



## Well Details: RU 44-7

TVD Reference: KELLY BUSHING @ 7943.02ft (Nabors 576 (26' RKB) kjs)						Level: 7917.02
+N/-S	+E/-W	North	East	Latitude	Longitude	Slot
0.00	0.00	1598853.10	2347578.80	39.4548405	-107.8108049	B04

## REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well RU 44-7 - Slot B04, True North  
 Vertical (TVD) Reference: KELLY BUSHING @ 7943.02ft (Nabors 576 (26' RKB) kjs)  
 Section (VS) Reference: Slot - B04(0.00N, 0.00E)  
 Measured Depth Reference: KELLY BUSHING @ 7943.02ft (Nabors 576 (26' RKB) kjs)  
 Calculation Method: Minimum Curvature

## PROJECT DETAILS: Garfield 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

11:31, March 26 2015  
 Created By: Janie Collins



## Directional Survey Certification

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

<b>Operator</b>	<u>WPX Energy Rocky Mountain, LLC.</u>
<b>Well Name &amp; No.</b>	<u>RU 44-7</u>
<b>County &amp; State</b>	<u>Garfield County, CO</u>
<b>SDI Job No.</b>	<u>420315DEFK260034</u>
<b>Rig</b>	<u>Nabors 576</u>

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 9,590 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

26-Mar-15

Date

### **Mel Mireles Jr.**

Grand Junction Assistant Well Planner  
Scientific Drilling - Colorado District

<b>Company:</b>	WPX Energy Rocky Mountain, LLC	<b>Local Co-ordinate Reference:</b>	Well RU 44-7 - Slot B04
<b>Project:</b>	Garfield County, CO NAD83	<b>TVD Reference:</b>	KELLY BUSHING @ 7943.02ft (Nabors 576 (26' RKB) kjs)
<b>Site:</b>	RU 44-7 Pad	<b>MD Reference:</b>	KELLY BUSHING @ 7943.02ft (Nabors 576 (26' RKB) kjs)
<b>Well:</b>	RU 44-7	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Grand Junction District

<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		RU 44-7 Pad			
Site Position:		Northing:	1,598,795.69 usft	Latitude:	39.4546828
From:	Map	Easting:	2,347,575.10 usft	Longitude:	-107.8108128
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.46 °

Well	RU 44-7 - Slot B04					
Well Position	+N/-S	0.00 ft	Northing:	1,598,853.09 usft	Latitude:	39.4548406
	+E/-W	0.00 ft	Easting:	2,347,578.80 usft	Longitude:	-107.8108049
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	7,917.02 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	2/18/2015	9.79	65.64	51,865

<b>Design</b>	Wellbore #1				
<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) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	88.02	

<b>Survey Program</b>	<b>Date</b>	3/26/2015			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
87.00	267.00	Survey #1 - Gyro MWD (Wellbore #1)	SDI Gyro MWD 104	SDI Gyro MWD Error Model Ver 1.0.4	
336.00	1,317.00	Survey #2 - Surface MWD (Wellbore #1)	MWD SDI	MWD - Standard ver 1.0.1	
1,446.00	9,590.00	Survey #3 - Production MWD (Wellbore #1)	MWD SDI	MWD - Standard ver 1.0.1	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
87.00	0.53	310.69	87.00	0.26	-0.31	-0.30	0.61	0.61	0.00	
<b>First SDI Gyro MWD Survey</b>										
176.00	2.38	72.33	175.97	1.09	1.14	1.18	3.03	2.08	136.67	
267.00	3.08	96.33	266.87	1.40	5.37	5.42	1.46	0.77	26.37	
<b>Last SDI Gyro MWD Survey</b>										
336.00	3.23	97.18	335.77	0.95	9.15	9.17	0.23	0.22	1.23	
<b>First SDI Surface MWD Survey</b>										

