

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well/Wellbore Information

Well	PA 443-3	Wellbore No.	00
Wellbore Legal Name	PA 443-3	Common Wellbore Name	PA 443-3
Project	PA 02-07S-095W	Site	GV 86-2 Pad
Vertical Section Azimuth	256.28 (°)	North reference	
Origin N/S		Origin E/W	
Spud date	5/28/2014	UWI	PA 443-3
Active datum	KB @5,847.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	5/28/2014	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 (°)
5/28/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/28/2014	NORMAL	71.0	0.18	235.11	71.00	-0.06	-0.09	0.10	0.25	0.25	0.00	235.11
	NORMAL	162.0	1.32	273.78	161.99	-0.08	-1.25	1.24	1.30	1.25	42.49	44.12
	NORMAL	254.0	4.13	260.24	253.88	-0.57	-5.58	5.55	3.11	3.05	-14.72	340.27
	NORMAL	344.0	7.04	257.52	343.44	-2.31	-14.16	14.30	3.25	3.23	-3.02	353.45
	NORMAL	435.0	11.00	256.90	433.30	-5.48	-28.06	28.56	4.35	4.35	-0.68	358.29
	NORMAL	599.0	18.04	258.30	591.96	-14.19	-68.22	69.64	4.30	4.29	0.85	3.54
	NORMAL	690.0	21.43	254.78	677.61	-21.41	-98.07	100.35	3.95	3.73	-3.87	339.01
	NORMAL	780.0	25.10	256.96	760.28	-30.04	-132.54	135.89	4.19	4.08	2.42	14.21
	NORMAL	871.0	29.32	258.48	841.19	-38.85	-173.20	177.47	4.70	4.64	1.67	10.03
	NORMAL	961.0	32.36	257.80	918.45	-48.34	-218.34	223.58	3.40	3.38	-0.76	353.17
	NORMAL	1,056.0	35.88	256.22	997.09	-60.35	-270.25	276.85	3.82	3.71	-1.66	345.21
	NORMAL	1,089.0	36.76	255.60	1,023.68	-65.11	-289.20	296.39	2.89	2.67	-1.88	337.10
	NORMAL	1,179.0	37.55	252.70	1,095.41	-79.96	-341.48	350.70	2.13	0.88	-3.22	293.12
	NORMAL	1,243.0	37.87	253.04	1,146.05	-91.49	-378.89	389.78	0.60	0.50	0.53	33.15
	NORMAL	1,338.0	37.31	253.96	1,221.32	-107.96	-434.45	447.66	0.83	-0.59	0.97	135.30
	NORMAL	1,432.0	37.37	255.18	1,296.06	-123.12	-489.41	504.65	0.79	0.06	1.30	85.85
	NORMAL	1,527.0	37.13	258.11	1,371.69	-136.41	-545.34	562.13	1.88	-0.25	3.08	98.87
	NORMAL	1,622.0	37.30	257.75	1,447.34	-148.42	-601.53	619.57	0.29	0.18	-0.38	307.84
	NORMAL	1,717.0	37.23	257.72	1,522.95	-160.64	-657.74	677.07	0.08	-0.07	-0.03	194.54
	NORMAL	1,812.0	36.38	257.72	1,599.01	-172.75	-713.35	733.97	0.89	-0.89	0.00	180.00

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 (°)
5/28/2014	NORMAL	1,906.0	35.70	256.83	1,675.02	-184.92	-767.29	789.26	0.91	-0.72	-0.95	217.24
	NORMAL	2,001.0	35.09	256.22	1,752.46	-197.74	-820.80	844.28	0.74	-0.64	-0.64	209.83
	NORMAL	2,086.0	35.09	255.43	1,830.19	-211.12	-873.75	898.89	0.48	0.00	-0.83	269.68
	NORMAL	2,191.0	35.09	254.55	1,907.93	-225.26	-926.50	953.49	0.53	0.00	-0.93	269.64
	NORMAL	2,286.0	35.35	256.83	1,985.54	-238.80	-979.58	1,008.27	1.41	0.27	2.40	79.75
	NORMAL	2,381.0	35.00	256.40	2,063.19	-251.47	-1,032.82	1,062.99	0.45	-0.37	-0.45	215.11
