

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well/Wellbore Information

Well	PA 344-3	Wellbore No.	00
Wellbore Legal Name	PA 344-3	Common Wellbore Name	PA 344-3
Project	PA 02-07S-095W	Site	GV 86-2 Pad
Vertical Section Azimuth	242.11 (°)	North reference	
Origin N/S		Origin E/W	
Spud date	6/11/2014	UWI	PA 344-3
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	6/11/2014	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 (°)
6/11/2014	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/11/2014	NORMAL	71.0	0.44	302.70	71.00	0.15	-0.23	0.13	0.62	0.62	0.00	302.70
	NORMAL	162.0	1.14	267.89	161.99	0.30	-1.43	1.12	0.90	0.77	-38.25	307.32
	NORMAL	254.0	2.82	262.44	253.93	-0.03	-4.59	4.07	1.84	1.83	-5.92	350.88
	NORMAL	344.0	5.63	262.18	343.68	-0.92	-11.16	10.29	3.12	3.12	-0.29	359.48
	NORMAL	433.0	6.86	232.65	432.17	-4.74	-19.71	19.64	3.81	1.38	-33.18	275.84
	NORMAL	524.0	10.82	227.11	522.08	-13.85	-30.29	33.25	4.45	4.35	-6.09	345.12
	NORMAL	689.0	16.05	239.44	682.54	-36.01	-61.31	71.03	3.60	3.17	7.47	34.82
	NORMAL	779.0	19.19	244.76	768.31	-48.65	-85.41	98.24	3.92	3.49	5.91	29.71
	NORMAL	869.0	22.40	242.55	852.44	-62.87	-114.01	130.18	3.67	3.57	-2.46	345.23
	NORMAL	964.0	25.50	242.42	939.25	-80.68	-148.21	168.74	3.26	3.26	-0.14	358.97
	NORMAL	1,059.0	28.96	242.45	1,023.71	-100.79	-186.74	212.20	3.64	3.64	0.03	0.24
	NORMAL	1,154.0	31.74	244.27	1,105.68	-122.28	-229.65	260.18	3.08	2.93	1.92	19.09
	NORMAL	1,249.0	34.28	243.79	1,185.34	-144.95	-276.17	311.90	2.69	2.67	-0.51	353.92
6/12/2014	NORMAL	1,344.0	34.33	242.62	1,263.81	-169.09	-323.96	365.43	0.70	0.05	-1.23	273.85
	NORMAL	1,386.0	34.91	243.04	1,298.38	-179.98	-345.19	389.29	1.49	1.38	1.00	22.54
6/13/2014	NORMAL	1,530.0	35.50	243.05	1,416.04	-217.61	-419.19	472.29	0.41	0.41	0.01	0.56
	NORMAL	1,625.0	35.00	243.36	1,493.62	-242.33	-468.13	527.11	0.56	-0.53	0.33	160.44
	NORMAL	1,720.0	35.02	243.76	1,571.43	-266.60	-516.93	581.60	0.24	0.02	0.42	85.18
	NORMAL	1,815.0	34.20	243.13	1,649.62	-290.72	-565.20	635.54	0.94	-0.86	-0.66	203.32
	NORMAL	1,909.0	35.14	242.74	1,726.93	-315.05	-612.81	689.01	1.03	1.00	-0.41	346.56

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 (°)
6/13/2014	NORMAL	2,004.0	34.48	242.75	1,804.93	-339.89	-661.02	743.23	0.69	-0.69	0.01	179.51
	NORMAL	2,099.0	35.22	242.03	1,882.89	-365.05	-709.12	797.52	0.89	0.78	-0.76	330.63
	NORMAL	2,194.0	34.04	242.05	1,961.06	-390.36	-756.81	851.50	1.24	-1.24	0.02	179.46
	NORMAL	2,289.0	35.41	242.60	2,039.14	-415.49	-804.73	905.62	1.48	1.44	0.58	13.11
	NORMAL	2,385.0	37.36	243.10	2,116.42	-441.47	-855.41	962.56	2.05	2.03	0.52	8.85
	NORMAL	2,480.0	36.79	242.43	2,192.21	-467.68	-906.33	1,019.82	0.74	-0.60	-0.71	215.06