<b>Company:</b>	WPX Energy Rocky Mountain, LLC	<b>Local Co-ordinate Reference:</b>	Well RU 44-7 - Slot B04
<b>Project:</b>	Garfield County, CO NAD83	<b>TVD Reference:</b>	KELLY BUSHING @ 7943.02ft (Nabors 576 (26' RKB) kjs)
<b>Site:</b>	RU 44-7 Pad	<b>MD Reference:</b>	KELLY BUSHING @ 7943.02ft (Nabors 576 (26' RKB) kjs)
<b>Well:</b>	RU 44-7	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)
427.00	3.78	93.10	426.60	0.47	14.68	14.69	0.66	0.60	-4.48
519.00	4.58	90.58	518.35	0.26	21.39	21.38	0.89	0.87	-2.74
610.00	3.47	86.54	609.13	0.39	27.77	27.76	1.26	-1.22	-4.44
701.00	3.66	87.25	699.95	0.70	33.42	33.42	0.21	0.21	0.78
792.00	3.92	87.54	790.75	0.97	39.43	39.44	0.29	0.29	0.32
883.00	4.40	88.92	881.51	1.17	46.02	46.04	0.54	0.53	1.52
973.00	3.79	90.15	971.28	1.23	52.45	52.46	0.68	-0.68	1.37
1,065.00	3.72	85.80	1,063.09	1.44	58.47	58.48	0.32	-0.08	-4.73
1,161.00	4.13	84.42	1,158.86	2.00	65.01	65.04	0.44	0.43	-1.44
1,255.00	4.88	87.91	1,252.57	2.48	72.38	72.42	0.85	0.80	3.71
1,317.00	5.83	87.70	1,314.30	2.70	78.16	78.21	1.53	1.53	-0.34
Last SDI Surface MWD Survey									
1,446.00	6.33	92.01	1,442.57	2.71	91.81	91.85	0.52	0.39	3.34
First SDI Production MWD Survey									
1,541.00	4.82	81.27	1,537.12	3.14	100.99	101.04	1.93	-1.59	-11.31
1,636.00	3.34	80.18	1,631.88	4.21	107.67	107.75	1.56	-1.56	-1.15
1,732.00	3.26	78.94	1,727.72	5.22	113.10	113.21	0.11	-0.08	-1.29
1,827.00	3.66	91.52	1,822.55	5.65	118.78	118.91	0.90	0.42	13.24
1,922.00	4.16	91.96	1,917.33	5.45	125.26	125.37	0.53	0.53	0.46
2,017.00	4.30	87.96	2,012.07	5.46	132.26	132.37	0.34	0.15	-4.21
2,112.00	4.32	86.20	2,106.80	5.83	139.39	139.51	0.14	0.02	-1.85
2,208.00	4.44	89.29	2,202.52	6.11	146.71	146.84	0.28	0.13	3.22
2,303.00	4.57	88.27	2,297.23	6.27	154.17	154.30	0.16	0.14	-1.07
2,398.00	4.25	85.84	2,391.94	6.64	161.47	161.60	0.39	-0.34	-2.56
2,492.00	3.99	86.87	2,485.70	7.07	168.21	168.35	0.29	-0.28	1.10
2,588.00	4.16	86.07	2,581.46	7.50	175.02	175.17	0.19	0.18	-0.83
2,683.00	3.99	84.78	2,676.22	8.03	181.74	181.91	0.20	-0.18	-1.36
2,778.00	4.00	82.98	2,770.99	8.74	188.32	188.51	0.13	0.01	-1.89
2,873.00	3.65	83.24	2,865.78	9.50	194.62	194.83	0.37	-0.37	0.27
2,969.00	3.83	93.53	2,961.57	9.66	200.85	201.06	0.72	0.19	10.72
3,064.00	3.78	91.92	3,056.36	9.36	207.15	207.35	0.12	-0.05	-1.69
3,159.00	3.58	94.72	3,151.17	9.01	213.23	213.42	0.28	-0.21	2.95
3,255.00	4.37	83.27	3,246.94	9.19	219.85	220.04	1.16	0.82	-11.93
3,350.00	4.35	83.23	3,341.66	10.04	227.02	227.24	0.02	-0.02	-0.04
3,445.00	4.22	80.09	3,436.40	11.07	234.05	234.29	0.28	-0.14	-3.31
3,541.00	4.05	77.23	3,532.15	12.43	240.83	241.12	0.28	-0.18	-2.98
3,636.00	4.45	86.14	3,626.89	13.42	247.78	248.10	0.81	0.42	9.38
3,731.00	4.52	88.45	3,721.60	13.76	255.20	255.52	0.20	0.07	2.43
3,826.00	5.06	86.85	3,816.26	14.10	263.12	263.45	0.59	0.57	-1.68
3,919.00	4.60	82.85	3,908.93	14.79	270.92	271.27	0.61	-0.49	-4.30
4,014.00	4.56	82.64	4,003.63	15.74	278.44	278.82	0.05	-0.04	-0.22
4,110.00	4.56	82.94	4,099.33	16.70	286.02	286.42	0.02	0.00	0.31

