

## 1 General

### 1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

### 1.2 Well Information

Well	PA 322-11	Wellbore No.	
Well Name	PA 322-11	Common Name	PA 322-11
Project	PA 11-07S-095W	Site	PA 22-11 Pad
Vertical Section Azimuth	355.61 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	5/15/2013	UWI	PA 322-11
Active Datum	KB @6,295.0ft (above Mean Sea Level)		

## 2 Survey Name

### 2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	5/15/2013	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 (°)
5/15/2013	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/15/2013	NORMAL	74.0	0.35	53.17	74.00	0.14	0.18	0.12	0.47	0.47	0.00	53.17
	NORMAL	165.0	0.53	15.03	165.00	0.71	0.51	0.67	0.37	0.20	-41.91	281.54
	NORMAL	256.0	1.58	340.75	255.98	2.30	0.21	2.28	1.30	1.15	-37.67	311.07
5/16/2013	NORMAL	346.0	2.55	352.44	345.92	5.46	-0.46	5.48	1.17	1.08	12.99	29.39
	NORMAL	437.0	3.08	359.74	436.81	9.91	-0.74	9.93	0.70	0.58	8.02	37.76
	NORMAL	527.0	4.75	354.55	526.60	16.04	-1.11	16.07	1.89	1.86	-5.77	345.42
	NORMAL	618.0	5.89	355.96	617.21	24.44	-1.79	24.51	1.26	1.25	1.55	7.24
	NORMAL	708.0	5.72	355.08	706.74	33.52	-2.50	33.61	0.21	-0.19	-0.98	207.20
	NORMAL	781.0	5.54	355.24	779.39	40.65	-3.11	40.77	0.25	-0.25	0.22	175.10
	NORMAL	840.0	5.22	355.17	838.13	46.17	-3.57	46.30	0.54	-0.54	-0.12	181.14
5/17/2013	NORMAL	961.0	6.07	355.85	958.54	58.03	-4.50	58.21	0.70	0.70	0.56	4.84
	NORMAL	1,054.0	5.47	355.97	1,051.07	67.36	-5.16	67.56	0.65	-0.65	0.13	178.91
	NORMAL	1,149.0	5.20	357.80	1,145.66	76.18	-5.65	76.39	0.34	-0.28	1.93	148.69
	NORMAL	1,241.0	4.97	355.11	1,237.30	84.31	-6.15	84.54	0.36	-0.25	-2.92	224.70
	NORMAL	1,336.0	4.80	357.86	1,331.95	92.39	-6.65	92.62	0.30	-0.18	2.89	127.34
	NORMAL	1,430.0	4.80	353.67	1,425.62	100.23	-7.23	100.48	0.37	0.00	-4.46	267.91
	NORMAL	1,525.0	4.58	353.54	1,520.31	107.94	-8.09	108.25	0.23	-0.23	-0.14	182.70
	NORMAL	1,619.0	4.59	354.11	1,614.01	115.41	-8.90	115.76	0.05	0.01	0.61	77.91
	NORMAL	1,713.0	4.75	358.14	1,707.69	123.05	-9.41	123.41	0.39	0.17	4.29	66.02
	NORMAL	1,806.0	4.30	359.76	1,800.40	130.38	-9.55	130.73	0.50	-0.48	1.74	164.95

