.55	0.00	0.00	0.00
6,700.00	0.00	0.00	6,542.94	1,106.63	-718.73	1,319.55	0.00	0.00	0.00
6,800.00	0.00	0.00	6,642.94	1,106.63	-718.73	1,319.55	0.00	0.00	0.00
6,900.00	0.00	0.00	6,742.94	1,106.63	-718.73	1,319.55	0.00	0.00	0.00
6,985.06	0.00	0.00	6,828.00	1,106.63	-718.73	1,319.55	0.00	0.00	0.00
<b>Cameo</b>									
7,000.00	0.00	0.00	6,842.94	1,106.63	-718.73	1,319.55	0.00	0.00	0.00
7,100.00	0.00	0.00	6,942.94	1,106.63	-718.73	1,319.55	0.00	0.00	0.00
7,200.00	0.00	0.00	7,042.94	1,106.63	-718.73	1,319.55	0.00	0.00	0.00
7,300.00	0.00	0.00	7,142.94	1,106.63	-718.73	1,319.55	0.00	0.00	0.00
7,400.00	0.00	0.00	7,242.94	1,106.63	-718.73	1,319.55	0.00	0.00	0.00
7,500.00	0.00	0.00	7,342.94	1,106.63	-718.73	1,319.55	0.00	0.00	0.00
7,600.00	0.00	0.00	7,442.94	1,106.63	-718.73	1,319.55	0.00	0.00	0.00
7,700.00	0.00	0.00	7,542.94	1,106.63	-718.73	1,319.55	0.00	0.00	0.00
7,800.00	0.00	0.00	7,642.94	1,106.63	-718.73	1,319.55	0.00	0.00	0.00
7,900.00	0.00	0.00	7,742.94	1,106.63	-718.73	1,319.55	0.00	0.00	0.00
7,985.06	0.00	0.00	7,828.00	1,106.63	-718.73	1,319.55	0.00	0.00	0.00
<b>RLNS</b>									
8,000.00	0.00	0.00	7,842.94	1,106.63	-718.73	1,319.55	0.00	0.00	0.00
8,100.00	0.00	0.00	7,942.94	1,106.63	-718.73	1,319.55	0.00	0.00	0.00
8,135.06	0.00	0.00	7,978.00	1,106.63	-718.73	1,319.55	0.00	0.00	0.00
<b>PA 511-25 PBHL - PBHL (PA 511-25)</b>									

<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well PA 511-25 - Slot PA 511-25 (B8)
<b>Company:</b>	TEP Rocky Mountain LLC	<b>TVD Reference:</b>	WELL @ 5248.00usft (Original Well Elev)
<b>Project:</b>	Garfield County, CO NAD83	<b>MD Reference:</b>	WELL @ 5248.00usft (Original Well Elev)
<b>Site:</b>	PA 22-25 Pad	<b>North Reference:</b>	True
<b>Well:</b>	PA 511-25	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1		

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									
SHL (PA 511-25)	0.00	0.00	0.00	-3.31	-4.55	1,615,195.57	2,308,780.88	39.4969022	-107.9497187
- plan misses target center by 5.63usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
PBHL (PA 511-25)	0.00	0.00	7,978.00	1,106.63	-718.73	1,616,324.36	2,308,096.89	39.4999495	-107.9522496
- plan hits target center									
- Circle (radius 50.00)									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,100.00	1,083.66	9 5/8" @ 1100' MD	9.62	13.50	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
4,420.83	4,303.00	Ohio Creek		0.00		
4,498.19	4,378.00	Upper MVRD		0.00		
5,681.88	5,528.00	Top of Gas		0.00		
6,985.06	6,828.00	Cameo		0.00		
7,985.06	7,828.00	RLNS		0.00		