

## 1 General

### 1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

### 1.2 Well Information

Well	PA 424-4	Wellbore No.	OH
Well Name	PA 424-4	Common Name	PA 424-4
Project	PA 04-07S-095W	Site	GV 80-4 Pad
Vertical Section Azimuth	147.81 (°)	North Reference	
Origin N/S		Origin E/W	
Spud Date	10/14/2012	UWI	PA 424-4
Active Datum	KB @5,612.0ft (above Mean Sea Level)		

## 2 Survey Name

### 2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	10/14/2012	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

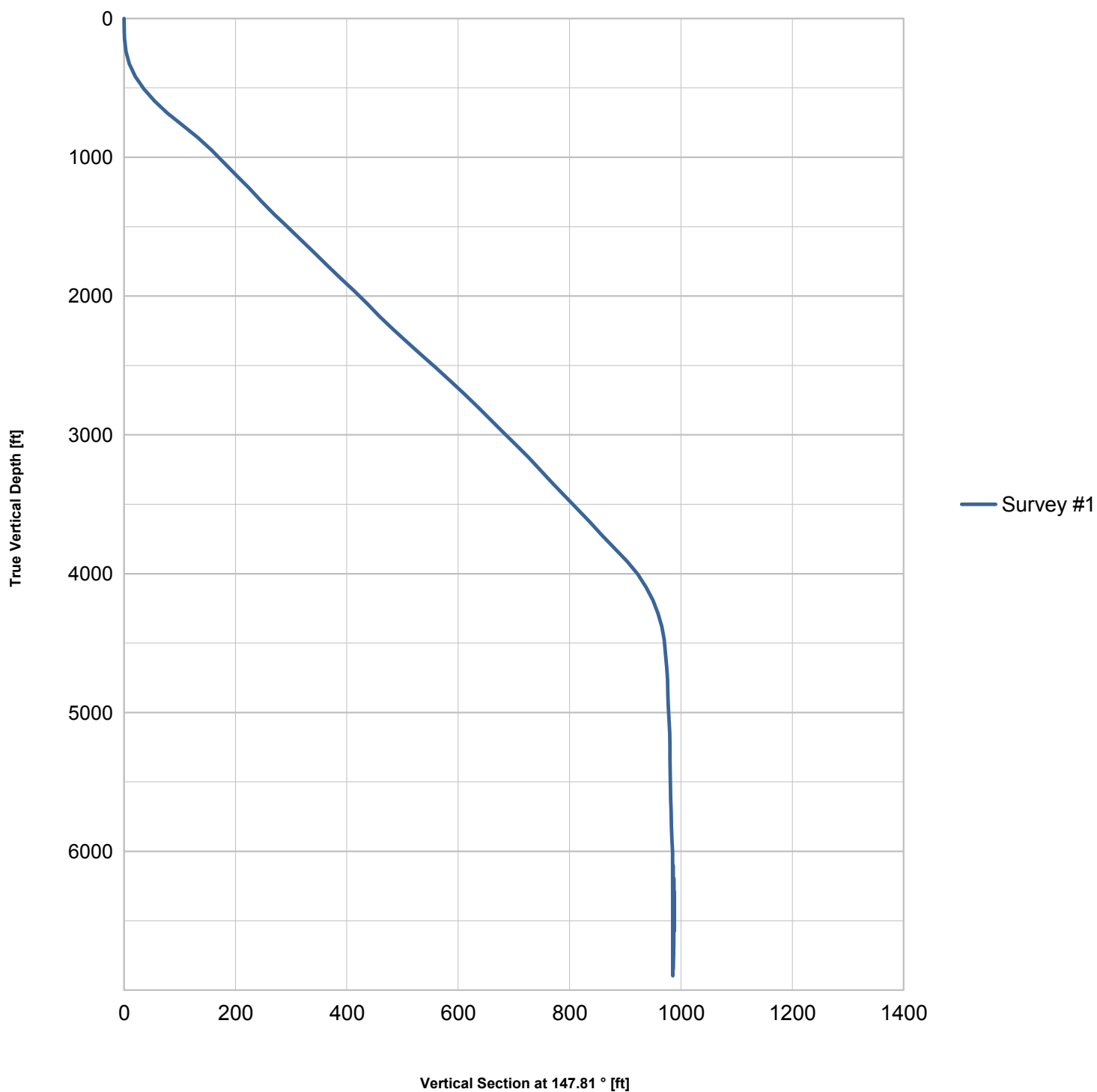
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
10/14/2012	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10/14/2012	NORMAL	100.0	0.61	132.35	100.00	-0.36	0.39	0.51	0.61	0.61	0.00	132.35
	NORMAL	147.0	0.88	147.29	146.99	-0.83	0.77	1.12	0.70	0.57	31.79	43.36
	NORMAL	238.0	2.50	133.93	237.95	-2.80	2.58	3.74	1.82	1.78	-14.68	339.59
	NORMAL	328.0	5.05	144.65	327.75	-7.39	6.29	9.60	2.93	2.83	11.91	20.87
	NORMAL	420.0	8.40	154.06	419.11	-16.74	11.57	20.33	3.82	3.64	10.23	22.92
10/15/2012	NORMAL	511.0	11.21	148.78	508.77	-30.28	19.06	35.78	3.24	3.09	-5.80	339.64
	NORMAL	601.0	13.28	148.26	596.72	-46.56	29.04	54.87	2.30	2.30	-0.58	356.70
	NORMAL	690.0	16.75	144.65	682.67	-65.72	41.84	77.90	4.04	3.90	-4.06	343.16
10/16/2012	NORMAL	783.0	18.02	147.20	771.42	-88.74	57.39	105.67	1.59	1.37	2.74	32.18
	NORMAL	873.0	16.35	142.37	857.40	-110.48	72.66	132.20	2.44	-1.86	-5.37	218.23
	NORMAL	967.0	14.42	146.06	948.03	-130.67	87.28	157.08	2.30	-2.05	3.93	154.87
	NORMAL	1,059.0	13.63	156.43	1,037.30	-150.11	98.01	179.25	2.86	-0.86	11.27	112.44
	NORMAL	1,155.0	13.80	150.37	1,130.57	-170.43	108.19	201.87	1.51	0.18	-6.31	273.80
	NORMAL	1,250.0	13.71	147.99	1,222.85	-189.83	119.76	224.45	0.60	-0.09	-2.51	259.81
	NORMAL	1,346.0	13.19	147.73	1,316.21	-208.73	131.64	246.78	0.55	-0.54	-0.27	186.51
	NORMAL	1,442.0	14.24	147.03	1,409.48	-227.90	143.92	269.54	1.11	1.09	-0.73	350.68
	NORMAL	1,537.0	14.73	150.19	1,501.46	-248.18	156.28	293.29	0.98	0.52	3.33	59.74
	NORMAL	1,633.0	14.42	149.58	1,594.37	-269.08	168.40	317.43	0.36	-0.32	-0.64	206.05
	NORMAL	1,728.0	14.64	149.58	1,686.33	-289.63	180.47	341.25	0.23	0.23	0.00	0.00
	NORMAL	1,824.0	14.07	146.32	1,779.33	-309.81	193.08	365.04	1.03	-0.59	-3.40	233.24

