



Well Details: RU 433-7						
TVD Reference: KELLY BUSHING @ 7943.02ft (Nabors 576 (26' RKB) kjs) Level: 7917.02 +N/-S +E/-W Northing Easting Latitude Longitude Slot 0.00 0.00 1598846.30 2347568.30 39.4548211 -107.8108414 A05						
REFERENCE INFORMATION						
Co-ordinate (N/E) Reference: Well RU 433-7 - Slot A05, True North Vertical (TVD) Reference: KELLY BUSHING @ 7943.02ft (Nabors 576 (26' RKB) kjs) Section (VS) Reference: Slot - A05(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		
				12:54, April 14 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.	RU 433-7
County & State	Garfield County, CO
SDI Job No.	420415DEFK270140
Rig	Nabors 576

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 10,070 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

14-Apr-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 RU 433-7 - Slot A05
Project:	Garfield County, CO NAD83	TVD Reference:	KELLY BUSHING @ 7943.02ft (Nabors 576 (26' RKB) kjs)
Site:	RU 44-7 Pad	MD Reference:	KELLY BUSHING @ 7943.02ft (Nabors 576 (26' RKB) kjs)
Well:	RU 433-7	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Grand Junction District

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		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 433-7 - Slot A05					
Well Position	+N/-S	0.00 ft	Northing:	1,598,846.29 usft	Latitude:	39.4548212
	+E/-W	0.00 ft	Easting:	2,347,568.30 usft	Longitude:	-107.8108415
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	7,917.02 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/26/2015	9.78	65.64	51,862

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	289.10	

Survey Program	Date	4/14/2015			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
88.00	449.00	Survey #1 - Gyro MWD (Wellbore #1)	SDI Gyro MWD 104	SDI Gyro MWD Error Model Ver 1.0.4	
519.00	1,317.00	Survey #2 - Surface MWD (Wellbore #1)	MWD SDI	MWD - Standard ver 1.0.1	
1,384.00	10,070.00	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	
88.00	0.88	263.88	88.00	-0.07	-0.67	0.61	1.00	1.00	0.00	
First SDI Gyro MWD Survey										
176.00	1.14	287.14	175.98	0.11	-2.18	2.10	0.55	0.30	26.43	
267.00	2.46	283.01	266.94	0.82	-4.95	4.94	1.46	1.45	-4.54	
357.00	4.05	294.96	356.79	2.60	-9.71	10.03	1.91	1.77	13.28	
449.00	5.19	292.32	448.49	5.55	-16.51	17.41	1.26	1.24	-2.87	

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Well:	RU 433-7	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									
519.00	8.58	292.25	517.97	8.73	-24.27	25.79	4.84	4.84	-0.10
First SDI Surface MWD Survey									
610.00	10.84	291.78	607.66	14.47	-38.50	41.12	2.49	2.48	-0.52
701.00	9.65	287.80	697.21	19.98	-53.71	57.29	1.52	-1.31	-4.37
792.00	10.11	288.12	786.86	24.80	-68.56	72.90	0.51	0.51	0.35
883.00	10.86	289.95	876.34	30.21	-84.21	89.46	0.90	0.82	2.01
973.00	9.58	289.44	964.91	35.59	-99.25	105.43	1.43	-1.42	-0.57
1,065.00	9.53	289.53	1,055.64	40.69	-113.64	120.70	0.06	-0.05	0.10
1,160.00	9.94	288.47	1,149.27	45.91	-128.83	136.76	0.47	0.43	-1.12
1,256.00	10.51	290.29	1,243.74	51.57	-144.90	153.80	0.68	0.59	1.90
1,317.00	10.82	289.79	1,303.69	55.44	-155.51	165.09	0.53	0.51	-0.82
Last SDI Surface MWD Survey									
1,384.00	10.73	291.11	1,369.51	59.82	-167.24	177.61	0.39	-0.13	1.97
First SDI Production MWD Survey									
1,448.00	10.55	291.37	1,432.41	64.10	-178.26	189.42	0.29	-0.28	0.41
1,542.00	10.10	292.10	1,524.89	70.33	-193.91	206.25	0.50	-0.48	0.78
1,638.00	9.66	291.49	1,619.46	76.45	-209.20	222.70	0.47	-0.46	-0.64
1,733.00	9.24	291.95	1,713.17	82.22	-223.69	238.28	0.45	-0.44	0.48
1,828.00	9.10	291.58	1,806.96	87.84	-237.75	253.41	0.16	-0.15	-0.39
1,924.00	8.73	289.30	1,901.80	93.04	-251.69	268.28	0.53	-0.39	-2.38
2,019.00	8.27	288.91	1,995.76	97.63	-264.96	282.32	0.49	-0.48	-0.41
2,114.00	8.03	285.26	2,089.80	101.59	-277.82	295.77	0.60	-0.25	-3.84
2,209.00	7.65	284.52	2,183.91	104.93	-290.34	308.69	0.41	-0.40	-0.78
2,304.00	8.79	285.92	2,277.93	108.50	-303.45	322.25	1.22	1.20	1.47
2,399.00	8.41	286.35	2,371.86	112.45	-317.09	336.43	0.41	-0.40	0.45
2,494.00	8.16	285.75	2,465.87	116.24	-330.25	350.10	0.28	-0.26	-0.63
2,589.00	7.95	284.68	2,559.93	119.73	-343.09	363.38	0.27	-0.22	-1.13
2,684.00	9.04	284.66	2,653.89	123.28	-356.67	377.37	1.15	1.15	-0.02
2,779.00	8.78	288.14	2,747.74	127.43	-370.78	392.06	0.63	-0.27	3.66
2,875.00	8.47	288.20	2,842.66	131.92	-384.46	406.46	0.32	-0.32	0.06
2,971.00	10.14	294.98	2,937.40	137.70	-398.84	421.94	2.08	1.74	7.06
3,065.00	9.72	293.14	3,029.99	144.31	-413.63	438.08	0.56	-0.45	-1.96
3,161.00	9.70	295.31	3,124.61	150.95	-428.40	454.21	0.38	-0.02	2.26
3,256.00	9.38	294.67	3,218.30	157.61	-442.67	469.87	0.35	-0.34	-0.67
3,351.00	9.06	291.49	3,312.07	163.58	-456.66	485.05	0.63	-0.34	-3.35
3,446.00	10.37	293.18	3,405.71	169.68	-471.48	501.05	1.41	1.38	1.78
3,542.00	10.10	295.12	3,500.18	176.66	-487.05	518.04	0.46	-0.28	2.02
3,638.00	9.66	293.83	3,594.76	183.48	-502.04	534.44	0.51	-0.46	-1.34
3,732.00	9.90	290.58	3,687.39	189.51	-516.81	550.38	0.64	0.26	-3.46
3,827.00	9.88	291.70	3,780.98	195.40	-532.03	566.68	0.20	-0.02	1.18
3,920.00	9.11	288.60	3,872.70	200.69	-546.42	582.01	0.99	-0.83	-3.33
4,016.00	8.49	289.25	3,967.57	205.45	-560.32	596.70	0.65	-0.65	0.68

