

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well/Wellbore Information

Well	PA 323-2	Wellbore No.	00
Wellbore Legal Name	PA 323-2	Common Wellbore Name	PA 323-2
Project	PA 02-07S-095W	Site	GV 86-2 Pad
Vertical Section Azimuth	144.30 (°)	North reference	
Origin N/S		Origin E/W	
Spud date	3/8/2014	UWI	PA 323-2
Active datum	KB @5,847.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	WPX ENERGY
Date Started	3/8/2014	Ended	
Tool Name	MWD	Engineer	

2.1.1 Tie On Point

MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)
0.0	0.00	0.00	0.00	0.00	0.00

2.1.2 Survey Stations

Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. sec. (ft)	DLS (°/100usft)	Build Rate (°/100usft)	Turn (°/100usft)	Tface (°)
3/8/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/8/2014	NORMAL	78.0	0.09	226.23	78.00	-0.04	-0.04	0.01	0.12	0.12	0.00	226.23
	NORMAL	161.0	1.14	92.11	161.00	-0.12	0.73	0.52	1.45	1.27	-161.59	222.81
	NORMAL	251.0	2.29	105.47	250.95	-0.63	3.36	2.47	1.34	1.28	14.84	25.93
	NORMAL	342.0	4.40	115.49	341.79	-2.62	8.27	6.95	2.40	2.32	11.01	20.53
	NORMAL	432.0	5.89	113.47	431.43	-5.94	15.62	13.94	1.67	1.66	-2.24	352.06
	NORMAL	510.0	6.45	118.44	508.98	-9.62	23.14	21.32	0.99	0.72	6.37	46.14
	NORMAL	602.0	6.17	134.72	600.43	-15.56	31.20	30.84	1.96	-0.30	17.70	106.93
3/9/2014	NORMAL	692.0	7.83	142.71	689.76	-23.85	38.35	41.74	2.13	1.84	8.88	34.40
	NORMAL	784.0	8.41	145.83	780.83	-34.40	45.93	54.73	0.79	0.63	3.39	38.78
	NORMAL	844.0	7.34	146.28	840.27	-41.22	50.52	62.95	1.79	-1.78	0.75	176.92
3/10/2014	NORMAL	982.0	7.35	146.90	957.30	-53.81	58.82	78.02	0.07	0.01	0.53	83.12
	NORMAL	1,057.0	7.33	145.70	1,051.52	-63.91	65.56	90.15	0.16	-0.02	-1.26	261.97
	NORMAL	1,152.0	7.20	130.91	1,145.77	-72.81	73.47	102.00	1.97	-0.14	-15.57	258.71
	NORMAL	1,247.0	7.23	138.37	1,240.02	-81.18	81.94	113.74	0.99	0.03	7.85	91.87
	NORMAL	1,342.0	8.79	148.85	1,334.09	-91.86	89.67	126.92	2.24	1.64	11.03	48.38
	NORMAL	1,436.0	8.53	149.73	1,427.02	-104.03	96.90	141.02	0.31	-0.28	0.94	153.43
	NORMAL	1,531.0	9.40	148.22	1,520.86	-116.71	104.54	155.78	0.95	0.92	-1.59	344.12
	NORMAL	1,626.0	8.88	146.15	1,614.65	-129.39	112.71	170.85	0.65	-0.55	-2.18	211.29
	NORMAL	1,721.0	8.35	145.07	1,708.58	-141.14	120.74	185.07	0.58	-0.56	-1.14	196.44
	NORMAL	1,816.0	9.24	147.09	1,802.46	-153.20	128.84	199.59	0.99	0.94	2.13	20.14

