

# Deviation Summary

PICEANCE VLY

## 1 General

### 1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

### 1.2 Well/Wellbore Information

Well	PA 24-2	Wellbore No.	0
Wellbore Legal Name	PA 24-2	Common Wellbore Name	PA 24-2
Project	PA 02-07S-095W	Site	GV 86-2 Pad
Vertical Section Azimuth	155.48 (°)	North reference	
Origin N/S		Origin E/W	
Spud date	3/29/2014	UWI	PA 24-2
Active datum	KB @5,847.0ft (above Mean Sea Level)		

## 2 Survey Name

### 2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	3/29/2014	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 (°)
3/29/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/29/2014	NORMAL	72.0	0.09	176.84	72.00	-0.06	0.00	0.05	0.12	0.12	0.00	176.84
	NORMAL	161.0	1.23	163.65	160.99	-1.04	0.28	1.06	1.28	1.28	-14.82	345.78
	NORMAL	251.0	3.08	147.04	250.93	-4.00	1.86	4.41	2.15	2.06	-18.46	332.92
	NORMAL	342.0	4.66	151.26	341.72	-9.29	4.97	10.52	1.76	1.74	4.64	12.33
	NORMAL	416.0	5.45	152.36	415.43	-15.04	8.05	17.02	1.08	1.07	1.49	7.54
	NORMAL	507.0	7.38	157.22	505.85	-24.26	12.31	27.18	2.20	2.12	5.34	18.14
	NORMAL	599.0	9.52	156.57	596.85	-36.69	17.63	40.70	2.33	2.33	-0.71	357.12
	NORMAL	689.0	11.43	156.14	685.35	-51.67	24.20	57.06	2.12	2.12	-0.48	357.44
	NORMAL	781.0	12.12	152.12	775.41	-68.55	32.40	75.81	1.16	0.75	-4.37	308.09
	NORMAL	851.0	12.63	153.14	843.79	-81.87	39.29	90.80	0.79	0.73	1.46	23.70
	NORMAL	915.0	12.63	153.14	906.24	-94.36	45.62	104.78	0.00	0.00	0.00	0.00
3/31/2014	NORMAL	960.0	13.53	155.81	950.07	-103.55	50.00	114.96	2.41	2.00	5.93	35.18
	NORMAL	1,055.0	14.09	155.09	1,042.32	-124.17	59.42	137.63	0.62	0.59	-0.76	342.59
	NORMAL	1,150.0	14.57	154.50	1,134.37	-145.45	69.44	161.14	0.53	0.51	-0.62	342.79
	NORMAL	1,245.0	13.98	157.37	1,226.44	-166.82	79.00	184.56	0.97	-0.62	3.02	131.20
	NORMAL	1,340.0	13.98	157.72	1,318.62	-188.03	87.76	207.50	0.09	0.00	0.37	90.17
	NORMAL	1,435.0	13.54	159.48	1,410.90	-209.07	96.01	230.06	0.64	-0.46	1.85	137.28
	NORMAL	1,530.0	12.93	159.96	1,503.37	-229.47	103.55	251.75	0.65	-0.64	0.51	170.02
	NORMAL	1,624.0	11.92	155.33	1,595.17	-248.17	111.21	271.94	1.51	-1.07	-4.93	222.36
	NORMAL	1,719.0	10.99	154.47	1,688.28	-265.26	119.21	290.81	1.00	-0.98	-0.91	189.99

