

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	PA 514-29	Wellbore No.	OH
Well Name	PA 514-29	Common Name	PA 514-29
Project	PA 29-06S-095W	Site	DOE 3-W-29 Pad
Vertical Section Azimuth	290.93 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	3/12/2012	UWI	PA 514-29
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	3/12/2012	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 (°)
3/12/2012	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/12/2012	NORMAL	54.0	0.35	125.86	54.00	-0.10	0.13	-0.16	0.65	0.65	0.00	125.86
	NORMAL	83.0	0.62	146.16	83.00	-0.28	0.29	-0.37	1.09	0.93	70.00	42.90
	NORMAL	113.0	0.79	191.69	113.00	-0.62	0.34	-0.54	1.89	0.57	151.77	96.73
	NORMAL	144.0	1.14	248.64	143.99	-0.94	0.01	-0.35	3.13	1.13	183.71	99.98
	NORMAL	174.0	2.11	262.18	173.98	-1.12	-0.81	0.36	3.46	3.23	45.13	28.46
	NORMAL	205.0	3.08	261.91	204.95	-1.32	-2.20	1.59	3.13	3.13	-0.87	359.14
	NORMAL	235.0	4.40	262.44	234.88	-1.58	-4.14	3.30	4.40	4.40	1.77	1.76
	NORMAL	265.0	4.75	258.66	264.79	-1.98	-6.50	5.37	1.54	1.17	-12.60	317.36
	NORMAL	296.0	5.28	260.07	295.67	-2.48	-9.17	7.68	1.76	1.71	4.55	13.80
	NORMAL	326.0	5.01	262.97	325.55	-2.87	-11.82	10.02	1.25	-0.90	9.67	137.51
	NORMAL	357.0	4.84	266.48	356.43	-3.12	-14.47	12.40	1.12	-0.55	11.32	121.17
	NORMAL	387.0	5.37	266.75	386.32	-3.28	-17.14	14.84	1.77	1.77	0.90	2.73
	NORMAL	417.0	6.60	262.44	416.15	-3.58	-20.25	17.63	4.36	4.10	-14.37	337.78
	NORMAL	448.0	7.57	257.51	446.91	-4.26	-24.01	20.90	3.69	3.13	-15.90	325.45
	NORMAL	478.0	8.18	259.19	476.63	-5.09	-28.03	24.37	2.17	2.03	5.60	21.51
	NORMAL	509.0	9.15	255.76	507.28	-6.11	-32.59	28.26	3.54	3.13	-11.06	330.25
	NORMAL	539.0	9.33	256.82	536.89	-7.25	-37.27	32.22	0.83	0.60	3.53	43.92
	NORMAL	570.0	10.29	256.20	567.43	-8.48	-42.41	36.58	3.12	3.10	-2.00	353.41
	NORMAL	600.0	11.00	256.38	596.92	-9.79	-47.79	41.14	2.37	2.37	0.60	2.77
	NORMAL	630.0	11.52	260.24	626.34	-10.98	-53.52	46.07	3.05	1.73	12.87	57.30

