

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	PA 423-29	Wellbore No.	OH
Well Name	PA 423-29	Common Name	PA 423-29
Project	PA 29-06S-095W	Site	DOE 3-W-29 Pad
Vertical Section Azimuth	355.19 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	2/1/2012	UWI	PA 423-29
Active Datum	KB @5,702.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	2/2/2012	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 (°)
2/2/2012	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/2/2012	NORMAL	82.0	0.09	244.34	82.00	-0.03	-0.06	-0.02	0.11	0.11	0.00	244.34
	NORMAL	113.0	0.09	195.73	113.00	-0.06	-0.09	-0.05	0.24	0.00	-156.81	245.70
	NORMAL	143.0	0.70	46.58	143.00	0.04	0.04	0.04	2.60	2.03	-497.17	207.45
	NORMAL	174.0	1.06	2.55	174.00	0.46	0.19	0.44	2.38	1.16	-142.03	274.82
	NORMAL	204.0	1.94	346.55	203.99	1.23	0.08	1.22	3.22	2.93	-53.33	326.40
	NORMAL	235.0	2.90	348.13	234.96	2.51	-0.20	2.51	3.10	3.10	5.10	4.76
	NORMAL	265.0	3.52	353.14	264.91	4.16	-0.46	4.19	2.27	2.07	16.70	26.86
	NORMAL	295.0	4.22	353.23	294.84	6.17	-0.70	6.21	2.33	2.33	0.30	0.54
	NORMAL	326.0	5.01	353.14	325.74	8.65	-1.00	8.70	2.55	2.55	-0.29	359.43
	NORMAL	356.0	6.25	356.40	355.60	11.58	-1.26	11.65	4.27	4.13	10.87	16.09
	NORMAL	387.0	7.13	354.37	386.38	15.18	-1.55	15.26	2.94	2.84	-6.55	343.95
	NORMAL	417.0	7.74	357.10	416.13	19.05	-1.84	19.14	2.35	2.03	9.10	31.43
	NORMAL	447.0	8.53	353.67	445.83	23.28	-2.19	23.38	3.09	2.63	-11.43	326.73
	NORMAL	460.0	8.51	355.20	458.69	25.20	-2.37	25.31	1.75	-0.15	11.77	95.80
	NORMAL	491.0	9.27	356.10	489.31	29.97	-2.74	30.10	2.49	2.45	2.90	10.82
	NORMAL	521.0	9.48	354.85	518.91	34.84	-3.12	34.98	0.97	0.70	-4.17	315.27
	NORMAL	551.0	9.97	353.77	548.48	39.89	-3.63	40.05	1.74	1.63	-3.60	339.05
	NORMAL	581.0	10.55	353.52	578.00	45.20	-4.22	45.39	1.94	1.93	-0.83	355.49
