

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	PA 343-2	Wellbore No.	
Well Name	PA 343-2	Common Name	PA 343-2
Project	PA 01-07S-095W	Site	GV 84-1 Pad
Vertical Section Azimuth	254.92 (°)	North Reference	
Origin N/S		Origin E/W	
Spud Date	4/10/2013	UWI	PA 343-2
Active Datum	KB @6,053.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	4/10/2013	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 (°)
4/10/2013	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/10/2013	NORMAL	103.0	1.06	280.46	102.99	0.17	-0.94	0.86	1.03	1.03	0.00	280.46
	NORMAL	134.0	1.50	268.59	133.99	0.22	-1.62	1.51	1.65	1.42	-38.29	322.90
	NORMAL	165.0	1.58	275.36	164.98	0.24	-2.46	2.31	0.64	0.26	21.84	69.67
	NORMAL	195.0	1.94	250.31	194.96	0.11	-3.35	3.20	2.80	1.20	-83.50	282.20
	NORMAL	225.0	2.11	246.80	224.94	-0.28	-4.33	4.25	0.70	0.57	-11.70	322.12
	NORMAL	255.0	2.55	242.84	254.92	-0.80	-5.43	5.45	1.56	1.47	-13.20	337.92
	NORMAL	286.0	3.43	244.60	285.88	-1.51	-6.88	7.04	2.85	2.84	5.68	6.84
	NORMAL	316.0	4.22	248.64	315.81	-2.30	-8.72	9.02	2.78	2.63	13.47	20.86
4/11/2013	NORMAL	345.0	4.57	252.60	344.72	-3.03	-10.82	11.24	1.60	1.21	13.66	42.91
	NORMAL	373.0	6.63	254.79	372.59	-3.79	-13.44	13.97	7.40	7.36	7.82	7.01
	NORMAL	404.0	6.25	259.37	403.39	-4.57	-16.83	17.44	2.06	-1.23	14.77	128.75
	NORMAL	434.0	7.30	258.66	433.18	-5.25	-20.30	20.97	3.51	3.50	-2.37	355.09
	NORMAL	505.0	9.58	258.04	503.41	-7.36	-30.51	31.37	3.21	3.21	-0.87	357.41
	NORMAL	595.0	12.40	249.16	591.76	-12.35	-46.87	48.47	3.65	3.13	-9.87	324.61
	NORMAL	687.0	14.51	254.00	681.23	-19.04	-67.18	69.82	2.60	2.29	5.26	30.46
	NORMAL	777.0	16.80	254.44	767.88	-25.64	-90.55	94.10	2.55	2.54	0.49	3.18
	NORMAL	868.0	18.11	251.27	854.69	-33.71	-116.62	121.37	1.78	1.44	-3.48	322.51
	NORMAL	941.0	17.94	254.08	924.11	-40.44	-138.17	143.94	1.21	-0.23	3.85	102.40
4/12/2013	NORMAL	1,059.0	18.95	255.67	1,036.05	-50.16	-174.22	181.27	0.96	0.86	1.35	27.23
	NORMAL	1,154.0	18.95	254.79	1,125.90	-58.03	-204.05	212.12	0.30	0.00	-0.93	269.58

