

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well/Wellbore Information

Well	PA 23-6	Wellbore No.	00
Wellbore Legal Name	PA 23-6	Common Wellbore Name	PA 23-6
Project	PA 06-07S-095W	Site	PA 14-6 Pad
Vertical Section Azimuth	19.57 (°)	North reference	True
Origin N/S		Origin E/W	
Spud date	4/19/2014	UWI	PA 23-6
Active datum	KB @5,179.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	4/19/2014	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 (°)
4/19/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/19/2014	NORMAL	103.0	2.20	101.69	102.97	-0.40	1.94	0.27	2.14	2.14	0.00	101.69
	NORMAL	133.0	3.26	95.62	132.94	-0.60	3.35	0.56	3.66	3.53	-20.23	341.70
	NORMAL	164.0	3.70	82.44	163.88	-0.56	5.22	1.22	2.94	1.42	-42.52	292.13
	NORMAL	194.0	5.10	70.49	193.80	0.02	7.43	2.51	5.55	4.67	-39.83	320.73
	NORMAL	224.0	6.51	57.57	223.64	1.37	10.13	4.69	6.38	4.70	-43.07	310.63
	NORMAL	254.0	7.39	54.93	253.42	3.40	13.14	7.60	3.12	2.93	-8.80	338.73
	NORMAL	284.0	8.27	49.04	283.14	5.92	16.35	11.05	3.97	2.93	-19.63	314.70
	NORMAL	314.0	9.06	44.82	312.80	9.01	19.64	15.07	3.38	2.63	-14.07	319.07
	NORMAL	344.0	10.03	39.02	342.38	12.71	22.95	19.67	4.55	3.23	-19.33	312.36
	NORMAL	374.0	10.38	32.08	371.91	17.03	26.03	24.77	4.26	1.17	-23.13	282.46
	NORMAL	404.0	11.09	27.16	401.39	21.89	28.79	30.27	3.86	2.37	-16.40	305.33
	NORMAL	434.0	11.88	24.35	430.79	27.27	31.38	36.21	3.23	2.63	-9.37	323.31
	NORMAL	465.0	12.40	19.78	461.09	33.31	33.82	42.71	3.52	1.68	-14.74	296.17
4/20/2014	NORMAL	495.0	13.37	18.54	490.34	39.63	36.01	49.40	3.36	3.23	-4.13	343.48
	NORMAL	525.0	14.16	19.16	519.48	46.38	38.32	56.54	2.68	2.63	2.07	10.88
	NORMAL	539.0	14.42	19.84	533.04	49.64	39.47	60.00	2.21	1.86	4.86	33.17
	NORMAL	568.0	14.69	19.14	561.11	56.51	41.90	67.28	1.11	0.93	-2.41	326.57
	NORMAL	600.0	15.21	18.44	592.03	64.33	44.56	75.54	1.72	1.63	-2.19	340.51
	NORMAL	631.0	16.00	18.44	621.89	72.24	47.20	83.88	2.55	2.55	0.00	0.00
	NORMAL	661.0	17.06	20.02	650.65	80.30	50.01	92.41	3.84	3.53	5.27	23.74

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 (")
4/20/2014	NORMAL	691.0	17.94	19.14	679.26	88.80	53.04	101.43	3.06	2.93	-2.93	342.84
	NORMAL	721.0	19.52	18.44	707.67	97.92	56.14	111.06	5.32	5.27	-2.33	351.57
	NORMAL	751.0	20.84	16.68	735.83	107.78	59.25	121.40	4.84	4.40	-5.87	334.47
	NORMAL	782.0	21.90	17.38	764.69	118.58	62.56	132.69	3.52	3.42	2.26	13.86
	NORMAL	812.0	23.21	17.21	792.40	129.57	65.98	144.19	4.37	4.37	-0.57	357.07
	NORMAL	843.0	24.71	16.68	820.73	141.61	69.65	156.76	4.89	4.84	-1.71	351.59
	NORMAL	873.0	26.38	17.38	847.79	153.98	73.44	169.69	5.66	5.57	2.33	10.56
	NORMAL	903.0	27.88	16.68	874.49	167.06	77.45	183.35	5.11	5.00	-2.33	347.67
	NORMAL	934.0	28.40	16.85	901.83	181.06	81.66	197.95	1.70	1.68	0.55	8.84
	NORMAL	964.0	29.72	17.21	928.05	194.99	85.93	212.51	4.44	4.40	1.20	7.70