## 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 (°)
10/16/2012	NORMAL	1,920.0	14.99	150.10	1,872.26	-330.28	205.74	389.12	1.38	0.96	3.94	47.71
	NORMAL	2,015.0	14.64	149.66	1,964.11	-351.29	217.93	413.39	0.39	-0.37	-0.46	197.61
	NORMAL	2,111.0	13.93	147.38	2,057.14	-371.50	230.29	437.07	0.94	-0.74	-2.38	217.29
	NORMAL	2,207.0	13.85	146.41	2,150.33	-390.80	242.87	460.11	0.26	-0.08	-1.01	250.57
	NORMAL	2,302.0	15.30	146.32	2,242.27	-410.70	256.12	484.01	1.53	1.53	-0.09	359.06
	NORMAL	2,397.0	15.16	145.53	2,333.93	-431.37	270.10	508.95	0.26	-0.15	-0.83	235.62
	NORMAL	2,493.0	16.13	142.72	2,426.38	-452.33	285.28	534.78	1.28	1.01	-2.93	320.64
	NORMAL	2,588.0	15.25	144.48	2,517.84	-473.00	300.53	560.40	1.05	-0.93	1.85	152.44
	NORMAL	2,684.0	15.30	144.57	2,610.45	-493.60	315.21	585.65	0.06	0.05	0.09	25.41
	NORMAL	2,780.0	14.95	146.32	2,703.12	-514.23	329.42	610.67	0.60	-0.36	1.82	128.31
	NORMAL	2,876.0	13.98	149.93	2,796.08	-534.57	342.10	634.64	1.38	-1.01	3.76	138.83
	NORMAL	2,972.0	14.02	147.55	2,889.23	-554.41	354.15	657.86	0.60	0.04	-2.48	272.82
10/17/2012	NORMAL	3,067.0	14.29	149.84	2,981.34	-574.26	366.21	681.08	0.65	0.28	2.41	65.37
	NORMAL	3,162.0	14.11	150.10	3,073.44	-594.44	377.87	704.37	0.20	-0.19	0.27	160.62
	NORMAL	3,258.0	13.63	151.16	3,166.64	-614.49	389.16	727.35	0.57	-0.50	1.10	152.62
	NORMAL	3,352.0	12.66	150.37	3,258.18	-633.15	399.60	748.70	1.05	-1.03	-0.84	190.11
	NORMAL	3,447.0	13.32	149.49	3,350.75	-651.62	410.30	770.04	0.73	0.69	-0.93	342.89
	NORMAL	3,543.0	13.41	146.06	3,444.15	-670.39	422.13	792.22	0.83	0.09	-3.57	274.81
	NORMAL	3,639.0	14.15	146.67	3,537.38	-689.43	434.79	815.08	0.79	0.77	0.64	11.41
	NORMAL	3,731.0	12.84	146.24	3,626.84	-707.32	446.65	836.54	1.43	-1.42	-0.47	184.17
	NORMAL	3,830.0	12.70	150.89	3,723.40	-725.98	458.06	858.41	1.05	-0.14	4.70	100.02
	NORMAL	3,925.0	14.33	152.47	3,815.76	-745.53	468.58	880.55	1.76	1.72	1.66	13.53
	NORMAL	4,021.0	12.84	148.08	3,909.08	-765.12	479.71	903.06	1.89	-1.55	-4.57	212.57
	NORMAL	4,117.0	10.29	140.87	4,003.12	-780.83	490.76	922.25	3.05	-2.66	-7.51	206.05
10/18/2012	NORMAL	4,212.0	8.40	138.41	4,096.86	-792.60	500.72	937.52	2.03	-1.99	-2.59	190.72
	NORMAL	4,308.0	6.37	145.27	4,192.06	-802.22	508.41	949.76	2.30	-2.11	7.15	159.90
	NORMAL	4,402.0	5.01	139.20	4,285.60	-809.61	514.07	959.02	1.58	-1.45	-6.46	200.87