2.1.2 Survey Stations (Continued)

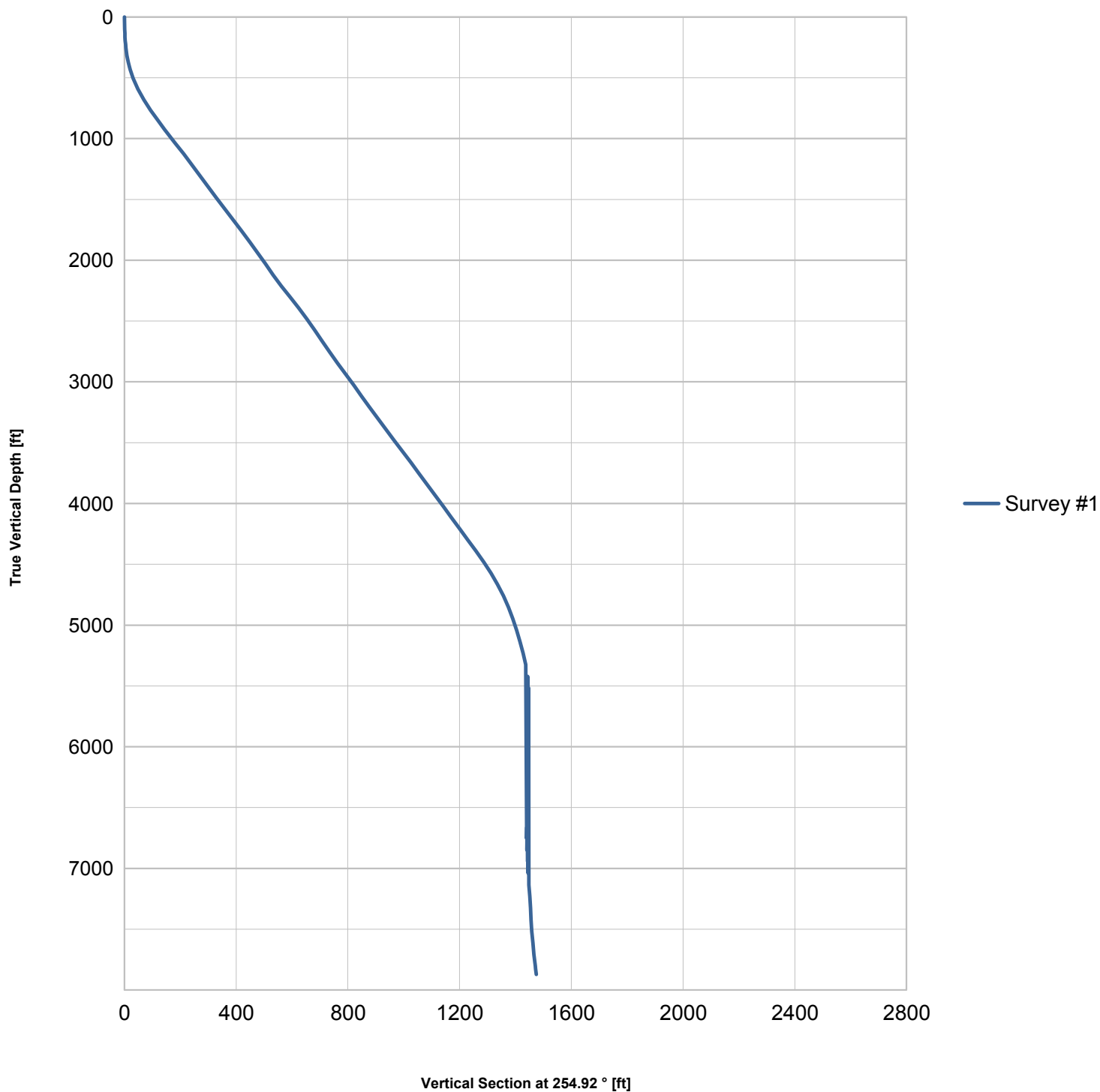
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
4/12/2013	NORMAL	1,249.0	17.54	255.75	1,216.12	-65.60	-232.81	241.86	1.52	-1.48	1.01	168.42
	NORMAL	1,343.0	17.85	255.49	1,305.68	-72.70	-260.48	270.43	0.34	0.33	-0.28	345.57
	NORMAL	1,533.0	18.07	252.50	1,486.42	-88.85	-316.78	328.99	0.50	0.12	-1.57	282.00
	NORMAL	1,629.0	18.20	257.07	1,577.66	-96.68	-345.59	358.84	1.49	0.14	4.76	86.95
	NORMAL	1,724.0	18.90	256.72	1,667.72	-103.54	-375.03	389.05	0.75	0.74	-0.37	350.80
	NORMAL	1,820.0	17.67	256.99	1,758.87	-110.39	-404.36	419.15	1.28	-1.28	0.28	176.19
	NORMAL	1,915.0	18.20	256.46	1,849.26	-117.11	-432.83	448.39	0.58	0.56	-0.56	342.63
	NORMAL	2,009.0	16.97	254.61	1,938.86	-124.19	-460.33	476.78	1.44	-1.31	-1.97	203.56
	NORMAL	2,105.0	17.01	252.50	2,030.67	-132.13	-487.23	504.82	0.64	0.04	-2.20	272.70
	NORMAL	2,200.0	17.50	256.72	2,121.40	-139.59	-514.38	532.98	1.41	0.52	4.44	70.65
	NORMAL	2,295.0	18.24	255.40	2,211.82	-146.62	-542.67	562.13	0.89	0.78	-1.39	330.68
	NORMAL	2,390.0	19.30	253.20	2,301.76	-154.90	-572.09	592.69	1.34	1.12	-2.32	325.22
	NORMAL	2,486.0	18.55	252.68	2,392.57	-164.03	-601.85	623.80	0.80	-0.78	-0.54	192.43
4/13/2013	NORMAL	2,581.0	17.50	254.61	2,482.91	-172.32	-630.05	653.19	1.27	-1.11	2.03	151.29
	NORMAL	2,677.0	16.35	257.34	2,574.75	-179.12	-657.15	681.12	1.46	-1.20	2.84	146.65
	NORMAL	2,771.0	16.57	257.34	2,664.90	-184.95	-683.14	707.73	0.23	0.23	0.00	0.00
	NORMAL	2,864.0	17.01	256.28	2,753.94	-191.09	-709.29	734.58	0.58	0.47	-1.14	324.72
	NORMAL	2,960.0	17.54	255.84	2,845.61	-197.95	-736.96	763.09	0.57	0.55	-0.46	345.86
	NORMAL	3,055.0	18.07	255.23	2,936.06	-205.21	-765.09	792.13	0.59	0.56	-0.64	340.32
	NORMAL	3,150.0	17.06	254.44	3,026.63	-212.71	-792.76	820.80	1.09	-1.06	-0.83	192.91
	NORMAL	3,245.0	17.32	254.35	3,117.38	-220.26	-819.80	848.88	0.28	0.27	-0.09	354.12
	NORMAL	3,341.0	17.67	253.91	3,208.94	-228.15	-847.56	877.73	0.39	0.36	-0.46	339.09
	NORMAL	3,436.0	18.07	253.12	3,299.36	-236.43	-875.51	906.88	0.49	0.42	-0.83	328.41
	NORMAL	3,532.0	17.89	255.49	3,390.67	-244.44	-904.04	936.50	0.78	-0.19	2.47	104.95
	NORMAL	3,627.0	18.15	254.35	3,481.01	-252.09	-932.41	965.89	0.46	0.27	-1.20	305.86
	NORMAL	3,722.0	18.50	253.47	3,571.19	-260.37	-961.11	995.75	0.47	0.37	-0.93	321.26
	NORMAL	3,818.0	17.67	255.93	3,662.45	-268.25	-989.84	1,025.55	1.17	-0.86	2.56	138.55
	NORMAL	3,914.0	17.80	255.05	3,753.89	-275.57	-1,018.15	1,054.79	0.31	0.14	-0.92	295.45
