



Directional Survey Certification

2948 I-70 Business Loop
Grand Junction, CO 81504
(970)-245-9447 Fax (970)-245-9454

Operator	WPX Energy Rocky Mountain, LLC.
Well Name & No.	RGU 333-23-198
County & State	Rio Blanco County, CO
SDI Job No.	421214DMPK231233
Rig	Aztec 1000

I, Mel Mireles Jr., 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 12,795 feet is true and correct as determined from all available records.


Signature

29-Dec-14
Date

Mel Mireles Jr.
Grand Junction Assistant Well Planner
Scientific Drilling - Colorado District

Company:	WPX Energy Rocky Mountain, LLC	Local Co-ordinate Reference:	Well RGU 333-23-198
Project:	Rio Blanco County, CO NAD83	TVD Reference:	KB @ 6592.01ft (Aztec 1000)
Site:	RGU 43-23-198 Pad	MD Reference:	KB @ 6592.01ft (Aztec 1000)
Well:	RGU 333-23-198	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Grand Junction District

Project	Rio Blanco County, CO NAD83, Rio Blanco County, CO, NAD 1983		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		Using geodetic scale factor

Site	RGU 43-23-198 Pad		
Site Position:		Northing:	1,781,556.00 usft
From:	Map	Easting:	2,199,927.00 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in
		Latitude:	39.9446860
		Longitude:	-108.3537828
		Grid Convergence:	-1.80 °

Well	RGU 333-23-198		
Well Position	+N/-S	0.00 ft	Northing:
	+E/-W	0.00 ft	Easting:
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft
		Latitude:	39.9447335
		Longitude:	-108.3536588
		Ground Level:	6,567.01 ft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2010	6/27/2012	10.44
			Dip Angle
			(°)
			66.01
			Field Strength
			(nT)
			52,337

Design	Wellbore #1		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.00	0.00	0.00
			Direction
			(°)
			311.42

Survey Program	Date	12/21/2014		
From	To	Survey (Wellbore)	Tool Name	Description
(ft)	(ft)			
73.00	1,643.00	Survey #1 - Gyro MWD (Wellbore #1)	SDI Gyro MWD 104	SDI Gyro MWD Error Model Ver 1.0.4
1,731.00	3,629.00	Survey #2 - Surface MWD (Wellbore #1)	MWD SDI	MWD - Standard ver 1.0.1
4,090.00	12,795.00	Survey #3 - Production MWD (Wellbore #1)	MWD SDI	MWD - Standard ver 1.0.1

Survey									
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn
Depth	(°)	(°)	Depth	(ft)	(ft)	Section	Rate	Rate	Rate
(ft)			(ft)			(ft)	(°/100ft)	(°/100ft)	(°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73.00	0.26	274.31	73.00	0.01	-0.17	0.13	0.36	0.36	0.00
First SDI Gyro MWD Survey									
116.00	0.00	166.20	116.00	0.02	-0.26	0.21	0.60	-0.60	0.00
146.00	0.62	314.56	146.00	0.13	-0.38	0.37	2.07	2.07	0.00
177.00	0.88	299.88	177.00	0.37	-0.70	0.77	1.04	0.84	-47.35
207.00	1.50	311.92	206.99	0.75	-1.20	1.39	2.22	2.07	40.13
237.00	1.85	313.51	236.98	1.34	-1.84	2.27	1.18	1.17	5.30
267.00	2.20	308.14	266.96	2.03	-2.64	3.33	1.33	1.17	-17.90

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Well:	RGU 333-23-198	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Grand Junction District