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Well:	RU 433-7	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)
4,111.00	9.82	287.88	4,061.36	210.25	-574.65	611.81	1.42	1.40	-1.44
4,206.00	9.46	285.35	4,155.02	214.81	-589.89	627.70	0.59	-0.38	-2.66
4,300.00	8.71	285.54	4,247.84	218.76	-604.19	642.52	0.80	-0.80	0.20
4,396.00	8.77	286.63	4,342.73	222.80	-618.21	657.08	0.18	0.06	1.14
4,490.00	8.23	285.92	4,435.69	226.70	-631.55	670.96	0.59	-0.57	-0.76
4,585.00	9.50	286.71	4,529.56	230.82	-645.59	685.58	1.34	1.34	0.83
4,681.00	9.23	286.10	4,624.28	235.23	-660.58	701.19	0.30	-0.28	-0.64
4,777.00	9.15	286.98	4,719.04	239.59	-675.28	716.50	0.17	-0.08	0.92
4,872.00	8.97	289.09	4,812.86	244.22	-689.50	731.46	0.40	-0.19	2.22
4,967.00	8.44	284.69	4,906.77	248.41	-703.24	745.81	0.90	-0.56	-4.63
5,063.00	9.61	290.30	5,001.58	252.98	-717.57	760.85	1.52	1.22	5.84
5,158.00	9.43	289.88	5,095.27	258.38	-732.33	776.56	0.20	-0.19	-0.44
5,254.00	9.48	290.63	5,189.97	263.84	-747.12	792.33	0.14	0.05	0.78
5,350.00	9.18	289.02	5,284.70	269.12	-761.76	807.89	0.41	-0.31	-1.68
5,445.00	8.79	289.48	5,378.53	274.01	-775.77	822.72	0.42	-0.41	0.48
5,541.00	9.06	289.70	5,473.37	279.00	-789.80	837.62	0.28	0.28	0.23
5,637.00	8.93	286.38	5,568.19	283.65	-804.07	852.62	0.56	-0.14	-3.46
5,732.00	10.20	290.49	5,661.87	288.68	-819.02	868.39	1.52	1.34	4.33
5,826.00	9.98	290.62	5,754.41	294.46	-834.44	884.86	0.24	-0.23	0.14
5,922.00	9.76	297.00	5,848.99	301.08	-849.48	901.23	1.16	-0.23	6.65
6,017.00	8.46	297.01	5,942.79	307.91	-862.88	916.13	1.37	-1.37	0.01
6,112.00	8.21	297.79	6,036.79	314.25	-875.10	929.76	0.29	-0.26	0.82
6,207.00	7.39	295.65	6,130.91	320.05	-886.61	942.53	0.92	-0.86	-2.25
6,302.00	7.26	290.16	6,225.14	324.77	-897.76	954.60	0.75	-0.14	-5.78
6,397.00	7.19	295.46	6,319.38	329.39	-908.76	966.51	0.71	-0.07	5.58
6,492.00	6.63	309.49	6,413.70	335.44	-918.36	977.56	1.87	-0.59	14.77
6,586.00	6.05	306.24	6,507.12	341.82	-926.54	987.38	0.73	-0.62	-3.46
6,682.00	5.44	306.78	6,602.64	347.53	-934.27	996.55	0.64	-0.64	0.56
6,777.00	4.91	300.77	6,697.26	352.31	-941.37	1,004.83	0.80	-0.56	-6.33
6,873.00	3.87	306.31	6,792.97	356.33	-947.51	1,011.94	1.17	-1.08	5.77
6,968.00	3.21	300.11	6,887.79	359.56	-952.39	1,017.62	0.80	-0.69	-6.53
7,063.00	3.08	298.00	6,982.65	362.09	-956.95	1,022.75	0.18	-0.14	-2.22
7,159.00	1.38	306.45	7,078.57	363.99	-960.15	1,026.40	1.80	-1.77	8.80
7,254.00	1.02	310.08	7,173.55	365.21	-961.72	1,028.28	0.39	-0.38	3.82
7,350.00	0.67	307.16	7,269.54	366.10	-962.82	1,029.61	0.37	-0.36	-3.04
7,445.00	0.97	327.67	7,364.53	367.12	-963.70	1,030.77	0.44	0.32	21.59
7,541.00	1.10	313.08	7,460.52	368.44	-964.80	1,032.25	0.30	0.14	-15.20
7,635.00	1.27	305.35	7,554.50	369.65	-966.31	1,034.07	0.25	0.18	-8.22
7,731.00	1.15	330.86	7,650.47	371.11	-967.65	1,035.81	0.57	-0.13	26.57
7,827.00	0.81	344.82	7,746.46	372.61	-968.29	1,036.91	0.43	-0.35	14.54
7,923.00	0.79	328.90	7,842.45	373.83	-968.81	1,037.80	0.23	-0.02	-16.58
8,018.00	0.78	319.35	7,937.44	374.88	-969.57	1,038.87	0.14	-0.01	-10.05

