

General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	PA 543-2	Wellbore No.	
Well Name	PA 543-2	Common Name	PA 543-2
Project	PA 01-07S-095W	Site	GV 84-1 Pad
Vertical Section Azimuth	235.90 (°)	North Reference	
Origin N/S		Origin E/W	
Spud Date	3/4/2013	UWI	PA 543-2
Active Datum	KB @6,053.0ft (above Mean Sea Level)		

Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	3/4/2013	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 (°)
3/4/2013	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/4/2013	NORMAL	104.0	0.35	187.56	104.00	-0.31	-0.04	0.21	0.34	0.34	0.00	187.56
	NORMAL	135.0	0.88	217.71	135.00	-0.60	-0.20	0.50	1.95	1.71	97.26	47.08
	NORMAL	166.0	1.41	219.73	165.99	-1.08	-0.59	1.09	1.71	1.71	6.52	5.37
	NORMAL	196.0	1.76	241.17	195.98	-1.58	-1.23	1.91	2.28	1.17	71.47	70.46
	NORMAL	226.0	2.64	244.16	225.96	-2.11	-2.25	3.05	2.96	2.93	9.97	8.93
	NORMAL	256.0	3.52	236.34	255.91	-2.92	-3.64	4.65	3.24	2.93	-26.07	330.54
	NORMAL	287.0	4.57	231.42	286.84	-4.22	-5.40	6.84	3.56	3.39	-15.87	339.25
	NORMAL	317.0	5.54	231.59	316.72	-5.86	-7.47	9.47	3.23	3.23	0.57	0.97
	NORMAL	347.0	5.98	233.00	346.57	-7.70	-9.85	12.48	1.54	1.47	4.70	18.53
	NORMAL	377.0	6.51	234.84	376.39	-9.62	-12.49	15.74	1.89	1.77	6.13	21.6'
	NORMAL	407.0	7.13	235.63	406.18	-11.65	-15.42	19.30	2.09	2.07	2.63	9.00
	NORMAL	435.0	7.74	236.51	433.94	-13.67	-18.42	22.92	2.22	2.18	3.14	11.0'
	NORMAL	466.0	8.62	238.80	464.63	-16.03	-22.15	27.33	3.03	2.84	7.39	21.45
	NORMAL	496.0	9.15	237.83	494.27	-18.46	-26.09	31.96	1.84	1.77	-3.23	343.74
	NORMAL	526.0	9.77	238.27	523.86	-21.07	-30.28	36.89	2.08	2.07	1.47	6.87
	NORMAL	556.0	10.82	235.46	553.37	-24.01	-34.76	42.25	3.88	3.50	-9.37	333.05
	NORMAL	586.0	11.35	235.72	582.82	-27.27	-39.52	48.01	1.77	1.77	0.87	5.52
	NORMAL	616.0	12.23	236.25	612.18	-30.70	-44.60	54.14	2.96	2.93	1.77	7.28
	NORMAL	647.0	13.11	236.43	642.43	-34.46	-50.26	60.94	2.84	2.84	0.58	2.66
	NORMAL	677.0	14.08	235.46	671.59	-38.41	-56.10	67.99	3.32	3.23	-3.23	346.30

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 (°)
3/4/2013	NORMAL	708.0	14.96	235.90	701.60	-42.80	-62.52	75.77	2.86	2.84	1.42	7.36
	NORMAL	778.0	17.60	235.35	768.78	-53.88	-78.71	95.39	3.78	3.77	-0.79	356.39
	NORMAL	869.0	20.67	234.58	854.74	-71.01	-103.13	125.21	3.38	3.37	-0.85	354.94
