



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

Survey Certification

Operator	TEP Rocky Mountain LLC
Well Name & No.	PA 333-13
API #	05-045-24210
County & State	Garfield County, CO
SDI Job #	OP.025695
Rig	H&P 318
Survey Date	11-Jul-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 9989 feet is true and correct as determined from all available records.

Seth Burstad

Signature

12-Jul-2020

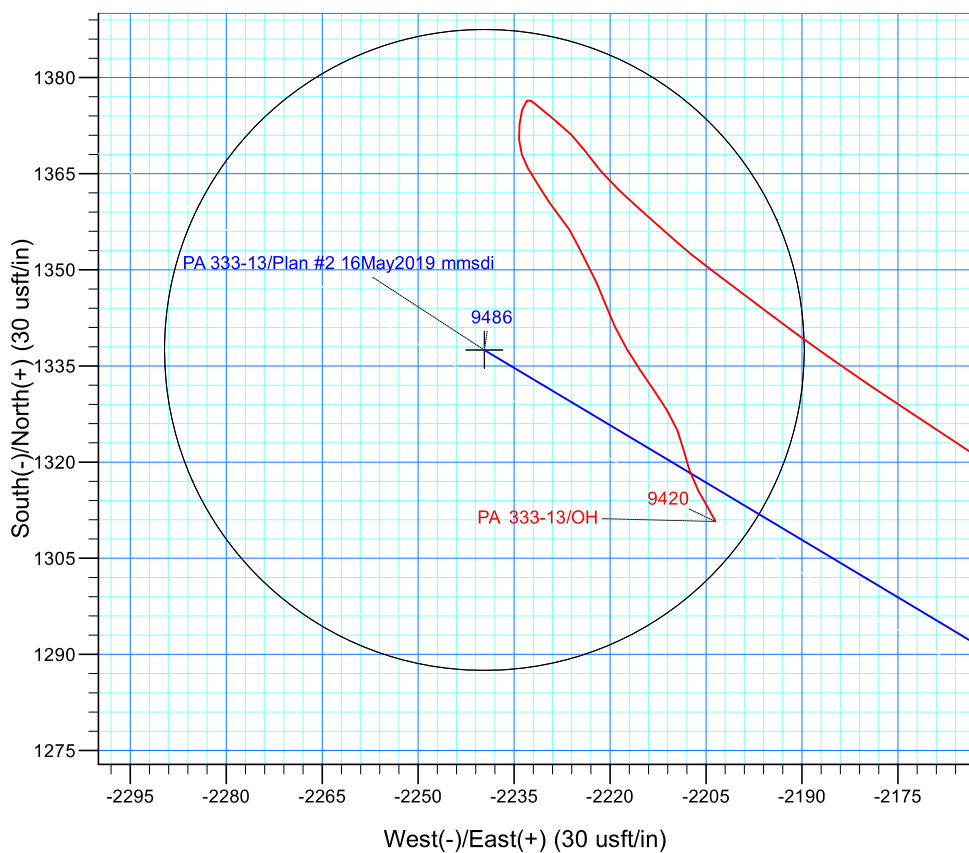
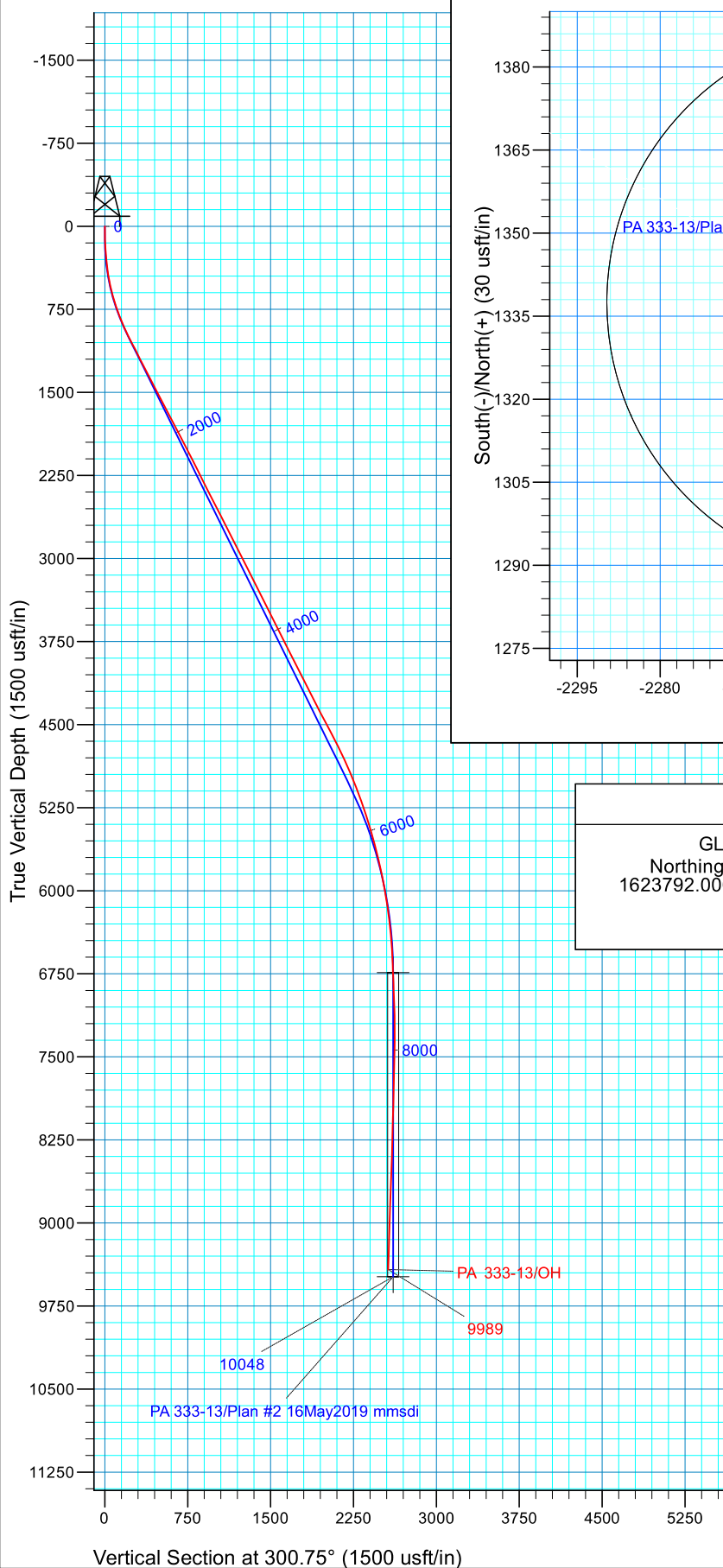
Date