## 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 (°)
3/31/2014	NORMAL	1,814.0	11.61	153.85	1,781.44	-282.01	127.32	309.42	0.67	0.65	-0.65	348.61
	NORMAL	1,909.0	11.43	155.17	1,874.52	-299.13	135.49	328.38	0.34	-0.19	1.39	124.97
	NORMAL	2,003.0	11.17	155.88	1,966.70	-315.90	143.12	346.80	0.31	-0.28	0.76	152.20
	NORMAL	2,098.0	12.57	155.09	2,059.67	-333.67	151.23	366.34	1.48	1.47	-0.83	352.99
	NORMAL	2,193.0	12.49	156.84	2,152.41	-352.49	159.63	386.95	0.41	-0.08	1.84	102.75
	NORMAL	2,288.0	12.22	154.03	2,245.21	-370.98	168.07	407.27	0.69	-0.28	-2.96	244.45
	NORMAL	2,383.0	11.34	155.52	2,338.21	-388.52	176.34	426.66	0.98	-0.93	1.57	161.66
	NORMAL	2,478.0	12.49	153.59	2,431.16	-406.22	184.78	446.27	1.28	1.21	-2.03	339.94
	NORMAL	2,573.0	11.80	153.19	2,524.03	-424.09	193.73	466.24	0.73	-0.73	-0.42	186.76
	NORMAL	2,668.0	12.75	153.94	2,616.86	-442.18	202.72	486.43	1.01	1.00	0.79	9.89
	NORMAL	2,763.0	12.68	153.70	2,709.53	-460.94	211.95	507.33	0.09	-0.07	-0.25	216.92
	NORMAL	2,857.0	12.23	153.20	2,801.32	-479.08	221.01	527.59	0.49	-0.48	-0.53	193.23
	NORMAL	2,952.0	11.61	153.30	2,894.27	-496.60	229.84	547.20	0.65	-0.65	0.11	178.14
	NORMAL	3,047.0	12.84	153.33	2,987.11	-514.57	238.87	567.30	1.29	1.29	0.03	0.31
	NORMAL	3,142.0	12.49	153.33	3,079.80	-533.18	248.22	588.11	0.37	-0.37	0.00	180.00
	NORMAL	3,237.0	12.05	153.15	3,172.63	-551.21	257.31	608.29	0.46	-0.46	-0.19	184.88
	NORMAL	3,332.0	13.01	152.27	3,265.37	-569.52	266.77	628.87	1.03	1.01	-0.93	348.32
	NORMAL	3,427.0	12.95	154.84	3,357.94	-588.62	276.27	650.19	0.61	-0.06	2.71	97.19
	NORMAL	3,522.0	12.51	155.70	3,450.61	-607.64	285.03	671.13	0.50	-0.46	0.91	157.12
	NORMAL	3,617.0	11.96	155.52	3,543.45	-625.97	293.34	691.26	0.58	-0.58	-0.19	183.88
	NORMAL	3,711.0	13.19	151.22	3,635.19	-644.24	302.54	711.70	1.64	1.31	-4.57	320.61
4/1/2014	NORMAL	3,806.0	13.02	151.48	3,727.72	-663.14	312.87	733.18	0.19	-0.18	0.27	161.00
	NORMAL	3,901.0	12.96	150.69	3,820.29	-681.83	323.19	754.47	0.20	-0.06	-0.83	250.95
	NORMAL	3,996.0	12.84	152.80	3,912.89	-700.51	333.23	775.63	0.51	-0.13	2.22	105.32
	NORMAL	4,091.0	10.90	149.99	4,005.86	-717.68	342.55	795.12	2.13	-2.04	-2.96	195.22
	NORMAL	4,186.0	10.33	149.94	4,099.23	-732.83	351.31	812.54	0.60	-0.60	-0.05	180.90
	NORMAL	4,281.0	10.38	154.29	4,192.68	-747.91	359.29	829.57	0.82	0.05	4.58	88.48
	NORMAL	4,376.0	9.32	152.98	4,286.28	-762.48	366.50	845.81	1.14	-1.12	-1.38	191.29
	NORMAL	4,471.0	9.41	150.51	4,380.02	-776.09	373.81	861.24	0.43	0.09	-2.60	281.40
	NORMAL	4,565.0	8.00	147.53	4,472.93	-788.30	381.11	875.37	1.57	-1.50	-3.17	196.27
	NORMAL	4,660.0	7.56	144.19	4,567.06	-798.94	388.31	888.05	0.66	-0.46	-3.52	224.13