	NORMAL	4,498.0	3.56	126.28	4,381.33	-814.55	519.21	965.94	1.81	-1.51	-13.46	207.32
	NORMAL	4,593.0	1.71	114.77	4,476.22	-816.89	522.87	969.87	2.02	-1.95	-12.12	190.26
	NORMAL	4,689.0	1.67	104.93	4,572.18	-817.85	525.53	972.10	0.30	-0.04	-10.25	257.25
	NORMAL	4,784.0	1.63	116.00	4,667.14	-818.80	528.08	974.26	0.34	-0.04	11.65	102.66
	NORMAL	4,879.0	0.75	173.92	4,762.12	-820.01	529.36	975.97	1.46	-0.93	60.97	152.71
	NORMAL	4,975.0	0.40	206.79	4,858.12	-820.93	529.27	976.71	0.49	-0.36	34.24	152.33
	NORMAL	5,070.0	0.79	158.28	4,953.11	-821.84	529.37	977.52	0.64	0.41	-51.06	281.78
	NORMAL	5,167.0	0.61	124.53	5,050.11	-822.75	530.04	978.65	0.46	-0.19	-34.79	230.16
	NORMAL	5,262.0	0.79	134.28	5,145.10	-823.50	530.93	979.75	0.23	0.19	10.26	38.43
	NORMAL	5,358.0	0.00	244.58	5,241.10	-823.96	531.40	980.40	0.82	-0.82	0.00	180.00
10/19/2012	NORMAL	5,453.0	0.44	232.19	5,336.10	-824.18	531.11	980.43	0.46	0.46	0.00	232.19
	NORMAL	5,549.0	0.44	173.04	5,432.09	-824.77	530.86	980.80	0.45	0.00	-61.61	240.43
	NORMAL	5,645.0	0.53	203.54	5,528.09	-825.55	530.73	981.39	0.28	0.09	31.77	86.45
	NORMAL	5,740.0	0.53	206.44	5,623.09	-826.34	530.36	981.86	0.03	0.00	3.05	91.45
	NORMAL	5,835.0	0.66	214.00	5,718.08	-827.19	529.86	982.31	0.16	0.14	7.96	34.94
	NORMAL	5,931.0	0.57	194.40	5,814.08	-828.11	529.43	982.86	0.24	-0.09	-20.42	237.24
	NORMAL	6,027.0	0.97	182.62	5,910.07	-829.39	529.28	983.86	0.45	0.42	-12.27	332.45
	NORMAL	6,122.0	0.88	197.91	6,005.05	-830.88	529.01	984.99	0.28	-0.09	16.09	117.57
	NORMAL	6,218.0	0.79	191.94	6,101.04	-832.23	528.65	985.93	0.13	-0.09	-6.22	221.07
	NORMAL	6,313.0	1.45	193.61	6,196.03	-834.04	528.23	987.24	0.70	0.69	1.76	3.67
	NORMAL	6,409.0	0.35	247.22	6,292.01	-835.34	527.68	988.04	1.33	-1.15	55.84	167.22
	NORMAL	6,504.0	0.79	247.84	6,387.01	-835.69	526.80	987.88	0.46	0.46	0.65	1.11
	NORMAL	6,600.0	0.48	225.78	6,483.00	-836.22	525.90	987.85	0.41	-0.32	-22.98	207.58
	NORMAL	6,695.0	0.79	253.20	6,578.00	-836.69	524.99	987.76	0.45	0.33	28.86	58.69
	NORMAL	6,790.0	0.61	297.14	6,672.99	-836.65	523.91	987.15	0.58	-0.19	46.25	129.65
	NORMAL	6,886.0	0.75	258.21	6,768.98	-836.55	522.84	986.49	0.49	0.15	-40.55	266.78
	NORMAL	6,968.0	0.75	279.74	6,850.98	-836.56	521.79	985.94	0.34	0.00	26.26	100.76
	NORMAL	7,013.0	0.75	279.74	6,895.97	-836.46	521.21	985.55	0.00	0.00	0.00	0.00

### 3 Charts

#### 3.1 Vertical Section View



### 3.2 Plan View

