



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 544-7
County & State	Garfield County, CO
SDI Job No.	420515DEFK275800
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 10,071 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

13-May-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 544-7 - Slot B08
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 544-7	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 544-7 - Slot B08					
Well Position	+N/-S	0.00 ft	Northing:	1,598,823.19 usft	Latitude:	39.4547584
	+E/-W	0.00 ft	Easting:	2,347,576.90 usft	Longitude:	-107.8108089
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	3/19/2015	9.78	65.64	51,857

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	158.48	

Survey Program	Date	5/13/2015			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
82.00	539.00	Survey #1 - Gyro MWD (Wellbore #1)	SDI Gyro MWD 104	SDI Gyro MWD Error Model Ver 1.0.4	
611.00	1,312.00	Survey #2 - Surface MWD (Wellbore #1)	MWD SDI	MWD - Standard ver 1.0.1	
1,368.00	10,071.00	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	
82.00	0.35	24.79	82.00	0.23	0.11	-0.17	0.43	0.43	0.00	
First SDI Gyro MWD Survey										
177.00	2.29	138.69	176.98	-0.94	1.48	1.41	2.58	2.04	119.89	
268.00	3.87	168.22	267.85	-5.31	3.31	6.15	2.41	1.74	32.45	
357.00	7.39	159.52	356.40	-13.61	5.92	14.84	4.06	3.96	-9.78	
448.00	8.80	155.74	446.50	-25.44	10.83	27.64	1.66	1.55	-4.15	

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Well:	RU 544-7	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)
539.00	6.60	162.16	536.67	-36.77	15.29	39.81	2.59	-2.42	7.05
Last SDI Gyro MWD Survey									
611.00	6.76	161.98	608.18	-44.74	17.87	48.17	0.22	0.22	-0.25
First SDI Surface MWD Survey									
702.00	7.64	161.41	698.46	-55.56	21.46	59.56	0.97	0.97	-0.63
792.00	8.10	160.76	787.62	-67.22	25.46	71.87	0.52	0.51	-0.72
884.00	8.57	162.36	878.64	-79.87	29.67	85.19	0.57	0.51	1.74
974.00	7.31	151.60	967.78	-91.30	34.42	97.56	2.16	-1.40	-11.96
1,066.00	7.41	146.94	1,059.03	-101.42	40.44	109.19	0.66	0.11	-5.07
1,161.00	8.28	160.86	1,153.15	-113.02	46.03	122.02	2.19	0.92	14.65
1,256.00	8.65	161.78	1,247.11	-126.27	50.51	135.99	0.41	0.39	0.97
1,312.00	8.63	164.28	1,302.48	-134.31	52.96	144.38	0.67	-0.04	4.46
Last SDI Surface MWD Survey									
1,368.00	9.25	163.16	1,357.80	-142.66	55.40	153.04	1.15	1.11	-2.00
First SDI Production MWD Survey									
1,463.00	8.98	161.71	1,451.60	-157.01	59.94	168.05	0.37	-0.28	-1.53
1,559.00	8.51	162.87	1,546.48	-170.91	64.39	182.62	0.52	-0.49	1.21
1,654.00	8.14	161.11	1,640.48	-183.99	68.63	196.34	0.47	-0.39	-1.85
1,749.00	7.88	163.47	1,734.55	-196.60	72.66	209.55	0.44	-0.27	2.48
1,844.00	8.66	157.02	1,828.57	-209.43	77.31	223.19	1.27	0.82	-6.79
1,939.00	8.80	158.01	1,922.46	-222.75	82.82	237.60	0.22	0.15	1.04
2,034.00	8.53	156.89	2,016.38	-235.97	88.31	251.91	0.34	-0.28	-1.18
2,129.00	8.24	158.40	2,110.36	-248.78	93.58	265.76	0.38	-0.31	1.59
2,224.00	7.85	157.43	2,204.43	-261.10	98.58	279.06	0.43	-0.41	-1.02
2,319.00	7.48	156.68	2,298.58	-272.77	103.51	291.73	0.40	-0.39	-0.79
2,414.00	7.17	155.29	2,392.81	-283.83	108.44	303.83	0.38	-0.33	-1.46
2,510.00	6.93	154.30	2,488.08	-294.49	113.46	315.58	0.28	-0.25	-1.03
2,606.00	7.74	160.11	2,583.29	-305.79	118.17	327.82	1.14	0.84	6.05
2,700.00	7.69	158.83	2,676.44	-317.61	122.59	340.44	0.19	-0.05	-1.36
2,796.00	7.30	156.01	2,771.62	-329.17	127.39	352.95	0.56	-0.41	-2.94
2,891.00	7.00	154.29	2,865.89	-339.90	132.36	364.76	0.39	-0.32	-1.81
2,986.00	7.92	161.55	2,960.08	-351.33	136.94	377.07	1.38	0.97	7.64
3,081.00	7.82	160.57	3,054.19	-363.63	141.16	390.06	0.18	-0.11	-1.03
3,177.00	7.60	158.64	3,149.32	-375.70	145.65	402.94	0.35	-0.23	-2.01
3,272.00	7.46	160.38	3,243.50	-387.36	150.00	415.38	0.28	-0.15	1.83
3,367.00	7.14	158.79	3,337.73	-398.67	154.21	427.45	0.40	-0.34	-1.67
3,462.00	8.83	159.73	3,431.81	-411.02	158.87	440.64	1.78	1.78	0.99
3,555.00	8.44	160.84	3,523.75	-424.16	163.59	454.60	0.46	-0.42	1.19
3,650.00	8.06	159.22	3,617.77	-436.97	168.24	468.23	0.47	-0.40	-1.71
3,746.00	7.78	159.39	3,712.85	-449.35	172.91	481.45	0.29	-0.29	0.18
3,841.00	7.57	158.52	3,807.00	-461.19	177.47	494.14	0.25	-0.22	-0.92
3,935.00	7.39	159.26	3,900.20	-472.60	181.88	506.38	0.22	-0.19	0.79
4,030.00	7.32	160.31	3,994.42	-484.02	186.08	518.53	0.16	-0.07	1.11

