

Deviation Summary

PICEANCE VLY

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well/Wellbore Information

Well	PA 12-7 ✓	Wellbore No.	00
Wellbore Legal Name	PA 12-7	Common Wellbore Name	PA 12-7
Project	PA 06-07S-095W	Site	PA 14-6 Pad
Vertical Section Azimuth	184.37 (°)	North reference	True
Origin N/S		Origin EW	
Spud date	5/5/2014	UWI	PA 12-7
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	5/5/2014	Ended	
Tool Name	MWD	Engineer	

2.1.1 Tie On Point

MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	EW (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)	EW (ft)	V. sec. (ft)	DLS (°/100usft)	Build Rate (°/100usft)	Turn (°/100usft)	Tface (°)
5/5/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/5/2014	NORMAL	74.0	0.09	321.94	74.00	0.05	-0.04	-0.04	0.12	0.12	0.00	321.94
	NORMAL	104.0	0.62	227.55	104.00	-0.05	-0.17	0.06	2.11	1.77	-314.63	257.46
	NORMAL	135.0	1.41	193.80	134.99	-0.53	-0.38	0.56	3.09	2.55	-108.87	305.19
	NORMAL	165.0	1.85	199.69	164.98	-1.34	-0.64	1.39	1.57	1.47	19.63	23.81
	NORMAL	195.0	2.29	199.51	194.96	-2.36	-1.00	2.43	1.47	1.47	-0.60	359.06
	NORMAL	225.0	2.29	205.14	224.94	-3.47	-1.45	3.57	0.75	0.00	18.77	92.81
	NORMAL	255.0	3.17	200.14	254.90	-4.79	-1.99	4.93	3.04	2.93	-16.67	342.35
	NORMAL	285.0	4.40	195.82	284.84	-6.68	-2.59	6.86	4.21	4.10	-14.40	344.79
	NORMAL	315.0	5.37	195.03	314.73	-9.14	-3.27	9.36	3.24	3.23	-2.63	355.64
	NORMAL	345.0	6.33	188.79	344.57	-12.13	-3.89	12.39	3.83	3.20	-20.80	323.34
	NORMAL	375.0	7.48	190.81	374.36	-15.68	-4.51	15.98	3.92	3.83	6.73	12.93
	NORMAL	405.0	9.06	190.46	404.04	-19.93	-5.30	20.27	5.27	5.27	-1.17	358.00
	NORMAL	436.0	9.94	193.01	434.62	-24.93	-6.35	25.34	3.15	2.84	8.23	26.82
	NORMAL	466.0	10.47	192.83	464.14	-30.11	-7.54	30.60	1.77	1.77	-0.60	356.47
	NORMAL	496.0	11.00	190.63	493.62	-35.58	-8.67	36.14	2.23	1.77	-7.33	321.21
	NORMAL	527.0	11.96	188.53	524.00	-41.67	-9.69	42.29	3.38	3.10	-6.77	335.44
	NORMAL	557.0	13.46	188.17	553.26	-48.20	-10.65	48.87	5.01	5.00	-1.20	356.80
	NORMAL	587.0	14.60	187.73	582.37	-55.40	-11.65	56.13	3.82	3.80	-1.47	354.44
5/6/2014	NORMAL	601.0	14.90	186.04	595.91	-58.94	-12.08	59.69	3.75	2.14	-12.07	304.07
	NORMAL	631.0	16.44	191.32	624.79	-66.94	-13.32	67.76	6.99	5.13	17.60	45.36