Seth M. Burstad

Rockies Region Well Planner
Scientific Drilling - Rocky Mountain District



Project: Garfield County, CO NAD83
 Site: PA 44-13 Pad
 Well: PA 333-13
 Wellbore: OH
 Design: OH



WELL DETAILS: PA 333-13

GL 6571.1 & RKB 24' @ 6595.10usft (H&P 318)
 Northing Easting Latitude Longitude
 1623792.0000 2311239.4000 39.5206763 -107.9418284

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 PA 333-13 - Slot PA 333-13 (A8), True North
 Vertical (TVD) Reference: GL 6571.1 & RKB 24' @ 6595.10usft (H&P 318)
 Section (VS) Reference: Slot - PA 333-13 (A8)(0.00N, 0.00E)
 Measured Depth Reference: GL 6571.1 & RKB 24' @ 6595.10usft (H&P 318)
 Calculation Method: Minimum Curvature
 Local North: True
 Location:



TEP Rocky Mountain LLC

Garfield County, CO NAD83

PA 44-13 Pad

PA 333-13 - Slot PA 333-13 (A8)

OH

Design: OH

Standard Survey Report

12 July, 2020



Company:	TEP Rocky Mountain LLC	Local Co-ordinate Reference:	Well PA 333-13 - Slot PA 333-13 (A8)
Project:	Garfield County, CO NAD83	TVD Reference:	GL 6571.1 & RKB 24' @ 6595.10usft (H&P 318)
Site:	PA 44-13 Pad	MD Reference:	GL 6571.1 & RKB 24' @ 6595.10usft (H&P 318)
Well:	PA 333-13	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Grand Junction