## 2.1.2 Survey Stations (Continued)

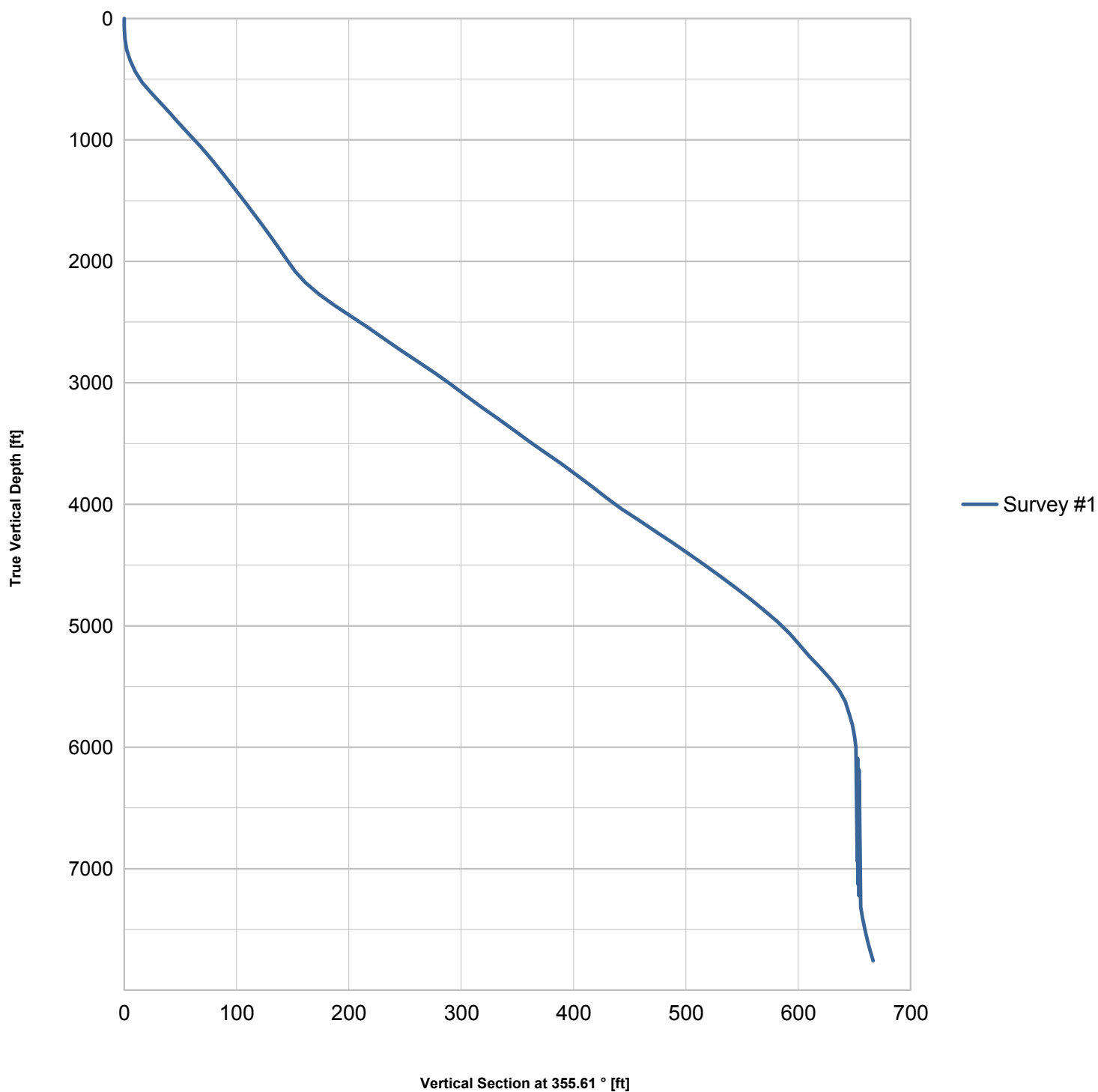
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
5/17/2013	NORMAL	1,901.0	4.38	357.69	1,895.13	137.57	-9.71	137.91	0.19	0.08	-2.18	296.02
	NORMAL	1,995.0	4.19	354.87	1,988.87	144.57	-10.17	144.93	0.30	-0.20	-3.00	226.56
	NORMAL	2,089.0	4.67	1.76	2,082.59	151.82	-10.35	152.17	0.76	0.51	7.33	51.42
	NORMAL	2,183.0	6.73	1.93	2,176.12	161.15	-10.05	161.45	2.19	2.19	0.18	0.55
5/18/2013	NORMAL	2,277.0	7.82	1.61	2,269.36	173.05	-9.69	173.28	1.16	1.16	-0.34	357.71
	NORMAL	2,371.0	9.12	356.38	2,362.33	186.88	-9.98	187.09	1.61	1.38	-5.56	326.75
	NORMAL	2,465.0	9.53	352.68	2,455.09	202.03	-11.44	202.31	0.77	0.44	-3.94	302.53
	NORMAL	2,558.0	9.12	351.62	2,546.86	216.96	-13.49	217.35	0.48	-0.44	-1.14	202.21
	NORMAL	2,651.0	8.67	358.33	2,638.75	231.25	-14.77	231.71	1.22	-0.48	7.22	116.74
	NORMAL	2,746.0	9.02	355.13	2,732.62	245.83	-15.61	246.31	0.64	0.37	-3.37	303.84
	NORMAL	2,841.0	9.48	355.05	2,826.38	261.05	-16.92	261.58	0.48	0.48	-0.08	358.36
	NORMAL	2,935.0	8.89	350.73	2,919.18	275.93	-18.76	276.55	0.97	-0.63	-4.60	227.33
	NORMAL	3,028.0	8.36	356.42	3,011.13	289.77	-20.34	290.47	1.08	-0.57	6.12	124.64
	NORMAL	3,123.0	8.26	354.58	3,105.13	303.45	-21.41	304.20	0.30	-0.11	-1.94	248.48
	NORMAL	3,218.0	8.65	349.48	3,199.10	317.27	-23.36	318.13	0.89	0.41	-5.37	294.94
	NORMAL	3,312.0	8.86	353.57	3,292.00	331.42	-25.46	332.39	0.70	0.22	4.35	73.39
	NORMAL	3,405.0	8.14	354.75	3,383.98	345.09	-26.87	346.13	0.80	-0.77	1.27	166.97
	NORMAL	3,501.0	8.68	3.17	3,478.95	359.09	-27.09	360.11	1.40	0.56	8.77	70.53
	NORMAL	3,594.0	8.99	357.43	3,570.85	373.36	-27.03	374.33	1.00	0.33	-6.17	286.52
	NORMAL	3,689.0	8.39	356.94	3,664.76	387.69	-27.73	388.68	0.64	-0.63	-0.52	186.79
	NORMAL	3,783.0	8.58	352.87	3,757.73	401.50	-28.97	402.54	0.67	0.20	-4.33	285.54
