



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

Survey Certification

Operator	TEP Rocky Mountain LLC
Well Name & No.	RWF 443-11
API #	05-045-24281
County & State	Garfield County, CO
SDI Job #	OP.022971
Rig	H&P 318
Survey Date	28-Dec-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 9216 feet is true and correct as determined from all available records.

Seth M. Burstad

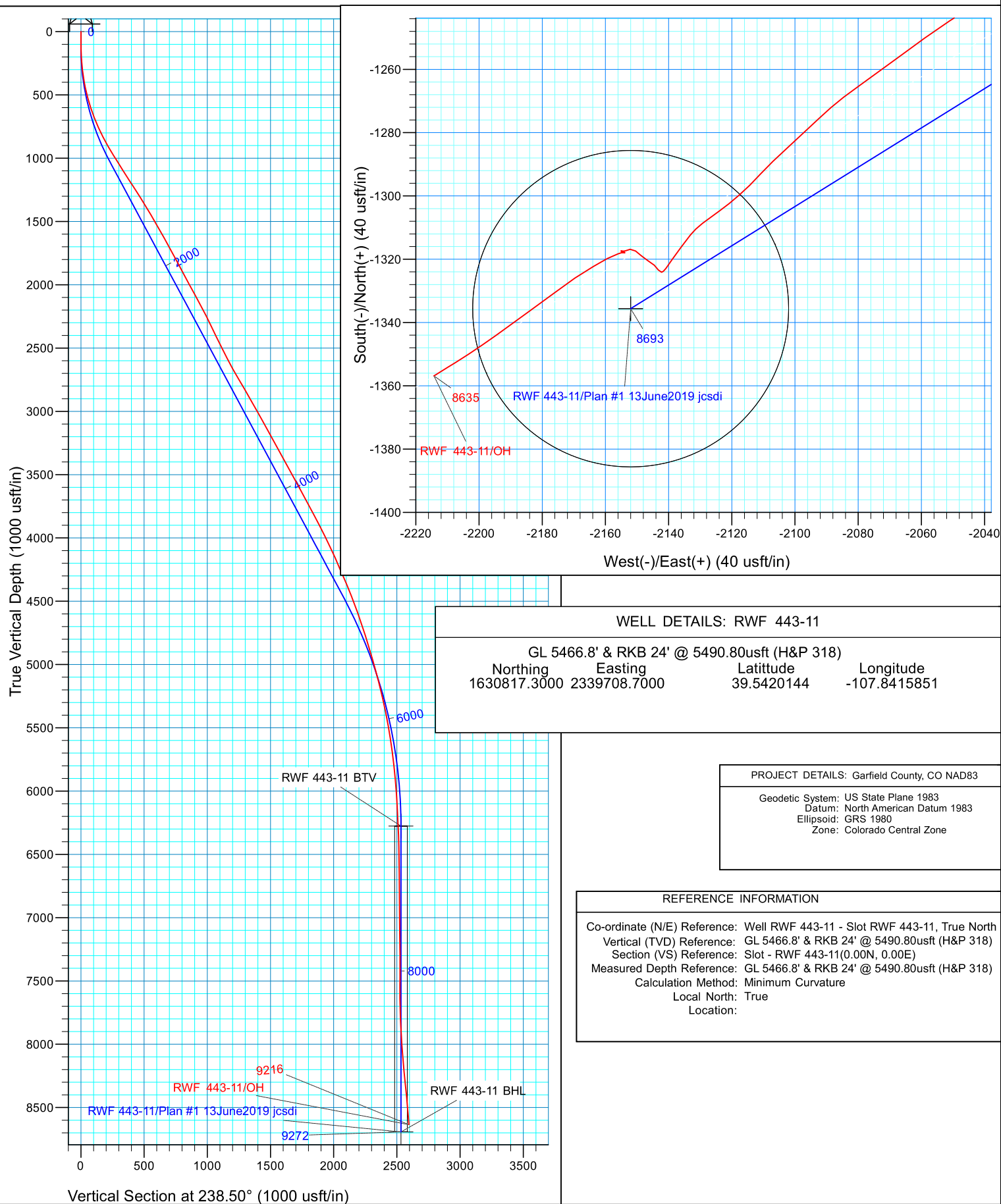
Signature

2-Jan-2020

Date

Seth M. Burstad

Rockies Region Well Planner
Scientific Drilling - Rocky Mountain District



TEP Rocky Mountain LLC

Garfield County, CO NAD83

RWF 12-12 Pad

RWF 443-11 - Slot RWF 443-11

OH

Design: OH

Standard Survey Report

31 December, 2019



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Scientific Drilling, Intl

Survey Report

Company:	TEP Rocky Mountain LLC	Local Co-ordinate Reference:	Well RWF 443-11 - Slot RWF 443-11
Project:	Garfield County, CO NAD83	TVD Reference:	GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)
Site:	RWF 12-12 Pad	MD Reference:	GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)
Well:	RWF 443-11	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		RWF 12-12 Pad			
Site Position:		Northing:	1,630,797.2000 usft	Latitude:	39.5419586
From:	Map	Easting:	2,339,698.6000 usft	Longitude:	-107.8416191