	NORMAL	4,009.0	17.89	254.88	3,844.32	-283.13	-1,046.27	1,083.90	0.11	0.09	-0.18	329.86
	NORMAL	4,104.0	17.93	253.91	3,934.71	-290.99	-1,074.40	1,113.11	0.32	0.04	-1.02	277.18
	NORMAL	4,200.0	17.50	252.77	4,026.16	-299.36	-1,102.39	1,142.31	0.58	-0.45	-1.19	218.35
	NORMAL	4,295.0	17.80	255.14	4,116.69	-307.31	-1,130.07	1,171.10	0.82	0.32	2.49	68.47
	NORMAL	4,390.0	17.58	252.59	4,207.20	-315.33	-1,157.79	1,199.96	0.85	-0.23	-2.68	252.94
	NORMAL	4,486.0	17.71	255.75	4,298.69	-323.26	-1,185.78	1,229.05	1.01	0.14	3.29	83.78
	NORMAL	4,582.0	17.80	254.26	4,390.11	-330.83	-1,214.05	1,258.32	0.48	0.09	-1.55	280.49
	NORMAL	4,677.0	16.35	254.44	4,480.92	-338.36	-1,240.91	1,286.21	1.53	-1.53	0.19	178.00
	NORMAL	4,773.0	15.21	256.55	4,573.31	-344.91	-1,266.18	1,312.31	1.33	-1.19	2.20	154.29
	NORMAL	4,868.0	13.63	260.76	4,665.31	-349.61	-1,289.35	1,335.91	1.99	-1.66	4.43	148.46
4/14/2013	NORMAL	4,964.0	11.82	261.47	4,758.95	-352.89	-1,310.24	1,356.93	1.89	-1.89	0.74	175.41
	NORMAL	5,060.0	9.98	259.45	4,853.22	-355.87	-1,328.14	1,374.99	1.96	-1.92	-2.10	190.74
	NORMAL	5,155.0	8.97	256.90	4,946.92	-359.05	-1,343.45	1,390.60	1.15	-1.06	-2.68	201.31
	NORMAL	5,251.0	7.69	258.48	5,041.90	-362.03	-1,357.03	1,404.49	1.35	-1.33	1.65	170.64
	NORMAL	5,346.0	7.03	252.77	5,136.12	-365.02	-1,368.81	1,416.64	1.04	-0.69	-6.01	225.13
	NORMAL	5,441.0	6.29	256.19	5,230.48	-367.99	-1,379.42	1,427.66	0.88	-0.78	3.60	153.50
	NORMAL	5,537.0	5.19	256.81	5,326.00	-370.23	-1,388.75	1,437.25	1.15	-1.15	0.65	177.08
	NORMAL	5,632.0	3.03	260.59	5,420.75	-371.63	-1,395.41	1,444.05	2.29	-2.27	3.98	174.73
	NORMAL	5,728.0	0.66	241.43	5,516.69	-372.31	-1,398.40	1,447.11	2.52	-2.47	-19.96	185.14
	NORMAL	5,823.0	0.83	53.61	5,611.69	-372.16	-1,398.33	1,447.00	1.56	0.18	181.24	175.64
4/15/2013	NORMAL	5,919.0	0.88	49.83	5,707.68	-371.27	-1,397.21	1,445.69	0.08	0.05	-3.94	309.66
	NORMAL	6,015.0	0.22	68.90	5,803.67	-370.73	-1,396.47	1,444.83	0.70	-0.69	19.86	173.90
	NORMAL	6,110.0	0.44	223.23	5,898.67	-370.93	-1,396.55	1,444.96	0.68	0.23	162.45	162.82
	NORMAL	6,205.0	0.66	242.31	5,993.67	-371.45	-1,397.29	1,445.81	0.30	0.23	20.08	49.58
	NORMAL	6,300.0	0.57	253.47	6,088.66	-371.84	-1,398.22	1,446.81	0.16	-0.09	11.75	132.41
4/16/2013	NORMAL	6,395.0	1.14	62.83	6,183.66	-371.54	-1,397.84	1,446.36	1.79	0.60	178.27	172.90
	NORMAL	6,490.0	0.75	70.30	6,278.65	-370.90	-1,396.41	1,444.82	0.43	-0.41	7.86	166.18
	NORMAL	6,586.0	0.26	107.75	6,374.64	-370.75	-1,395.61	1,444.01	0.59	-0.51	39.01	163.78
	NORMAL	6,680.0	0.79	164.88	6,468.64	-371.44	-1,395.24	1,443.83	0.73	0.56	60.78	75.73

