

## I General

### 1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

### 1.2 Well Information

Well	PA 334-2	Wellbore No.	
Well Name	PA 334-2	Common Name	PA 334-2
Project	PA 01-07S-095W	Site	GV 84-1 Pad
Vertical Section Azimuth	238.47 (°)	North Reference	
Origin N/S		Origin E/W	
Spud Date	2/12/2013	UWI	PA 334-2
Active Datum	KB @6,053.0ft (above Mean Sea Level)		

## 2 Survey Name

### 2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	2/12/2013	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 (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
2/12/2013	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/12/2013	NORMAL	104.0	0.53	227.99	104.00	-0.32	-0.36	0.47	0.51	0.51	0.00	227.99
	NORMAL	135.0	0.70	224.03	135.00	-0.55	-0.60	0.80	0.56	0.55	-12.77	343.98
	NORMAL	166.0	1.14	240.91	165.99	-0.84	-1.00	1.29	1.65	1.42	54.45	40.26
	NORMAL	196.0	2.38	253.21	195.98	-1.17	-1.85	2.19	4.30	4.13	41.00	23.15
	NORMAL	227.0	3.08	247.68	226.94	-1.67	-3.24	3.63	2.41	2.26	-17.84	336.60
	NORMAL	257.0	3.70	238.27	256.89	-2.48	-4.81	5.40	2.77	2.07	-31.37	313.33
	NORMAL	287.0	4.66	231.33	286.81	-3.75	-6.58	7.57	3.61	3.20	-23.13	328.72
	NORMAL	317.0	5.63	231.94	316.69	-5.42	-8.69	10.25	3.24	3.23	2.03	3.53
	NORMAL	347.0	6.16	233.09	346.53	-7.30	-11.14	13.31	1.81	1.77	3.83	13.14
	NORMAL	377.0	7.74	236.43	376.31	-9.38	-14.11	16.93	5.43	5.27	11.13	16.0'
	NORMAL	407.0	9.59	238.27	405.97	-11.81	-17.92	21.45	6.23	6.17	6.13	9.43
	NORMAL	437.0	10.47	239.59	435.51	-14.51	-22.40	26.67	3.03	2.93	4.40	15.25
	NORMAL	467.0	11.88	239.15	464.94	-17.47	-27.40	32.49	4.71	4.70	-1.47	356.32
	NORMAL	497.0	12.93	239.68	494.24	-20.75	-32.95	38.93	3.52	3.50	1.77	6.45
	NORMAL	528.0	13.20	240.56	524.43	-24.24	-39.02	45.94	1.08	0.87	2.84	36.8'
	NORMAL	598.0	15.34	238.90	592.27	-32.95	-53.91	63.18	3.11	3.06	-2.37	348.37
	NORMAL	689.0	17.94	237.49	679.45	-46.70	-76.04	89.24	2.89	2.86	-1.55	350.50
	NORMAL	780.0	20.49	238.37	765.38	-62.59	-101.43	119.18	2.82	2.80	0.97	6.90
	NORMAL	871.0	23.92	237.49	849.61	-80.86	-130.55	153.57	3.79	3.77	-0.97	354.05
	NORMAL	961.0	26.03	236.79	931.19	-101.49	-162.47	191.55	2.37	2.34	-0.78	351.7'

