

## 1 General

### 1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

### 1.2 Well Information

Well	PA 314-29	Wellbore No.	
Well Name	PA 314-29	Common Name	PA 314-29
Project	PA 29-06S-095W	Site	DOE 3-W-29 Pad
Vertical Section Azimuth	257.18 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	2/16/2012	UWI	PA 314-29
Active Datum	KB @5,702.0ft (above Mean Sea Level)		

## 2 Survey Name

### 2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	SCIENTIFIC
Date Started	2/16/2012	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 (°)
2/16/2012	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/16/2012	NORMAL	83.0	0.18	108.54	83.00	-0.04	0.12	-0.11	0.22	0.22	0.00	108.54
	NORMAL	113.0	0.62	186.15	113.00	-0.22	0.15	-0.10	2.02	1.47	258.70	94.43
	NORMAL	144.0	1.76	204.08	143.99	-0.82	-0.06	0.24	3.82	3.68	57.84	27.19
	NORMAL	174.0	2.73	212.43	173.97	-1.84	-0.63	1.03	3.40	3.23	27.83	22.84
	NORMAL	204.0	3.70	228.25	203.92	-3.09	-1.74	2.38	4.35	3.23	52.73	50.53
	NORMAL	235.0	5.37	237.83	234.82	-4.53	-3.71	4.62	5.90	5.39	30.90	29.22
	NORMAL	265.0	6.95	237.74	264.65	-6.25	-6.44	7.66	5.27	5.27	-0.30	359.61
	NORMAL	296.0	8.36	239.59	295.37	-8.39	-9.97	11.58	4.62	4.55	5.97	10.83
	NORMAL	326.0	9.41	242.67	325.01	-10.62	-14.02	16.03	3.84	3.50	10.27	25.90
	NORMAL	357.0	10.29	243.11	355.56	-13.03	-18.75	21.17	2.85	2.84	1.42	5.11
	NORMAL	369.0	10.63	244.38	367.36	-14.00	-20.70	23.29	3.42	2.83	10.58	34.77
	NORMAL	399.0	11.73	245.78	396.79	-16.44	-25.98	28.98	3.78	3.67	4.67	14.55
	NORMAL	430.0	12.69	247.35	427.08	-19.05	-31.99	35.42	3.28	3.10	5.06	19.85
	NORMAL	460.0	13.36	248.62	456.31	-21.58	-38.26	42.10	2.43	2.23	4.23	23.75
	NORMAL	491.0	13.91	251.11	486.44	-24.09	-45.12	49.34	2.59	1.77	8.03	48.08
	NORMAL	521.0	15.05	256.45	515.49	-26.17	-52.32	56.82	5.85	3.80	17.80	52.12
	NORMAL	551.0	16.39	257.47	544.36	-28.00	-60.24	64.95	4.56	4.47	3.40	12.14
	NORMAL	582.0	17.58	258.71	574.01	-29.87	-69.10	74.00	4.01	3.84	4.00	17.52
	NORMAL	612.0	19.23	259.98	602.48	-31.62	-78.41	83.47	5.66	5.50	4.23	14.26
	NORMAL	642.0	20.43	258.82	630.70	-33.49	-88.41	93.64	4.21	4.00	-3.87	341.30