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 (°)
5/6/2014	NORMAL	661.0	16.97	189.65	653.52	-75.42	-14.89	76.33	2.38	1.77	-5.57	317.03
	NORMAL	691.0	17.71	189.56	682.16	-84.23	-16.38	85.24	2.47	2.47	-0.30	357.88
	NORMAL	721.0	18.15	187.63	710.70	-93.36	-17.76	94.45	2.46	1.47	-6.43	305.60
	NORMAL	752.0	18.90	187.71	740.10	-103.13	-19.07	104.28	2.42	2.42	0.26	1.98
	NORMAL	782.0	19.78	186.48	768.41	-112.98	-20.30	114.20	3.23	2.93	-4.10	334.58
	NORMAL	813.0	20.79	185.89	797.48	-123.67	-21.45	124.94	3.32	3.26	-1.90	348.27
	NORMAL	842.0	21.58	184.20	824.52	-134.11	-22.37	135.42	3.44	2.72	-5.83	321.50
	NORMAL	872.0	22.59	185.69	852.32	-145.34	-23.35	146.70	3.85	3.37	4.97	29.71
	NORMAL	902.0	23.82	186.31	879.89	-157.10	-24.58	158.52	4.18	4.10	2.07	11.52
	NORMAL	933.0	24.92	185.43	908.13	-169.82	-25.89	171.30	3.74	3.55	-2.84	341.33
	NORMAL	963.0	25.98	184.73	935.22	-182.66	-27.03	184.19	3.67	3.53	-2.33	343.84
	NORMAL	995.0	27.52	184.38	963.79	-197.02	-28.17	198.60	4.84	4.81	-1.09	354.00
	NORMAL	1,027.0	28.53	184.38	992.04	-212.01	-29.32	213.63	3.16	3.16	0.00	0.00
	NORMAL	1,058.0	29.58	184.29	1,019.14	-227.03	-30.46	228.69	3.39	3.39	-0.29	357.58
	NORMAL	1,090.0	30.68	184.29	1,046.82	-243.04	-31.66	244.75	3.44	3.44	0.00	0.00
	NORMAL	1,122.0	31.91	184.02	1,074.16	-259.62	-32.86	261.37	3.87	3.84	-0.84	353.38
	NORMAL	1,154.0	32.66	183.41	1,101.21	-276.68	-33.97	278.46	2.56	2.34	-1.91	336.26
	NORMAL	1,185.0	33.41	183.21	1,127.20	-293.55	-34.95	295.36	2.44	2.42	-0.65	351.64
	NORMAL	1,217.0	34.37	183.41	1,153.76	-311.36	-35.98	313.20	3.02	3.00	0.63	6.71
	NORMAL	1,249.0	35.03	182.53	1,180.07	-329.55	-36.92	331.41	2.59	2.06	-2.75	322.44
	NORMAL	1,344.0	35.52	182.71	1,257.63	-384.36	-39.43	386.25	0.53	0.52	0.19	12.05
	NORMAL	1,440.0	36.97	184.38	1,335.05	-441.00	-42.95	442.99	1.83	1.51	1.74	34.93
	NORMAL	1,535.0	35.82	183.32	1,411.52	-497.24	-46.74	499.36	1.38	-1.21	-1.12	208.25
	NORMAL	1,630.0	33.67	183.23	1,489.58	-551.29	-49.84	553.49	2.26	-2.26	-0.09	181.33
	NORMAL	1,726.0	34.29	183.23	1,569.19	-604.86	-52.86	607.13	0.65	0.65	0.00	0.00
	NORMAL	1,827.0	35.52	183.85	1,652.02	-662.54	-56.43	664.92	1.27	1.22	0.61	16.34
5/7/2014	NORMAL	1,917.0	35.38	184.11	1,725.33	-714.62	-60.06	717.11	0.23	-0.16	0.29	132.98
	NORMAL	2,013.0	34.73	183.41	1,803.92	-769.63	-63.67	772.25	0.80	-0.68	-0.73	211.45
	NORMAL	2,108.0	34.77	183.41	1,881.97	-823.69	-66.90	826.39	0.04	0.04	0.00	0.00
