

## 1 General

### 1.1 Customer Information

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

### 1.2 Well/Wellbore Information

|                          |                                      |                      |             |
|--------------------------|--------------------------------------|----------------------|-------------|
| Well                     | PA 33-6                              | Wellbore No.         | 00          |
| Wellbore Legal Name      | PA 33-6                              | Common Wellbore Name | PA 33-6     |
| Project                  | PA 06-07S-095W                       | Site                 | PA 24-6 Pad |
| Vertical Section Azimuth | 24.27 (°)                            | North reference      | True        |
| Origin N/S               |                                      | Origin E/W           |             |
| Spud date                | 7/18/2014                            | UWI                  | PA 33-6     |
| Active datum             | KB @5,160.0ft (above Mean Sea Level) |                      |             |

## 2 Survey Name

### 2.1 Survey Name: Survey #1

|              |           |          |            |
|--------------|-----------|----------|------------|
| Survey Name  | Survey #1 | Company  | SCIENTIFIC |
| Date Started | 7/18/2014 | 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 (°/100usft) | Build Rate (°/100usft) | Turn (°/100usft) | Tface (°) |
|-----------|--------|---------|----------|----------|----------|----------|----------|--------------|-----------------|------------------------|------------------|-----------|
| 7/18/2014 | Tie On | 0.0     | 0.00     | 0.00     | 0.00     | 0.00     | 0.00     | 0.00         | 0.00            | 0.00                   | 0.00             | 0.00      |
| 7/18/2014 | NORMAL | 100.0   | 0.62     | 53.35    | 100.00   | 0.32     | 0.43     | 0.47         | 0.62            | 0.62                   | 0.00             | 53.35     |
|           | NORMAL | 161.0   | 2.02     | 38.76    | 160.98   | 1.36     | 1.37     | 1.80         | 2.34            | 2.30                   | -23.92           | 339.14    |
|           | NORMAL | 251.0   | 5.01     | 24.61    | 250.80   | 6.17     | 4.00     | 7.27         | 3.43            | 3.32                   | -15.72           | 336.68    |
|           | NORMAL | 340.0   | 7.83     | 29.18    | 339.24   | 15.00    | 8.58     | 17.20        | 3.22            | 3.17                   | 5.13             | 12.55     |
|           | NORMAL | 414.0   | 10.72    | 27.95    | 412.26   | 25.48    | 14.26    | 29.09        | 3.91            | 3.91                   | -1.66            | 355.47    |
|           | NORMAL | 504.0   | 14.14    | 25.22    | 500.14   | 42.82    | 22.87    | 48.44        | 3.85            | 3.80                   | -3.03            | 348.91    |
|           | NORMAL | 595.0   | 17.16    | 24.29    | 587.76   | 65.12    | 33.13    | 72.98        | 3.33            | 3.32                   | -1.02            | 354.80    |
|           | NORMAL | 685.0   | 20.15    | 23.62    | 673.02   | 91.43    | 44.81    | 101.77       | 3.33            | 3.32                   | -0.74            | 355.58    |
|           | NORMAL | 776.0   | 22.40    | 23.64    | 757.81   | 121.68   | 58.04    | 134.78       | 2.47            | 2.47                   | 0.02             | 0.19      |
|           | NORMAL | 866.0   | 24.96    | 24.19    | 840.23   | 154.72   | 72.70    | 170.93       | 2.85            | 2.84                   | 0.61             | 5.18      |
|           | NORMAL | 957.0   | 27.84    | 24.19    | 921.73   | 191.62   | 89.28    | 211.38       | 3.16            | 3.16                   | 0.00             | 0.00      |
|           | NORMAL | 1,052.0 | 29.90    | 22.98    | 1,004.92 | 233.66   | 107.62   | 257.24       | 2.25            | 2.17                   | -1.27            | 343.64    |
|           | NORMAL | 1,150.0 | 30.86    | 21.22    | 1,089.46 | 279.58   | 126.25   | 306.76       | 1.34            | 0.98                   | -1.80            | 316.40    |
| 7/19/2014 | NORMAL | 1,245.0 | 29.22    | 25.36    | 1,171.71 | 323.25   | 145.00   | 354.29       | 2.78            | -1.73                  | 4.36             | 130.13    |
|           | NORMAL | 1,340.0 | 28.54    | 24.94    | 1,254.89 | 364.79   | 164.51   | 400.16       | 0.75            | -0.72                  | -0.44            | 196.43    |
|           | NORMAL | 1,435.0 | 28.49    | 25.88    | 1,338.37 | 405.75   | 183.96   | 445.51       | 0.48            | -0.05                  | 0.99             | 96.77     |
|           | NORMAL | 1,529.0 | 29.12    | 23.58    | 1,420.74 | 446.89   | 202.90   | 490.79       | 1.36            | 0.67                   | -2.45            | 298.61    |
|           | NORMAL | 1,624.0 | 29.37    | 25.03    | 1,503.63 | 489.18   | 222.00   | 537.20       | 0.79            | 0.26                   | 1.53             | 71.19     |
|           | NORMAL | 1,719.0 | 31.08    | 24.95    | 1,585.72 | 532.52   | 242.21   | 585.01       | 1.80            | 1.80                   | -0.08            | 358.62    |
|           | NORMAL | 1,814.0 | 31.20    | 24.45    | 1,667.03 | 577.16   | 262.73   | 634.14       | 0.30            | 0.13                   | -0.53            | 294.68    |

