

1 General

1.1 Customer Information

| | |
|----------------|--------------|
| Company | PICEANCE VLY |
| Representative | |
| Address | |

1.2 Well Information

| | | | |
|--------------------------|--------------------------------------|-----------------|--------------|
| Well | GM 423-23 | Wellbore No. | |
| Well Name | GM 423-23 | Common Name | GM 423-23 |
| Project | GV 23-06S-096W | Site | MV 10-23 Pad |
| Vertical Section Azimuth | 85.32 (°) | North Reference | True |
| Origin N/S | | Origin E/W | |
| Spud Date | 9/21/2011 | UWI | GM 423-23 |
| Active Datum | KB @6,002.0ft (above Mean Sea Level) | | |

2 Survey Name

2.1 Survey Name: Survey #1

| | | | |
|-------------|-----------|----------|--|
| Survey Name | Survey #1 | Company | |
| Started | 9/21/2011 | 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) | DLeg (°/100ft) | Build (°/100ft) | Turn (°/100ft) | TFace (°) |
|-----------|--------|---------|---------|---------|----------|----------|----------|-------------|----------------|-----------------|----------------|-----------|
| 9/21/2011 | Tie On | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9/21/2011 | NORMAL | 85.0 | 0.79 | 208.30 | 85.00 | -0.52 | -0.28 | -0.32 | 0.93 | 0.93 | 0.00 | 208.30 |
| | NORMAL | 177.0 | 1.41 | 96.86 | 176.99 | -1.21 | 0.55 | 0.44 | 2.01 | 0.67 | -121.13 | 225.16 |
| | NORMAL | 269.0 | 3.26 | 71.72 | 268.91 | -0.52 | 4.15 | 4.10 | 2.25 | 2.01 | -27.33 | 318.07 |
| | NORMAL | 360.0 | 5.54 | 85.25 | 359.64 | 0.65 | 10.99 | 11.01 | 2.74 | 2.51 | 14.87 | 31.33 |
| | NORMAL | 451.0 | 8.01 | 85.43 | 449.99 | 1.52 | 21.69 | 21.74 | 2.71 | 2.71 | 0.20 | 0.58 |
| | NORMAL | 543.0 | 10.65 | 85.08 | 540.77 | 2.76 | 36.55 | 36.65 | 2.87 | 2.87 | -0.38 | 358.60 |
| | NORMAL | 634.0 | 13.11 | 85.34 | 629.81 | 4.32 | 55.22 | 55.39 | 2.70 | 2.70 | 0.29 | 1.37 |
| | NORMAL | 726.0 | 15.66 | 85.61 | 718.92 | 6.12 | 78.00 | 78.24 | 2.77 | 2.77 | 0.29 | 1.64 |
| | NORMAL | 797.0 | 16.16 | 83.59 | 787.20 | 7.96 | 97.37 | 97.70 | 1.05 | 0.70 | -2.85 | 311.11 |
| | NORMAL | 814.0 | 16.09 | 84.01 | 803.53 | 8.47 | 102.07 | 102.42 | 0.80 | -0.41 | 2.47 | 121.17 |
| 9/22/2011 | NORMAL | 884.0 | 16.31 | 84.25 | 870.75 | 10.46 | 121.49 | 121.94 | 0.33 | 0.31 | 0.34 | 17.04 |
| | NORMAL | 975.0 | 17.11 | 84.36 | 957.91 | 13.06 | 147.53 | 148.10 | 0.88 | 0.88 | 0.12 | 2.32 |
| | NORMAL | 1,071.0 | 16.23 | 85.73 | 1,049.88 | 15.44 | 174.96 | 175.64 | 1.00 | -0.92 | 1.43 | 156.59 |
| | NORMAL | 1,166.0 | 16.45 | 86.23 | 1,141.04 | 17.32 | 201.62 | 202.36 | 0.27 | 0.23 | 0.53 | 32.83 |
| | NORMAL | 1,262.0 | 15.90 | 85.65 | 1,233.24 | 19.21 | 228.30 | 229.11 | 0.60 | -0.57 | -0.60 | 196.09 |
| | NORMAL | 1,357.0 | 15.35 | 84.82 | 1,324.73 | 21.33 | 253.80 | 254.69 | 0.62 | -0.58 | -0.87 | 201.72 |
| | NORMAL | 1,453.0 | 13.99 | 85.35 | 1,417.60 | 23.42 | 278.02 | 279.00 | 1.42 | -1.42 | 0.55 | 174.62 |
| | NORMAL | 1,548.0 | 14.59 | 85.05 | 1,509.66 | 25.38 | 301.39 | 302.45 | 0.64 | 0.63 | -0.32 | 352.82 |
| | NORMAL | 1,644.0 | 15.29 | 86.30 | 1,602.41 | 27.24 | 326.06 | 327.20 | 0.80 | 0.73 | 1.30 | 25.32 |
| | NORMAL | 1,740.0 | 15.54 | 87.49 | 1,694.96 | 28.62 | 351.54 | 352.71 | 0.42 | 0.26 | 1.24 | 52.25 |