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Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
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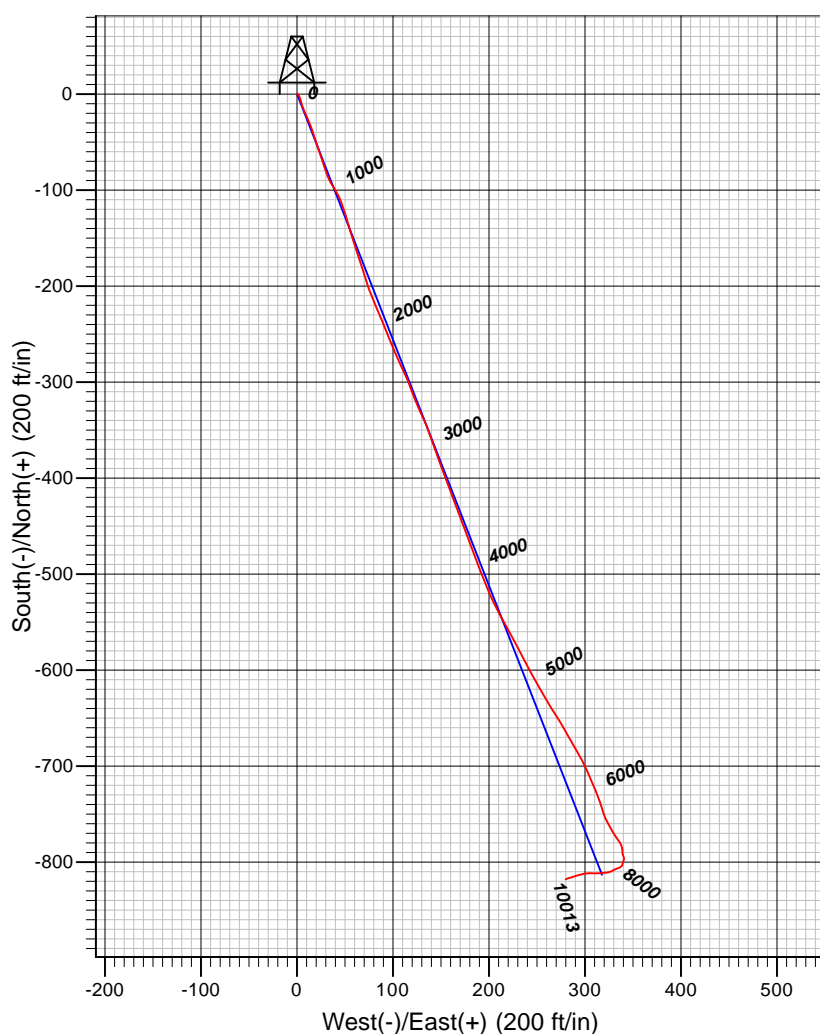
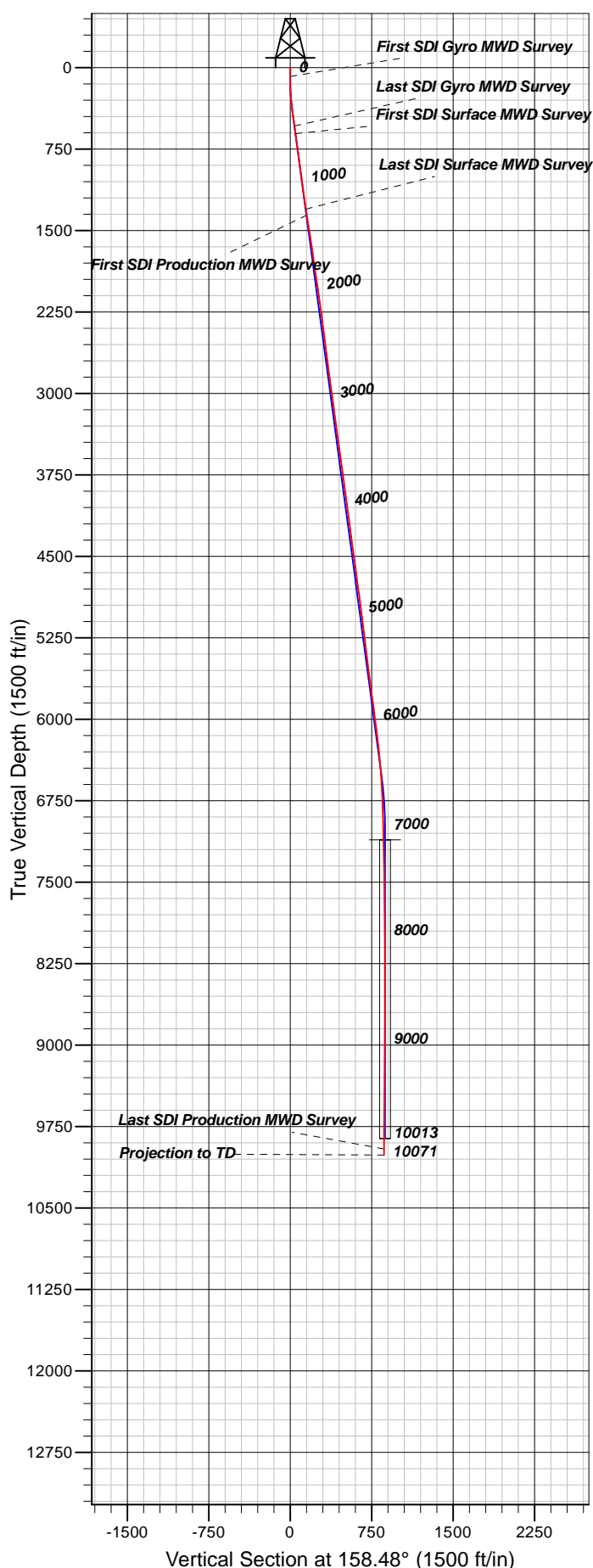
Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,125.00	8.00	158.38	4,088.57	-495.86	190.55	531.19	0.77	0.72	-2.03
4,220.00	7.63	157.61	4,182.69	-507.84	195.39	544.11	0.40	-0.39	-0.81
4,316.00	7.36	158.42	4,277.87	-519.45	200.08	556.63	0.30	-0.28	0.84
4,411.00	8.11	153.78	4,372.01	-531.12	205.28	569.39	1.03	0.79	-4.88
4,507.00	8.00	151.09	4,467.06	-543.04	211.50	582.77	0.41	-0.11	-2.80
4,602.00	7.56	151.88	4,561.18	-554.34	217.64	595.53	0.48	-0.46	0.83
4,698.00	7.30	150.30	4,656.38	-565.21	223.64	607.84	0.34	-0.27	-1.65
4,793.00	7.69	152.48	4,750.57	-576.09	229.57	620.14	0.51	0.41	2.29
4,889.00	7.74	152.97	4,845.70	-587.54	235.47	632.96	0.09	0.05	0.51
4,985.00	7.47	151.18	4,940.85	-598.77	241.42	645.59	0.37	-0.28	-1.86
5,080.00	7.47	151.09	5,035.05	-609.58	247.38	657.83	0.01	0.00	-0.09