<b>Company:</b>	WPX Energy Rocky Mountain, LLC	<b>Local Co-ordinate Reference:</b>	Well RU 44-7 - Slot B04
<b>Project:</b>	Garfield County, CO NAD83	<b>TVD Reference:</b>	KELLY BUSHING @ 7943.02ft (Nabors 576 (26' RKB) kjs)
<b>Site:</b>	RU 44-7 Pad	<b>MD Reference:</b>	KELLY BUSHING @ 7943.02ft (Nabors 576 (26' RKB) kjs)
<b>Well:</b>	RU 44-7	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)
4,204.00	4.54	80.49	4,193.03	17.78	293.39	293.83	0.21	-0.02	-2.61
4,299.00	3.92	95.41	4,287.77	18.09	300.34	300.78	1.32	-0.65	15.71
4,394.00	3.88	92.23	4,382.55	17.66	306.78	307.21	0.23	-0.04	-3.35
4,489.00	3.78	94.61	4,477.34	17.28	313.11	313.52	0.20	-0.11	2.51
4,584.00	3.73	93.18	4,572.14	16.86	319.32	319.71	0.11	-0.05	-1.51
4,680.00	3.42	93.77	4,667.95	16.50	325.29	325.67	0.33	-0.32	0.61
4,775.00	4.08	89.33	4,762.75	16.35	331.50	331.87	0.76	0.69	-4.67
4,870.00	3.76	90.57	4,857.52	16.36	338.00	338.36	0.35	-0.34	1.31
4,966.00	3.63	90.56	4,953.33	16.30	344.18	344.54	0.14	-0.14	-0.01
5,061.00	3.31	90.53	5,048.15	16.24	349.93	350.28	0.34	-0.34	-0.03
5,157.00	4.20	88.53	5,143.94	16.31	356.22	356.57	0.94	0.93	-2.08
5,252.00	4.20	88.20	5,238.69	16.51	363.17	363.53	0.03	0.00	-0.35
5,348.00	3.81	85.02	5,334.45	16.89	369.86	370.23	0.47	-0.41	-3.31
5,444.00	3.61	84.66	5,430.25	17.45	376.05	376.43	0.21	-0.21	-0.38
5,539.00	3.64	82.99	5,525.06	18.10	382.02	382.42	0.12	0.03	-1.76
5,635.00	3.35	77.11	5,620.88	19.10	387.78	388.21	0.48	-0.30	-6.13
5,731.00	2.86	77.43	5,716.74	20.24	392.85	393.32	0.51	-0.51	0.33
5,825.00	3.96	72.87	5,810.58	21.71	398.24	398.76	1.20	1.17	-4.85
5,920.00	4.13	73.76	5,905.34	23.63	404.66	405.24	0.19	0.18	0.94
6,015.00	4.03	75.98	6,000.10	25.40	411.19	411.82	0.20	-0.11	2.34
6,110.00	3.41	75.26	6,094.90	26.93	417.16	417.84	0.65	-0.65	-0.76
6,206.00	4.44	69.21	6,190.67	28.97	423.39	424.14	1.15	1.07	-6.30
6,301.00	4.24	67.66	6,285.40	31.61	430.08	430.91	0.24	-0.21	-1.63
6,395.00	4.01	65.76	6,379.16	34.28	436.29	437.21	0.28	-0.24	-2.02
6,490.00	3.18	75.92	6,473.97	36.29	441.87	442.86	1.10	-0.87	10.69
6,585.00	3.29	74.58	6,568.82	37.65	447.06	448.09	0.14	0.12	-1.41
6,681.00	2.56	72.16	6,664.69	39.04	451.75	452.83	0.77	-0.76	-2.52
6,776.00	1.35	75.22	6,759.63	39.98	454.86	455.97	1.28	-1.27	3.22
6,871.00	0.39	61.71	6,854.62	40.42	456.22	457.35	1.03	-1.01	-14.22
6,967.00	0.54	38.94	6,950.62	40.92	456.79	457.94	0.25	0.16	-23.72
7,062.00	0.46	30.12	7,045.62	41.60	457.27	458.43	0.12	-0.08	-9.28
7,157.00	0.38	29.83	7,140.61	42.20	457.62	458.80	0.08	-0.08	-0.31
7,253.00	0.34	310.80	7,236.61	42.67	457.56	458.76	0.48	-0.04	-82.32
7,348.00	0.84	284.85	7,331.61	43.03	456.67	457.89	0.58	0.53	-27.32
7,443.00	0.71	303.70	7,426.60	43.53	455.51	456.74	0.30	-0.14	19.84
7,539.00	0.82	334.90	7,522.59	44.49	454.72	455.99	0.44	0.11	32.50
7,634.00	0.85	337.29	7,617.58	45.75	454.16	455.47	0.05	0.03	2.52
7,729.00	1.00	358.66	7,712.57	47.23	453.87	455.23	0.39	0.16	22.49
7,825.00	1.04	338.38	7,808.55	48.88	453.53	454.95	0.38	0.04	-21.13
7,921.00	1.03	323.28	7,904.54	50.38	452.69	454.16	0.28	-0.01	-15.73
8,017.00	1.35	325.66	8,000.52	52.00	451.54	453.07	0.34	0.33	2.48
8,112.00	1.15	320.65	8,095.49	53.67	450.30	451.89	0.24	-0.21	-5.27