2.1.2 Survey Stations (Continued)

| Date | Type | MD (ft) | Inc (°) | Azi (°) | TVD (ft) | N/S (ft) | E/W (ft) | V. Sec (ft) | DLeg (°/100ft) | Bulld (°/100ft) | Turn (°/100ft) | TFace (°) |
|-----------|--------|------------|------------|------------|-------------|-------------|-------------|----------------|-------------------|--------------------|-------------------|--------------|
| 9/22/2011 | NORMAL | 1,835.0 | 16.43 | 85.75 | 1,786.28 | 30.18 | 377.65 | 378.86 | 1.06 | 0.94 | -1.83 | 330.86 |
| | NORMAL | 1,929.0 | 16.63 | 86.16 | 1,876.40 | 32.06 | 404.33 | 405.60 | 0.25 | 0.21 | 0.44 | 30.45 |
| 9/23/2011 | NORMAL | 2,025.0 | 16.36 | 86.56 | 1,968.45 | 33.79 | 431.54 | 432.85 | 0.31 | -0.28 | 0.42 | 157.38 |
| | NORMAL | 2,025.0 | 16.36 | 86.56 | 1,968.45 | 33.79 | 431.54 | 432.85 | 0.00 | 0.00 | 0.00 | 0.00 |
| | NORMAL | 2,120.0 | 16.80 | 84.54 | 2,059.50 | 35.90 | 458.56 | 459.96 | 0.76 | 0.46 | -2.13 | 306.38 |
| | NORMAL | 2,120.0 | 16.80 | 84.54 | 2,059.50 | 35.90 | 458.56 | 459.96 | 0.00 | 0.00 | 0.00 | 0.00 |
| | NORMAL | 2,216.0 | 15.56 | 85.15 | 2,151.69 | 38.31 | 485.20 | 486.71 | 1.30 | -1.29 | 0.64 | 172.49 |
| | NORMAL | 2,216.0 | 15.56 | 85.15 | 2,151.69 | 38.31 | 485.20 | 486.71 | 0.00 | 0.00 | 0.00 | 0.00 |
| | NORMAL | 2,312.0 | 15.83 | 84.54 | 2,244.11 | 40.65 | 511.06 | 512.68 | 0.33 | 0.28 | -0.64 | 328.27 |
| | NORMAL | 2,312.0 | 15.83 | 84.54 | 2,244.11 | 40.65 | 511.06 | 512.68 | 0.00 | 0.00 | 0.00 | 0.00 |
| | NORMAL | 2,407.0 | 15.56 | 85.59 | 2,335.57 | 42.86 | 536.67 | 538.37 | 0.41 | -0.28 | 1.11 | 134.05 |
| | NORMAL | 2,407.0 | 15.56 | 85.59 | 2,335.57 | 42.86 | 536.67 | 538.37 | 0.00 | 0.00 | 0.00 | 0.00 |
| | NORMAL | 2,502.0 | 16.55 | 83.29 | 2,426.87 | 45.42 | 562.81 | 564.64 | 1.24 | 1.04 | -2.42 | 326.17 |
| | NORMAL | 2,502.0 | 16.55 | 83.29 | 2,426.87 | 45.42 | 562.81 | 564.64 | 0.00 | 0.00 | 0.00 | 0.00 |
| | NORMAL | 2,595.0 | 16.89 | 83.82 | 2,515.93 | 48.42 | 589.39 | 591.38 | 0.40 | 0.37 | 0.57 | 24.41 |
| | NORMAL | 2,595.0 | 16.89 | 83.82 | 2,515.93 | 48.42 | 589.39 | 591.38 | 0.00 | 0.00 | 0.00 | 0.00 |
| | NORMAL | 2,690.0 | 15.48 | 84.54 | 2,607.17 | 51.11 | 615.74 | 617.85 | 1.50 | -1.48 | 0.76 | 172.24 |
