

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well/Wellbore Information

Well	PA 444-3	Wellbore No.	00
Wellbore Legal Name	PA 444-3	Common Wellbore Name	PA 444-3
Project	PA 02-07S-095W	Site	GV 86-2 Pad
Vertical Section Azimuth	235.99 (°)	North reference	
Origin N/S		Origin E/W	
Spud date	5/5/2014	UWI	PA 444-3
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	5/6/2014	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

5871

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	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/6/2014	NORMAL	72.0	0.18	286.70	72.00	0.03	-0.11	0.07	0.25	0.25	0.00	286.70
	NORMAL	162.0	1.94	240.47	161.98	-0.68	-1.57	1.68	2.02	1.96	-51.37	309.68
	NORMAL	254.0	4.66	235.55	253.82	-3.56	-6.01	6.97	2.97	2.96	-5.35	351.59
	NORMAL	344.0	7.92	233.44	343.27	-9.32	-14.00	16.82	3.63	3.62	-2.34	354.89
	NORMAL	435.0	11.44	235.99	432.96	-18.11	-26.52	32.12	3.90	3.87	2.80	8.20
	NORMAL	525.0	14.78	233.88	520.60	-29.87	-43.20	52.52	3.75	3.71	-2.34	350.82
	NORMAL	615.0	17.86	239.85	606.97	-43.57	-64.42	77.77	3.89	3.42	6.63	31.47
	NORMAL	690.0	20.84	240.41	677.73	-55.94	-85.97	102.55	3.98	3.97	0.75	3.83
	NORMAL	780.0	23.74	237.43	760.99	-73.60	-115.16	136.63	3.46	3.22	-3.31	337.32
	NORMAL	871.0	27.49	234.31	843.04	-95.73	-147.67	175.95	4.38	4.12	-3.43	338.80
	NORMAL	961.0	31.43	234.25	921.39	-121.56	-183.60	220.19	4.38	4.38	-0.07	359.54
	NORMAL	1,056.0	34.65	233.55	1,001.02	-152.09	-225.44	271.94	3.41	3.39	-0.74	352.95
	NORMAL	1,151.0	37.36	234.09	1,077.86	-185.05	-270.51	327.74	2.87	2.85	0.57	6.90
	NORMAL	1,246.0	40.36	236.02	1,151.83	-219.15	-319.38	387.33	3.41	3.16	2.03	22.74
5/7/2014	NORMAL	1,341.0	42.12	234.17	1,223.27	-255.00	-370.72	449.94	2.25	1.85	-1.95	324.58
	NORMAL	1,436.0	41.68	233.56	1,293.98	-292.41	-421.96	513.34	0.63	-0.46	-0.64	222.57
	NORMAL	1,531.0	41.77	235.76	1,364.88	-328.98	-473.53	576.54	1.54	0.09	2.32	87.30
	NORMAL	1,626.0	41.18	237.22	1,436.06	-363.71	-525.99	639.45	1.19	-0.62	1.54	121.94
	NORMAL	1,720.0	40.80	236.81	1,507.02	-397.28	-577.71	701.10	0.50	-0.40	-0.44	215.13
	NORMAL	1,815.0	40.01	237.07	1,579.36	-430.87	-629.31	762.67	0.85	-0.83	0.27	168.06