	NORMAL	4,755.0	7.20	136.92	4,661.27	-808.36	396.04	899.82	1.05	-0.38	-7.65	245.34
	NORMAL	4,850.0	5.98	140.76	4,755.65	-816.54	403.23	910.25	1.36	-1.28	4.04	162.04
	NORMAL	4,945.0	5.94	143.80	4,850.13	-824.34	409.27	919.85	0.33	-0.04	3.20	98.73
	NORMAL	5,039.0	5.19	144.27	4,943.69	-831.72	414.62	928.78	0.80	-0.80	0.50	176.76
	NORMAL	5,134.0	3.78	140.32	5,038.40	-837.61	419.13	936.02	1.52	-1.48	-4.16	190.39
	NORMAL	5,229.0	2.84	131.98	5,133.24	-841.60	422.88	941.20	1.11	-0.99	-8.78	203.00
	NORMAL	5,324.0	1.56	143.45	5,228.17	-844.21	425.40	944.62	1.42	-1.35	12.07	166.69
	NORMAL	5,419.0	0.18	286.66	5,323.16	-845.21	426.03	945.79	1.80	-1.45	150.75	176.38
	NORMAL	5,513.0	0.97	301.42	5,417.15	-844.75	425.21	945.03	0.85	0.84	15.70	18.06
	NORMAL	5,608.0	0.62	194.81	5,512.14	-844.83	424.39	944.77	1.36	-0.37	-112.22	207.38
4/2/2014	NORMAL	5,703.0	1.23	187.95	5,607.13	-846.34	424.12	946.02	0.65	0.64	-7.22	346.27
	NORMAL	5,798.0	1.07	193.92	5,702.11	-848.21	423.76	947.58	0.21	-0.17	6.28	146.13
	NORMAL	5,893.0	1.50	200.18	5,797.09	-850.23	423.12	949.16	0.48	0.45	6.59	21.23
	NORMAL	5,988.0	1.49	205.53	5,892.06	-852.52	422.16	950.83	0.15	-0.01	5.63	96.77
	NORMAL	6,082.0	0.62	255.19	5,986.04	-853.75	421.14	951.53	1.26	-0.93	52.83	156.53
	NORMAL	6,177.0	0.70	47.42	6,081.04	-853.49	421.07	951.27	1.35	0.08	160.24	165.26
	NORMAL	6,272.0	0.70	53.24	6,176.03	-852.75	421.96	950.96	0.07	0.00	6.13	92.91
	NORMAL	6,367.0	0.35	349.59	6,271.03	-852.11	422.38	950.56	0.66	-0.37	-67.00	209.94
	NORMAL	6,462.0	0.51	245.32	6,366.03	-852.01	421.94	950.28	0.72	0.17	-109.76	226.10
	NORMAL	6,557.0	1.58	258.88	6,461.01	-852.44	420.27	949.98	1.15	1.13	14.27	19.85
	NORMAL	6,652.0	2.42	256.12	6,555.95	-853.17	417.04	949.30	0.89	0.88	-2.91	352.08
	NORMAL	6,746.0	2.46	228.03	6,649.87	-854.99	413.61	949.54	1.26	0.04	-29.88	257.84
	NORMAL	6,841.0	3.48	221.15	6,744.74	-858.53	410.20	951.34	1.14	1.07	-7.24	337.28
	NORMAL	6,936.0	3.21	221.14	6,839.58	-862.70	406.55	953.62	0.28	-0.28	-0.01	180.12
	NORMAL	7,031.0	1.92	204.29	6,934.49	-866.16	404.15	955.77	1.56	-1.36	-17.74	202.07

## 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 (°)
4/2/2014	NORMAL	7,126.0	2.23	208.63	7,029.42	-869.23	402.61	957.93	0.37	0.33	4.57	29.06
	NORMAL	7,221.0	3.34	213.53	7,124.31	-873.16	400.19	960.50	1.19	1.17	5.16	14.56
	NORMAL	7,316.0	4.36	216.70	7,219.09	-878.36	396.51	963.70	1.10	1.07	3.34	13.37
4/3/2014	NORMAL	7,411.0	5.00	224.87	7,313.78	-884.19	391.43	966.90	0.97	0.87	8.60	50.29
	NORMAL	7,506.0	5.36	229.09	7,408.39	-890.03	385.15	969.61	0.55	0.38	4.44	48.74
	NORMAL	7,516.0	5.50	226.67	7,418.35	-890.67	384.45	969.89	2.68	1.40	-24.20	300.23
	NORMAL	7,580.0	5.50	226.67	7,482.05	-894.87	379.99	971.87	0.00	0.00	0.00	0.00