## 2.1.2 Survey Stations (Continued)

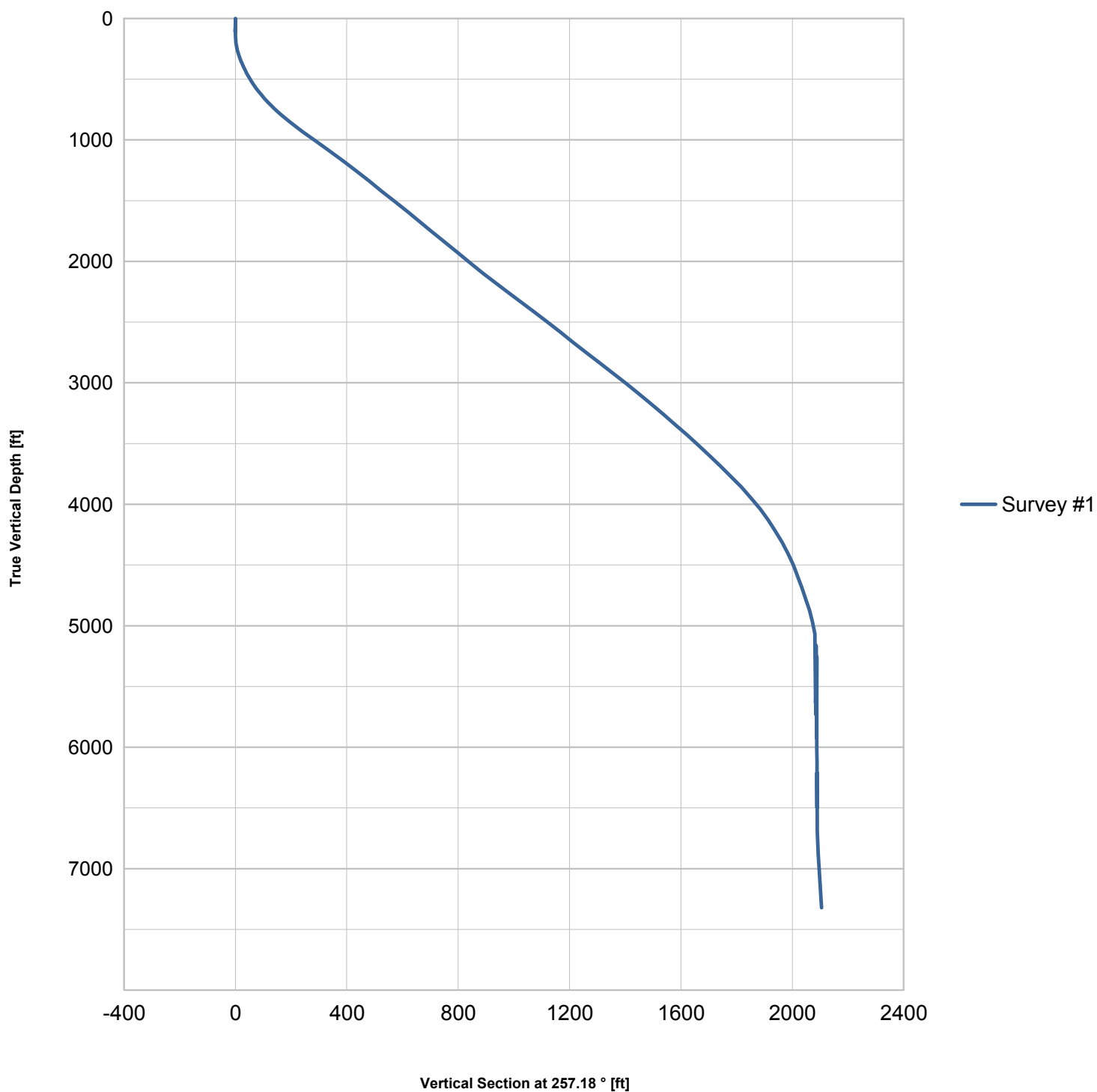
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
2/16/2012	NORMAL	672.0	21.21	257.81	658.74	-35.65	-98.85	104.30	2.86	2.60	-3.37	334.81
2/17/2012	NORMAL	702.0	22.30	257.30	686.60	-38.05	-109.71	115.42	3.69	3.63	-1.70	349.92
	NORMAL	733.0	23.62	257.35	715.14	-40.70	-121.51	127.51	4.26	4.26	0.16	0.87
	NORMAL	763.0	24.73	255.90	742.51	-43.55	-133.46	139.79	4.20	3.70	-4.83	331.19
	NORMAL	793.0	25.65	256.97	769.66	-46.54	-145.87	152.56	3.42	3.07	3.57	26.82
	NORMAL	823.0	26.58	257.23	796.60	-49.49	-158.74	165.77	3.12	3.10	0.87	7.13
	NORMAL	853.0	27.88	256.60	823.27	-52.60	-172.11	179.49	4.44	4.33	-2.10	347.22
	NORMAL	884.0	29.16	257.66	850.51	-55.89	-186.54	194.29	4.44	4.13	3.42	22.04
	NORMAL	976.0	30.85	257.01	930.18	-65.98	-231.42	240.30	1.87	1.84	-0.71	348.83
	NORMAL	1,071.0	31.73	256.21	1,011.36	-77.41	-279.42	289.63	1.02	0.93	-0.84	334.38
	NORMAL	1,167.0	30.72	256.09	1,093.45	-89.33	-327.74	339.39	1.05	-1.05	-0.12	183.47
	NORMAL	1,262.0	30.12	257.18	1,175.37	-100.45	-374.54	387.49	0.86	-0.63	1.15	137.86
	NORMAL	1,357.0	30.06	259.73	1,257.57	-109.98	-421.19	435.10	1.35	-0.06	2.68	93.79
	NORMAL	1,452.0	28.11	258.75	1,340.59	-118.59	-466.56	481.24	2.11	-2.05	-1.03	193.30
	NORMAL	1,547.0	28.40	260.32	1,424.27	-126.75	-510.78	526.17	0.84	0.31	1.65	69.38
	NORMAL	1,642.0	29.70	261.78	1,507.32	-133.92	-556.35	572.19	1.56	1.37	1.54	29.25
	NORMAL	1,738.0	27.97	260.38	1,591.42	-141.08	-602.08	618.38	1.93	-1.80	-1.46	200.71
	NORMAL	1,833.0	28.19	256.49	1,675.24	-150.05	-645.87	663.06	1.94	0.23	-4.09	275.13
	NORMAL	1,929.0	27.86	253.02	1,759.99	-161.90	-689.37	708.11	1.73	-0.34	-3.61	257.03