| | NORMAL | 2,690.0 | 15.48 | 84.54 | 2,607.17 | 51.11 | 615.74 | 617.85 | 0.00 | 0.00 | 0.00 | 0.00 |
| | NORMAL | 2,786.0 | 16.34 | 85.74 | 2,699.49 | 53.34 | 641.96 | 644.17 | 0.96 | 0.90 | 1.25 | 21.51 |
| | NORMAL | 2,786.0 | 16.34 | 85.74 | 2,699.49 | 53.34 | 641.96 | 644.17 | 0.00 | 0.00 | 0.00 | 0.00 |
| | NORMAL | 2,881.0 | 16.36 | 85.33 | 2,790.65 | 55.42 | 668.62 | 670.91 | 0.12 | 0.02 | -0.43 | 279.63 |
| | NORMAL | 2,881.0 | 16.36 | 85.33 | 2,790.65 | 55.42 | 668.62 | 670.91 | 0.00 | 0.00 | 0.00 | 0.00 |
| | NORMAL | 2,977.0 | 14.68 | 85.86 | 2,883.14 | 57.40 | 694.23 | 696.60 | 1.76 | -1.75 | 0.55 | 175.43 |
| | NORMAL | 2,977.0 | 14.68 | 85.86 | 2,883.14 | 57.40 | 694.23 | 696.60 | 0.00 | 0.00 | 0.00 | 0.00 |
| | NORMAL | 3,070.0 | 14.77 | 85.51 | 2,973.09 | 59.18 | 717.80 | 720.23 | 0.14 | 0.10 | -0.38 | 315.16 |
| | NORMAL | 3,070.0 | 14.77 | 85.51 | 2,973.09 | 59.18 | 717.80 | 720.23 | 0.00 | 0.00 | 0.00 | 0.00 |
| | NORMAL | 3,163.0 | 15.56 | 85.24 | 3,062.85 | 61.14 | 742.05 | 744.56 | 0.85 | 0.85 | -0.29 | 354.76 |
| | NORMAL | 3,163.0 | 15.56 | 85.24 | 3,062.85 | 61.14 | 742.05 | 744.56 | 0.00 | 0.00 | 0.00 | 0.00 |
| | NORMAL | 3,258.0 | 17.27 | 84.23 | 3,153.97 | 63.61 | 768.78 | 771.41 | 1.82 | 1.80 | -1.06 | 350.04 |
| | NORMAL | 3,258.0 | 17.27 | 84.23 | 3,153.97 | 63.61 | 768.78 | 771.41 | 0.00 | 0.00 | 0.00 | 0.00 |
| | NORMAL | 3,354.0 | 18.10 | 84.12 | 3,245.44 | 66.57 | 797.79 | 800.56 | 0.87 | 0.86 | -0.11 | 357.64 |
| | NORMAL | 3,354.0 | 18.10 | 84.12 | 3,245.44 | 66.57 | 797.79 | 800.56 | 0.00 | 0.00 | 0.00 | 0.00 |
| | NORMAL | 3,449.0 | 17.85 | 83.49 | 3,335.80 | 69.74 | 826.94 | 829.87 | 0.33 | -0.26 | -0.66 | 217.57 |
| | NORMAL | 3,545.0 | 17.50 | 86.91 | 3,427.27 | 72.18 | 855.97 | 859.00 | 1.14 | -0.36 | 3.56 | 110.25 |
| | NORMAL | 3,545.0 | 17.51 | 86.91 | 3,427.27 | 72.18 | 855.97 | 859.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | NORMAL | 3,640.0 | 16.90 | 88.54 | 3,518.02 | 73.30 | 884.04 | 887.08 | 0.82 | -0.64 | 1.72 | 142.45 |
| | NORMAL | 3,640.0 | 16.90 | 88.54 | 3,518.02 | 73.30 | 884.04 | 887.08 | 0.00 | 0.00 | 0.00 | 0.00 |