5,176.00	7.30	150.67	5,130.25	-620.36	253.39	670.07	0.19	-0.18	-0.44
5,272.00	7.21	149.51	5,225.48	-630.87	259.43	682.06	0.18	-0.09	-1.21
5,367.00	6.98	147.47	5,319.75	-640.88	265.56	693.61	0.36	-0.24	-2.15
5,461.00	6.60	147.57	5,413.09	-650.25	271.53	704.52	0.40	-0.40	0.11
5,556.00	7.83	149.59	5,507.34	-660.44	277.73	716.28	1.32	1.29	2.13
5,652.00	7.78	151.05	5,602.45	-671.77	284.19	729.18	0.21	-0.05	1.52
5,747.00	7.52	150.00	5,696.61	-682.78	290.41	741.71	0.31	-0.27	-1.11
5,842.00	7.30	150.82	5,790.81	-693.43	296.46	753.84	0.26	-0.23	0.86
5,937.00	7.72	156.34	5,885.00	-704.54	301.96	766.20	0.88	0.44	5.81
6,032.00	7.65	156.98	5,979.15	-716.21	306.99	778.89	0.12	-0.07	0.67
6,127.00	7.12	158.46	6,073.36	-727.50	311.63	791.10	0.59	-0.56	1.56
6,221.00	6.87	160.37	6,166.66	-738.22	315.66	802.55	0.36	-0.27	2.03
6,317.00	6.60	163.13	6,262.00	-748.90	319.19	813.78	0.44	-0.28	2.88
6,412.00	5.28	151.44	6,356.49	-757.97	322.86	823.56	1.88	-1.39	-12.31
6,508.00	5.10	150.65	6,452.09	-765.57	327.06	832.18	0.20	-0.19	-0.82
6,603.00	3.68	146.26	6,546.81	-771.78	330.83	839.34	1.53	-1.49	-4.62
