

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	PA 444-21	Wellbore No.	
Well Name	PA 444-21	Common Name	PA 444-21
Project	PA 28-06S-095W	Site	DOE 1-W-28 Pad
Vertical Section Azimuth		North Reference	True
Origin N/S		Origin E/W	
Spud Date	12/14/2009	UWI	PA 444-21
Active Datum	KB @5,585.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	Scientific
Date Started	12/14/2009	Ended	
Tool Name	EM	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 (°)
12/14/2009	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/15/2009	NORMAL	72.0	0.18	50.45	72.00	0.07	0.09	0.07	0.25	0.25	0.00	50.45
	NORMAL	165.0	2.64	24.17	164.96	2.12	1.08	2.12	2.67	2.65	-28.26	331.88
	NORMAL	257.0	4.84	31.73	256.76	7.35	3.99	7.35	2.45	2.39	8.22	16.43
	NORMAL	349.0	8.09	28.83	348.17	16.33	9.15	16.33	3.55	3.53	-3.15	352.82
	NORMAL	440.0	11.44	27.25	437.84	29.97	16.37	29.97	3.69	3.68	-1.74	354.65
	NORMAL	531.0	13.99	27.77	526.60	47.72	25.63	47.72	2.80	2.80	0.57	2.82
	NORMAL	623.0	16.10	27.07	615.44	68.93	36.62	68.93	2.30	2.29	-0.76	354.74
	NORMAL	714.0	17.77	28.48	702.49	92.37	48.98	92.37	1.89	1.84	1.55	14.49
	NORMAL	806.0	20.32	31.11	789.45	118.39	63.93	118.39	2.92	2.77	2.86	19.85
	NORMAL	898.0	23.05	27.77	874.93	148.01	80.58	148.01	3.26	2.97	-3.63	334.11
	NORMAL	978.0	25.55	27.29	947.84	177.20	95.79	177.20	3.13	3.13	-0.60	355.26
	NORMAL	1,070.0	27.71	27.98	1,030.07	213.73	114.93	213.73	2.37	2.35	0.75	8.46
	NORMAL	1,162.0	29.60	28.59	1,110.80	252.57	135.84	252.57	2.08	2.05	0.66	9.07
	NORMAL	1,256.0	30.57	29.01	1,192.14	293.86	158.54	293.86	1.06	1.03	0.45	12.43
	NORMAL	1,351.0	29.07	27.52	1,274.56	335.46	180.92	335.46	1.76	-1.58	-1.57	205.64
	NORMAL	1,445.0	27.43	26.22	1,357.36	375.14	201.04	375.14	1.86	-1.74	-1.38	199.99
	NORMAL	1,540.0	25.10	28.22	1,442.55	412.53	220.24	412.53	2.62	-2.45	2.11	160.09
	NORMAL	1,634.0	25.71	27.85	1,527.46	448.13	239.19	448.13	0.67	0.65	-0.39	345.25
	NORMAL	1,729.0	28.39	28.63	1,612.06	486.18	259.64	486.18	2.85	2.82	0.82	7.89
	NORMAL	1,823.0	28.86	29.38	1,694.57	525.56	281.48	525.56	0.63	0.50	0.80	37.73