	NORMAL	2,024.0	28.60	251.64	1,843.69	-175.54	-732.18	752.88	1.04	0.78	-1.45	317.97
	NORMAL	2,120.0	28.00	257.65	1,928.23	-187.60	-776.02	798.30	3.03	-0.63	6.26	104.53
	NORMAL	2,215.0	27.94	258.37	2,012.14	-196.86	-819.60	842.85	0.36	-0.06	0.76	100.39
	NORMAL	2,311.0	29.10	259.76	2,096.49	-205.54	-864.60	888.66	1.39	1.21	1.45	30.39
	NORMAL	2,369.0	29.61	260.26	2,147.04	-210.47	-892.60	917.05	0.98	0.88	0.86	25.89
2/19/2012	NORMAL	2,492.0	30.14	258.74	2,253.70	-221.64	-952.84	978.27	0.75	0.43	-1.24	304.33
	NORMAL	2,588.0	30.25	259.15	2,336.67	-230.90	-1,000.22	1,026.53	0.24	0.11	0.43	62.10
	NORMAL	2,683.0	30.27	258.59	2,418.73	-240.14	-1,047.20	1,074.38	0.30	0.02	-0.59	273.81
	NORMAL	2,779.0	29.47	257.22	2,501.97	-250.15	-1,093.94	1,122.18	1.10	-0.83	-1.43	219.87
	NORMAL	2,874.0	28.49	257.06	2,585.08	-260.40	-1,138.82	1,168.21	1.03	-1.03	-0.17	184.45
	NORMAL	2,970.0	28.68	256.23	2,669.38	-271.01	-1,183.51	1,214.14	0.46	0.20	-0.86	295.20
	NORMAL	3,065.0	29.55	255.45	2,752.37	-282.32	-1,228.32	1,260.35	1.00	0.92	-0.82	336.09
	NORMAL	3,161.0	29.85	254.96	2,835.76	-294.46	-1,274.31	1,307.88	0.40	0.31	-0.51	320.81
	NORMAL	3,256.0	29.42	256.22	2,918.34	-306.16	-1,319.80	1,354.84	0.80	-0.45	1.33	125.16
	NORMAL	3,351.0	28.42	258.25	3,001.49	-316.32	-1,364.60	1,400.77	1.47	-1.05	2.14	136.41
	NORMAL	3,447.0	28.40	258.92	3,085.93	-325.36	-1,409.37	1,446.43	0.33	-0.02	0.70	93.88
	NORMAL	3,543.0	27.49	258.66	3,170.73	-334.10	-1,453.50	1,491.40	0.96	-0.95	-0.27	187.51
	NORMAL	3,638.0	26.93	258.78	3,255.22	-342.60	-1,496.10	1,534.82	0.59	-0.59	0.13	174.46
	NORMAL	3,734.0	26.67	258.88	3,340.91	-350.99	-1,538.56	1,578.09	0.27	-0.27	0.10	170.21
