

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	PA 33-2	Wellbore No.	
Well Name	PA 33-2	Common Name	PA 33-2
Project	PA 01-07S-095W	Site	GV 84-1 Pad
Vertical Section Azimuth	269.49 (°)	North Reference	
Origin N/S		Origin E/W	
Spud Date	4/27/2013	UWI	PA 33-2
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	4/27/2013	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 (°)
4/27/2013	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/27/2013	NORMAL	104.0	0.97	284.06	104.00	0.21	-0.85	0.85	0.93	0.93	0.00	284.06
	NORMAL	135.0	1.58	276.42	134.99	0.33	-1.53	1.53	2.04	1.97	-24.65	340.59
	NORMAL	164.0	1.58	280.02	163.98	0.44	-2.32	2.32	0.34	0.00	12.41	91.80
	NORMAL	194.0	2.46	284.85	193.96	0.68	-3.35	3.35	2.99	2.93	16.10	13.37
	NORMAL	225.0	3.26	272.64	224.92	0.89	-4.88	4.87	3.23	2.58	-39.39	316.51
	NORMAL	256.0	3.61	275.45	255.86	1.02	-6.73	6.72	1.25	1.13	9.06	27.10
	NORMAL	287.0	3.96	270.09	286.80	1.12	-8.77	8.76	1.60	1.13	-17.29	311.99
	NORMAL	318.0	4.40	268.51	317.71	1.09	-11.03	11.02	1.47	1.42	-5.10	344.54
	NORMAL	348.0	4.84	269.95	347.62	1.06	-13.45	13.44	1.52	1.47	4.80	15.49
	NORMAL	379.0	5.45	274.22	378.49	1.16	-16.22	16.21	2.32	1.97	13.77	34.26
	NORMAL	409.0	6.07	273.69	408.34	1.37	-19.23	19.21	2.07	2.07	-1.77	354.83
	NORMAL	439.0	6.86	277.47	438.15	1.70	-22.59	22.57	2.99	2.63	12.60	30.20
	NORMAL	469.0	8.09	276.42	467.89	2.17	-26.46	26.44	4.13	4.10	-3.50	353.14
	NORMAL	499.0	8.97	276.42	497.56	2.67	-30.88	30.86	2.93	2.93	0.00	0.00
	NORMAL	529.0	9.59	275.27	527.17	3.16	-35.69	35.66	2.16	2.07	-3.83	342.78
	NORMAL	560.0	10.38	271.76	557.70	3.48	-41.06	41.02	3.22	2.55	-11.32	320.65
	NORMAL	590.0	10.82	272.55	587.19	3.69	-46.57	46.54	1.54	1.47	2.63	18.67
4/28/2013	NORMAL	620.0	11.52	272.02	616.62	3.92	-52.38	52.34	2.36	2.33	-1.77	351.40
	NORMAL	650.0	12.14	272.90	645.98	4.19	-58.52	58.48	2.15	2.07	2.93	16.65
	NORMAL	681.0	12.76	274.39	676.25	4.62	-65.19	65.15	2.25	2.00	4.81	28.12