2.1.2 Survey Stations (Continued)

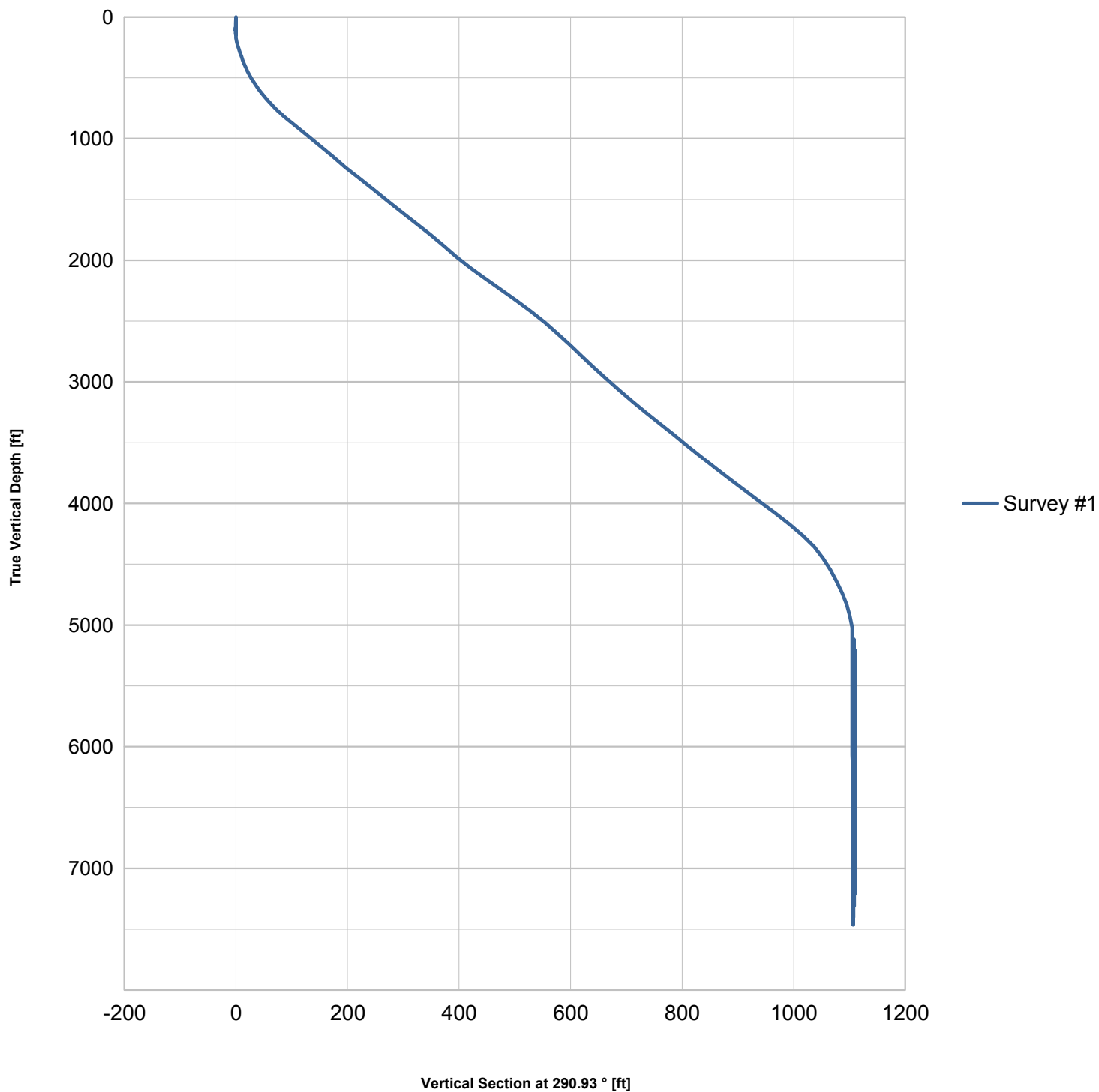
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
3/12/2012	NORMAL	660.0	12.05	260.42	655.71	-12.01	-59.56	51.34	1.77	1.77	0.60	4.06
	NORMAL	690.0	12.67	261.65	685.01	-13.00	-65.91	56.91	2.25	2.07	4.10	23.61
	NORMAL	720.0	12.67	262.71	714.28	-13.90	-72.43	62.68	0.77	0.00	3.53	90.52
	NORMAL	751.0	13.20	266.40	744.50	-14.55	-79.33	68.90	3.16	1.71	11.90	59.12
	NORMAL	781.0	13.90	271.14	773.66	-14.70	-86.35	75.40	4.37	2.33	15.80	60.10
	NORMAL	811.0	14.69	275.80	802.73	-14.24	-93.74	82.47	4.65	2.63	15.53	57.80
	NORMAL	823.0	14.65	277.04	814.34	-13.90	-96.76	85.41	2.64	-0.33	10.33	97.86
	NORMAL	853.0	15.16	279.21	843.33	-12.81	-104.40	92.93	2.52	1.70	7.23	48.63
	NORMAL	884.0	15.60	281.37	873.22	-11.34	-112.48	101.01	2.33	1.42	6.97	53.52
	NORMAL	976.0	14.64	291.18	962.05	-4.70	-135.46	124.84	2.97	-1.04	10.66	115.25
	NORMAL	1,071.0	15.28	292.22	1,053.83	4.37	-158.24	149.36	0.73	0.67	1.09	23.26
	NORMAL	1,167.0	13.94	293.51	1,146.73	13.77	-180.55	173.56	1.44	-1.40	1.34	166.97
3/13/2012	NORMAL	1,262.0	14.66	292.92	1,238.78	23.02	-202.12	197.01	0.77	0.76	-0.62	348.27
	NORMAL	1,357.0	16.06	292.40	1,330.39	32.71	-225.34	222.16	1.48	1.47	-0.55	354.13
	NORMAL	1,452.0	14.72	293.03	1,421.98	42.44	-248.60	247.36	1.42	-1.41	0.66	173.19
	NORMAL	1,547.0	15.88	294.40	1,513.61	52.53	-271.55	272.39	1.28	1.22	1.44	17.97
	NORMAL	1,642.0	14.80	291.34	1,605.23	62.31	-294.68	297.50	1.42	-1.14	-3.22	215.38
	NORMAL	1,738.0	16.01	291.12	1,697.77	71.55	-318.46	323.00	1.26	1.26	-0.23	357.13
	NORMAL	1,833.0	15.34	290.05	1,789.24	80.57	-342.48	348.67	0.77	-0.71	-1.13	202.82
	NORMAL	1,929.0	13.65	291.44	1,882.18	89.07	-364.96	372.69	1.80	-1.76	1.45	169.04
	NORMAL	2,024.0	14.95	290.00	1,974.24	97.36	-386.90	396.16	1.42	1.37	-1.52	344.00
	NORMAL	2,120.0	16.29	290.25	2,066.69	106.25	-411.17	422.00	1.40	1.40	0.26	3.00
	NORMAL	2,190.0	16.92	291.56	2,133.77	113.40	-429.86	442.00	1.05	0.90	1.87	31.35
	NORMAL	2,299.0	17.53	289.11	2,237.88	124.60	-460.12	474.27	0.87	0.56	-2.25	308.88
3/15/2012	NORMAL	2,395.0	16.62	289.39	2,329.65	133.89	-486.73	502.45	0.95	-0.95	0.29	174.97
	NORMAL	2,490.0	16.08	285.15	2,420.81	141.84	-512.25	529.12	1.38	-0.57	-4.46	243.63
	NORMAL	2,585.0	14.97	278.34	2,512.35	147.06	-537.09	554.19	2.24	-1.17	-7.17	235.41
	NORMAL	2,681.0	13.36	291.01	2,605.45	152.83	-559.72	577.39	3.63	-1.68	13.20	123.49