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	-1.48 °

Well	RWF 443-11 - Slot RWF 443-11					
Well Position	+N/-S	0.00 usft	Northing:	1,630,817.3000 usft	Latitude:	39.5420145
	+E/-W	0.00 usft	Easting:	2,339,708.7000 usft	Longitude:	-107.8415852
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	5,466.80 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM_FILE	12/26/2019	9.25	65.70	51,429.80000000

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	238.50	

Survey Program	Date	12/31/2019			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
122.00	666.00	Survey #1 - Surface Gyro Survey (OH)	Gyro MWD 105	Gyro MWD Error Model Ver 1.0.5	
739.00	985.00	Survey #2 - Surface MWD Survey (OH)	MWD+HDGM	OWSG MWD + HDGM	
1,074.00	9,216.00	Survey #3 - Production MWD Survey (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	
122.00	0.79	227.29	122.00	-0.57	-0.62	0.83	0.65	0.65	0.00	
First SDI Gyro Surface Survey										
214.00	3.52	237.92	213.92	-2.50	-3.48	4.27	2.99	2.97	11.55	
304.00	6.51	232.21	303.57	-7.10	-9.85	12.11	3.36	3.32	-6.34	
396.00	10.38	234.05	394.55	-15.16	-20.69	25.56	4.22	4.21	2.00	
485.00	13.72	234.40	481.58	-26.01	-35.76	44.09	3.75	3.75	0.39	
575.00	16.80	232.21	568.40	-40.20	-54.73	67.67	3.48	3.42	-2.43	
666.00	19.71	235.55	654.81	-56.94	-77.78	96.07	3.40	3.20	3.67	

