

## 1 General

### 1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

### 1.2 Well Information

Well	PA 41-29	Wellbore No.	OH
Well Name	PA 41-29	Common Name	PA 41-29
Project	PA 28-06S-095W	Site	PA 11-28 Pad
Vertical Section Azimuth	277.50 (°)	North Reference	
Origin N/S		Origin E/W	
Spud Date	10/16/2011	UWI	PA 41-29
Active Datum	KB @5,991.0ft (above Mean Sea Level)		

## 2 Survey Name

### 2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	10/16/2011	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 (°)
10/16/2011	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/16/2011	NORMAL	106.0	0.88	275.89	106.00	0.08	-0.81	0.81	0.83	0.83	0.00	275.89
	NORMAL	137.0	1.23	271.23	136.99	0.12	-1.38	1.38	1.16	1.13	-15.03	343.89
	NORMAL	167.0	1.32	296.72	166.98	0.28	-2.01	2.03	1.90	0.30	84.97	93.87
	NORMAL	198.0	1.32	263.14	197.98	0.40	-2.68	2.71	2.46	0.00	-108.32	253.21
	NORMAL	229.0	1.76	279.40	228.96	0.43	-3.51	3.53	1.99	1.42	52.45	53.12
	NORMAL	259.0	2.99	274.83	258.94	0.57	-4.74	4.78	4.15	4.10	-15.23	348.96
	NORMAL	290.0	4.31	275.27	289.87	0.75	-6.71	6.75	4.26	4.26	1.42	1.44
	NORMAL	320.0	5.89	280.20	319.75	1.12	-9.34	9.41	5.46	5.27	16.43	17.97
	NORMAL	350.0	7.04	280.28	349.56	1.72	-12.67	12.79	3.83	3.83	0.27	0.49
	NORMAL	381.0	7.83	278.96	380.30	2.39	-16.62	16.79	2.61	2.55	-4.26	347.14
	NORMAL	410.0	8.27	277.82	409.02	2.98	-20.64	20.85	1.61	1.52	-3.93	339.49
	NORMAL	441.0	8.71	277.73	439.68	3.60	-25.18	25.43	1.42	1.42	-0.29	358.23
	NORMAL	472.0	8.80	278.00	470.32	4.25	-29.85	30.15	0.32	0.29	0.87	24.68
	NORMAL	503.0	9.85	275.54	500.91	4.83	-34.84	35.17	3.62	3.39	-7.94	338.00
	NORMAL	533.0	11.52	274.83	530.38	5.33	-40.38	40.73	5.58	5.57	-2.37	355.14
	NORMAL	602.0	13.40	274.70	597.76	6.57	-55.21	55.60	2.72	2.72	-0.19	359.08
	NORMAL	694.0	14.70	272.90	687.00	8.03	-77.50	77.88	1.49	1.41	-1.96	340.55
	NORMAL	785.0	13.50	277.70	775.26	10.04	-99.55	100.01	1.84	-1.32	5.27	138.05
	NORMAL	877.0	11.60	282.10	865.06	13.42	-119.24	119.97	2.31	-2.07	4.78	155.42
	NORMAL	968.0	11.90	276.10	954.16	16.33	-137.52	138.47	1.38	0.33	-6.59	280.85