	NORMAL	2,203.0	34.11	184.55	1,960.32	-877.28	-70.62	880.11	0.97	-0.69	1.20	136.14
5/8/2014	NORMAL	2,298.0	35.65	185.08	2,038.25	-931.42	-75.18	934.44	1.65	1.62	0.56	11.35
	NORMAL	2,393.0	34.90	183.76	2,115.81	-986.11	-79.42	989.30	1.13	-0.79	-1.39	224.93
	NORMAL	2,489.0	34.11	183.58	2,194.92	-1,040.38	-82.90	1,043.67	0.83	-0.82	-0.19	187.28
	NORMAL	2,584.0	34.55	183.76	2,273.37	-1,093.85	-86.33	1,097.25	0.48	0.46	0.19	13.07
	NORMAL	2,679.0	36.00	185.52	2,350.93	-1,148.52	-90.78	1,152.10	1.86	1.53	1.85	35.75
	NORMAL	2,775.0	35.60	183.94	2,428.79	-1,204.48	-95.42	1,208.25	1.05	-0.42	-1.65	245.96
	NORMAL	2,870.0	35.78	183.76	2,505.95	-1,259.78	-99.14	1,263.67	0.22	0.19	-0.19	329.67
	NORMAL	2,965.0	35.38	182.53	2,583.22	-1,314.97	-102.17	1,318.93	0.86	-0.42	-1.29	240.30
	NORMAL	3,059.0	34.59	182.09	2,660.23	-1,368.82	-104.35	1,372.79	0.88	-0.84	-0.47	197.53
	NORMAL	3,155.0	33.19	183.94	2,739.92	-1,422.27	-107.15	1,426.30	1.81	-1.46	1.93	144.38
	NORMAL	3,251.0	30.86	184.29	2,821.31	-1,473.05	-110.79	1,477.20	2.43	-2.43	0.36	175.59
	NORMAL	3,347.0	28.44	184.73	2,904.73	-1,520.39	-114.52	1,524.69	2.53	-2.52	0.46	175.05
	NORMAL	3,442.0	26.68	184.20	2,988.95	-1,564.20	-117.95	1,568.64	1.87	-1.85	-0.56	187.70
	NORMAL	3,537.0	26.29	184.11	3,073.98	-1,606.46	-121.02	1,611.01	0.41	-0.41	-0.09	185.84
	NORMAL	3,633.0	25.10	184.46	3,160.48	-1,647.97	-124.13	1,652.63	1.25	-1.24	0.36	172.89
	NORMAL	3,728.0	23.12	183.94	3,247.19	-1,686.67	-126.98	1,691.44	2.10	-2.08	-0.55	185.89
	NORMAL	3,823.0	22.20	184.38	3,334.86	-1,723.17	-129.63	1,728.04	0.98	-0.97	0.46	169.76
	NORMAL	3,918.0	22.46	183.76	3,422.73	-1,759.17	-132.19	1,764.13	0.37	0.27	-0.65	317.54
	NORMAL	4,014.0	22.42	184.02	3,511.47	-1,795.73	-134.67	1,800.77	0.11	-0.04	0.27	112.07
	NORMAL	4,109.0	20.31	184.64	3,599.93	-1,830.24	-137.28	1,835.38	2.23	-2.22	0.65	174.18
5/9/2014	NORMAL	4,205.0	17.98	183.32	3,690.62	-1,861.64	-139.48	1,866.86	2.47	-2.43	-1.38	189.90
	NORMAL	4,300.0	14.95	186.04	3,781.71	-1,888.47	-141.62	1,893.78	3.29	-3.19	2.86	167.03
	NORMAL	4,395.0	13.89	186.22	3,873.72	-1,912.00	-144.15	1,917.42	1.12	-1.12	0.19	177.67
	NORMAL	4,490.0	12.18	184.55	3,966.27	-1,933.32	-146.18	1,938.84	1.84	-1.80	-1.76	191.61
	NORMAL	4,585.0	10.73	181.39	4,059.37	-1,952.16	-147.19	1,957.70	1.66	-1.53	-3.33	201.86
	NORMAL	4,681.0	9.32	184.64	4,153.91	-1,968.84	-148.03	1,974.40	1.58	-1.47	3.39	159.73