2.1.2 Survey Stations (Continued)

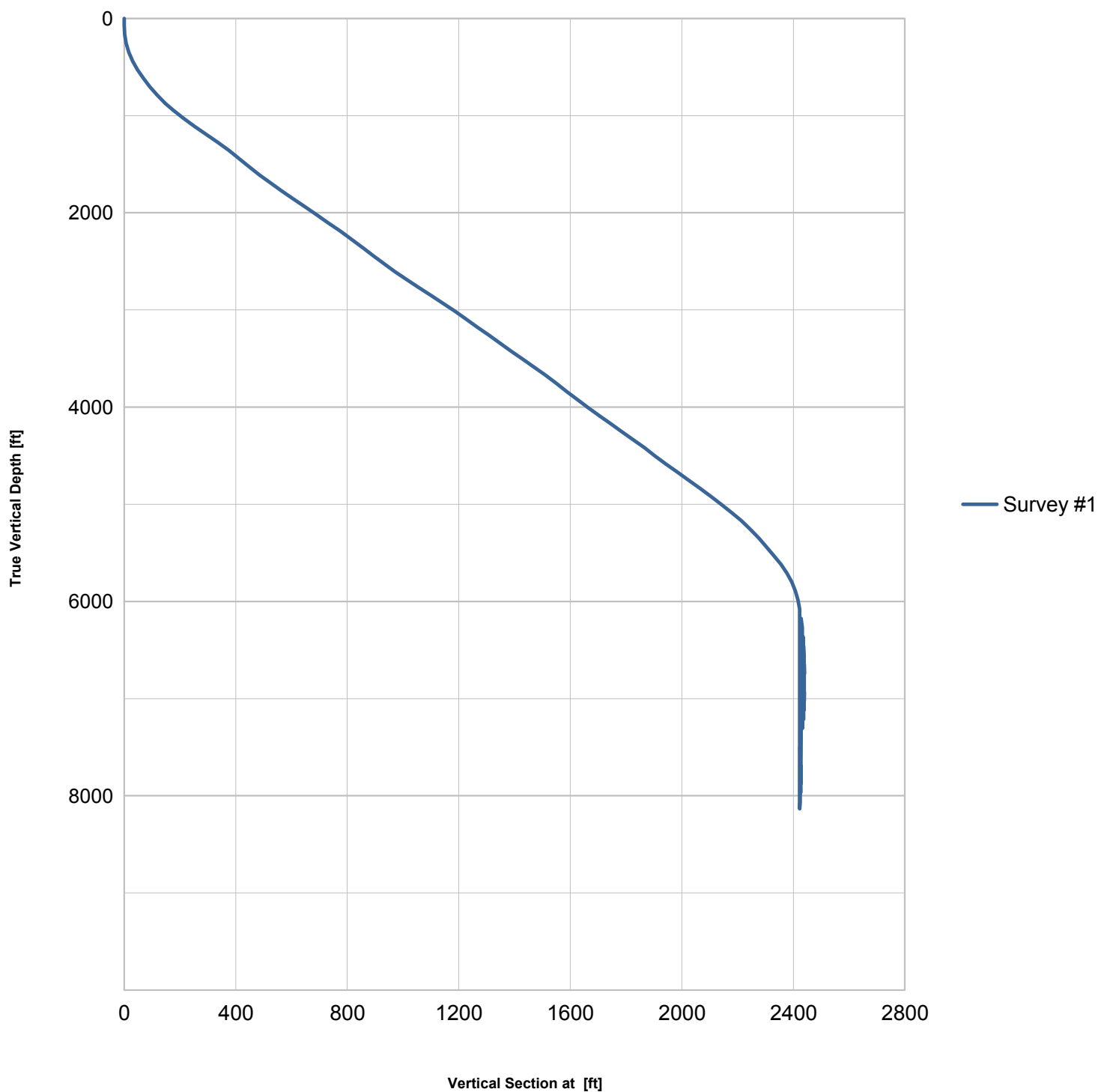
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
12/16/2009	NORMAL	1,918.0	30.04	30.17	1,777.29	566.10	304.68	566.10	1.31	1.24	0.83	18.56
	NORMAL	2,012.0	30.86	30.02	1,858.33	607.31	328.57	607.31	0.88	0.87	-0.16	354.64
	NORMAL	2,107.0	30.04	28.14	1,940.23	649.38	351.97	649.38	1.32	-0.86	-1.98	228.48
	NORMAL	2,201.0	29.30	27.50	2,021.90	690.53	373.69	690.53	0.86	-0.79	-0.68	202.90
	NORMAL	2,296.0	29.90	27.51	2,104.50	732.15	395.36	732.15	0.63	0.63	0.01	0.48
	NORMAL	2,391.0	29.46	28.24	2,187.04	773.73	417.35	773.73	0.60	-0.46	0.77	140.91
	NORMAL	2,485.0	28.34	29.93	2,269.33	813.43	439.42	813.43	1.47	-1.19	1.80	144.64
	NORMAL	2,601.0	28.24	31.24	2,371.48	860.76	467.39	860.76	0.54	-0.09	1.13	99.73
	NORMAL	2,676.0	28.16	31.12	2,437.58	891.08	485.74	891.08	0.13	-0.11	-0.16	215.28
12/17/2009	NORMAL	2,771.0	29.29	31.87	2,520.88	930.01	509.60	930.01	1.25	1.19	0.79	18.02
	NORMAL	2,865.0	30.11	30.61	2,602.54	969.83	533.74	969.83	1.10	0.87	-1.34	322.17
	NORMAL	2,960.0	30.75	28.34	2,684.45	1,011.71	557.41	1,011.71	1.39	0.67	-2.39	298.12
	NORMAL	3,054.0	31.78	27.91	2,764.80	1,054.74	580.40	1,054.74	1.12	1.10	-0.46	347.59
	NORMAL	3,149.0	30.77	25.69	2,846.00	1,098.75	602.65	1,098.75	1.61	-1.06	-2.34	227.83
	NORMAL	3,243.0	29.39	24.05	2,927.34	1,141.48	622.47	1,141.48	1.71	-1.47	-1.74	210.07
	NORMAL	3,338.0	29.55	24.43	3,010.04	1,184.10	641.66	1,184.10	0.26	0.17	0.40	49.61
	NORMAL	3,432.0	28.25	24.51	3,092.34	1,225.44	660.48	1,225.44	1.38	-1.38	0.09	178.33
	NORMAL	3,527.0	28.89	26.69	3,175.77	1,266.41	680.11	1,266.41	1.29	0.67	2.29	59.42
	NORMAL	3,621.0	29.10	27.02	3,257.99	1,307.06	700.70	1,307.06	0.28	0.22	0.35	37.44
	NORMAL	3,716.0	28.86	27.97	3,341.09	1,347.89	721.94	1,347.89	0.55	-0.25	1.00	117.95
	NORMAL	3,810.0	29.11	27.10	3,423.32	1,388.28	743.00	1,388.28	0.52	0.27	-0.93	300.29
	NORMAL	3,905.0	29.31	26.86	3,506.24	1,429.59	764.03	1,429.59	0.24	0.21	-0.25	329.54
	NORMAL	3,999.0	29.16	26.88	3,588.27	1,470.54	784.78	1,470.54	0.16	-0.16	0.02	176.28
	NORMAL	4,094.0	28.34	28.39	3,671.56	1,511.03	805.97	1,511.03	1.15	-0.86	1.59	139.13
	NORMAL	4,188.0	27.43	29.74	3,754.64	1,549.45	827.32	1,549.45	1.18	-0.97	1.44	145.84
	NORMAL	4,283.0	27.57	31.31	3,838.91	1,587.24	849.60	1,587.24	0.78	0.15	1.65	79.77
	NORMAL	4,377.0	28.33	31.89	3,921.94	1,624.76	872.68	1,624.76	0.86	0.81	0.62	19.94
	NORMAL	4,472.0	29.08	29.95	4,005.27	1,663.90	896.12	1,663.90	1.26	0.79	-2.04	307.98
