



Well Details: RGU 443-26-198

TVD Reference: GL & KB 24' @ 6646.01ft (H&P 318) and Level: 6622.01						
+N/-S	+E/-W	North	Easting	Latitude	Longitude	Slot
0.00	0.00	1778078.49	2199586.10	39.9351155	-108.3546083	B04

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well RGU 443-26-198 - Slot B04, True North
 Vertical (TVD) Reference: GL & KB 24' @ 6646.01ft (H&P 318)
 Section (VS) Reference: Slot - B04(0.00N, 0.00E)
 Measured Depth Reference: GL & KB 24' @ 6646.01ft (H&P 318)
 Calculation Method: Minimum Curvature

PROJECT DETAILS: Rio Blanco County, CO NAD83

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

System Datum: Mean Sea Level

Plan: Wellbore #1

11:57, March 30 2015
 Created By: Mel Mireles



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 443-26-198
County & State	Rio Blanco County, CO
SDI Job No.	420315DEFMPK262501
Rig	H&P 318

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 12,572 feet is true and correct as determined from all available records.

A handwritten signature in black ink, appearing to read 'Mel Mireles Jr.', written over a horizontal line.

Signature

30-Mar-15

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 443-26-198 - Slot B04
Project:	Rio Blanco County, CO NAD83	TVD Reference:	GL & KB 24' @ 6646.01ft (H&P 318)
Site:	RGU 42-26-198 Pad	MD Reference:	GL & KB 24' @ 6646.01ft (H&P 318)
Well:	RGU 443-26-198	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 42-26-198 Pad		
Site Position:		Northing:	1,778,121.89 usft
From:	Map	Easting:	2,199,615.70 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in
		Latitude:	39.9352372
		Longitude:	-108.3545077
		Grid Convergence:	-1.80 °

Well	RGU 443-26-198 - Slot B04		
Well Position	+N/-S	0.00 ft	Northing: 1,778,078.49 usft
	+E/-W	0.00 ft	Easting: 2,199,586.10 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft
		Latitude:	39.9351155
		Longitude:	-108.3546083
		Ground Level:	6,622.01 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/24/2013	10.36	65.99	52,274

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	153.24	

Survey Program	Date	3/29/2015			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
110.00	534.00	Survey #1 - Gyro MWD (Wellbore #1)	SDI Gyro MWD 104	SDI Gyro MWD Error Model Ver 1.0.4	
612.00	3,878.00	Survey #2 - Surface MWD (Wellbore #1)	MWD SDI	MWD - Standard ver 1.0.1	
3,975.00	12,572.00	Survey #3 - Production MWD (Wellbore #1)	MWD SDI	MWD - Standard ver 1.0.1	

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)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
110.00	0.18	137.81	110.00	-0.13	0.12	0.17	0.16	0.16	0.00	
First SDI Gyro MWD Survey										
170.00	0.97	161.28	170.00	-0.68	0.34	0.76	1.35	1.32	39.12	
261.00	2.29	175.52	260.96	-3.22	0.73	3.21	1.51	1.45	15.65	
352.00	3.78	177.01	351.83	-8.03	1.03	7.63	1.64	1.64	1.64	
443.00	5.28	172.35	442.54	-15.18	1.74	14.33	1.70	1.65	-5.12	
534.00	5.81	180.44	533.12	-23.93	2.27	22.39	1.04	0.58	8.89	