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. sec. (ft)	DLS (%/100usft)	Build Rate (%/100usft)	Turn (%/100usft)	Tface (°)
3/10/2014	NORMAL	1,910.0	8.44	146.74	1,895.35	-165.30	136.72	214.02	0.85	-0.85	-0.37	183.67
3/11/2014	NORMAL	2,005.0	8.35	145.95	1,989.33	-176.84	144.40	227.88	0.15	-0.09	-0.83	231.64
	NORMAL	2,100.0	7.56	144.54	2,083.42	-187.65	151.89	241.02	0.86	-0.83	-1.48	193.18
	NORMAL	2,195.0	8.84	153.41	2,177.45	-199.27	158.79	254.48	1.89	1.35	9.34	49.11
	NORMAL	2,290.0	8.62	153.41	2,271.35	-212.16	165.24	268.72	0.23	-0.23	0.00	180.00
	NORMAL	2,385.0	8.23	151.63	2,365.32	-224.51	171.66	282.49	0.49	-0.41	-1.87	212.89
	NORMAL	2,479.0	8.09	146.48	2,458.37	-235.95	178.51	295.77	0.79	-0.15	-5.48	256.62
	NORMAL	2,574.0	7.39	145.46	2,552.50	-246.55	185.66	308.56	0.75	-0.74	-1.07	190.60
	NORMAL	2,669.0	8.62	142.79	2,646.58	-257.26	193.43	321.79	1.35	1.29	-2.81	341.85
	NORMAL	2,764.0	8.42	139.66	2,740.53	-268.23	202.24	335.84	0.53	-0.21	-3.29	245.13
	NORMAL	2,859.0	8.21	144.50	2,834.53	-279.05	210.68	349.55	0.77	-0.22	5.09	109.09
	NORMAL	2,954.0	8.35	145.16	2,928.54	-290.23	218.56	363.23	0.18	0.15	0.69	34.50
	NORMAL	3,049.0	8.00	145.16	3,022.58	-301.32	226.28	376.74	0.37	-0.37	0.00	180.00
	NORMAL	3,144.0	7.65	145.51	3,116.69	-311.96	233.64	389.67	0.37	-0.37	0.37	172.42
	NORMAL	3,239.0	7.33	144.29	3,210.88	-322.09	240.75	402.06	0.38	-0.34	-1.28	205.82
	NORMAL	3,334.0	8.53	141.91	3,304.97	-332.56	248.64	415.16	1.31	1.26	-2.51	343.52
	NORMAL	3,429.0	8.04	142.47	3,398.98	-343.37	257.03	428.84	0.52	-0.52	0.59	170.93
	NORMAL	3,524.0	8.82	144.17	3,492.95	-354.55	265.34	442.76	0.86	0.82	1.79	18.56
	NORMAL	3,619.0	9.23	147.36	3,586.78	-366.87	273.71	457.65	0.68	0.43	3.36	52.25
	NORMAL	3,713.0	8.35	149.03	3,679.67	-379.07	281.29	471.98	0.97	-0.94	1.78	164.65
	NORMAL	3,808.0	8.18	149.82	3,773.69	-390.82	288.24	485.58	0.22	-0.18	0.83	146.65
	NORMAL	3,904.0	9.13	148.20	3,868.59	-403.20	295.69	499.98	1.02	0.99	-1.69	344.81
	NORMAL	3,999.0	10.02	138.92	3,962.27	-415.84	305.09	515.73	1.87	0.94	-9.77	295.34
3/12/2014	NORMAL	4,094.0	9.76	137.95	4,055.86	-428.05	315.92	531.96	0.33	-0.27	-1.02	212.17
	NORMAL	4,189.0	9.41	139.45	4,149.54	-439.93	326.36	547.70	0.45	-0.37	1.58	145.23
	NORMAL	4,283.0	8.71	134.88	4,242.37	-450.79	336.40	562.38	1.07	-0.74	-4.86	223.55
	NORMAL	4,378.0	8.32	132.61	4,336.32	-460.52	346.55	576.21	0.54	-0.41	-2.39	219.64
	NORMAL	4,473.0	7.38	136.37	4,430.43	-469.59	355.82	588.98	1.13	-0.99	3.96	153.20
	NORMAL	4,568.0	7.12	131.57	4,524.67	-477.91	364.44	600.77	0.69	-0.27	-5.05	244.40
	NORMAL	4,663.0	7.09	134.70	4,618.94	-485.94	373.01	612.29	0.41	-0.03	3.29	95.98
	NORMAL	4,758.0	6.68	128.43	4,713.26	-493.50	381.50	623.39	0.90	-0.43	-6.60	238.30