	NORMAL	2,777.0	13.20	290.91	2,698.88	160.72	-580.31	599.44	0.17	-0.17	-0.10	188.12
	NORMAL	2,872.0	12.83	294.22	2,791.45	168.92	-600.07	620.82	0.88	-0.39	3.48	118.00
	NORMAL	2,968.0	13.37	294.25	2,884.95	177.85	-619.91	642.54	0.56	0.56	0.03	0.74
	NORMAL	3,063.0	13.79	295.24	2,977.29	187.19	-640.16	664.79	0.51	0.44	1.04	29.44
	NORMAL	3,159.0	13.85	294.66	3,070.51	196.87	-660.95	687.67	0.16	0.06	-0.60	293.13
	NORMAL	3,254.0	14.71	292.46	3,162.58	206.22	-682.43	711.07	1.07	0.91	-2.32	326.68
	NORMAL	3,349.0	15.32	291.49	3,254.33	215.42	-705.26	735.68	0.69	0.64	-1.02	337.14
	NORMAL	3,445.0	15.25	292.74	3,346.94	224.95	-728.70	760.98	0.35	-0.07	1.30	102.60
	NORMAL	3,540.0	15.26	293.63	3,438.59	234.79	-751.68	785.96	0.25	0.01	0.94	87.98
	NORMAL	3,636.0	14.83	293.50	3,531.30	244.75	-774.52	810.85	0.45	-0.45	-0.14	184.42
	NORMAL	3,732.0	15.56	290.87	3,623.94	254.24	-797.82	836.00	1.05	0.76	-2.74	315.37
	NORMAL	3,827.0	15.75	290.10	3,715.42	263.21	-821.83	861.63	0.30	0.20	-0.81	312.07
	NORMAL	3,922.0	15.90	289.68	3,806.82	272.02	-846.20	887.54	0.20	0.16	-0.44	322.43
	NORMAL	4,017.0	16.41	288.56	3,898.07	280.68	-871.17	913.95	0.63	0.54	-1.18	328.04
	NORMAL	4,112.0	16.29	291.39	3,989.23	289.81	-896.30	940.68	0.85	-0.13	2.98	99.92
	NORMAL	4,207.0	16.28	290.76	4,080.41	299.39	-921.15	967.32	0.19	-0.01	-0.66	266.46
	NORMAL	4,303.0	14.46	289.81	4,172.98	308.22	-945.02	992.76	1.91	-1.90	-0.99	187.42
	NORMAL	4,398.0	14.46	289.81	4,264.97	316.26	-967.33	1,016.48	0.00	0.00	0.00	0.00
	NORMAL	4,494.0	10.56	296.00	4,358.68	324.18	-986.52	1,037.24	4.29	-4.06	6.45	164.03
	NORMAL	4,590.0	8.32	295.29	4,453.37	331.00	-1,000.71	1,052.93	2.34	-2.33	-0.74	182.63
	NORMAL	4,685.0	7.17	291.06	4,547.50	336.07	-1,012.46	1,065.71	1.35	-1.21	-4.45	204.28
	NORMAL	4,781.0	6.50	290.46	4,642.82	340.12	-1,023.14	1,077.13	0.70	-0.70	-0.63	185.79
3/16/2012	NORMAL	4,876.0	5.49	293.07	4,737.30	343.78	-1,032.36	1,087.05	1.10	-1.06	2.75	166.19
	NORMAL	4,971.0	3.98	294.51	4,831.97	346.93	-1,039.54	1,094.88	1.59	-1.59	1.52	176.22
	NORMAL	5,066.0	3.01	294.90	4,926.79	349.35	-1,044.81	1,100.66	1.02	-1.02	0.41	178.79
	NORMAL	5,161.0	1.99	280.83	5,021.70	350.71	-1,048.69	1,104.78	1.25	-1.07	-14.81	204.13
	NORMAL	5,257.0	1.82	301.40	5,117.65	351.82	-1,051.63	1,107.92	0.73	-0.18	21.43	114.10
	NORMAL	5,352.0	1.41	323.16	5,212.61	353.54	-1,053.61	1,110.39	0.77	-0.43	22.91	134.32
	NORMAL	5,447.0	1.37	32.13	5,307.59	355.44	-1,053.71	1,111.16	1.66	-0.04	72.60	125.68