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
298.00	2.73	306.91	297.93	2.84	-3.70	4.66	1.72	1.71	-3.97
328.00	3.52	301.23	327.88	3.75	-5.06	6.28	2.83	2.63	-18.93
359.00	4.22	307.44	358.81	4.94	-6.78	8.35	2.63	2.26	20.03
375.00	4.63	306.57	374.77	5.68	-7.77	9.58	2.60	2.56	-5.44
436.00	6.07	306.75	435.50	9.08	-12.33	15.25	2.36	2.36	0.30
527.00	8.00	312.11	525.81	16.20	-20.88	26.38	2.24	2.12	5.89
619.00	9.59	314.49	616.73	25.87	-31.10	40.43	1.77	1.73	2.59
708.00	11.26	313.43	704.25	37.03	-42.70	56.52	1.89	1.88	-1.19
799.00	11.78	310.88	793.42	49.22	-56.17	74.69	0.80	0.57	-2.80
890.00	12.47	307.29	882.39	61.25	-71.01	93.78	1.12	0.76	-3.95
980.00	12.96	308.40	970.18	73.41	-86.65	113.55	0.61	0.54	1.23
1,074.00	13.28	309.33	1,061.73	86.80	-103.26	134.86	0.41	0.34	0.99
1,169.00	13.72	309.30	1,154.11	100.85	-120.42	157.02	0.46	0.46	-0.03
1,264.00	13.29	311.73	1,246.48	115.25	-137.29	179.20	0.75	-0.45	2.56
1,359.00	13.12	317.54	1,338.97	130.48	-152.72	200.84	1.41	-0.18	6.12
1,453.00	13.01	317.82	1,430.54	146.19	-167.03	221.96	0.14	-0.12	0.30
1,548.00	12.91	311.90	1,523.12	161.20	-182.10	243.20	1.40	-0.11	-6.23
1,643.00	12.93	308.77	1,615.72	174.94	-198.29	264.43	0.74	0.02	-3.29
1,731.00	13.45	306.31	1,701.40	187.17	-214.21	284.46	0.87	0.59	-2.80
First SDI MWD Surface Survey									
1,826.00	14.07	305.31	1,793.67	200.39	-232.54	306.95	0.70	0.65	-1.05
1,921.00	14.47	304.83	1,885.74	213.84	-251.71	330.22	0.44	0.42	-0.51
2,015.00	12.93	307.10	1,977.06	226.89	-269.74	352.38	1.73	-1.64	2.41
2,680.00	12.22	302.53	2,626.12	309.62	-388.42	496.10	0.18	-0.11	-0.69
2,965.00	11.59	301.98	2,904.99	341.00	-438.13	554.15	0.22	-0.22	-0.19
3,059.00	12.34	304.96	2,996.95	351.76	-454.38	573.44	1.03	0.80	3.17
3,154.00	11.98	312.25	3,089.82	364.21	-469.99	593.39	1.66	-0.38	7.67
3,249.00	14.30	311.97	3,182.33	378.68	-486.02	614.98	2.44	2.44	-0.29
3,343.00	16.59	312.00	3,272.93	395.43	-504.62	640.01	2.44	2.44	0.03
3,439.00	18.54	313.31	3,364.45	415.07	-525.92	668.97	2.07	2.03	1.36
3,534.00	18.54	313.31	3,454.52	435.79	-547.90	699.16	0.00	0.00	0.00
3,629.00	18.50	309.85	3,544.60	455.81	-570.46	729.33	1.16	-0.04	-3.64
Last SDI MWD Surface Survey									
4,090.00	17.83	304.54	3,982.65	542.70	-684.76	872.52	0.39	-0.15	-1.15
First SDI Production MWD Survey									
4,185.00	16.12	302.92	4,073.51	558.11	-707.81	900.00	1.87	-1.80	-1.71
4,280.00	15.96	304.70	4,164.81	572.72	-729.62	926.02	0.54	-0.17	1.87
4,375.00	15.17	314.09	4,256.34	588.80	-749.29	951.41	2.78	-0.83	9.88
4,470.00	15.20	316.33	4,348.03	606.46	-766.81	976.24	0.62	0.03	2.36
4,565.00	14.88	318.36	4,439.78	624.58	-783.52	1,000.75	0.65	-0.34	2.14
4,660.00	14.67	315.95	4,531.63	642.35	-799.99	1,024.85	0.68	-0.22	-2.54
4,755.00	15.11	313.35	4,623.45	659.49	-817.36	1,049.22	0.84	0.46	-2.74
4,850.00	14.85	315.40	4,715.22	676.66	-834.91	1,073.74	0.62	-0.27	2.16
4,945.00	14.91	314.85	4,807.03	693.95	-852.12	1,098.08	0.16	0.06	-0.58