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		PA 44-13 Pad			
Site Position:		Northing:	1,623,813.7000 usft	Latitude:	39.5207354
From:	Map	Easting:	2,311,233.5000 usft	Longitude:	-107.9418514
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	-1.54 °

Well	PA 333-13 - Slot PA 333-13 (A8)					
Well Position	+N/-S	0.00 usft	Northing:	1,623,792.0000 usft	Latitude:	39.5206763
	+E/-W	0.00 usft	Easting:	2,311,239.4000 usft	Longitude:	-107.9418285
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	6,571.10 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM_FILE	5/2/2019	9.33	65.75	51,492.50000000

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	300.75	

Survey Program	Date	7/12/2020			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
123.00	1,043.00	Survey #1 - Surface GWMD (OH)	Gyro MWD 105	Gyro MWD Error Model Ver 1.0.5	
1,073.00	1,073.00	Survey #2 - Surface MWD (OH)	MWD+HDGM	OWSG MWD + HDGM	
1,163.00	9,989.00	Survey #3 - Production (OH)	MWD+HDGM	OWSG MWD + HDGM	

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	
123.00	0.97	292.94	122.99	0.41	-0.96	1.03	0.79	0.79	0.00	
First SDI GMWD Surface Survey										
214.00	4.13	293.99	213.89	2.04	-4.66	5.05	3.47	3.47	1.15	
304.00	5.45	302.78	303.58	5.67	-11.22	12.54	1.67	1.47	9.77	
394.00	8.18	296.81	392.93	10.87	-20.53	23.20	3.13	3.03	-6.63	
486.00	10.56	298.74	483.70	17.88	-33.76	38.16	2.61	2.59	2.10	
576.00	13.55	299.71	571.71	27.07	-50.15	56.95	3.33	3.32	1.08	
666.00	16.54	297.77	658.61	38.27	-70.65	80.29	3.37	3.32	-2.16	