Company:	WPX Energy Rocky Mountain, LLC	Local Co-ordinate Reference:	Well RGU 443-26-198 - Slot B04
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Site:	RGU 42-26-198 Pad	MD Reference:	GL & KB 24' @ 6646.01ft (H&P 318)
Well:	RGU 443-26-198	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)
Last SDI Gyro MWD Survey									
612.00	5.00	180.71	610.77	-31.28	2.19	28.92	1.04	-1.04	0.35
First SDI Surface MWD Survey									
704.00	5.46	184.86	702.39	-39.65	1.77	36.20	0.65	0.50	4.51
794.00	5.68	179.84	791.96	-48.37	1.42	43.83	0.59	0.24	-5.58
886.00	5.72	176.97	883.51	-57.50	1.68	52.10	0.31	0.04	-3.12
977.00	6.42	174.71	974.00	-67.09	2.39	60.98	0.81	0.77	-2.48
1,072.00	7.03	172.86	1,068.34	-78.15	3.60	71.40	0.68	0.64	-1.95
1,166.00	7.03	174.27	1,161.64	-89.58	4.89	82.19	0.18	0.00	1.50
1,260.00	6.53	177.27	1,254.98	-100.64	5.72	92.44	0.65	-0.53	3.19
1,355.00	6.86	174.62	1,349.33	-111.69	6.51	102.66	0.48	0.35	-2.79
1,449.00	6.42	179.46	1,442.70	-122.53	7.08	112.60	0.76	-0.47	5.15
1,543.00	6.58	175.31	1,536.10	-133.16	7.57	122.30	0.53	0.17	-4.41
1,637.00	6.68	176.03	1,629.47	-143.98	8.39	132.33	0.14	0.11	0.77
1,731.00	6.60	174.58	1,722.84	-154.81	9.28	142.41	0.20	-0.09	-1.54
1,805.00	6.83	175.03	1,796.33	-163.43	10.06	150.45	0.32	0.31	0.61
1,899.00	6.94	176.88	1,889.65	-174.67	10.86	160.85	0.26	0.12	1.97
1,994.00	7.26	176.97	1,983.92	-186.39	11.49	171.60	0.34	0.34	0.09
2,088.00	7.23	180.44	2,077.17	-198.24	11.75	182.30	0.47	-0.03	3.69
2,182.00	7.52	179.18	2,170.40	-210.30	11.80	193.09	0.35	0.31	-1.34
2,277.00	7.53	180.56	2,264.58	-222.74	11.82	204.21	0.19	0.01	1.45
2,371.00	7.90	183.24	2,357.73	-235.35	11.40	215.28	0.55	0.39	2.85
2,465.00	7.37	181.43	2,450.89	-247.83	10.88	226.18	0.62	-0.56	-1.93
2,559.00	7.70	181.16	2,544.08	-260.15	10.61	237.06	0.35	0.35	-0.29
2,654.00	7.63	181.16	2,638.23	-272.82	10.35	248.26	0.07	-0.07	0.00
2,748.00	6.98	179.28	2,731.47	-284.77	10.29	258.90	0.74	-0.69	-2.00
2,842.00	6.92	179.75	2,824.78	-296.14	10.39	269.10	0.09	-0.06	0.50
2,936.00	6.77	170.66	2,918.11	-307.27	11.32	279.46	1.16	-0.16	-9.67
3,031.00	6.69	168.95	3,012.46	-318.23	13.28	290.13	0.23	-0.08	-1.80
3,125.00	6.19	174.78	3,105.86	-328.65	14.80	300.11	0.88	-0.53	6.20
3,219.00	6.21	174.18	3,199.31	-338.76	15.77	309.57	0.07	0.02	-0.64
3,313.00	6.03	173.41	3,292.78	-348.72	16.85	318.96	0.21	-0.19	-0.82
3,408.00	5.70	171.13	3,387.28	-358.34	18.15	328.13	0.43	-0.35	-2.40
3,502.00	6.17	177.87	3,480.78	-368.00	19.06	337.17	0.89	0.50	7.17
3,596.00	6.49	180.85	3,574.21	-378.36	19.17	346.46	0.49	0.34	3.17
3,691.00	6.43	184.19	3,668.60	-389.03	18.70	355.78	0.40	-0.06	3.52
3,785.00	6.31	180.56	3,762.02	-399.45	18.27	364.89	0.45	-0.13	-3.86
3,878.00	6.45	183.39	3,854.45	-409.77	17.91	373.94	0.37	0.15	3.04
Last SDI Surface MWD Survey									
3,975.00	6.76	177.36	3,950.80	-420.91	17.85	383.87	0.78	0.32	-6.22
First SDI Production MWD Survey									
4,069.00	5.89	177.87	4,044.23	-431.26	18.28	393.30	0.93	-0.93	0.54
4,163.00	5.45	179.28	4,137.77	-440.54	18.52	401.70	0.49	-0.47	1.50
4,258.00	6.24	175.06	4,232.28	-450.20	19.02	410.54	0.95	0.83	-4.44