2.1.2 Survey Stations (Continued)

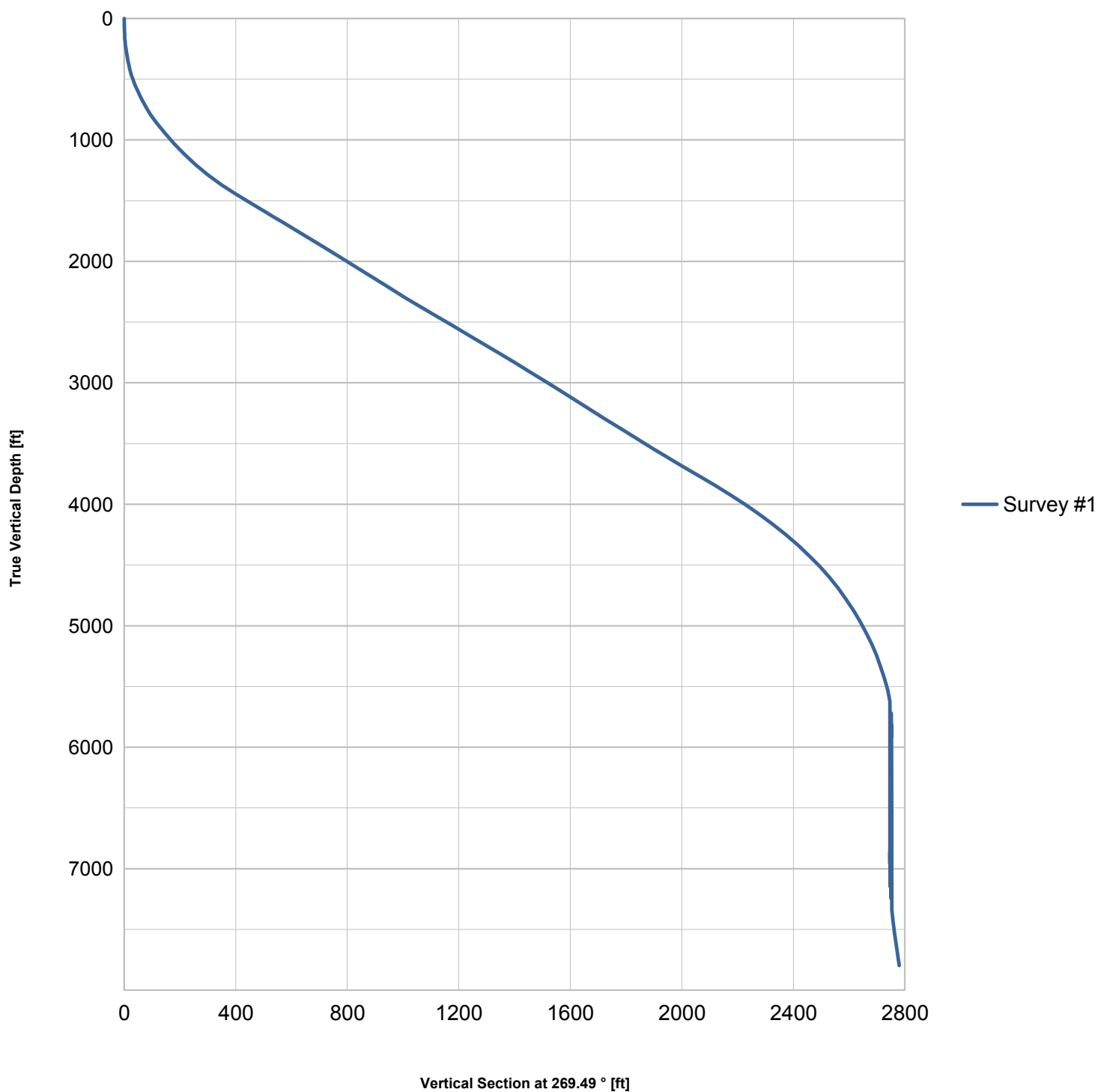
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
4/28/2013	NORMAL	711.0	13.46	273.78	705.47	5.10	-71.98	71.93	2.38	2.33	-2.03	348.52
	NORMAL	741.0	14.52	272.55	734.58	5.50	-79.22	79.17	3.67	3.53	-4.10	343.73
	NORMAL	771.0	15.48	271.76	763.56	5.79	-86.98	86.92	3.27	3.20	-2.63	347.59
	NORMAL	801.0	16.28	272.46	792.41	6.09	-95.18	95.12	2.74	2.67	2.33	13.80
	NORMAL	871.0	18.38	271.83	859.23	6.86	-116.02	115.95	3.01	3.00	-0.90	354.59
	NORMAL	962.0	20.22	271.83	945.11	7.83	-146.08	146.00	2.02	2.02	0.00	0.00
	NORMAL	1,056.0	21.54	271.92	1,032.94	8.92	-179.56	179.48	1.40	1.40	0.10	1.43
	NORMAL	1,151.0	24.36	272.44	1,120.41	10.34	-216.57	216.47	2.98	2.97	0.55	4.35
	NORMAL	1,247.0	26.73	271.39	1,207.02	11.71	-257.94	257.83	2.51	2.47	-1.09	348.71
	NORMAL	1,341.0	29.25	273.14	1,290.02	13.48	-302.02	301.88	2.82	2.68	1.86	18.83
	NORMAL	1,435.0	32.36	273.32	1,370.75	16.19	-350.07	349.91	3.31	3.31	0.19	1.78
	NORMAL	1,526.0	34.65	271.30	1,446.62	18.19	-400.26	400.08	2.80	2.52	-2.22	333.19
	NORMAL	1,620.0	36.84	271.39	1,522.91	19.48	-455.15	454.96	2.33	2.33	0.10	1.41
	NORMAL	1,715.0	35.79	270.33	1,599.46	20.33	-511.40	511.20	1.29	-1.11	-1.12	210.45
	NORMAL	1,750.0	36.49	270.51	1,627.72	20.48	-532.04	531.84	2.02	2.00	0.51	8.70
4/30/2013	NORMAL	1,812.0	35.78	270.07	1,677.80	20.67	-568.60	568.40	1.22	-1.15	-0.71	199.90
	NORMAL	1,907.0	36.04	266.73	1,754.75	19.11	-624.28	624.09	2.08	0.27	-3.52	276.21
	NORMAL	2,003.0	35.82	266.55	1,832.48	15.81	-680.52	680.35	0.25	-0.23	-0.19	205.57
	NORMAL	2,098.0	35.03	265.68	1,909.90	12.08	-735.46	735.32	0.99	-0.83	-0.92	212.20
	NORMAL	2,192.0	34.99	266.82	1,986.89	8.55	-789.27	789.16	0.70	-0.04	1.21	93.97
	NORMAL	2,288.0	35.34	267.52	2,065.37	5.83	-844.49	844.40	0.56	0.36	0.73	49.32
	NORMAL	2,382.0	35.12	268.84	2,142.15	4.10	-898.68	898.61	0.84	-0.23	1.40	106.65
