



7327 West Barton Road  
Casper, WY 82604  
(307)-472-6621 Fax (307) 472-5439

## Survey Certification

<b>Operator</b>	TEP Rocky Mountain LLC
<b>Well Name &amp; No.</b>	SG 412-22
<b>API #</b>	05-045-24006-00-00
<b>County &amp; State</b>	Garfield County, CO
<b>SDI Job #</b>	OP.024547
<b>Rig</b>	H&P 318
<b>Survey Date</b>	27-Mar-2020

I, Seth M. Burstad, having personal knowledge of all the facts, hereby certify that the attached directional survey run from a measured depth of 0 feet to a measured depth of 6274 feet is true and correct as determined from all available records.

*Seth M. Burstad*

Signature

28-Mar-2020

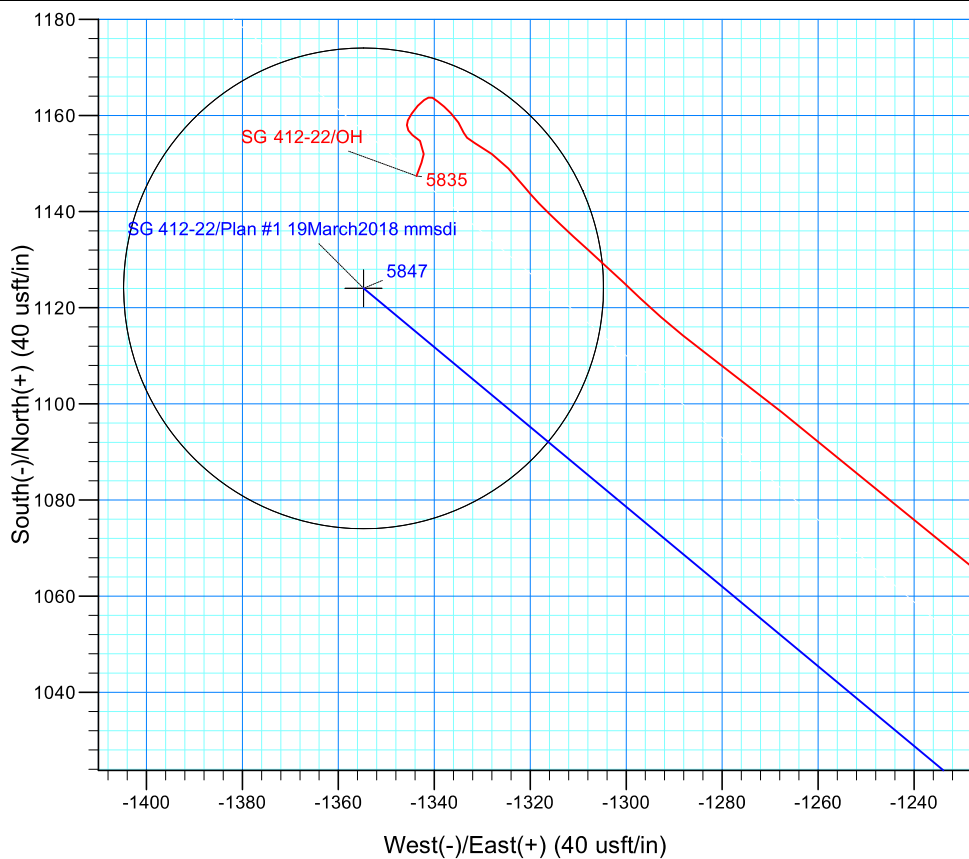
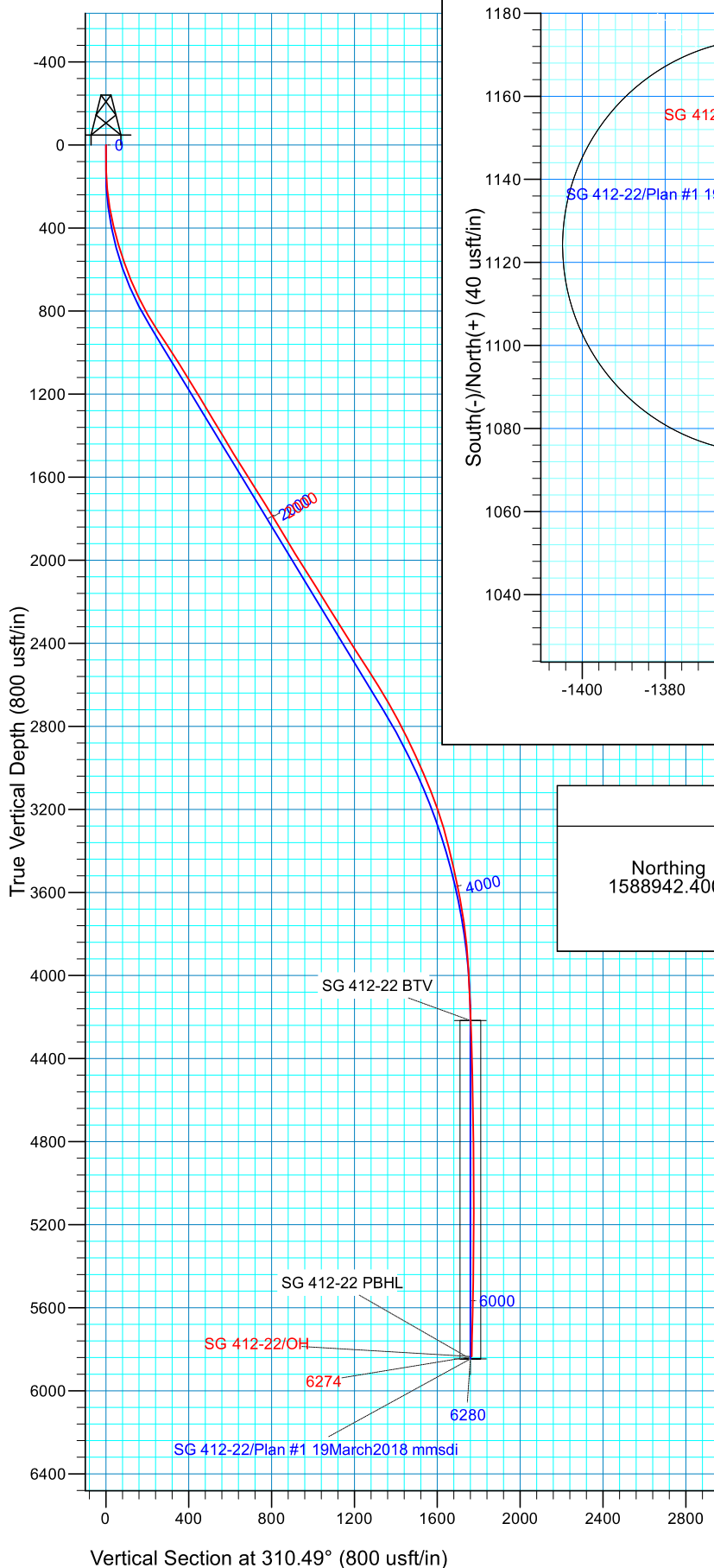
Date