Company:	TEP Rocky Mountain LLC	Local Co-ordinate Reference:	Well PA 333-13 - Slot PA 333-13 (A8)
Project:	Garfield County, CO NAD83	TVD Reference:	GL 6571.1 & RKB 24' @ 6595.10usft (H&P 318)
Site:	PA 44-13 Pad	MD Reference:	GL 6571.1 & RKB 24' @ 6595.10usft (H&P 318)
Well:	PA 333-13	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	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)
760.00	19.27	299.00	748.05	52.03	-96.06	109.16	2.93	2.90	1.31
854.00	21.82	296.37	836.07	67.31	-125.29	142.09	2.88	2.71	-2.80
949.00	24.55	297.42	923.39	84.24	-158.63	179.40	2.91	2.87	1.11
1,043.00	26.83	299.09	1,008.09	103.55	-194.51	220.10	2.54	2.43	1.78
Last SDI GMWD Surface Survey									
1,073.00	27.26	301.35	1,034.81	110.42	-206.29	233.74	3.71	1.43	7.53
First/Last SDI MWD Surface Survey									
1,163.00	27.60	300.96	1,114.69	131.87	-241.77	275.20	0.43	0.38	-0.43
First SDI MWD Production Survey									
1,257.00	26.81	301.25	1,198.29	154.07	-278.57	318.17	0.85	-0.84	0.31
1,351.00	26.94	299.96	1,282.14	175.70	-315.14	360.66	0.64	0.14	-1.37
1,446.00	27.73	300.40	1,366.53	197.63	-352.85	404.28	0.86	0.83	0.46
1,540.00	27.47	299.88	1,449.84	219.50	-390.51	447.83	0.38	-0.28	-0.55
1,634.00	28.28	300.39	1,532.93	241.56	-428.51	491.78	0.90	0.86	0.54
1,728.00	27.77	299.93	1,615.91	263.75	-466.70	535.94	0.59	-0.54	-0.49
1,822.00	27.41	299.59	1,699.22	285.36	-504.49	579.47	0.42	-0.38	-0.36
1,917.00	27.81	300.92	1,783.40	307.55	-542.52	623.49	0.77	0.42	1.40
2,011.00	27.28	299.75	1,866.74	329.51	-580.03	666.96	0.81	-0.56	-1.24
2,105.00	26.96	300.46	1,950.41	351.00	-617.10	709.81	0.48	-0.34	0.76
2,200.00	26.82	300.75	2,035.14	372.87	-654.09	752.77	0.20	-0.15	0.31
2,294.00	27.95	302.83	2,118.60	395.66	-690.82	796.00	1.57	1.20	2.21
2,389.00	27.12	301.24	2,202.84	418.96	-728.05	839.90	1.17	-0.87	-1.67
2,483.00	26.28	300.08	2,286.82	440.50	-764.37	882.13	1.05	-0.89	-1.23
2,577.00	27.17	302.66	2,370.78	462.51	-800.45	924.39	1.56	0.95	2.74
2,670.00	25.80	301.94	2,454.02	484.68	-835.50	965.85	1.51	-1.47	-0.77
2,765.00	26.56	304.05	2,539.27	507.51	-870.64	1,007.72	1.26	0.80	2.22
2,859.00	27.93	303.36	2,622.84	531.38	-906.44	1,050.70	1.50	1.46	-0.73
2,954.00	26.78	302.51	2,707.22	555.12	-943.08	1,094.32	1.28	-1.21	-0.89
3,048.00	27.87	303.24	2,790.73	578.55	-979.31	1,137.43	1.21	1.16	0.78
3,142.00	27.04	301.88	2,874.14	601.88	-1,015.83	1,180.75	1.11	-0.88	-1.45
3,237.00	27.90	302.15	2,958.43	625.11	-1,052.99	1,224.56	0.91	0.91	0.28
3,331.00	26.62	301.71	3,041.99	647.88	-1,089.53	1,267.60	1.38	-1.36	-0.47
3,425.00	27.35	300.45	3,125.76	669.89	-1,126.06	1,310.25	0.99	0.78	-1.34
3,519.00	26.57	301.31	3,209.54	691.76	-1,162.63	1,352.87	0.93	-0.83	0.91
3,613.00	27.37	300.43	3,293.32	713.63	-1,199.23	1,395.50	0.95	0.85	-0.94
3,708.00	26.73	300.67	3,377.92	735.59	-1,236.43	1,438.70	0.68	-0.67	0.25
3,802.00	25.25	299.70	3,462.42	756.31	-1,272.03	1,479.89	1.64	-1.57	-1.03
3,897.00	26.64	300.42	3,547.84	777.13	-1,308.00	1,521.45	1.50	1.46	0.76
3,991.00	26.04	301.06	3,632.08	798.45	-1,343.85	1,563.15	0.71	-0.64	0.68
4,086.00	27.26	301.56	3,716.99	820.60	-1,380.25	1,605.76	1.31	1.28	0.53
4,180.00	26.27	301.44	3,800.91	842.71	-1,416.34	1,648.09	1.05	-1.05	-0.13
4,274.00	27.60	303.02	3,884.72	865.43	-1,452.35	1,690.65	1.61	1.41	1.68
4,368.00	26.53	303.99	3,968.42	889.03	-1,488.02	1,733.37	1.23	-1.14	1.03
4,463.00	27.27	302.96	4,053.14	912.74	-1,523.87	1,776.30	0.92	0.78	-1.08