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 (°)
5/9/2014	NORMAL	4,776.0	7.96	184.20	4,247.83	-1,983.07	-149.14	1,988.67	1.43	-1.43	-0.46	182.57
	NORMAL	4,871.0	6.15	185.08	4,342.10	-1,994.70	-150.07	2,000.33	1.91	-1.91	0.93	177.02
5/10/2014	NORMAL	4,967.0	4.35	183.06	4,437.70	-2,003.46	-150.72	2,009.12	1.88	-1.88	-2.10	184.86
	NORMAL	5,062.0	3.03	182.53	4,532.50	-2,009.56	-151.02	2,015.23	1.39	-1.39	-0.56	181.22
	NORMAL	5,158.0	1.58	166.01	4,628.42	-2,013.38	-150.82	2,019.02	1.65	-1.51	-17.21	196.52
	NORMAL	5,253.0	0.40	277.01	4,723.41	-2,014.61	-150.83	2,020.25	1.86	-1.24	116.84	167.77
	NORMAL	5,349.0	0.44	256.62	4,819.41	-2,014.66	-151.52	2,020.34	0.16	0.04	-21.24	274.64
	NORMAL	5,444.0	0.48	259.52	4,914.40	-2,014.81	-152.27	2,020.56	0.05	0.04	3.05	31.66
	NORMAL	5,539.0	0.48	233.77	5,009.40	-2,015.12	-152.98	2,020.92	0.23	0.00	-27.11	257.13
	NORMAL	5,634.0	0.61	249.41	5,104.40	-2,015.53	-153.77	2,021.39	0.21	0.14	16.46	56.85
	NORMAL	5,730.0	0.97	232.72	5,200.39	-2,016.21	-154.90	2,022.15	0.44	0.38	-17.39	318.88
	NORMAL	5,828.0	0.26	319.55	5,298.38	-2,016.54	-155.70	2,022.54	1.01	-0.72	88.60	164.80
	NORMAL	5,965.0	0.26	345.48	5,435.38	-2,016.00	-155.98	2,022.03	0.09	0.00	18.93	102.96
	NORMAL	6,016.0	0.31	8.07	5,486.38	-2,015.75	-155.99	2,021.78	0.24	0.10	44.29	77.58
	NORMAL	6,111.0	0.35	274.02	5,581.38	-2,015.48	-156.24	2,021.52	0.51	0.04	-99.00	226.21
	NORMAL	6,207.0	0.35	209.59	5,677.38	-2,015.71	-156.68	2,021.79	0.39	0.00	-67.11	237.79
	NORMAL	6,302.0	0.92	207.49	5,772.37	-2,016.64	-157.18	2,022.76	0.60	0.60	-2.21	356.61
	NORMAL	6,398.0	1.52	215.22	5,868.35	-2,018.37	-158.27	2,024.56	0.65	0.63	8.05	19.23
	NORMAL	6,493.0	1.50	209.42	5,963.32	-2,020.48	-159.60	2,026.77	0.16	-0.02	-6.11	259.65
	NORMAL	6,587.0	1.32	213.64	6,057.29	-2,022.45	-160.81	2,028.82	0.22	-0.19	4.49	152.12
	NORMAL	6,682.0	1.19	210.48	6,152.27	-2,024.21	-161.92	2,030.66	0.15	-0.14	-3.33	206.46
	NORMAL	6,777.0	0.97	201.78	6,247.25	-2,025.81	-162.71	2,032.32	0.29	-0.23	-9.16	212.40
5/11/2014	NORMAL	6,872.0	1.19	216.63	6,342.23	-2,027.35	-163.60	2,033.92	0.37	0.23	15.63	59.41
	NORMAL	6,932.0	1.05	209.07	6,402.22	-2,028.33	-164.24	2,034.95	0.34	-0.23	-12.60	222.81
	NORMAL	6,977.0	1.05	209.07	6,447.21	-2,029.05	-164.64	2,035.69	0.00	0.00	0.00	0.00