	NORMAL	2,478.0	34.37	269.45	2,221.03	3.28	-953.39	953.32	0.86	-0.78	0.64	155.38
	NORMAL	2,573.0	35.69	272.62	2,298.83	4.29	-1,007.89	1,007.81	2.37	1.39	3.34	55.35
	NORMAL	2,669.0	36.09	271.04	2,376.61	6.09	-1,064.14	1,064.04	1.05	0.42	-1.65	292.72
	NORMAL	2,764.0	36.79	270.69	2,453.03	6.94	-1,120.56	1,120.45	0.77	0.74	-0.37	343.32
	NORMAL	2,860.0	36.92	271.65	2,529.85	8.11	-1,178.13	1,178.01	0.61	0.14	1.00	77.66
	NORMAL	2,954.0	36.09	271.92	2,605.40	9.85	-1,234.02	1,233.88	0.90	-0.88	0.29	169.16
	NORMAL	3,047.0	36.53	270.69	2,680.35	11.10	-1,289.07	1,288.92	0.91	0.47	-1.32	300.64
	NORMAL	3,143.0	35.82	270.33	2,757.84	11.61	-1,345.73	1,345.58	0.77	-0.74	-0.38	196.52
	NORMAL	3,238.0	36.09	269.37	2,834.74	11.46	-1,401.51	1,401.35	0.66	0.28	-1.01	295.21
	NORMAL	3,333.0	35.69	270.33	2,911.70	11.32	-1,457.20	1,457.04	0.73	-0.42	1.01	125.79
	NORMAL	3,428.0	34.51	269.37	2,989.43	11.18	-1,511.82	1,511.66	1.37	-1.24	-1.01	204.68
	NORMAL	3,524.0	34.77	268.84	3,068.41	10.33	-1,566.38	1,566.23	0.41	0.27	-0.55	310.58
	NORMAL	3,619.0	34.68	268.14	3,146.49	8.90	-1,620.48	1,620.34	0.43	-0.09	-0.74	256.99
	NORMAL	3,715.0	34.81	268.14	3,225.37	7.12	-1,675.16	1,675.03	0.14	0.14	0.00	0.00
	NORMAL	3,810.0	34.77	267.26	3,303.39	4.95	-1,729.32	1,729.21	0.53	-0.04	-0.93	265.08
	NORMAL	3,905.0	35.12	266.64	3,381.26	2.05	-1,783.66	1,783.57	0.52	0.37	-0.65	314.33
	NORMAL	4,001.0	35.25	266.64	3,459.73	-1.19	-1,838.88	1,838.82	0.14	0.14	0.00	0.00
	NORMAL	4,096.0	35.38	266.99	3,537.24	-4.24	-1,893.71	1,893.68	0.25	0.14	0.37	57.42
	NORMAL	4,192.0	35.87	269.54	3,615.28	-5.93	-1,949.60	1,949.57	1.63	0.51	2.66	72.78
	NORMAL	4,287.0	36.31	269.02	3,692.05	-6.63	-2,005.55	2,005.53	0.56	0.46	-0.55	324.95
	NORMAL	4,383.0	36.97	269.19	3,769.08	-7.52	-2,062.84	2,062.82	0.70	0.69	0.18	8.81
5/1/2013	NORMAL	4,478.0	35.96	267.87	3,845.48	-8.97	-2,119.27	2,119.27	1.35	-1.06	-1.39	217.31