### Seth M. Burstad

Rockies Region Well Planner  
Scientific Drilling - Rocky Mountain District



Project: Garfield County, CO NAD83  
Site: SG 23-22 Pad  
Well: SG 412-22  
Wellbore: OH  
Design: OH



#### WELL DETAILS: SG 412-22

GL 5665' & RKB 24' @ 5689.00usft5665.00  
Northing Easting Latitude Longitude  
1588942.40002265662.3000 39.4215630 -108.0997903

#### PROJECT DETAILS: Garfield County, CO NAD83

Geodetic System: US State Plane 1983  
Datum: North American Datum 1983  
Ellipsoid: GRS 1980  
Zone: Colorado Central Zone

#### REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well SG 412-22 - Slot SG 412-22 (A3), True North  
Vertical (TVD) Reference: GL 5665' & RKB 24' @ 5689.00usft  
Section (VS) Reference: Slot - SG 412-22 (A3)(0.00N, 0.00E)  
Measured Depth Reference: GL 5665' & RKB 24' @ 5689.00usft  
Calculation Method: Minimum Curvature  
Local North: True  
Location:

# **TEP Rocky Mountain LLC**

Garfield County, CO NAD83

SG 23-22 Pad

SG 412-22 - Slot SG 412-22 (A3)

OH

Design: OH

## **Standard Survey Report**

28 March, 2020



# Scientific Drilling, Intl

## Survey Report

<b>Company:</b>	TEP Rocky Mountain LLC	<b>Local Co-ordinate Reference:</b>	Well SG 412-22 - Slot SG 412-22 (A3)
<b>Project:</b>	Garfield County, CO NAD83	<b>TVD Reference:</b>	GL 5665' & RKB 24' @ 5689.00usft
<b>Site:</b>	SG 23-22 Pad	<b>MD Reference:</b>	GL 5665' & RKB 24' @ 5689.00usft
<b>Well:</b>	SG 412-22	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Grand Junction

<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		

Site		SG 23-22 Pad			
Site Position:		Northing:	1,588,957.4000 usft	Latitude:	39.4216042
From:	Map	Easting:	2,265,662.2000 usft	Longitude:	-108.0997922
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	-1.64 °

Well	SG 412-22 - Slot SG 412-22 (A3)					
Well Position	+N/-S	0.00 usft	Northing:	1,588,942.4000 usft	Latitude:	39.4215631
	+E/-W	0.00 usft	Easting:	2,265,662.3000 usft	Longitude:	-108.0997903
Position Uncertainty	0.00 usft		Wellhead Elevation:	0.00 usft	Ground Level:	5,665.00 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	3/19/2018	9.47	65.62	51,729.10000000

<b>Design</b>	OH				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<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	310.49	

<b>Survey Program</b>	<b>Date</b>	3/28/2020			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
122.00	950.00	Survey #1 - Surface Gyro Survey (OH)	Gyro MWD 105	Gyro MWD Error Model Ver 1.0.5	
1,075.00	6,274.00	Survey #2 - Production MWD Survey (OH)	MWD+HDGM	OWSG MWD + HDGM	

<b>Survey</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Vertical Section (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
122.00	1.50	312.89	121.99	1.09	-1.17	1.60	1.23	1.23	0.00	
<b>First SDI Gyro Surface Survey</b>										
213.00	5.37	308.50	212.80	4.55	-5.38	7.04	4.26	4.25	-4.82	
304.00	9.68	303.31	303.00	11.41	-15.11	18.90	4.79	4.74	-5.70	
395.00	13.28	305.77	392.17	21.72	-29.99	36.91	3.99	3.96	2.70	
486.00	16.98	304.98	480.00	35.45	-49.36	60.56	4.07	4.07	-0.87	
576.00	18.91	311.31	565.62	52.62	-71.09	88.23	3.05	2.14	7.03	
667.00	22.61	312.45	650.70	74.16	-95.08	120.47	4.09	4.07	1.25	
761.00	26.22	312.10	736.28	100.29	-123.83	159.29	3.84	3.84	-0.37	

# Scientific Drilling, Intl

## Survey Report

<b>Company:</b>	TEP Rocky Mountain LLC	<b>Local Co-ordinate Reference:</b>	Well SG 412-22 - Slot SG 412-22 (A3)
<b>Project:</b>	Garfield County, CO NAD83	<b>TVD Reference:</b>	GL 5665' & RKB 24' @ 5689.00usft
<b>Site:</b>	SG 23-22 Pad	<b>MD Reference:</b>	GL 5665' & RKB 24' @ 5689.00usft
<b>Well:</b>	SG 412-22	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Grand Junction