| | NORMAL | 3,736.0 | 16.16 | 86.69 | 3,610.05 | 74.43 | 911.33 | 914.37 | 0.95 | -0.77 | -1.93 | 214.54 |
| | NORMAL | 3,736.0 | 16.16 | 86.69 | 3,610.05 | 74.43 | 911.33 | 914.37 | 0.00 | 0.00 | 0.00 | 0.00 |
| | NORMAL | 3,831.0 | 15.93 | 86.31 | 3,701.35 | 76.03 | 937.54 | 940.62 | 0.27 | -0.24 | -0.40 | 204.36 |
| | NORMAL | 3,831.0 | 15.93 | 86.31 | 3,701.35 | 76.03 | 937.54 | 940.62 | 0.00 | 0.00 | 0.00 | 0.00 |
| | NORMAL | 3,925.0 | 15.07 | 86.94 | 3,791.93 | 77.52 | 962.62 | 965.73 | 0.93 | -0.91 | 0.67 | 169.23 |
| | NORMAL | 3,925.0 | 15.07 | 86.94 | 3,791.93 | 77.52 | 962.62 | 965.73 | 0.00 | 0.00 | 0.00 | 0.00 |
| | NORMAL | 4,021.0 | 15.23 | 86.90 | 3,884.60 | 78.86 | 987.67 | 990.81 | 0.17 | 0.17 | -0.04 | 356.24 |
| | NORMAL | 4,021.0 | 15.23 | 86.90 | 3,884.60 | 78.86 | 987.67 | 990.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| | NORMAL | 4,116.0 | 16.17 | 85.42 | 3,976.05 | 80.60 | 1,013.31 | 1,016.51 | 1.08 | 0.99 | -1.56 | 336.21 |
| | NORMAL | 4,116.0 | 16.17 | 85.42 | 3,976.05 | 80.60 | 1,013.31 | 1,016.51 | 0.00 | 0.00 | 0.00 | 0.00 |
| | NORMAL | 4,211.0 | 16.17 | 86.33 | 4,067.29 | 82.50 | 1,039.70 | 1,042.97 | 0.27 | 0.00 | 0.96 | 90.44 |
| | NORMAL | 4,211.0 | 16.17 | 86.33 | 4,067.29 | 82.50 | 1,039.70 | 1,042.97 | 0.00 | 0.00 | 0.00 | 0.00 |
| | NORMAL | 4,307.0 | 16.04 | 84.74 | 4,159.53 | 84.57 | 1,066.25 | 1,069.59 | 0.48 | -0.14 | -1.66 | 252.81 |
| | NORMAL | 4,307.0 | 16.04 | 84.74 | 4,159.53 | 84.57 | 1,066.25 | 1,069.59 | 0.00 | 0.00 | 0.00 | 0.00 |
| | NORMAL | 4,400.0 | 15.63 | 84.02 | 4,249.00 | 87.05 | 1,091.50 | 1,094.97 | 0.49 | -0.44 | -0.77 | 205.26 |
| | NORMAL | 4,400.0 | 15.63 | 84.02 | 4,249.00 | 87.05 | 1,091.50 | 1,094.97 | 0.00 | 0.00 | 0.00 | 0.00 |
| | NORMAL | 4,495.0 | 15.11 | 83.75 | 4,340.60 | 89.73 | 1,116.54 | 1,120.14 | 0.55 | -0.55 | -0.28 | 187.71 |
| | NORMAL | 4,495.0 | 15.11 | 83.75 | 4,340.60 | 89.73 | 1,116.54 | 1,120.14 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9/24/2011 | NORMAL | 4,590.0 | 15.74 | 85.15 | 4,432.18 | 92.17 | 1,141.69 | 1,145.40 | 0.77 | 0.66 | 1.47 | 31.26 |
| | NORMAL | 4,686.0 | 15.73 | 86.00 | 4,524.58 | 94.18 | 1,167.64 | 1,171.43 | 0.24 | -0.01 | 0.89 | 92.89 |