	NORMAL	3,829.0	26.29	259.08	3,425.94	-359.08	-1,580.14	1,620.43	0.41	-0.40	0.21	166.88
	NORMAL	3,924.0	25.20	258.31	3,511.51	-367.17	-1,620.61	1,661.68	1.20	-1.15	-0.81	196.71
	NORMAL	4,019.0	24.63	257.48	3,597.67	-375.56	-1,659.74	1,701.69	0.70	-0.60	-0.87	211.15
	NORMAL	4,114.0	23.93	257.89	3,684.27	-383.89	-1,697.90	1,740.76	0.76	-0.74	0.43	166.65
	NORMAL	4,210.0	23.96	257.99	3,772.00	-392.03	-1,736.00	1,779.71	0.05	0.03	0.10	53.57
2/20/2012	NORMAL	4,305.0	22.38	258.26	3,859.34	-399.72	-1,772.58	1,817.09	1.67	-1.66	0.28	176.28
	NORMAL	4,401.0	20.57	260.59	3,948.67	-406.20	-1,807.11	1,852.20	2.08	-1.89	2.43	155.85
	NORMAL	4,496.0	18.86	261.52	4,038.10	-411.19	-1,838.77	1,884.17	1.83	-1.80	0.98	170.04
	NORMAL	4,592.0	16.68	262.62	4,129.51	-415.25	-1,867.78	1,913.36	2.30	-2.27	1.15	171.77
	NORMAL	4,688.0	15.34	259.97	4,221.79	-419.23	-1,893.95	1,939.76	1.59	-1.40	-2.76	207.34
	NORMAL	4,783.0	13.77	257.61	4,313.74	-423.85	-1,917.37	1,963.62	1.77	-1.65	-2.48	199.56
	NORMAL	4,878.0	12.16	259.40	4,406.31	-428.12	-1,938.25	1,984.93	1.75	-1.69	1.88	166.86
	NORMAL	4,973.0	10.47	256.67	4,499.47	-431.95	-1,956.48	2,003.56	1.87	-1.78	-2.87	196.25
	NORMAL	5,068.0	8.97	257.42	4,593.10	-435.55	-1,972.11	2,019.59	1.58	-1.58	0.79	175.54
	NORMAL	5,164.0	8.79	256.66	4,687.95	-438.87	-1,986.55	2,034.41	0.22	-0.19	-0.79	212.72
	NORMAL	5,259.0	8.59	254.78	4,781.86	-442.41	-2,000.46	2,048.76	0.37	-0.21	-1.98	233.92
	NORMAL	5,354.0	7.18	259.95	4,875.96	-445.31	-2,013.15	2,061.78	1.66	-1.48	5.44	155.84
	NORMAL	5,449.0	5.94	258.61	4,970.33	-447.32	-2,023.82	2,072.62	1.32	-1.31	-1.41	186.37
	NORMAL	5,545.0	3.96	261.34	5,065.97	-448.80	-2,031.97	2,080.90	2.08	-2.06	2.84	174.57