	NORMAL	612.0	11.04	353.92	608.45	50.97	-4.85	51.20	1.60	1.58	1.29	8.89
	NORMAL	642.0	11.57	354.98	637.87	56.82	-5.42	57.08	1.90	1.77	3.53	21.93

2.1.2 Survey Stations (Continued)

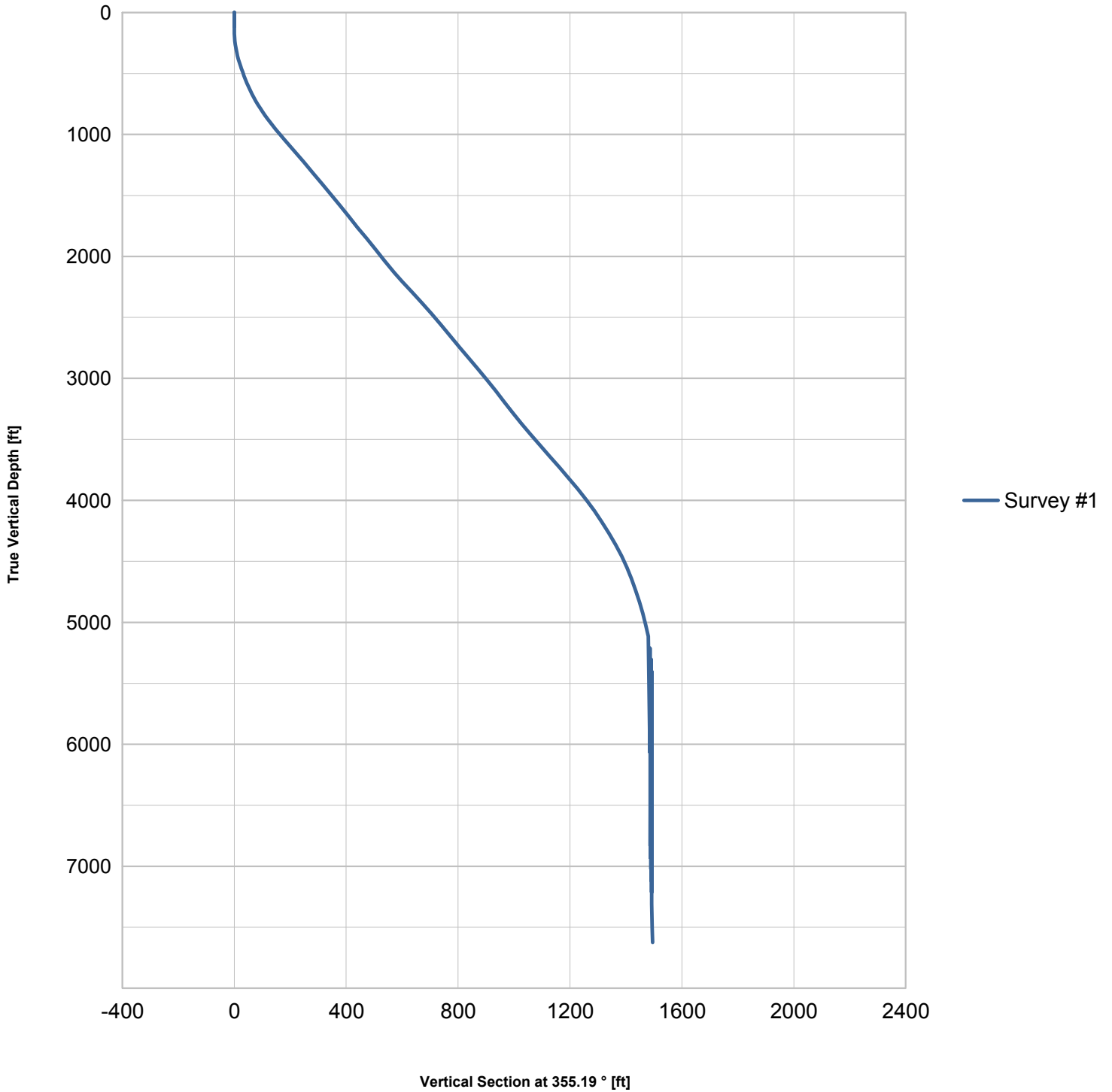
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
2/2/2012	NORMAL	672.0	12.57	356.51	667.21	63.08	-5.88	63.35	3.50	3.33	5.10	18.49
	NORMAL	702.0	13.31	357.10	696.45	69.78	-6.25	70.06	2.51	2.47	1.97	10.41
	NORMAL	732.0	13.92	355.33	725.60	76.83	-6.72	77.12	2.46	2.03	-5.90	324.80
	NORMAL	763.0	14.89	356.51	755.63	84.52	-7.27	84.83	3.27	3.13	3.81	17.41
	NORMAL	793.0	15.52	356.26	784.58	92.38	-7.77	92.70	2.11	2.10	-0.83	353.94
	NORMAL	823.0	16.21	355.65	813.43	100.56	-8.35	100.90	2.37	2.30	-2.03	346.12
	NORMAL	853.0	17.22	356.62	842.17	109.16	-8.92	109.53	3.49	3.37	3.23	15.91
	NORMAL	883.0	17.85	356.24	870.77	118.19	-9.49	118.56	2.13	2.10	-1.27	349.52
	NORMAL	975.0	19.79	356.89	957.85	147.81	-11.26	148.23	2.12	2.11	0.71	6.48
	NORMAL	1,071.0	20.65	356.49	1,047.93	180.93	-13.18	181.40	0.91	0.90	-0.42	350.68
	NORMAL	1,166.0	20.93	354.90	1,136.75	214.55	-15.71	215.12	0.66	0.29	-1.67	295.64
	NORMAL	1,261.0	20.41	354.39	1,225.63	247.94	-18.84	248.65	0.58	-0.55	-0.54	198.86
	NORMAL	1,357.0	19.70	353.37	1,315.81	280.67	-22.34	281.56	0.82	-0.74	-1.06	205.75
	NORMAL	1,452.0	20.51	354.78	1,405.02	313.15	-25.71	314.21	0.99	0.85	1.48	31.56
	NORMAL	1,547.0	19.65	354.05	1,494.25	345.61	-28.88	346.82	0.94	-0.91	-0.77	195.91
	NORMAL	1,642.0	19.09	356.71	1,583.87	377.01	-31.42	378.32	1.10	-0.59	2.80	123.66
	NORMAL	1,737.0	19.40	357.59	1,673.56	408.28	-32.98	409.61	0.45	0.33	0.93	43.51
	NORMAL	1,833.0	19.29	355.13	1,764.14	440.01	-34.99	441.40	0.86	-0.11	-2.56	261.15
	NORMAL	1,928.0	20.09	355.71	1,853.59	471.92	-37.55	473.41	0.87	0.84	0.61	14.00
	NORMAL	2,024.0	18.96	353.98	1,944.07	503.87	-40.42	505.49	1.32	-1.18	-1.80	206.28