## 2.1.2 Survey Stations (Continued)

| Date      | Type   | MD<br>(ft) | Inc.<br>(°) | Azi.<br>(°) | TVD<br>(ft) | N/S<br>(ft) | E/W<br>(ft) | V. sec.<br>(ft) | DLS<br>(°/100usft) | Build Rate<br>(°/100usft) | Turn<br>(°/100usft) | Tface<br>(°) |
|-----------|--------|------------|-------------|-------------|-------------|-------------|-------------|-----------------|--------------------|---------------------------|---------------------|--------------|
| 7/19/2014 | NORMAL | 1,910.0    | 31.46       | 22.11       | 1,749.03    | 623.00      | 282.46      | 684.04          | 1.30               | 0.27                      | -2.44               | 281.06       |
|           | NORMAL | 2,004.0    | 31.22       | 23.77       | 1,829.32    | 668.02      | 301.51      | 732.91          | 0.95               | -0.26                     | 1.77                | 106.24       |
|           | NORMAL | 2,098.0    | 30.43       | 24.82       | 1,910.04    | 711.93      | 321.32      | 781.08          | 1.02               | -0.84                     | 1.12                | 146.19       |
| 7/20/2014 | NORMAL | 2,193.0    | 29.99       | 24.65       | 1,992.14    | 755.34      | 341.32      | 828.88          | 0.47               | -0.46                     | -0.18               | 190.93       |
|           | NORMAL | 2,288.0    | 30.86       | 24.47       | 2,074.05    | 799.10      | 361.32      | 876.99          | 0.92               | 0.92                      | -0.19               | 353.94       |
|           | NORMAL | 2,383.0    | 30.51       | 24.91       | 2,155.75    | 843.15      | 381.57      | 925.47          | 0.44               | -0.37                     | 0.46                | 147.51       |
|           | NORMAL | 2,478.0    | 30.60       | 24.74       | 2,237.56    | 886.98      | 401.84      | 973.76          | 0.13               | 0.09                      | -0.18               | 316.09       |
|           | NORMAL | 2,573.0    | 30.07       | 22.80       | 2,319.56    | 930.88      | 421.19      | 1,021.73        | 1.17               | -0.56                     | -2.04               | 240.76       |
|           | NORMAL | 2,667.0    | 30.25       | 25.26       | 2,400.84    | 974.01      | 440.42      | 1,068.95        | 1.33               | 0.19                      | 2.62                | 82.78        |
|           | NORMAL | 2,762.0    | 30.14       | 24.79       | 2,482.95    | 1,017.30    | 460.63      | 1,116.72        | 0.27               | -0.12                     | -0.49               | 244.84       |
|           | NORMAL | 2,857.0    | 29.75       | 22.34       | 2,565.27    | 1,060.76    | 479.59      | 1,164.13        | 1.35               | -0.41                     | -2.58               | 251.25       |
|           | NORMAL | 2,952.0    | 29.81       | 23.51       | 2,647.72    | 1,104.21    | 497.97      | 1,211.30        | 0.61               | 0.06                      | 1.23                | 84.61        |
|           | NORMAL | 3,047.0    | 29.82       | 22.30       | 2,730.15    | 1,147.72    | 516.35      | 1,258.52        | 0.63               | 0.01                      | -1.27               | 270.43       |
|           | NORMAL | 3,142.0    | 28.80       | 25.62       | 2,812.99    | 1,190.21    | 535.21      | 1,305.01        | 2.02               | -1.07                     | 3.49                | 123.55       |
|           | NORMAL | 3,237.0    | 26.98       | 26.06       | 2,896.95    | 1,230.21    | 554.57      | 1,349.43        | 1.93               | -1.92                     | 0.46                | 173.74       |
|           | NORMAL | 3,332.0    | 25.57       | 27.13       | 2,982.14    | 1,267.81    | 573.39      | 1,391.45        | 1.57               | -1.48                     | 1.13                | 161.91       |
|           | NORMAL | 3,427.0    | 23.66       | 27.05       | 3,068.50    | 1,303.04    | 591.41      | 1,430.97        | 2.01               | -2.01                     | -0.08               | 180.96       |