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Well:	RGU 333-23-198	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Grand Junction District

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,040.00	14.44	310.96	4,898.93	710.33	-869.73	1,122.13	1.15	-0.49	-4.09
5,135.00	14.01	309.53	4,991.02	725.42	-887.54	1,145.47	0.58	-0.45	-1.51
5,230.00	13.17	305.78	5,083.36	739.06	-905.19	1,167.73	1.28	-0.88	-3.95
5,325.00	13.99	306.75	5,175.71	752.26	-923.18	1,189.95	0.90	0.86	1.02
5,420.00	15.36	304.44	5,267.61	766.25	-942.75	1,213.88	1.57	1.44	-2.43
5,515.00	14.36	306.34	5,359.43	780.35	-962.62	1,238.11	1.17	-1.05	2.00
5,610.00	13.68	310.69	5,451.60	794.65	-980.63	1,261.07	1.32	-0.72	4.58
5,705.00	14.74	315.84	5,543.70	810.65	-997.57	1,284.36	1.74	1.12	5.42
5,800.00	14.42	317.38	5,635.64	828.02	-1,014.00	1,308.17	0.53	-0.34	1.62
5,895.00	14.68	312.82	5,727.59	844.91	-1,030.84	1,331.97	1.24	0.27	-4.80
5,990.00	15.03	314.36	5,819.42	861.70	-1,048.47	1,356.31	0.56	0.37	1.62
6,085.00	14.29	313.12	5,911.33	878.33	-1,065.84	1,380.33	0.85	-0.78	-1.31
6,180.00	14.09	317.69	6,003.43	894.90	-1,082.18	1,403.54	1.20	-0.21	4.81
6,275.00	13.98	318.38	6,095.59	912.03	-1,097.59	1,426.43	0.21	-0.12	0.73
6,369.00	12.79	317.35	6,187.04	928.17	-1,112.18	1,448.05	1.29	-1.27	-1.10
6,464.00	13.35	311.40	6,279.58	943.15	-1,127.53	1,469.48	1.53	0.59	-6.26
6,559.00	11.73	305.65	6,372.32	956.04	-1,143.61	1,490.06	2.15	-1.71	-6.05
6,654.00	11.07	302.34	6,465.44	966.54	-1,159.16	1,508.67	0.98	-0.69	-3.48
6,749.00	11.76	306.65	6,558.56	977.20	-1,174.63	1,527.32	1.15	0.73	4.54
6,844.00	10.57	309.57	6,651.77	988.53	-1,189.12	1,545.68	1.39	-1.25	3.07
6,939.00	8.78	312.86	6,745.41	999.02	-1,201.15	1,561.64	1.97	-1.88	3.46
7,034.00	7.93	308.69	6,839.40	1,008.04	-1,211.58	1,575.43	1.10	-0.89	-4.39
7,130.00	7.02	315.03	6,934.59	1,016.34	-1,220.89	1,587.90	1.28	-0.95	6.60
7,224.00	5.87	328.76	7,028.00	1,024.51	-1,227.45	1,598.23	2.04	-1.22	14.61
7,319.00	4.16	331.56	7,122.63	1,031.69	-1,231.61	1,606.10	1.82	-1.80	2.95
7,414.00	2.71	335.72	7,217.46	1,036.77	-1,234.17	1,611.38	1.55	-1.53	4.38
7,508.00	2.20	329.02	7,311.37	1,040.34	-1,236.01	1,615.13	0.62	-0.54	-7.13
7,604.00	2.34	322.55	7,407.30	1,043.48	-1,238.15	1,618.81	0.30	0.15	-6.74
7,699.00	1.00	347.65	7,502.25	1,045.83	-1,239.51	1,621.38	1.57	-1.41	26.42
7,793.00	1.12	57.41	7,596.24	1,047.12	-1,238.91	1,621.79	1.29	0.13	74.21
7,888.00	0.90	44.64	7,691.23	1,048.16	-1,237.61	1,621.49	0.33	-0.23	-13.44
7,983.00	0.72	56.09	7,786.22	1,049.02	-1,236.59	1,621.30	0.25	-0.19	12.05
8,078.00	0.22	148.89	7,881.21	1,049.20	-1,236.00	1,620.97	0.80	-0.53	97.68
8,173.00	0.53	214.47	7,976.21	1,048.68	-1,236.15	1,620.74	0.51	0.33	69.03
8,267.00	1.02	355.49	8,070.21	1,049.15	-1,236.46	1,621.29	1.56	0.52	150.02
8,362.00	1.06	6.97	8,165.19	1,050.87	-1,236.42	1,622.40	0.22	0.04	12.08
8,457.00	0.74	358.50	8,260.18	1,052.35	-1,236.33	1,623.31	0.36	-0.34	-8.92
8,552.00	0.30	13.59	8,355.18	1,053.21	-1,236.29	1,623.84	0.48	-0.46	15.88
8,647.00	0.29	311.23	8,450.18	1,053.61	-1,236.41	1,624.20	0.32	-0.01	-65.64
8,742.00	0.47	292.23	8,545.17	1,053.92	-1,236.95	1,624.81	0.23	0.19	-20.00
8,837.00	0.38	94.93	8,640.17	1,054.04	-1,237.00	1,624.92	0.88	-0.09	171.26
8,932.00	0.66	171.34	8,735.17	1,053.47	-1,236.60	1,624.25	0.72	0.29	80.43
9,027.00	0.68	217.64	8,830.16	1,052.48	-1,236.87	1,623.79	0.55	0.02	48.74