2.1.2 Survey Stations (Continued)

| Date | Type | MD (ft) | Inc (°) | Azi (°) | TVD (ft) | N/S (ft) | E/W (ft) | V. Sec (ft) | DLeg (°/100ft) | Build (°/100ft) | Turn (°/100ft) | TFace (°) |
|-----------|--------|------------|------------|------------|-------------|-------------|-------------|----------------|-------------------|--------------------|-------------------|--------------|
| 9/24/2011 | NORMAL | 4,781.0 | 15.60 | 86.74 | 4,616.05 | 95.81 | 1,193.24 | 1,197.08 | 0.25 | -0.14 | 0.78 | 123.40 |
| | NORMAL | 4,877.0 | 15.02 | 86.69 | 4,708.64 | 97.26 | 1,218.55 | 1,222.42 | 0.60 | -0.60 | -0.05 | 181.28 |
| | NORMAL | 4,972.0 | 13.54 | 90.16 | 4,800.71 | 97.94 | 1,241.96 | 1,245.81 | 1.80 | -1.56 | 3.65 | 151.63 |
| | NORMAL | 5,068.0 | 12.91 | 87.98 | 4,894.16 | 98.28 | 1,263.92 | 1,267.72 | 0.84 | -0.66 | -2.27 | 217.31 |
| | NORMAL | 5,163.0 | 10.98 | 88.94 | 4,987.10 | 98.83 | 1,283.57 | 1,287.35 | 2.04 | -2.03 | 1.01 | 174.59 |
| | NORMAL | 5,259.0 | 10.79 | 87.09 | 5,081.37 | 99.45 | 1,301.69 | 1,305.46 | 0.41 | -0.20 | -1.93 | 240.55 |
| | NORMAL | 5,354.0 | 8.97 | 86.21 | 5,174.96 | 100.39 | 1,317.96 | 1,321.75 | 1.92 | -1.92 | -0.93 | 184.31 |
| | NORMAL | 5,450.0 | 7.83 | 83.05 | 5,269.93 | 101.68 | 1,331.92 | 1,335.77 | 1.28 | -1.19 | -3.29 | 200.49 |
| | NORMAL | 5,545.0 | 6.59 | 81.85 | 5,364.18 | 103.23 | 1,343.74 | 1,347.68 | 1.31 | -1.31 | -1.26 | 186.33 |
| | NORMAL | 5,641.0 | 4.75 | 79.97 | 5,459.70 | 104.71 | 1,353.11 | 1,357.14 | 1.93 | -1.92 | -1.96 | 184.83 |
| 9/25/2011 | NORMAL | 5,737.0 | 3.35 | 86.25 | 5,555.46 | 105.58 | 1,359.82 | 1,363.90 | 1.53 | -1.46 | 6.54 | 165.54 |
| | NORMAL | 5,832.0 | 2.28 | 80.93 | 5,650.34 | 106.06 | 1,364.45 | 1,368.56 | 1.16 | -1.13 | -5.60 | 191.07 |
| | NORMAL | 5,927.0 | 1.61 | 65.65 | 5,745.29 | 106.91 | 1,367.54 | 1,371.70 | 0.89 | -0.71 | -16.08 | 210.27 |
| | NORMAL | 6,023.0 | 1.24 | 53.83 | 5,841.26 | 108.08 | 1,369.60 | 1,373.86 | 0.49 | -0.39 | -12.31 | 212.66 |
| | NORMAL | 6,118.0 | 1.14 | 44.73 | 5,936.24 | 109.36 | 1,371.10 | 1,375.45 | 0.22 | -0.11 | -9.58 | 237.62 |