<b>Company:</b>	WPX Energy Rocky Mountain, LLC	<b>Local Co-ordinate Reference:</b>	Well RU 44-7 - Slot B04
<b>Project:</b>	Garfield County, CO NAD83	<b>TVD Reference:</b>	KELLY BUSHING @ 7943.02ft (Nabors 576 (26' RKB) kjs)
<b>Site:</b>	RU 44-7 Pad	<b>MD Reference:</b>	KELLY BUSHING @ 7943.02ft (Nabors 576 (26' RKB) kjs)
<b>Well:</b>	RU 44-7	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)	
8,207.00	1.03	312.49	8,190.48	54.98	449.07	450.70	0.21	-0.13	-8.59	
8,302.00	0.93	309.19	8,285.46	56.04	447.84	449.51	0.12	-0.11	-3.47	
8,398.00	1.07	253.56	8,381.45	56.28	446.38	448.06	0.98	0.15	-57.95	
8,493.00	1.50	250.41	8,476.43	55.61	444.36	446.01	0.46	0.45	-3.32	
8,588.00	1.40	243.03	8,571.40	54.67	442.15	443.78	0.22	-0.11	-7.77	
8,684.00	1.83	253.28	8,667.36	53.70	439.64	441.23	0.54	0.45	10.68	
8,779.00	1.76	251.74	8,762.31	52.80	436.80	438.36	0.09	-0.07	-1.62	
8,874.00	1.90	258.96	8,857.26	52.05	433.87	435.41	0.28	0.15	7.60	
8,969.00	1.44	265.56	8,952.22	51.65	431.13	432.66	0.52	-0.48	6.95	
9,064.00	1.41	232.18	9,047.19	50.84	429.02	430.52	0.86	-0.03	-35.14	
9,160.00	1.53	227.90	9,143.16	49.26	427.14	428.58	0.17	0.13	-4.46	
9,255.00	1.32	233.29	9,238.13	47.76	425.32	426.71	0.26	-0.22	5.67	
9,350.00	2.11	222.39	9,333.09	45.81	423.26	424.59	0.90	0.83	-11.47	
9,446.00	2.27	222.41	9,429.02	43.10	420.79	422.02	0.17	0.17	0.02	
9,533.00	2.29	222.65	9,515.95	40.55	418.45	419.60	0.03	0.02	0.28	
<b>Last SDI Production MWD Survey</b>										
9,590.00	2.29	222.65	9,572.91	38.87	416.90	418.00	0.00	0.00	0.00	
<b>Projection to TD</b>										

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
87.00	87.00	0.26	-0.31	First SDI Gyro MWD Survey	
267.00	266.87	1.40	5.37	Last SDI Gyro MWD Survey	
336.00	335.77	0.95	9.15	First SDI Surface MWD Survey	
1,317.00	1,314.30	2.70	78.16	Last SDI Surface MWD Survey	

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