4/22/2014	NORMAL	1,059.0	32.18	16.68	1,009.52	241.73	100.16	261.31	2.61	2.59	-0.56	353.45
	NORMAL	1,154.0	34.47	16.50	1,088.89	291.74	115.06	313.43	2.41	2.41	-0.19	357.45
	NORMAL	1,173.0	35.09	16.15	1,104.50	302.14	118.11	324.25	3.43	3.26	-1.84	342.01
	NORMAL	1,251.0	35.09	15.45	1,168.32	345.29	130.32	368.99	0.52	0.00	-0.90	269.71
	NORMAL	1,346.0	33.94	16.68	1,246.60	397.02	145.20	422.72	1.42	-1.21	1.29	149.29
	NORMAL	1,442.0	32.27	17.21	1,327.01	447.17	160.48	475.09	1.77	-1.74	0.55	170.39
	NORMAL	1,537.0	32.18	17.73	1,407.38	495.49	175.69	525.72	0.31	-0.09	0.55	108.20
	NORMAL	1,632.0	31.39	17.03	1,488.13	543.25	190.64	575.72	0.92	-0.83	-0.74	204.72
	NORMAL	1,728.0	32.01	18.79	1,569.81	591.24	206.16	626.14	1.16	0.65	1.83	56.91
	NORMAL	1,823.0	33.50	18.26	1,649.70	639.98	222.48	677.53	1.60	1.57	-0.56	348.88
	NORMAL	1,919.0	33.68	19.32	1,729.68	690.26	239.59	730.63	0.64	0.19	1.10	73.38
	NORMAL	2,014.0	33.68	20.02	1,808.73	739.86	257.32	783.32	0.41	0.00	0.74	90.29
	NORMAL	2,109.0	33.94	18.79	1,887.66	789.72	274.88	836.17	0.77	0.27	-1.29	290.29
	NORMAL	2,204.0	32.71	19.67	1,967.04	839.00	292.07	888.36	1.39	-1.29	0.93	158.91
	NORMAL	2,299.0	32.36	21.95	2,047.14	886.75	310.21	939.44	1.34	-0.37	2.40	106.89
	NORMAL	2,395.0	33.06	21.60	2,127.91	934.93	329.45	991.27	0.76	0.73	-0.36	344.73
	NORMAL	2,490.0	33.41	21.43	2,207.37	983.37	348.55	1,043.31	0.38	0.37	-0.18	345.02
	NORMAL	2,585.0	33.85	20.90	2,286.47	1,032.43	367.54	1,095.90	0.56	0.46	-0.56	326.07
	NORMAL	2,680.0	34.47	20.55	2,365.08	1,082.32	386.42	1,149.24	0.68	0.65	-0.37	342.27
	NORMAL	2,776.0	32.89	20.02	2,444.97	1,132.26	404.88	1,202.47	1.67	-1.65	-0.55	190.32
	NORMAL	2,871.0	32.18	20.37	2,525.06	1,180.21	422.52	1,253.56	0.77	-0.75	0.37	165.30
	NORMAL	2,966.0	30.95	19.84	2,606.00	1,226.90	439.61	1,303.28	1.33	-1.29	-0.56	192.49
	NORMAL	3,060.0	30.16	19.84	2,686.95	1,271.85	455.83	1,351.07	0.84	-0.84	0.00	180.00
	NORMAL	3,156.0	28.75	20.37	2,770.54	1,316.18	472.05	1,398.27	1.49	-1.47	0.55	169.76
	NORMAL	3,252.0	27.00	18.79	2,855.40	1,358.46	487.11	1,443.15	1.98	-1.82	-1.65	202.19
	NORMAL	3,348.0	25.50	19.84	2,941.49	1,398.53	501.14	1,485.61	1.64	-1.56	1.09	163.27
	NORMAL	3,443.0	24.27	19.14	3,027.67	1,436.22	514.49	1,525.58	1.33	-1.29	-0.74	193.15
4/23/2014	NORMAL	3,539.0	22.16	18.79	3,115.90	1,472.00	526.79	1,563.42	2.20	-2.20	-0.36	183.58
	NORMAL	3,634.0	20.49	20.19	3,204.39	1,504.57	538.30	1,597.96	1.84	-1.76	1.47	163.70
	NORMAL	3,729.0	19.34	21.07	3,293.71	1,534.85	549.69	1,630.31	1.25	-1.21	0.93	165.80
	NORMAL	3,824.0	17.59	18.97	3,383.81	1,563.11	560.02	1,660.40	1.97	-1.84	-2.21	199.82
	NORMAL	3,920.0	17.59	18.97	3,475.32	1,590.55	569.45	1,689.41	0.00	0.00	0.00	0.00
	NORMAL	4,015.0	16.09	19.32	3,566.25	1,616.55	578.47	1,716.93	1.58	-1.58	0.37	176.30