## 2.1.2 Survey Stations (Continued)

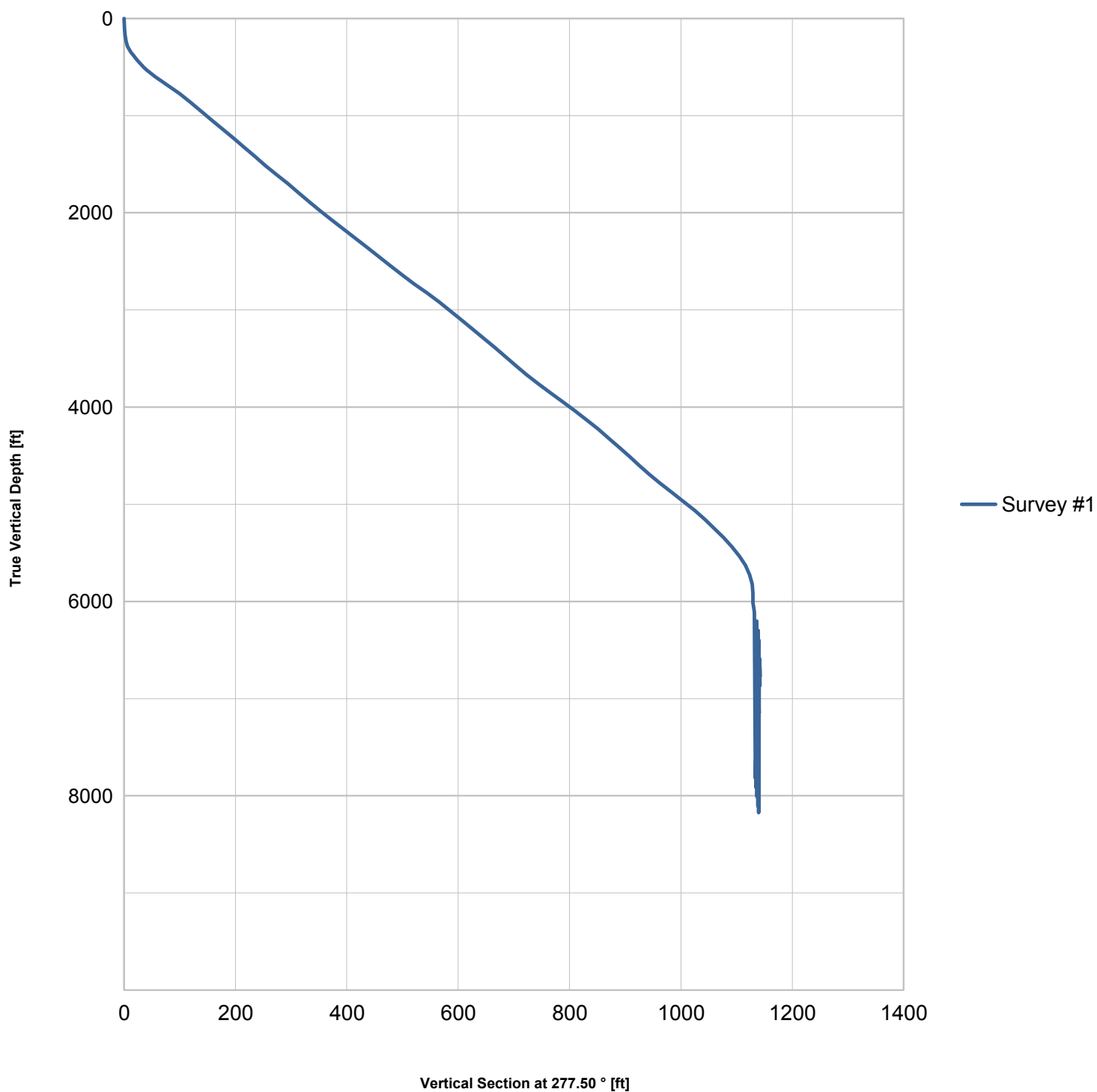
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
10/16/2011	NORMAL	1,063.0	11.30	278.20	1,047.22	18.70	-156.47	157.57	0.77	-0.63	2.21	145.89
	NORMAL	1,159.0	12.70	278.60	1,141.12	21.62	-176.21	177.53	1.46	1.46	0.42	3.60
	NORMAL	1,254.0	11.00	278.80	1,234.09	24.57	-195.50	197.03	1.79	-1.79	0.21	178.71
10/17/2011	NORMAL	1,349.0	12.20	278.00	1,327.15	27.35	-214.40	216.13	1.27	1.26	-0.84	351.97
	NORMAL	1,445.0	10.70	278.70	1,421.24	30.11	-233.25	235.19	1.57	-1.56	0.73	175.05
	NORMAL	1,541.0	11.60	278.40	1,515.42	32.87	-251.61	253.75	0.94	0.94	-0.31	356.16
	NORMAL	1,636.0	12.90	278.00	1,608.26	35.74	-271.56	273.90	1.37	1.37	-0.42	356.07
	NORMAL	1,732.0	12.10	278.60	1,701.98	38.74	-292.12	294.68	0.84	-0.83	0.63	171.07
	NORMAL	1,827.0	10.90	280.30	1,795.07	41.83	-310.80	313.60	1.31	-1.26	1.79	165.06
	NORMAL	1,923.0	12.10	279.60	1,889.14	45.13	-329.66	332.73	1.26	1.25	-0.73	353.02
	NORMAL	2,019.0	12.00	277.30	1,983.03	48.08	-349.48	352.76	0.51	-0.10	-2.40	257.11
	NORMAL	2,114.0	12.80	278.20	2,075.81	50.84	-369.69	373.16	0.87	0.84	0.95	14.02
	NORMAL	2,210.0	12.80	274.50	2,169.43	53.19	-390.81	394.41	0.85	0.00	-3.85	268.20
	NORMAL	2,305.0	12.90	274.50	2,262.05	54.85	-411.88	415.51	0.11	0.11	0.00	0.00
	NORMAL	2,401.0	12.10	279.10	2,355.77	57.28	-432.50	436.27	1.33	-0.83	4.79	131.01
	NORMAL	2,592.0	12.90	278.90	2,542.25	63.74	-473.33	477.60	0.42	0.42	-0.10	356.81
	NORMAL	2,688.0	12.40	278.00	2,635.92	66.83	-494.12	498.62	0.56	-0.52	-0.94	201.08
	NORMAL	2,783.0	13.50	276.40	2,728.50	69.49	-515.24	519.90	1.22	1.16	-1.68	341.16
10/19/2011	NORMAL	2,883.0	14.30	277.00	2,825.57	72.30	-539.10	543.92	0.81	0.80	0.60	10.50
	NORMAL	2,978.0	12.40	274.90	2,918.00	74.60	-560.91	565.85	2.06	-2.00	-2.21	193.30
	NORMAL	3,074.0	12.10	274.10	3,011.81	76.20	-581.22	586.19	0.36	-0.31	-0.83	209.11
	NORMAL	3,170.0	12.10	275.80	3,105.68	77.93	-601.26	606.29	0.37	0.00	1.77	90.83
10/20/2011	NORMAL	3,265.0	12.10	273.80	3,198.57	79.60	-621.10	626.18	0.44	0.00	-2.11	269.02
	NORMAL	3,362.0	11.80	280.10	3,293.47	82.01	-641.01	646.23	1.38	-0.31	6.49	106.02
	NORMAL	3,457.0	11.70	279.30	3,386.48	85.27	-660.08	665.56	0.20	-0.11	-0.84	238.07
	NORMAL	3,552.0	11.60	279.10	3,479.52	88.34	-679.02	684.74	0.11	-0.11	-0.21	201.89
	NORMAL	3,648.0	11.40	277.20	3,573.60	91.06	-697.96	703.88	0.45	-0.21	-1.98	241.24
	NORMAL	3,744.0	11.90	279.10	3,667.62	93.81	-717.15	723.26	0.66	0.52	1.98	38.43