## 2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (%/100ft)	Build Rate (%/100ft)	Turn (%/100ft)	TFace (°)
2/12/2013	NORMAL	1,056.0	28.40	239.69	1,015.68	-124.31	-199.42	234.98	2.86	2.49	3.05	30.53
	NORMAL	1,151.0	31.83	240.66	1,097.84	-147.99	-240.77	282.62	3.65	3.61	1.02	8.50
	NORMAL	1,247.0	34.67	239.87	1,178.12	-174.11	-286.47	335.22	2.99	2.96	-0.82	351.00
	NORMAL	1,342.0	39.31	238.99	1,253.98	-203.19	-335.65	392.36	4.92	4.88	-0.93	353.14
	NORMAL	1,410.0	38.43	239.25	1,306.92	-225.09	-372.28	435.03	1.32	-1.29	0.38	169.60
2/14/2013	NORMAL	1,528.0	38.68	239.25	1,399.20	-262.70	-435.48	508.57	0.21	0.21	0.00	0.00
	NORMAL	1,624.0	36.66	236.70	1,475.19	-293.78	-485.23	567.22	2.66	-2.10	-2.66	216.65
	NORMAL	1,719.0	35.60	237.32	1,551.91	-324.28	-532.20	623.21	1.18	-1.12	0.65	161.22
	NORMAL	1,814.0	36.35	238.11	1,628.79	-354.08	-579.38	679.01	0.93	0.79	0.83	32.07
	NORMAL	1,910.0	38.33	238.46	1,705.12	-384.69	-628.92	737.24	2.07	2.06	0.36	6.26
	NORMAL	2,006.0	38.11	237.93	1,780.54	-415.99	-679.39	796.63	0.41	-0.23	-0.55	235.93
	NORMAL	2,101.0	37.06	237.23	1,855.82	-447.05	-728.31	854.56	1.19	-1.11	-0.74	201.85
	NORMAL	2,196.0	37.19	239.95	1,931.57	-476.92	-777.23	911.89	1.73	0.14	2.86	86.56
	NORMAL	2,292.0	39.21	240.83	2,007.01	-506.24	-828.85	971.22	2.18	2.10	0.92	15.42
	NORMAL	2,387.0	39.30	240.48	2,080.57	-535.70	-881.25	1,031.29	0.25	0.09	-0.37	291.98
	NORMAL	2,482.0	39.69	239.69	2,153.88	-565.84	-933.62	1,091.68	0.67	0.41	-0.83	307.5'
	NORMAL	2,578.0	38.24	237.85	2,228.52	-597.12	-985.24	1,152.05	1.93	-1.51	-1.92	217.88
	NORMAL	2,673.0	38.77	237.76	2,302.87	-628.63	-1,035.29	1,211.19	0.56	0.56	-0.09	353.93
	NORMAL	2,768.0	36.97	236.18	2,377.86	-660.40	-1,084.19	1,269.48	2.15	-1.89	-1.66	207.70
	NORMAL	2,863.0	36.97	236.00	2,453.76	-692.28	-1,131.60	1,326.56	0.11	0.00	-0.19	269.93
	NORMAL	2,958.0	36.00	237.41	2,530.14	-723.29	-1,178.81	1,383.02	1.35	-1.02	1.48	139.73
	NORMAL	3,054.0	35.87	236.53	2,607.87	-754.00	-1,226.04	1,439.34	0.55	-0.14	-0.92	255.5'
	NORMAL	3,149.0	36.04	239.60	2,684.78	-783.49	-1,273.37	1,495.10	1.91	0.18	3.23	85.86
	NORMAL	3,246.0	36.62	240.39	2,762.92	-812.23	-1,323.13	1,552.54	0.77	0.60	0.81	39.22
	NORMAL	3,341.0	38.20	239.25	2,838.38	-841.25	-1,373.02	1,610.24	1.82	1.66	-1.20	335.88
	NORMAL	3,437.0	37.80	238.55	2,914.03	-871.78	-1,423.62	1,669.34	0.61	-0.42	-0.73	226.86
	NORMAL	3,532.0	38.20	238.46	2,988.89	-902.33	-1,473.50	1,727.83	0.43	0.42	-0.09	352.08
	NORMAL	3,627.0	37.27	239.25	3,064.02	-932.40	-1,523.25	1,785.97	1.10	-0.98	0.83	152.84
	NORMAL	3,723.0	38.33	239.52	3,139.88	-962.37	-1,573.89	1,844.80	1.12	1.10	0.28	8.98