3/5/2013	NORMAL	960.0	22.97	236.94	939.22	-90.01	-131.10	159.02	2.70	2.53	2.59	21.98
	NORMAL	1,060.0	22.82	238.45	1,031.34	-110.80	-163.98	197.91	0.61	-0.15	1.51	105.02
	NORMAL	1,146.0	21.76	240.56	1,110.92	-127.37	-192.08	230.46	1.54	-1.23	2.45	143.92
	NORMAL	1,240.0	21.58	238.63	1,198.28	-144.93	-222.01	265.09	0.78	-0.19	-2.05	254.93
	NORMAL	1,336.0	21.54	233.35	1,287.57	-164.64	-251.22	300.33	2.02	-0.04	-5.50	266.36
	NORMAL	1,431.0	21.32	232.21	1,376.00	-185.63	-278.86	334.99	0.50	-0.23	-1.20	241.63
	NORMAL	1,527.0	21.58	231.51	1,465.35	-207.31	-306.47	370.01	0.38	0.27	-0.73	315.12
	NORMAL	1,622.0	21.93	234.93	1,553.59	-228.38	-334.67	405.17	1.38	0.37	3.60	76.16
	NORMAL	1,717.0	22.68	234.14	1,641.48	-249.30	-364.03	441.21	0.85	0.79	-0.83	337.84
3/6/2013	NORMAL	1,812.0	21.36	234.50	1,729.55	-270.08	-392.96	476.81	1.40	-1.39	0.38	174.33
	NORMAL	1,908.0	20.75	237.48	1,819.14	-289.38	-421.54	511.29	1.28	-0.64	3.10	121.06
	NORMAL	2,003.0	21.14	235.20	1,907.86	-308.20	-449.79	545.25	0.95	0.41	-2.40	294.50
	NORMAL	2,098.0	21.58	232.47	1,996.34	-328.62	-477.72	579.82	1.14	0.46	-2.87	292.56
	NORMAL	2,192.0	20.31	235.20	2,084.13	-348.46	-504.82	613.39	1.70	-1.35	2.90	143.73
	NORMAL	2,285.0	20.18	240.56	2,171.39	-365.56	-532.05	645.52	2.00	-0.14	5.76	96.52
	NORMAL	2,381.0	20.84	238.98	2,261.31	-382.50	-561.10	679.07	0.90	0.69	-1.65	319.27
	NORMAL	2,476.0	21.06	238.54	2,350.03	-400.12	-590.15	713.00	0.28	0.23	-0.46	324.23
	NORMAL	2,571.0	21.19	236.25	2,438.64	-418.56	-618.98	747.22	0.88	0.14	-2.41	277.88
	NORMAL	2,666.0	21.89	235.46	2,527.01	-438.14	-647.85	782.10	0.80	0.74	-0.83	337.13
	NORMAL	2,762.0	20.26	237.39	2,616.59	-457.25	-676.59	816.61	1.85	-1.70	2.01	157.83
	NORMAL	2,857.0	20.92	236.96	2,705.52	-475.36	-704.66	850.01	0.71	0.69	-0.45	346.85
	NORMAL	2,953.0	20.97	235.90	2,795.17	-494.34	-733.26	884.32	0.40	0.05	-1.10	277.02
	NORMAL	3,048.0	20.75	235.02	2,883.95	-513.52	-761.12	918.15	0.40	-0.23	-0.93	234.52
	NORMAL	3,143.0	21.89	235.29	2,972.44	-533.25	-789.47	952.69	1.20	1.20	0.28	5.05
	NORMAL	3,239.0	22.37	234.32	3,061.37	-554.09	-819.02	988.84	0.63	0.50	-1.01	322.27
	NORMAL	3,335.0	22.20	237.92	3,150.21	-574.38	-849.23	1,025.23	1.43	-0.18	3.75	98.76