	NORMAL	2,120.0	19.18	354.26	2,034.80	535.07	-43.63	536.85	0.25	0.23	0.29	22.71
	NORMAL	2,215.0	20.33	354.50	2,124.21	567.03	-46.77	568.95	1.21	1.21	0.25	4.15
	NORMAL	2,228.0	20.38	354.67	2,136.39	571.53	-47.20	573.47	0.60	0.38	1.31	49.86
2/4/2012	NORMAL	2,301.0	21.82	354.27	2,204.45	597.80	-49.80	599.87	1.74	1.73	-0.27	356.72
	NORMAL	2,396.0	22.25	352.36	2,292.51	633.20	-53.95	635.49	0.88	0.45	-2.01	300.08
	NORMAL	2,492.0	21.44	353.41	2,381.62	668.64	-58.38	671.18	0.94	-0.84	1.09	154.74
	NORMAL	2,587.0	20.71	355.17	2,470.26	702.63	-61.79	705.34	1.01	-0.77	1.85	139.78
	NORMAL	2,683.0	20.37	355.21	2,560.16	736.20	-64.61	739.02	0.36	-0.36	0.04	177.68
	NORMAL	2,779.0	19.19	354.22	2,650.49	768.54	-67.60	771.51	1.28	-1.23	-1.03	195.39
	NORMAL	2,874.0	20.12	354.86	2,739.96	800.35	-70.64	803.46	1.00	0.98	0.67	13.33
	NORMAL	2,970.0	20.18	353.92	2,830.08	833.26	-73.87	836.52	0.34	0.06	-0.98	280.06
	NORMAL	3,065.0	19.90	356.39	2,919.33	865.69	-76.62	869.07	0.94	-0.29	2.60	109.46
	NORMAL	3,161.0	19.86	356.29	3,009.61	898.27	-78.71	901.71	0.05	-0.04	-0.10	220.32
	NORMAL	3,256.0	19.30	355.75	3,099.12	930.03	-80.91	933.54	0.62	-0.59	-0.57	197.65
	NORMAL	3,351.0	18.23	355.40	3,189.07	960.50	-83.27	964.10	1.13	-1.13	-0.37	185.84
	NORMAL	3,447.0	18.80	357.56	3,280.10	990.92	-85.13	994.57	0.93	0.59	2.25	51.30
	NORMAL	3,543.0	19.86	357.31	3,370.69	1,022.67	-86.56	1,026.32	1.11	1.10	-0.26	355.42
	NORMAL	3,638.0	20.80	356.90	3,459.77	1,055.63	-88.23	1,059.31	1.00	0.99	-0.43	351.19
	NORMAL	3,734.0	20.74	356.68	3,549.53	1,089.62	-90.13	1,093.34	0.10	-0.06	-0.23	232.33
	NORMAL	3,829.0	20.89	356.22	3,638.33	1,123.31	-92.22	1,127.09	0.23	0.16	-0.48	312.33
	NORMAL	3,924.0	20.91	356.41	3,727.08	1,157.13	-94.40	1,160.97	0.07	0.02	0.20	73.65
	NORMAL	4,018.0	20.74	355.88	3,814.94	1,190.48	-96.65	1,194.39	0.27	-0.18	-0.56	227.69