	NORMAL	4,853.0	6.17	120.04	4,807.66	-499.49	390.25	633.36	1.12	-0.54	-8.83	237.36
	NORMAL	4,947.0	5.04	122.99	4,901.21	-504.27	398.09	641.81	1.24	-1.20	3.14	167.16
	NORMAL	5,042.0	3.96	124.42	4,995.92	-508.39	404.29	648.78	1.14	-1.14	1.51	174.78
	NORMAL	5,137.0	2.73	112.64	5,090.75	-511.12	409.09	653.79	1.48	-1.29	-12.40	203.40
	NORMAL	5,232.0	1.32	109.48	5,185.69	-512.36	412.21	656.62	1.49	-1.48	-3.33	182.95
	NORMAL	5,327.0	0.79	286.05	5,280.69	-512.54	412.61	657.00	2.22	-0.56	185.86	178.72
	NORMAL	5,421.0	0.92	275.67	5,374.68	-512.29	411.24	655.99	0.21	0.14	-11.04	304.74
	NORMAL	5,516.0	0.84	226.48	5,469.67	-512.69	409.97	655.58	0.77	-0.08	-51.78	239.74
	NORMAL	5,611.0	0.74	296.71	5,564.66	-512.89	408.92	655.13	0.96	-0.11	73.93	130.26
	NORMAL	5,706.0	1.29	270.88	5,659.65	-512.60	407.30	653.95	0.74	0.58	-27.19	306.85
3/13/2014	NORMAL	5,801.0	1.76	268.56	5,754.61	-512.62	404.78	652.49	0.50	0.49	-2.44	351.36
	NORMAL	5,895.0	1.11	216.76	5,848.59	-513.39	402.79	651.96	1.47	-0.69	-55.11	219.10
	NORMAL	5,990.0	0.73	184.41	5,943.57	-514.73	402.19	652.70	0.66	-0.40	-34.05	218.37
	NORMAL	6,085.0	0.44	148.06	6,038.57	-515.64	402.34	653.52	0.48	-0.31	-38.26	214.77
	NORMAL	6,180.0	0.44	217.58	6,133.57	-516.24	402.31	653.99	0.53	0.00	73.18	124.76
	NORMAL	6,275.0	0.28	222.12	6,228.57	-516.70	401.93	654.15	0.17	-0.17	4.78	172.16
	NORMAL	6,370.0	0.53	198.33	6,323.56	-517.29	401.64	654.45	0.31	0.26	-25.04	313.79
	NORMAL	6,465.0	0.92	216.98	6,418.56	-518.32	401.04	654.94	0.47	0.41	19.63	40.73
	NORMAL	6,560.0	1.17	207.16	6,513.54	-519.79	400.14	655.61	0.32	0.26	-10.34	319.41
	NORMAL	6,654.0	0.62	202.76	6,607.53	-521.11	399.50	656.31	0.59	-0.59	-4.68	184.93
	NORMAL	6,749.0	0.97	200.88	6,702.52	-522.34	399.02	657.02	0.37	0.37	-1.98	354.80
	NORMAL	6,844.0	1.61	220.46	6,797.50	-524.10	397.86	657.79	0.81	0.67	20.61	44.61
	NORMAL	6,939.0	2.28	231.35	6,892.44	-526.30	395.52	658.20	0.80	0.71	11.46	34.40
	NORMAL	7,034.0	2.74	243.49	6,987.35	-528.49	392.01	657.94	0.74	0.48	12.78	55.30
	NORMAL	7,129.0	2.81	236.74	7,082.24	-530.78	388.04	657.47	0.35	0.07	-7.11	278.71

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	EW (ft)	V. sec. (ft)	DLS (°/100usft)	Build Rate (°/100usft)	Turn (°/100usft)	Tface (°)
3/13/2014	NORMAL	7,224.0	3.56	234.44	7,177.09	-533.78	383.69	657.37	0.80	0.79	-2.42	349.18
3/14/2014	NORMAL	7,319.0	3.61	233.31	7,271.91	-537.28	378.89	657.41	0.09	0.05	-1.19	304.72
	NORMAL	7,414.0	3.96	234.81	7,366.70	-540.96	373.81	657.44	0.38	0.37	1.58	16.55
	NORMAL	7,505.0	4.12	230.63	7,457.47	-544.84	368.72	657.62	0.37	0.18	-4.59	296.42
	NORMAL	7,570.0	4.12	230.63	7,522.31	-547.80	365.11	657.92	0.00	0.00	0.00	0.00