|           | NORMAL | 3,522.0    | 22.11       | 23.67       | 3,156.02    | 1,336.39    | 607.26      | 1,467.89        | 2.14               | -1.63                     | -3.56               | 218.75       |
|           | NORMAL | 3,617.0    | 21.32       | 25.31       | 3,244.28    | 1,368.38    | 621.82      | 1,503.03        | 1.05               | -0.83                     | 1.73                | 143.23       |
|           | NORMAL | 3,711.0    | 19.84       | 24.63       | 3,332.28    | 1,398.33    | 635.77      | 1,536.07        | 1.59               | -1.57                     | -0.72               | 188.86       |
| 7/21/2014 | NORMAL | 3,806.0    | 18.38       | 23.33       | 3,422.04    | 1,426.74    | 648.42      | 1,567.17        | 1.60               | -1.54                     | -1.37               | 195.64       |
|           | NORMAL | 3,901.0    | 15.82       | 23.70       | 3,512.84    | 1,452.35    | 659.56      | 1,595.10        | 2.70               | -2.69                     | 0.39                | 177.74       |
|           | NORMAL | 3,996.0    | 14.80       | 24.84       | 3,604.47    | 1,475.22    | 669.86      | 1,620.18        | 1.12               | -1.07                     | 1.20                | 164.11       |
|           | NORMAL | 4,091.0    | 13.81       | 22.54       | 3,696.52    | 1,496.71    | 679.31      | 1,643.65        | 1.20               | -1.04                     | -2.42               | 208.75       |
|           | NORMAL | 4,186.0    | 12.49       | 24.56       | 3,789.03    | 1,516.52    | 687.93      | 1,665.25        | 1.47               | -1.39                     | 2.13                | 161.79       |
|           | NORMAL | 4,280.0    | 10.35       | 24.75       | 3,881.16    | 1,533.44    | 695.69      | 1,683.86        | 2.28               | -2.28                     | 0.20                | 179.09       |
|           | NORMAL | 4,376.0    | 9.76        | 27.34       | 3,975.69    | 1,548.50    | 703.03      | 1,700.61        | 0.77               | -0.61                     | 2.70                | 143.80       |
|           | NORMAL | 4,470.0    | 8.00        | 30.01       | 4,068.56    | 1,561.24    | 709.97      | 1,715.08        | 1.92               | -1.87                     | 2.84                | 168.14       |
|           | NORMAL | 4,565.0    | 6.51        | 23.42       | 4,162.80    | 1,571.91    | 715.41      | 1,727.04        | 1.79               | -1.57                     | -6.94               | 205.94       |
|           | NORMAL | 4,660.0    | 5.98        | 29.04       | 4,257.23    | 1,581.18    | 719.96      | 1,737.36        | 0.85               | -0.56                     | 5.92                | 133.69       |
|           | NORMAL | 4,755.0    | 4.73        | 35.24       | 4,351.82    | 1,588.70    | 724.62      | 1,746.14        | 1.45               | -1.32                     | 6.53                | 158.23       |
|           | NORMAL | 4,850.0    | 2.66        | 44.69       | 4,446.62    | 1,593.47    | 728.43      | 1,752.05        | 2.26               | -2.18                     | 9.95                | 168.29       |
|           | NORMAL | 4,945.0    | 0.74        | 36.16       | 4,541.57    | 1,595.53    | 730.34      | 1,754.71        | 2.03               | -2.02                     | -8.98               | 183.26       |
|           | NORMAL | 5,039.0    | 0.81        | 46.98       | 4,635.56    | 1,596.48    | 731.18      | 1,755.92        | 0.17               | 0.07                      | 11.51               | 69.91        |
|           | NORMAL | 5,134.0    | 0.32        | 69.46       | 4,730.56    | 1,597.03    | 731.92      | 1,756.73        | 0.56               | -0.52                     | 23.66               | 166.62       |
|           | NORMAL | 5,229.0    | 0.57        | 105.83      | 4,825.55    | 1,596.99    | 732.63      | 1,756.98        | 0.38               | 0.26                      | 38.28               | 67.65        |