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9,122.00	0.32	211.51	8,925.16	1,051.81	-1,237.35	1,623.71	0.38	-0.38	-6.45	
9,216.00	0.03	234.43	9,019.16	1,051.57	-1,237.51	1,623.67	0.31	-0.31	24.38	
9,310.00	0.36	285.95	9,113.16	1,051.64	-1,237.81	1,623.94	0.36	0.35	54.81	
9,405.00	0.76	254.28	9,208.15	1,051.55	-1,238.70	1,624.56	0.52	0.42	-33.34	
9,500.00	0.83	186.31	9,303.15	1,050.69	-1,239.39	1,624.50	0.94	0.07	-71.55	
9,595.00	0.69	235.29	9,398.14	1,049.68	-1,239.93	1,624.24	0.68	-0.15	51.56	
9,689.00	0.64	205.37	9,492.13	1,048.89	-1,240.62	1,624.23	0.37	-0.05	-31.83	
9,784.00	0.94	260.00	9,587.13	1,048.27	-1,241.62	1,624.57	0.81	0.32	57.51	
9,879.00	1.07	307.83	9,682.11	1,048.68	-1,243.09	1,625.94	0.87	0.14	50.35	
9,974.00	1.58	344.00	9,777.09	1,050.48	-1,244.15	1,627.93	1.01	0.54	38.07	
10,069.00	1.95	324.80	9,872.04	1,053.06	-1,245.44	1,630.61	0.73	0.39	-20.21	
10,164.00	1.53	344.33	9,967.00	1,055.61	-1,246.71	1,633.25	0.76	-0.44	20.56	
10,259.00	1.08	336.58	10,061.98	1,057.65	-1,247.41	1,635.12	0.51	-0.47	-8.16	
10,354.00	1.03	310.11	10,156.96	1,059.02	-1,248.42	1,636.79	0.51	-0.05	-27.86	
10,449.00	1.47	294.71	10,251.94	1,060.08	-1,250.18	1,638.81	0.58	0.46	-16.21	
10,544.00	1.39	298.06	10,346.91	1,061.13	-1,252.30	1,641.09	0.12	-0.08	3.53	
10,639.00	0.57	20.39	10,441.90	1,062.12	-1,253.16	1,642.38	1.51	-0.86	86.66	
10,734.00	2.42	44.90	10,536.86	1,063.98	-1,251.58	1,642.43	2.02	1.95	25.80	
10,829.00	1.50	46.17	10,631.81	1,066.26	-1,249.26	1,642.21	0.97	-0.97	1.34	
10,924.00	1.10	38.73	10,726.78	1,067.83	-1,247.80	1,642.15	0.46	-0.42	-7.83	
11,019.00	0.60	295.63	10,821.77	1,068.76	-1,247.67	1,642.67	1.44	-0.53	-108.53	
11,115.00	1.19	6.79	10,917.76	1,069.97	-1,248.01	1,643.72	1.19	0.61	74.13	
11,209.00	1.23	27.04	11,011.74	1,071.84	-1,247.44	1,644.52	0.45	0.04	21.54	
11,304.00	1.21	330.71	11,106.73	1,073.62	-1,247.46	1,645.73	1.21	-0.02	-59.29	
11,399.00	1.43	316.84	11,201.70	1,075.36	-1,248.76	1,647.85	0.41	0.23	-14.60	