	NORMAL	4,573.0	35.12	269.89	3,922.79	-10.05	-2,174.48	2,174.48	1.52	-0.88	2.13	126.40
	NORMAL	4,669.0	32.79	270.25	4,002.41	-9.99	-2,228.09	2,228.09	2.44	-2.43	0.38	175.22
	NORMAL	4,765.0	31.08	272.88	4,083.88	-8.64	-2,278.84	2,278.83	2.30	-1.78	2.74	141.98
	NORMAL	4,860.0	29.32	272.36	4,165.98	-6.45	-2,326.58	2,326.54	1.87	-1.85	-0.55	188.23
	NORMAL	4,956.0	27.96	271.74	4,250.24	-4.79	-2,372.56	2,372.51	1.45	-1.42	-0.65	192.05
	NORMAL	5,051.0	25.98	271.30	4,334.90	-3.65	-2,415.63	2,415.56	2.09	-2.08	-0.46	185.56
	NORMAL	5,146.0	23.91	268.75	4,421.04	-3.59	-2,455.68	2,455.62	2.46	-2.18	-2.68	206.30
	NORMAL	5,243.0	22.59	268.84	4,510.16	-4.40	-2,493.96	2,493.90	1.36	-1.36	0.09	178.50
	NORMAL	5,338.0	20.18	270.33	4,598.61	-4.67	-2,528.60	2,528.54	2.60	-2.54	1.57	167.99
	NORMAL	5,433.0	18.15	267.35	4,688.34	-5.26	-2,559.77	2,559.71	2.37	-2.14	-3.14	204.33
	NORMAL	5,529.0	16.92	266.11	4,779.88	-6.90	-2,588.64	2,588.60	1.34	-1.28	-1.29	196.31
	NORMAL	5,624.0	15.25	267.43	4,871.16	-8.40	-2,614.92	2,614.89	1.80	-1.76	1.39	168.28
	NORMAL	5,720.0	13.98	267.78	4,964.05	-9.42	-2,639.12	2,639.10	1.33	-1.32	0.36	176.19

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 (°)
5/2/2013	NORMAL	5,815.0	12.70	266.91	5,056.49	-10.42	-2,661.01	2,661.00	1.36	-1.35	-0.92	188.49
	NORMAL	5,911.0	11.16	267.35	5,150.41	-11.42	-2,680.83	2,680.83	1.61	-1.60	0.46	176.84
	NORMAL	6,006.0	9.76	263.92	5,243.83	-12.70	-2,698.02	2,698.03	1.61	-1.47	-3.61	202.30
	NORMAL	6,102.0	8.70	264.97	5,338.58	-14.20	-2,713.35	2,713.37	1.12	-1.10	1.09	171.49
	NORMAL	6,197.0	7.78	268.22	5,432.60	-15.03	-2,726.93	2,726.96	1.09	-0.97	3.42	154.75
5/3/2013	NORMAL	6,294.0	5.98	272.88	5,528.90	-14.98	-2,738.54	2,738.57	1.94	-1.86	4.80	165.07
	NORMAL	6,389.0	3.52	276.75	5,623.57	-14.39	-2,746.38	2,746.40	2.61	-2.59	4.07	174.50
	NORMAL	6,484.0	1.63	256.01	5,718.47	-14.37	-2,750.59	2,750.61	2.19	-1.99	-21.83	196.13
	NORMAL	6,579.0	0.18	172.07	5,813.46	-14.85	-2,751.88	2,751.90	1.71	-1.53	-88.36	186.34