	NORMAL	3,840.0	13.40	279.10	3,761.29	97.14	-737.91	744.27	1.56	1.56	0.00	0.00
	NORMAL	3,935.0	13.40	277.20	3,853.70	100.26	-759.70	766.28	0.46	0.00	-2.00	269.08
	NORMAL	4,031.0	13.40	276.10	3,947.09	102.83	-781.79	788.53	0.27	0.00	-1.15	269.46
	NORMAL	4,126.0	12.80	278.90	4,039.62	105.63	-803.14	810.05	0.92	-0.63	2.95	134.75
	NORMAL	4,223.0	12.80	279.40	4,134.20	109.05	-824.35	831.53	0.11	0.00	0.52	90.24
	NORMAL	4,318.0	11.50	277.20	4,227.08	111.95	-844.13	851.52	1.45	-1.37	-2.32	198.53
	NORMAL	4,412.0	11.40	276.30	4,319.20	114.15	-862.66	870.18	0.22	-0.11	-0.96	240.32
	NORMAL	4,508.0	11.30	276.30	4,413.33	116.22	-881.44	889.07	0.10	-0.10	0.00	180.00
	NORMAL	4,603.0	10.90	274.00	4,506.55	117.87	-899.65	907.34	0.63	-0.42	-2.42	226.78
	NORMAL	4,698.0	10.70	277.30	4,599.87	119.62	-917.36	925.12	0.68	-0.21	3.47	109.54
	NORMAL	4,793.0	11.30	277.30	4,693.12	121.92	-935.34	943.25	0.63	0.63	0.00	0.00
	NORMAL	4,889.0	12.60	277.70	4,787.04	124.52	-955.05	963.13	1.36	1.35	0.42	3.84
	NORMAL	4,984.0	12.80	279.40	4,879.72	127.62	-975.70	984.01	0.45	0.21	1.79	62.68
	NORMAL	5,079.0	12.50	277.30	4,972.41	130.65	-996.28	1,004.81	0.58	-0.32	-2.21	235.86
10/22/2011	NORMAL	5,174.0	12.20	278.70	5,065.21	133.47	-1,016.40	1,025.12	0.45	-0.32	1.47	135.74
	NORMAL	5,270.0	10.40	276.30	5,159.35	135.96	-1,035.04	1,043.93	1.94	-1.88	-2.50	193.47
	NORMAL	5,365.0	10.00	273.30	5,252.85	137.38	-1,051.80	1,060.73	0.70	-0.42	-3.16	231.55
	NORMAL	5,459.0	9.90	276.80	5,345.43	138.80	-1,067.97	1,076.95	0.65	-0.11	3.72	101.11
	NORMAL	5,555.0	8.30	276.30	5,440.22	140.54	-1,083.05	1,092.13	1.67	-1.67	-0.52	182.58
	NORMAL	5,651.0	7.50	282.10	5,535.31	142.61	-1,096.06	1,105.30	1.18	-0.83	6.04	137.95
	NORMAL	5,746.0	5.50	287.90	5,629.70	145.31	-1,106.46	1,115.96	2.21	-2.11	6.11	164.69
	NORMAL	5,842.0	3.40	283.70	5,725.40	147.40	-1,113.60	1,123.32	2.21	-2.19	-4.38	186.73
	NORMAL	5,937.0	3.60	329.70	5,820.24	150.64	-1,117.85	1,127.95	2.88	0.21	48.42	109.11
	NORMAL	6,033.0	2.10	21.40	5,916.14	154.88	-1,118.73	1,129.37	2.95	-1.56	53.85	144.34
	NORMAL	6,129.0	2.00	348.00	6,012.08	158.16	-1,118.43	1,129.51	1.23	-0.10	-34.79	248.66
	NORMAL	6,225.0	2.80	308.80	6,108.00	161.27	-1,120.61	1,132.07	1.85	0.83	-40.83	275.50
	NORMAL	6,320.0	2.60	301.40	6,202.89	163.85	-1,124.26	1,136.02	0.42	-0.21	-7.79	236.49
	NORMAL	6,415.0	1.10	313.90	6,297.84	165.60	-1,126.75	1,138.73	1.63	-1.58	13.16	171.13
	NORMAL	6,510.0	0.20	311.40	6,392.84	166.34	-1,127.53	1,139.60	0.95	-0.95	-2.63	180.56