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Survey										
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8,113.00	0.79	328.82	8,032.43	375.93	-970.33	1,039.93	0.14	0.01	9.97	
8,208.00	0.98	313.11	8,127.42	377.05	-971.27	1,041.17	0.32	0.20	-16.54	
8,303.00	1.15	187.98	8,222.41	376.66	-971.99	1,041.73	1.99	0.18	-131.72	
8,399.00	1.36	192.21	8,318.39	374.59	-972.37	1,041.41	0.24	0.22	4.41	
8,494.00	1.14	218.89	8,413.37	372.75	-973.20	1,041.60	0.65	-0.23	28.08	
8,589.00	1.21	220.03	8,508.35	371.25	-974.44	1,042.27	0.08	0.07	1.20	
8,685.00	1.52	182.78	8,604.32	369.20	-975.15	1,042.28	0.96	0.32	-38.80	
8,780.00	1.42	183.70	8,699.29	366.77	-975.29	1,041.61	0.11	-0.11	0.97	
8,875.00	1.38	190.53	8,794.26	364.47	-975.57	1,041.13	0.18	-0.04	7.19	
8,970.00	1.58	190.12	8,889.23	362.05	-976.01	1,040.75	0.21	0.21	-0.43	
9,065.00	1.55	192.80	8,984.20	359.51	-976.53	1,040.41	0.08	-0.03	2.82	
9,161.00	1.49	203.04	9,080.16	357.10	-977.30	1,040.35	0.29	-0.06	10.67	
9,256.00	1.14	196.36	9,175.14	355.05	-978.05	1,040.39	0.40	-0.37	-7.03	
9,351.00	1.41	209.19	9,270.12	353.13	-978.89	1,040.55	0.41	0.28	13.51	
9,446.00	1.59	216.37	9,365.08	351.05	-980.24	1,041.15	0.27	0.19	7.56	
9,542.00	1.54	228.20	9,461.05	349.11	-981.99	1,042.17	0.34	-0.05	12.32	
9,637.00	1.88	219.01	9,556.00	347.05	-983.92	1,043.32	0.46	0.36	-9.67	
9,733.00	1.23	190.74	9,651.97	344.82	-985.11	1,043.71	1.03	-0.68	-29.45	
9,828.00	0.65	195.83	9,746.96	343.30	-985.44	1,043.53	0.62	-0.61	5.36	
9,923.00	0.44	174.44	9,841.95	342.41	-985.56	1,043.34	0.30	-0.22	-22.52	
10,012.00	0.41	206.53	9,930.95	341.79	-985.67	1,043.24	0.27	-0.03	36.06	
Last SDI Production MWD Survey										
10,070.00	0.41	206.53	9,988.95	341.42	-985.85	1,043.30	0.00	0.00	0.00	
Projection to TD										

Checked By: _____ Approved By: _____ Date: _____