	NORMAL	4,114.0	19.47	356.88	3,905.09	1,223.41	-98.74	1,227.38	1.37	-1.32	1.04	165.32
	NORMAL	4,210.0	18.34	356.42	3,995.91	1,254.46	-100.55	1,258.47	1.19	-1.18	-0.48	187.30
	NORMAL	4,305.0	16.96	356.73	4,086.43	1,283.21	-102.28	1,287.27	1.46	-1.45	0.33	176.25
	NORMAL	4,401.0	15.78	355.20	4,178.54	1,310.20	-104.17	1,314.32	1.31	-1.23	-1.59	199.34
	NORMAL	4,496.0	14.97	355.86	4,270.14	1,335.31	-106.13	1,339.50	0.87	-0.85	0.69	168.13
	NORMAL	4,592.0	13.54	358.32	4,363.18	1,358.91	-107.36	1,363.13	1.62	-1.49	2.56	158.23
	NORMAL	4,688.0	12.23	358.46	4,456.76	1,380.31	-107.96	1,384.50	1.36	-1.36	0.15	178.70
	NORMAL	4,783.0	10.73	358.85	4,549.86	1,399.21	-108.41	1,403.37	1.58	-1.58	0.41	177.23
	NORMAL	4,878.0	9.42	357.59	4,643.39	1,415.82	-108.91	1,419.97	1.40	-1.38	-1.33	188.93
2/5/2012	NORMAL	4,973.0	8.67	357.34	4,737.21	1,430.74	-109.57	1,434.89	0.79	-0.79	-0.26	182.88
	NORMAL	5,068.0	7.64	2.87	4,831.25	1,444.20	-109.59	1,448.30	1.36	-1.08	5.82	145.42
	NORMAL	5,164.0	6.78	1.52	4,926.49	1,456.24	-109.12	1,460.26	0.91	-0.90	-1.41	190.48
	NORMAL	5,259.0	6.18	2.58	5,020.88	1,466.95	-108.74	1,470.90	0.64	-0.63	1.12	169.25
	NORMAL	5,354.0	4.57	8.66	5,115.46	1,475.80	-107.94	1,479.66	1.80	-1.69	6.40	163.53
	NORMAL	5,449.0	3.19	11.88	5,210.24	1,482.13	-106.83	1,485.87	1.47	-1.45	3.39	172.63

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 (°)
2/5/2012	NORMAL	5,545.0	2.18	353.56	5,306.14	1,486.56	-106.48	1,490.25	1.37	-1.05	-19.08	211.45
	NORMAL	5,641.0	0.28	277.73	5,402.11	1,488.41	-106.92	1,492.13	2.22	-1.98	-78.99	187.33
	NORMAL	5,736.0	0.83	178.33	5,497.11	1,487.75	-107.13	1,491.49	0.97	0.58	-104.63	243.09
	NORMAL	5,831.0	1.20	182.35	5,592.09	1,486.07	-107.15	1,489.82	0.40	0.39	4.23	12.91
	NORMAL	5,926.0	0.81	168.95	5,687.08	1,484.41	-107.06	1,488.16	0.48	-0.41	-14.11	204.49