	NORMAL	3,878.0	8.00	355.31	3,851.74	415.12	-30.39	416.23	0.71	-0.61	2.57	149.96
	NORMAL	3,972.0	7.60	351.93	3,944.87	427.79	-31.79	428.97	0.65	-0.43	-3.60	227.25
	NORMAL	4,068.0	9.23	353.22	4,039.83	441.72	-33.60	443.00	1.71	1.70	1.34	7.24
	NORMAL	4,162.0	9.38	353.06	4,132.60	456.81	-35.41	458.18	0.16	0.16	-0.17	350.14
	NORMAL	4,256.0	9.18	359.21	4,225.37	471.92	-36.44	473.32	1.08	-0.21	6.54	104.43
	NORMAL	4,351.0	9.22	359.87	4,319.15	487.10	-36.56	488.47	0.12	0.04	0.69	69.57
	NORMAL	4,445.0	8.68	356.14	4,412.00	501.71	-37.06	503.08	0.84	-0.57	-3.97	225.23
	NORMAL	4,540.0	8.72	359.92	4,505.91	516.07	-37.55	517.43	0.60	0.04	3.98	87.87
	NORMAL	4,633.0	8.51	358.66	4,597.86	529.99	-37.72	531.33	0.30	-0.23	-1.35	221.33
	NORMAL	4,728.0	8.17	4.29	4,691.86	543.75	-37.38	545.02	0.93	-0.36	5.93	115.37
	NORMAL	4,822.0	7.86	3.13	4,784.94	556.83	-36.53	557.99	0.37	-0.33	-1.23	206.98
	NORMAL	4,916.0	7.39	8.87	4,878.11	569.22	-35.25	570.25	0.95	-0.50	6.11	124.50
5/19/2013	NORMAL	5,009.0	7.21	8.07	4,970.36	580.91	-33.50	581.77	0.22	-0.19	-0.86	209.06
	NORMAL	5,102.0	5.91	5.05	5,062.75	591.46	-32.26	592.19	1.45	-1.40	-3.25	193.37
	NORMAL	5,197.0	5.43	11.96	5,157.28	600.73	-30.90	601.33	0.88	-0.51	7.27	128.52
	NORMAL	5,291.0	5.59	16.57	5,250.85	609.47	-28.67	609.87	0.50	0.17	4.90	72.43
	NORMAL	5,384.0	6.69	13.54	5,343.31	619.08	-26.11	619.26	1.23	1.18	-3.26	342.07
	NORMAL	5,479.0	5.04	10.00	5,437.81	628.57	-24.09	628.57	1.78	-1.74	-3.73	190.61
	NORMAL	5,573.0	4.80	6.66	5,531.47	636.54	-22.92	636.42	0.40	-0.26	-3.55	228.39
	NORMAL	5,668.0	2.02	3.15	5,626.29	642.16	-22.37	641.99	2.93	-2.93	-3.69	182.54
	NORMAL	5,762.0	1.92	343.38	5,720.23	645.32	-22.73	645.17	0.73	-0.11	-21.03	251.83
	NORMAL	5,855.0	1.75	354.17	5,813.19	648.23	-23.32	648.11	0.41	-0.18	11.60	121.52