	NORMAL	3,818.0	38.46	238.99	3,214.33	-992.53	-1,624.60	1,903.79	0.37	0.14	-0.56	291.34
	NORMAL	3,914.0	38.37	238.28	3,289.55	-1,023.58	-1,675.53	1,963.44	0.47	-0.09	-0.74	258.16
	NORMAL	4,009.0	37.58	237.32	3,364.44	-1,054.72	-1,725.00	2,021.89	1.04	-0.83	-1.01	216.4'
	NORMAL	4,105.0	37.19	237.49	3,440.72	-1,086.12	-1,774.10	2,080.17	0.42	-0.41	0.18	165.24
	NORMAL	4,200.0	36.88	237.14	3,516.55	-1,117.02	-1,822.26	2,137.38	0.39	-0.33	-0.37	214.08
	NORMAL	4,296.0	36.53	236.18	3,593.52	-1,148.55	-1,870.20	2,194.72	0.70	-0.36	-1.00	238.23
	NORMAL	4,391.0	37.01	239.08	3,669.62	-1,178.98	-1,918.22	2,251.57	1.90	0.51	3.05	75.7'
	NORMAL	4,486.0	36.92	238.46	3,745.53	-1,208.60	-1,967.07	2,308.70	0.40	-0.09	-0.65	256.18
	NORMAL	4,582.0	35.52	239.34	3,822.98	-1,237.91	-2,015.63	2,365.42	1.56	-1.46	0.92	159.98
	NORMAL	4,676.0	33.71	237.76	3,900.33	-1,265.75	-2,061.19	2,418.81	2.15	-1.93	-1.68	205.73
	NORMAL	4,772.0	31.34	239.34	3,981.27	-1,292.70	-2,105.21	2,470.42	2.62	-2.47	1.65	160.94
	NORMAL	4,867.0	29.54	238.72	4,063.18	-1,317.46	-2,146.48	2,518.54	1.92	-1.89	-0.65	189.63
	NORMAL	4,963.0	27.87	239.60	4,147.37	-1,341.10	-2,186.06	2,564.64	1.79	-1.74	0.92	166.18
	NORMAL	5,058.0	26.02	237.41	4,232.06	-1,363.56	-2,222.77	2,607.68	2.21	-1.95	-2.31	207.24
	NORMAL	5,153.0	24.13	241.18	4,318.11	-1,384.15	-2,257.35	2,647.92	2.60	-1.99	3.97	141.46
	NORMAL	5,248.0	23.96	240.48	4,404.87	-1,403.02	-2,291.14	2,686.60	0.35	-0.18	-0.74	238.88
	NORMAL	5,343.0	22.59	241.18	4,492.13	-1,421.32	-2,323.92	2,724.10	1.47	-1.44	0.74	168.9'
	NORMAL	5,438.0	20.88	240.22	4,580.38	-1,438.52	-2,354.60	2,759.25	1.84	-1.80	-1.01	191.30
	NORMAL	5,533.0	18.73	236.97	4,669.75	-1,455.25	-2,382.09	2,791.43	2.54	-2.26	-3.42	205.60
	NORMAL	5,628.0	16.48	237.67	4,760.30	-1,470.77	-2,406.26	2,820.15	2.38	-2.37	0.74	174.96
	NORMAL	5,723.0	14.20	235.82	4,851.91	-1,484.53	-2,427.29	2,845.27	2.45	-2.40	-1.95	191.22
2/16/2013	NORMAL	5,819.0	12.22	235.91	4,945.36	-1,496.84	-2,445.45	2,867.18	2.06	-2.06	0.09	179.45
	NORMAL	5,914.0	10.64	242.50	5,038.48	-1,506.52	-2,461.56	2,885.98	2.16	-1.66	6.94	143.62
	NORMAL	6,009.0	9.10	242.24	5,132.07	-1,514.07	-2,475.98	2,902.22	1.62	-1.62	-0.27	181.53
	NORMAL	6,104.0	6.64	245.76	5,226.17	-1,519.83	-2,487.64	2,915.17	2.64	-2.59	3.71	170.65
	NORMAL	6,200.0	4.75	239.69	5,321.69	-1,524.11	-2,496.13	2,924.65	2.06	-1.97	-6.32	194.67
	NORMAL	6,295.0	3.03	250.94	5,416.47	-1,526.92	-2,501.90	2,931.03	1.97	-1.81	11.84	161.62
	NORMAL	6,391.0	1.10	270.10	5,512.41	-1,527.74	-2,505.22	2,934.29	2.11	-2.01	19.96	169.72