Company:	WPX Energy Rocky Mountain, LLC	Local Co-ordinate Reference:	Well RGU 443-26-198 - Slot B04
Project:	Rio Blanco County, CO NAD83	TVD Reference:	GL & KB 24' @ 6646.01ft (H&P 318)
Site:	RGU 42-26-198 Pad	MD Reference:	GL & KB 24' @ 6646.01ft (H&P 318)
Well:	RGU 443-26-198	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)
4,352.00	6.07	181.92	4,325.74	-460.25	19.29	419.64	0.80	-0.18	7.30
4,446.00	5.89	170.31	4,419.23	-469.98	19.94	428.62	1.30	-0.19	-12.35
4,541.00	5.80	167.41	4,513.73	-479.47	21.81	437.93	0.32	-0.09	-3.05
4,635.00	5.19	175.50	4,607.30	-488.34	23.17	446.47	1.05	-0.65	8.61
4,729.00	5.19	170.84	4,700.92	-496.78	24.18	454.46	0.45	0.00	-4.96
4,823.00	5.71	166.79	4,794.49	-505.53	25.93	463.06	0.69	0.55	-4.31
4,918.00	5.11	165.79	4,889.07	-514.23	28.05	471.78	0.64	-0.63	-1.05
5,012.00	5.21	166.01	4,982.69	-522.43	30.11	480.03	0.11	0.11	0.23
5,106.00	5.53	161.70	5,076.28	-530.87	32.56	488.67	0.55	0.34	-4.59
5,201.00	6.46	162.81	5,170.76	-540.32	35.58	498.47	0.99	0.98	1.17
5,295.00	6.31	165.05	5,264.17	-550.36	38.47	508.74	0.31	-0.16	2.38
5,389.00	5.01	163.41	5,357.71	-559.29	40.98	517.84	1.39	-1.38	-1.74
5,484.00	6.49	170.06	5,452.23	-568.55	43.09	527.06	1.71	1.56	7.00
5,577.00	6.77	170.75	5,544.61	-579.14	44.88	537.32	0.31	0.30	0.74
5,672.00	6.63	172.15	5,638.96	-590.10	46.53	547.85	0.23	-0.15	1.47
5,766.00	6.78	175.23	5,732.32	-601.00	47.73	558.12	0.41	0.16	3.28
5,860.00	6.68	176.91	5,825.67	-611.99	48.49	568.28	0.23	-0.11	1.79
5,954.00	5.72	185.08	5,919.12	-622.12	48.37	577.26	1.38	-1.02	8.69
6,049.00	5.63	183.85	6,013.66	-631.48	47.63	585.30	0.16	-0.09	-1.29
6,143.00	5.19	177.17	6,107.24	-640.33	47.53	593.15	0.82	-0.47	-7.11
6,237.00	4.66	160.21	6,200.90	-648.17	49.04	600.83	1.64	-0.56	-18.04
6,332.00	4.31	155.81	6,295.61	-655.06	51.81	608.22	0.52	-0.37	-4.63
6,426.00	3.93	162.47	6,389.36	-661.35	54.22	614.93	0.65	-0.40	7.09
6,520.00	3.96	152.56	6,483.14	-667.30	56.69	621.36	0.73	0.03	-10.54
6,614.00	3.17	170.23	6,576.96	-672.75	58.63	627.09	1.43	-0.84	18.80
6,709.00	2.46	165.57	6,671.85	-677.31	59.58	631.59	0.78	-0.75	-4.91
6,803.00	1.67	169.96	6,765.79	-680.61	60.32	634.87	0.86	-0.84	4.67
6,897.00	1.67	170.75	6,859.75	-683.31	60.78	637.49	0.02	0.00	0.84
6,992.00	0.18	228.23	6,954.73	-684.78	60.89	638.85	1.66	-1.57	60.51
7,086.00	0.09	328.17	7,048.73	-684.81	60.74	638.82	0.23	-0.10	106.32
7,180.00	0.18	297.23	7,142.73	-684.68	60.57	638.62	0.12	0.10	-32.91
7,275.00	0.53	173.13	7,237.73	-685.05	60.49	638.92	0.68	0.37	-130.63
7,369.00	0.44	235.97	7,331.73	-685.69	60.25	639.37	0.54	-0.10	66.85
7,464.00	0.70	226.21	7,426.72	-686.29	59.53	639.59	0.29	0.27	-10.27
7,558.00	1.14	227.97	7,520.71	-687.31	58.42	640.00	0.47	0.47	1.87
7,653.00	0.70	270.07	7,615.70	-687.95	57.13	639.99	0.82	-0.46	44.32
7,746.00	0.53	335.81	7,708.69	-687.55	56.39	639.30	0.73	-0.18	70.69
7,841.00	0.88	314.98	7,803.69	-686.64	55.69	638.17	0.45	0.37	-21.93
7,935.00	0.79	283.43	7,897.68	-685.98	54.55	637.07	0.49	-0.10	-33.56
8,029.00	1.06	285.98	7,991.67	-685.59	53.09	636.06	0.29	0.29	2.71
8,124.00	0.88	325.35	8,086.65	-684.74	51.83	634.74	0.71	-0.19	41.44
8,218.00	1.67	41.38	8,180.63	-683.12	52.32	633.51	1.80	0.84	80.88
8,313.00	1.49	60.54	8,275.60	-681.48	54.31	632.94	0.58	-0.19	20.17