	NORMAL	4,566.0	28.80	28.61	4,087.53	1,703.57	918.37	1,703.57	0.75	-0.30	-1.43	246.06
	NORMAL	4,661.0	29.16	28.14	4,170.64	1,744.07	940.24	1,744.07	0.45	0.38	-0.49	327.48
	NORMAL	4,755.0	29.51	26.70	4,252.58	1,784.95	961.44	1,784.95	0.84	0.37	-1.53	295.76
	NORMAL	4,850.0	28.48	26.10	4,335.68	1,826.19	981.92	1,826.19	1.13	-1.08	-0.63	195.51
	NORMAL	4,944.0	28.05	27.82	4,418.47	1,865.87	1,002.10	1,865.87	0.98	-0.46	1.83	118.59
	NORMAL	5,039.0	27.08	29.46	4,502.69	1,904.45	1,023.16	1,904.45	1.30	-1.02	1.73	142.69
	NORMAL	5,134.0	28.74	30.14	4,586.63	1,943.04	1,045.26	1,943.04	1.78	1.75	0.72	11.16
12/19/2009	NORMAL	5,228.0	30.39	28.59	4,668.39	1,983.46	1,067.99	1,983.46	1.93	1.76	-1.65	334.46
	NORMAL	5,323.0	28.42	28.51	4,751.15	2,024.43	1,090.28	2,024.43	2.07	-2.07	-0.08	181.11
	NORMAL	5,417.0	28.16	28.35	4,833.92	2,063.61	1,111.49	2,063.61	0.29	-0.28	-0.17	196.19
	NORMAL	5,512.0	29.09	30.10	4,917.31	2,103.31	1,133.72	2,103.31	1.32	0.98	1.84	42.80
	NORMAL	5,606.0	26.59	29.32	5,000.43	2,141.43	1,155.48	2,141.43	2.69	-2.66	-0.83	187.95
	NORMAL	5,701.0	26.14	28.13	5,085.54	2,178.43	1,175.76	2,178.43	0.73	-0.47	-1.25	229.05
	NORMAL	5,795.0	24.06	28.22	5,170.66	2,213.57	1,194.58	2,213.57	2.21	-2.21	0.10	178.99
	NORMAL	5,890.0	21.74	28.12	5,258.17	2,246.16	1,212.04	2,246.16	2.44	-2.44	-0.11	180.91
	NORMAL	5,984.0	19.57	27.85	5,346.12	2,275.44	1,227.60	2,275.44	2.31	-2.31	-0.29	182.39
	NORMAL	6,079.0	18.69	28.32	5,435.88	2,302.90	1,242.25	2,302.90	0.94	-0.93	0.49	170.29
	NORMAL	6,173.0	18.85	29.70	5,524.88	2,329.35	1,256.92	2,329.35	0.50	0.17	1.47	70.84
	NORMAL	6,268.0	16.32	27.45	5,615.43	2,354.53	1,270.68	2,354.53	2.76	-2.66	-2.37	193.97
	NORMAL	6,362.0	13.72	25.88	5,706.21	2,376.29	1,281.64	2,376.29	2.80	-2.77	-1.67	188.14
	NORMAL	6,457.0	10.82	25.38	5,799.03	2,394.48	1,290.38	2,394.48	3.05	-3.05	-0.53	181.85
	NORMAL	6,551.0	6.91	25.22	5,891.89	2,407.57	1,296.57	2,407.57	4.16	-4.16	-0.17	180.28
	NORMAL	6,646.0	5.08	33.12	5,986.37	2,416.27	1,301.30	2,416.27	2.11	-1.93	8.32	159.62
	NORMAL	6,740.0	4.23	31.64	6,080.06	2,422.71	1,305.40	2,422.71	0.91	-0.90	-1.57	187.31
	NORMAL	6,835.0	2.96	32.44	6,174.87	2,427.76	1,308.55	2,427.76	1.34	-1.34	0.84	178.14
	NORMAL	6,929.0	2.96	32.44	6,268.74	2,431.85	1,311.15	2,431.85	0.00	0.00	0.00	0.00
	NORMAL	7,024.0	1.31	4.29	6,363.68	2,435.01	1,312.55	2,435.01	2.01	-1.74	-29.63	198.90
12/21/2009	NORMAL	7,118.0	0.89	21.31	6,457.66	2,436.76	1,312.90	2,436.76	0.56	-0.45	18.11	150.42
	NORMAL	7,213.0	1.20	44.80	6,552.64	2,438.15	1,313.87	2,438.15	0.55	0.33	24.73	66.24