	NORMAL	2,575.0	36.47	242.36	2,268.45	-493.94	-956.56	1,076.50	0.34	-0.34	-0.07	187.41
	NORMAL	2,669.0	35.96	241.98	2,344.29	-519.87	-1,005.67	1,132.04	0.59	-0.54	-0.40	203.61
	NORMAL	2,764.0	35.20	242.18	2,421.55	-545.75	-1,054.51	1,187.31	0.81	-0.80	0.21	171.38
	NORMAL	2,859.0	35.45	240.92	2,499.06	-571.92	-1,102.81	1,242.24	0.81	0.26	-1.33	288.42
	NORMAL	2,954.0	34.58	240.31	2,576.87	-598.66	-1,150.30	1,296.73	0.99	-0.92	-0.64	201.67
	NORMAL	3,049.0	35.91	239.13	2,654.45	-626.31	-1,197.64	1,351.50	1.57	1.40	-1.24	332.40
	NORMAL	3,144.0	37.29	239.14	2,730.72	-655.37	-1,246.26	1,408.07	1.45	1.45	0.01	0.25
	NORMAL	3,239.0	37.18	238.94	2,806.36	-684.94	-1,295.55	1,465.47	0.17	-0.12	-0.21	227.65
	NORMAL	3,334.0	37.13	239.85	2,882.07	-714.15	-1,344.93	1,522.78	0.58	-0.05	0.96	95.56
	NORMAL	3,429.0	37.83	242.02	2,957.46	-742.22	-1,395.46	1,580.58	1.57	0.74	2.28	62.93
	NORMAL	3,524.0	37.37	243.30	3,032.73	-768.84	-1,446.94	1,638.52	0.95	-0.48	1.35	121.00
	NORMAL	3,618.0	36.40	243.65	3,107.92	-794.04	-1,497.42	1,694.93	1.06	-1.03	0.37	167.92
	NORMAL	3,713.0	33.96	244.04	3,185.56	-818.17	-1,546.54	1,749.63	2.58	-2.57	0.41	174.90
	NORMAL	3,808.0	33.33	244.18	3,264.65	-841.15	-1,593.90	1,802.23	0.67	-0.66	0.15	173.04
	NORMAL	3,903.0	32.99	242.95	3,344.17	-864.28	-1,640.42	1,854.18	0.79	-0.36	-1.29	242.68
6/14/2014	NORMAL	3,998.0	33.43	242.32	3,423.66	-888.20	-1,686.63	1,906.21	0.59	0.46	-0.66	321.63
	NORMAL	4,093.0	33.10	241.46	3,503.09	-912.75	-1,732.60	1,958.31	0.61	-0.35	-0.91	234.67
	NORMAL	4,188.0	30.46	240.82	3,583.84	-936.89	-1,776.41	2,008.33	2.80	-2.78	-0.67	187.00
	NORMAL	4,283.0	28.84	242.65	3,666.40	-959.16	-1,817.79	2,055.32	1.95	-1.71	1.93	151.59
	NORMAL	4,377.0	26.34	243.63	3,749.71	-978.84	-1,856.62	2,098.85	2.70	-2.66	1.04	170.14
	NORMAL	4,472.0	24.21	241.77	3,835.61	-997.42	-1,892.67	2,139.40	2.39	-2.24	-1.96	199.61
	NORMAL	4,567.0	21.37	241.88	3,923.18	-1,014.79	-1,925.10	2,176.19	2.99	-2.99	0.12	179.19
	NORMAL	4,662.0	20.84	241.82	4,011.81	-1,030.93	-1,955.26	2,210.40	0.56	-0.56	-0.06	182.31
	NORMAL	4,757.0	19.29	240.60	4,101.04	-1,046.61	-1,983.83	2,242.99	1.69	-1.63	-1.28	194.54
	NORMAL	4,852.0	17.06	240.40	4,191.30	-1,061.20	-2,009.62	2,272.61	2.35	-2.35	-0.21	181.51
	NORMAL	4,946.0	15.03	239.57	4,281.63	-1,074.19	-2,032.12	2,298.57	2.17	-2.16	-0.88	186.05
	NORMAL	5,041.0	13.30	242.64	4,373.74	-1,085.45	-2,052.45	2,321.80	1.98	-1.82	3.23	158.01
	NORMAL	5,136.0	12.11	240.12	4,466.42	-1,095.44	-2,070.80	2,342.69	1.38	-1.25	-2.65	203.75
	NORMAL	5,231.0	11.15	238.63	4,559.46	-1,105.18	-2,087.28	2,361.82	1.06	-1.01	-1.57	196.65
	NORMAL	5,326.0	10.44	238.61	4,652.78	-1,114.45	-2,102.47	2,379.58	0.75	-0.75	-0.02	180.29
	NORMAL	5,420.0	9.53	237.17	4,745.36	-1,123.10	-2,116.28	2,395.83	1.00	-0.97	-1.53	194.63