	NORMAL	3,429.0	22.24	237.48	3,237.23	-593.38	-879.27	1,060.76	0.18	0.04	-0.47	283.3'
	NORMAL	3,525.0	22.20	236.78	3,326.10	-613.08	-909.76	1,097.06	0.28	-0.04	-0.73	261.08
	NORMAL	3,620.0	22.07	236.87	3,414.09	-632.67	-939.72	1,132.85	0.14	-0.14	0.09	165.42
	NORMAL	3,716.0	21.14	233.97	3,503.35	-652.71	-968.83	1,168.18	1.47	-0.97	-3.02	227.60
3/7/2013	NORMAL	3,812.0	20.57	233.70	3,593.06	-672.87	-996.42	1,202.34	0.60	-0.59	-0.28	189.45
	NORMAL	3,907.0	21.85	234.32	3,681.63	-693.07	-1,024.23	1,236.69	1.37	1.35	0.65	10.23
	NORMAL	4,003.0	21.14	236.60	3,770.95	-713.02	-1,053.20	1,271.85	1.14	-0.74	2.38	131.42
	NORMAL	4,097.0	21.01	235.99	3,858.66	-731.77	-1,081.32	1,305.65	0.27	-0.14	-0.65	239.06
	NORMAL	4,193.0	19.82	237.48	3,948.63	-750.15	-1,109.31	1,339.13	1.35	-1.24	1.55	157.10
	NORMAL	4,288.0	19.60	237.83	4,038.07	-767.29	-1,136.37	1,371.16	0.26	-0.23	0.37	151.95
	NORMAL	4,384.0	18.33	235.55	4,128.85	-784.40	-1,162.45	1,402.35	1.53	-1.32	-2.38	209.19
	NORMAL	4,479.0	18.07	235.64	4,219.10	-801.17	-1,186.93	1,432.02	0.28	-0.27	0.09	173.87
	NORMAL	4,574.0	17.58	235.55	4,309.54	-817.60	-1,210.93	1,461.10	0.52	-0.52	-0.09	183.18
	NORMAL	4,669.0	16.09	235.02	4,400.47	-833.26	-1,233.55	1,488.61	1.58	-1.57	-0.56	185.63
	NORMAL	4,765.0	16.22	236.25	4,492.68	-848.34	-1,255.59	1,515.32	0.38	0.14	1.28	69.79
	NORMAL	4,860.0	14.42	237.48	4,584.30	-862.07	-1,276.60	1,540.41	1.93	-1.89	1.29	170.36
	NORMAL	4,955.0	12.48	234.41	4,676.69	-874.41	-1,294.93	1,562.50	2.18	-2.04	-3.23	198.72
	NORMAL	5,051.0	11.96	238.54	4,770.51	-885.63	-1,311.85	1,582.81	1.06	-0.54	4.30	122.75
	NORMAL	5,147.0	9.89	241.96	4,864.77	-894.70	-1,327.61	1,600.95	2.26	-2.16	3.56	164.25
3/8/2013	NORMAL	5,242.0	8.79	238.36	4,958.51	-902.35	-1,340.99	1,616.31	1.31	-1.16	-3.79	206.2'
	NORMAL	5,338.0	7.12	234.85	5,053.58	-909.62	-1,352.10	1,629.59	1.81	-1.74	-3.66	194.45
	NORMAL	5,433.0	6.42	237.48	5,147.92	-915.86	-1,361.39	1,640.78	0.81	-0.74	2.77	157.4'
	NORMAL	5,529.0	5.89	238.27	5,243.37	-921.34	-1,370.11	1,651.07	0.56	-0.55	0.82	171.3'
	NORMAL	5,624.0	4.35	237.31	5,337.98	-925.85	-1,377.29	1,659.54	1.62	-1.62	-1.01	182.7'
	NORMAL	5,719.0	3.74	238.18	5,432.75	-929.43	-1,382.95	1,666.24	0.65	-0.64	0.92	174.65
	NORMAL	5,815.0	2.64	239.68	5,528.60	-932.20	-1,387.52	1,671.58	1.15	-1.15	1.56	176.4'