Company:	TEP Rocky Mountain LLC	Local Co-ordinate Reference:	Well PA 333-13 - Slot PA 333-13 (A8)
Project:	Garfield County, CO NAD83	TVD Reference:	GL 6571.1 & RKB 24' @ 6595.10usft (H&P 318)
Site:	PA 44-13 Pad	MD Reference:	GL 6571.1 & RKB 24' @ 6595.10usft (H&P 318)
Well:	PA 333-13	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	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)
4,557.00	26.80	303.28	4,136.87	936.08	-1,559.66	1,818.99	0.52	-0.50	0.34
4,651.00	27.65	300.88	4,220.46	958.90	-1,596.09	1,861.97	1.48	0.90	-2.55
4,746.00	26.89	300.41	4,304.90	981.09	-1,633.54	1,905.50	0.83	-0.80	-0.49
4,840.00	28.16	300.03	4,388.26	1,002.95	-1,671.08	1,948.94	1.36	1.35	-0.40
4,935.00	27.36	299.66	4,472.32	1,024.98	-1,709.46	1,993.18	0.86	-0.84	-0.39
5,029.00	28.16	300.10	4,555.50	1,046.79	-1,747.42	2,036.96	0.88	0.85	0.47
5,123.00	27.60	299.74	4,638.59	1,068.72	-1,785.51	2,080.91	0.62	-0.60	-0.38
5,218.00	26.35	301.44	4,723.26	1,090.63	-1,822.61	2,124.00	1.55	-1.32	1.79
5,312.00	24.80	302.93	4,808.04	1,112.23	-1,856.96	2,164.56	1.79	-1.65	1.59
5,406.00	23.04	303.02	4,893.97	1,132.97	-1,888.93	2,202.64	1.87	-1.87	0.10
5,501.00	22.81	302.87	4,981.46	1,153.10	-1,919.99	2,239.62	0.25	-0.24	-0.16
5,595.00	20.89	304.55	5,068.71	1,172.49	-1,949.10	2,274.55	2.15	-2.04	1.79
5,690.00	19.92	305.05	5,157.75	1,191.39	-1,976.30	2,307.59	1.04	-1.02	0.53
5,784.00	18.89	305.21	5,246.41	1,209.36	-2,001.84	2,338.73	1.10	-1.10	0.17
5,879.00	17.97	305.66	5,336.53	1,226.77	-2,026.31	2,368.66	0.98	-0.97	0.47
5,973.00	16.86	306.25	5,426.22	1,243.29	-2,049.09	2,396.68	1.20	-1.18	0.63
6,068.00	15.86	306.75	5,517.37	1,259.20	-2,070.60	2,423.30	1.06	-1.05	0.53
6,162.00	14.55	306.19	5,608.08	1,273.86	-2,090.42	2,447.83	1.40	-1.39	-0.60
6,257.00	13.43	303.19	5,700.26	1,286.95	-2,109.28	2,470.74	1.40	-1.18	-3.16
6,351.00	12.60	301.97	5,791.85	1,298.35	-2,127.12	2,491.89	0.93	-0.88	-1.30
6,445.00	11.69	301.88	5,883.74	1,308.81	-2,143.90	2,511.66	0.97	-0.97	-0.10
6,540.00	10.58	303.62	5,976.95	1,318.72	-2,159.34	2,530.00	1.22	-1.17	1.83
6,635.00	9.47	303.09	6,070.50	1,327.82	-2,173.15	2,546.52	1.17	-1.17	-0.56
6,729.00	8.33	304.98	6,163.37	1,335.94	-2,185.21	2,561.04	1.25	-1.21	2.01
6,824.00	7.31	307.24	6,257.48	1,343.54	-2,195.66	2,573.90	1.12	-1.07	2.38
6,918.00	5.39	306.87	6,350.90	1,349.81	-2,203.95	2,584.24	2.04	-2.04	-0.39
7,013.00	4.17	311.70	6,445.57	1,354.79	-2,210.10	2,592.06	1.35	-1.28	5.08
7,107.00	3.37	311.09	6,539.37	1,358.88	-2,214.73	2,598.14	0.85	-0.85	-0.65
7,201.00	2.75	313.84	6,633.23	1,362.26	-2,218.44	2,603.05	0.68	-0.66	2.93
7,296.00	2.60	318.86	6,728.13	1,365.46	-2,221.50	2,607.32	0.29	-0.16	5.28
7,390.00	2.07	326.30	6,822.05	1,368.47	-2,223.85	2,610.88	0.65	-0.56	7.91
7,484.00	2.18	313.48	6,915.99	1,371.12	-2,226.09	2,614.15	0.52	0.12	-13.64
7,578.00	2.14	307.74	7,009.92	1,373.42	-2,228.77	2,617.64	0.23	-0.04	-6.11
7,673.00	1.97	312.62	7,104.86	1,375.61	-2,231.38	2,621.00	0.26	-0.18	5.14
7,767.00	0.67	233.26	7,198.84	1,376.38	-2,233.00	2,622.79	2.09	-1.38	-84.43
7,861.00	1.38	194.85	7,292.82	1,374.96	-2,233.74	2,622.69	1.01	0.76	-40.86
7,955.00	1.40	187.55	7,386.80	1,372.72	-2,234.18	2,621.93	0.19	0.02	-7.77
8,050.00	1.51	175.14	7,481.77	1,370.33	-2,234.22	2,620.74	0.35	0.12	-13.06
8,144.00	1.36	163.05	7,575.74	1,368.02	-2,233.79	2,619.19	0.36	-0.16	-12.86
8,239.00	1.49	150.43	7,670.71	1,365.87	-2,232.85	2,617.29	0.36	0.14	-13.28
8,333.00	1.91	147.29	7,764.67	1,363.49	-2,231.40	2,614.82	0.46	0.45	-3.34
8,427.00	1.99	147.72	7,858.61	1,360.79	-2,229.69	2,611.97	0.09	0.09	0.46
8,521.00	1.62	139.71	7,952.56	1,358.40	-2,227.96	2,609.26	0.48	-0.39	-8.52