6,698.00	3.34	145.64	6,641.63	-776.60	334.08	845.02	0.36	-0.36	-0.65
6,794.00	1.85	148.72	6,737.53	-780.24	336.47	849.27	1.56	-1.55	3.21
6,889.00	1.71	159.89	6,832.49	-782.88	337.75	852.20	0.39	-0.15	11.76
6,984.00	1.64	166.75	6,927.45	-785.53	338.55	854.96	0.22	-0.07	7.22
7,080.00	1.49	180.09	7,023.41	-788.12	338.86	857.48	0.41	-0.16	13.90
7,175.00	1.49	176.84	7,118.38	-790.59	338.93	859.80	0.09	0.00	-3.42
7,270.00	1.30	155.80	7,213.35	-792.80	339.44	862.05	0.57	-0.20	-22.15
7,366.00	1.01	157.62	7,309.33	-794.58	340.21	863.98	0.30	-0.30	1.90
7,462.00	0.88	185.72	7,405.32	-796.09	340.45	865.49	0.50	-0.14	29.27
7,557.00	0.79	192.80	7,500.31	-797.46	340.24	866.68	0.14	-0.09	7.45
7,653.00	0.77	196.04	7,596.30	-798.72	339.91	867.73	0.05	-0.02	3.38
7,748.00	0.71	191.58	7,691.29	-799.91	339.62	868.73	0.09	-0.06	-4.69
7,844.00	0.80	191.94	7,787.28	-801.15	339.36	869.79	0.09	0.09	0.38
7,939.00	0.73	201.91	7,882.28	-802.36	339.00	870.78	0.16	-0.07	10.49
8,034.00	0.75	211.64	7,977.27	-803.45	338.44	871.59	0.13	0.02	10.24

