

1 General

1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

1.2 Well Information

Well	GM 23-27	Wellbore No.	
Well Name	GM 23-27	Common Name	GM 23-27
Project	GV 27-06S-096W	Site	GM 24-27 Pad
Vertical Section Azimuth	332.81 (°)	North Reference	
Origin N/S		Origin E/W	
Spud Date	4/22/2011	UWI	GM 23-27
Active Datum	KB @5,628.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	4/22/2011	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 (°)
4/22/2011	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/22/2011	NORMAL	71.0	1.41	197.49	70.99	-0.83	-0.26	-0.62	1.99	1.99	0.00	197.49
	NORMAL	162.0	2.02	212.52	161.95	-3.25	-1.46	-2.23	0.83	0.67	16.52	44.07
	NORMAL	253.0	1.32	197.05	252.91	-5.61	-2.63	-3.79	0.91	-0.77	-17.00	205.21
	NORMAL	345.0	1.76	191.87	344.88	-8.00	-3.23	-5.64	0.50	0.48	-5.63	339.84
	NORMAL	436.0	1.58	229.31	435.84	-10.19	-4.47	-7.02	1.19	-0.20	41.14	117.75
	NORMAL	528.0	1.58	337.94	527.82	-9.84	-5.91	-6.05	2.79	0.00	118.08	144.30
	NORMAL	619.0	4.75	333.72	618.67	-5.30	-8.05	-1.03	3.49	3.48	-4.64	353.69
	NORMAL	660.0	5.57	334.26	659.51	-1.98	-9.66	2.65	2.00	2.00	1.32	3.66
	NORMAL	752.0	8.40	330.15	750.82	7.87	-14.95	13.83	3.12	3.08	-4.47	347.94
	NORMAL	844.0	10.80	331.65	841.52	21.28	-22.39	29.16	2.62	2.61	1.63	6.69
	NORMAL	938.0	13.18	334.25	933.46	38.69	-31.23	48.68	2.60	2.53	2.77	14.06
	NORMAL	1,032.0	15.19	334.38	1,024.59	59.45	-41.21	71.71	2.14	2.14	0.14	0.97
	NORMAL	1,127.0	17.51	335.50	1,115.75	83.68	-52.52	98.43	2.46	2.44	1.18	8.28
	NORMAL	1,221.0	20.18	334.90	1,204.70	111.23	-65.26	128.76	2.85	2.84	-0.64	355.56
	NORMAL	1,315.0	22.98	335.76	1,292.10	142.65	-79.68	163.30	3.00	2.98	0.91	6.85
	NORMAL	1,410.0	25.05	337.52	1,378.87	178.15	-94.98	201.87	2.31	2.18	1.85	19.89
	NORMAL	1,430.0	25.44	337.57	1,396.96	186.04	-98.24	210.37	1.95	1.95	0.25	3.15
4/23/2011	NORMAL	1,430.0	25.44	337.57	1,397.82	187.79	-73.44	200.59	0.00	0.00	0.00	0.00
	NORMAL	1,539.0	26.20	338.10	1,495.08	230.00	-116.15	257.66	0.73	0.70	0.49	17.13
	NORMAL	1,633.0	26.20	332.30	1,579.44	267.63	-133.54	299.08	2.72	0.00	-6.17	267.40