## 2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
2/16/2013	NORMAL	6,486.0	1.76	84.74	5,607.39	-1,527.61	-2,504.68	2,933.76	3.01	0.69	183.83	176.70
2/17/2013	NORMAL	6,577.0	1.71	87.81	5,698.35	-1,527.43	-2,501.93	2,931.33	0.12	-0.05	3.37	119.81
	NORMAL	6,673.0	1.45	95.90	5,794.32	-1,527.50	-2,499.30	2,929.11	0.36	-0.27	8.43	143.37
	NORMAL	6,768.0	1.32	113.66	5,889.29	-1,528.06	-2,497.10	2,927.53	0.47	-0.14	18.69	115.60
	NORMAL	6,863.0	1.32	133.43	5,984.26	-1,529.25	-2,495.30	2,926.63	0.48	0.00	20.81	99.88
2/18/2013	NORMAL	6,958.0	0.75	164.46	6,079.25	-1,530.60	-2,494.34	2,926.51	0.82	-0.60	32.66	150.28
	NORMAL	7,054.0	0.97	175.62	6,175.24	-1,532.02	-2,494.11	2,927.06	0.29	0.23	11.63	42.95
	NORMAL	7,149.0	1.05	225.19	6,270.22	-1,533.43	-2,494.67	2,928.27	0.89	0.08	52.18	109.88
	NORMAL	7,244.0	1.27	299.37	6,365.21	-1,533.53	-2,496.20	2,929.63	1.48	0.23	78.08	119.93
	NORMAL	7,339.0	1.10	341.12	6,460.19	-1,532.15	-2,497.41	2,929.94	0.90	-0.18	43.95	121.52
	NORMAL	7,434.0	0.61	315.45	6,555.18	-1,530.93	-2,498.06	2,929.86	0.64	-0.52	-27.02	205.65
	NORMAL	7,529.0	0.97	308.16	6,650.17	-1,530.07	-2,499.05	2,930.25	0.39	0.38	-7.67	340.74
	NORMAL	7,624.0	0.92	326.97	6,745.16	-1,528.94	-2,500.10	2,930.55	0.33	-0.05	19.80	108.48
	NORMAL	7,719.0	0.66	47.47	6,840.15	-1,527.93	-2,500.11	2,930.03	1.09	-0.27	84.74	141.25
	NORMAL	7,815.0	0.61	87.29	6,936.15	-1,527.53	-2,499.19	2,929.04	0.45	-0.05	41.48	116.11
2/19/2013	NORMAL	7,910.0	0.66	133.17	7,031.14	-1,527.88	-2,498.29	2,928.45	0.52	0.05	48.29	107.62
	NORMAL	8,005.0	1.05	171.93	7,126.13	-1,529.12	-2,497.77	2,928.66	0.71	0.41	40.80	76.42
	NORMAL	8,101.0	1.54	195.22	7,222.11	-1,531.23	-2,497.98	2,929.95	0.74	0.51	24.26	59.09
	NORMAL	8,196.0	2.20	204.80	7,317.06	-1,534.12	-2,499.08	2,932.39	0.77	0.69	10.08	30.18
	NORMAL	8,292.0	2.64	206.38	7,412.97	-1,537.77	-2,500.84	2,935.80	0.46	0.46	1.65	9.4
	NORMAL	8,387.0	3.03	210.95	7,507.85	-1,541.88	-2,503.10	2,939.88	0.47	0.41	4.81	32.39
	NORMAL	8,482.0	3.52	217.10	7,602.70	-1,546.36	-2,506.15	2,944.82	0.63	0.52	6.47	38.74
	NORMAL	8,577.0	3.91	218.25	7,697.50	-1,551.23	-2,509.92	2,950.58	0.42	0.41	1.21	11.39
	NORMAL	8,624.0	3.91	218.25	7,744.39	-1,553.75	-2,511.90	2,953.58	0.00	0.00	0.00	0.00