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Survey Report

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Project:	Garfield County, CO NAD83	TVD Reference:	GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)
Site:	RWF 12-12 Pad	MD Reference:	GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)
Well:	RWF 443-11	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)
Last SDI Gyro Surface Survey									
739.00	23.38	238.88	722.70	-71.40	-100.34	122.86	5.30	5.03	4.56
First SDI MWD Surface Survey									
833.00	26.76	238.62	807.83	-92.06	-134.38	162.68	3.60	3.60	-0.28
927.00	29.03	237.74	890.91	-115.26	-171.74	206.65	2.45	2.41	-0.94
985.00	30.86	236.10	941.16	-131.07	-195.99	235.59	3.46	3.16	-2.83
Last SDI MWD Surface Survey									
1,074.00	32.48	235.58	1,016.91	-157.31	-234.65	282.27	1.85	1.82	-0.58
First SDI MWD Production Survey									
1,168.00	32.51	234.90	1,096.19	-186.10	-276.14	332.68	0.39	0.03	-0.72
1,263.00	32.99	235.48	1,176.09	-215.44	-318.33	383.99	0.60	0.51	0.61
1,357.00	32.55	238.87	1,255.13	-243.02	-361.07	434.84	2.01	-0.47	3.61
1,451.00	32.50	239.07	1,334.39	-269.07	-404.38	485.38	0.13	-0.05	0.21
1,546.00	30.56	240.21	1,415.36	-294.19	-447.23	535.04	2.14	-2.04	1.20
1,640.00	30.36	240.11	1,496.39	-317.90	-488.57	582.67	0.22	-0.21	-0.11
1,735.00	29.37	240.67	1,578.77	-341.27	-529.69	629.95	1.08	-1.04	0.59
1,829.00	29.09	240.75	1,660.80	-363.73	-569.73	675.82	0.30	-0.30	0.09
1,924.00	28.56	240.56	1,744.03	-386.18	-609.65	721.59	0.57	-0.56	-0.20
2,018.00	28.28	240.23	1,826.70	-408.28	-648.55	766.30	0.34	-0.30	-0.35
2,112.00	28.19	240.19	1,909.52	-430.37	-687.14	810.75	0.10	-0.10	-0.04
2,207.00	28.39	240.30	1,993.17	-452.72	-726.23	855.76	0.22	0.21	0.12
2,301.00	28.40	240.77	2,075.86	-474.70	-765.15	900.43	0.24	0.01	0.50
2,396.00	28.37	240.64	2,159.44	-496.80	-804.54	945.56	0.07	-0.03	-0.14
2,490.00	26.96	239.63	2,242.69	-518.53	-842.39	989.18	1.58	-1.50	-1.07
2,585.00	25.68	240.10	2,327.84	-539.68	-878.81	1,031.29	1.37	-1.35	0.49
2,679.00	25.98	240.34	2,412.45	-560.02	-914.36	1,072.23	0.34	0.32	0.26
2,774.00	27.38	241.94	2,497.34	-580.59	-951.72	1,114.83	1.66	1.47	1.68
2,868.00	26.63	242.46	2,581.09	-600.50	-989.48	1,157.43	0.84	-0.80	0.55
2,962.00	29.39	241.55	2,664.07	-621.23	-1,028.44	1,201.48	2.97	2.94	-0.97
3,056.00	30.78	240.14	2,745.40	-644.20	-1,069.58	1,248.56	1.66	1.48	-1.50
3,150.00	30.06	239.96	2,826.46	-667.96	-1,110.82	1,296.14	0.77	-0.77	-0.19
3,245.00	29.17	239.06	2,909.05	-691.77	-1,151.28	1,343.08	1.05	-0.94	-0.95
3,339.00	30.05	240.19	2,990.78	-715.25	-1,191.35	1,389.51	1.11	0.94	1.20
3,433.00	28.51	240.19	3,072.76	-738.10	-1,231.24	1,435.46	1.64	-1.64	0.00
3,528.00	29.52	239.95	3,155.84	-761.10	-1,271.17	1,481.52	1.07	1.06	-0.25
3,622.00	28.47	240.21	3,238.06	-783.82	-1,310.66	1,527.07	1.13	-1.12	0.28
3,717.00	29.76	239.99	3,321.05	-806.87	-1,350.73	1,573.27	1.36	1.36	-0.23
3,811.00	28.24	239.58	3,403.26	-829.80	-1,390.11	1,618.83	1.63	-1.62	-0.44
3,905.00	29.21	240.00	3,485.70	-852.53	-1,429.15	1,664.00	1.05	1.03	0.45
4,000.00	28.30	239.99	3,568.98	-875.38	-1,468.73	1,709.68	0.96	-0.96	-0.01
4,094.00	28.96	239.05	3,651.49	-898.23	-1,507.54	1,754.71	0.85	0.70	-1.00
4,189.00	27.87	238.19	3,735.04	-921.76	-1,546.14	1,799.92	1.23	-1.15	-0.91
4,283.00	28.13	237.34	3,818.04	-945.30	-1,583.46	1,844.04	0.51	0.28	-0.90
4,378.00	27.10	237.52	3,902.21	-969.01	-1,620.57	1,888.07	1.09	-1.08	0.19