	NORMAL	6,674.0	0.48	86.82	5,908.46	-14.97	-2,751.46	2,751.49	0.52	0.32	-89.74	253.66
	NORMAL	6,770.0	0.57	90.95	6,004.45	-14.96	-2,750.58	2,750.61	0.10	0.09	4.30	24.88
	NORMAL	6,864.0	0.61	76.27	6,098.45	-14.85	-2,749.63	2,749.65	0.17	0.04	-15.62	277.40
	NORMAL	6,959.0	0.48	134.10	6,193.44	-15.00	-2,748.85	2,748.88	0.57	-0.14	60.87	131.10
5/4/2013	NORMAL	7,054.0	0.66	122.33	6,288.44	-15.57	-2,748.10	2,748.13	0.23	0.19	-12.39	320.98
	NORMAL	7,150.0	0.13	339.50	6,384.44	-15.77	-2,747.68	2,747.71	0.80	-0.55	-148.78	185.87
	NORMAL	7,245.0	0.48	260.67	6,479.44	-15.73	-2,748.11	2,748.14	0.50	0.37	-82.98	265.51
	NORMAL	7,340.0	0.26	248.54	6,574.43	-15.87	-2,748.70	2,748.73	0.24	-0.23	-12.77	193.60
	NORMAL	7,436.0	1.01	38.04	6,670.43	-15.29	-2,748.38	2,748.41	1.29	0.78	155.73	155.60
	NORMAL	7,531.0	0.97	24.59	6,765.42	-13.90	-2,747.53	2,747.55	0.25	-0.04	-14.16	253.55
	NORMAL	7,626.0	0.83	26.26	6,860.40	-12.55	-2,746.89	2,746.89	0.15	-0.15	1.76	170.22
	NORMAL	7,722.0	0.26	349.88	6,956.40	-11.71	-2,746.62	2,746.62	0.67	-0.59	-37.90	193.95
	NORMAL	7,818.0	0.48	262.51	7,052.40	-11.55	-2,747.06	2,747.05	0.56	0.23	-91.01	243.61
	NORMAL	7,913.0	1.14	243.97	7,147.39	-12.01	-2,748.30	2,748.30	0.74	0.69	-19.52	328.90
	NORMAL	8,009.0	1.76	242.74	7,243.36	-13.11	-2,750.47	2,750.48	0.65	0.65	-1.28	356.51
	NORMAL	8,104.0	2.37	239.57	7,338.29	-14.77	-2,753.46	2,753.48	0.65	0.64	-3.34	347.81
	NORMAL	8,199.0	3.21	242.30	7,433.18	-17.00	-2,757.51	2,757.55	0.89	0.88	2.87	10.35
5/5/2013	NORMAL	8,294.0	3.60	248.19	7,528.01	-19.35	-2,762.63	2,762.70	0.55	0.41	6.20	44.86
	NORMAL	8,389.0	3.96	245.11	7,622.81	-21.84	-2,768.38	2,768.46	0.43	0.38	-3.24	329.03
	NORMAL	8,484.0	4.35	242.12	7,717.56	-24.90	-2,774.54	2,774.65	0.47	0.41	-3.15	329.45
	NORMAL	8,564.0	4.35	242.12	7,797.33	-27.74	-2,779.90	2,780.04	0.00	0.00	0.00	0.00

3 Charts

3.1 Vertical Section View



3.2 Plan View