	NORMAL	5,911.0	0.92	263.15	5,624.55	-933.40	-1,390.19	1,674.47	1.91	-1.79	24.45	168.47
	NORMAL	6,006.0	1.63	5.98	5,719.53	-932.15	-1,390.81	1,674.28	2.15	0.75	108.24	128.88

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 (°)
3/9/2013	NORMAL	6,102.0	1.27	348.23	5,815.50	-929.75	-1,390.89	1,672.99	0.60	-0.38	-18.49	222.64
	NORMAL	6,197.0	1.10	320.89	5,910.48	-928.01	-1,391.68	1,672.67	0.61	-0.18	-28.78	239.90
	NORMAL	6,292.0	0.75	341.28	6,005.47	-926.72	-1,392.45	1,672.59	0.50	-0.37	21.46	146.65
	NORMAL	6,387.0	0.48	314.21	6,100.47	-925.85	-1,392.94	1,672.50	0.41	-0.28	-28.49	214.10
3/10/2013	NORMAL	6,483.0	0.53	254.97	6,196.46	-925.69	-1,393.65	1,673.00	0.52	0.05	-61.71	245.36
	NORMAL	6,579.0	0.57	189.58	6,292.46	-926.27	-1,394.16	1,673.75	0.62	0.04	-68.11	240.55
	NORMAL	6,674.0	0.75	203.38	6,387.45	-927.31	-1,394.49	1,674.60	0.25	0.19	14.53	48.49
	NORMAL	6,770.0	0.79	164.09	6,483.44	-928.52	-1,394.55	1,675.34	0.54	0.04	-40.93	254.52
	NORMAL	6,865.0	0.66	178.16	6,578.44	-929.70	-1,394.36	1,675.84	0.23	-0.14	14.81	133.03
	NORMAL	6,960.0	0.31	103.98	6,673.43	-930.31	-1,394.09	1,675.96	0.68	-0.37	-78.08	207.40
	NORMAL	7,055.0	0.44	154.43	6,768.43	-930.70	-1,393.68	1,675.84	0.36	0.14	53.11	95.02
	NORMAL	7,151.0	0.61	235.55	6,864.43	-931.32	-1,393.95	1,676.41	0.72	0.18	84.50	119.85
	NORMAL	7,246.0	0.70	324.41	6,959.43	-931.13	-1,394.70	1,676.93	0.97	0.09	93.54	130.42
	NORMAL	7,341.0	0.48	351.57	7,054.42	-930.27	-1,395.10	1,676.77	0.37	-0.23	28.59	141.24
	NORMAL	7,436.0	0.61	148.10	7,149.42	-930.30	-1,394.89	1,676.62	1.12	0.14	164.77	166.85
	NORMAL	7,531.0	0.88	191.08	7,244.41	-931.45	-1,394.76	1,677.15	0.63	0.28	45.24	86.77
3/11/2013	NORMAL	7,626.0	1.36	196.44	7,339.39	-933.25	-1,395.22	1,678.54	0.52	0.51	5.64	15.00
	NORMAL	7,721.0	1.85	213.05	7,434.36	-935.61	-1,396.38	1,680.82	0.71	0.52	17.48	52.02
	NORMAL	7,816.0	2.11	213.31	7,529.30	-938.36	-1,398.17	1,683.85	0.27	0.27	0.27	2.11
	NORMAL	7,912.0	2.77	213.40	7,625.21	-941.77	-1,400.42	1,687.63	0.69	0.69	0.09	0.38
	NORMAL	8,007.0	3.08	222.45	7,720.09	-945.57	-1,403.41	1,692.23	0.58	0.33	9.53	60.70
	NORMAL	8,102.0	3.47	222.37	7,814.93	-949.58	-1,407.07	1,697.51	0.41	0.41	-0.08	359.29
	NORMAL	8,165.0	3.47	222.37	7,877.82	-952.40	-1,409.64	1,701.21	0.00	0.00	0.00	0.00