	NORMAL	2,476.0	34.91	256.31	2,141.06	-264.31	-1,085.71	1,117.42	0.11	-0.09	-0.09	209.77
	NORMAL	2,571.0	34.82	255.87	2,219.00	-277.36	-1,138.43	1,171.73	0.28	-0.09	-0.46	250.13
	NORMAL	2,665.0	35.26	255.60	2,295.97	-290.66	-1,190.73	1,225.69	0.50	0.47	-0.29	340.48
	NORMAL	2,760.0	35.88	255.78	2,373.24	-304.32	-1,244.28	1,280.95	0.66	0.65	0.19	9.66
	NORMAL	2,855.0	36.23	256.31	2,450.04	-317.80	-1,298.54	1,336.86	0.49	0.37	0.56	41.92
	NORMAL	2,950.0	35.96	256.83	2,526.81	-330.80	-1,352.98	1,392.83	0.43	-0.28	0.55	131.60
	NORMAL	3,045.0	35.97	256.82	2,603.70	-343.52	-1,407.30	1,448.62	0.01	0.01	-0.01	329.57
	NORMAL	3,140.0	35.62	256.97	2,680.75	-356.12	-1,461.42	1,504.18	0.38	-0.37	0.16	165.99
	NORMAL	3,235.0	33.81	257.62	2,758.84	-368.02	-1,514.19	1,558.27	1.94	-1.91	0.68	168.71
	NORMAL	3,330.0	33.77	257.40	2,837.79	-379.45	-1,565.77	1,611.09	0.14	-0.04	-0.23	251.80
	NORMAL	3,425.0	32.52	258.52	2,917.33	-390.29	-1,616.57	1,663.01	1.47	-1.32	1.18	154.37
	NORMAL	3,520.0	32.05	258.59	2,997.65	-400.36	-1,666.30	1,713.71	0.50	-0.49	0.07	175.48
	NORMAL	3,615.0	29.95	257.54	3,079.07	-410.46	-1,714.17	1,762.61	2.28	-2.21	-1.11	193.99
	NORMAL	3,709.0	28.83	256.61	3,160.98	-420.77	-1,759.13	1,808.74	1.29	-1.19	-0.99	201.77
	NORMAL	3,804.0	27.99	257.29	3,244.53	-430.98	-1,803.16	1,853.93	0.95	-0.88	0.72	159.23
	NORMAL	3,899.0	26.90	257.51	3,328.84	-440.54	-1,845.89	1,897.71	1.15	-1.15	0.23	174.78
	NORMAL	3,994.0	25.24	256.60	3,414.17	-449.88	-1,886.58	1,939.45	1.80	-1.75	-0.98	193.14
	NORMAL	4,089.0	23.99	257.04	3,500.54	-458.90	-1,925.11	1,979.02	1.33	-1.32	0.46	171.86
	NORMAL	4,184.0	22.25	256.28	3,587.91	-467.50	-1,961.40	2,016.32	1.86	-1.83	-0.80	189.38
	NORMAL	4,278.0	21.25	254.63	3,675.21	-476.24	-1,995.12	2,051.14	1.25	-1.06	-1.76	210.68
	NORMAL	4,374.0	19.87	257.19	3,765.10	-484.47	-2,027.80	2,084.85	1.72	-1.44	2.67	148.11
	NORMAL	4,468.0	18.99	256.92	3,853.74	-491.47	-2,058.28	2,116.11	0.94	-0.94	-0.29	185.70
	NORMAL	4,563.0	17.15	253.49	3,944.06	-498.95	-2,086.77	2,145.56	2.24	-1.94	-3.61	208.41
	NORMAL	4,658.0	16.24	257.25	4,035.05	-505.86	-2,113.15	2,172.84	1.49	-0.96	3.98	131.90
	NORMAL	4,753.0	14.68	260.97	4,126.62	-510.68	-2,138.00	2,198.12	1.94	-1.64	3.92	149.34
	NORMAL	4,848.0	13.10	261.80	4,218.84	-514.11	-2,160.55	2,220.83	1.68	-1.66	0.87	173.22
	NORMAL	4,943.0	12.71	261.52	4,311.44	-517.18	-2,181.54	2,241.95	0.42	-0.41	-0.29	188.97
	NORMAL	5,037.0	11.23	257.83	4,403.39	-520.64	-2,200.71	2,261.40	1.77	-1.57	-3.93	205.55
	NORMAL	5,132.0	10.02	254.20	4,496.76	-524.84	-2,217.71	2,278.91	1.45	-1.27	-3.82	207.17
	NORMAL	5,227.0	8.44	255.16	4,590.53	-528.88	-2,232.40	2,294.14	1.67	-1.66	1.01	174.91