## 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 (°)
2/21/2012	NORMAL	5,641.0	1.85	241.43	5,161.85	-450.04	-2,036.61	2,085.69	2.40	-2.20	-20.74	195.84
	NORMAL	5,736.0	1.07	202.28	5,256.82	-451.59	-2,038.29	2,087.68	1.29	-0.82	-41.21	213.51
	NORMAL	5,831.0	0.97	26.72	5,351.81	-451.69	-2,038.26	2,087.68	2.15	-0.11	-184.80	182.11
	NORMAL	5,926.0	1.83	24.66	5,446.78	-449.60	-2,037.27	2,086.24	0.91	0.91	-2.17	355.62
	NORMAL	6,022.0	1.27	94.45	5,542.75	-448.28	-2,035.57	2,084.30	1.91	-0.58	72.70	139.41
	NORMAL	6,117.0	1.44	192.82	5,637.74	-449.53	-2,034.78	2,083.81	2.16	0.18	103.55	136.08
	NORMAL	6,213.0	1.69	221.50	5,733.70	-451.77	-2,035.99	2,085.48	0.85	0.26	29.88	86.98
	NORMAL	6,308.0	1.55	180.70	5,828.67	-454.10	-2,036.93	2,086.92	1.20	-0.15	-42.95	242.98
	NORMAL	6,403.0	0.59	183.81	5,923.65	-455.87	-2,036.98	2,087.36	1.01	-1.01	3.27	178.09
2/22/2012	NORMAL	6,499.0	0.59	199.78	6,019.64	-456.83	-2,037.18	2,087.76	0.17	0.00	16.64	97.98
	NORMAL	6,594.0	0.79	202.67	6,114.64	-457.90	-2,037.60	2,088.41	0.21	0.21	3.04	11.32
	NORMAL	6,690.0	0.37	312.66	6,210.63	-458.30	-2,038.08	2,088.97	1.02	-0.44	114.57	159.22
	NORMAL	6,785.0	0.29	10.76	6,305.63	-457.85	-2,038.26	2,089.05	0.35	-0.08	61.16	131.36
	NORMAL	6,880.0	0.24	151.54	6,400.63	-457.79	-2,038.12	2,088.90	0.53	-0.05	148.19	162.31
	NORMAL	6,976.0	0.51	173.41	6,496.63	-458.39	-2,037.98	2,088.89	0.31	0.28	22.78	39.16
	NORMAL	7,072.0	0.58	204.92	6,592.63	-459.26	-2,038.13	2,089.23	0.32	0.07	32.82	92.93
	NORMAL	7,167.0	1.01	205.26	6,687.62	-460.45	-2,038.69	2,090.04	0.45	0.45	0.36	0.80
	NORMAL	7,262.0	1.26	221.34	6,782.60	-461.99	-2,039.74	2,091.41	0.42	0.26	16.93	60.09
	NORMAL	7,358.0	1.36	233.91	6,878.57	-463.46	-2,041.36	2,093.31	0.32	0.10	13.09	77.17
	NORMAL	7,453.0	1.71	230.91	6,973.54	-465.01	-2,043.37	2,095.61	0.38	0.37	-3.16	345.57
	NORMAL	7,548.0	2.00	218.98	7,068.49	-467.20	-2,045.51	2,098.19	0.51	0.31	-12.56	300.84
	NORMAL	7,644.0	2.04	212.07	7,164.43	-469.95	-2,047.47	2,100.71	0.26	0.04	-7.20	275.86
	NORMAL	7,740.0	2.08	211.18	7,260.37	-472.89	-2,049.28	2,103.13	0.05	0.04	-0.93	320.90
	NORMAL	7,800.0	2.08	211.18	7,320.33	-474.75	-2,050.41	2,104.64	0.00	0.00	0.00	0.00

### 3 Charts

#### 3.1 Vertical Section View



### 3.2 Plan View