	NORMAL	5,515.0	8.03	237.43	4,839.24	-1,130.94	-2,128.48	2,410.28	1.58	-1.58	0.27	178.61
	NORMAL	5,610.0	6.93	233.35	4,933.43	-1,137.93	-2,138.67	2,422.56	1.29	-1.16	-4.29	203.76
	NORMAL	5,705.0	6.20	233.01	5,027.81	-1,144.44	-2,147.37	2,433.29	0.77	-0.77	-0.36	182.88
	NORMAL	5,800.0	5.32	231.66	5,122.33	-1,150.26	-2,154.92	2,442.68	0.94	-0.93	-1.42	188.08
6/15/2014	NORMAL	5,895.0	2.76	255.53	5,217.09	-1,153.56	-2,160.59	2,449.24	3.17	-2.69	25.13	158.22
	NORMAL	5,989.0	2.00	310.59	5,311.02	-1,153.06	-2,164.03	2,452.04	2.45	-0.81	58.57	134.55
	NORMAL	6,084.0	1.85	310.48	5,405.97	-1,150.99	-2,166.45	2,453.22	0.16	-0.16	-0.12	181.36
	NORMAL	6,179.0	1.60	342.17	5,500.93	-1,148.73	-2,168.03	2,453.55	1.02	-0.26	33.36	120.16
	NORMAL	6,274.0	1.45	356.18	5,595.89	-1,146.27	-2,168.51	2,452.83	0.42	-0.16	14.75	118.82
	NORMAL	6,369.0	1.35	349.55	5,690.87	-1,143.97	-2,168.80	2,452.00	0.20	-0.11	-6.98	235.03
	NORMAL	6,464.0	1.04	6.15	5,785.85	-1,142.01	-2,168.91	2,451.19	0.49	-0.33	17.47	139.94
	NORMAL	6,559.0	0.86	25.63	5,880.83	-1,140.51	-2,168.51	2,450.13	0.39	-0.19	20.51	128.63
	NORMAL	6,653.0	0.35	339.28	5,974.83	-1,139.60	-2,168.30	2,449.53	0.71	-0.54	-49.31	202.27
	NORMAL	6,748.0	0.45	265.88	6,069.83	-1,139.36	-2,168.78	2,449.83	0.51	0.11	-77.26	242.82
6/16/2014	NORMAL	6,843.0	0.81	239.02	6,164.82	-1,139.73	-2,169.72	2,450.84	0.48	0.38	-28.27	306.68
	NORMAL	6,938.0	1.27	226.01	6,259.81	-1,140.81	-2,171.06	2,452.53	0.54	0.48	-13.69	326.22
	NORMAL	7,033.0	2.07	222.77	6,354.76	-1,142.80	-2,172.98	2,455.16	0.85	0.84	-3.41	351.65
	NORMAL	7,128.0	1.92	211.99	6,449.71	-1,145.41	-2,174.99	2,458.15	0.42	-0.16	-11.35	242.88
	NORMAL	7,223.0	0.47	212.10	6,544.68	-1,147.09	-2,176.04	2,459.87	1.53	-1.53	0.12	179.96

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 (°)
6/16/2014	NORMAL	7,318.0	0.41	225.04	6,639.68	-1,147.66	-2,176.49	2,460.53	0.12	-0.06	13.62	127.49
	NORMAL	7,413.0	0.50	252.72	6,734.68	-1,148.02	-2,177.12	2,461.26	0.25	0.09	29.14	81.97
	NORMAL	7,508.0	0.57	240.01	6,829.68	-1,148.38	-2,177.93	2,462.14	0.14	0.07	-13.38	294.08
	NORMAL	7,602.0	0.40	266.93	6,923.67	-1,148.63	-2,178.66	2,462.91	0.30	-0.18	28.64	139.67
	NORMAL	7,697.0	0.81	264.19	7,018.67	-1,148.72	-2,179.66	2,463.83	0.43	0.43	-2.88	354.59
6/17/2014	NORMAL	7,792.0	1.09	253.23	7,113.65	-1,149.05	-2,181.19	2,465.34	0.35	0.29	-11.54	321.46
	NORMAL	7,887.0	1.51	235.50	7,208.63	-1,150.02	-2,183.09	2,467.47	0.61	0.44	-18.66	307.14
	NORMAL	7,982.0	1.59	235.38	7,303.60	-1,151.48	-2,185.21	2,470.02	0.08	0.08	-0.13	357.62
	NORMAL	8,006.0	1.56	226.56	7,327.59	-1,151.89	-2,185.72	2,470.67	1.02	-0.12	-36.75	258.55
	NORMAL	8,070.0	1.56	226.56	7,391.56	-1,153.09	-2,186.98	2,472.34	0.00	0.00	0.00	0.00