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Site:	RGU 42-26-198 Pad	MD Reference:	GL & KB 24' @ 6646.01ft (H&P 318)
Well:	RGU 443-26-198	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)	
8,406.00	1.32	71.61	8,368.57	-680.54	56.38	633.04	0.34	-0.18	11.90	
8,501.00	0.41	121.98	8,463.56	-680.38	57.71	633.49	1.16	-0.96	53.02	
8,595.00	0.18	313.58	8,557.56	-680.46	57.89	633.64	0.62	-0.24	-179.15	
8,691.00	0.44	261.11	8,653.56	-680.41	57.41	633.38	0.37	0.27	-54.66	
8,785.00	0.20	277.77	8,747.56	-680.44	56.89	633.18	0.27	-0.26	17.72	
8,879.00	0.70	332.91	8,841.55	-679.91	56.47	632.51	0.65	0.53	58.66	
8,973.00	0.35	12.02	8,935.55	-679.12	56.27	631.71	0.51	-0.37	41.61	
9,067.00	0.62	66.69	9,029.55	-678.63	56.79	631.52	0.54	0.29	58.16	
9,162.00	0.53	71.35	9,124.54	-678.29	57.68	631.61	0.11	-0.09	4.91	
9,256.00	0.44	295.38	9,218.54	-678.00	57.77	631.39	0.96	-0.10	-144.65	
9,350.00	0.62	296.88	9,312.54	-677.61	56.99	630.70	0.19	0.19	1.60	
9,445.00	0.35	339.68	9,407.53	-677.11	56.43	629.99	0.46	-0.28	45.05	
9,539.00	0.53	278.95	9,501.53	-676.77	55.90	629.45	0.50	0.19	-64.61	
9,634.00	0.44	227.80	9,596.53	-676.95	55.20	629.29	0.45	-0.09	-53.84	
9,728.00	0.53	233.42	9,690.52	-677.45	54.58	629.46	0.11	0.10	5.98	
9,822.00	0.44	214.70	9,784.52	-678.00	54.03	629.71	0.19	-0.10	-19.91	
9,917.00	1.23	250.03	9,879.51	-678.65	52.86	629.76	0.96	0.83	37.19	
10,012.00	1.41	248.45	9,974.49	-679.43	50.81	629.54	0.19	0.19	-1.66	
10,105.00	1.23	210.83	10,067.46	-680.71	49.24	629.97	0.93	-0.19	-40.45	
10,200.00	1.23	194.48	10,162.44	-682.57	48.46	631.28	0.37	0.00	-17.21	
10,294.00	1.67	201.78	10,256.41	-684.82	47.70	632.95	0.51	0.47	7.77	
10,388.00	2.29	209.43	10,350.35	-687.73	46.27	634.90	0.72	0.66	8.14	
10,483.00	2.02	225.33	10,445.29	-690.56	44.15	636.47	0.69	-0.28	16.74	
10,599.00	1.87	238.72	10,561.22	-692.98	41.07	637.25	0.41	-0.13	11.54	
10,693.00	1.61	11.89	10,655.20	-692.48	40.04	636.34	3.40	-0.28	141.67	
10,786.00	5.75	30.28	10,747.99	-687.18	42.66	632.78	4.57	4.45	19.77	
10,881.00	4.44	24.09	10,842.62	-679.71	46.56	627.87	1.49	-1.38	-6.52	
10,975.00	3.66	43.74	10,936.39	-674.22	50.12	624.57	1.68	-0.83	20.90	