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)	
856.00	29.82	311.31	820.13	129.96	-157.15	203.91	3.81	3.79	-0.83	
950.00	32.90	309.20	900.39	161.54	-194.50	252.81	3.48	3.28	-2.24	
Last SDI Gyro Surface Survey										
1,075.00	33.63	309.00	1,004.91	204.78	-247.71	321.35	0.59	0.58	-0.16	
First SDI MWD Production Survey										
1,170.00	32.35	307.41	1,084.59	236.77	-288.35	373.04	1.63	-1.35	-1.67	
1,264.00	30.98	305.57	1,164.60	266.13	-328.01	422.26	1.78	-1.46	-1.96	
1,358.00	30.69	307.69	1,245.31	294.87	-366.67	470.32	1.20	-0.31	2.26	
1,453.00	31.83	311.70	1,326.53	326.36	-404.56	519.59	2.50	1.20	4.22	
1,547.00	31.12	315.72	1,406.71	360.24	-440.03	568.57	2.36	-0.76	4.28	
1,642.00	31.30	316.43	1,487.96	395.70	-474.18	617.56	0.43	0.19	0.75	
1,736.00	32.86	317.29	1,567.60	432.13	-508.31	667.17	1.73	1.66	0.91	
1,830.00	31.38	315.49	1,647.21	468.33	-542.77	716.88	1.87	-1.57	-1.91	
1,924.00	32.89	316.69	1,726.81	504.35	-577.44	766.64	1.74	1.61	1.28	
2,019.00	30.91	314.21	1,807.46	540.14	-612.62	816.63	2.50	-2.08	-2.61	
2,113.00	31.57	312.93	1,887.83	573.74	-647.95	865.31	1.00	0.70	-1.36	
2,208.00	30.49	309.20	1,969.25	605.91	-684.84	914.26	2.32	-1.14	-3.93	
2,301.00	33.06	311.83	2,048.30	637.75	-722.03	963.22	3.14	2.76	2.83	
2,396.00	32.53	310.46	2,128.16	671.60	-760.77	1,014.67	0.96	-0.56	-1.44	
2,490.00	31.43	310.18	2,207.90	703.82	-798.73	1,064.45	1.18	-1.17	-0.30	
2,585.00	30.63	309.92	2,289.30	735.33	-836.21	1,113.42	0.85	-0.84	-0.27	
2,679.00	33.37	311.78	2,369.01	767.93	-873.86	1,163.22	3.10	2.91	1.98	
2,774.00	33.04	312.01	2,448.50	802.67	-912.59	1,215.23	0.37	-0.35	0.24	
2,869.00	32.40	312.05	2,528.43	837.05	-950.73	1,266.56	0.67	-0.67	0.04	
2,963.00	32.19	312.22	2,607.88	870.74	-987.98	1,316.76	0.24	-0.22	0.18	
3,057.00	30.30	310.78	2,688.25	903.06	-1,024.48	1,365.51	2.16	-2.01	-1.53	
3,151.00	27.87	309.15	2,770.39	932.42	-1,059.48	1,411.19	2.72	-2.59	-1.73	
3,246.00	25.99	308.53	2,855.08	959.41	-1,092.99	1,454.20	2.00	-1.98	-0.65	
3,340.00	24.76	307.97	2,940.01	984.35	-1,124.62	1,494.45	1.33	-1.31	-0.60	
3,435.00	23.70	308.10	3,026.64	1,008.37	-1,155.33	1,533.40	1.12	-1.12	0.14	
3,529.00	21.40	307.96	3,113.45	1,030.58	-1,183.72	1,569.41	2.45	-2.45	-0.15	
3,624.00	19.53	309.29	3,202.45	1,051.30	-1,209.67	1,602.61	2.03	-1.97	1.40	
3,718.00	16.25	308.76	3,291.89	1,069.49	-1,232.10	1,631.47	3.49	-3.49	-0.56	
3,813.00	13.61	309.44	3,383.68	1,084.91	-1,251.10	1,655.93	2.79	-2.78	0.72	
3,907.00	12.37	308.74	3,475.27	1,098.24	-1,267.49	1,677.06	1.33	-1.32	-0.74	
4,002.00	11.80	306.71	3,568.17	1,110.41	-1,283.22	1,696.92	0.75	-0.60	-2.14	
4,096.00	10.16	313.53	3,660.45	1,121.87	-1,296.93	1,714.79	2.22	-1.74	7.26	
4,190.00	8.04	311.95	3,753.26	1,131.98	-1,307.83	1,729.64	2.27	-2.26	-1.68	
4,284.00	5.73	314.29	3,846.57	1,139.65	-1,316.08	1,740.90	2.47	-2.46	2.49	
4,379.00	3.35	321.80	3,941.27	1,145.14	-1,321.20	1,748.35	2.58	-2.51	7.91	
4,473.00	2.87	315.30	4,035.13	1,148.97	-1,324.55	1,753.39	0.63	-0.51	-6.91	
4,568.00	2.65	306.64	4,130.02	1,151.98	-1,327.98	1,757.95	0.50	-0.23	-9.12	
4,662.00	2.63	299.02	4,223.92	1,154.32	-1,331.61	1,762.24	0.37	-0.02	-8.11	