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 (°)
4/24/2011	NORMAL	1,728.0	25.00	330.40	1,665.11	303.66	-153.20	340.11	1.53	-1.26	-2.00	213.52
	NORMAL	1,822.0	23.60	329.50	1,750.78	337.14	-172.56	378.74	1.54	-1.49	-0.96	194.41
	NORMAL	1,916.0	23.70	328.60	1,836.89	369.48	-191.96	416.37	0.40	0.11	-0.96	285.07
	NORMAL	2,011.0	24.90	330.00	1,923.47	403.10	-211.91	455.38	1.40	1.26	1.47	26.29
	NORMAL	2,105.0	26.70	331.60	2,008.10	438.82	-231.85	496.27	2.05	1.91	1.70	21.87
	NORMAL	2,199.0	27.60	333.50	2,091.74	476.88	-251.61	539.15	1.33	0.96	2.02	44.78
	NORMAL	2,293.0	27.70	333.00	2,175.01	515.84	-271.24	582.78	0.27	0.11	-0.53	293.09
	NORMAL	2,388.0	26.70	333.30	2,259.50	554.58	-290.86	626.20	1.06	-1.05	0.32	172.33
	NORMAL	2,482.0	25.70	332.30	2,343.84	591.49	-309.82	667.70	1.16	-1.06	-1.06	203.37
	NORMAL	2,576.0	24.30	331.80	2,429.03	626.58	-328.43	707.42	1.51	-1.49	-0.53	188.36
	NORMAL	2,670.0	23.70	330.40	2,514.91	660.06	-346.91	745.63	0.88	-0.64	-1.49	222.86
	NORMAL	2,765.0	23.60	331.40	2,601.93	693.35	-365.44	783.72	0.44	-0.11	1.05	104.46
	NORMAL	2,859.0	24.50	331.40	2,687.77	726.99	-383.78	822.02	0.96	0.96	0.00	0.00
	NORMAL	2,953.0	24.70	332.60	2,773.24	761.54	-402.15	861.14	0.57	0.21	1.28	68.73
	NORMAL	3,048.0	25.20	334.70	2,859.37	797.44	-419.92	901.20	1.07	0.53	2.21	61.51
	NORMAL	3,142.0	24.90	334.20	2,944.53	833.35	-437.09	940.99	0.39	-0.32	-0.53	214.98
	NORMAL	3,237.0	24.30	334.00	3,030.91	868.93	-454.36	980.52	0.64	-0.63	-0.21	187.81
	NORMAL	3,331.0	23.60	333.30	3,116.81	903.12	-471.29	1,018.68	0.80	-0.74	-0.74	201.77
4/25/2011	NORMAL	3,425.0	23.70	335.40	3,202.92	937.11	-487.61	1,056.37	0.90	0.11	2.23	84.19
	NORMAL	3,520.0	23.50	334.60	3,289.97	971.58	-503.69	1,094.37	0.40	-0.21	-0.84	237.65
	NORMAL	3,614.0	22.60	333.90	3,376.47	1,004.73	-519.67	1,131.16	1.00	-0.96	-0.74	196.62
	NORMAL	3,708.0	21.80	332.80	3,463.50	1,036.47	-535.60	1,166.68	0.96	-0.85	-1.17	206.94
	NORMAL	3,803.0	22.20	333.90	3,551.58	1,068.28	-551.56	1,202.26	0.60	0.42	1.16	46.36
	NORMAL	3,897.0	20.80	334.00	3,639.04	1,099.23	-566.69	1,236.70	1.49	-1.49	0.11	178.55
	NORMAL	3,992.0	18.40	336.30	3,728.53	1,128.12	-580.11	1,268.54	2.65	-2.53	2.42	163.26
	NORMAL	4,086.0	18.00	335.40	3,817.83	1,154.91	-592.12	1,297.85	0.52	-0.43	-0.96	214.67
	NORMAL	4,180.0	16.80	336.70	3,907.53	1,180.60	-603.54	1,325.92	1.34	-1.28	1.38	162.67
	NORMAL	4,275.0	14.90	337.20	3,998.91	1,204.47	-613.70	1,351.80	2.01	-2.00	0.53	176.13
	NORMAL	4,369.0	14.40	337.00	4,089.85	1,226.37	-622.95	1,375.50	0.53	-0.53	-0.21	185.68
	NORMAL	4,463.0	12.30	339.70	4,181.31	1,246.52	-630.99	1,397.10	2.33	-2.23	2.87	164.78
	NORMAL	4,557.0	10.90	338.10	4,273.39	1,264.16	-637.78	1,415.89	1.53	-1.49	-1.70	192.16