11,070.00	2.73	39.60	11,031.24	-670.29	53.65	622.65	1.01	-0.98	-4.36	
11,164.00	1.76	60.04	11,125.16	-667.84	56.33	621.67	1.32	-1.03	21.74	
11,259.00	0.38	60.88	11,220.15	-666.96	57.87	621.58	1.45	-1.45	0.88	
11,353.00	0.13	329.08	11,314.15	-666.72	58.09	621.46	0.43	-0.27	-97.66	
11,447.00	0.18	337.93	11,408.14	-666.49	57.98	621.21	0.06	0.05	9.41	
11,542.00	0.31	288.24	11,503.14	-666.27	57.68	620.88	0.25	0.14	-52.31	
11,636.00	0.90	265.27	11,597.14	-666.25	56.70	620.42	0.67	0.63	-24.44	
11,730.00	1.41	251.08	11,691.12	-666.69	54.87	619.99	0.62	0.54	-15.10	
11,803.00	1.32	253.90	11,764.10	-667.21	53.21	619.71	0.15	-0.12	3.86	
11,919.00	1.69	248.81	11,880.06	-668.20	50.34	619.29	0.34	0.32	-4.39	
12,014.00	2.16	245.50	11,975.00	-669.45	47.40	619.09	0.51	0.49	-3.48	
12,108.00	2.36	244.34	12,068.93	-671.02	44.04	618.98	0.22	0.21	-1.23	
12,203.00	2.37	244.65	12,163.85	-672.71	40.51	618.89	0.02	0.01	0.33	
12,297.00	2.43	246.07	12,257.77	-674.35	36.93	618.75	0.09	0.06	1.51	
12,391.00	2.74	248.34	12,351.67	-675.99	33.02	618.45	0.35	0.33	2.41	
12,485.00	2.85	245.29	12,445.56	-677.79	28.81	618.17	0.20	0.12	-3.24	

Company:	WPX Energy Rocky Mountain, LLC	Local Co-ordinate Reference:	Well RGU 443-26-198 - Slot B04
Project:	Rio Blanco County, CO NAD83	TVD Reference:	GL & KB 24' @ 6646.01ft (H&P 318)
Site:	RGU 42-26-198 Pad	MD Reference:	GL & KB 24' @ 6646.01ft (H&P 318)
Well:	RGU 443-26-198	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)
Last SDI Production MWD Survey									
12,572.00	2.85	245.29	12,532.45	-679.60	24.88	618.01	0.00	0.00	0.00
Projection to TD									

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
110.00	110.00	-0.13	0.12	First SDI Gyro MWD Survey	
534.00	533.12	-23.93	2.27	Last SDI Gyro MWD Survey	
612.00	610.77	-31.28	2.19	First SDI Surface MWD Survey	
3,878.00	3,854.45	-409.77	17.91	Last SDI Surface MWD Survey	
3,975.00	3,950.80	-420.91	17.85	First SDI Production MWD Survey	
12,485.00	12,445.56	-677.79	28.81	Last SDI Production MWD Survey	
12,572.00	12,532.45	-679.60	24.88	Projection to TD	

Checked By: _____ Approved By: _____ Date: _____