	NORMAL	4,110.0	13.89	19.67	3,658.01	1,639.71	586.66	1,741.50	2.32	-2.32	0.37	177.81
	NORMAL	4,206.0	12.49	20.55	3,751.48	1,660.28	594.19	1,763.40	1.47	-1.46	0.92	172.27
	NORMAL	4,301.0	10.73	21.07	3,844.53	1,678.15	600.97	1,782.51	1.86	-1.85	0.55	176.85
	NORMAL	4,396.0	9.41	21.95	3,938.06	1,693.61	607.05	1,799.11	1.40	-1.39	0.93	173.78
4/24/2014	NORMAL	4,491.0	7.74	20.55	4,032.00	1,706.81	612.20	1,813.27	1.77	-1.76	-1.47	186.43
	NORMAL	4,586.0	5.98	19.84	4,126.31	1,717.45	616.13	1,824.62	1.85	-1.85	-0.75	182.41
	NORMAL	4,682.0	4.49	22.13	4,221.91	1,725.64	619.24	1,833.37	1.57	-1.55	2.39	173.16
	NORMAL	4,777.0	3.96	24.06	4,316.65	1,732.08	621.98	1,840.36	0.58	-0.56	2.03	165.94
	NORMAL	4,873.0	3.69	24.06	4,412.44	1,737.92	624.59	1,846.74	0.28	-0.28	0.00	180.00
	NORMAL	4,968.0	2.37	18.26	4,507.31	1,742.58	626.45	1,851.75	1.42	-1.39	-6.11	190.19
	NORMAL	5,064.0	2.11	17.91	4,603.23	1,746.15	627.62	1,855.50	0.27	-0.27	-0.36	182.84
	NORMAL	5,157.0	2.11	15.45	4,696.17	1,749.43	628.60	1,858.92	0.10	0.00	-2.65	268.77
	NORMAL	5,253.0	0.79	45.16	4,792.14	1,751.60	629.54	1,861.28	1.54	-1.38	30.95	164.62

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 (")
4/24/2014	NORMAL	5,348.0	0.70	60.10	4,887.13	1,752.35	630.51	1,862.31	0.22	-0.09	15.73	122.20
	NORMAL	5,443.0	0.44	98.42	4,982.13	1,752.58	631.37	1,862.83	0.47	-0.27	40.34	142.44
	NORMAL	5,538.0	0.44	102.11	5,077.12	1,752.45	632.09	1,862.94	0.03	0.00	3.88	91.84
4/25/2014	NORMAL	5,634.0	0.79	116.70	5,173.12	1,752.08	633.04	1,862.91	0.40	0.36	15.20	31.52
	NORMAL	5,729.0	0.62	137.97	5,268.11	1,751.40	633.97	1,862.58	0.33	-0.18	22.39	133.34
	NORMAL	5,824.0	0.62	136.74	5,363.11	1,750.65	634.67	1,862.10	0.01	0.00	-1.29	269.39
	NORMAL	5,920.0	0.97	148.69	5,459.10	1,749.57	635.45	1,861.35	0.40	0.36	12.45	31.40
	NORMAL	6,016.0	0.97	165.57	5,555.08	1,748.09	636.07	1,860.17	0.30	0.00	17.58	98.44
	NORMAL	6,111.0	0.53	180.68	5,650.07	1,746.88	636.27	1,859.09	0.50	-0.46	15.91	163.23
	NORMAL	6,206.0	0.44	146.23	5,745.07	1,746.13	636.46	1,858.45	0.32	-0.09	-36.26	236.11
	NORMAL	6,301.0	0.62	148.87	5,840.07	1,745.39	636.93	1,857.91	0.19	0.19	2.78	9.05
	NORMAL	6,397.0	0.79	176.46	5,936.06	1,744.28	637.24	1,856.97	0.39	0.18	28.74	77.64
	NORMAL	6,492.0	1.05	170.49	6,031.05	1,742.77	637.42	1,855.61	0.29	0.27	-6.28	336.76
	NORMAL	6,586.0	1.14	166.97	6,125.03	1,741.01	637.78	1,854.07	0.12	0.10	-3.74	321.46
	NORMAL	6,682.0	1.05	181.39	6,221.01	1,739.20	637.97	1,852.43	0.30	-0.09	15.02	115.21
	NORMAL	6,777.0	1.05	171.19	6,316.00	1,737.47	638.08	1,850.83	0.20	0.00	-10.74	264.90
4/26/2014	NORMAL	6,871.0	0.70	170.14	6,409.99	1,736.05	638.31	1,849.58	0.37	-0.37	-1.12	182.10
	NORMAL	6,967.0	0.79	163.81	6,505.98	1,734.84	638.60	1,848.53	0.13	0.09	-6.59	314.36
	NORMAL	7,012.0	0.79	163.81	6,550.98	1,734.25	638.77	1,848.03	0.00	0.00	0.00	0.00