	NORMAL	6,022.0	1.16	162.94	5,783.06	1,482.82	-106.65	1,486.54	0.38	0.36	-6.26	340.54
	NORMAL	6,117.0	0.67	226.69	5,878.05	1,481.52	-106.77	1,485.25	1.11	-0.52	67.11	145.17
	NORMAL	6,213.0	0.71	282.57	5,974.05	1,481.26	-107.76	1,485.08	0.67	0.04	58.21	114.81
	NORMAL	6,308.0	1.33	307.67	6,069.03	1,482.07	-109.20	1,486.00	0.79	0.65	26.42	48.77
	NORMAL	6,403.0	1.10	0.11	6,164.01	1,483.65	-110.08	1,487.66	1.15	-0.24	55.20	127.09
	NORMAL	6,499.0	0.77	350.32	6,260.00	1,485.21	-110.18	1,489.22	0.38	-0.34	-10.20	200.99
	NORMAL	6,594.0	0.55	323.63	6,355.00	1,486.20	-110.56	1,490.24	0.39	-0.23	-28.09	221.56
	NORMAL	6,690.0	0.50	285.53	6,450.99	1,486.69	-111.24	1,490.78	0.36	-0.05	-39.69	243.10
	2/6/2012	NORMAL	6,785.0	1.04	248.56	6,545.98	1,486.48	-112.44	1,490.68	0.74	0.57	-38.92
NORMAL		6,880.0	1.88	235.89	6,640.95	1,485.29	-114.53	1,489.67	0.94	0.88	-13.34	332.57
NORMAL		6,976.0	2.40	234.84	6,736.88	1,483.25	-117.48	1,487.88	0.54	0.54	-1.09	355.16
NORMAL		7,072.0	1.33	273.24	6,832.84	1,482.16	-120.23	1,487.02	1.66	-1.11	40.00	148.68
NORMAL		7,167.0	1.49	296.11	6,927.81	1,482.77	-122.44	1,487.81	0.61	0.17	24.07	85.76
NORMAL		7,262.0	1.40	314.68	7,022.78	1,484.13	-124.38	1,489.33	0.50	-0.09	19.55	110.07
NORMAL		7,358.0	1.20	312.05	7,118.75	1,485.62	-125.96	1,490.95	0.22	-0.21	-2.74	195.30
NORMAL		7,453.0	1.32	281.45	7,213.73	1,486.51	-127.77	1,491.98	0.71	0.13	-32.21	264.58
NORMAL		7,548.0	1.75	270.45	7,308.70	1,486.74	-130.29	1,492.42	0.55	0.45	-11.58	320.00
NORMAL		7,644.0	1.80	278.37	7,404.65	1,486.97	-133.25	1,492.90	0.26	0.05	8.25	82.46
NORMAL		7,740.0	2.26	280.61	7,500.59	1,487.53	-136.60	1,493.75	0.49	0.48	2.33	10.91
NORMAL		7,804.0	2.33	280.62	7,564.54	1,488.01	-139.12	1,494.43	0.11	0.11	0.02	0.33
NORMAL		7,863.0	2.33	280.62	7,623.49	1,488.45	-141.48	1,495.07	0.00	0.00	0.00	0.00

3 Charts

3.1 Vertical Section View



3.2 Plan View