	NORMAL	5,949.0	1.39	56.36	5,907.16	650.29	-22.51	650.10	1.76	-0.38	66.16	131.85
	NORMAL	6,042.0	2.22	63.84	6,000.11	651.71	-19.96	651.32	0.93	0.89	8.04	19.61
5/20/2013	NORMAL	6,136.0	1.41	44.69	6,094.06	653.33	-17.51	652.75	1.07	-0.86	-20.37	207.51
	NORMAL	6,229.0	1.37	54.38	6,187.04	654.79	-15.80	654.08	0.26	-0.04	10.42	104.48
	NORMAL	6,323.0	0.55	166.28	6,281.03	655.01	-14.78	654.22	1.76	-0.87	119.04	162.05
	NORMAL	6,417.0	1.12	215.84	6,375.02	653.83	-15.21	653.07	0.93	0.61	52.72	78.30
	NORMAL	6,511.0	0.51	329.08	6,469.01	653.44	-15.96	652.74	1.49	-0.65	120.47	160.47
	NORMAL	6,604.0	0.79	268.46	6,562.01	653.78	-16.82	653.15	0.75	0.30	-65.18	259.92
	NORMAL	6,699.0	0.13	242.11	6,657.00	653.71	-17.57	653.14	0.71	-0.69	-27.74	184.90
	NORMAL	6,793.0	0.77	240.59	6,751.00	653.35	-18.21	652.83	0.68	0.68	-1.62	358.17
	NORMAL	6,887.0	1.20	254.31	6,844.99	652.77	-19.71	652.37	0.52	0.46	14.60	35.72
	NORMAL	6,982.0	1.53	285.07	6,939.96	652.83	-21.89	652.59	0.83	0.35	32.38	81.65
	NORMAL	7,076.0	1.88	266.35	7,033.92	653.06	-24.64	653.03	0.69	0.37	-19.91	292.56
	NORMAL	7,170.0	1.11	280.81	7,127.89	653.13	-27.08	653.29	0.91	-0.82	15.38	161.00

### 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 (°)
5/20/2013	NORMAL	7,264.0	1.32	296.61	7,221.87	653.79	-28.94	654.09	0.42	0.22	16.81	65.98
	NORMAL	7,358.0	2.12	295.19	7,315.82	655.01	-31.48	655.50	0.85	0.85	-1.51	356.24
	NORMAL	7,452.0	2.34	297.94	7,409.75	656.65	-34.75	657.39	0.26	0.23	2.93	27.32
	NORMAL	7,546.0	2.29	295.52	7,503.68	658.36	-38.14	659.35	0.12	-0.05	-2.57	241.70
	NORMAL	7,641.0	3.38	296.98	7,598.56	660.45	-42.35	661.75	1.15	1.15	1.54	4.52
5/22/2013	NORMAL	7,735.0	3.45	296.23	7,692.39	662.96	-47.35	664.64	0.09	0.07	-0.80	327.08
	NORMAL	7,800.0	3.50	295.71	7,757.27	664.68	-50.90	666.63	0.09	0.08	-0.80	327.51

### 3 Charts

#### 3.1 Vertical Section View



### 3.2 Plan View