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 (°)
12/21/2009	NORMAL	7,307.0	0.89	51.52	6,646.63	2,439.31	1,315.13	2,439.31	0.35	-0.33	7.15	161.77
	NORMAL	7,402.0	0.33	108.36	6,741.62	2,439.68	1,315.97	2,439.68	0.80	-0.59	59.83	158.72
	NORMAL	7,497.0	0.51	135.15	6,836.62	2,439.29	1,316.53	2,439.29	0.28	0.19	28.20	61.41
	NORMAL	7,591.0	0.34	86.79	6,930.62	2,439.01	1,317.10	2,439.01	0.41	-0.18	-51.45	221.81
	NORMAL	7,686.0	0.11	263.99	7,025.62	2,439.02	1,317.29	2,439.02	0.47	-0.24	186.53	179.32
	NORMAL	7,780.0	1.29	233.16	7,119.61	2,438.37	1,316.35	2,438.37	1.27	1.26	-32.80	326.47
	NORMAL	7,875.0	2.59	219.67	7,214.55	2,436.08	1,314.13	2,436.08	1.44	1.37	-14.20	333.82
	NORMAL	7,969.0	3.10	207.04	7,308.44	2,432.18	1,311.62	2,432.18	0.86	0.54	-13.44	302.71
	NORMAL	8,064.0	2.78	165.72	7,403.32	2,427.66	1,311.02	2,427.66	2.21	-0.34	-43.49	241.15
	NORMAL	8,158.0	1.22	139.78	7,497.27	2,424.69	1,312.22	2,424.69	1.88	-1.66	-27.60	197.60
	NORMAL	8,253.0	0.75	19.56	7,592.26	2,424.50	1,313.09	2,424.50	1.81	-0.49	-126.55	202.08
12/22/2009	NORMAL	8,347.0	2.53	67.61	7,686.22	2,425.87	1,315.21	2,425.87	2.24	1.89	51.12	63.42
	NORMAL	8,442.0	2.92	84.28	7,781.11	2,426.91	1,319.56	2,426.91	0.93	0.41	17.55	72.28
	NORMAL	8,536.0	2.46	101.13	7,875.01	2,426.76	1,323.92	2,426.76	0.97	-0.49	17.93	128.42
	NORMAL	8,631.0	2.24	110.02	7,969.93	2,425.73	1,327.66	2,425.73	0.45	-0.23	9.36	125.50
	NORMAL	8,725.0	2.34	120.56	8,063.86	2,424.13	1,331.04	2,424.13	0.46	0.11	11.21	81.94
	NORMAL	8,796.0	1.88	122.55	8,134.81	2,422.76	1,333.27	2,422.76	0.66	-0.65	2.80	171.94
	PROJECTION	8,850.0	1.88	122.55								

3 Charts

3.1 Vertical Section View



3.2 Plan View