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Site:	PA 44-13 Pad	MD Reference:	GL 6571.1 & RKB 24' @ 6595.10usft (H&P 318)
Well:	PA 333-13	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	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)	
8,616.00	1.67	147.60	8,047.52	1,356.21	-2,226.35	2,606.75	0.24	0.05		8.31
8,710.00	1.85	155.64	8,141.48	1,353.67	-2,224.99	2,604.29	0.32	0.19		8.55
8,805.00	1.91	150.14	8,236.43	1,350.90	-2,223.57	2,601.65	0.20	0.06		-5.79
8,899.00	2.26	156.16	8,330.37	1,347.84	-2,222.04	2,598.77	0.44	0.37		6.40
8,994.00	2.11	159.40	8,425.30	1,344.49	-2,220.66	2,595.88	0.20	-0.16		3.41
9,088.00	2.29	155.70	8,519.23	1,341.16	-2,219.28	2,592.99	0.24	0.19		-3.94
9,183.00	2.34	148.89	8,614.15	1,337.77	-2,217.50	2,589.73	0.29	0.05		-7.17
9,277.00	2.45	146.03	8,708.07	1,334.46	-2,215.38	2,586.22	0.17	0.12		-3.04
9,372.00	2.33	145.18	8,802.99	1,331.19	-2,213.15	2,582.62	0.13	-0.13		-0.89
9,467.00	2.13	148.49	8,897.91	1,328.10	-2,211.12	2,579.30	0.25	-0.21		3.48
9,561.00	2.17	156.26	8,991.85	1,324.98	-2,209.49	2,576.31	0.31	0.04		8.27
9,656.00	1.85	169.64	9,086.79	1,321.83	-2,208.49	2,573.83	0.60	-0.34		14.08
9,750.00	2.10	158.53	9,180.74	1,318.73	-2,207.59	2,571.48	0.49	0.27		-11.82
9,844.00	2.19	154.70	9,274.67	1,315.51	-2,206.19	2,568.63	0.18	0.10		-4.07
9,919.00	2.16	146.48	9,349.62	1,313.03	-2,204.80	2,566.16	0.42	-0.04		-10.96
Last SDI MWD Production Survey										
9,989.00	2.19	154.70	9,419.57	1,310.72	-2,203.50	2,563.87	0.45	0.04		11.74
Projection to TD										

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
123.00	122.99	0.41	-0.96	First SDI GMWD Surface Survey	
1,043.00	1,008.09	103.55	-194.51	Last SDI GMWD Surface Survey	
1,073.00	1,034.81	110.42	-206.29	First/Last SDI MWD Surface Survey	
1,163.00	1,114.69	131.87	-241.77	First SDI MWD Production Survey	
9,919.00	9,349.62	1,313.03	-2,204.80	Last SDI MWD Production Survey	
9,989.00	9,419.57	1,310.72	-2,203.50	Projection to TD	

Checked By: _____ Approved By: _____ Date: _____