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 (°)
5/7/2014	NORMAL	1,910.0	39.06	235.40	1,652.63	-464.47	-679.59	823.13	1.50	-1.00	-1.76	227.57
	NORMAL	2,005.0	39.66	235.19	1,726.08	-498.78	-729.12	883.38	0.65	0.63	-0.22	347.40
	NORMAL	2,099.0	39.86	234.61	1,798.34	-533.34	-778.30	943.49	0.45	0.21	-0.62	298.11
5/8/2014	NORMAL	2,194.0	39.94	236.42	1,871.22	-567.84	-828.53	1,004.42	1.22	0.08	1.91	86.75
	NORMAL	2,289.0	39.83	236.19	1,944.12	-601.64	-879.21	1,065.33	0.19	-0.12	-0.24	233.20
	NORMAL	2,384.0	40.58	236.73	2,016.67	-635.52	-930.33	1,126.66	0.87	0.79	0.57	25.13
	NORMAL	2,476.0	40.21	236.06	2,086.74	-668.52	-979.98	1,186.27	0.62	-0.40	-0.73	229.31
	NORMAL	2,571.0	39.51	235.74	2,159.66	-702.65	-1,030.40	1,247.16	0.77	-0.74	-0.34	196.21
	NORMAL	2,666.0	39.65	236.29	2,232.88	-736.48	-1,080.59	1,307.69	0.40	0.15	0.58	68.44
	NORMAL	2,761.0	39.74	236.86	2,305.98	-769.91	-1,131.23	1,368.36	0.39	0.09	0.60	76.33
	NORMAL	2,856.0	39.04	236.43	2,379.40	-803.05	-1,181.59	1,428.64	0.79	-0.74	-0.45	201.13
	NORMAL	2,950.0	37.95	236.16	2,452.97	-835.52	-1,230.26	1,487.15	1.17	-1.16	-0.29	188.66
	NORMAL	3,045.0	36.68	236.04	2,528.52	-867.64	-1,278.06	1,544.74	1.34	-1.34	-0.13	183.23
	NORMAL	3,140.0	37.30	235.87	2,604.40	-899.64	-1,325.43	1,601.90	0.66	0.65	-0.18	350.56
	NORMAL	3,235.0	36.50	235.73	2,680.37	-931.70	-1,372.60	1,658.94	0.85	-0.84	-0.15	185.94
	NORMAL	3,330.0	35.25	235.57	2,757.35	-963.11	-1,418.56	1,714.61	1.32	-1.32	-0.17	184.23
	NORMAL	3,425.0	33.74	234.98	2,835.65	-993.75	-1,462.79	1,768.40	1.63	-1.59	-0.62	192.23
	NORMAL	3,520.0	34.03	236.99	2,914.51	-1,023.37	-1,506.68	1,821.36	1.22	0.31	2.12	76.33
	NORMAL	3,615.0	32.94	235.52	2,993.75	-1,052.48	-1,550.27	1,873.77	1.43	-1.15	-1.55	216.04
	NORMAL	3,710.0	31.92	236.28	3,073.93	-1,081.05	-1,592.45	1,924.72	1.16	-1.07	0.80	158.54
	NORMAL	3,804.0	30.43	235.07	3,154.36	-1,108.47	-1,632.64	1,973.37	1.72	-1.59	-1.29	202.28
	NORMAL	3,899.0	29.29	235.58	3,236.74	-1,135.38	-1,671.54	2,020.67	1.23	-1.20	0.54	167.66
	NORMAL	3,994.0	27.94	234.39	3,320.14	-1,161.48	-1,708.80	2,066.15	1.54	-1.42	-1.25	202.37
	NORMAL	4,089.0	27.32	236.74	3,404.31	-1,186.40	-1,745.13	2,110.20	1.32	-0.65	2.47	120.67
	NORMAL	4,184.0	27.06	236.45	3,488.81	-1,210.30	-1,781.36	2,153.61	0.31	-0.27	-0.31	206.88
	NORMAL	4,279.0	25.18	238.01	3,574.10	-1,232.95	-1,816.52	2,195.42	2.11	-1.98	1.64	160.63
	NORMAL	4,374.0	23.84	238.89	3,660.54	-1,253.57	-1,850.10	2,234.79	1.46	-1.41	0.93	165.16
	NORMAL	4,469.0	22.39	240.21	3,747.91	-1,272.48	-1,882.24	2,272.01	1.62	-1.53	1.39	160.94
	NORMAL	4,563.0	20.93	240.33	3,835.27	-1,289.69	-1,912.37	2,306.61	1.55	-1.55	0.13	178.32
	NORMAL	4,658.0	19.09	237.51	3,924.54	-1,306.44	-1,940.22	2,339.06	2.19	-1.94	-2.97	206.35
	NORMAL	4,753.0	17.29	238.40	4,014.79	-1,322.18	-1,965.35	2,368.70	1.92	-1.89	0.94	171.65
	NORMAL	4,848.0	15.95	237.89	4,105.82	-1,336.52	-1,988.43	2,395.85	1.42	-1.41	-0.54	185.97
	NORMAL	4,943.0	14.38	234.42	4,197.51	-1,350.32	-2,009.08	2,420.69	1.91	-1.65	-3.65	208.37
	NORMAL	5,038.0	13.37	236.21	4,289.73	-1,363.29	-2,027.80	2,443.47	1.16	-1.06	1.88	157.84
5/9/2014	NORMAL	5,132.0	12.40	232.06	4,381.37	-1,375.54	-2,044.80	2,464.41	1.43	-1.03	-4.41	221.64
	NORMAL	5,227.0	10.19	233.97	4,474.52	-1,386.76	-2,059.64	2,482.98	2.36	-2.33	2.01	171.33
	NORMAL	5,322.0	9.23	235.40	4,568.16	-1,396.03	-2,072.71	2,499.00	1.04	-1.01	1.51	166.60
	NORMAL	5,417.0	8.00	240.94	4,662.09	-1,403.56	-2,084.76	2,513.20	1.56	-1.29	5.83	148.71
	NORMAL	5,511.0	6.51	240.59	4,755.33	-1,409.36	-2,095.12	2,525.03	1.59	-1.59	-0.37	181.53
	NORMAL	5,606.0	4.84	239.90	4,849.87	-1,414.01	-2,103.28	2,534.40	1.76	-1.76	-0.73	182.00
	NORMAL	5,701.0	3.52	226.26	4,944.61	-1,418.04	-2,108.85	2,541.27	1.73	-1.39	-14.36	210.32
	NORMAL	5,796.0	2.29	242.44	5,039.49	-1,420.93	-2,112.64	2,546.03	1.54	-1.29	17.03	154.21
5/10/2014	NORMAL	5,891.0	0.79	297.37	5,134.46	-1,421.51	-2,114.90	2,548.23	2.05	-1.58	57.82	160.60
	NORMAL	5,986.0	0.88	295.01	5,229.45	-1,420.90	-2,116.15	2,548.92	0.10	0.09	-2.48	337.90
	NORMAL	6,081.0	1.26	295.38	5,324.43	-1,420.15	-2,117.75	2,549.83	0.40	0.40	0.39	1.23
	NORMAL	6,175.0	1.23	41.25	5,418.42	-1,418.94	-2,118.02	2,549.38	2.11	-0.03	112.63	143.45
	NORMAL	6,270.0	1.48	55.81	5,513.39	-1,417.49	-2,116.33	2,547.17	0.45	0.26	15.33	61.44
	NORMAL	6,365.0	1.23	44.11	5,608.37	-1,416.07	-2,114.61	2,544.94	0.39	-0.26	-12.32	222.15
	NORMAL	6,460.0	0.56	27.56	5,703.36	-1,414.92	-2,113.68	2,543.54	0.75	-0.71	-17.42	192.96
	NORMAL	6,555.0	0.53	353.35	5,798.35	-1,414.08	-2,113.52	2,542.93	0.34	-0.03	-36.01	247.78
	NORMAL	6,650.0	0.53	298.69	5,893.35	-1,413.43	-2,113.96	2,542.93	0.51	0.00	-57.54	242.67
	NORMAL	6,745.0	0.44	280.49	5,988.34	-1,413.15	-2,114.70	2,543.39	0.19	-0.09	-19.16	230.82
	NORMAL	6,840.0	0.95	257.71	6,083.34	-1,413.25	-2,115.83	2,544.38	0.60	0.54	-23.98	319.84
	NORMAL	6,935.0	0.71	207.37	6,178.33	-1,413.94	-2,116.87	2,545.63	0.78	-0.25	-52.99	227.73
	NORMAL	7,029.0	1.23	216.07	6,272.32	-1,415.27	-2,117.73	2,547.09	0.57	0.55	9.26	20.19
	NORMAL	7,125.0	1.32	218.18	6,368.29	-1,416.98	-2,119.02	2,549.11	0.11	0.09	2.20	28.61