| | NORMAL | 6,214.0 | 0.71 | 33.71 | 6,032.23 | 110.53 | 1,372.40 | 1,376.54 | 0.48 | -0.45 | -11.48 | 197.03 |
| 9/26/2011 | NORMAL | 6,310.0 | 0.24 | 66.56 | 6,128.22 | 111.11 | 1,372.62 | 1,377.10 | 0.55 | -0.49 | 34.22 | 165.64 |
| | NORMAL | 6,405.0 | 0.72 | 32.42 | 6,223.22 | 111.69 | 1,373.12 | 1,377.65 | 0.57 | 0.51 | -35.94 | 311.38 |
| | NORMAL | 6,501.0 | 0.70 | 12.29 | 6,319.21 | 112.77 | 1,373.57 | 1,378.19 | 0.26 | -0.02 | -20.97 | 255.40 |
| | NORMAL | 6,596.0 | 0.35 | 39.45 | 6,414.21 | 113.56 | 1,373.87 | 1,378.56 | 0.44 | -0.37 | 28.59 | 157.65 |
| | NORMAL | 6,692.0 | 0.82 | 38.27 | 6,510.20 | 114.33 | 1,374.49 | 1,379.23 | 0.49 | 0.49 | -1.23 | 357.94 |
| | NORMAL | 6,786.0 | 0.44 | 31.10 | 6,604.20 | 115.17 | 1,375.09 | 1,379.90 | 0.41 | -0.40 | -7.63 | 188.15 |
| | NORMAL | 6,881.0 | 1.13 | 14.86 | 6,699.19 | 116.38 | 1,375.52 | 1,380.43 | 0.76 | 0.73 | -17.09 | 333.90 |
| | NORMAL | 6,977.0 | 0.44 | 43.85 | 6,795.18 | 117.56 | 1,376.02 | 1,381.02 | 0.81 | -0.72 | 30.20 | 164.03 |
| | NORMAL | 7,072.0 | 0.53 | 268.41 | 6,890.18 | 117.81 | 1,375.83 | 1,380.85 | 0.95 | 0.09 | -142.57 | 204.46 |
| | NORMAL | 7,168.0 | 0.38 | 112.75 | 6,986.18 | 117.68 | 1,375.68 | 1,380.69 | 0.93 | -0.16 | -162.15 | 190.13 |
| | NORMAL | 7,262.0 | 0.26 | 185.26 | 7,080.18 | 117.35 | 1,375.95 | 1,380.93 | 0.42 | -0.13 | 77.14 | 140.60 |
| | NORMAL | 7,357.0 | 0.88 | 222.79 | 7,175.17 | 116.60 | 1,375.43 | 1,380.36 | 0.73 | 0.65 | 39.51 | 50.76 |
| | NORMAL | 7,452.0 | 1.49 | 225.69 | 7,270.15 | 115.20 | 1,374.05 | 1,378.87 | 0.64 | 0.64 | 3.05 | 7.07 |
| | NORMAL | 7,547.0 | 2.02 | 217.78 | 7,365.10 | 113.01 | 1,372.14 | 1,376.79 | 0.61 | 0.56 | -8.33 | 331.45 |
| 9/27/2011 | NORMAL | 7,643.0 | 2.55 | 230.44 | 7,461.03 | 110.31 | 1,369.46 | 1,373.89 | 0.76 | 0.55 | 13.19 | 50.04 |
| | NORMAL | 7,738.0 | 2.66 | 228.81 | 7,555.93 | 107.52 | 1,366.47 | 1,370.39 | 0.14 | 0.12 | -1.72 | 325.22 |
| | NORMAL | 7,821.0 | 3.21 | 235.25 | 7,638.82 | 104.92 | 1,362.81 | 1,366.83 | 0.77 | 0.66 | 7.76 | 34.19 |