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Survey Report

Company:	TEP Rocky Mountain LLC	Local Co-ordinate Reference:	Well RWF 443-11 - Slot RWF 443-11
Project:	Garfield County, CO NAD83	TVD Reference:	GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)
Site:	RWF 12-12 Pad	MD Reference:	GL 5466.8' & RKB 24' @ 5490.80usft (H&P 318)
Well:	RWF 443-11	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)
4,472.00	26.36	236.55	3,986.17	-992.01	-1,656.05	1,930.34	0.91	-0.79	-1.03
4,567.00	25.40	236.54	4,071.64	-1,014.87	-1,690.64	1,971.78	1.01	-1.01	-0.01
4,661.00	24.13	236.09	4,156.99	-1,036.70	-1,723.41	2,011.12	1.37	-1.35	-0.48
4,755.00	23.21	235.74	4,243.08	-1,057.85	-1,754.66	2,048.82	0.99	-0.98	-0.37
4,849.00	23.45	236.28	4,329.40	-1,078.66	-1,785.53	2,086.01	0.34	0.26	0.57
4,944.00	22.44	237.16	4,416.88	-1,098.99	-1,816.49	2,123.03	1.12	-1.06	0.93
5,038.00	20.75	237.94	4,504.28	-1,117.56	-1,845.68	2,157.62	1.82	-1.80	0.83
5,133.00	19.76	237.58	4,593.41	-1,135.10	-1,873.49	2,190.51	1.05	-1.04	-0.38
5,227.00	18.52	238.68	4,682.21	-1,151.38	-1,899.66	2,221.32	1.37	-1.32	1.17
5,321.00	17.33	238.00	4,771.64	-1,166.56	-1,924.29	2,250.25	1.29	-1.27	-0.72
5,416.00	17.62	237.89	4,862.26	-1,181.70	-1,948.47	2,278.78	0.31	0.31	-0.12
5,510.00	16.26	239.07	4,952.18	-1,196.03	-1,971.81	2,306.17	1.49	-1.45	1.26
5,605.00	15.08	239.06	5,043.65	-1,209.22	-1,993.82	2,331.82	1.24	-1.24	-0.01
5,699.00	13.62	238.94	5,134.71	-1,221.22	-2,013.79	2,355.12	1.55	-1.55	-0.13
5,793.00	14.01	238.03	5,225.99	-1,232.95	-2,032.92	2,377.56	0.47	0.41	-0.97
5,888.00	12.16	236.18	5,318.52	-1,244.61	-2,050.99	2,399.06	2.00	-1.95	-1.95
5,982.00	10.80	232.93	5,410.64	-1,255.43	-2,066.24	2,417.72	1.60	-1.45	-3.46
6,076.00	10.31	235.13	5,503.05	-1,265.55	-2,080.17	2,434.88	0.67	-0.52	2.34
6,170.00	8.90	225.96	5,595.73	-1,275.41	-2,092.30	2,450.38	2.21	-1.50	-9.76
6,264.00	8.01	228.29	5,688.71	-1,284.82	-2,102.42	2,463.92	1.01	-0.95	2.48
6,359.00	6.24	222.51	5,782.98	-1,293.03	-2,110.85	2,475.40	2.01	-1.86	-6.08
6,453.00	5.40	228.83	5,876.49	-1,299.71	-2,117.63	2,484.67	1.12	-0.89	6.72
6,547.00	4.41	234.48	5,970.15	-1,304.72	-2,123.90	2,492.64	1.17	-1.05	6.01
6,641.00	3.69	232.55	6,063.91	-1,308.66	-2,129.24	2,499.25	0.78	-0.77	-2.05
6,735.00	2.86	217.98	6,157.76	-1,312.35	-2,133.09	2,504.46	1.24	-0.88	-15.50
6,829.00	2.90	216.99	6,251.64	-1,316.10	-2,135.96	2,508.87	0.07	0.04	-1.05
6,924.00	2.77	215.26	6,346.52	-1,319.89	-2,138.73	2,513.21	0.16	-0.14	-1.82
7,018.00	1.73	214.90	6,440.45	-1,322.91	-2,140.86	2,516.60	1.11	-1.11	-0.38
7,112.00	0.67	267.75	6,534.43	-1,324.10	-2,142.22	2,518.38	1.52	-1.13	56.22
7,207.00	1.06	327.24	6,629.42	-1,323.38	-2,143.25	2,518.88	0.97	0.41	62.62
7,301.00	1.35	315.17	6,723.40	-1,321.86	-2,144.50	2,519.16	0.41	0.31	-12.84
7,395.00	1.58	296.39	6,817.37	-1,320.50	-2,146.44	2,520.10	0.56	0.24	-19.98
7,490.00	1.62	315.94	6,912.33	-1,318.95	-2,148.55	2,521.09	0.57	0.04	20.58
7,584.00	1.44	301.97	7,006.30	-1,317.37	-2,150.47	2,521.91	0.44	-0.19	-14.86
7,679.00	0.79	259.65	7,101.28	-1,316.86	-2,152.13	2,523.05	1.06	-0.68	-44.55
7,773.00	1.21	248.74	7,195.27	-1,317.34	-2,153.69	2,524.63	0.49	0.45	-11.61
7,867.00	0.48	299.54	7,289.26	-1,317.50	-2,154.96	2,525.80	1.04	-0.78	54.04
7,961.00	0.34	91.46	7,383.26	-1,317.31	-2,155.02	2,525.76	0.85	-0.15	161.62
8,055.00	0.69	118.05	7,477.25	-1,317.59	-2,154.25	2,525.23	0.44	0.37	28.29
8,149.00	0.11	219.44	7,571.25	-1,317.92	-2,153.80	2,525.03	0.77	-0.62	107.86
8,243.00	0.52	282.73	7,665.25	-1,317.90	-2,154.28	2,525.42	0.51	0.44	67.33
8,338.00	1.76	250.86	7,760.23	-1,318.28	-2,156.08	2,527.16	1.42	1.31	-33.55
8,432.00	2.67	241.58	7,854.16	-1,319.80	-2,159.37	2,530.75	1.04	0.97	-9.87