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 (°)
5/10/2014	NORMAL	7,219.0	1.58	229.54	6,462.26	-1,418.67	-2,120.68	2,551.43	0.41	0.28	12.09	53.64
	NORMAL	7,314.0	1.85	235.67	6,557.22	-1,420.38	-2,122.94	2,554.26	0.34	0.28	6.45	37.28
	NORMAL	7,409.0	2.29	221.08	6,652.16	-1,422.68	-2,125.45	2,557.63	0.72	0.46	-15.36	302.42
	NORMAL	7,504.0	3.05	219.15	6,747.06	-1,426.07	-2,128.30	2,561.88	0.81	0.80	-2.03	352.29
	NORMAL	7,599.0	3.17	209.83	6,841.92	-1,430.31	-2,131.20	2,566.66	0.55	0.13	-9.81	278.67
5/11/2014	NORMAL	7,694.0	3.61	209.65	6,936.75	-1,435.19	-2,133.98	2,571.70	0.46	0.46	-0.19	358.52
	NORMAL	7,788.0	3.96	214.31	7,030.54	-1,440.44	-2,137.28	2,577.37	0.50	0.37	4.96	43.65
	NORMAL	7,883.0	3.69	215.63	7,125.33	-1,445.63	-2,140.91	2,583.28	0.30	-0.28	1.39	162.59
	NORMAL	7,978.0	3.61	210.62	7,220.14	-1,450.69	-2,144.21	2,588.85	0.35	-0.08	-5.27	253.43
	NORMAL	8,039.0	3.34	212.90	7,281.03	-1,453.84	-2,146.16	2,592.22	0.50	-0.44	3.74	154.03
	NORMAL	8,105.0	3.34	212.90	7,346.92	-1,457.07	-2,148.24	2,595.76	0.00	0.00	0.00	0.00