11,494.00	1.64	288.13	11,296.67	1,076.65	-1,250.87	1,650.28	0.83	0.22	-30.22	
11,589.00	1.95	285.53	11,391.62	1,077.50	-1,253.72	1,652.98	0.34	0.33	-2.74	
11,684.00	2.11	278.83	11,486.56	1,078.20	-1,257.00	1,655.91	0.30	0.17	-7.05	
11,779.00	2.03	265.69	11,581.50	1,078.34	-1,260.41	1,658.56	0.51	-0.08	-13.83	
11,874.00	2.74	263.79	11,676.42	1,077.97	-1,264.34	1,661.26	0.75	0.75	-2.00	
11,970.00	2.26	278.89	11,772.33	1,078.02	-1,268.49	1,664.41	0.84	-0.50	15.73	
12,065.00	2.01	277.43	11,867.26	1,078.52	-1,272.00	1,667.37	0.27	-0.26	-1.54	
12,161.00	2.47	280.26	11,963.19	1,079.11	-1,275.70	1,670.53	0.49	0.48	2.95	
12,256.00	1.97	269.72	12,058.12	1,079.46	-1,279.35	1,673.50	0.68	-0.53	-11.09	
12,351.00	2.25	280.90	12,153.05	1,079.81	-1,282.81	1,676.33	0.52	0.29	11.77	
12,446.00	2.51	269.06	12,247.97	1,080.13	-1,286.72	1,679.47	0.58	0.27	-12.46	
12,541.00	2.25	278.93	12,342.89	1,080.38	-1,290.65	1,682.58	0.51	-0.27	10.39	
12,636.00	2.22	271.00	12,437.82	1,080.71	-1,294.33	1,685.56	0.33	-0.03	-8.35	
12,735.00	2.49	262.78	12,536.73	1,080.47	-1,298.38	1,688.44	0.44	0.27	-8.30	
Last SDI Production MWD Survey										
12,795.00	2.49	262.78	12,596.68	1,080.14	-1,300.96	1,690.16	0.00	0.00	0.00	
Projection to TD										

Company:	WPX Energy Rocky Mountain, LLC	Local Co-ordinate Reference:	Well RGU 333-23-198
Project:	Rio Blanco County, CO NAD83	TVD Reference:	KB @ 6592.01ft (Aztec 1000)
Site:	RGU 43-23-198 Pad	MD Reference:	KB @ 6592.01ft (Aztec 1000)
Well:	RGU 333-23-198	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Grand Junction District

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,731.00	1,701.40	187.17	-214.21	First SDI MWD Surface Survey
3,629.00	3,544.60	455.81	-570.46	Last SDI MWD Surface Survey
4,090.00	3,982.65	542.70	-684.76	First SDI Production MWD Survey
12,735.00	12,536.73	1,080.47	-1,298.38	Last SDI Production MWD Survey
12,795.00	12,596.68	1,080.14	-1,300.96	Projection to TD

Checked By: _____	Approved By: _____	Date: _____
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