## 2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
10/22/2011	NORMAL	6,605.0	0.70	232.00	6,487.83	166.10	-1,128.12	1,140.14	0.73	0.53	-83.58	264.09
	NORMAL	6,700.0	1.10	213.70	6,582.82	164.98	-1,129.08	1,140.95	0.51	0.42	-19.26	314.92
	NORMAL	6,795.0	1.80	200.30	6,677.79	162.82	-1,130.10	1,141.69	0.81	0.74	-14.11	327.35
	NORMAL	6,888.0	1.20	194.50	6,770.76	160.51	-1,130.85	1,142.13	0.66	-0.65	-6.24	191.31
	NORMAL	6,984.0	0.80	78.00	6,866.75	159.67	-1,130.45	1,141.62	1.79	-0.42	-121.35	204.70
	NORMAL	7,079.0	0.40	98.90	6,961.74	159.76	-1,129.47	1,140.66	0.47	-0.42	22.00	161.49
	NORMAL	7,173.0	0.60	180.30	7,055.74	159.22	-1,129.15	1,140.27	0.71	0.21	86.60	117.61
10/23/2011	NORMAL	7,268.0	1.00	193.70	7,150.73	157.92	-1,129.35	1,140.30	0.46	0.42	14.11	31.87
	NORMAL	7,363.0	0.30	105.90	7,245.73	157.04	-1,129.31	1,140.14	1.09	-0.74	-92.42	196.87
	NORMAL	7,458.0	0.80	125.30	7,340.72	156.59	-1,128.53	1,139.31	0.55	0.53	20.42	30.31
	NORMAL	7,553.0	1.10	83.40	7,435.71	156.31	-1,127.08	1,137.84	0.77	0.32	-44.11	271.46
	NORMAL	7,649.0	1.10	91.40	7,531.69	156.40	-1,125.24	1,136.03	0.16	0.00	8.33	94.00
	NORMAL	7,744.0	1.30	151.70	7,626.68	155.42	-1,123.82	1,134.49	1.28	0.21	63.47	111.98
	NORMAL	7,841.0	0.30	115.60	7,723.67	154.35	-1,123.07	1,133.61	1.11	-1.03	-37.22	189.49
	NORMAL	7,936.0	0.50	277.90	7,818.66	154.30	-1,123.26	1,133.79	0.83	0.21	170.84	168.92
	NORMAL	8,032.0	1.00	259.20	7,914.66	154.20	-1,124.49	1,135.00	0.57	0.52	-19.48	324.36
	NORMAL	8,127.0	1.20	248.30	8,009.64	153.67	-1,126.23	1,136.66	0.30	0.21	-11.47	308.17
	NORMAL	8,222.0	1.40	241.50	8,104.61	152.75	-1,128.18	1,138.46	0.27	0.21	-7.16	318.92
	NORMAL	8,290.0	1.40	241.10	8,172.59	151.95	-1,129.63	1,139.80	0.01	0.00	-0.59	269.80

### 3 Charts

#### 3.1 Vertical Section View



### 3.2 Plan View