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 (°)
4/16/2013	NORMAL	6,775.0	1.14	96.94	6,563.63	-372.19	-1,394.13	1,442.95	1.18	0.37	-71.52	251.10
	NORMAL	6,871.0	1.54	51.76	6,659.60	-371.51	-1,392.17	1,440.88	1.14	0.42	-47.06	267.15
	NORMAL	6,966.0	1.23	322.46	6,754.58	-369.91	-1,391.79	1,440.10	2.06	-0.33	-94.00	218.89
	NORMAL	7,061.0	1.41	294.08	6,849.56	-368.62	-1,393.48	1,441.39	0.71	0.19	-29.87	270.91
	NORMAL	7,156.0	1.45	269.82	6,944.53	-368.15	-1,395.74	1,443.46	0.63	0.04	-25.54	261.60
	NORMAL	7,252.0	1.54	259.18	7,040.50	-368.40	-1,398.23	1,445.92	0.30	0.09	-11.08	282.60
	NORMAL	7,347.0	1.54	229.30	7,135.47	-369.47	-1,400.45	1,448.35	0.84	0.00	-31.45	255.07
	NORMAL	7,443.0	2.46	229.21	7,231.41	-371.66	-1,402.99	1,451.36	0.96	0.96	-0.09	359.76
	NORMAL	7,538.0	1.19	213.13	7,326.36	-373.81	-1,405.07	1,453.94	1.43	-1.34	-16.93	194.06
	NORMAL	7,634.0	1.50	229.65	7,422.33	-375.46	-1,406.57	1,455.82	0.51	0.32	17.21	59.81
4/17/2013	NORMAL	7,729.0	2.46	226.05	7,517.27	-377.68	-1,408.99	1,458.73	1.02	1.01	-3.79	350.82
	NORMAL	7,825.0	2.42	226.31	7,613.19	-380.51	-1,411.94	1,462.31	0.04	-0.04	0.27	164.66
	NORMAL	7,920.0	2.90	228.60	7,708.08	-383.49	-1,415.19	1,466.23	0.52	0.51	2.41	13.63
	NORMAL	8,015.0	3.25	230.88	7,802.95	-386.78	-1,419.08	1,470.84	0.39	0.37	2.40	20.40
	NORMAL	8,038.0	3.25	230.27	7,825.91	-387.60	-1,420.09	1,472.03	0.15	0.00	-2.65	269.70
	NORMAL	8,083.0	3.25	230.27	7,870.84	-389.23	-1,422.05	1,474.35	0.00	0.00	0.00	0.00

3 Charts

3.1 Vertical Section View



3.2 Plan View