	NORMAL	5,322.0	7.40	252.41	4,684.62	-532.51	-2,244.97	2,307.22	1.16	-1.09	-2.89	198.66
	NORMAL	5,416.0	6.39	253.43	4,777.94	-535.83	-2,255.76	2,318.48	1.08	-1.07	1.09	173.59
	NORMAL	5,511.0	5.52	249.84	4,872.43	-538.91	-2,265.11	2,328.30	1.00	-0.92	-3.78	201.40
	NORMAL	5,606.0	4.31	252.70	4,967.08	-541.55	-2,272.81	2,336.40	1.30	-1.27	3.01	169.97
	NORMAL	5,701.0	3.25	239.96	5,061.87	-543.96	-2,278.55	2,342.55	1.42	-1.12	-13.41	212.15
	NORMAL	5,796.0	1.14	239.52	5,156.79	-545.79	-2,281.70	2,346.04	2.22	-2.22	-0.46	180.24
	NORMAL	5,890.0	0.44	85.18	5,250.79	-546.23	-2,282.14	2,346.58	1.65	-0.74	-164.19	187.07
	NORMAL	5,985.0	0.53	90.19	5,345.79	-546.20	-2,281.34	2,345.79	0.10	0.09	5.27	27.75
	NORMAL	6,080.0	0.35	152.86	5,440.78	-546.46	-2,280.77	2,345.30	0.51	-0.19	65.97	139.90
	NORMAL	6,175.0	0.15	178.76	5,535.78	-546.85	-2,280.63	2,345.26	0.24	-0.21	27.26	163.06
	NORMAL	6,270.0	0.70	246.20	5,630.78	-547.20	-2,281.16	2,345.86	0.69	0.58	70.99	79.61
	NORMAL	6,365.0	0.88	15.93	5,725.78	-546.74	-2,281.49	2,346.07	1.51	0.19	136.56	151.80
	NORMAL	6,460.0	0.70	0.90	5,820.77	-545.45	-2,281.28	2,345.56	0.29	-0.19	-15.82	221.67
	NORMAL	6,555.0	0.88	353.87	5,915.76	-544.15	-2,281.35	2,345.32	0.21	0.19	-7.40	328.15
	NORMAL	6,649.0	0.70	352.20	6,009.75	-542.86	-2,281.51	2,345.16	0.19	-0.19	-1.78	186.46
	NORMAL	6,744.0	0.44	294.54	6,104.74	-542.14	-2,281.92	2,345.39	0.63	-0.27	-60.69	218.66
	NORMAL	6,839.0	1.06	287.95	6,199.74	-541.71	-2,283.09	2,346.42	0.66	0.65	-6.94	348.78
	NORMAL	6,934.0	1.23	276.87	6,294.72	-541.32	-2,284.93	2,348.13	0.29	0.18	-11.66	301.89
	NORMAL	7,029.0	1.93	281.09	6,389.68	-540.89	-2,287.52	2,350.53	0.75	0.74	4.44	11.55
	NORMAL	7,124.0	2.41	273.63	6,484.61	-540.46	-2,291.08	2,353.89	0.59	0.51	-7.85	325.76

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 (°)
5/28/2014	NORMAL	7,219.0	1.58	247.78	6,579.56	-540.83	-2,294.29	2,357.09	1.27	-0.87	-27.21	214.89
	NORMAL	7,314.0	1.41	258.15	6,674.52	-541.56	-2,296.64	2,359.56	0.34	-0.18	10.92	127.26
	NORMAL	7,409.0	1.76	242.51	6,769.49	-542.47	-2,299.08	2,362.14	0.58	0.37	-16.46	300.98
	NORMAL	7,503.0	1.32	243.74	6,863.45	-543.62	-2,301.33	2,364.60	0.47	-0.47	1.31	176.32
	NORMAL	7,598.0	1.58	231.08	6,958.42	-544.93	-2,303.33	2,366.85	0.43	0.27	-13.33	302.62
	NORMAL	7,693.0	1.99	243.44	7,053.38	-546.49	-2,305.83	2,369.65	0.59	0.43	13.01	49.49
	NORMAL	7,788.0	2.81	241.28	7,148.29	-548.34	-2,309.34	2,373.50	0.87	0.86	-2.27	352.63
	NORMAL	7,883.0	3.17	237.06	7,243.16	-550.89	-2,313.59	2,378.23	0.44	0.38	-4.44	326.44
	NORMAL	7,978.0	3.34	241.72	7,338.01	-553.63	-2,318.23	2,383.39	0.33	0.18	4.91	59.62
	NORMAL	8,050.0	3.34	241.72	7,409.89	-555.62	-2,321.93	2,387.45	0.00	0.00	0.00	0.00