	NORMAL	4,652.0	9.70	334.60	4,366.85	1,279.72	-644.57	1,432.84	1.42	-1.26	-3.68	205.83
	NORMAL	4,746.0	7.60	335.30	4,459.78	1,292.52	-650.56	1,446.96	2.24	-2.23	0.74	177.48
	NORMAL	4,840.0	6.90	334.00	4,553.03	1,303.25	-655.63	1,458.82	0.76	-0.74	-1.38	192.55
	NORMAL	4,934.0	6.30	330.90	4,646.41	1,312.83	-660.62	1,469.62	0.74	-0.64	-3.30	209.17
	NORMAL	5,029.0	5.50	335.10	4,740.90	1,321.51	-665.07	1,479.38	0.96	-0.84	4.42	153.72
	NORMAL	5,123.0	4.10	335.30	4,834.57	1,328.65	-668.37	1,487.24	1.49	-1.49	0.21	179.41
	NORMAL	5,217.0	3.50	333.90	4,928.36	1,334.28	-671.04	1,493.46	0.65	-0.64	-1.49	188.09
	NORMAL	5,311.0	3.40	333.70	5,022.19	1,339.36	-673.53	1,499.12	0.11	-0.11	-0.21	186.76
4/26/2011	NORMAL	5,406.0	2.60	354.80	5,117.06	1,344.03	-674.98	1,503.93	1.42	-0.84	22.21	136.15
	NORMAL	5,500.0	2.10	38.20	5,210.99	1,347.51	-674.11	1,506.63	1.91	-0.53	46.17	126.65
	NORMAL	5,595.0	1.30	90.20	5,305.95	1,348.87	-671.95	1,506.86	1.74	-0.84	54.74	141.75
	NORMAL	5,625.0	0.90	132.20	5,335.95	1,348.71	-671.44	1,506.48	2.91	-1.33	140.00	136.34
	NORMAL	5,689.0	1.00	152.50	5,399.94	1,347.88	-670.81	1,505.45	0.55	0.16	31.72	83.77
	NORMAL	5,783.0	1.30	162.00	5,493.92	1,346.14	-670.10	1,503.58	0.38	0.32	10.11	37.25
	NORMAL	5,878.0	1.60	161.80	5,588.89	1,343.85	-669.35	1,501.20	0.32	0.32	-0.21	358.93
	NORMAL	5,972.0	1.20	195.40	5,682.86	1,341.66	-669.20	1,499.18	0.95	-0.43	35.74	132.12
	NORMAL	6,067.0	0.10	42.80	5,777.86	1,340.76	-669.41	1,498.48	1.36	-1.16	-160.63	182.05
	NORMAL	6,161.0	0.20	217.70	5,871.86	1,340.69	-669.45	1,498.44	0.32	0.11	186.06	176.60
4/27/2011	NORMAL	6,255.0	0.80	198.30	5,965.85	1,339.93	-669.76	1,497.91	0.65	0.64	-20.64	334.40
	NORMAL	6,350.0	1.10	236.10	6,060.84	1,338.80	-670.73	1,497.34	0.71	0.32	39.79	84.14
	NORMAL	6,444.0	1.30	224.20	6,154.82	1,337.53	-672.22	1,496.89	0.34	0.21	-12.66	302.70
	NORMAL	6,539.0	1.70	218.40	6,249.79	1,335.65	-673.84	1,495.97	0.45	0.42	-6.11	336.30
	NORMAL	6,633.0	0.70	270.60	6,343.77	1,334.56	-675.29	1,495.66	1.47	-1.06	55.53	156.48
	NORMAL	6,727.0	0.70	221.50	6,437.76	1,334.14	-676.24	1,495.72	0.62	0.00	-52.23	245.45
	NORMAL	6,822.0	0.80	243.70	6,532.75	1,333.41	-677.22	1,495.52	0.32	0.11	23.37	82.33
	NORMAL	6,916.0	0.40	259.00	6,626.75	1,333.06	-678.13	1,495.62	0.45	-0.43	16.28	165.70

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 (°)
4/27/2011	NORMAL	7,010.0	0.50	245.10	6,720.75	1,332.82	-678.82	1,495.72	0.16	0.11	-14.79	305.40
	NORMAL	7,104.0	0.90	227.70	6,814.74	1,332.15	-679.74	1,495.55	0.48	0.43	-18.51	323.13
	NORMAL	7,199.0	1.10	201.90	6,909.73	1,330.81	-680.63	1,494.76	0.51	0.21	-27.16	280.69
	NORMAL	7,248.0	1.10	200.10	6,958.72	1,329.93	-680.97	1,494.13	0.07	0.00	-3.67	269.10
	NORMAL	7,293.0	1.10	200.10	7,003.71	1,329.12	-681.27	1,493.54	0.00	0.00	0.00	0.00