# Scientific Drilling, Intl

## Survey Report

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<b>Project:</b>	Garfield County, CO NAD83	<b>TVD Reference:</b>	GL 5665' & RKB 24' @ 5689.00usft
<b>Site:</b>	SG 23-22 Pad	<b>MD Reference:</b>	GL 5665' & RKB 24' @ 5689.00usft
<b>Well:</b>	SG 412-22	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Grand Junction

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)
4,757.00	1.33	342.00	4,318.87	1,156.42	-1,333.86	1,765.31	1.99	-1.37	45.24
4,850.00	1.64	326.03	4,411.84	1,158.55	-1,334.94	1,767.51	0.55	0.33	-17.17
4,945.00	1.35	315.26	4,506.81	1,160.48	-1,336.49	1,769.94	0.42	-0.31	-11.34
5,039.00	1.09	310.39	4,600.78	1,161.84	-1,337.95	1,771.94	0.30	-0.28	-5.18
5,134.00	1.00	308.45	4,695.77	1,162.94	-1,339.28	1,773.67	0.10	-0.09	-2.04
5,228.00	0.59	298.29	4,789.76	1,163.68	-1,340.35	1,774.96	0.46	-0.44	-10.81
5,323.00	0.50	246.14	4,884.76	1,163.75	-1,341.16	1,775.62	0.51	-0.09	-54.89
5,417.00	0.82	235.50	4,978.75	1,163.20	-1,342.09	1,775.97	0.36	0.34	-11.32
5,512.00	1.32	223.33	5,073.73	1,162.02	-1,343.40	1,776.20	0.58	0.53	-12.81
5,606.00	1.21	213.49	5,167.71	1,160.40	-1,344.69	1,776.13	0.26	-0.12	-10.47
5,701.00	0.72	206.57	5,262.70	1,159.03	-1,345.51	1,775.87	0.53	-0.52	-7.28
5,795.00	0.62	171.50	5,356.69	1,158.00	-1,345.70	1,775.34	0.44	-0.11	-37.31
5,890.00	0.76	157.06	5,451.68	1,156.91	-1,345.38	1,774.39	0.23	0.15	-15.20
5,983.00	0.89	122.41	5,544.67	1,155.96	-1,344.53	1,773.12	0.54	0.14	-37.26
6,077.00	1.57	131.65	5,638.65	1,154.71	-1,342.95	1,771.11	0.75	0.72	9.83
6,172.00	2.29	186.37	5,733.60	1,151.96	-1,342.19	1,768.75	1.98	0.76	57.60
6,214.00	2.81	200.78	5,775.56	1,150.16	-1,342.65	1,767.93	1.96	1.24	34.31
Last SDI MWD PProduction Survey									
6,274.00	2.81	200.78	5,835.49	1,147.41	-1,343.69	1,766.94	0.00	0.00	0.00
Projection to TD									

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
122.00	121.99	1.09	-1.17	First SDI Gyro Surface Survey
950.00	900.39	161.54	-194.50	Last SDI Gyro Surface Survey
1,075.00	1,004.91	204.78	-247.71	First SDI MWD Production Survey
6,214.00	5,775.56	1,150.16	-1,342.65	Last SDI MWD PProduction Survey
6,274.00	5,835.49	1,147.41	-1,343.69	Projection to TD

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_