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 (°)
3/16/2012	NORMAL	5,543.0	1.17	57.39	5,403.57	356.94	-1,052.28	1,110.35	0.61	-0.21	26.31	121.99
	NORMAL	5,638.0	0.78	82.84	5,498.56	357.54	-1,050.82	1,109.20	0.60	-0.41	26.79	144.25
3/17/2012	NORMAL	5,734.0	0.47	110.70	5,594.55	357.48	-1,049.80	1,108.23	0.44	-0.32	29.02	148.93
	NORMAL	5,828.0	0.56	185.74	5,688.55	356.89	-1,049.49	1,107.73	0.67	0.10	79.83	121.03
	NORMAL	5,923.0	0.81	50.90	5,783.54	356.85	-1,049.01	1,107.27	1.34	0.26	-141.94	206.92
	NORMAL	6,019.0	0.51	109.98	5,879.54	357.13	-1,048.08	1,106.50	0.73	-0.31	61.54	141.39
	NORMAL	6,114.0	1.04	174.35	5,974.53	356.13	-1,047.60	1,105.70	0.99	0.56	67.76	93.67
	NORMAL	6,210.0	1.64	190.71	6,070.50	353.91	-1,047.77	1,105.06	0.74	0.63	17.04	40.88
	NORMAL	6,305.0	1.05	301.59	6,165.49	353.03	-1,048.76	1,105.68	2.36	-0.62	116.72	154.03
	NORMAL	6,400.0	1.14	282.65	6,260.47	353.70	-1,050.43	1,107.47	0.39	0.09	-19.94	274.37
	NORMAL	6,496.0	1.45	261.29	6,356.45	353.72	-1,052.56	1,109.47	0.59	0.32	-22.25	291.73
	NORMAL	6,591.0	1.96	194.02	6,451.41	351.96	-1,054.14	1,110.32	2.04	0.54	-70.81	249.05
3/18/2012	NORMAL	6,686.0	1.30	170.42	6,546.38	349.32	-1,054.36	1,109.58	0.98	-0.69	-24.84	214.10
	NORMAL	6,782.0	0.20	249.32	6,642.37	348.19	-1,054.33	1,109.15	1.33	-1.15	82.19	171.16
	NORMAL	6,877.0	1.42	334.65	6,737.36	349.20	-1,054.99	1,110.12	1.49	1.28	89.82	93.41
	NORMAL	6,973.0	0.67	12.56	6,833.34	350.82	-1,055.38	1,111.06	1.02	-0.78	39.49	155.21
	NORMAL	7,068.0	0.35	170.85	6,928.34	351.08	-1,055.21	1,111.00	1.06	-0.34	166.62	172.59
	NORMAL	7,164.0	0.56	141.59	7,024.34	350.42	-1,054.87	1,110.45	0.32	0.22	-30.48	296.85
	NORMAL	7,259.0	0.48	130.99	7,119.33	349.79	-1,054.28	1,109.68	0.13	-0.08	-11.16	225.03
	NORMAL	7,354.0	0.81	47.71	7,214.33	349.98	-1,053.49	1,109.00	0.94	0.35	-87.66	244.41
	NORMAL	7,450.0	0.95	58.08	7,310.32	350.86	-1,052.31	1,108.21	0.22	0.15	10.80	53.95
	NORMAL	7,545.0	0.69	119.38	7,405.31	351.00	-1,051.14	1,107.17	0.91	-0.27	64.53	135.63
	NORMAL	7,605.0	0.69	119.38	7,465.30	350.64	-1,050.51	1,106.46	0.00	0.00	0.00	0.00

3 Charts

3.1 Vertical Section View



3.2 Plan View