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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)	
8,130.00	0.91	227.58	8,073.26	-804.50	337.55	872.24	0.29	0.17	16.60	
8,225.00	1.02	239.17	8,168.24	-805.45	336.27	872.65	0.24	0.12	12.20	
8,320.00	1.14	247.06	8,263.23	-806.25	334.67	872.81	0.20	0.13	8.31	
8,416.00	1.12	248.82	8,359.21	-806.96	332.92	872.83	0.04	-0.02	1.83	
8,510.00	1.14	246.71	8,453.19	-807.66	331.20	872.85	0.05	0.02	-2.24	
8,589.00	1.28	244.71	8,532.17	-808.35	329.68	872.93	0.19	0.18	-2.53	
8,685.00	1.46	241.06	8,628.15	-809.40	327.64	873.16	0.21	0.19	-3.80	
8,780.00	1.29	251.85	8,723.12	-810.32	325.57	873.25	0.33	-0.18	11.36	
8,874.00	1.42	259.98	8,817.09	-810.85	323.41	872.96	0.25	0.14	8.65	
8,970.00	1.19	265.54	8,913.07	-811.13	321.25	872.43	0.27	-0.24	5.79	
9,065.00	1.33	267.68	9,008.04	-811.25	319.16	871.78	0.16	0.15	2.25	
9,161.00	1.85	262.80	9,104.01	-811.49	316.51	871.03	0.56	0.54	-5.08	
9,256.00	2.11	268.95	9,198.95	-811.72	313.24	870.04	0.35	0.27	6.47	
9,351.00	2.18	272.57	9,293.88	-811.67	309.69	868.69	0.16	0.07	3.81	
9,446.00	2.64	270.88	9,388.80	-811.55	305.70	867.12	0.49	0.48	-1.78	
9,542.00	2.90	261.57	9,484.69	-811.88	301.08	865.73	0.54	0.27	-9.70	
9,637.00	2.46	258.31	9,579.58	-812.64	296.71	864.83	0.49	-0.46	-3.43	
9,733.00	2.46	252.95	9,675.50	-813.66	292.72	864.32	0.24	0.00	-5.58	
9,828.00	2.42	251.47	9,770.41	-814.90	288.87	864.06	0.08	-0.04	-1.56	
9,923.00	2.17	252.10	9,865.33	-816.09	285.26	863.84	0.26	-0.26	0.66	
10,013.00	2.20	252.51	9,955.27	-817.13	281.99	863.61	0.04	0.03	0.46	
Last SDI Production MWD Survey										
10,071.00	2.20	252.51	10,013.22	-817.80	279.87	863.45	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	
82.00	82.00	0.23	0.11	First SDI Gyro MWD Survey	
539.00	536.67	-36.77	15.29	Last SDI Gyro MWD Survey	
611.00	608.18	-44.74	17.87	First SDI Surface MWD Survey	
1,312.00	1,302.48	-134.31	52.96	Last SDI Surface MWD Survey	

Checked By: _____ Approved By: _____ Date: _____



Well Details: RU 544-7

TVD Reference: KELLY BUSHING @ 7943.02ft (Nabors 576 (26' R3B) Level: 7917.02

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1598823.20	2347576.90	39.4547583	-107.8108089	B08

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well RU 544-7 - Slot B08, True North
Vertical (TVD) Reference: KELLY BUSHING @ 7943.02ft (Nabors 576 (26' RKB) kjs)
Section (VS) Reference: Slot - B08(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

12:26, May 13 2015
Created By: Mel Mireles