Scientific Drilling, Intl

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Well:	RWF 443-11	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)	
8,526.00	3.70	239.94	7,948.01	-1,322.36	-2,163.92	2,535.97	1.10	1.10	-1.74	
8,620.00	4.51	235.87	8,041.77	-1,325.95	-2,169.60	2,542.70	0.92	0.86	-4.33	
8,715.00	5.19	233.18	8,136.43	-1,330.62	-2,176.13	2,550.71	0.75	0.72	-2.83	
8,809.00	5.19	234.25	8,230.05	-1,335.66	-2,182.99	2,559.18	0.10	0.00	1.14	
8,903.00	5.43	234.35	8,323.64	-1,340.73	-2,190.05	2,567.86	0.26	0.26	0.11	
8,998.00	5.75	234.19	8,418.19	-1,346.14	-2,197.56	2,577.08	0.34	0.34	-0.17	
9,092.00	4.94	238.64	8,511.78	-1,351.00	-2,204.84	2,585.83	0.97	-0.86	4.73	
9,157.00	5.19	237.94	8,576.53	-1,354.01	-2,209.72	2,591.57	0.40	0.38	-1.08	
Last SDI MWD Production Survey										
9,216.00	5.19	237.94	8,635.29	-1,356.85	-2,214.24	2,596.90	0.00	0.00	0.00	
Projection to TD										

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
122.00	122.00	-0.57	-0.62	First SDI Gyro Surface Survey	
666.00	654.81	-56.94	-77.78	Last SDI Gyro Surface Survey	
739.00	722.70	-71.40	-100.34	First SDI MWD Surface Survey	
985.00	941.16	-131.07	-195.99	Last SDI MWD Surface Survey	
1,074.00	1,016.91	-157.31	-234.65	First SDI MWD Production Survey	
9,157.00	8,576.53	-1,354.01	-2,209.72	Last SDI MWD Production Survey	
9,216.00	8,635.29	-1,356.85	-2,214.24	Projection to TD	

Checked By: _____ Approved By: _____ Date: _____