| 7/22/2014 | NORMAL | 5,324.0    | 0.62        | 134.43      | 4,920.55    | 1,596.50    | 733.45      | 1,756.88        | 0.31               | 0.05                      | 30.11               | 94.94        |
|           | NORMAL | 5,418.0    | 1.18        | 136.11      | 5,014.54    | 1,595.45    | 734.48      | 1,756.34        | 0.60               | 0.60                      | 1.79                | 3.54         |
|           | NORMAL | 5,513.0    | 1.49        | 133.11      | 5,109.51    | 1,593.90    | 736.06      | 1,755.58        | 0.33               | 0.33                      | -3.16               | 345.79       |
|           | NORMAL | 5,608.0    | 1.06        | 182.50      | 5,204.49    | 1,592.18    | 736.93      | 1,754.36        | 1.19               | -0.45                     | 51.99               | 134.83       |
|           | NORMAL | 5,703.0    | 1.49        | 191.11      | 5,299.47    | 1,590.09    | 736.65      | 1,752.34        | 0.49               | 0.45                      | 9.06                | 28.36        |
|           | NORMAL | 5,798.0    | 1.32        | 185.58      | 5,394.44    | 1,587.79    | 736.31      | 1,750.11        | 0.23               | -0.18                     | -5.82               | 215.83       |
|           | NORMAL | 5,892.0    | 1.49        | 179.16      | 5,488.41    | 1,585.49    | 736.22      | 1,747.97        | 0.25               | 0.18                      | -6.83               | 313.96       |
|           | NORMAL | 5,987.0    | 1.85        | 180.48      | 5,583.37    | 1,582.72    | 736.22      | 1,745.45        | 0.38               | 0.38                      | 1.39                | 6.76         |
|           | NORMAL | 6,082.0    | 1.78        | 182.15      | 5,678.32    | 1,579.71    | 736.16      | 1,742.68        | 0.09               | -0.07                     | 1.76                | 143.76       |
|           | NORMAL | 6,177.0    | 2.20        | 205.26      | 5,773.27    | 1,576.59    | 735.32      | 1,739.49        | 0.94               | 0.44                      | 24.33               | 74.24        |
|           | NORMAL | 6,272.0    | 2.23        | 204.00      | 5,868.20    | 1,573.25    | 733.79      | 1,735.82        | 0.06               | 0.03                      | -1.33               | 301.00       |
|           | NORMAL | 6,367.0    | 2.40        | 204.63      | 5,963.12    | 1,569.75    | 732.21      | 1,731.98        | 0.18               | 0.18                      | 0.66                | 8.83         |
|           | NORMAL | 6,462.0    | 2.37        | 196.65      | 6,058.04    | 1,566.06    | 730.82      | 1,728.05        | 0.35               | -0.03                     | -8.40               | 260.86       |
|           | NORMAL | 6,557.0    | 2.11        | 187.60      | 6,152.96    | 1,562.45    | 730.03      | 1,724.42        | 0.46               | -0.27                     | -9.53               | 229.22       |
|           | NORMAL | 6,651.0    | 2.13        | 170.58      | 6,246.90    | 1,559.01    | 730.08      | 1,721.31        | 0.67               | 0.02                      | -18.11              | 263.30       |
|           | NORMAL | 6,746.0    | 1.76        | 162.46      | 6,341.85    | 1,555.88    | 730.81      | 1,718.76        | 0.48               | -0.39                     | -8.55               | 212.67       |
|           | NORMAL | 6,841.0    | 1.77        | 183.23      | 6,436.80    | 1,553.02    | 731.17      | 1,716.30        | 0.67               | 0.01                      | 21.86               | 99.49        |
|           | NORMAL | 6,896.0    | 1.67        | 191.73      | 6,491.78    | 1,551.39    | 730.96      | 1,714.73        | 0.50               | -0.18                     | 15.45               | 115.62       |
|           | NORMAL | 6,960.0    | 1.67        | 191.73      | 6,555.75    | 1,549.56    | 730.58      | 1,712.90        | 0.00               | 0.00                      | 0.00                | 0.00         |